10641 Highway 36
Covington, GA
30014

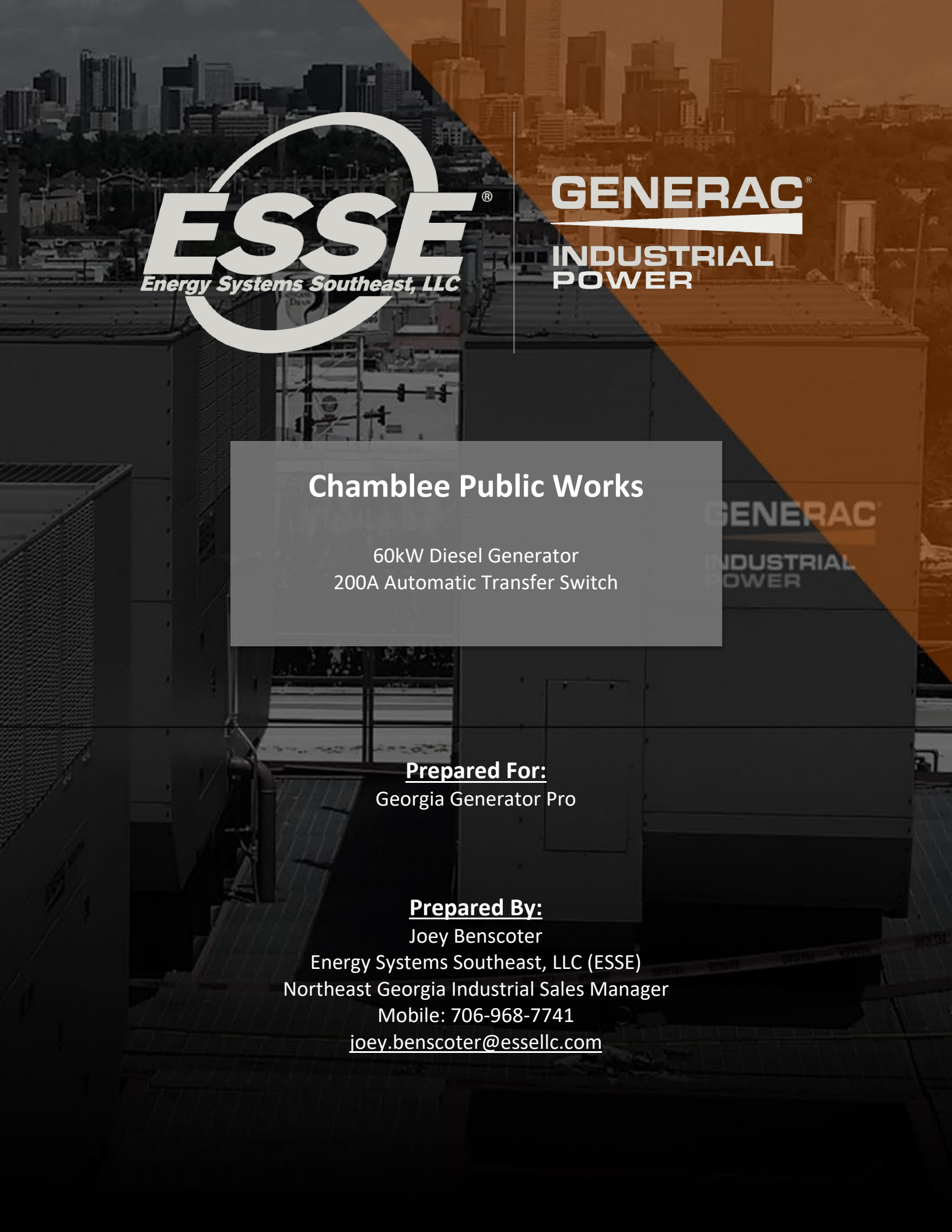
www.sunbeltbuilders.com

t 770.786.3031
f 770.786.3046

CHAMBLEE PUBLIC WORKS

Moseley Electric
7187-D Washington Street
Covington, GA 30014
ph: 770-786-2678
Keith Battaglia
keithbattaglia1@yahoo.com

26-0000 Electrical O&M

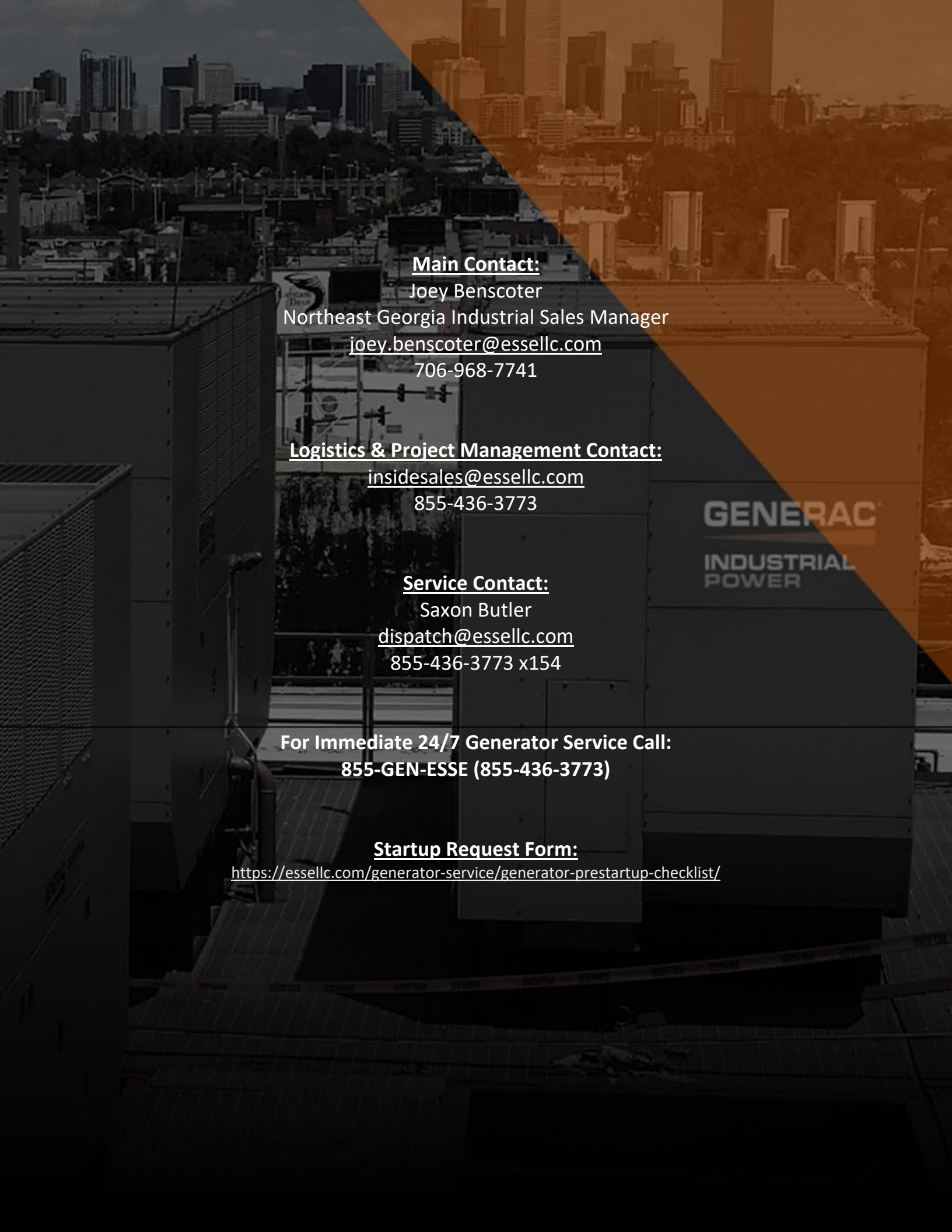


Chamblee Public Works

60kW Diesel Generator
200A Automatic Transfer Switch

Prepared For:
Georgia Generator Pro

Prepared By:
Joey Benscoter
Energy Systems Southeast, LLC (ESSE)
Northeast Georgia Industrial Sales Manager
Mobile: 706-968-7741
joey.benscoter@essellc.com



Main Contact:
Joey Benscoter
Northeast Georgia Industrial Sales Manager
joey.benscoter@essellc.com
706-968-7741

Logistics & Project Management Contact:
insidesales@essellc.com
855-436-3773

Service Contact:
Saxon Butler
dispatch@essellc.com
855-436-3773 x154

For Immediate 24/7 Generator Service Call:
855-GEN-ESSE (855-436-3773)

Startup Request Form:
https://essellc.com/generator-service/generator-prestartup-checklist/

60KW 208V 3PH 4.5L IVECO DIESEL
Serial
Number:
3018560893

More than power...

BILL OF MATERIAL, CHAMBLEE PUBLIC WORKS

Quantity 1 - Generac Industrial diesel engine-driven generator set with turbocharged 4-cylinder 4.5L engine, consisting of the following features and accessories:

60KW 208V 3PH 4.5L IVECO DIESEL
Serial
Number:
3018560893

- Stationary Emergency-Standby rated
- 60 kW Rating, wired for 120/208 VAC three phase, 60 Hz
- Permanent Magnet Excitation
- UL2200
- EPA Certified
- Standard Weather Protective Enclosure, Steel
  - Industrial Grey Baked-On Powder Coat Finish
- 36" 350 Gallon Double-Wall UL142 Basetank
  - Mechanical fuel level indicator gauge
  - Electronic fuel level sender
  - 72hr run time at 100% load
- Power Zone 410 Digital Control Panel for Single Generators
  - NFPA 110 Capable
  - 2 and 3-wire start controls for any 2 or 3-wire transfer switch
- 21 Light Remote Annunciator
- Remote Emergency Stop Switch, Break-Glass, shipped loose
- Primary MLCB, 80% rated thermal-magnetic
  - 200 Amp
- Battery Heating Pad
- Battery Charger, 10 Amp, NFPA 110 compliant, installed
- 110 AH, 925 CCA Group 31 Battery, with rack, installed
- Air Filter Restriction Indicator
- Coolant Heater, 1500W, 120VAC
- Engine Run Relay, 10A
- 120v GFCI and 240V Outlet
- 3 Owner's Manuals
- 5-Year Comprehensive Warranty
- SD0060GG174.5D18DPYY3

Quantity 1 - TX Series Automatic Transfer Switch consisting of the following features and accessories:

200A 208V 3PH N3 NSER ATS
Serial
Number:
3018473869

- 200 Amp, 4 pole, 120/208 VAC three phase, 60 Hz, with 2 or 3-Wire Start Circuit
- 3 Owner's Manuals
- Double Set of Form C Aux Cont
- IBC Seismic Certified
- Any Breaker (3 Cycle)
- Withstand and Close-On Rating - 200kA Fuse Rating
- Withstand and Close-On Rating - 22kA Any Breaker
- Withstand and Close-On Rating - 42kA Specific Breaker
- Enclosure Heater
- IO Board - 4 Inputs, 4 Outputs
- CSA - C22.2 No.178
- UL Listed 1008 by ETL
- Controller Cover, Padlockable, Black
- NEMA 3R Enclosure

- Non Service Entrance Rated
- Any Breaker (3 Cycle)
- In Phase Only Transfer
- Standard two year basic warranty
- TX611NN0200G4CM

Quantity 1 - Startup :

- Startup by factory authorized technician, per NFPA 110:
    - 90-minute Load Test: Building Load, or other loads that simulate the intended load
    - 120-minute Load Test: 30% at 30 minutes, 50% at 30 minutes, 100% at 60 minutes

Quantity 1 - Freight :

- Freight to job site. Offloading not included. Delivery during standard business hours, M-F, 8am-5pm.

Quantity 1 – Owner Training:

- One Hour of On-Site Training if Scheduled during startup, Additional Cost will be added for return trips

SD060 | 4.5 L | 60 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

Standby Power Rating
60 kW, 75 kVA, 60 Hz

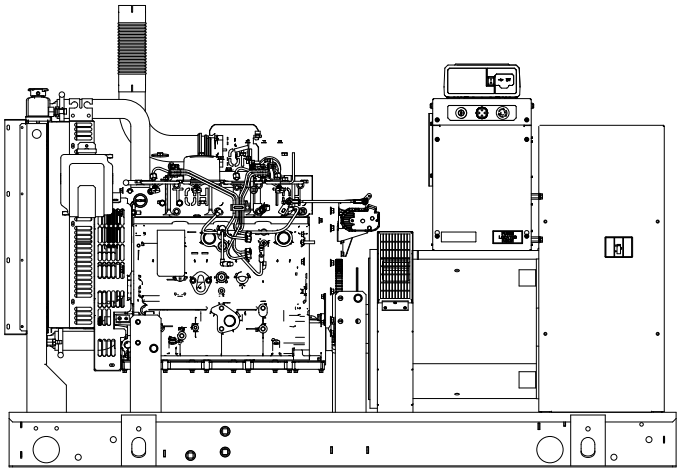


Image used for illustration purposes only

*Assembled in the USA using domestic and foreign parts

*EPA Certified Prime ratings are not available in the US or its Territories.

Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.

UL2200, UL6200, UL1236, UL489, UL142

CSA C22.2, ULC S601

BS5514 and DIN 6271

SAE J1349

NFPA 37, 70, 99, 110

NEC700, 701, 702, 708

NEMA ICS10, MG1, 250, ICS6, AB1

ANSI C62.41

Powering Ahead

For over 60 years, Generac has provided innovative design and superior manufacturing.

Generac provides superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally for the most reliable engines to power our generators. We choose only engines that have already been proven in heavy-duty industrial applications under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

SD060 | 4.5 L | 60 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

STANDARD FEATURES

ENGINE SYSTEM
- Engine Block Heater
- Oil Drain Extension
- Air Cleaner
- Level 1 Fan and Belt Guards (Open Set Only)
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)

FUEL SYSTEM
- Fuel Lockoff Solenoid
- Primary Fuel Filter

COOLING SYSTEM
- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- Radiator Drain Extension

ELECTRICAL SYSTEM
- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM
- UL2200 GENprotect™
- 12 Leads (3-Phase, Non 600V)
- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Auxiliary Voltage Regulator Power Winding
- Brushless Excitation
- Sealed Bearing
- Rotor Dynamically Spin Balanced
- Amortisseur Winding
- Full Load Capacity Alternator
- Protective Thermal Switch

GENERATOR SET
- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Separation of Circuits - Multiple Breakers
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby Rated Units)
- 1 Year Limited Warranty (Prime Rated Units)

ENCLOSURE (IF SELECTED)
- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuated Enclosures)
- Gasketed Doors
- Upward Facing Discharge Hoods (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat™ - Textured Polyester Powder Coat Paint

FUEL TANKS (IF SELECTED)
- UL 142, ULC S601
- Double Wall Construction
- Normal and Emergency Vents
- Sloped Top
- Sloped Bottom
- Factory Pressure Tested - 2 psi
- Rupture Basin Alarm
- Fuel Level
- Check Valve In Supply and Return Lines
- RhinoCoat™ - Textured Polyester Powder Coat Paint
- Stainless Steel Hardware

CONTROL SYSTEM

012300

Power Zone® 410 Controller

Features
- Programmable Auto Crank
- Selectable Low Speed Exercise
- RS-232 x2
- RS-485 x2
- All-Phase Sensing Digital Voltage Regulator
- On/Off/Manual Switch
- Not in Auto (Flashing Light)
- Emergency Stop
- Modbus® RTU
- CANbus
- Full Range Standby Operation
- Power Factor
- Ruptured Tank Detection
- Auxiliary Shutdown Switch
- Remote Communications
- NFPA110 Module Included (Key Switch, Alarm, E-Stop)
- I^2T Function for Full Generator Protection (Contact Factory)

Full System Status Display
- Multilingual 128x64 Graphical Display with Heater
- Easy Status View LED Screen
- 3-Phase AC Volts
- 3-Phase Amps
- kW
- Line Power/Gen Power
- Time
- Date
- Run Hours
- Service Reminders
- Fault History (Alarm Log)
- Oil Pressure
- Oil Temperature Indication and Alarm
- Output for Fuel Level High/Low Warning
- Water Temperature
- Water Level
- Fuel Pressure/Level
- Engine Speed
- Battery Voltage
- Alternator Frequency

Alarms and Warnings
- Common Alarm Output
- Audible Alarm and Silence

SD060 | 4.5 L | 60 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

CONFIGURABLE OPTIONS

ENGINE SYSTEM
- Oil Heater
- Industrial Silencer
- Level 1 Fan and Belt Guards (Enclosed Units Only)
- Critical Grade Silencer (Open Set Only)
- Air Filter Restriction Indication
- Radiator Stone Guard (Open Set Only)

FUEL SYSTEM
- NPT Flexible Fuel Line

ELECTRICAL SYSTEM
- 10A UL Listed Battery Charger
- Battery Warmer

ALTERNATOR SYSTEM
- Alternator Upsizing
- Anti-Condensation Heater
- Tropical Coating
- Permanent Magnet Excitation

GENERATOR SET
- 8 Position Load Center
- Extended Factory Testing (3-Phase Only)

CIRCUIT BREAKER OPTIONS
- Main Line Circuit Breaker
- 2nd Main Line Circuit Breaker
- Shunt Trip Wand Auxiliary Contacts
- Electronic Trip Breakers

ENCLOSURE
- Weather Protected Enclosure
- Level 1 Sound Attenuated
- Level 2 Sound Attenuated
- Level 2 Sound Attenuated Enclosure (with Motorized Dampers)
- Steel Enclosure
- Aluminum Enclosure
- Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- AC/DC Enclosure Lighting Kit
- Door Open Alarm Horn
- Pad Vibration Isolators
- Enclosure Heater (with Motorized Dampers Only)
- IBC Seismic Certification

WARRANTY (STANDBY GENSETS ONLY)
- 2 Year Extended Limited Warranty
- 5 Year Extended Limited Warranty
- 7 Year Extended Limited Warranty
- 10 Year Extended Limited Warranty

CONTROL SYSTEM
- NFPA 110 Compliant 21-Light Remote Annunciator
- Remote Relay Assembly (8 or 16)
- Remote E-Stop (Break Glass-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Flush Mount)
- E-Stop Terminal
- 10A Engine Run Relay
- Ground Fault Annunciator
- Damper Alarm Contacts (with Motorized Dampers Only)
- 120V GCFI and 240V Outlets
- 100 dB Alarm Horn

FUEL TANKS (SIZES ON LAST PAGE)
- 8 in (203.2 mm) Fill Extension
- 13 in (330.2 mm) Fill Extension
- Emergency Vents
- 12 ft Vent Extensions
- Overfill Protection Valve
- Fuel Drop Tube
- 5 Gallon Spill Box
- 5 Gallon Spill Box Return Hose
- Tank Risers
- Fire Rated Stainless Steel Fuel Hose
- 90% High Fuel Alarm

ENGINEERED OPTIONS

ENGINE SYSTEM
- Coolant Heater Ball Valves
- Fluid Containment Pan

CONTROL SYSTEM
- Spare Inputs (x4) / Outputs (x4)
- Battery Disconnect Switch

ALTERNATOR SYSTEM
- 3rd Breaker System

FUEL TANKS
- UL 2085 Tank
- Stainless Steel Tanks

SD060 | 4.5 L | 60 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Iveco/FPT
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emission Data Sheet
Cylinder #	4
Type	In-Line
Displacement: in^3 (L)	274.6 (4.5)
Bore - in (mm)	4.1 (105)
Stroke - in (mm)	5.2 (132)
Compression Ratio	17.5:1
Intake Method	Turbocharged
Cylinder Head Type	2-Valve
Piston Type	Aluminum
Crankshaft Type	Forged Steel

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	±0.25%

Lubrication System

Oil Pump	Gear
Oil Filter Type	Full-Flow Cartridge
Engine Oil Capacity - qt (L)	14.4 (13.6)

Cooling System

Cooling System Type	Closed
Water Pump Type	Belt Driven Centrifugal
Fan Type	Pusher
Fan Speed - RPM	2,538
Fan Diameter - in (mm)	26 (660)

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel #2
Fuel Specifications	ASTM
Fuel Filtering (Microns)	5
Fuel Pump Type	Engine Driven Gear
Injector Type	Mechanical
Fuel Supply Line - in (mm)	0.5 (12.7) NPT
Fuel Return Line - in (mm)	0.5 (12.7) NPT

Engine Electrical System

System Voltage	12 VDC
Battery Charger Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative (-)

ALTERNATOR SPECIFICATIONS

Standard Model	K0060124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5% (3-Phase Only)
Telephone Interference Factor (TIF)	<50

Standard Excitation	Brushless
Bearings	One, Pre-Lubed and Sealed
Coupling	Direct via Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

SD060 | 4.5 L | 60 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

OPERATING DATA

POWER RATINGS

		Standby
Single-Phase 120/240 VAC @1.0pf	60 kW	Amps: 250
Three-Phase 120/208 VAC @0.8pf	60 kW	Amps: 208
Three-Phase 120/240 VAC @0.8pf	60 kW	Amps: 180
Three-Phase 277/480 VAC @0.8pf	60 kW	Amps: 90
Three-Phase 346/600 VAC @0.8pf	60 kW	Amps: 72

MOTOR STARTING CAPABILITIES (skVA)

	skVA vs. Voltage Dip		
277/480 VAC	30%	277/480 VAC	30%
K0060124Y2	124	K0060124Y2	95
K0080124Y21	172	K0080124Y21	132
K0100124Y21	227	K0100124Y21	171

FUEL CONSUMPTION RATES*

Fuel Pump Lift - ft (m)
3 (1)

Total Fuel Pump Flow (Combustion + Return) - gph (Lph)
13.6 (51.5)

	Diesel - gph (Lph)
Percent Load	Standby
25%	1.4 (5.3)
50%	2.7 (10.2)
75%	3.8 (14.4)
100%	4.8 (18.2)

*Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby
Coolant Flow	gpm (Lpm)	32.7 (123.8)
Coolant System Capacity	gal (L)	4.5 (17.4)
Heat Rejection to Coolant	BTU/hr (kW)	123,000 (36)
Inlet Air	cfm (m^3/min)	6,360 (180)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin No. 0199280SSD	
Maximum Additional Radiator Backpressure	in H_2O (kPa)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

	Standby
Flow at Rated Power - cfm (m^3/min)	247 (7.0)

ENGINE

		Standby
Rated Engine Speed	RPM	1,800
Horsepower at Rated kW**	hp	93
Piston Speed	ft/min (m/min)	1,559 (475)
BMEP	psi (kPa)	154 (1,062)

**Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

EXHAUST

		Standby
Exhaust Flow (Rated Output)	cfm (m^3/min)	534 (15.1)
Maximum Allowable Backpressure (Post Silencer)	inHg (kPa)	1.5 (5.1)
Exhaust Temperature (Rated Output)	°F (°C)	930 (499)

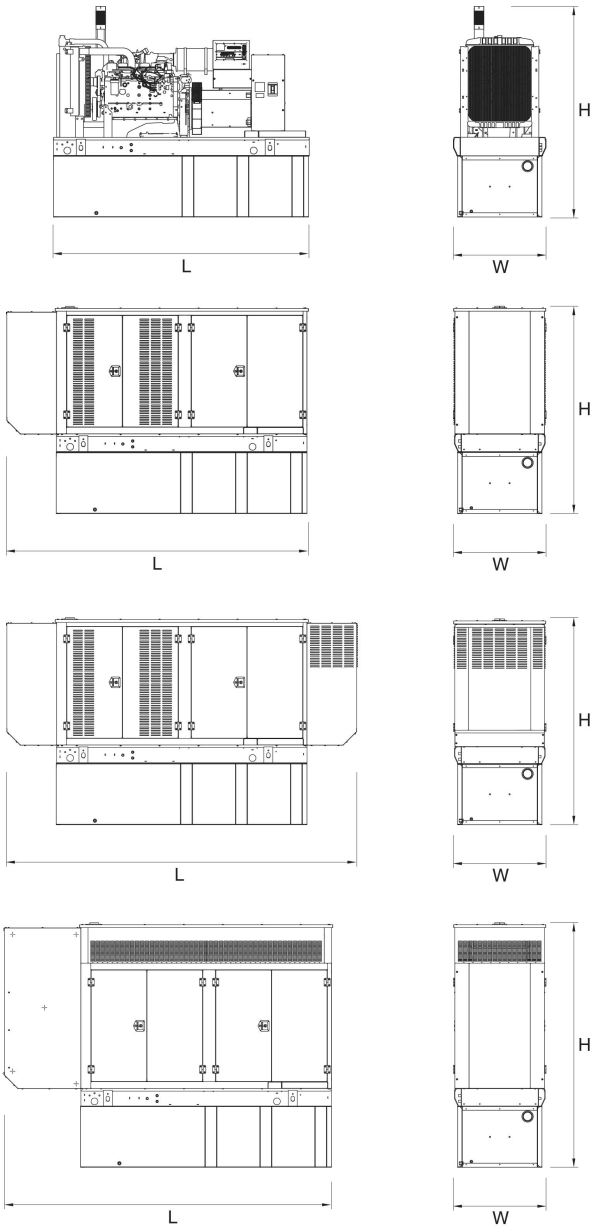
Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.
Please contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with BS5514 and DIN6271 standards.
Standby - See Bulletin 0187500SSB
Prime - See Bulletin 0187510SSB

SD060 | 4.5 L | 60 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

DIMENSIONS AND WEIGHTS*



OPEN SET

Run Time - Hours	Usable Capacity - gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	-	92.9 (2,360) x 40.0 (1,016) x 49.2 (1,250)	2,488 (1,128)
16	79 (299)	92.9 (2,360) x 40.0 (1,016) x 62.2 (1,580)	3,010 (1,365)
39	189 (716)	92.9 (2,360) x 40.0 (1,016) x 74.2 (1,885)	3,246 (1,472)
59	285 (1078)	135.4 (3,438) x 40.0 (1,016) x 74.2 (1,885)	3,963 (1,798)
63	305 (1,134)	92.9 (2,360) x 40.0 (1,016) x 86.2 (2,190)	3,470 (1,573)
72	350 (1,325)	110.0 (2,794) x 40.0 (1,016) x 86.2 (2,190)	3,872 (1,756)
106	510 (1,930)	116.5 (2,960) x 46.5 (1,180) x 91.8 (2,333)	3,853 (1,749)
122	589 (2,227)	128.0 (3,250) x 46.8 (1,190) x 89.7 (2,279)	4,332 (1,954)

LEVEL 0 SOUND ATTENUATED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	111.8 (2,840) x 40.5 (1,028) x 56.2 (1,427)		
16	79 (299)	111.8 (2,840) x 40.5 (1,028) x 69.2 (1,757)		
39	189 (716)	111.8 (2,840) x 40.5 (1,028) x 81.2 (2,062)		
59	285 (1078)	135.4 (3,438) x 40.5 (1,028) x 81.2 (2,062)	529 (240)	260 (118)
63	305 (1,134)	111.8 (2,840) x 40.5 (1,028) x 93.2 (2,367)		
72	350 (1,325)	111.8 (2,840) x 40.5 (1,028) x 93.2 (2,367)		
106	510 (1,930)	116.5 (2,960) x 46.5 (1,180) x 98.8 (2,510)		
122	589 (2,227)	128.0 (3,250) x 46.8 (1,190) x 96.7 (2,456)		

LEVEL 1 SOUND ATTENUATED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	129.4 (3,287) x 40.5 (1,028) x 56.2 (1,427)		
16	79 (299)	129.4 (3,287) x 40.5 (1,028) x 69.2 (1,757)		
39	189 (716)	129.4 (3,287) x 40.5 (1,028) x 81.2 (2,062)		
59	285 (1078)	135.4 (3,438) x 40.5 (1,028) x 81.2 (2,062)	690 (313)	329 (150)
63	305 (1,134)	129.4 (3,287) x 40.5 (1,028) x 93.2 (2,367)		
72	350 (1,325)	129.4 (3,287) x 40.5 (1,028) x 93.2 (2,367)		
106	510 (1,930)	129.4 (3,287) x 46.5 (1,180) x 98.8 (2,510)		
122	589 (2,227)	129.4 (3,287) x 46.8 (1,190) x 96.7 (2,456)		

LEVEL 2 SOUND ATTENUATED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	111.8 (2,840) x 40.5 (1,028) x 68.6 (1,743)		
16	79 (299)	111.8 (2,840) x 40.5 (1,028) x 81.6 (2,073)		
39	189 (716)	111.8 (2,840) x 40.5 (1,028) x 93.6 (2,378)		
59	285 (1078)	135.4 (3,438) x 40.5 (1,028) x 93.6 (2,378)	818 (371)	384 (175)
63	305 (1,134)	111.8 (2,840) x 40.5 (1,028) x 105.6 (2,683)		
72	350 (1,325)	111.8 (2,840) x 40.5 (1,028) x 105.6 (2,683)		
106	510 (1,930)	116.5 (2,960) x 46.5 (1,180) x 111.2 (2,826)		
122	589 (2,227)	128.0 (3,250) x 46.8 (1,190) x 109.1 (2,772)		

* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings. Extended and not extended tank offerings vary. Contact dealer for options.

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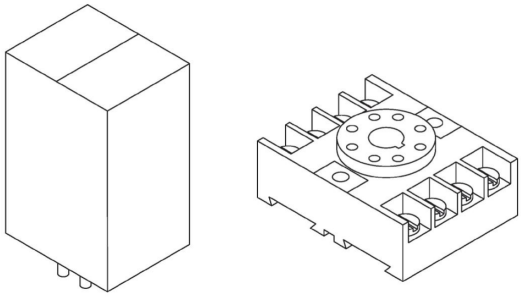
Part No. A0002195516
Rev. B 10/10/2024

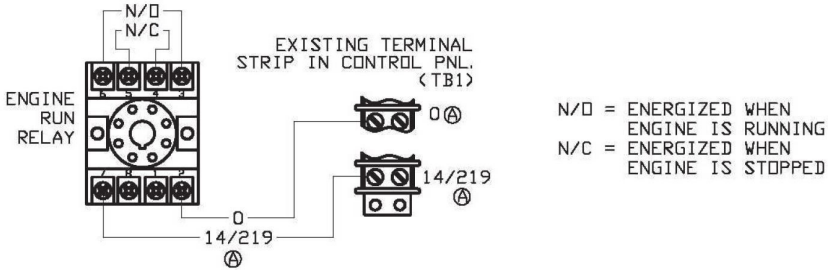
ENGINE RUN RELAY



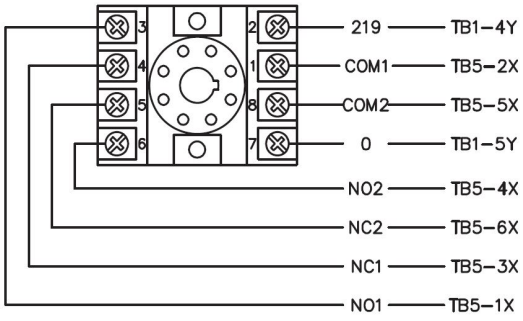
- For use with Generac's Digital Control Platforms
- 10 Amp Contact Rating
- 12 or 24 Volt DC Input
- Contact Open or Closure on Engine Run

Contacts	
Type	DPDT
Material	Silver
Rating	UL 10A @ 240VAC 10A @ 30VDC
Coils	
Input Voltage	24VDC
Resistance	400 Ohms
Nominal Power	1.5W

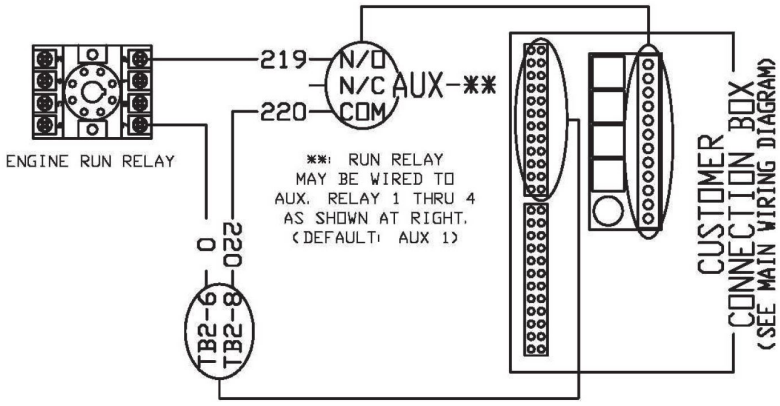
Wiring Diagram with E panel, H-100 Panel



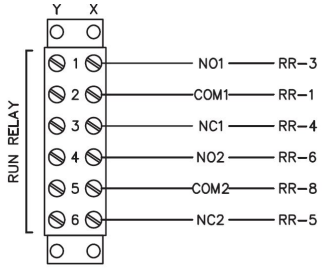
Wiring Diagram with Power Zone Pro Sync



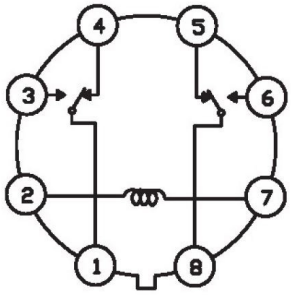
Wiring Diagram with PMDCP



TB5



Pin Detail



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Part No.0161920SBY
Rev. E 06/12/19

21 LIGHT REMOTE ANNUNCIATOR AND REMOTE RELAY PANEL

Model 0054650 Gray Remote Annunciator Panel without Relays
Model 0054660 Gray Remote Relay Panel without LEDs and Keypad (Relays Only)
Model 0054640 Gray Remote Annunciator Panel with 8 Relays
Model 0056370 Tan Flush Mount Enclosure without Annunciator
Model 0066950 Gray Flush Mount Enclosure without Annunciator

Description:

The Remote Annunciator Panel provides remote monitoring and annunciation of up to 18 generator parameters using LEDs located on the annunciator keypad. It also provides two system level warnings which are System Ready and Communications OK.

The Relay Panel has up to 8 selectable functions on form A relays; multiple relay panels can be connected for all 18 generator parameters.

The specific faults can be selected using either the DIP switches located on the annunciator circuit board or through a computer via the RS232 connection on the circuit board. All relays are energized on power up and open during a fault condition.

Communication is via a RS485 serial data link and power is supplied by the generator battery (+12 VDC or +24 VDC).

The Remote Annunciator Panel complies with NFPA 99 and NFPA 110.

Environmental Specifications

Operating Temperature	-25 ºC to 60 ºC
Humidity	0 to 95% Non-Condensing
Power Supply	Generator Battery, +12 or +24 Volts DC
Power Usage	6 WattsTypical
Communication Line	RS485 Fully Isolated Twisted Pair Cable with Shield
Maximum Cable Length	4,000 ft
Relay Output	One N.O. Contact (Energized when Annunciator is Powered and No Faults are Present)
Relay Contact Rating	30 VDC, 1 A
Enclosure Rating	NEMA 1
Alarm Horn (Remote Annunciator Panels Only)	90 dB @ 10 cm

Part No. 0604160SSD
Rev. F 09/27/22

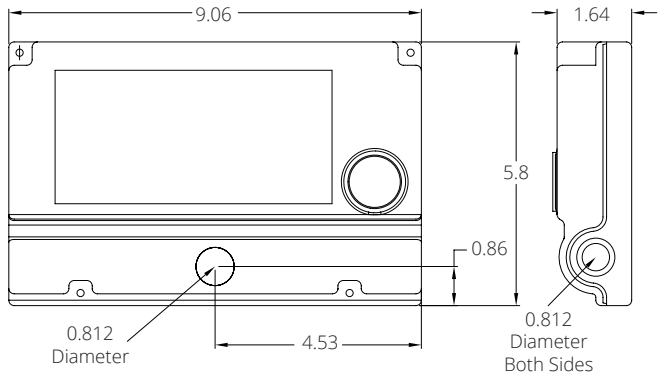
21 LIGHT REMOTE ANNUNCIATOR AND REMOTE RELAY PANEL

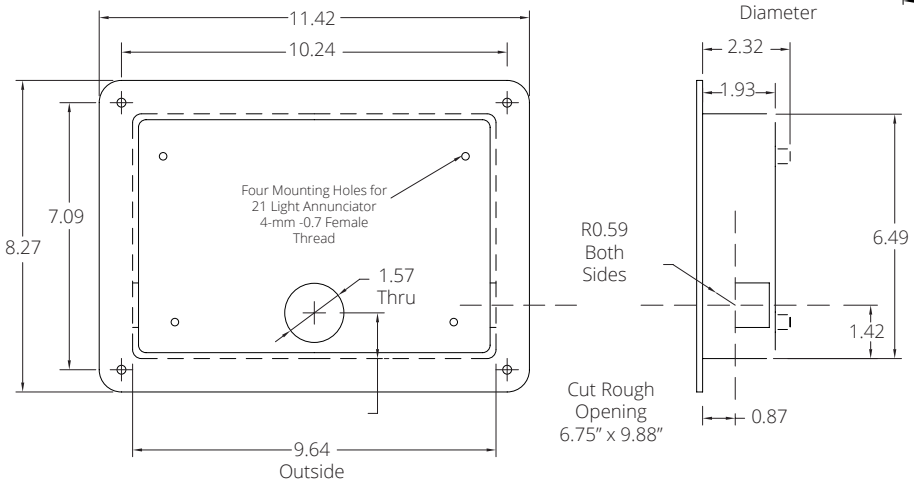
Function	Color	Alarm	Latched
Pre-Low Oil Pressure	Yellow	Yes	Yes
Pre-High Water Temperature	Yellow	Yes	Yes
Pre-Low Water Temperature	Yellow	Yes	Yes
Pre-Low Fuel	Yellow	Yes	Yes
Battery Charge AC Fail	Yellow	Yes	No
Low Battery Voltage	Yellow	Yes	No
High Battery Voltage	Yellow	No	No
Not in Auto	Red	Yes	No
RPM Sensor Loss	Red	Yes	Yes
Overcrank	Red	Yes	Yes
Overspeed	Red	Yes	Yes
Low Oil Pressure	Red	Yes	Yes
High Water Temperature	Red	Yes	Yes
Low Water Level	Red	Yes	Yes
Emergency Stop	Red	Yes	No
Gen Running	Yellow	No	No
Gen Power (ATS)	Yellow	No	No
Line Power (ATS)	Green	No	No
Systems Ready	Green	Yes	No
Communications OK	Green	Yes	No
Spare	Green	No	No

Spare Keypad Switch can be used to implement a remote start function (Model 0054640 only).

Annunciators

Surface Mount
The 21 Light Annunciator can mount to a flat surface with connections through the 0.812 inch diameter knockout on the back surface or through 0.812 inch diameter knockouts on sides as shown.





Flush Mount
This Flush Mount Box is recessed into the wall opening and the surface mount annunciator mounts to the (4) 4 mm screw holes on the back surface. After wire connections are made the front annunciator cover is attached.

All dimensions are in inches.

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Part No. 0604160SSD
Rev. F 09/27/22

POWER ZONE® CONTROL PLATFORM
Power Zone® 410 Controller

Features

The Generac Power Zone® Digital Control Platform is a fully integrated and multipurpose family of controllers for Generac's generator systems.

Standard Features
- 128 x 64 Graphical Display with Heater
- Multi-Lingual
- Full System Status
- Three Phase Sensing Digital Voltage Regulator
- Full Range Standby Operation
- Full System Status
  - Three Phase AC Volts
  - Three Phase Amps
  - kW
  - Power Factor
  - Oil Pressure
  - Water Temperature
  - Oil Temperature*
  - Oil Level*
  - Fuel Pressure and Level
  - Engine Speed
  - Battery Voltage
  - Alternator Frequency
  - Time
  - Date
  - Line Power and Gen Power
  - Run Hours
  - Service Reminders
  - Fault History (Alarm Log)
- Remote Communications
- Programmable Auto Crank
- Emergency Stop
- On/Off Manual Switch
- Not in Auto Flashing Light
- Selectable Low Speed Exercise
- NFPA 110 Capable**
- 5A Integrated Battery Charger ◊

Standard Protections
- Low Oil Pressure
- Low Coolant Level
- High/Low Coolant Temperature
- Oil Temperature
- Over/Under Speed
- Over/Under Voltage
- Over/Under Frequency
- Over/Under Current
- Over Load
- Battery Voltage
- Battery Charger Current
- Phase to Phase and Phase to Neutral Short Circuits (I^2T Algorithm)
- Ground Fault

Display
- Easy Menu Structure
- Multi-Lingual
- On Screen Editable Parameters
- Key Function Monitoring
  - Three Phase Voltage, Amperage, kW, kVa, and kVAr
  - Selectable Average or Line to Neutral Voltage Measurements
  - Frequency
  - RPM
  - Engine Coolant Temperature
  - Engine Oil Pressure
  - Engine Oil Temperature
  - Battery Voltage
  - Warning and Alarm Indication
  - Diagnostics
  - Maintenance Events/Information
  - Hourmeter

* Optional; When Available
** See Modular NFPA 110 Components Section

◊ Operation Disabled when Optional 10A Battery Charger is Installed

Part No. A0001371117
Rev. C 08/24/23

POWER ZONE® CONTROL PLATFORM
Power Zone® 410 Controller

Control Panel
- Auto/Off/Manual
  - Operation Through Onboard Buttons or Optional Key Switch
  - Indication Through Display Screen and LEDs
- Audible Alarm and Silence†
- Auxiliary Shutdown Rocker Switch
- Not in Auto Indication

Voltage Regulation (Single or Three Phase Module Options)
- Digital Control
- Three Phase Sensing
- Variable V/F Slope Settings
- Negative Power Limit
- Loss of Sensing Protection
- Fault Protection (I^2T Function)
- High Voltage Limit
- Low Voltage Limit
- Maximum Power Limit
- ±0.5% Voltage Regulation
- ±0.5% Stability

Governor Functionality
- Speed Control through ECM Integration
- Soft Start Ramping (Multiple Steps)

Customer Ports
- 2 RS-232
- 2 RS-485
- 1 CANBus

Qualification Testing
- Life Test in Environmental Chamber
- Temperature Rating -40° C to +70° C
- Vibration Tested and Protected

Connections‡
- 7 Analog Inputs
- 1 Analog Output (0-10 VDC)
- 6 AC Voltage Sensing Inputs
- 3 CT Inputs
- 16 Digital Inputs
- 13 Digital Outputs
- Comms Ports
  - 1 CANbus Port
  - 1 USB Port (for Configuration Transfer and Firmware Upgrades)
  - 1 RS-485 Modbus Master Port (for External RAP/RRP/HTS/External I/O Modules)
  - 1 RS-485 Modbus Slave Port (for other uses, e.g. Building Management)
  - 2 RS-232 Communication Ports (for Tether or other uses)

Codes And Standards
- UL 6200
- C-ETL-US
- CE
- NFPA 110 Capable

Modular NFPA 110 Components§
- Remote Annunciator
- NFPA Accessory Module
  - Key Switch
  - Alarm Horn
  - Emergency Stop
- 10A External Battery Charger§§

Controller with Optional NFPA Accessory Module

† When Selected; See Modular NFPA 110 Components Section
‡ Actual I/O May Vary Due to Configuration

§ When Selected; Not Standard on All Models
§§ Charger size dependent on battery size. See specific unit spec sheet.

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Part No. A0001371117
Rev. C 08/24/23

ALTERNATOR DATA SHEET
K0060124Y21

General Characteristics

Voltages (V)	208/240 and 480	Number of Leads	12
Frequency (Hz)	60	Winding Type	Reconnectable
Phases	3	Air Flow (CFM)	540
Speed (RPM)	1,800	Total Harmonic Distortion (%)	<5
Excitation System	PMG/Brushless	Largest Single Harmonic Value (%)	<3.5
Insulation Class	H	Telephone Interference Factor (TIF)	<50
Winding Pitch	2/3	Reference Part Number	0J1381D01R, 0L4171E01R, 0J1377D01R, 0L4172E01R

Ratings @ 0.8 pf Based on 40˚C Ambient

Voltage (V)	80˚C Rise		105˚C Rise		120˚C Rise		150˚C Rise	
	kW	kVA	kW	kVA	kW	kVA	kW	kVA
208/240	49	61	54	67	60	75	65	81
480	49	61	54	67	60	75	65	81

Base Data at 480V, 75 kVA, 1,800 RPM, 60 Hz, 3Ø

Description	Value
Stator Resistance, Line to Neutral, High Wye Connection (Ω)	0.0938
Rotor Resistance (Ω)	1.2050
Exciter Stator Resistance - PMG/Brushless (Ω)	5.5000/6.0000
Exciter Rotor Resistance - PMG/Brushless (Ω)	0.5155/0.4565
Excitation Winding Resistance - PMG/Brushless (Ω)	1.7240/0.5561
Xd, Direct Axis Synchronous Reactance (p.u.)	2.640
X2, Negative Sequence Reactance (p.u.)	0.270
X0, Zero Sequence Reactance (p.u.)	0.050
X'd, Direct Axis Transient Reactance (p.u.)	0.220
X"d, Direct Axis Subtransient Reactance (p.u.)	0.180
Xq, Quadrature Axis Synchronous Reactance (p.u.)	1.150
T'd, Direct Axis Transient Short Circuit Time Constant (s)	0.053

Description	Value
T"d, Direct Axis Subtransient Short Circuit Time Constant (s)	0.008
T'do, Direct Axis Transient Open Circuit Time Constant (s)	0.985
Ta, Short Circuit Time Constant of Armature Winding (s)	0.018
Phase Sequence CCW-NDE	T1, T2, T3
Voltage Balance, L-L or L-N (%)	2.5
Deviation Factor (%)	< 7
High Wye Connection, Sustained 3Ø Short Circuit Current (%) - PMG Only	300
X/R	7
Short Circuit Ratio	0.49
Heat Rejection (BTU/hr) - 100% Rated Load, 480V, 0.8pf, 120°C Temperature Rise	37,554

Reference: Mil-STD-705B
All Ratings are Nominal

ALTERNATOR DATA SHEET
K0060124Y21

skVA

	10%	15%	20%	25%	30%	35%
480 V @ 0.3PF	30	45	64	84	111	137
480 V @ 0.6PF	35	52	72	96	124	150
208/240 V @ 0.3PF	22	34	48	64	83	103
208/240 V @ 0.6PF	26	40	55	71	95	114

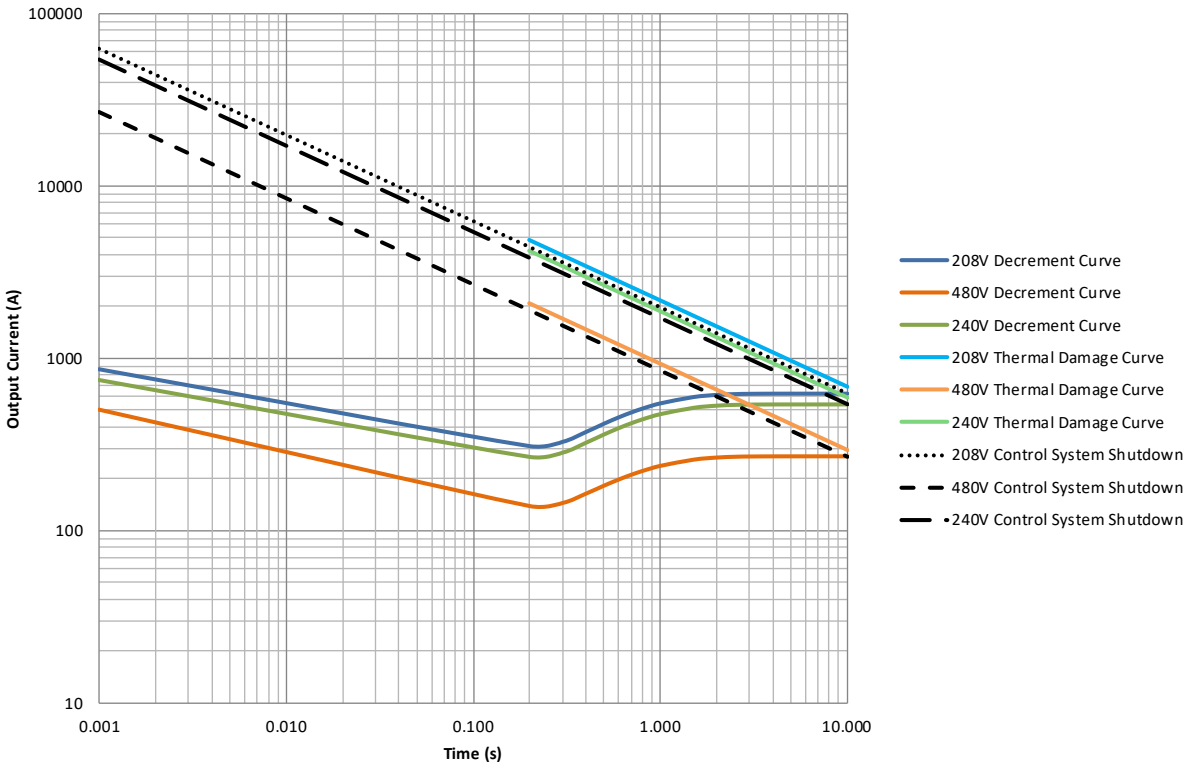
Efficiencies

	480 @ 0.8 PF	480 @ 1.0 PF	208/240 @ 0.8PF	208/240 @ 1.0 PF
20% Rated Power*	81.4	83.4	83.5	85.2
40% Rated Power*	86.3	89.0	86.3	89.4
60% Rated Power*	86.6	90.3	85.8	89.9
80% Rated Power*	85.7	90.3	84.1	89.3
100% Rated Power*	84.5	89.8	82.3	88.2

*Rated Power value is rating kW at 120°C Winding Tempeture Rise and 0.8pf

LOG LOG Decrement Curve

Balanced 3Ø Short Circuit Decrement And Thermal Damage Current Limit Curves



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GENprotect ™
Seamless Protection for Industrial Power Generators

GENprotect Operation

The design choice of an onsite power system using a Generac Industrial Power Generator assures your emergency power source is protected from unexpected power distribution faults. Typically, a generator will include some type of over-current device, such as a circuit breaker, or be protected by inherent design with the controller protecting the alternator through a protection algorithm. Generac's GENprotect generator protection system monitors the system current output and protects the alternator with extended security against fault scenarios that could occur within the site's downstream distribution system.

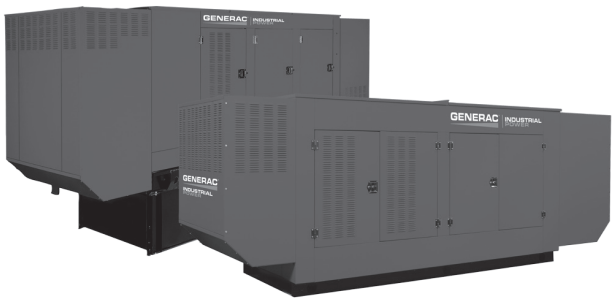
It is a common misconception that the alternator's main circuit breaker protects the alternator from a short circuit event. The main output breaker protects the cabling and provides a convenient disconnect. The characteristic trip curve for the industry standard thermal magnetic breaker (MCCB, molded case thermal magnetic or solid state) does not coordinate with the thermal damage limitation for an on-site generator. If circuit breakers are used for generator protection, a solid-state circuit breaker with full adjustments (Long Time, Short Time and Instantaneous, LSI) is required to coordinate the breaker protection curve within the generator thermal damage curve. Historically, this limitation was often accepted in system design since failures of the main generator feeder are extremely rare. Most short circuit events happen at a branch circuit, equipment level, where the fault is easily cleared by the smaller down stream breakers.

Given the mission critical nature of today's back-up power applications, it is more desirable to protect the system against even relatively rare failure modes. As generator controllers have become more powerful it is feasible for manufactures to supply coordinated short circuit protection integral to the generator control system, negating the need for a main-line circuit breaker.

Generac's GENprotect alternator protection algorithm monitors the generator output. If this monitoring senses short circuit current in excess of rated amps, GENprotect steps in to provide a controlled and safe approach to breaker coordination and alternator protection. GENprotect first limits the alternator short circuit current level to 300%. By limiting the available fault current, GENprotect extends the time the alternator can maintain fault current resulting in consistent breaker coordination. Without this functionality a line to neutral fault may be at 800% of rated current and need to be cleared within 1.4 seconds. The second function GENprotect performs is I2T thermal protection for the alternator. Since a short circuit event can heat the alternator so rapidly, it is not possible to protect the alternator by monitoring temperature. Instead GENprotect calculates the heat energy of the fault current. When this energy reaches the limits of NEMA MG1, GENprotect trips the generator off-line. This configuration ensures the alternator is protected and the power system is ensured 10 seconds of 300% fault current for breaker coordination.

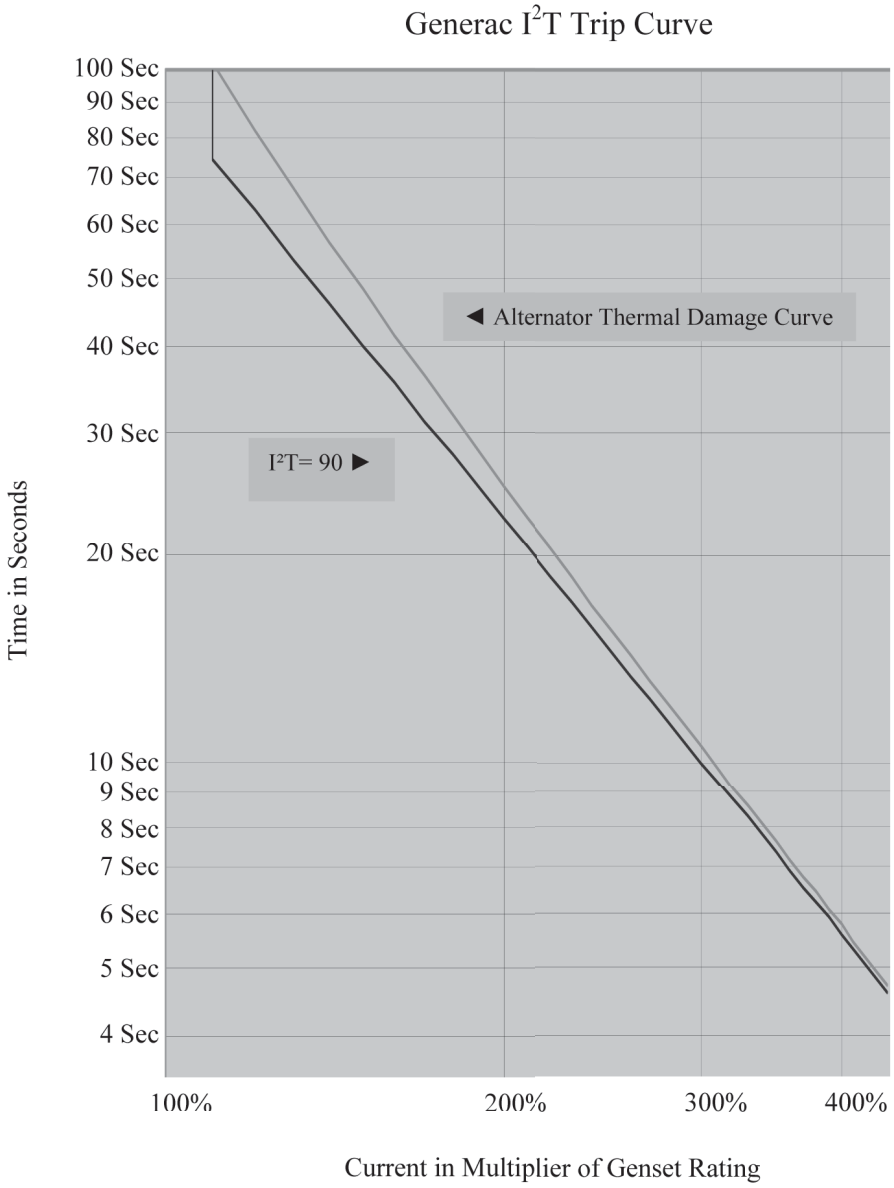
DESCRIPTION

- GENprotect is an alternator protection algorithm approved by UL.
- Protects alternator from damage due to shorts and electrical faults.
- Provides breaker coordination and alternator protection.
- Allows for use of multiple circuit breaker choices, including "no" breaker.



Doc. No 0187980SBY
Rev. D 06/13/19

GENprotect ™
Seamless Protection for Industrial Power Generators



The above Figure shows the Generac GENprotect thermal protection curve for use in protection and coordination studies. The alternator Thermal Damage Curve is shown just to the right of the GENprotect protection curve. If the alternator load is greater than the thermal damage protection curve for the alternator, the generator set will trip off-line. For example, an overload current of 110% for 75 seconds causes an overload alarm and will trip the generator off-line, shutting down the engine. GENprotect will provide generator protection over a full range of time and current, from instantaneous faults to overloads lasting several minutes. An advantage of GENprotect over a MCCB is that GENprotect allows for downstream breakers to clear faults without tripping the generator off-line, providing selective coordination with the first level of downstream breakers.

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INDUSTRIAL GENSET - BATTERY INDEX

• Warranty by Exide Corp. • Exide e-mail: tbgna@exide.com • 800-782-7848 National Hot line

INDUSTRIAL SPARK-IGNITED GENSETS - AVAILABLE BATTERIES

Engine	System Voltage	Battery Quantity	GENERAC PART # 058208 (Group 24F)	077483 (Group 26)	058665 (Group 27F)	061119 (Group 31)	061104 (Group 8D)	BT0015A02 (Group 8D)
G2.4	12	1		X				
G4.5	12	1			X	X		
G9.0	12	1			X	X		
G14.2	24	2					X	
G21.9	24	2					X	
G25.8	24	2					X	
G33.9	24	4					X	
G49.0	24	4					X	X

INDUSTRIAL DIESEL GENSETS - AVAILABLE BATTERIES

Engine	System Voltage	Battery Quantity	GENERAC PART # 058665 (Group 27F)	061119 (Group 31)	061104/ BT0015A00 (Group 8D)	BT0015A02 (Group 8D)
D2.2 Perkins	12	1	X	X		
D3.3 MHI	12	1		X		
D4.5 FPT	12	1		X		
D6.7 FPT 100, 130kW	12	1		X		
D6.7 FPT 150, 175kW	12	2		X		
D8.7 FPT	24	2		X		
D10.3 FPT	24	2		X	X	
D12.9 FPT	24	2		X	X	
D12.5 Perkins	24	2			X	
D15.2 Perkins	24	2			X	
D16.0 Volvo	24	2		X	X	
D18.1 Perkins	24	2			X	
D30.6 Perkins	24	2			X	X
D33.9 MHI	24	2			X	X
D37.1 MHI	24	4			X	X
D49.0 MHI	24	4			X	X
D65.4 MHI	24	4			X	X

Part Number	Group Number*	Nominal CCA @ 0° F	DIMENSIONS (in) NOMINAL L	W	H
058208	24F	525	6.75	10.63	9.00
077483	26	525	6.75	8.25	7.75
058665	27F	700	6.75	12.50	9.00
061119	31	925	6.75	13.00	9.40
061104/ BT0015A00	8D	1,200	11.00	20.80	10.00
BT0015A02	8D	1,400	11.00	20.80	10.00

All batteries are 12V, 6 cell construction, lead calcium type.
For 24V systems, batteries are wired in series.

X Battery available with electrolyte and installed in genset.
* BCI Group Size reference.

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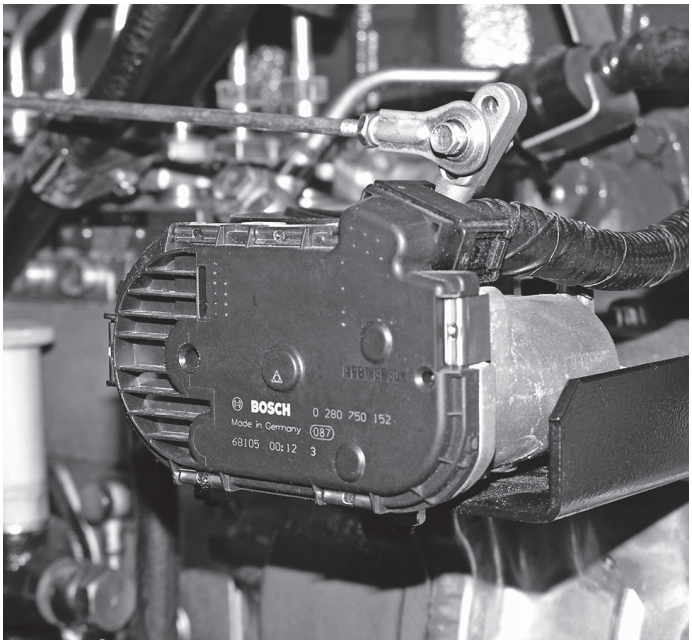
Part No. 0161970SBY
Rev. R 4/9/25

ELECTRONIC GOVERNOR
Diesel Engines



Generac's electronic isochronous governor systems are standard on all diesel gensets utilizing Generac's Digital Control Platforms.

- Isochronous Speed Regulation
- ±0.25% Steady State Regulation
- Factory Installed and Adjusted
- Fully Adjustable
- Fast Response
- High Reliability
- Environmentally Sealed

ACTUATOR

Die cast enclosure housing the throttle plate and the gear-driven rotary actuator with the interior components sealed against dust, dirt and moisture. The gear drive is directly connected to the throttle plate for fast and precise control. Safety spring-return to a closed position upon loss of power.

Design	Bosch
Type	Electronically Actuated Throttle Valve
Operating Voltage	12/24VDC
Response Time	<100 ms
Operating Temperature Range	-40˚F to 284˚F
Output	Rotary (internal - no linkage)

CONTROLLER

The governor driver module is located in the generator control panel. A sealed unit with waterproof connections and a feedback circuit from the actuator for throttle plate position. Generac software controls speed governing, and is fully adjustable.

The Generac electronic governor system applies to all diesel gensets with Generac's Digital Control Platforms.

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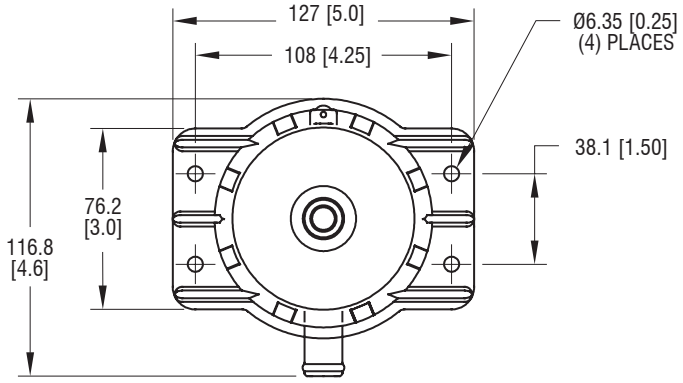
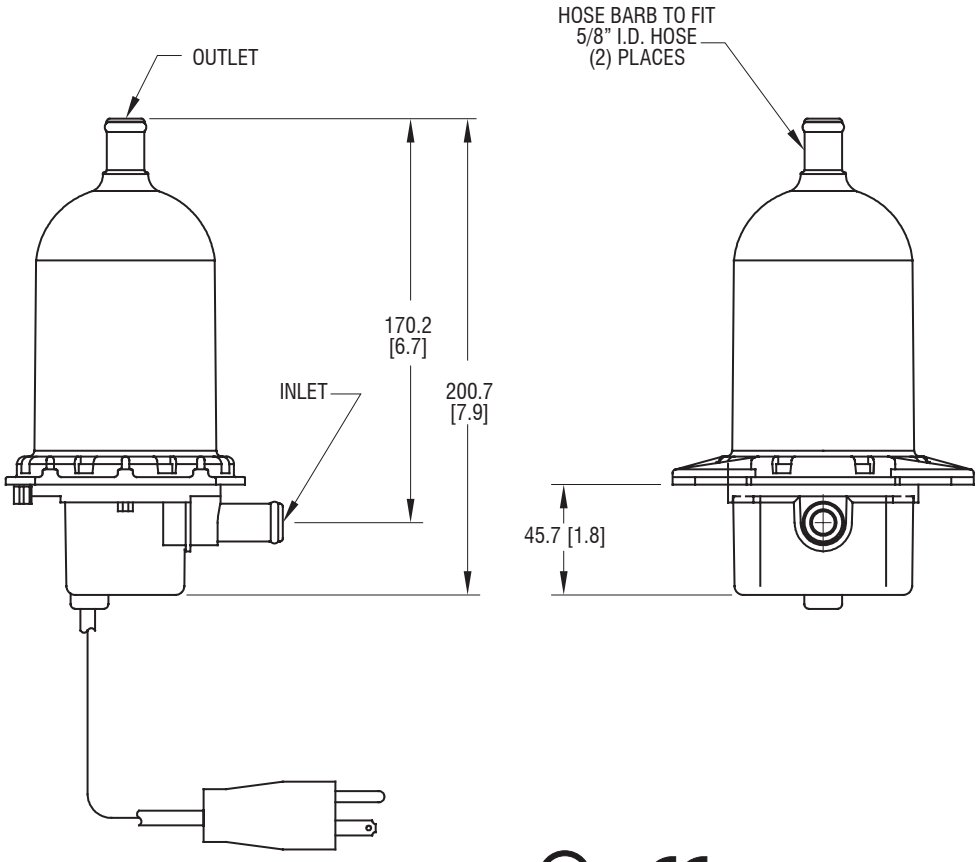
Part No. 0604410SSD
Rev. C 10/14/19

COOLANT HEATER OPTION
1,500 WATT, 120 VAC

SPECIFICATIONS

- Voltage: 120 VAC
- Heat Power: 1,500 WATT
- Fixed Thermostat: 80°-100°F
- Heating Element: Incoloy 800
- Maximum Pressure: 90 PSI (620 kPa)
- Plug NEMA Standard: 5-15P





DIMENSIONS: mm [INCHES]

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CE

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Part No. 084918L_SBM
Rev. R 06/14/19

POWER ZONE® CONTROL PLATFORM
Power Zone® 410, 5 and 10 Amp Battery Chargers

Features

The Generac Power Zone® 5 amp 12 volt and 10 amp 12/24 volt battery chargers are designed to work with the Power Zone 410® controller to provide the ultimate in automatic battery voltage maintenance. The charger features automatic float and equalize control. It precisely monitors the battery's voltage and automatically activates the correct charging mode. The charge rate is limited and controlled to efficiently and safely maintain ideal battery levels under varying conditions.

The 5 amp 12 volt battery charger is standard on the Power Zone 410 controller, with the 10 amp 12/24 volt battery charger as a selectable option. When the 10 amp charger is selected and installed, the operation of the 5 amp battery charger operation is disabled.

Specifications	5A 12V	10A 12/24V
Nominal Input	120 VAC	120 VAC
Operating AC Line Voltage Range	108 to 132 VAC	108 to 132 VAC
Input AC Line Frequency	50/60 Hz	50/60 Hz
Battery Fuse	N/A	15A
Nominal Charge Rate	5A	10A
Equalize Voltage	N/A	14.0/28.5 V
Float Voltage	13.4 V	13.5/27.0 V
Current @ Equalize to Float Transition	N/A	5A
Battery Under-voltage Shutdown	N/A	11/22V
LED Indicators	No	Yes
AC Line Voltage	N/A	Green LED
Battery Connected and Charging	N/A	Yellow LED
AC Line Connection	Connector Plug	Connector Plug
Battery Connection	Connector Plug	Connector Plug
Control Connection		AC Power Fail Form Relay Form A 2 A Rating
CETL Listed	Yes	Yes
NFPA 110 Compliant	No	Yes
AGM Compatible	No	Yes
UL1236	No	Yes
CSA 22.2 No. 107	No	Yes

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Part No. A0001371116
Rev. B 02/14/23

EATON POWER DEFENSE™ CIRCUIT BREAKER DATA
PD2 FRAME

DESCRIPTION

- Globally accepted molded case circuit breakers
- Covers a range of 15A through 225A
- Available in standard 80% rating or optional 100% UL rating

AVAILABLE FEATURES AND ACCESSORIES

- Thermal/Magnetic trip units (fixed thermal, fixed magnetic)
- PXR 10 Electronic Trip Units (LSI)
- Modular field-installable accessories
  - — Shunt Trip
  - — Auxiliary Contacts
  - — Alarm Contacts

STANDARDS AND CERTIFICATIONS

- UL
- CSA
- IEC (CE)
- CB (CCC)

PD G 2 3 M 225 TFF

Product Series
PD = Power Defense

Certifications/ Standards
G = 80% Rated
F = 100% Rated

Frame Size
2 = 2

Pole Options
3 = 3-pole

Interrupting Ratings
F = 25 kA at 480V
G = 35 kA at 480V
K = 50 kA at 480V
M = 65 kA at 480V
N = 85 kA at 480V
P = 100 kA at 480V
F = 14 kA at 600V
G = 18 kA at 600 V
K = 22 kA at 600 V
M = 25 kA at 600V
N = 30 kA at 600 V
P = 35 kA at 600V

Continuous Current Ratings
0015 = 15 A
0020 = 20 A
0025 = 25 A
0030 = 30 A
0035 = 35 A
0040 = 40 A
0045 = 45 A
0050 = 50 A
0060 = 60 A
0070 = 70 A
0080 = 80 A
0090 = 90 A
0100 = 100 A
0110 = 110 A
0125 = 125 A
0150 = 150 A
0175 = 175 A
0200 = 200 A
0225 = 225 A

Trip Unit Type Options
TFF = Fixed Thermal/Fixed Magnetic
B2N = LSI
KSN = Molded Case Switch (2)

(1) 100% rating available on LSI trip only
(2) Magnetic-only Molded Case Switches available at 100A, 150A and 225A

All breakers are rated 600V
All breakers are 3-Pole

Part No. A0004549667
Rev. C 12/6/23

EATON POWER DEFENSE™ CIRCUIT BREAKER DATA
PD2 FRAME

ELECTRONIC TRIP UNITS, PD2 FRAME
*PXR 10 - LSI Trip

Continuous Current Rating	
60	LSI
100	LSI
150	LSI
225	LSI

Available Continuous Current (Ir) Settings on PXR Electronic Trip Units

Maximum Setting (In)

Option	Setting	060 60 A	0100 100 A	0150 150 A	0225 225 A
PXR 10	1	15 A	32 A	50 A	80 A
	2	16 A	35 A	60 A	90 A
	3	20 A	40 A	63 A	100 A
	4	25 A	50 A	70 A	110 A
	5	30 A	60 A	80 A	125 A
	6	35 A	63 A	90 A	150 A
	7	40 A	70 A	100 A	160 A
	8	45 A	80 A	110 A	175 A
	9	50 A	90 A	125 A	200 A
	10 = In	60 A	100 A	150 A	225 A

All breakers are rated 600V
All breakers are 3-Pole

All breakers are rated 600V
All breakers are 3-Pole

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EATON POWER DEFENSE™ CIRCUIT BREAKER DATA
PD2 FRAME

LOAD-SIDE LUGS - PD2 FRAME

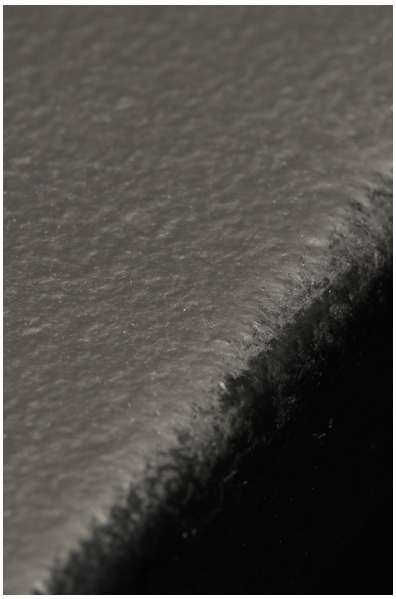
BREAKER-FRAME	CIRCUIT BREAKER RANGE (A)	WIRE TEMPERATURE RATING	CIRCUIT BREAKER LUGAWGWIRE RANGE/(NUMBER OF CONDUCTORS)	TORQUE TO WIRE	GENERAC #	EATON#
Power Defense - 2	15-100	167°F (75°C)	14-1/0 (1)	See listed chart frame size 2	A0002200431	PDG2X3TA100
Power Defense - 2	110-225	167°F (75°C)	4-4/0 (1)	375 in-lb (42.37 Nm)	A0002200432	PDG2X3TA225

Frame Size 2 Wire Torque

For Sizes ...	Torque (in-lb)		For Sizes ...	Torque (Nm)
14-10 AWG	35		2.5-6 mm2	3.95 Nm
8 AWG	40		10 mm2	4.52 Nm
6-4 AWG	45		16-25 mm2	5.08 Nm
3 - 1/0 AWG	50		25-50 mm2	5.65 Nm

All breakers are rated 600V
All breakers are 3-Pole

RhinoCoat™



Generac's RhinoCoat™ finish system provides superior durability as a standard for all Generac Industrial enclosures, tanks and frames.*

Testing Standards

Generac's RhinoCoat™ finished surfaces are subjected to numerous tests. These include:

- ASTM D - 1186 - 87.....2.5+ MIL Paint Thickness
- ASTM D - 3363 - 92a.....Adequate Material Hardness
- ASTM D 522 - B.....Resistant to Cracking
- ASTM D 3359 - B.....Exceptional Adhesion
- ASTM B117 D 1654.....Resistant to Salt Water Corrosion
- ASTM D1735 D 1654.....Resistant to Humidity
- ASTM 2794 93 (2004).....Exceptional Impact Resistance
- SAEJ1690 - UV Specifications.....UV Protection

In addition to the testing standards above, Generac adds the following test requirements more specific to generator applications:

- Resistant to Typical Oils
- Resistant to Typical Fuels
- Resistant to Typical Antifreeze
- Resistant to Distilled Water

Primary Codes and Standards

*RhinoCoat™ powder coat paint is durable and corrosion resistant however it is not a rust preventative. Generac pretreats all powder coated parts to assist with resistance to corrosion.

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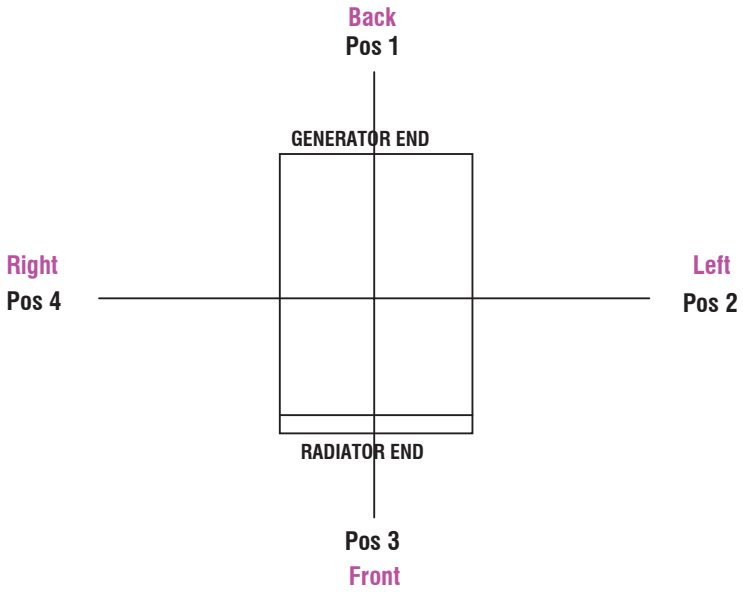
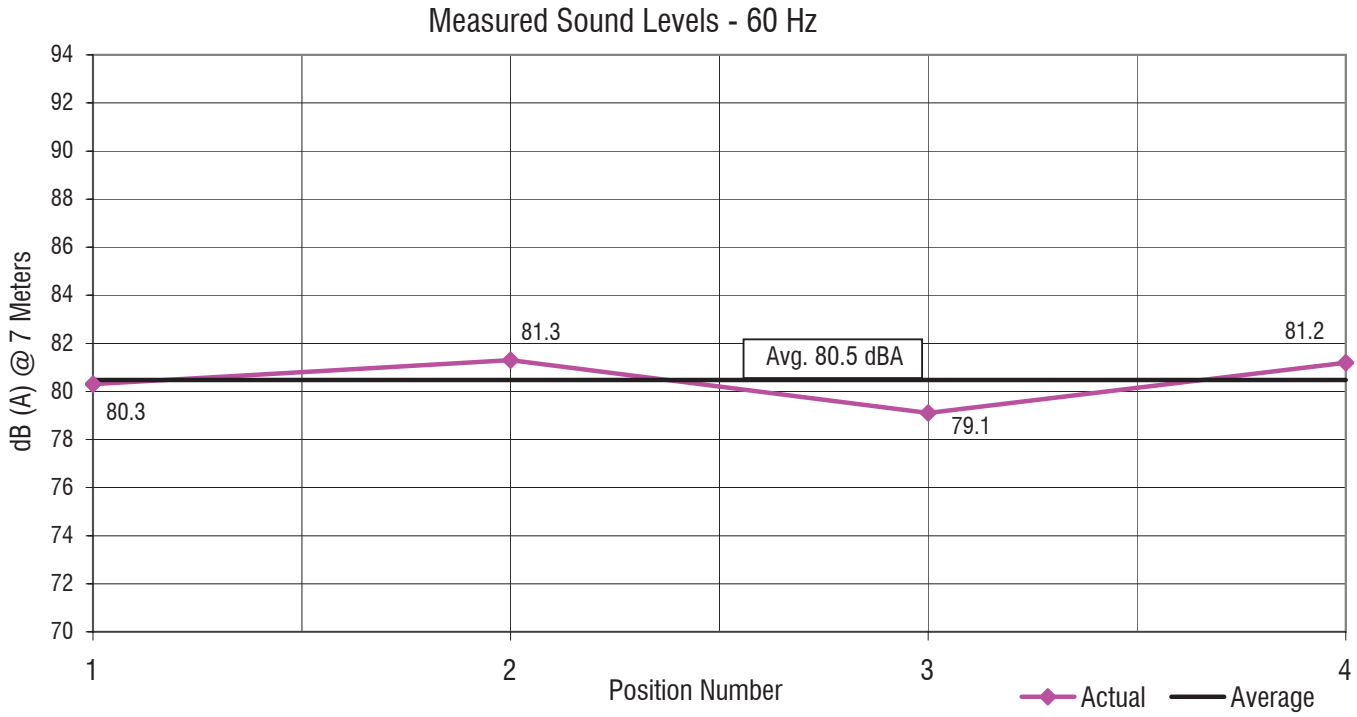
Part No. 0180230SBY
Rev. F 11/16/19

STANDARD ENCLOSURE
SD60 4.5L IVECO





Notes:

1. All positions 23 ft (7M) from side faces of generator set.
2. Generator operating at full load.
3. Test conducted on a 100 foot diameter asphault surface.
4. Non-enclosed sets do not include exhaust sound during testing.

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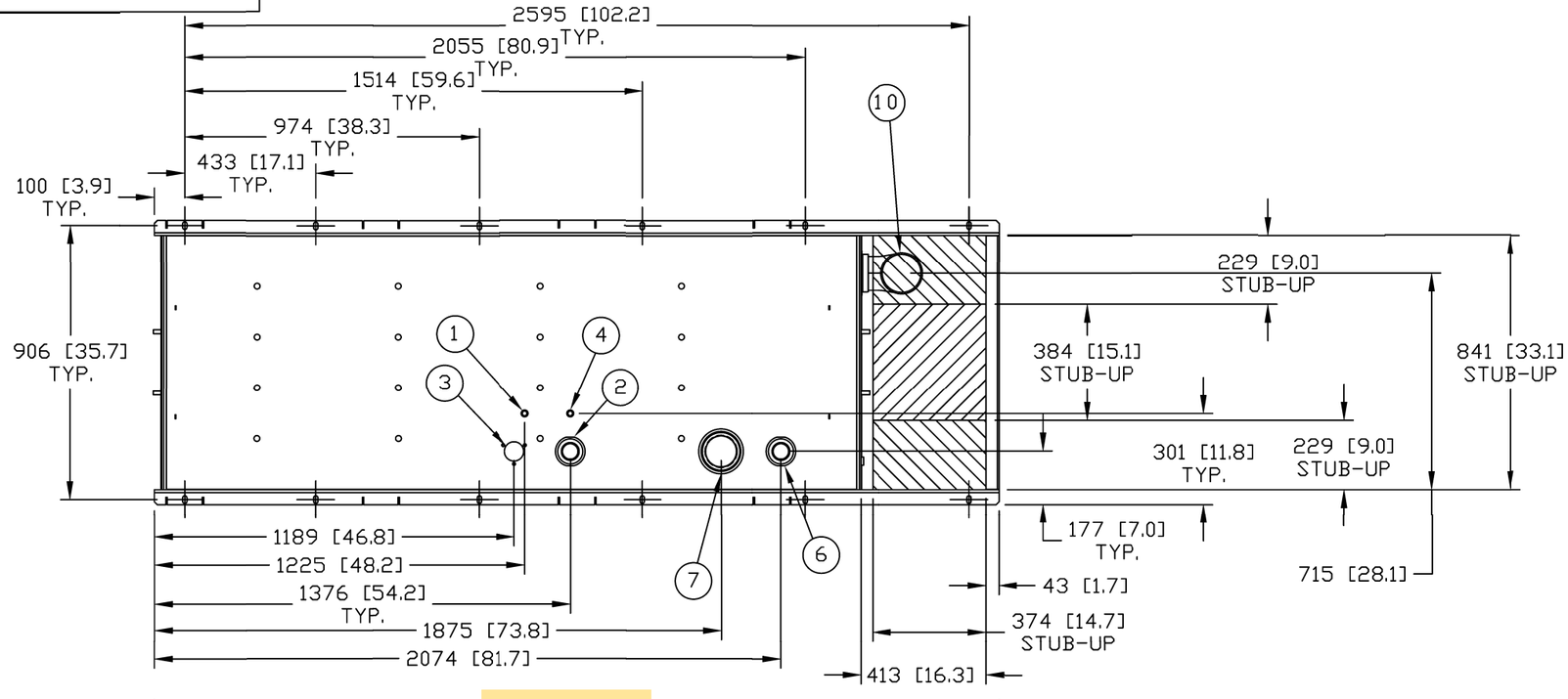
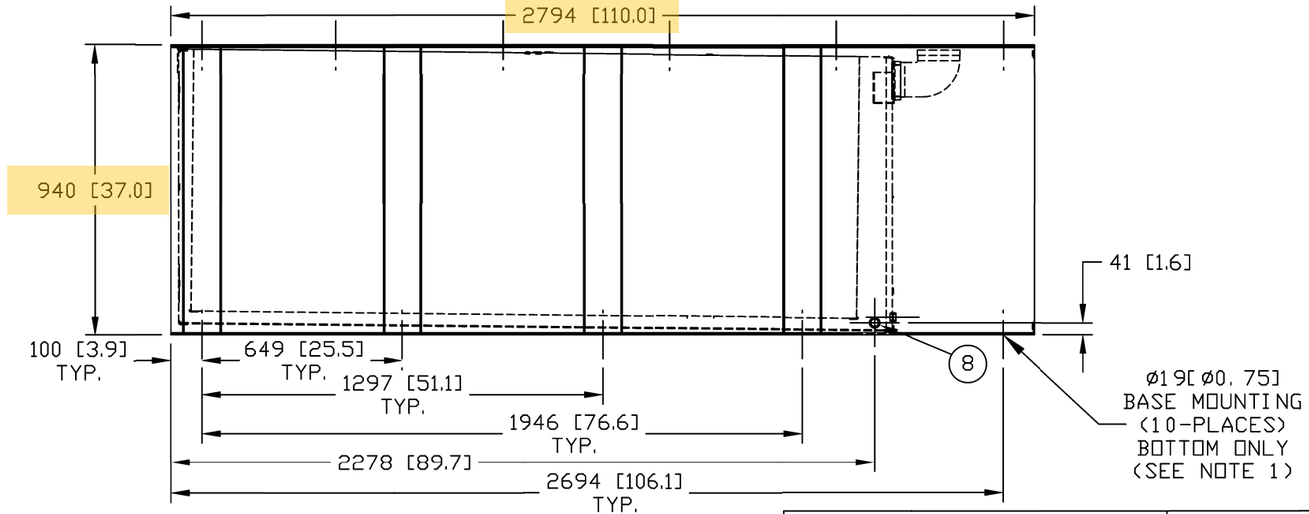
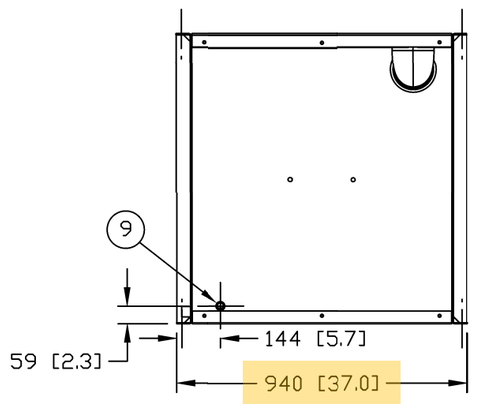
0H9406

GROUP "C" FOOTPRINT







ITEM#	TANK FITTING	PROVIDING FUNCTION
1	3/8" NPT COUPLING	FUEL RETURN
2	2" NPT WELD FLANGE	FUEL FILL
3		MECH. / ELEC. FUEL LEVEL
4	3/8" NPT COUPLING	FUEL SUPPLY
5	NOT USED FOR ANYTHING	
6	2" NPT WELD FLANGE	VENT
7	4" NPT WELD FLANGE	EMERGENCY VENT
8	3/4" NPT COUPLING	DRAIN
9	1/2" NPT COUPLING	LEAK DETECTOR
10	4" NPT WELD FLANGE	OUTER EMERGENCY VENT

TANK P/N - REVISION	0H93880ST03
TOTAL TANK CAPACITY	1344 [355]
USABLE TANK CAPACITY	1325 [350]
DRY WEIGHT	628 Kg. [1384 lbs.]

CAPACITIES SHOWN: LITERS [GALLONS]
WEIGHTS SHOWN: KILOGRAMS [POUNDS]
UL #142 / ULC-S601 LISTED

NOTES:

1. MOUNTING BOLTS OR STUDS FOR MOUNTING BASETANK TO CONCRETE PAD SHALL BE 3/4-10 GRADE 5. (USE STANDARD SAE TORQUE SPECS.)

LOW VOLTAGE STUB-UP

HIGH VOLTAGE STUB-UP

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INSTALLATION DRAWING

INSTALLATION DRAWING

D6.7 G17 BASETANK

350 GALLON USEABLE

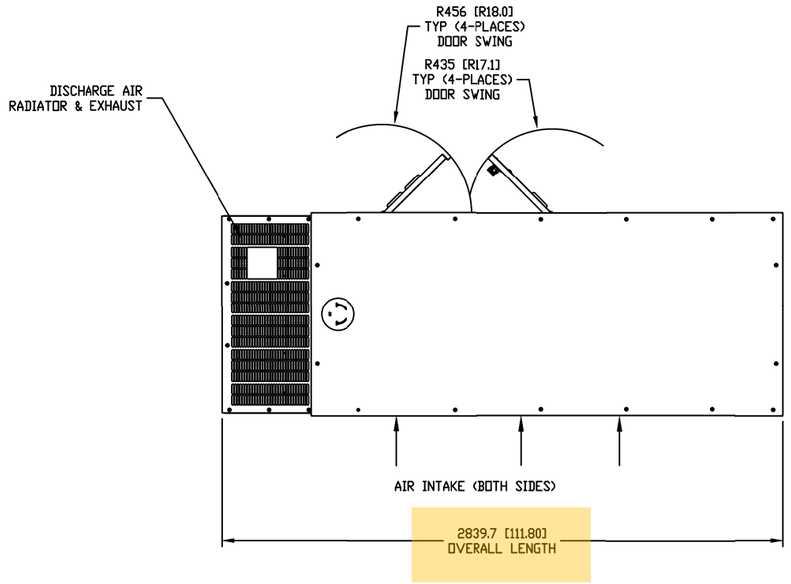
ISSUE DATE 06/07/10

GENERAC POWER SYSTEMS
Waukesha
P.O. BOX 8
WAUKESHA, WIS. 53187

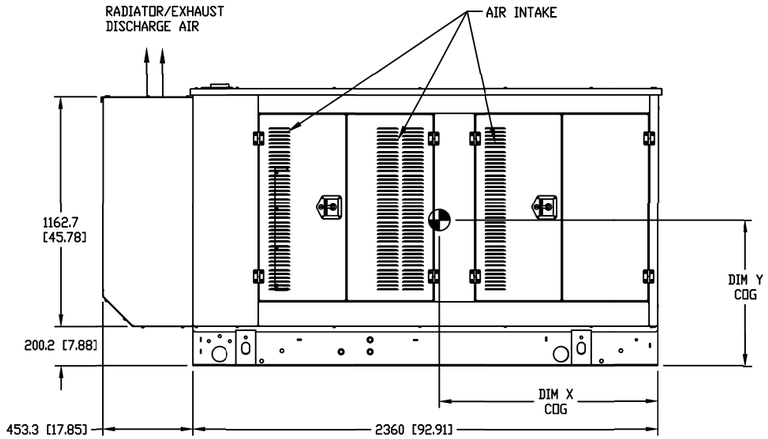
FILE NAME 0H9406.DWG | SIZE B

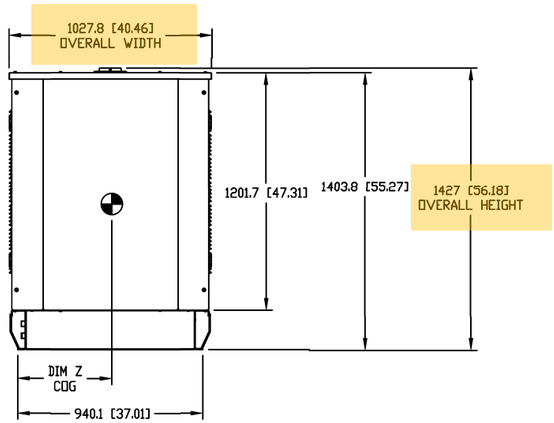
SCALE 20 | FIRST USE D4.5F G17

DWG NO. 0H9406 | REV D



FOR ALL STUB-UP, WEIGHT, AND COG DETAILS, SEE CORRESPONDING OPEN SET DRAWING PER UNIT CONFIGURATION.





DIMENSIONS ARE IN MILLIMETERS [INCHES]

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INSTALLATION DRAWING

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ELECTRONICALLY APPROVED
INSIDE WINDCHILL

GENERAC

TITLE
STD ENCLOSURE
D4.5L, 60HZ: SD080, PD072
SD060, PD054

ISSUE DATE: 6/2/14

SIZE	CAGE NO	DWG NO	REV
B	N/A	0J4189A	D

SCALE	WT-KG	SHEET
0.035		1 of 1

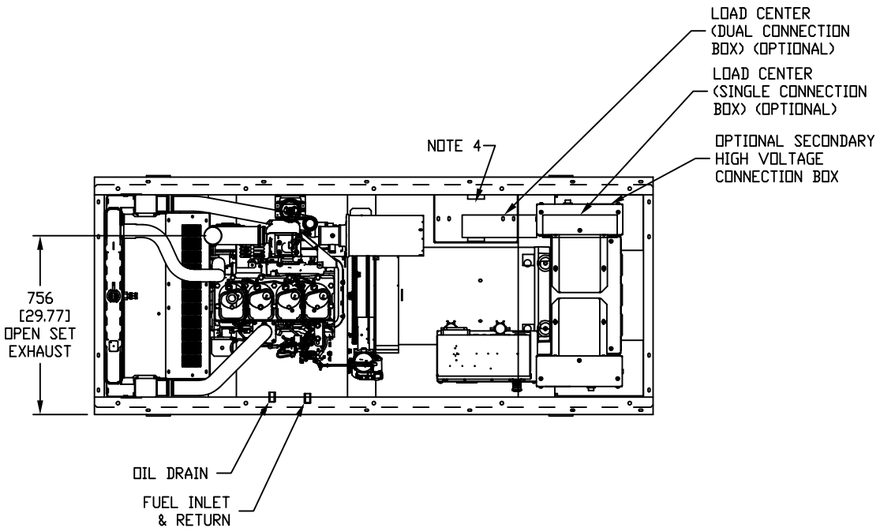
Notes:
1. CONTROL PANEL, (OPTIONAL BATTERY CHARGER INSIDE).
2. 120V, 20A GFCI & 250V, 15A OUTLET (OPTIONAL).
3. CONNECTION POINTS FOR CONTROL WIRES PROVIDED IN THE LOW VOLTAGE CONNECTION BOX (USE LOW VOLTAGE STUB-UP AREA).
4. BATTERY (12 VOLT NEGATIVE GROUND SYSTEM).
5. MAIN LINE CIRCUIT BREAKER (MLCB), AC LOAD LEADS. (DIMENSIONS MAY VARY DUE TO UNIT CONFIGURATION)
6. CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.

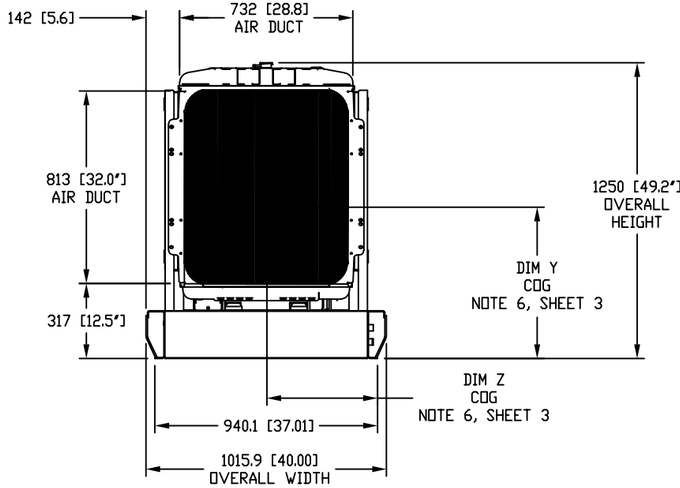
7. ENGINE SERVICE CONNECTIONS:
   INLET NATURAL GAS = N/A
   INLET DIESEL = 1/2" NPT COUPLING
   RETURN DIESEL = 1/2" NPT COUPLING
   OIL DRAIN = 1/2" NPT COUPLING
   RADIATOR DRAIN = N/A
   FLEX PIPE OUTLET = 3" I.D.
   EXHAUST OUTLET = N/A

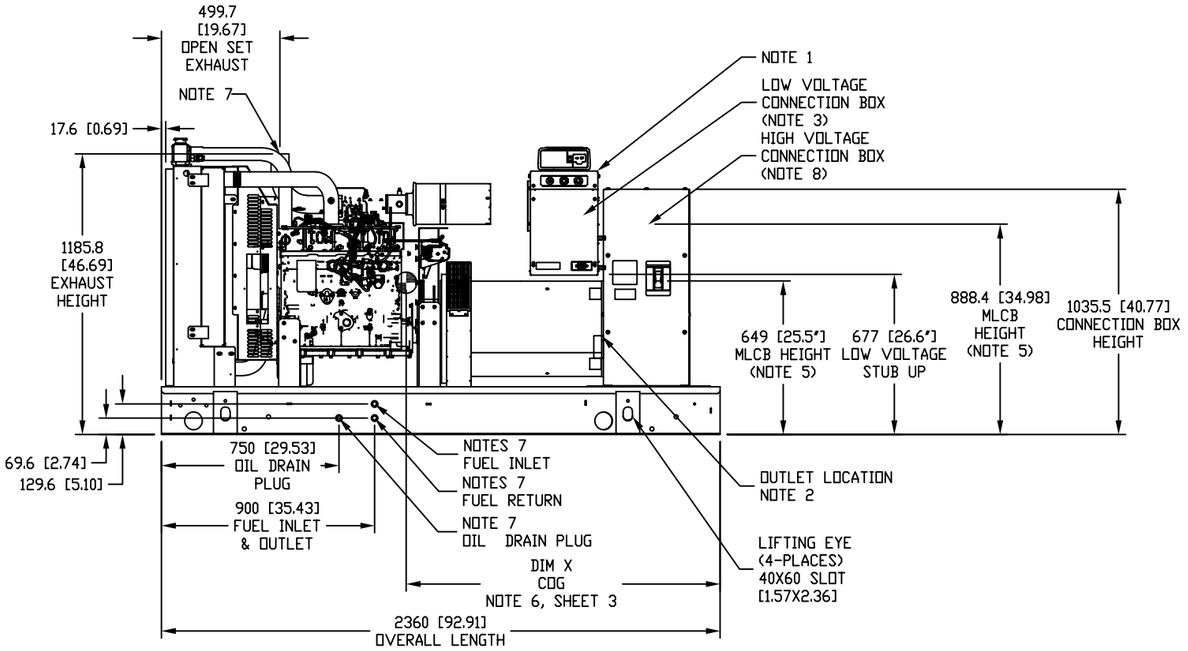
***** SEE GENERATOR SIZING GUIDE FOR FUEL PIPE SIZING TO SUIT APPLICATION *****

8. AUXILARY AC CONNECTION FOR UNIT OPTIONS ARE LOCATED IN HIGH VOLTAGE CONNECTION BOX, UNLESS AN OPTIONAL LOAD CENTER IS INSTALLED.
9. EXHAUST PIPES MAY BE ROTATED TO ALLOW MUFFLER TO POINT OUT TO THE RIGHT OR LEFT SIDE OF GENERATOR. (MAY NOT APPLY TO ALL UNITS)
10. GENERATOR SET MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE AND DISCHARGE AIR FROM THE RADIATOR IS NOT RECIRCULATED.
11. BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND RECIRCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
12. INSTALL EXHAUST BLANKETS ALONG THIS LINE.
13. CONNECT THE OPEN SET EXHAUST PER NFPA 37
14. BOLTS OR STUDS USED TO MOUNT UNIT TO PAD, OR BASE TANK, SHALL BE 5/8"-11 GRADE 5. USE STANDARD SAE TORQUE SPECS. (FOR INSTALLATION OF FUEL TANK TO PAD REFER TO INSTALL DRAWING OF THE BASE TANK)

ADDITIONAL NOTES:
FOR WEIGHT AND CENTER OF GRAVITY DATA SEE NOTE 6, AND SHEET 3.







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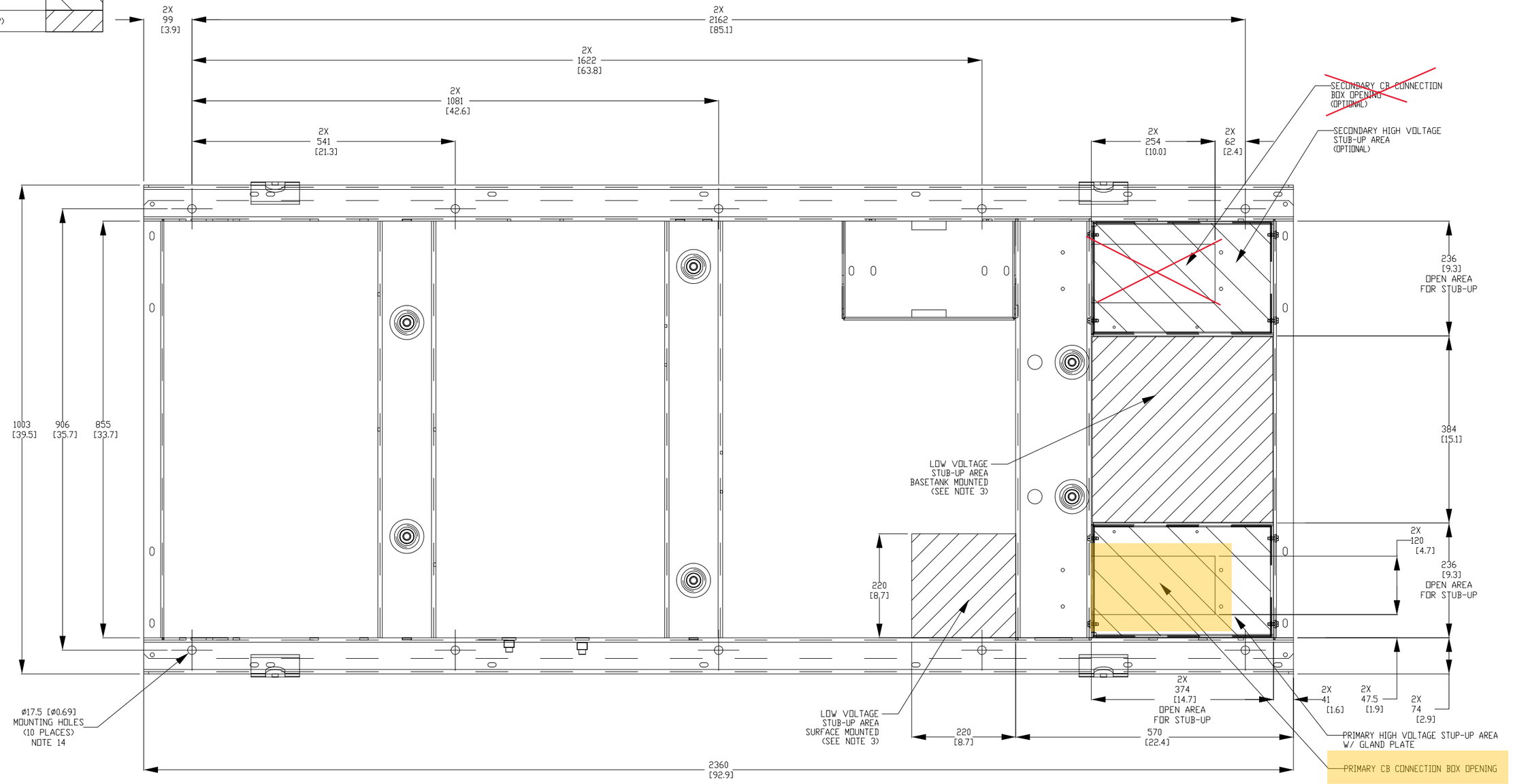
ELECTRONICALLY APPROVED
INSIDE WINDCHILL

GENERAC

TITLE
OPEN SET
D4.5L, 60HZ: SD080, PD072
SD060, PD054

ISSUE DATE: 6/2/14			
SIZE B	CAGE NO N/A	DWG NO A0002221721	REV A
SCALE 0.035	WT-KG	SHEET 1 of 3	

RECOMMENDED ELECTRICAL STUB-UP	
(HIGH VOLTAGE STUB-UP) AC LOAD LEAD CONDUIT FOR PERMANENT MAGNET EXCITATION CONNECTION BOX	
(LOW VOLTAGE STUB-UP)	



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DIMENSIONS ARE IN MILLIMETERS [INCHES]

INSTALLATION DRAWING

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ELECTRONICALLY APPROVED
INSIDE WINCHILL

GENERAC

TITLE
STUB-UP VIEW
D4.5L, 60HZ: SD080, PD072
SD060, PD054

ISSUE DATE: 6/2/14

SIZE	CAGE NO	DWG NO	REV
B	N/A	A0002221721	A
SCALE 0.120	WT-KG	SHEET 2 of 3	

OPEN SET

MODEL	VOLTAGE	WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
SD060, PD054	240V, Ø1	1,128 kg [2,488 lbs]	1370 [53.9]	549 [21.6]	464 [18.3]
SD080, PD072	240V, Ø1	1,161 kg [2,561 lbs]	1348 [53.1]	546 [21.5]	
SD060, PD054/SD080, PD072	240V, Ø 1 (100kw UPSIZE)	1,405 kg [3,098 lbs]	1225 [48.2]	527 [20.7]	
SD080, PD072	240V, Ø 1 (130kw UPSIZE)	1,508 kg [3,326 lbs]	1179 [46.4]	521 [20.5]	
SD060, PD054	208V, 240V, 480V, 600V	1,128 kg [2,488 lbs]	1370 [53.9]	549 [21.6]	
SD080, PD072	208V, 240V, 480V, 600V	1,161 kg [2,561 lbs]	1348 [53.1]	546 [21.5]	
SD060, PD054/SD080, PD072	208V, 240V, 480V, 600V (100kw UPSIZE)	1,213 kg [2,675 lbs]	1358 [53.5]	563 [22.2]	
SD060, PD054	600V (130kw UPSIZE)	1,508 kg [3,326 lbs]	1244 [49.0]	553 [21.3]	
SD080, PD072	208V, 240V, 480V, 600V (130kw UPSIZE)	1,508 kg [3,326 lbs]			

NOTE:
CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO OPTIONS

STD ENCLOSURE, STEEL

MODEL	VOLTAGE	WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
SD060, PD054	240V, Ø1	1,368 kg [3,017 lbs]	1397 [55.0]	607 [23.9]	442 [17.4]
SD080, PD072	240V, Ø1	1,401 kg [3,090 lbs]	1379 [54.3]	602 [23.7]	
SD060, PD054/SD080, PD072	240V, Ø 1 (100kw UPSIZE)	1,645 kg [3,628 lbs]	1271 [50.0]	577 [22.7]	439 [17.3]
SD080, PD072	240V, Ø 1 (130kw UPSIZE)	1,748 kg [3,855 lbs]	1229 [48.4]	563 [22.4]	438 [17.2]
SD060, PD054	208V, 240V, 480V, 600V	1,368 kg [3,017 lbs]	1397 [55.0]	607 [23.9]	441 [17.4]
SD080, PD072	208V, 240V, 480V, 600V	1,401 kg [3,090 lbs]	1379 [54.3]	602 [23.7]	
SD060, PD054/SD080, PD072	208V, 240V, 480V, 600V (100kw UPSIZE)	1,453 kg [3,204 lbs]	1386 [54.6]	614 [24.2]	440 [17.3]
SD060, PD054	600V (130kw UPSIZE)	1,748 kg [3,855 lbs]	1234 [50.5]	595 [23.4]	437 [17.2]
SD080, PD072	208V, 240V, 480V, 600V (130kw UPSIZE)	1,748 kg [3,855 lbs]			

STD ENCLOSURE, ALUMINUM

WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
1,246 kg [2,748 lbs]	1398 [55.0]	580 [22.9]	437 [17.2]
1,279 kg [2,821 lbs]	1378 [54.3]	576 [22.7]	
1,523 kg [3,359 lbs]	1260 [49.6]	553 [21.8]	435 [17.1]
1,626 kg [3,586 lbs]	1216 [47.9]	546 [21.5]	434 [17.1]
1,246 kg [2,748 lbs]	1398 [55.0]	580 [22.9]	437 [17.2]
1,279 kg [2,821 lbs]	1378 [54.3]	576 [22.7]	
1,331 kg [2,935 lbs]	1386 [54.6]	590 [23.2]	436 [17.2]
1,626 kg [3,586 lbs]	1275 [50.2]	575 [22.6]	434 [17.1]
1,626 kg [3,586 lbs]			

L1A ENCLOSURE, STEEL

MODEL	VOLTAGE	WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
SD060, PD054	240V, Ø1	1,441 kg [3,178 lbs]	1334 [52.5]	619 [24.4]	443 [17.4]
SD080, PD072	240V, Ø1	1,474 kg [3,251 lbs]	1319 [51.9]	614 [24.2]	
SD060, PD054/SD080, PD072	240V, Ø 1 (100kw UPSIZE)	1,718 kg [3,789 lbs]	1225 [48.2]	588 [23.2]	440 [17.3]
SD080, PD072	240V, Ø 1 (130kw UPSIZE)	1,821 kg [4,016 lbs]	1178 [46.4]	579 [22.8]	439 [17.3]
SD060, PD054	208V, 240V, 480V, 600V	1,441 kg [3,178 lbs]	1334 [52.5]	619 [24.4]	443 [17.4]
SD080, PD072	208V, 240V, 480V, 600V	1,474 kg [3,251 lbs]	1319 [51.9]	614 [24.2]	
SD060, PD054/SD080, PD072	208V, 240V, 480V, 600V (100kw UPSIZE)	1,526 kg [3,365 lbs]	1327 [52.3]	624 [24.6]	442 [17.4]
SD060, PD054	600V (130kw UPSIZE)	1,821 kg [4,016 lbs]	1241 [48.8]	605 [23.8]	439 [17.3]
SD080, PD072	208V, 240V, 480V, 600V (130kw UPSIZE)	1,821 kg [4,016 lbs]			

L1A ENCLOSURE, ALUMINUM

WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
1,278 kg [2,817 lbs]	1367 [53.8]	587 [23.1]	438 [17.2]
1,311 kg [2,890 lbs]	1349 [53.1]	583 [23.0]	
1,555 kg [3,428 lbs]	1239 [48.8]	559 [22.0]	436 [17.2]
1,658 kg [3,655 lbs]	1197 [47.1]	552 [21.7]	435 [17.1]
1,278 kg [2,817 lbs]	1367 [53.8]	587 [23.1]	438 [17.2]
1,311 kg [2,890 lbs]	1348 [53.1]	583 [23.0]	
1,363 kg [3,005 lbs]	1357 [53.4]	595 [23.5]	437 [17.2]
1,658 kg [3,655 lbs]	1255 [49.4]	580 [22.8]	435 [17.1]
1,658 kg [3,655 lbs]			

L2A ENCLOSURE, STEEL

MODEL	VOLTAGE	WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
SD060, PD054	240V, Ø1	1,499 kg [3,306 lbs]	1414 [55.7]	691 [27.2]	441 [17.4]
SD080, PD072	240V, Ø1	1,532 kg [3,378 lbs]	1398 [55.0]	685 [27.0]	440 [17.3]
SD060, PD054/SD080, PD072	240V, Ø 1 (100kw UPSIZE)	1,776 kg [3,916 lbs]	1295 [51.0]	649 [25.6]	438 [17.2]
SD080, PD072	240V, Ø 1 (130kw UPSIZE)	1,879 kg [4,143 lbs]	1256 [49.4]	637 [25.1]	437 [17.2]
SD060, PD054	208V, 240V, 480V, 600V	1,499 kg [3,306 lbs]	1414 [55.7]	691 [27.2]	441 [17.3]
SD080, PD072	208V, 240V, 480V, 600V	1,532 kg [3,378 lbs]	1398 [55.0]	685 [27.0]	440 [17.3]
SD060, PD054/SD080, PD072	208V, 240V, 480V, 600V (100kw UPSIZE)	1,584 kg [3,493 lbs]	1403 [55.3]	692 [27.3]	
SD060, PD054	600V (130kw UPSIZE)	1,882 kg [4,143 lbs]	1306 [51.4]	662 [26.1]	437 [17.2]
SD080, PD072	208V, 240V, 480V, 600V (130kw UPSIZE)	1,879 kg [4,143 lbs]			

L2A ENCLOSURE, ALUMINUM

WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
1,303 kg [2,872 lbs]	1407 [55.4]	625 [24.6]	437 [17.2]
1,336 kg [2,945 lbs]	1388 [54.6]	620 [24.4]	
1,530 kg [3,483 lbs]	1273 [50.1]	590 [23.2]	435 [17.1]
1,683 kg [3,710 lbs]	1229 [48.4]	580 [22.8]	434 [17.1]
1,303 kg [2,872 lbs]	1407 [55.4]	625 [24.6]	437 [17.2]
1,336 kg [2,945 lbs]	1388 [54.6]	620 [24.4]	
1,388 kg [3,060 lbs]	1395 [54.9]	631 [24.8]	436 [17.2]
1,683 kg [3,710 lbs]	1286 [50.6]	608 [24.0]	434 [17.1]
1,683 kg [3,710 lbs]			

DRAWING CREATED FROM PRO/ENGINEER 3D FILE. ECO MODIFICATION TO BE APPLIED TO SOLID MODEL ONLY.

INSTALLATION DRAWING

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ELECTRONICALLY APPROVED
INSIDE WTNDCHIL

GENERAC

TITLE
WEIGHT & CENTER OF GRAVITY
D4.5L 60HZ: SD080, PD072
SD060, PD054

ISSUE DATE: 6/2/14			
SIZE B	CAGE NO N/A	DWG NO A000221721	REV A
SCALE 0.035	WT-KG	SHEET 3 of 3	

TX611 Series Transfer Switch

100 – 400 Amps

Contactor Type · Open and Delayed Transition

- Automatic Transfer Switch
- 100 – 400 A, up to 480 VAC, 60 Hz
- Single or Three Phase
- 2, 3, or 4 Poles
- UL Type 1 or Type 3R Enclosure
- Open and Inphase or Open with Delayed Transition
- ETLus and cETLus
- 3 Cycle Rated for Easy Upstream Breaker Coordination

200 AMPS
4 POLE
120/208 VAC three phase
IO BOARD, 4 INPUTS, 4 OUTPUTS
NEMA 3R ENCLOSURE
IN PHASE ONLY TRANSFER
NON SERVICE ENTRANCE RATED

Image used for illustration purposes only

Codes and Standards

ETLus and cETLus Listed to UL 1008

NFPA 70, 99, 110

NEC 700, 701, 702, 708

OSHPD and Seismic Certified CBC 2019, CBC 2016, IBC 2018, IBC 2015, IBC 2012, IBC 2009, ASCE 7-10, ASCE 7-16, ICC-ES AC-156

Description

Generac's patented* contactor is featured in the TX contactor type transfer switch, which is a double-throw robust switch construction with inherent interlocks for safe positive transfer between power sources. Featuring a transition time of less than 20 milliseconds, this high speed transfer is ideal for all applications, including motor load applications. The contacts are silver composite for long life, resisting pitting or burning. The switches are rated for full load transfers in mission critical, emergency, legally required, and optional power systems.

The microprocessor based controller provides the customers with the flexibility to program a comprehensive group of set points to match the application needs. The controller has two programmable inputs and one programmable output as standard and is available with optional expansion boards for up to four programmable inputs and outputs. The LCD displays real time and historical information with time-stamped events. The integrated plant exerciser can be configured in off, daily, day of week, biweekly, and monthly intervals with user selectable run time. Standard features of the controller include three phase sensing on both sources, phase unbalance, phase reversal, load shed, emergency inhibit, and communications.

*Patent Number: US 11,227,728 B2

TX611 Series Transfer Switch

100 – 400 Amps

Contactor Type · Open and Delayed Transition

STANDARD FEATURES

GENERAL

- Small Footprint, Results in Easy Mounting and Installation for Reduced Time and Costs
- Cable Entry is Top or Bottom
- Double-Throw, Stored Energy Transfer Mechanism
- Can be Electrically Isolated while Energized
- Graphical LCD-Based Display for Programming, System Diagnostics and Help Menu Display Mimic
- Diagram with Source Available and Connected LED Indicator
- Method of Transfer: Open with Inphase Transition
- Mechanically Interlocked to Prevent Connection of Both Sources
- Modbus® RTU
- TXC 100 Controller
- Operating Temperature -4 ° to 158 °F (-20 ° to 70 °C)
- Removable Top and Bottom Plates for Ease of Entry
- Voltage Agnostic*
- High Withstand and Closing Ratings
- Heater Kit Standard on All 3R Enclosures
- Auxiliary Output Includes: Two Wire Start, Signal Before Transfer, Fault, and a Programmable Relay Output
- Auxiliary Input Includes: Permissive Inputs (24 VDC)
- General Alarm Indication
- 2 Year Standard Warranty
- IBC 2018, 2015, 2012, 2009

VOLTAGE AND FREQUENCY SENSING

- Three Phase Under and Over Voltage Sensing on Normal and Emergency Sources
- Under and Over Frequency Sensing on Normal and Emergency
- Selectable Settings: Single or Three Phase Voltage
- Sensing on Normal, Emergency and Load 60 Hz
- Phase Sequence Sensing for Phase Sensitive Loads

Start Circuit

- 2-Wire Start
- 3-Wire Start From C Contact for Circuit Monitoring

Digital Outputs

- Signal Before Transfer (Elevator)
- General Alarm

Digital Inputs

- Emergency Inhibit (Permissive & Load Shed)
- Go to Emergency (Demand Response)
- Manual Generator Retransfer

CONTROLS

- Front Programmable Control Reduces PPE Needs and Arc Flash Hazard
- Built in Battery Backup - Increases Switch Reliability and Reduces Switch Transition Time to Alternate Source
- Battery Backup Able to Power the Controller for up to 60 Minutes in the Event of No Source Availability
- Generator Battery Backup for Controller
- Accessible USB Port for Easy Data Downloads, Firmware Updates without Requiring PPE, Reducing the Risk of Arc Flash
- All Amp Nodes Offered with Delayed Transition
- Heater Programmable through Control for Desired Temperature and Humidity Settings
- Front Accessible Customer Connections
- Time-Stamped Event History Log
- Programmable Exerciser - Daily, Weekly, Bi-Weekly, Monthly

* 480 V 3-Wire Systems Must be Specified at Time of Ordering for Transformer Kit to be Included

CONFIGURABLE OPTIONS

- Chicago Code Kit
- 3R Padlockable Cover for Controller (Standard on 3R Enclosure)
- CTs for Integrated Metering
- Heater Option for Temperature and Humidity Control (Standard on 3R)
- Time Delay in Neutral Transition (TDN), or Inphase with a Default to Time Delay in Neutral Transfer
- Expandable Input/Output Board Module Includes: 4 Relay Outputs and 4 Optically Isolated Inputs
- IBC Seismic Certified/Seismic Rated
- 2 Year Extended Limited Warranty
- 5 Year Basic Limited Warranty
- 5 Year Extended Limited Warranty
- 7 Year Extended Limited Warranty
- 10 Year Extended Limited Warranty

Engineered Options

- Transient Voltage Surge Suppressor (TVSS)
- NEMA 4X Stainless Steel (304 or 316) Enclosure
- Manual Generator Retransfer Switch
- Go to Emergency Switch

Conversion Kits

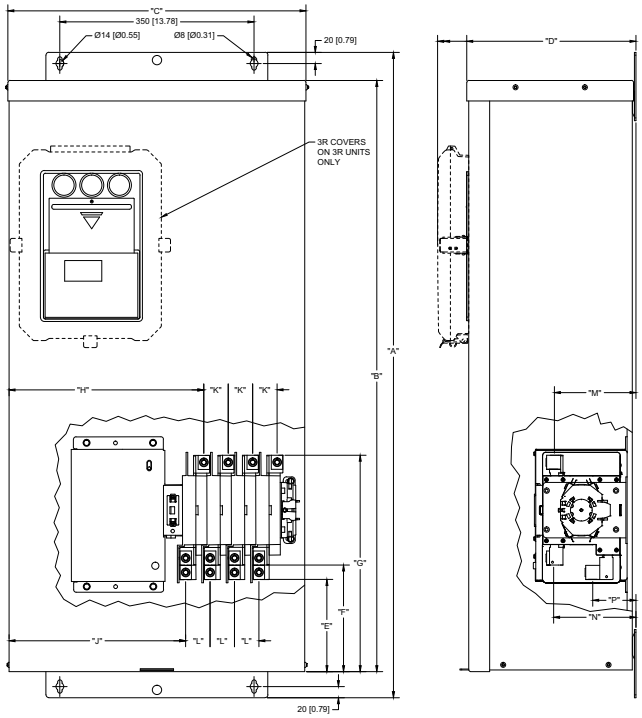
- 480 V Transformer Kit for 3-Wire Systems
- UL Type 1 to Type 3R Kit

TX611 Series Transfer Switch

100 – 400 Amps

Contactor Type · Open and Delayed Transition

UNIT DIMENSIONS*



Contactor Type, Open and Delayed Transition, 100 – 400 A

Description	in (mm)														Cu/Al					lbs (kg)
	A (Height)	B (Height)	C (Width)	D (Depth)	E (Dim)	F (Dim)	G (Dim)	H (Dim)	J (Dim)	K (Dim)	L (Dim)	M (Dim)	N (Dim)	P (Dim)	Normal 75 °C Wire	Standby Source 75 °C Wire	Load 75 °C Wire	Neutral Connection	Ground Connection	Weight
100A NON SER TYPE 1	35.6 (903)	31.7 (806)	21.2 (538)	12.0 (305)	8.9 (226)	9.9 (252)	18.5 (471)	13.7 (348)	12.4 (315)	1.7 (44)	1.7 (44)	5.8 (148)	5.8 (148)	3.1 (79)	(1) 2/0 - 14	(1) 2/0 - 14	(1) 2/0 - 14	(5) 2/0 - 14	(2) 1/0 - 14	105.6 (48)
100A NON SER TYPE 3R	35.6 (903)	31.7 (806)	21.2 (538)	13.9 (355)	8.9 (226)	9.9 (252)	18.5 (471)	13.7 (348)	12.4 (315)	1.7 (44)	1.7 (44)	5.8 (148)	5.8 (148)	3.1 (79)	(1) 2/0 - 14	(1) 2/0 - 14	(1) 2/0 - 14	(5) 2/0 - 14	(2) 1/0 - 14	110.0 (50)
150A NON SER TYPE 1	35.6 (903)	31.7 (806)	21.2 (538)	12.0 (305)	9.3 (236)	10.3 (262)	18.1 (460)	13.7 (348)	12.4 (315)	1.7 (44)	1.7 (44)	6.0 (153)	6.0 (153)	3.3 (84)	(1) 250 - 6	(1) 250 - 6	(1) 250 - 6	(4) 350 - 6	(2) 250 - 6	116.6 (53)
150A NON SER TYPE 3R	35.6 (903)	31.7 (806)	21.2 (538)	13.9 (355)	9.3 (236)	10.3 (262)	18.1 (460)	13.7 (348)	12.4 (315)	1.7 (44)	1.7 (44)	6.0 (153)	6.0 (153)	3.3 (84)	(1) 250 - 6	(1) 250 - 6	(1) 250 - 6	(4) 350 - 6	(2) 250 - 6	121.0 (55)
200A NON SER TYPE 1	35.6 (903)	31.7 (806)	21.2 (538)	12.0 (305)	9.3 (236)	10.3 (262)	18.1 (460)	13.7 (348)	12.4 (315)	1.7 (44)	1.7 (44)	6.0 (153)	6.0 (153)	3.3 (84)	(1) 250 - 6	(1) 250 - 6	(1) 250 - 6	(4) 350 - 6	(2) 250 - 6	116.6 (53)
200A NON SER TYPE 3R	35.6 (903)	31.7 (806)	21.2 (538)	13.9 (355)	9.3 (236)	10.3 (262)	18.1 (460)	13.7 (348)	12.4 (315)	1.7 (44)	1.7 (44)	6.0 (153)	6.0 (153)	3.3 (84)	(1) 250 - 6	(1) 250 - 6	(1) 250 - 6	(4) 350 - 6	(2) 250 - 6	121.0 (55)
300A NON SER TYPE 1	51.4 (1,305)	47.5 (1,206)	24.2 (614)	12.0 (305)	9.7 (246)	11.5 (292)	20.3 (516)	14.8 (377)	13.1 (311)	2.3 (59)	2.3 (59)	6.5 (166)	6.5 (166)	3.3 (84)	(1) 600 - 4 or (2) 250 - 1/0	(1) 600 - 4 or (2) 250 - 1/0	(1) 600 - 4 or (2) 250 - 1/0	(5) 600 MCM - 4 or (10) 250 MCM - 1/0	(2) 250 - 6	173.8 (79)
300A NON SER TYPE 3R	51.4 (1,305)	47.5 (1,206)	24.2 (614)	13.9 (355)	9.7 (246)	11.5 (292)	20.3 (516)	14.8 (377)	13.1 (311)	2.3 (59)	2.3 (59)	6.5 (166)	6.5 (166)	3.3 (84)	(1) 600 - 4 or (2) 250 - 1/0	(1) 600 - 4 or (2) 250 - 1/0	(1) 600 - 4 or (2) 250 - 1/0	(5) 600 MCM - 4 or (10) 250 MCM - 1/0	(2) 250 - 6	178.2 (81)
400A NON SER TYPE 1	51.4 (1,305)	47.5 (1,206)	24.2 (614)	12.0 (305)	9.7 (246)	11.5 (292)	20.3 (516)	14.8 (377)	13.1 (311)	2.3 (59)	2.3 (59)	6.5 (166)	6.5 (166)	3.3 (84)	(1) 600 - 4 or (2) 250 - 1/0	(1) 600 - 4 or (2) 250 - 1/0	(1) 600 - 4 or (2) 250 - 1/0	(5) 600 MCM - 4 or (10) 250 MCM - 1/0	(2) 250 - 6	173.8 (79)
400A NON SER TYPE 3R	51.4 (1,305)	47.5 (1,206)	24.2 (614)	13.9 (355)	9.7 (246)	11.5 (292)	20.3 (516)	14.8 (377)	13.1 (311)	2.3 (59)	2.3 (59)	6.5 (166)	6.5 (166)	3.3 (84)	(1) 600 - 4 or (2) 250 - 1/0	(1) 600 - 4 or (2) 250 - 1/0	(1) 600 - 4 or (2) 250 - 1/0	(5) 600 MCM - 4 or (10) 250 MCM - 1/0	(2) 250 - 6	178.2 (81)

UL 1008 Withstand and Closing Ratings

Ampere Rating	Specific Breaker (kA)**	3-Cycle Rating (kA)	Fuse Rating (Class J)	Fuse Size	Voltage
100	35	22	200 kA	200 A	480V
150	42	22	200 kA	200 A	480V
200	42	22	200 kA	200 A	480V
300	65	35	200 kA	400 A	480V
400	65	35	200 kA	400 A	480V

* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.
** See Specific Breaker List available on GENconnect.

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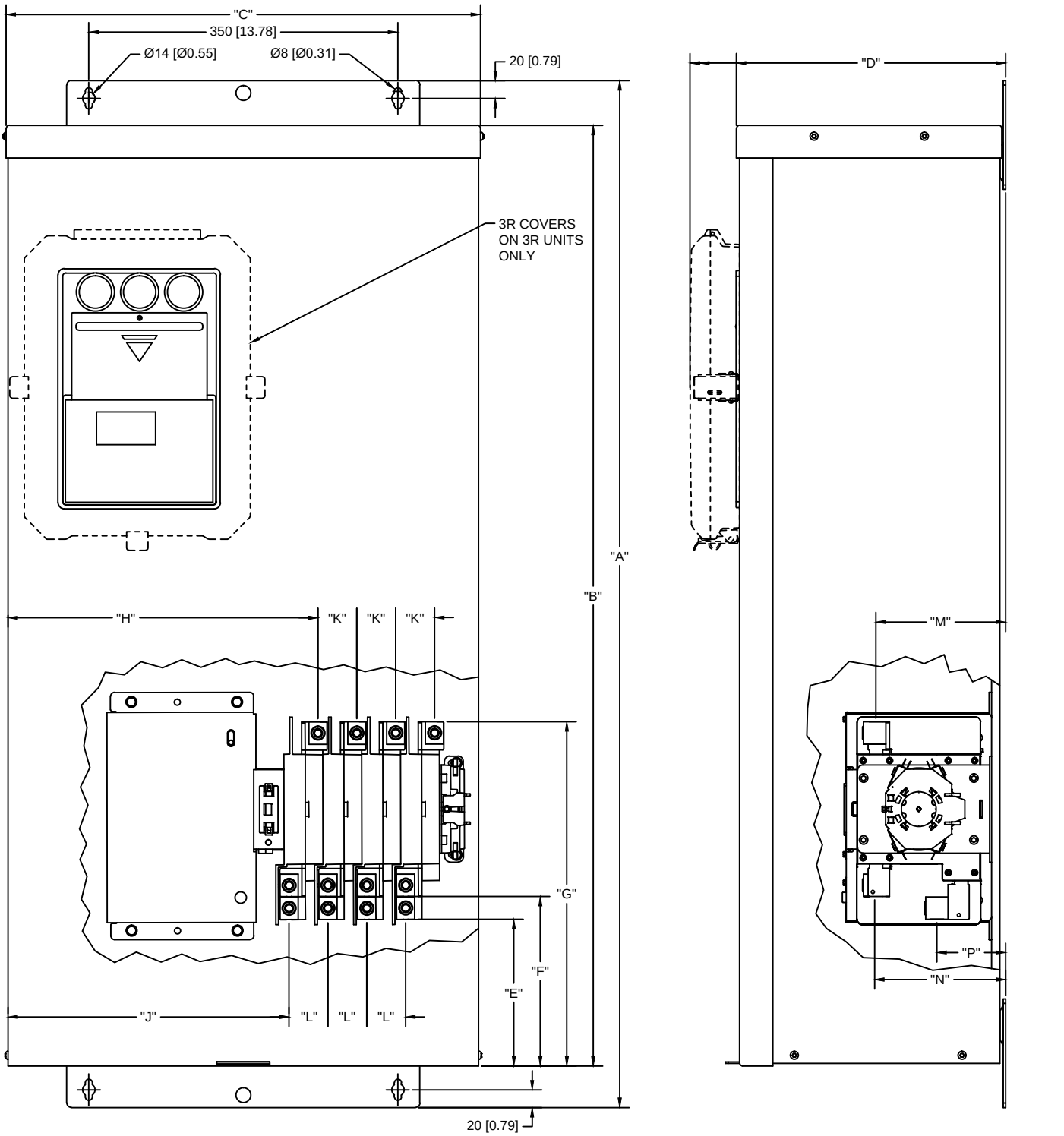
Part No. A0000528440
Rev. E 04/21/2023



ALL DIMENSION ARE: mm [inches]

DESCRIPTION	HEIGHT "A"	HEIGHT "B"	WIDTH "C"	DEPTH "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"	DIM "K"	DIM "L"	DIM "M"	DIM "N"	DIM "P"	WEIGHT
100A NON SER NEMA 1	903	806	538	305	226	252	471	348	315	44	44	149	149	79	48kg
	[35.55]	[31.71]	[21.16]	[12.00]	[8.89]	[9.91]	[18.54]	[13.70]	[12.40]	[1.73]	[1.73]	[5.88]	[5.88]	[3.11]	105.6lbs
100A NON SER NEMA 3R	903	806	538	355	226	252	471	348	315	44	44	149	149	79	50kg
	[35.55]	[31.71]	[21.16]	[13.99]	[8.89]	[9.91]	[18.54]	[13.70]	[12.40]	[1.73]	[1.73]	[5.88]	[5.88]	[3.11]	110.0lbs
150A NON SER NEMA 1	903	806	538	305	237	263	460	348	315	44	44	153	153	83	53kg
	[35.55]	[31.71]	[21.16]	[12.00]	[9.31]	[10.34]	[18.12]	[13.70]	[12.40]	[1.73]	[1.73]	[6.04]	[6.04]	[3.26]	116.6lbs
150A NON SER NEMA 3R	903	806	538	355	237	263	460	348	315	44	44	153	153	83	55kg
	[35.55]	[31.71]	[21.16]	[13.99]	[9.31]	[10.34]	[18.12]	[13.70]	[12.40]	[1.73]	[1.73]	[6.04]	[6.04]	[3.26]	121.0lbs
200A NON SER NEMA 1	903	806	538	305	237	263	460	348	315	44	44	153	153	83	53kg
	[35.55]	[31.71]	[21.16]	[12.00]	[9.31]	[10.34]	[18.12]	[13.70]	[12.40]	[1.73]	[1.73]	[6.04]	[6.04]	[3.26]	116.6lbs
200A NON SER NEMA 3R	903	806	538	355	237	263	460	348	315	44	44	153	153	83	55kg
	[35.55]	[31.71]	[21.16]	[13.99]	[9.31]	[10.34]	[18.12]	[13.70]	[12.40]	[1.73]	[1.73]	[6.04]	[6.04]	[3.26]	121.0lbs

REVISION: D
REVISION DATE: 10/06/2020

ID TX SWITCH NON SERVICE ENTRANCE 4-POLE 100A-200A
A0000430684 (DRAWING: A0000561085)
NOT TO SCALE

TX Series Transfer Switch

TXC-100

Automatic Transfer Switch Controller

- Automatic Transfer Switch Controller
- Up to 480 VAC, 50/60 Hz
- Single and Three Phase
- cETLus Recognized Component
- Tested to UL 1008

Image used for illustration purposes only

Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.

cETLus Recognized per UL 1008

NFPA 37, 70, 99, 110

NEC 700, 701, 702, 708

Description

Generac's TXC-100 microprocessor based controller provides customers with the flexibility to program a comprehensive group of set points to match the application needs. The controller has 2 programmable inputs and 1 programmable output as standard and is available with an optional expansion board for up to 4 programmable inputs and outputs. The LCD displays real time and historical information with time-stamped events. The integrated plant exerciser can be configured in off, daily, day of week, biweekly, and monthly intervals with user selectable run time. Standard features of the controller include three phase sensing on both sources, phase unbalance, phase reversal, emergency inhibit, and communications.

TX Series Transfer Switch

TXC-100

Automatic Transfer Switch Controller

STANDARD FEATURES

GENERAL

- Graphical LCD-Based Display for Programming, System Diagnostics and Help Menu Display Mimic Diagram with Source Available and Connected LED Indicator
- Time-Stamped Event History Log
- Programmable Exerciser - Daily, Weekly, Bi-Weekly, Monthly
- Methods of Transfer Include: Open with Inphase Transition Only, Time Delay in Neutral Transition, or Inphase with a Default to Time Delay in Neutral Transfer
- Modbus® RTU Communications
- Operating Temperature -4 ° to 158 °F (-20 ° to 70 °C)
- Voltage Agnostic*
- Integrated Anti-condensation Heater Control
- Auxiliary Output Includes: 2WS, SB4T, Fault, and a Programmable Relay Output
- Auxiliary Input Includes: Permissive and Loadshed Inputs (24 VDC)
- Expandable Input/Output Board Module Includes: 4 Relay Outputs and 4 Optically Isolated Inputs
- Front Programmable Control Reduces PPE Needs and Arc Flash Hazard
- Built in Battery Backup - Increases Switch Reliability and Reduces Switch Transition Time to Alternate Source
- Rechargeable Lithium-ion Battery Backup Able to Power the Controller for up to 60 Minutes in the Event of No Source Availability
- Accessible USB Port for Easy Data Downloads, Firmware Updates without Requiring PPE, Reducing the Risk of Arc Flash
- All Amp Nodes Offered with Delayed Transition
- General Alarm Indication
- Heater Programmable through Control for Desired Temperature and Humidity Settings
- Front Accessible Customer Connections and Battery without Arc Flash Exposure
- Auxiliary Generator Battery Backup for Controller

VOLTAGE AND FREQUENCY SENSING

- Three Phase Under and Over Voltage Sensing on Normal and Emergency Sources
- Under and Over Frequency Sensing on Normal and Emergency
- Selectable Settings: Single or Three Phase Voltage
- Sensing on Normal, Emergency and Load 50 or 60 Hz
- Phase Sequence Sensing for Phase Sensitive Loads

PROGRAMMABLE I/O PARAMETERS

Outputs:

- Source 1 – Two Wire Start
- Source 2 – Two Wire Start
- Engine Exercising
- Engine Warmup
- Signal Before Transfer (Elevator Contact)
- General Alarm
- Source 1 Good
- Source 2 Good

Inputs:

- Permissive (Emergency Inhibit)
- Remote Engine Fast Test
- Remote Engine Normal Test
- ATS Timer
- Initiate Demand Response

* 480 V Delta Must be Specified at Time of Ordering for Transformer Kit to be Included

AVAILABLE OPTIONS

- Chicago Code Kit
- 3R Padlockable Cover for Controller (Standard on 3R Enclosure)
- Emergency Inhibit
- Selectable Retransfer
- Manual Generator Retransfer
- Type 1 to 3R Conversion Kit
- Heater Option for Temperature and Humidity Control (Standard on 3R Enclosure)
- Input/Output (I/O) Module
- Current Measurements**
- Power in kW**
- Power Factor**

** When Equipped with Current Transformers

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Part No. A0000354456
Rev. A 06/18/2020

SPECIFIC BREAKER LIST
TX611 Series Transfer Switch

TX611 Series Switches Covered:

100A up to 480V

Short-Circuit Withstand and Closing Fuse Ratings				
When protected by a fuse of the specific fuse class and maximum ampere rating as marked below, this transfer switch is suitable for use in a circuit capable of delivering the short-circuit current at the maximum voltage marked.				
Switch Ampere Rating	**Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)**	**Voltage (Volts AC, Maximum)**	**Fuse Class**	**Rating (Amperes)**
100	200	480	J	200

Specific Circuit Breaker Manufacturer and Type Listing					
When protected by a circuit breaker of the specific manufacturer, type, and ampere rating as marked below, this transfer switch is suitable for use in circuits capable of delivering short-circuit current at the maximum voltage marked.					
Switch Ampere Rating	**Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)**	**Voltage (Volts AC, Maximum)**	**Manufacturer**	**Type**	**Circuit Breaker Rating (Amperes Maximum)**
100	25	240	SQUARE D	BD	125
100	25	480	EATON	PDG13F	125
100	25	480	EATON	PDG23F	225
100	30	480	EATON	FD,FDC,FDCE,FDE,HFD,HFDE	200
100	35	480	SQUARE D	BG	125
100	35	480	SQUARE D	HD, HG	150
100	35	480	SQUARE D	JG	250
100	35	480	EATON	EGE,EGH,EGS	125
100	35	480	EATON	HJD,JD,JDB	200
100	35	480	EATON	JDC,JGH,JGS	200
100	35	480	EATON	LGC,LGH,LGS	200
100	35	480	EATON	LGU,LGX	200
100	35	480	EATON	PDG13G	125
100	35	480	EATON	PDG23G	225
100	35	480	GE/ABB	SGL,SGP	125
100	35	480	GE/ABB	SEL,SEP,PE_N	125
100	35	480	GE/ABB	PE_H,PE_L	125
100	35	480	SIEMENS	3VA52__6	200
100	35	480	ABB	XT4H,XT4L	100
100	42	480	SQUARE D	BJ	125
100	42	480	SQUARE D	HJ	150
100	42	480	SQUARE D	HL	150
100	42	480	SQUARE D	HR	150
100	42	480	SQUARE D	JJ	250
100	42	480	SQUARE D	JL	250

Part No. A0000974572
Rev. D 06/24/25

SPECIFIC BREAKER LIST
TX611 Series Transfer Switch

TX611 Series Switches Covered:

100A up to 480V (Continued)

Specific Circuit Breaker Manufacturer and Type Listing

When protected by a circuit breaker of the specific manufacturer, type, and ampere rating as marked below, this transfer switch is suitable for use in circuits capable of delivering short-circuit current at the maximum voltage marked.

Switch Ampere Rating	Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)	Voltage (Volts AC, Maximum)	Manufacturer	Type	Circuit Breaker Rating (Amperes Maximum)
100	42	480	SQUARE D	JR	250
100	42	480	EATON	EGC	125
100	42	480	EATON	JGC	250
100	42	480	EATON	JGU	250
100	42	480	EATON	JGX	250
100	42	480	EATON	PDG13K	125
100	42	480	EATON	PDG13M	125
100	42	480	EATON	PDG13N	125
100	42	480	EATON	PDG13P	125
100	42	480	EATON	PDG23K	225
100	42	480	EATON	PDG23M	225
100	42	480	EATON	PDG23N	225
100	42	480	EATON	PDG23P	225
100	42	480	ABB	XT2H	125
100	42	480	ABB	XT2L	125
100	42	480	ABB	XT2V	125
100	42	480	ABB	XT4H	250
100	42	480	ABB	XT4L	250
100	42	480	ABB	XT4V	250

Any Breaker (3 Cycle) Withstand and Closing Rating

When protected by a circuit breaker, this transfer switch is suitable for use in a circuit capable of delivering the short-circuit current for the maximum time duration and voltage marked below. The circuit breaker must include an instantaneous trip response unless the available short-circuit current is less than or equal to the short-time rating of the transfer switch and the circuit breaker includes a short-time trip response. The maximum clearing time of the instantaneous trip response must be less than or equal to the time duration shown for the marked short-circuit current. When protected by a circuit breaker with a short-time trip response, the short-time response of the circuit breaker must be coordinated with the short-time current rating of the transfer switch as marked below.

Switch Ampere Rating	Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)	Voltage (Volts AC, Maximum)	Time Duration (Sec, Maximum)
100	22	480	0.050

Part No. A0000974572
Rev. D 06/24/25

SPECIFIC BREAKER LIST
TX611 Series Transfer Switch

TX611 Series Switches Covered:

150A up to 480V

Short-Circuit Withstand and Closing Fuse Ratings				
When protected by a fuse of the specific fuse class and maximum ampere rating as marked below, this transfer switch is suitable for use in a circuit capable of delivering the short-circuit current at the maximum voltage marked.				
Switch Ampere Rating	**Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)**	**Voltage (Volts AC, Maximum)**	**Fuse Class**	**Rating (Amperes)**
150	200	480	J	200

Specific Circuit Breaker Manufacturer and Type Listing					
When protected by a circuit breaker of the specific manufacturer, type, and ampere rating as marked below, this transfer switch is suitable for use in circuits capable of delivering short-circuit current at the maximum voltage marked.					
Switch Ampere Rating	**Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)**	**Voltage (Volts AC, Maximum)**	**Manufacturer**	**Type**	**Circuit Breaker Rating (Amperes Maximum)**
150	25	240	SQUARE D	BD	125
150	25	480	EATON	PDG13F	125
150	25	480	EATON	PDG23F	225
150	30	480	EATON	FD,FDC,FDCE,FDE,HFD,HFDE	200
150	35	480	SQUARE D	BG	125
150	35	480	SQUARE D	HD, HG	150
150	35	480	SQUARE D	JG	250
150	35	480	EATON	EGE,EGH,EGS	125
150	35	480	EATON	HJD,JD,JDB	200
150	35	480	EATON	JDC,JGH,JGS	200
150	35	480	EATON	LGC,LGH,LGS	200
150	35	480	EATON	LGU,LGX	200
150	35	480	EATON	PDG13G	125
150	35	480	EATON	PDG23G	225
150	35	480	GE/ABB	SGL,SGP	125
150	35	480	GE/ABB	SEL,SEP,PE_N	125
150	35	480	GE/ABB	PE_H,PE_L	125
150	35	480	SIEMENS	3VA52__6	200
150	35	480	ABB	XT4H,XT4L	100
150	42	480	SQUARE D	BJ	125
150	42	480	SQUARE D	HJ	150
150	42	480	SQUARE D	HL	150
150	42	480	SQUARE D	HR	150
150	42	480	SQUARE D	JJ	250
150	42	480	SQUARE D	JL	250

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SPECIFIC BREAKER LIST
TX611 Series Transfer Switch

TX611 Series Switches Covered:

150A up to 480V (Continued)

Specific Circuit Breaker Manufacturer and Type Listing

When protected by a circuit breaker of the specific manufacturer, type, and ampere rating as marked below, this transfer switch is suitable for use in circuits capable of delivering short-circuit current at the maximum voltage marked.

Switch Ampere Rating	Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)	Voltage (Volts AC, Maximum)	Manufacturer	Type	Circuit Breaker Rating (Amperes Maximum)
150	42	480	SQUARE D	JR	250
150	42	480	EATON	EGC	125
150	42	480	EATON	JGC	250
150	42	480	EATON	JGU	250
150	42	480	EATON	JGX	250
150	42	480	EATON	PDG13K	125
150	42	480	EATON	PDG13M	125
150	42	480	EATON	PDG13N	125
150	42	480	EATON	PDG13P	125
150	42	480	EATON	PDG23K	225
150	42	480	EATON	PDG23M	225
150	42	480	EATON	PDG23N	225
150	42	480	EATON	PDG23P	225
150	42	480	ABB	XT2H	125
150	42	480	ABB	XT2L	125
150	42	480	ABB	XT2V	125
150	42	480	ABB	XT4H	250
150	42	480	ABB	XT4L	250
150	42	480	ABB	XT4V	250

Any Breaker (3 Cycle) Withstand and Closing Rating

When protected by a circuit breaker, this transfer switch is suitable for use in a circuit capable of delivering the short-circuit current for the maximum time duration and voltage marked below. The circuit breaker must include an instantaneous trip response unless the available short-circuit current is less than or equal to the short-time rating of the transfer switch and the circuit breaker includes a short-time trip response. The maximum clearing time of the instantaneous trip response must be less than or equal to the time duration shown for the marked short-circuit current. When protected by a circuit breaker with a short-time trip response, the short-time response of the circuit breaker must be coordinated with the short-time current rating of the transfer switch as marked below.

Switch Ampere Rating	Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)	Voltage (Volts AC, Maximum)	Time Duration (Sec, Maximum)
150	22	480	0.050

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Rev. D 06/24/25

SPECIFIC BREAKER LIST
TX611 Series Transfer Switch

TX611 Series Switches Covered:

200A up to 480V

Short-Circuit Withstand and Closing Fuse Ratings				
When protected by a fuse of the specific fuse class and maximum ampere rating as marked below, this transfer switch is suitable for use in a circuit capable of delivering the short-circuit current at the maximum voltage marked.				
Switch Ampere Rating	**Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)**	**Voltage (Volts AC, Maximum)**	**Fuse Class**	**Rating (Amperes)**
200	200	480	J	200

Specific Circuit Breaker Manufacturer and Type Listing

When protected by a circuit breaker of the specific manufacturer, type, and ampere rating as marked below, this transfer switch is suitable for use in circuits capable of delivering short-circuit current at the maximum voltage marked.

Switch Ampere Rating	Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)	Voltage (Volts AC, Maximum)	Manufacturer	Type	Circuit Breaker Rating (Amperes Maximum)
200	25	240	SQUARE D	BD	125
200	25	480	EATON	PDG13F	125
200	25	480	EATON	PDG23F	225
200	30	480	EATON	FD,FDC,FDCE,FDE,HFD,HFDE	200
200	35	480	SQUARE D	BG	125
200	35	480	SQUARE D	HD, HG	150
200	35	480	SQUARE D	JG	250
200	35	480	EATON	EGE,EGH,EGS	125
200	35	480	EATON	HJD,JD,JDB	200
200	35	480	EATON	JDC,JGH,JGS	200
200	35	480	EATON	LGC,LGH,LGS	200
200	35	480	EATON	LGU,LGX	200
200	35	480	EATON	PDG13G	125
200	35	480	EATON	PDG23G	225
200	35	480	GE/ABB	SGL,SGP	125
200	35	480	GE/ABB	SEL,SEP,PE_N	125
200	35	480	GE/ABB	PE_H,PE_L	125
200	35	480	SIEMENS	3VA52__6	200
200	35	480	ABB	XT4H,XT4L	100
200	42	480	SQUARE D	BJ	125
200	42	480	SQUARE D	HJ	150
200	42	480	SQUARE D	HL	150
200	42	480	SQUARE D	HR	150
200	42	480	SQUARE D	JJ	250
200	42	480	SQUARE D	JL	250

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SPECIFIC BREAKER LIST
TX611 Series Transfer Switch

TX611 Series Switches Covered:

200A up to 480V (Continued)

Specific Circuit Breaker Manufacturer and Type Listing					
When protected by a circuit breaker of the specific manufacturer, type, and ampere rating as marked below, this transfer switch is suitable for use in circuits capable of delivering short-circuit current at the maximum voltage marked.					
Switch Ampere Rating	**Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)**	**Voltage (Volts AC, Maximum)**	**Manufacturer**	**Type**	**Circuit Breaker Rating (Amperes Maximum)**
200	42	480	SQUARE D	JR	250
200	42	480	EATON	EGC	125
200	42	480	EATON	JGC	250
200	42	480	EATON	JGU	250
200	42	480	EATON	JGX	250
200	42	480	EATON	PDG13K	125
200	42	480	EATON	PDG13M	125
200	42	480	EATON	PDG13N	125
200	42	480	EATON	PDG13P	125
200	42	480	EATON	PDG23K	225
200	42	480	EATON	PDG23M	225
200	42	480	EATON	PDG23N	225
200	42	480	EATON	PDG23P	225
200	42	480	ABB	XT2H	125
200	42	480	ABB	XT2L	125
200	42	480	ABB	XT2V	125
200	42	480	ABB	XT4H	250
200	42	480	ABB	XT4L	250
200	42	480	ABB	XT4V	250

Any Breaker (3 Cycle) Withstand and Closing Rating			
When protected by a circuit breaker, this transfer switch is suitable for use in a circuit capable of delivering the short-circuit current for the maximum time duration and voltage marked below. The circuit breaker must include an instantaneous trip response unless the available short-circuit current is less than or equal to the short-time rating of the transfer switch and the circuit breaker includes a short-time trip response. The maximum clearing time of the instantaneous trip response must be less than or equal to the time duration shown for the marked short-circuit current. When protected by a circuit breaker with a short-time trip response, the short-time response of the circuit breaker must be coordinated with the short-time current rating of the transfer switch as marked below.			
Switch Ampere Rating	**Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)**	**Voltage (Volts AC, Maximum)**	**Time Duration (Sec, Maximum)**
200	22	480	0.050

SPECIFIC BREAKER LIST
TX611 Series Transfer Switch

TX611 Series Switches Covered:

300A up to 480V

Short-Circuit Withstand and Closing Fuse Ratings				
When protected by a fuse of the specific fuse class and maximum ampere rating as marked below, this transfer switch is suitable for use in a circuit capable of delivering the short-circuit current at the maximum voltage marked.				
Switch Ampere Rating	**Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)**	**Voltage (Volts AC, Maximum)**	**Fuse Class**	**Rating (Amperes)**
300	200	480	J	400

Specific Circuit Breaker Manufacturer and Type Listing					
When protected by a circuit breaker of the specific manufacturer, type, and ampere rating as marked below, this transfer switch is suitable for use in circuits capable of delivering short-circuit current at the maximum voltage marked.					
Switch Ampere Rating	**Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)**	**Voltage (Volts AC, Maximum)**	**Manufacturer**	**Type**	**Circuit Breaker Rating (Amperes Maximum)**
300	35	480	GE/ABB	S5N	400
300	42	480	SQUARE D	CJH	600
300	42	480	GE/ABB	S5H,TB4,TBC6	400
300	50	480	SQUARE D	HD,HG, HJ,HL,HR	150
300	50	480	SQUARE D	JD,JJ,JL,JR	250
300	50	480	SQUARE D	LG,LA,LH	400
300	50	480	SQUARE D	CJL	600
300	50	480	EATON	LA TRI PACK, CK400N	400
300	50	480	EATON	LGS	600
300	50	480	GE/ABB	TBC4,THLC4,TLB4	400
300	50	480	GE/ABB	TB6	600
300	65	480	SQUARE D	LG,LE,LI,LJ	600
300	65	480	SQUARE D	LL	600
300	65	480	SQUARE D	LR	600
300	65	480	SQUARE D	LX,LXI	600
300	65	480	EATON	JDC,HJD	250
300	65	480	EATON	CHKD,HKD,KDC,CK400H,DK	400
300	65	480	EATON	CHLD,CLDC,HLD,LDC,LGH, PDG33M	600
300	65	480	EATON	PDG33N	600
300	65	480	EATON	LGC,PDG33P	600

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SPECIFIC BREAKER LIST
TX611 Series Transfer Switch

TX611 Series Switches Covered:

300A up to 480V (Continued)

Specific Circuit Breaker Manufacturer and Type Listing (Continued)

When protected by a circuit breaker of the specific manufacturer, type, and ampere rating as marked below, this transfer switch is suitable for use in circuits capable of delivering short-circuit current at the maximum voltage marked.

Switch Ampere Rating	Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)	Voltage (Volts AC, Maximum)	Manufacturer	Type	Circuit Breaker Rating (Amperes Maximum)
300	65	480	EATON	LGU	600
300	65	480	EATON	LGX	600
300	65	480	GE/ABB	FGH,FGL,FGN,FGP,SGL,SGP, TBC6,TJL1S,TJL4V	600
300	65	480	SIEMENS	HJXD6,HHJXD6,HJD6,HLMD6, CJD6,HHJD6,SCJD6,SHJD6, 3VA__6,CLD6,HHLD6,HLD6, HLDXD6, SHLD6	400
300	65	480	ABB	XT4H, XT4L	250
300	65	480	ABB	XT5H	600
300	65	480	ABB	XT5L	600
300	65	480	ABB	XT5V	600

Any Breaker (3 Cycle) Withstand and Closing Rating

When protected by a circuit breaker, this transfer switch is suitable for use in a circuit capable of delivering the short-circuit current for the maximum time duration and voltage marked below. The circuit breaker must include an instantaneous trip response unless the available short-circuit current is less than or equal to the short-time rating of the transfer switch and the circuit breaker includes a short-time trip response. The maximum clearing time of the instantaneous trip response must be less than or equal to the time duration shown for the marked short-circuit current. When protected by a circuit breaker with a short-time trip response, the short-time response of the circuit breaker must be coordinated with the short-time current rating of the transfer switch as marked below.

Switch Ampere Rating	Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)	Voltage (Volts AC, Maximum)	Time Duration (Sec, Maximum)
300	35	480	0.050

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SPECIFIC BREAKER LIST
TX611 Series Transfer Switch

TX611 Series Switches Covered:

400A up to 480V

Short-Circuit Withstand and Closing Fuse Ratings				
When protected by a fuse of the specific fuse class and maximum ampere rating as marked below, this transfer switch is suitable for use in a circuit capable of delivering the short-circuit current at the maximum voltage marked.				
Switch Ampere Rating	**Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)**	**Voltage (Volts AC, Maximum)**	**Fuse Class**	**Rating (Amperes)**
400	200	480	J	400

Specific Circuit Breaker Manufacturer and Type Listing					
When protected by a circuit breaker of the specific manufacturer, type, and ampere rating as marked below, this transfer switch is suitable for use in circuits capable of delivering short-circuit current at the maximum voltage marked.					
Switch Ampere Rating	**Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)**	**Voltage (Volts AC, Maximum)**	**Manufacturer**	**Type**	**Circuit Breaker Rating (Amperes Maximum)**
400	35	480	GE/ABB	S5N	400
400	42	480	SQUARE D	CJH	600
400	42	480	GE/ABB	S5H,TB4, TBC6	400
400	50	480	SQUARE D	HD,HG,HJ,HL,HR	150
400	50	480	SQUARE D	JD,JJ,JL,JR	250
400	50	480	SQUARE D	LG,LA,LH	400
400	50	480	SQUARE D	CJL	600
400	50	480	EATON	LA TRI PACK, CK400N	400
400	50	480	EATON	LGS	600
400	50	480	GE/ABB	TBC4,THLC4,TLB4	400
400	50	480	GE/ABB	TB6	600
400	65	480	SQUARE D	LG,LE,LI,LJ	600
400	65	480	SQUARE D	LL	600
400	65	480	SQUARE D	LR	600
400	65	480	SQUARE D	LX,LXI	600
400	65	480	EATON	JDC,HJD	250
400	65	480	EATON	CHKD,HKD,KDC,CK400H,DK	400
400	65	480	EATON	CHLD,CLDC,HLD,LDC,LGH, PDG33M	600
400	65	480	EATON	PDG33N	600
400	65	480	EATON	LGC,PDG33P	600

Part No. A0000974572
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SPECIFIC BREAKER LIST
TX611 Series Transfer Switch

TX611 Series Switches Covered:

400A up to 480V (Continued)

Specific Circuit Breaker Manufacturer and Type Listing (Continued)

When protected by a circuit breaker of the specific manufacturer, type, and ampere rating as marked below, this transfer switch is suitable for use in circuits capable of delivering short-circuit current at the maximum voltage marked.

Switch Ampere Rating	Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)	Voltage (Volts AC, Maximum)	Manufacturer	Type	Circuit Breaker Rating (Amperes Maximum)
400	65	480	EATON	LGU	600
400	65	480	EATON	LGX	600
400	65	480	GE/ABB	FGH,FGL,FGN,FGP,SGL,SGP, TBC6,TJL1S,TJL4V	600
400	65	480	SIEMENS	HJXD6,HHJXD6,HJD6,HLMD6, CJD6,HHJD6,SCJD6,SHJD6, 3VA__6,CLD6,HHLD6,HLD6, HLDXD6,SHLD6	400
400	65	480	ABB	XT4H, XT4L	250
400	65	480	ABB	XT5H	600
400	65	480	ABB	XT5L	600
400	65	480	ABB	XT5V	600

Any Breaker (3 Cycle) Withstand and Closing Rating

When protected by a circuit breaker, this transfer switch is suitable for use in a circuit capable of delivering the short-circuit current for the maximum time duration and voltage marked below. The circuit breaker must include an instantaneous trip response unless the available short-circuit current is less than or equal to the short-time rating of the transfer switch and the circuit breaker includes a short-time trip response. The maximum clearing time of the instantaneous trip response must be less than or equal to the time duration shown for the marked short-circuit current. When protected by a circuit breaker with a short-time trip response, the short-time response of the circuit breaker must be coordinated with the short-time current rating of the transfer switch as marked below.

Switch Ampere Rating	Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)	Voltage (Volts AC, Maximum)	Time Duration (Sec, Maximum)
400	35	480	0.050

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SPECIFIC BREAKER LIST
TX611 Series Transfer Switch

TX611 Series Switches Covered:

600A up to 600V

Short-Circuit Withstand and Closing Fuse Ratings

When protected by a fuse of the specific fuse class and maximum ampere rating as marked below, this transfer switch is suitable for use in a circuit capable of delivering the short-circuit current at the maximum voltage marked.

Switch Ampere Rating	Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)	Voltage (Volts AC, Maximum)	Fuse Class	Rating (Amperes)
600	200	480V	L	2000

Specific Circuit Breaker Manufacturer and Type Listing

When protected by a circuit breaker of the specific manufacturer, type, and ampere rating as marked below, this transfer switch is suitable for use in circuits capable of delivering short-circuit current at the maximum voltage marked.

Switch Ampere Rating	Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)	Voltage (Volts AC, Maximum)	Manufacturer	Type	Circuit Breaker Rating (Amperes Maximum)
600	50	480	SQUARE D	LL	600
600	65	480	SIEMENS	3VA64**7	400
600	65	480	SQUARE D	LJ	600
600	65	480	EATON	LGU, LGX	630
600	65	480	EATON	PDG33P	600
600	65	480	ABB	XT5H	600
600	65	480	ABB	XT5L	600
600	100	480	SQUARE D	LL	600
600	100	480	SQUARE D	LR	600
600	100	480	SQUARE D	LR	600
600	100	480	EATON	LGC	630
600	100	480	EATON	LGU	630
600	100	480	EATON	LGX	630
600	100	480	ABB	XT5L	600
600	100	480	ABB	XT5V	600
600	100	480	ABB	XT5V	600

Any Breaker (3 Cycle) Withstand and Closing Rating

When protected by a circuit breaker, this transfer switch is suitable for use in a circuit capable of delivering the short-circuit current for the maximum time duration and voltage marked below. The circuit breaker must include an instantaneous trip response unless the available short-circuit current is less than or equal to the short-time rating of the transfer switch and the circuit breaker includes a short-time trip response. The maximum clearing time of the instantaneous trip response must be less than or equal to the time duration shown for the marked short-circuit current. When protected by a circuit breaker with a short-time trip response, the short-time response of the circuit breaker must be coordinated with the short-time current rating of the transfer switch as marked below.

Switch Ampere Rating	Transfer Switch Short-Circuit Current Rating (RMS Symmetrical Amperes x 1,000)	Voltage (Volts AC, Maximum)	Time Duration (Sec, Maximum)
600	50	480V	0.050

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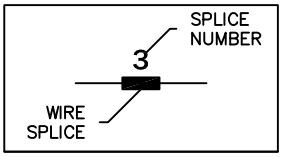
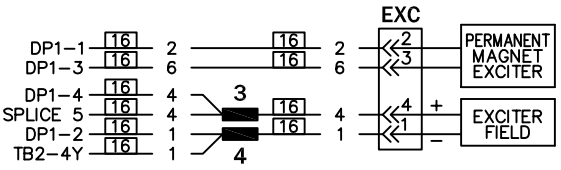
LEGEND

AH_ – ALARM HORN	FB_ – FUSE BLOCK	OTS – OIL TEMPERATURE SENDER
ALT – DC CHARGE ALTERNATOR	FLS – FUEL LEVEL SENDER	R_ – RESISTOR
BCC – BATTERY CHARGER CONNECTOR	GA – GOVERNOR ACTUATOR	RB_ – RELAY BOARD
BCH – BATTERY CHARGER	GD – GOVERNOR DRIVER	RB_A – RELAY BOARD CONNECTOR
CT_ – CURRENT TRANSFORMER	GFCI – GROUND FAULT CIRCUIT INTERRUPT	SC – START CONTACTOR
DB_ – DIODE BRIDGE	GND – GROUND BAR CONNECTION	SM – STARTER MOTOR
DC_ – DUIO CONNECTOR	IP – INJECTOR PUMP	SW1 – OFF/AUTO/MANUAL SWITCH
DP_ – PZ410 CONTROLLER CONNECTOR	LD – LEAK DETECTOR (FUEL TANK)	SWC – OPERATOR SWITCH CONNECTOR
DS_ – DOOR SWITCH	MLCB – MAIN LINE CIRCUIT BREAKER	TB_ – TERMINAL BLOCK
DUIO – PZ410 I/O EXPANSION MODULE	MPU_ – MAGNETIC PICKUP	WLS – COOLANT LEVEL SENDER
ES1 – EMERGENCY STOP SWITCH	OPS – OIL PRESSURE SENDER	WTS – COOLANT TEMPERATURE SENDER
EXC – ALT EXCITATION CONNECTOR		

NOTE: ALL WIRES 18 AWG 600V UL LISTED UNLESS SHOWN OTHERWISE



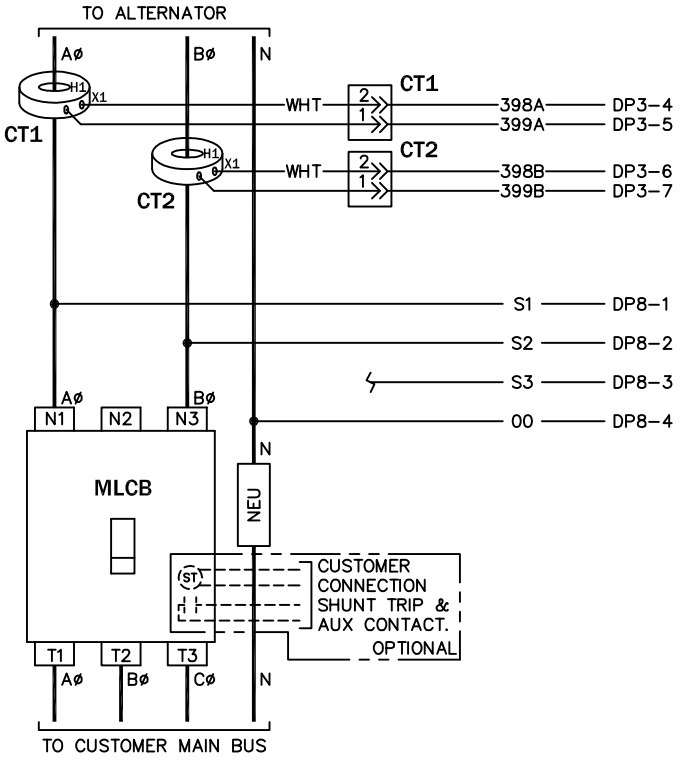
ALTERNATOR EXCITATION



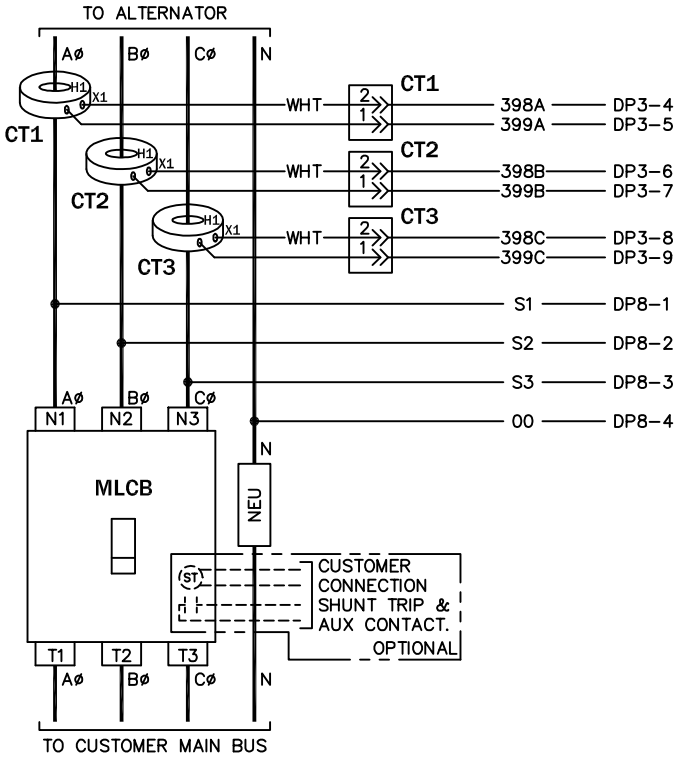
COMPONENTS LOCATED IN HIGH VOLTAGE CUSTOMER CONNECTION MODULE

NOTE: ALL WIRES IN THIS SECTION ARE 600V RATED

CONNECTIONS FOR 1Ø UNIT



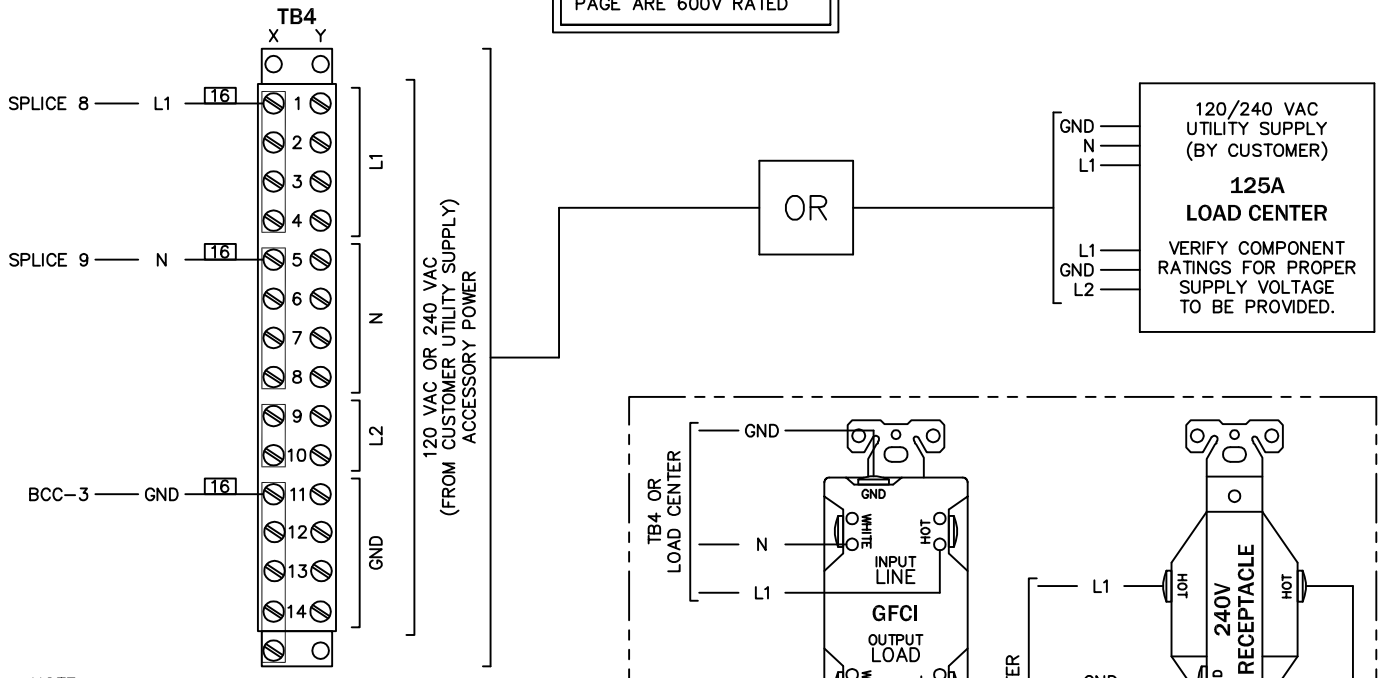
CONNECTIONS FOR 3Ø UNIT



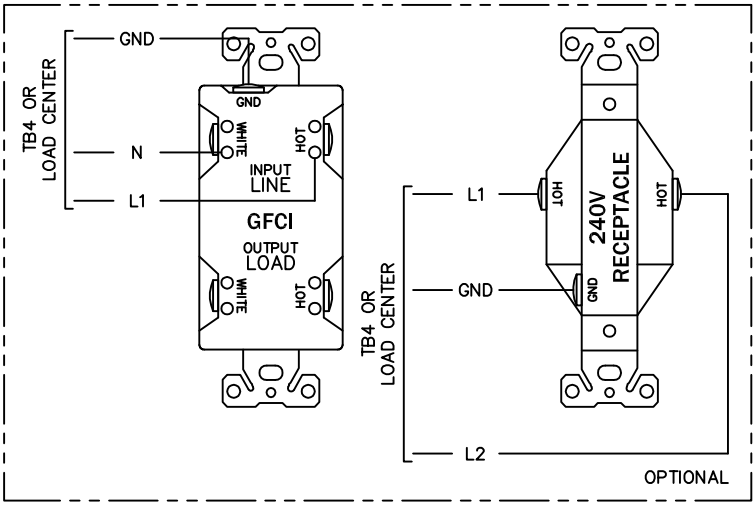
PAGE 1 OF 8

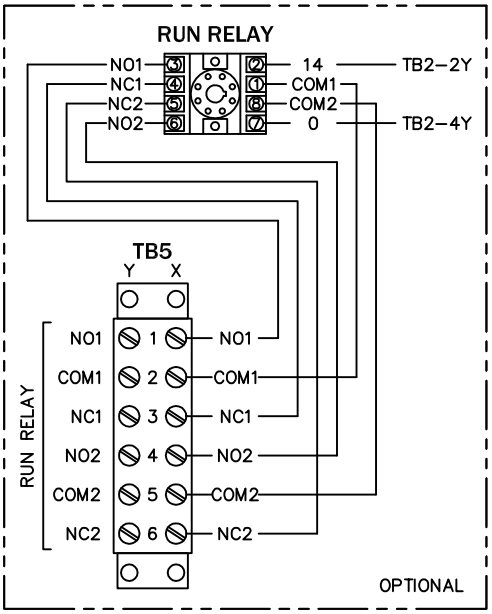
COMPONENTS LOCATED IN HIGH VOLTAGE CUSTOMER CONNECTION MODULE

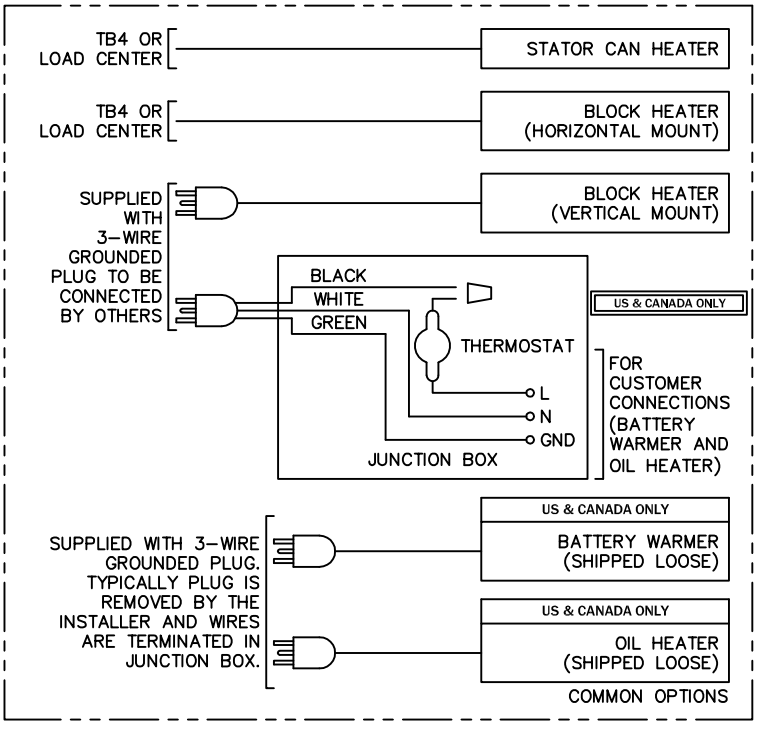
NOTE: ALL WIRES ON THIS PAGE ARE 600V RATED



NOTE:
FOR FIELD WIRING TO CUSTOMER CONNECTIONS (TERMINAL STRIP)
MAXIMUM WIRE SIZE: #10 AWG
RECOMMENDED TIGHTENING TORQUE: 14 LB–IN





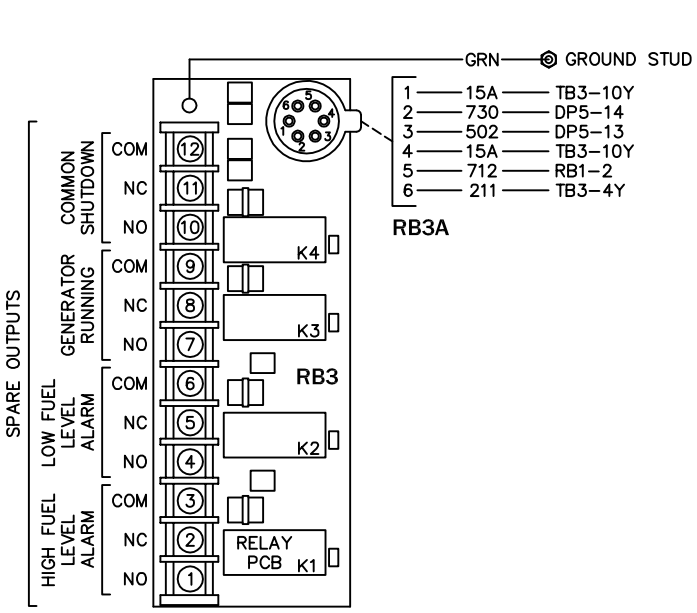


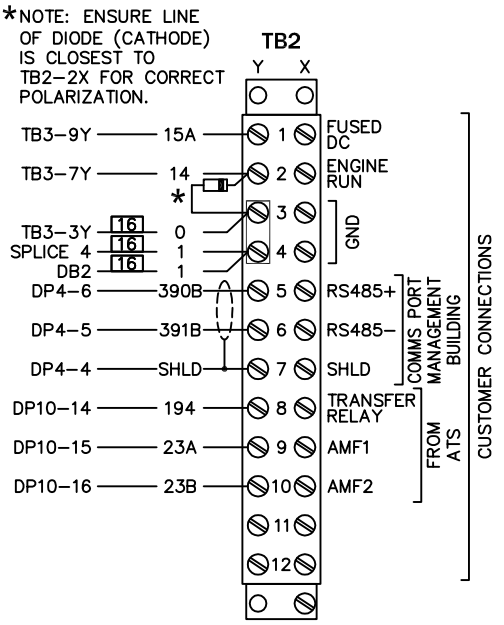
WIRING - DIAGRAM

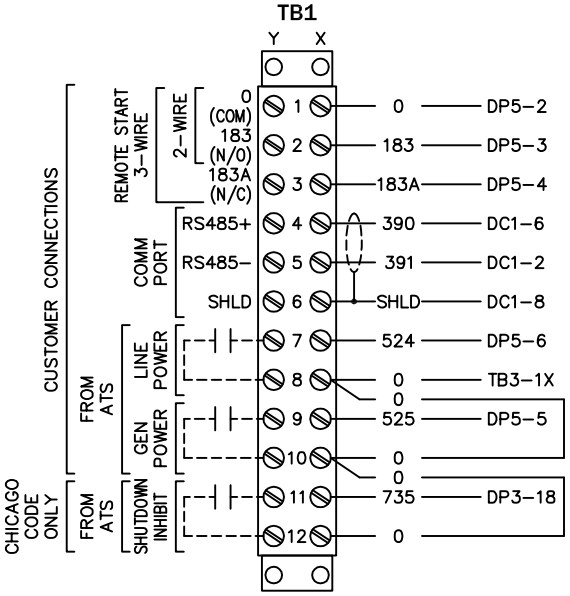
REVISION: CN-0056751-B
DATE: 5/19/22

D4.5L/D6.7L G17 PZ410
DRAWING #: A0002056849

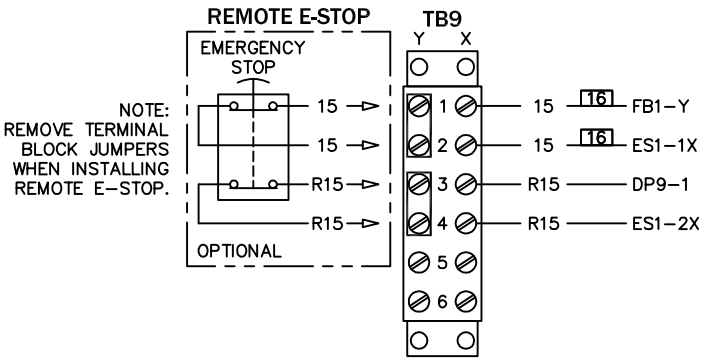
COMPONENTS LOCATED ON LOW VOLTAGE CUSTOMER CONNECTION PANEL

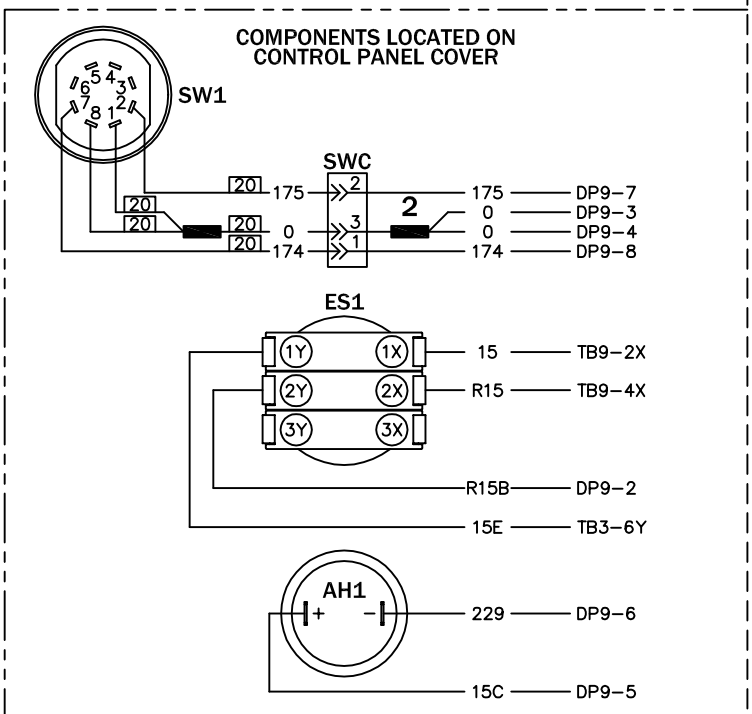






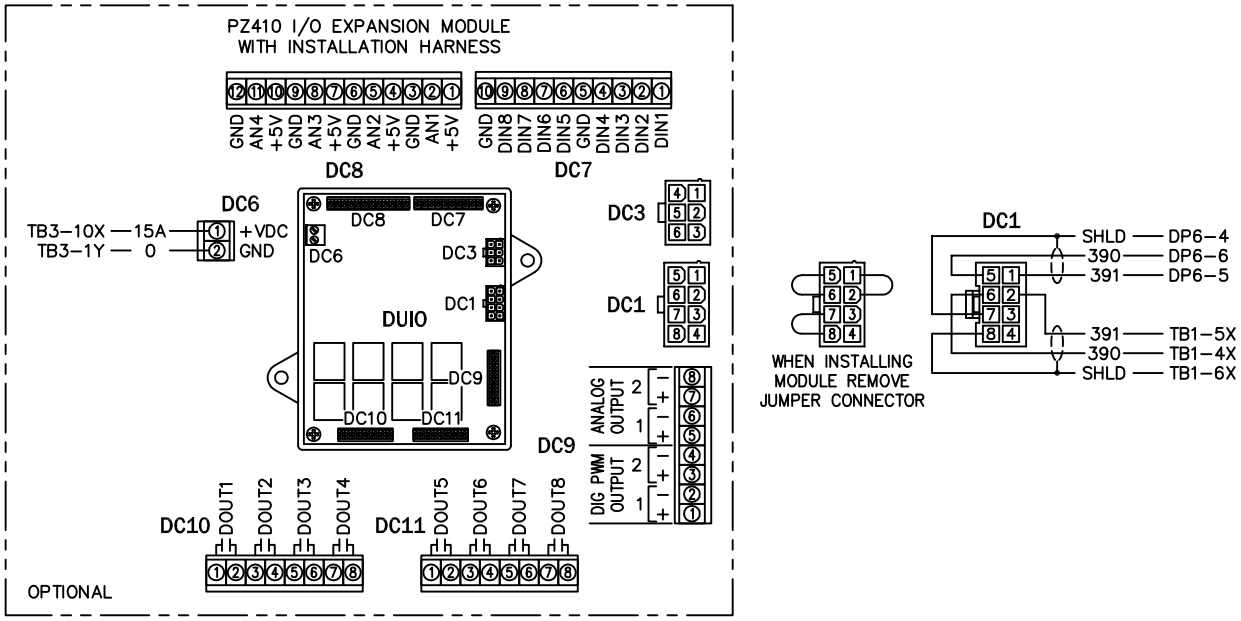
NOTE:
FOR FIELD WIRING TO CUSTOMER CONNECTIONS (TERMINAL STRIPS AND RELAY BOARD)
MAXIMUM WIRE SIZE: #14 AWG
RECOMMENDED TIGHTENING TORQUE: 12 LB–IN



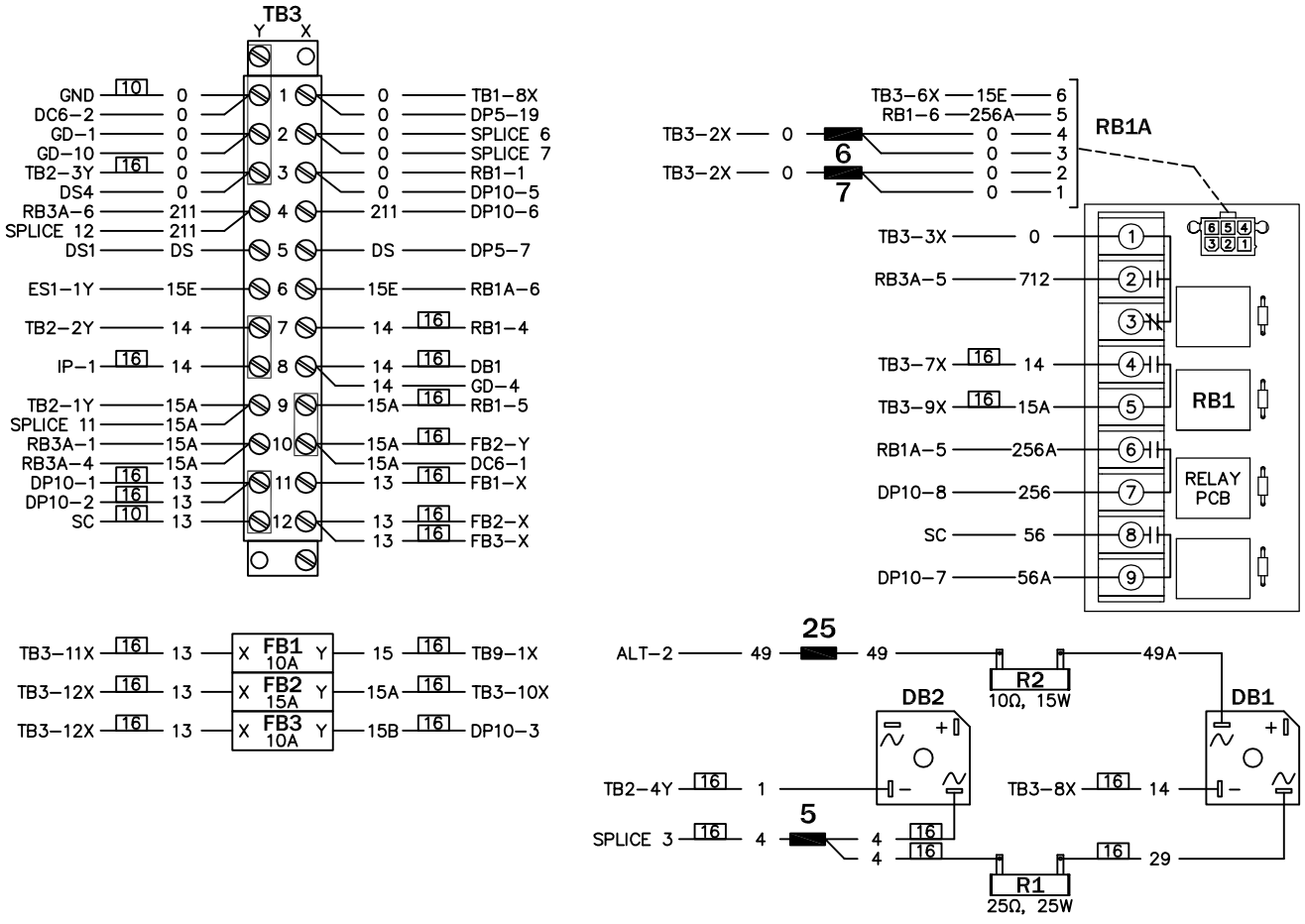


PAGE 3 OF 8

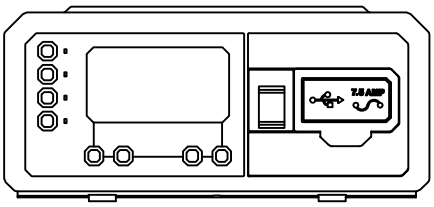
COMPONENTS LOCATED ON LOW VOLTAGE CUSTOMER CONNECTION PANEL



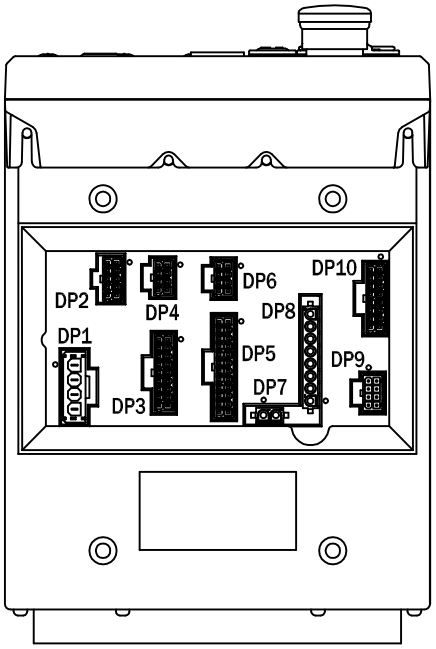
COMPONENTS LOCATED IN CONTROL PANEL



COMPONENTS LOCATED IN CONTROL PANEL



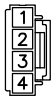
FRONT VIEW



BOTTOM VIEW

DP1

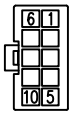
PIN



PIN	WIRE	FROM
1	2	EXC–2
2	1	SPLICE 4
3	6	EXC–3
4	4	SPLICE 3

DP2

PIN

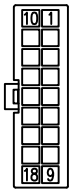


FROM	WIRE	PIN
GD–12	769	6
–	–	7
–	–	8
MPU–5	79R	9
MPU–6	79S	10

PIN	WIRE	FROM
1	766	SPLICE 17
2	765	SPLICE 15
3	767	SPLICE 14
4	–	–
5	79V	MPU–4

DP3

PIN



FROM	WIRE	PIN
SPLICE 23	68V	10
SPLICE 24	68R	11
SPLICE 20	69V	12
SPLICE 19	69S	13
SPLICE 18	69R	14
SPLICE 10	575	15
SPLICE 10	575	16
FLS–1	591	17
TB1–11X	735	18

PIN	WIRE	FROM
1	–	–
2	–	–
3	–	–
4	398A	CT1–2
5	399A	CT1–1
6	398B	CT2–2
7	399B	CT2–1
8	398C	CT3–2
9	399C	CT3–1

DP4

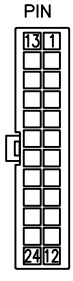
PIN

FROM	WIRE	PIN
TB2–6Y	391B	5
TB2–5Y	390B	6
–	–	7
–	–	8

PIN	WIRE	FROM
1	–	–
2	–	–
3	–	–
4	SHLD	TB2–7Y

DP5

PIN

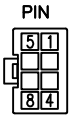


FROM	WIRE	PIN
RB3A–3	502	13
RB3A–2	730	14
SPLICE 21	523	15
–	–	16
BCC–6	803	17
–	–	18
TB3–1X	0	19
–	–	20
–	–	21
BCC–8	505	22
WLS–A	573V	23
WLS–B	573R	24

PIN	WIRE	FROM
1	567	LD–2
2	0	TB1–1X
3	183	TB1–2X
4	183A	TB1–3X
5	525	TB1–9X
6	524	TB1–7X
7	DS	TB3–5X
8	BC1	BCC–7
9	–	–
10	–	–
11	–	–
12	–	–

DP6

PIN



FROM	WIRE	PIN
DC1–1	391	5
DC1–5	390	6
–	–	7
–	–	8

PIN	WIRE	FROM
1	–	–
2	–	–
3	–	–
4	SHLD	DC1–7

DP7

PIN

PIN	WIRE	FROM
1	L1	SPLICE 8
2	N	SPLICE 9

DP8

PIN

PIN	WIRE	FROM
8	–	–
7	–	–
6	–	–
5	–	–
4	00	NEU
3	S3	MLCB–CØ
2	S2	MLCB–BØ
1	S1	MLCB–AØ

DP9

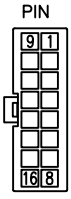
PIN

FROM	WIRE	PIN
TB9–3X	R15	1
ES1–2Y	R15B	2
SPLICE 2	0	3
SPLICE 2	0	4

PIN	WIRE	FROM
5	15C	AH1+
6	229	AH1–
7	175	SWC–2
8	174	SWC–1

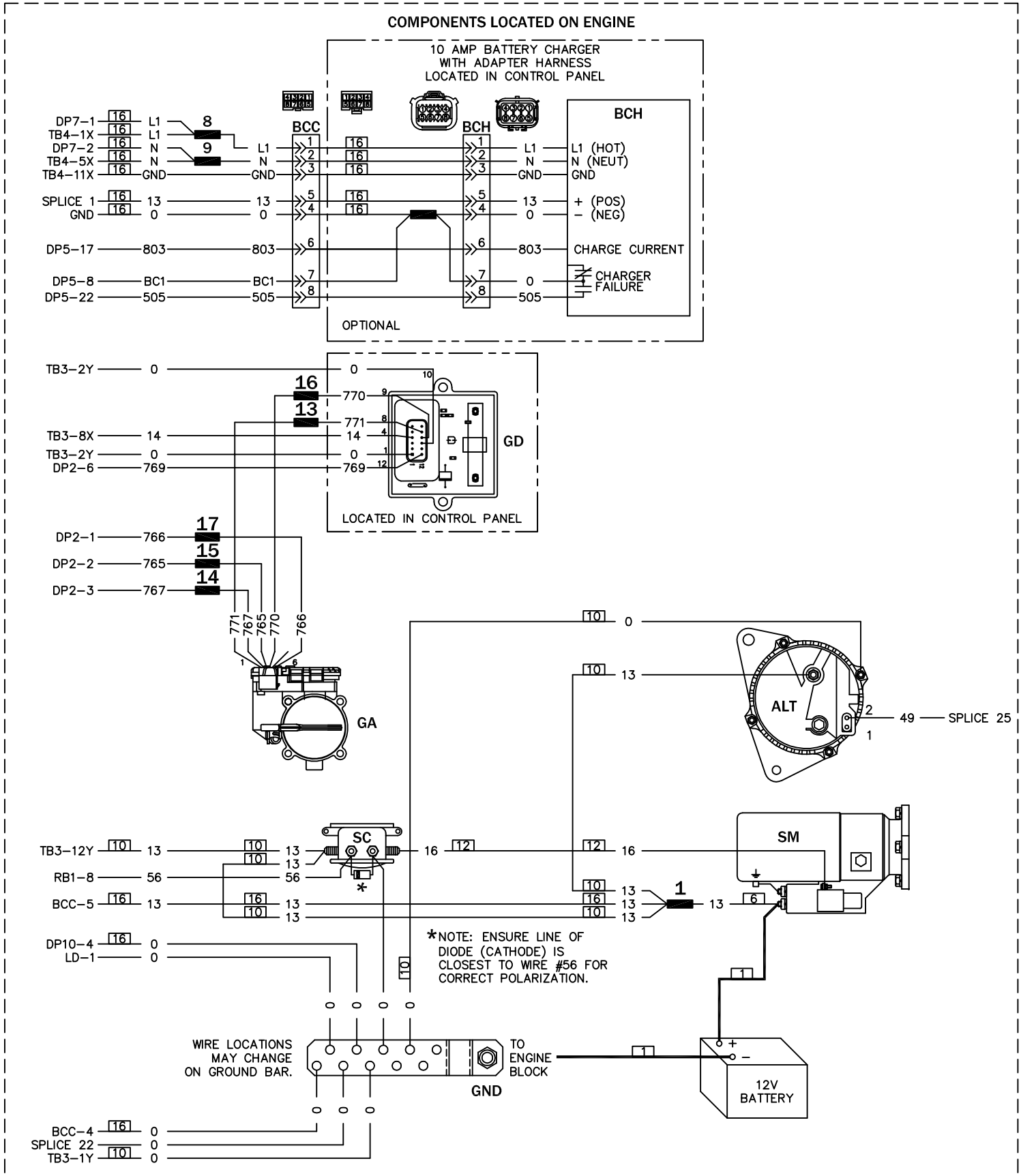
DP10

PIN



FROM	WIRE	PIN
–	–	9
–	–	10
–	–	11
–	–	12
–	–	13
TB2–8Y	194	14
TB2–9Y	23A	15
TB2–10Y	23B	16

PIN	WIRE	FROM
1	13	TB3–11Y
2	13	TB3–11Y
3	15B	FB3–Y
4	0	GND
5	0	TB3–3X
6	211	TB3–4X
7	56A	RB1–9
8	256	RB1–7



WIRING - DIAGRAM

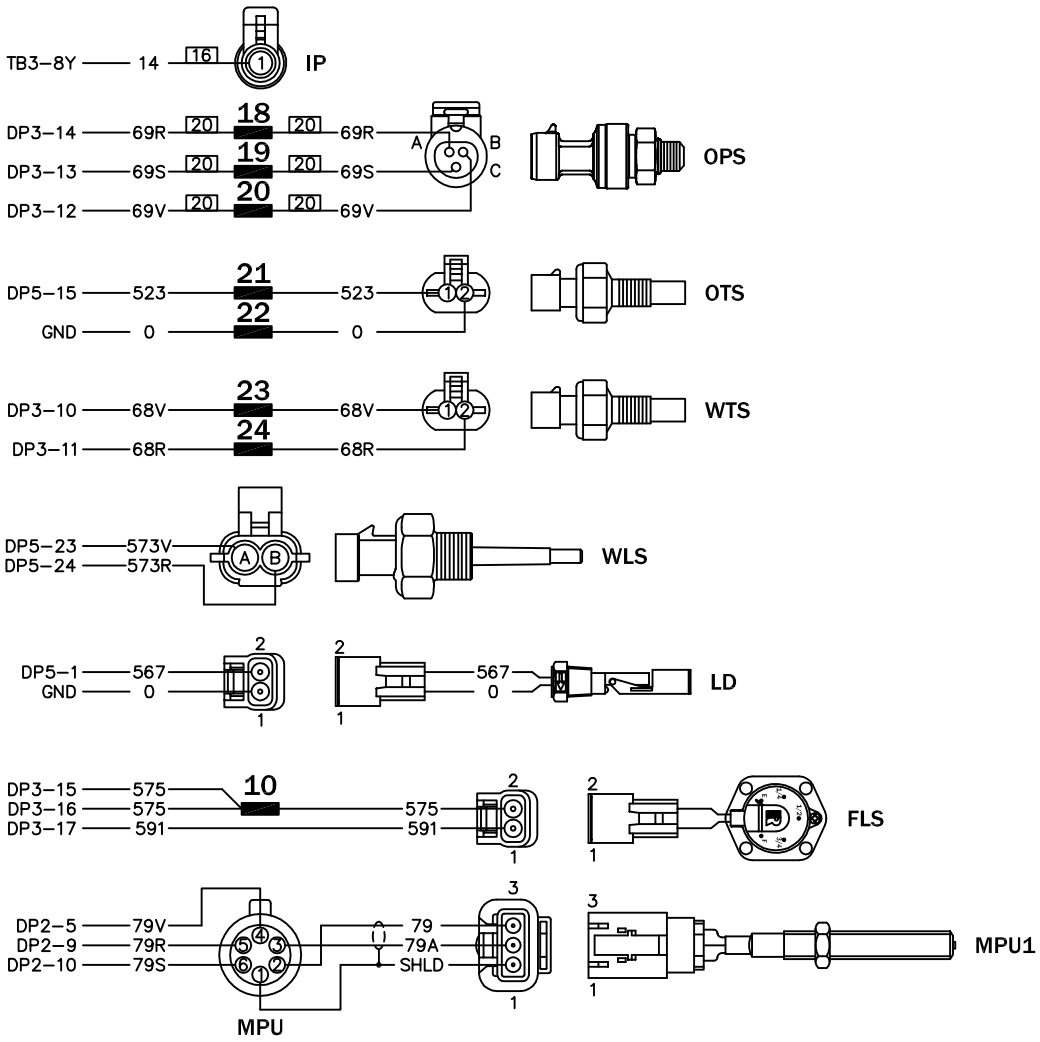
REVISION: CN-0056751-B

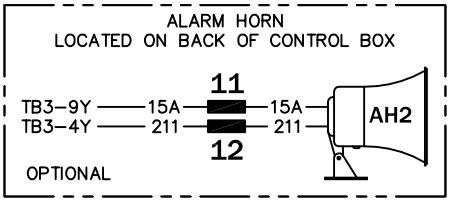
DATE: 5/19/22

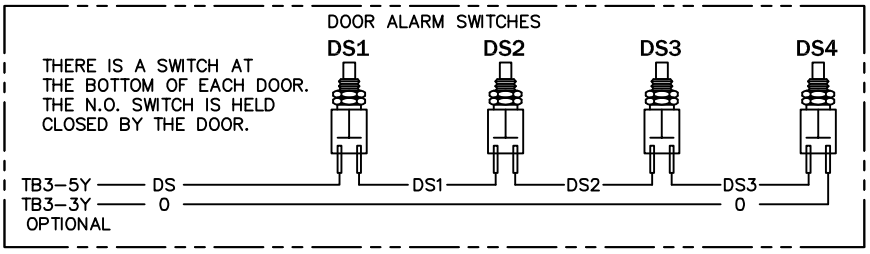
D4.5L/D6.7L G17 PZ410

DRAWING #: A0002056849

COMPONENTS LOCATED ON ENGINE







PAGE 7 OF 8

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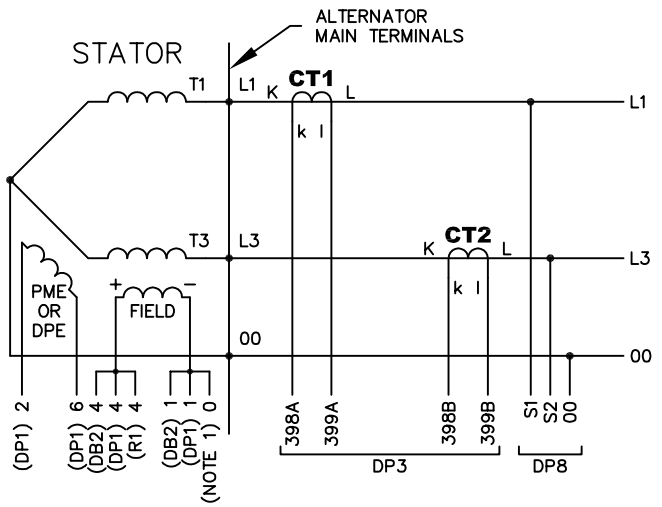
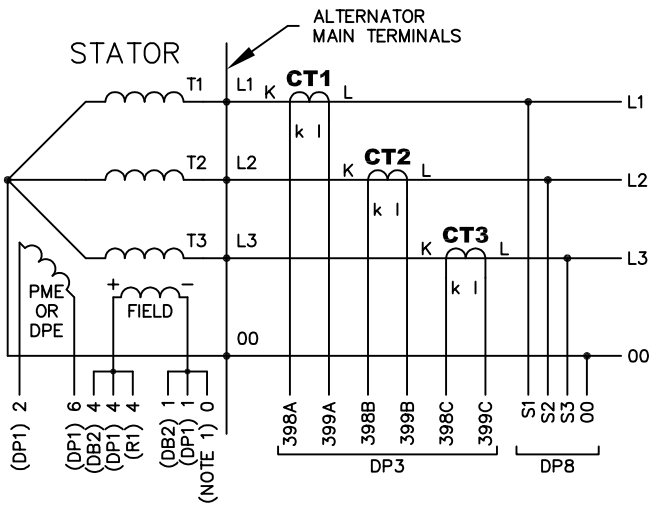




NOTES:

1) WIRE# 0 IS CHASSIS GROUND (BATTERY –) UNLESS NOTED OTHERWISE.
2) WIRE# 13 IS UNFUSED +12VDC (BATTERY+)
3) WIRE# 14 IS FUSED +12VDC WHEN GENERATOR IS CRANKING OR RUNNING.
4) WIRE# 15 IS FUSED +12VDC WHEN E–STOP IS NOT ACTIVATED.
5) WIRE# 15A IS FUSED +12VDC FOR GENERAL USE.
6) WIRE# 15B IS FUSED +12VDC TO THE CONTROL MODULE FOR FUEL & START RELAYS.
7) WIRE# 15E IS FUSED +12VDC THAT BREAKS FUEL & START CIRCUITS WHEN E–STOP IS ACTIVATED.

LEGEND

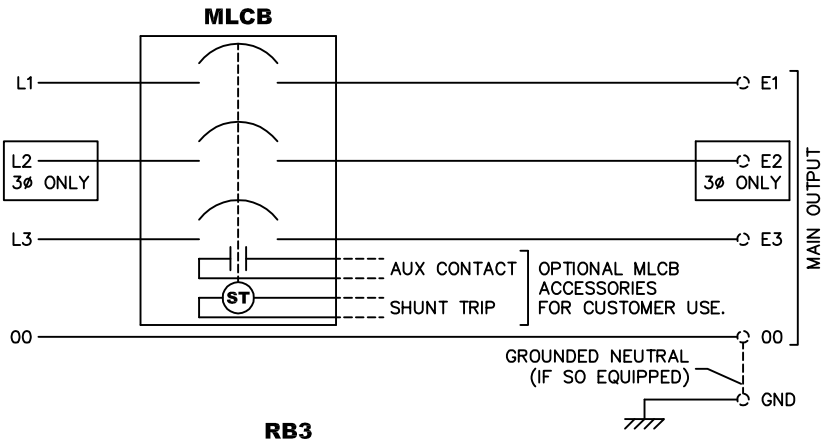
AH_ – ALARM HORN	DUIO – PZ410 I/O EXPANSION MODULE	OPS – OIL PRESSURE SENDER
ALT – DC CHARGE ALTERNATOR	ES_ – EMERGENCY STOP	OTS – OIL TEMPERATURE SENDER
BAT – BATTERY	FB_ – FUSE BLOCK	PME – PERMANENT MAGNET EXCITER
BCC – BATTERY CHARGER CONNECTOR	FLS – FUEL LEVEL SENDER	R_ – RESISTOR
BCH – BATTERY CHARGER	GA – GOVERNOR ACTUATOR	RB_ – RELAY BOARD
CT_ – CURRENT TRANSFORMER	GD – GOVERNOR DRIVER	SC – STARTER CONTACTOR
DB_ – DIODE BRIDGE	GFCI – GROUND FAULT CURRENT INTERRUPT	SM – STARTER MOTOR
DC_ – DUIO CONNECTOR	IP – INJECTOR PUMP	ST – SHUNT TRIP
DP_ – PZ410 CONTROLLER CONNECTOR	LD – LEAK DETECTOR (FUEL TANK)	SW1 – OFF/AUTO/MANUAL SWITCH
DPE – EXCITER	MLCB – MAIN LINE CIRCUIT BREAKER	WLS – COOLANT LEVEL SENDER
DS_ – DOOR SWITCH	MPU_ – MAGNETIC PICKUP	WTS – COOLANT TEMPERATURE SENDER

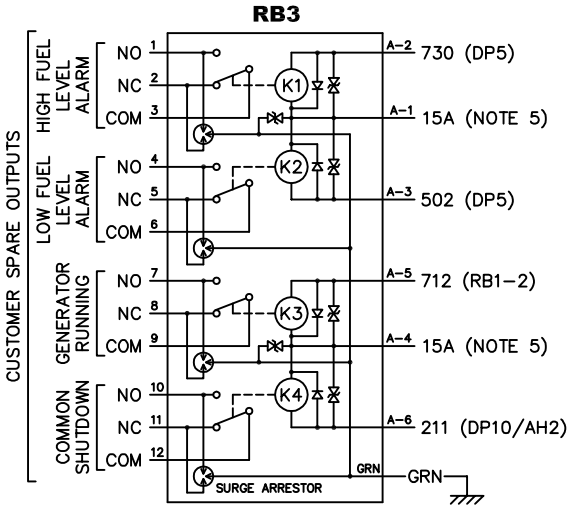
SCHEMATIC - DIAGRAM

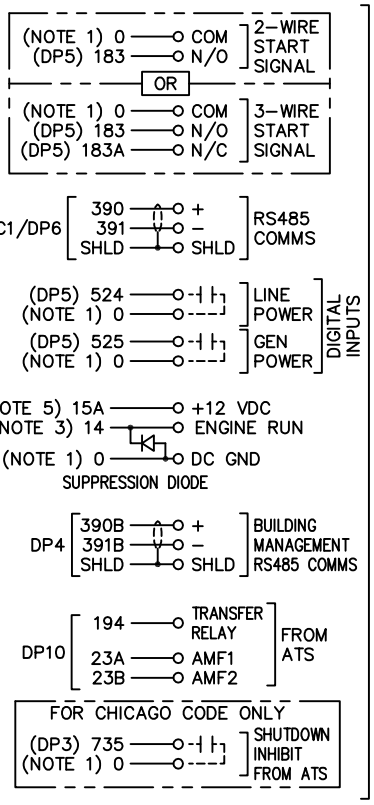
REVISION: CN-0056751-B
DATE: 5/19/22

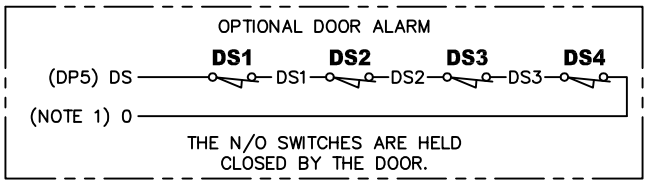
D4.5/D6.7L G17 PZ410

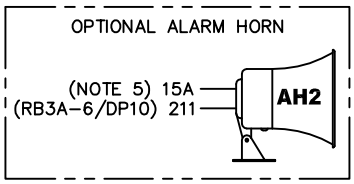
DRAWING #: A0002056850

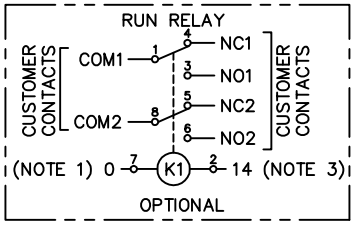


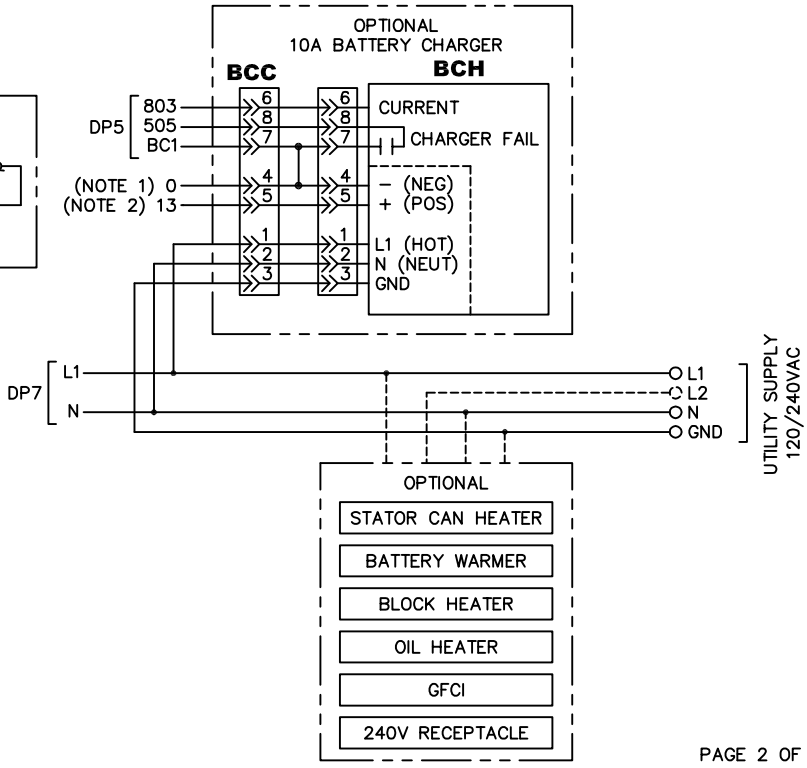












SCHEMATIC - DIAGRAM

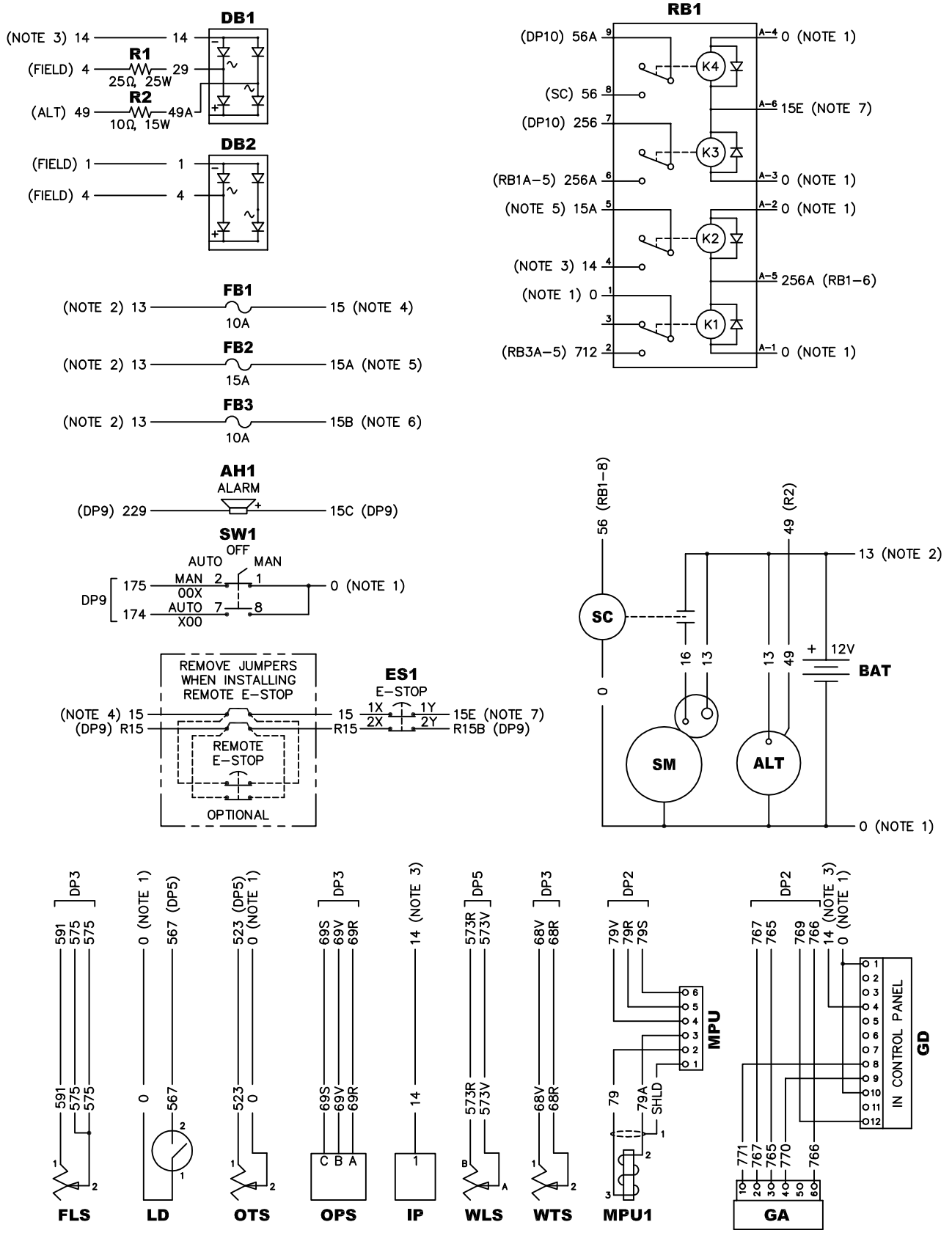
REVISION: CN-0056751-B

DATE: 5/19/22

PAGE 2 OF 6

D4.5/D6.7L G17 PZ410

DRAWING #: A0002056850



SCHEMATIC - DIAGRAM

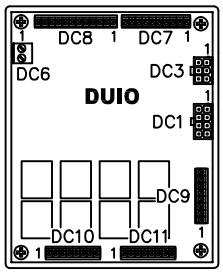
REVISION: CN-0056751-B

DATE: 5/19/22

D4.5/D6.7L G17 PZ410

DRAWING #: A0002056850

OPTIONAL PZ410 I/O EXPANSION MODULE
WITH INSTALLATION HARNESS



DC1 RS485 COMMS

PIN	WIRE	FROM	FUNC
1	391	DP6	RS485 1 (–)
2	391	CUST CON	RS485 2 (–)
3	–	–	RS485 1 (GND)
4	–	–	RS485 2 (GND)
5	390	DP6	RS485 1 (+)
6	390	CUST CON	RS485 2 (+)
7	SHLD	DP6	RS485 1 (SHIELD)
8	SHLD	CUST CON	RS485 2 (SHIELD)

DC3 CAN BUS

PIN	WIRE	FROM	FUNC
1	–	–	CAN 1 (HIGH)
2	–	–	CAN 2 (HIGH)
3	–	–	CAN 1 (LOW)
4	–	–	CAN 2 (LOW)
5	–	–	CAN 1 (SHIELD)
6	–	–	CAN 2 (SHIELD)

DC6 POWER

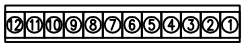
PIN	WIRE	FROM	FUNC
1	15A	NOTE 5	6–36 +VDC
2	0	NOTE 1	GND

DC7

DIGITAL INPUTS
PULL LOW TO ACTIVATE

PIN	WIRE	FROM	FUNC
1	–	–	DIN1
2	–	–	DIN2
3	–	–	DIN3
4	–	–	DIN4
5	–	–	INPUT COMMON GND
6	–	–	DIN5
7	–	–	DIN6
8	–	–	DIN7
9	–	–	DIN8
10	–	–	INPUT COMMON GND

DC8



ANALOG INPUTS

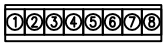
PIN	WIRE	FROM	FUNC
1	–	–	AI1 +5V
2	–	–	AI1
3	–	–	AI1 GND
4	–	–	AI2 +5V
5	–	–	AI2
6	–	–	AI2 GND
7	–	–	AI3 +5V
8	–	–	AI3
9	–	–	AI3 GND
10	–	–	AI4 +5V
11	–	–	AI4
12	–	–	AI4 GND

DC9

OUTPUTS; PULSE WIDTH MODULATION & ANALOG

PIN	WIRE	FROM	FUNC	
8	–	–	AO2–	ANALOG MAX 10V 0.01A
7	–	–	AO2+	
6	–	–	AO1–	
5	–	–	AO1+	
4	–	–	PWM2–	PULSE WIDTH MODULATION MAX 36V 0.1A
3	–	–	PWM2+	
2	–	–	PWM1–	
1	–	–	PWM1+	

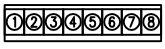
DC10



RELAY OUTPUTS 1–4
MAX 30V 5A

PIN	WIRE	FROM	FUNC
1	–	–	DOUT1 (COM)
2	–	–	DOUT1 (N/O)
3	–	–	DOUT2 (COM)
4	–	–	DOUT2 (N/O)
5	–	–	DOUT3 (COM)
6	–	–	DOUT3 (N/O)
7	–	–	DOUT4 (COM)
8	–	–	DOUT4 (N/O)

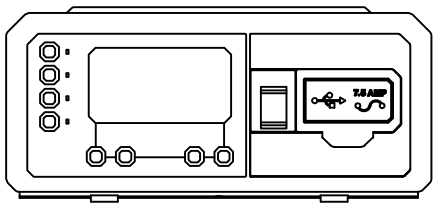
DC11



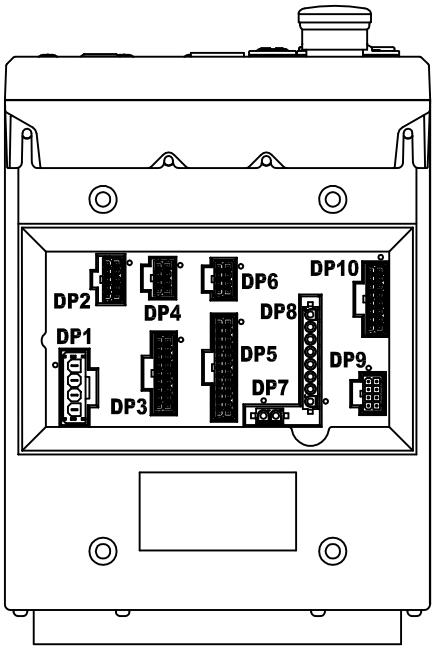
RELAY OUTPUTS 5–8
MAX 30V 5A

PIN	WIRE	FROM	FUNC
1	–	–	DOUT5 (COM)
2	–	–	DOUT5 (N/O)
3	–	–	DOUT6 (COM)
4	–	–	DOUT6 (N/O)
5	–	–	DOUT7 (COM)
6	–	–	DOUT7 (N/O)
7	–	–	DOUT8 (COM)
8	–	–	DOUT8 (N/O)

PZ410 CONTROL PANEL



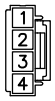
FRONT VIEW



BOTTOM VIEW

DP1

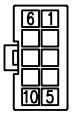
PIN



PIN	WIRE	FROM	FUNCTION
1	2	PME	DPE 1 CURRENT LIMITING
2	1	FIELD	FIELD (–)
3	6	PME	DPE 2
4	4	FIELD	FIELD (+)

DP2

PIN

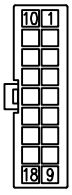


FUNCTION	FROM	WIRE	PIN
THROTTLE PWM	GD–12	769	6
–	–	–	7
–	–	–	8
SPEED (RET)	MPU–5	79R	9
SPEED (SIG)	MPU–6	79S	10

PIN	WIRE	FROM	FUNCTION
1	766	GA–6	THROTTLE POSITION (SIG)
2	765	GA–3	THROTTLE POSITION (+)
3	767	GA–2	THROTTLE POSITION (RET)
4	–	–	–
5	79V	MPU–4	SPEED (+12V)

DP3

PIN

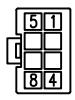


FUNCTION	FROM	WIRE	PIN
COOLANT TEMP (+)	WTS–1	68V	10
COOLANT TEMP (RET)	WTS–2	68R	11
OIL PRESSURE (+5V)	OPS–B	69V	12
OIL PRESSURE (SIG)	OPS–C	69S	13
OIL PRESSURE (RET)	OPS–A	69R	14
FUEL LEVEL (+5V)	FLS–2	575	15
FUEL LEVEL (SIG)	FLS–2	575	16
FUEL LEVEL (RET)	FLS–1	591	17
SHUTDOWN INHIBIT	CUST CON	735	18

PIN	WIRE	FROM	FUNCTION
1	–	–	–
2	–	–	–
3	–	–	–
4	398A	CT1–2	CURRENT A (+)
5	399A	CT1–1	CURRENT A (–)
6	398B	CT2–2	CURRENT B (+)
7	399B	CT2–1	CURRENT B (–)
8	398C	CT3–2	CURRENT C (+)
9	399C	CT3–1	CURRENT C (–)

DP4

PIN



FUNCTION	FROM	WIRE	PIN
RS485 2 (–)	CUST CON	391B	5
RS485 2 (+)	CUST CON	390B	6
–	–	–	7
–	–	–	8

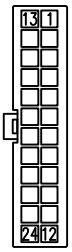
PIN	WIRE	FROM	FUNCTION
1	–	–	–
2	–	–	–
3	–	–	–
4	SHLD	CUST CON	RS485 2 (SHIELD)

SCHEMATIC - DIAGRAM

DP5

FUNCTION	FROM	WIRE	PIN
LOW FUEL LEVEL ALARM	RB3A–3	502	13
HIGH FUEL LEVEL ALARM	RB3A–2	730	14
OIL TEMPERATURE SENSOR	OTS–1	523	15
–	–	–	16
EXT. BATT. CHARGER CURRENT	BCC–6	803	17
–	–	–	18
AUXILIARY SHUTDOWN	GND	0	19
–	–	–	20
–	–	–	21
EXT. BATT. CHARGER FAIL	BCC–8	505	22
COOLANT LEVEL (+)	WLS–A	573V	23
COOLANT LEVEL (–)	WLS–B	573R	24

PIN



PIN	WIRE	FROM	FUNCTION
1	567	LD–2	RUPTURED TANK
2	0	CUST CON	2/3–WIRE START (COM)
3	183	CUST CON	2/3–WIRE START (N/O)
4	183A	CUST CON	3–WIRE START (N/C)
5	525	CUST CON	TRANSFER SWITCH POSITION (GEN)
6	524	CUST CON	TRANSFER SWITCH POSITION (UTILITY)
7	DS	DS1	DOOR ALARM
8	BC1	BCC–7	EXT. BATT. CHARGER PRESENT
9	–	–	–
10	–	–	–
11	–	–	–
12	–	–	–

DP6

FUNCTION	FROM	WIRE	PIN
RS485 1 (–)	DC1–1/CUST CON	391	5
RS485 1 (+)	DC1–5/CUST CON	390	6
–	–	–	7
–	–	–	8

PIN

PIN	WIRE	FROM	FUNCTION
1	–	–	–
2	–	–	–
3	–	–	–
4	SHLD	DC1–7/CUST CON	RS485 1 (SHIELD)

DP7

PIN

PIN	WIRE	FROM	FUNCTION
1	L1	BCC–1/CUST CON	BATTERY CHARGER HOT
2	N	BCC–2/CUST CON	BATTERY CHARGER NEUTRAL

DP8

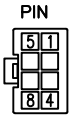
PIN

PIN	WIRE	FROM	FUNCTION
8	–	–	–
7	–	–	–
6	–	–	–
5	–	–	–
4	00	NEU	NEUTRAL VOLTAGE SENSE (GEN)
3	S3	MLCB CØ	CØ VOLTAGE SENSE (GEN)
2	S2	MLCB BØ	BØ VOLTAGE SENSE (GEN)
1	S1	MLCB AØ	AØ VOLTAGE SENSE (GEN)

DP9

FUNCTION	FROM	WIRE	PIN
E–STOP (+12V)	ES1–2X	R15	1
E–STOP (RET)	ES1–2Y	R15B	2
KEYSWITCH PRESENT	SW1–1/8	0	3
KEYSWITCH GND	SW1–1/8	0	4

PIN

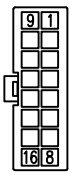


PIN	WIRE	FROM	FUNCTION
5	15C	AH1+	ALARM HORN (+)
6	229	AH1–	ALARM HORN (–)
7	175	SW1–2	KEYSWITCH MANUAL START
8	174	SW1–7	KEYSWITCH AUTO START

DP10

FUNCTION	FROM	WIRE	PIN
–	–	–	9
–	–	–	10
–	–	–	11
–	–	–	12
–	–	–	13
TRANSFER RELAY COIL (12V)	CUST CON	194	14
AMF(1)	CUST CON	23A	15
AMF(2)	CUST CON	23B	16

PIN



PIN	WIRE	FROM	FUNCTION
1	13	BATTERY+	NOTE 2
2	13	BATTERY+	NOTE 2
3	15B	FB3	NOTE 6
4	0	GND	NOTE 1
5	0	GND	ALARM RELAY (COM)
6	211	RB3A–6/AH2	ALARM RELAY (N/O)
7	56A	RB1–9	START RELAY
8	256	RB1–7	FUEL RELAY

GD CONNECTOR

PIN	WIRE	FROM	FUNCTION
1	0	GND	NOTE 1
4	14	RB1–4	NOTE 3
8	771	GA–1	THROTTLE DRIVE LOW
9	770	GA–4	THROTTLE DRIVE HIGH
10	0	GND	NOTE 1
12	769	DP2–7	THROTTLE PWM

SCHEMATIC - DIAGRAM

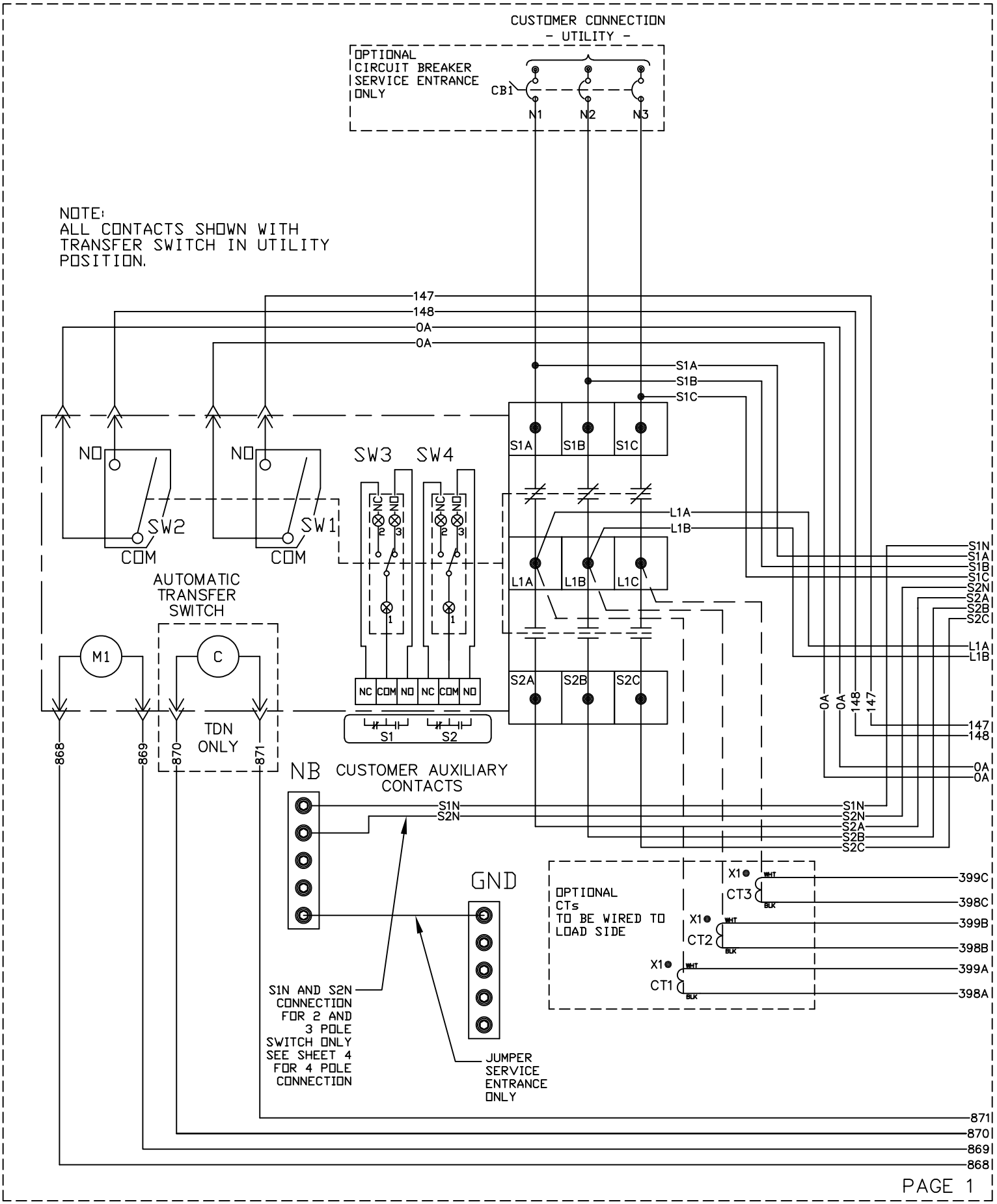
REVISION: CN-0056751-B

DATE: 5/19/22

PAGE 6 OF 6

D4.5/D6.7L G17 PZ410

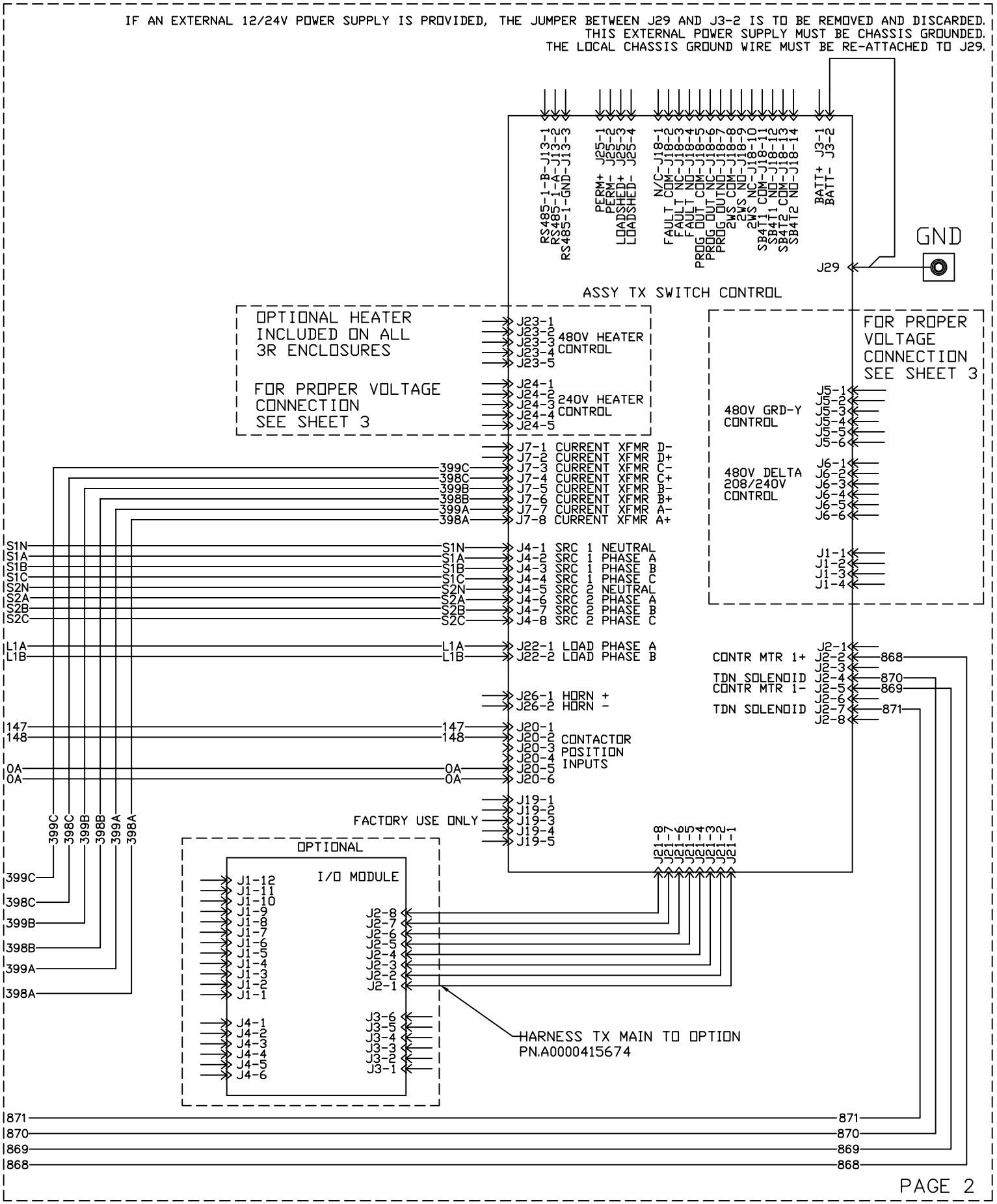
DRAWING #: A0002056850



PAGE 1

SCHEMATIC - DIAGRAM

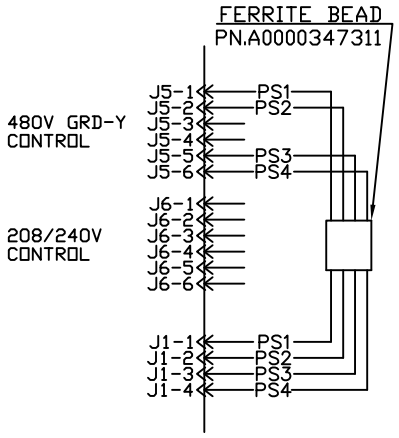
TX CONTROL TRANSFER SW



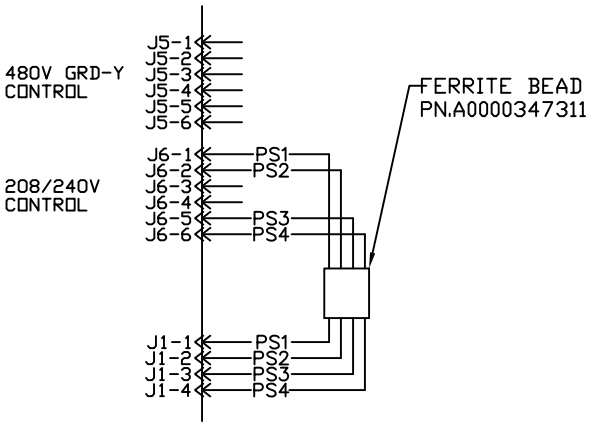
SCHEMATIC - DIAGRAM

TX CONTROL TRANSFER SW

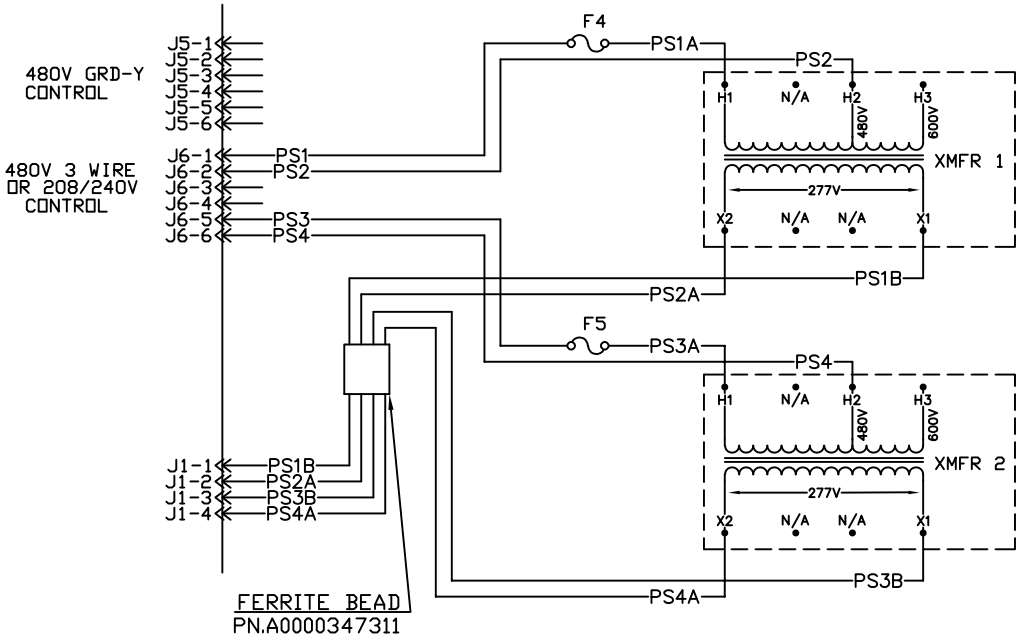
480V GRD-Y CONTROL



208/240V CONTROL

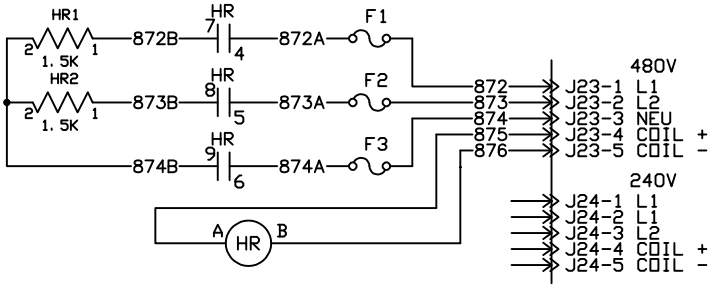


480V 3 WIRE CONNECTION WITH TRANSFORMERS



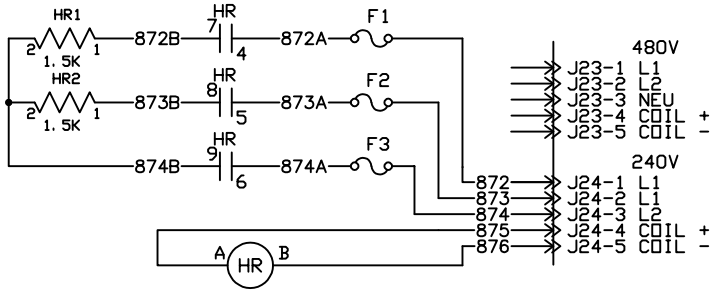
480V HEATER CONTROL

OPTIONAL HEATER
INCLUDED ON ALL 3R ENCLOSURES



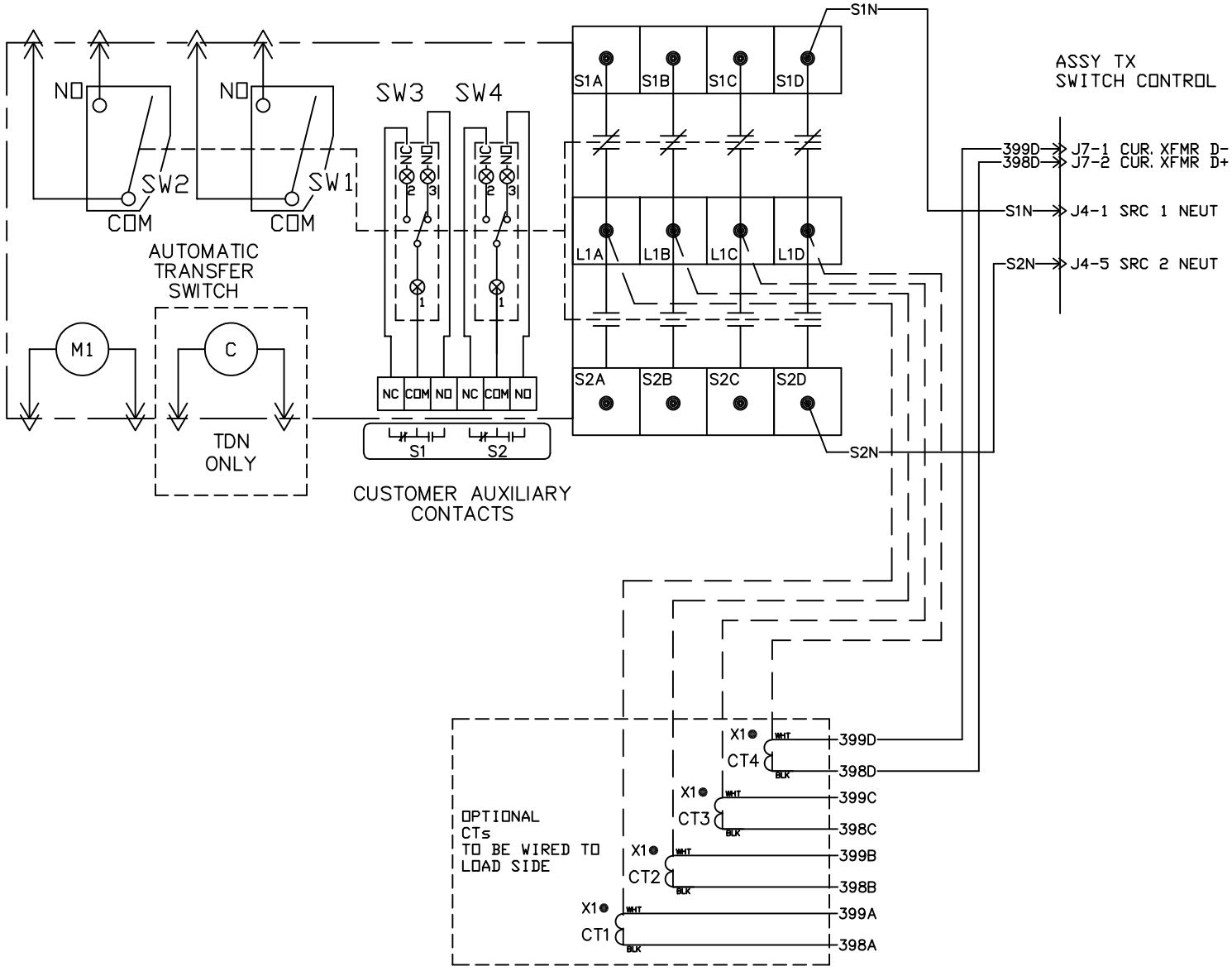
208/240V HEATER CONTROL

OPTIONAL HEATER
INCLUDED ON ALL 3R ENCLOSURES

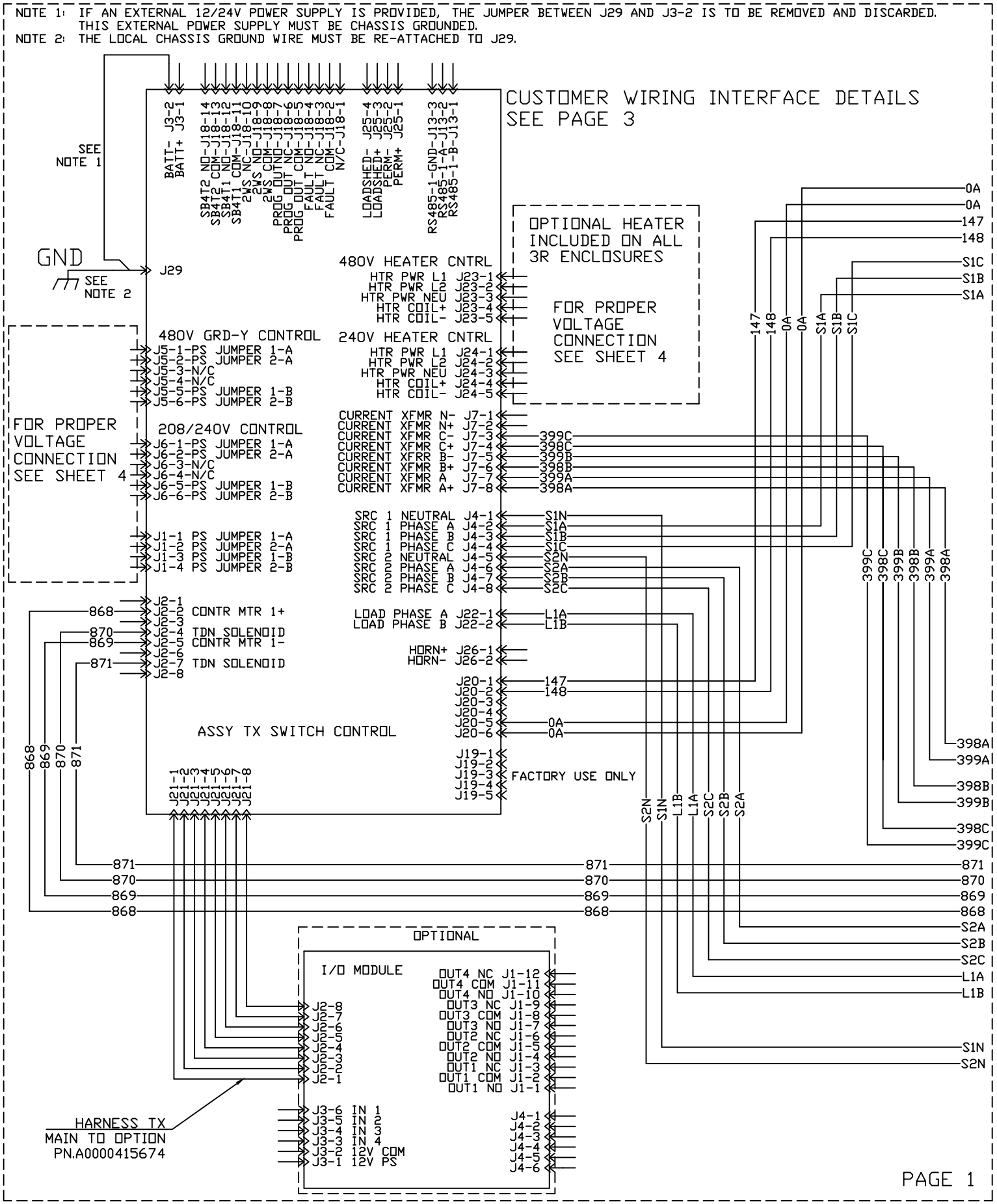


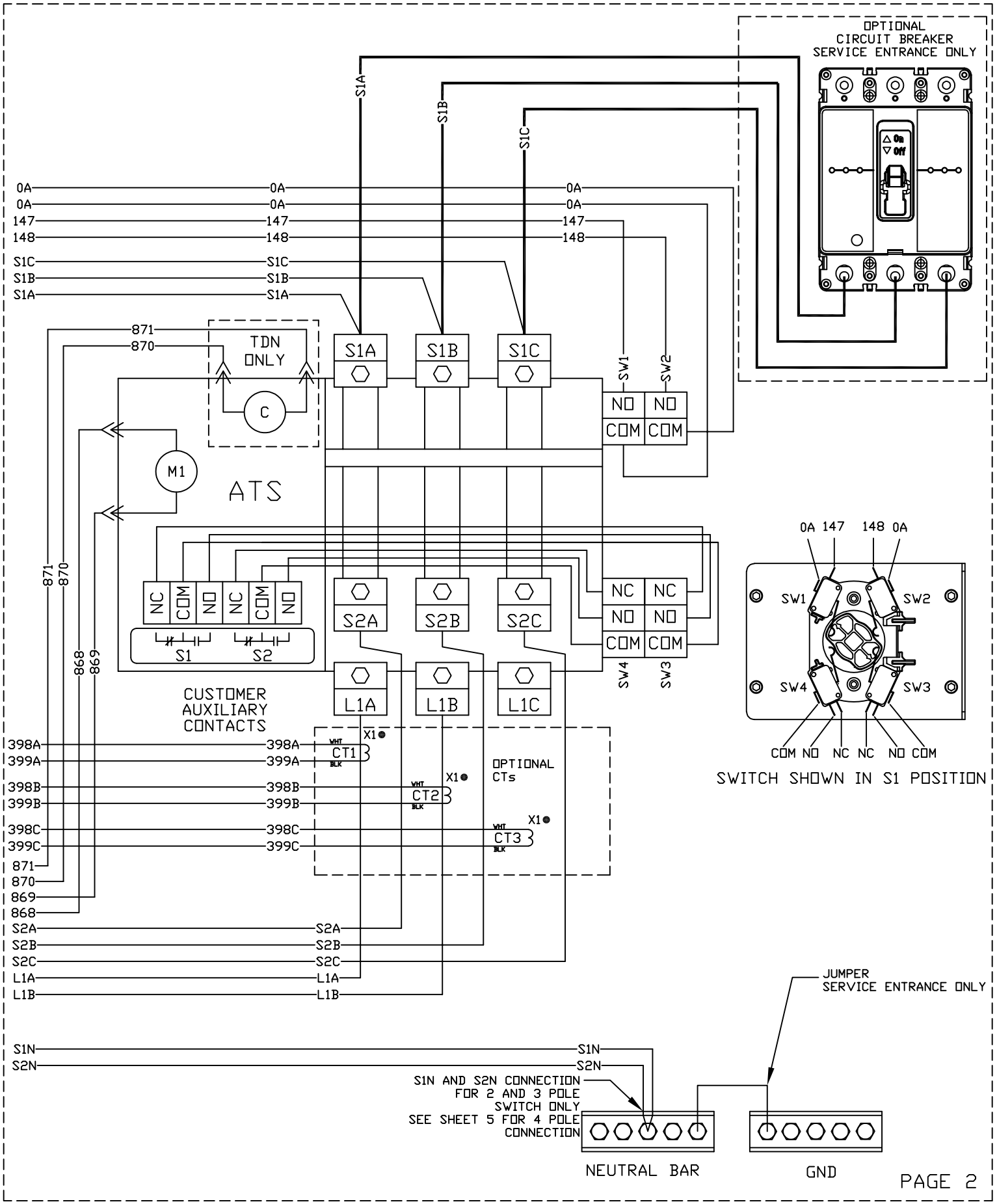
SCHEMATIC - DIAGRAM
TX CONTROL TRANSFER SW
DRAWING #: A0000347533

4 POLE SWITCHED NEUTRAL CONNECTIONS



PAGE 4

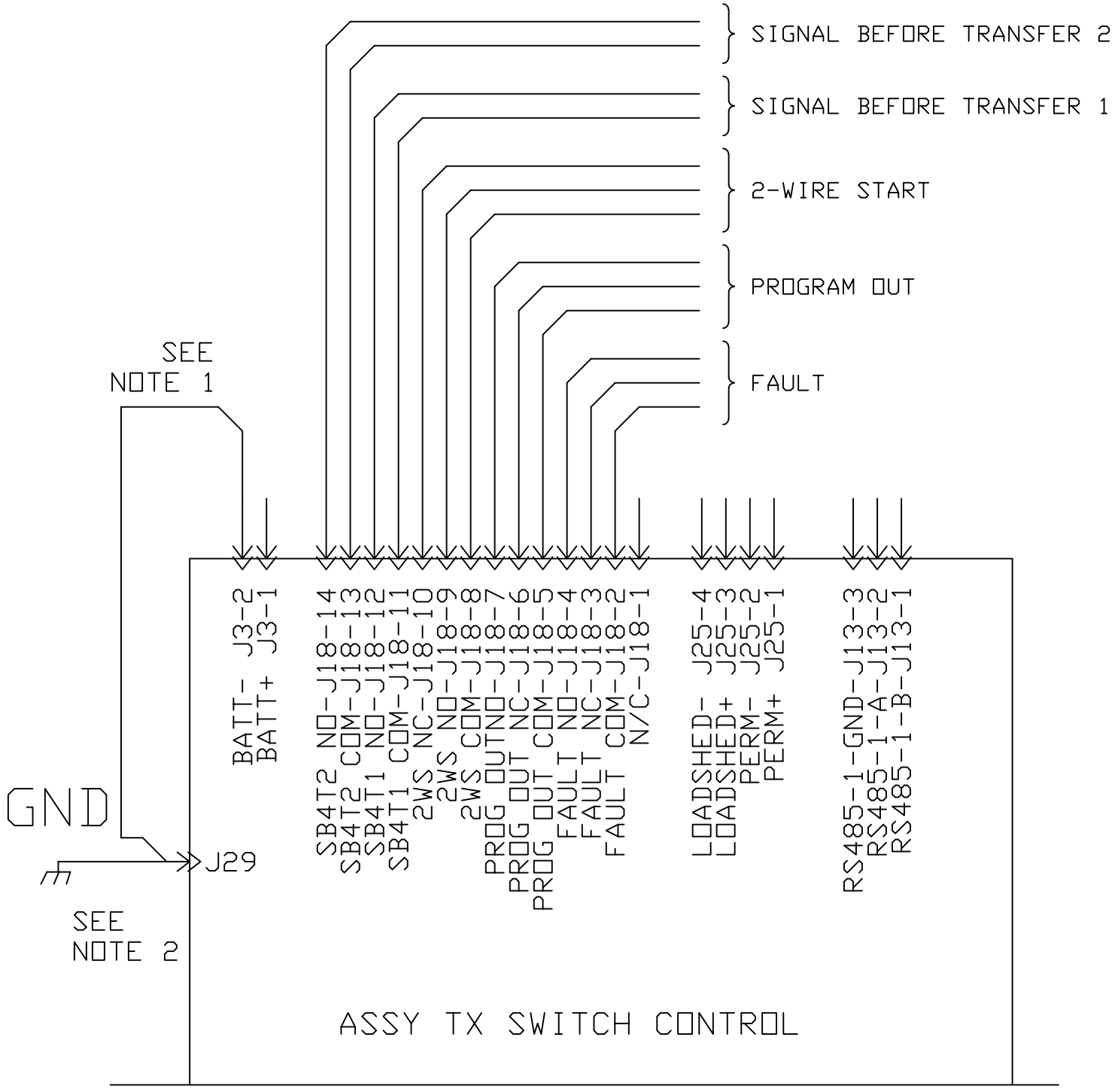

NOTE 1: IF AN EXTERNAL 12/24V POWER SUPPLY IS PROVIDED, THE JUMPER BETWEEN J29 AND J3-2 IS TO BE REMOVED AND DISCARDED. THIS EXTERNAL POWER SUPPLY MUST BE CHASSIS GROUNDED.
NOTE 2: THE LOCAL CHASSIS GROUND WIRE MUST BE RE-ATTACHED TO J29.
CUSTOMER WIRING INTERFACE DETAILS
SEE PAGE 3
SEE NOTE 1
BATT- J3-2
BATT+ J3-1
SB4T2 NO-J18-14
SB4T2 COM-J18-13
SB4T2 NO-J18-12
SB4T1 COM-J18-11
SB4T1 NO-J18-10
2WS NC-J18-9
2WS COM-J18-8
2WS NO-J18-7
PROG OUTNO-J18-6
PROG OUT COM-J18-5
PROG OUT NC-J18-4
FAULT NO-J18-3
FAULT NC-J18-2
FAULT COM-J18-1
N/C-J18-1
LOADSHED- J25-4
LOADSHED+ J25-3
PERM- J25-2
PERM+ J25-1
RS485-1-GND-J13-3
RS485-1-A-J13-2
RS485-1-B-J13-1
GND
SEE NOTE 2
J29
480V HEATER CNTRL
HTR PWR L1 J23-1
HTR PWR L2 J23-2
HTR PWR NEU J23-3
HTR COIL+ J23-4
HTR COIL- J23-5
OPTIONAL HEATER INCLUDED ON ALL 3R ENCLOSURES
FOR PROPER VOLTAGE CONNECTION SEE SHEET 4
480V GRD-Y CONTROL
J5-1-PS JUMPER 1-A
J5-2-PS JUMPER 2-A
J5-3-N/C
J5-4-N/C
J5-5-PS JUMPER 1-B
J5-6-PS JUMPER 2-B
240V HEATER CNTRL
HTR PWR L1 J24-1
HTR PWR L2 J24-2
HTR PWR NEU J24-3
HTR COIL+ J24-4
HTR COIL- J24-5
FOR PROPER VOLTAGE CONNECTION SEE SHEET 4
208/240V CONTROL
J6-1-PS JUMPER 1-A
J6-2-PS JUMPER 2-A
J6-3-N/C
J6-4-N/C
J6-5-PS JUMPER 1-B
J6-6-PS JUMPER 2-B
CURRENT XFMR N- J7-1
CURRENT XFMR N+ J7-2
CURRENT XFMR C- J7-3
CURRENT XFMR C+ J7-4
CURRENT XFMR B- J7-5
CURRENT XFMR B+ J7-6
CURRENT XFMR A- J7-7
CURRENT XFMR A+ J7-8
399C
398C
399B
398B
399A
398A
J1-1 PS JUMPER 1-A
J1-2 PS JUMPER 2-A
J1-3 PS JUMPER 1-B
J1-4 PS JUMPER 2-B
SRC 1 NEUTRAL J4-1
SRC 1 PHASE A J4-2
SRC 1 PHASE B J4-3
SRC 1 PHASE C J4-4
SRC 2 NEUTRAL J4-5
SRC 2 PHASE A J4-6
SRC 2 PHASE B J4-7
SRC 2 PHASE C J4-8
S1N
S1A
S1B
S1C
S2N
S2A
S2B
S2C
J2-1
868
J2-2 CONTR MTR 1+
J2-3
870
J2-4 TDN SOLENOID
869
J2-5 CONTR MTR 1-
J2-6
871
J2-7 TDN SOLENOID
J2-8
LOAD PHASE A J22-1
LOAD PHASE B J22-2
L1A
L1B
HORN+ J26-1
HORN- J26-2
J20-1
147
J20-2
148
J20-3
J20-4
J20-5
0A
J20-6
0A
ASSY TX SWITCH CONTROL
J19-1
J19-2
J19-3
J19-4
J19-5
FACTORY USE ONLY
J21-1
J21-2
J21-3
J21-4
J21-5
J21-6
J21-7
J21-8
OPTIONAL
I/O MODULE
J2-8
J2-7
J2-6
J2-5
J2-4
J2-3
J2-2
J2-1
OUT4 NC J1-12
OUT4 COM J1-11
OUT4 NO J1-10
OUT3 NC J1-9
OUT3 COM J1-8
OUT3 NO J1-7
OUT2 NC J1-6
OUT2 COM J1-5
OUT2 NO J1-4
OUT1 NC J1-3
OUT1 COM J1-2
OUT1 NO J1-1
J3-6 IN 1
J3-5 IN 2
J3-4 IN 3
J3-3 IN 4
J3-2 12V COM
J3-1 12V PS
J4-1
J4-2
J4-3
J4-4
J4-5
J4-6
HARNESS TX
MAIN TO OPTION
PN.A0000415674
PAGE 1



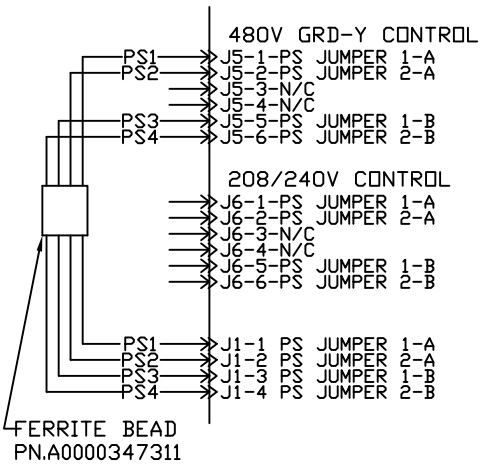
WIRING - DIAGRAM

TX CONTROL TRANSFER SW

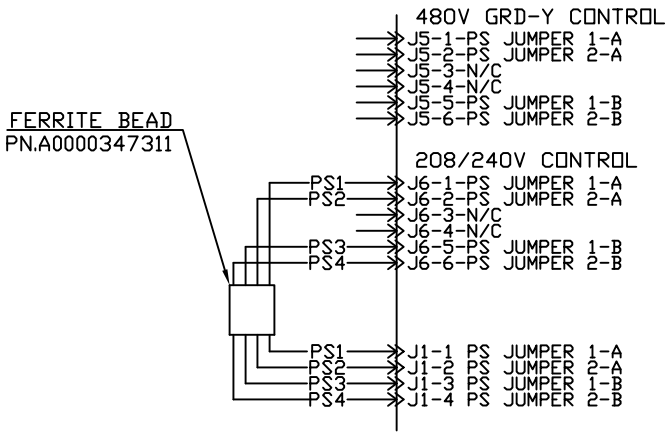
NOTE 1: IF AN EXTERNAL 12/24V POWER SUPPLY IS PROVIDED, THE JUMPER BETWEEN J29 AND J3-2 IS TO BE REMOVED AND DISCARDED.
THIS EXTERNAL POWER SUPPLY MUST BE CHASSIS GROUNDED.
NOTE 2: THE LOCAL CHASSIS GROUND WIRE MUST BE RE-ATTACHED TO J29.



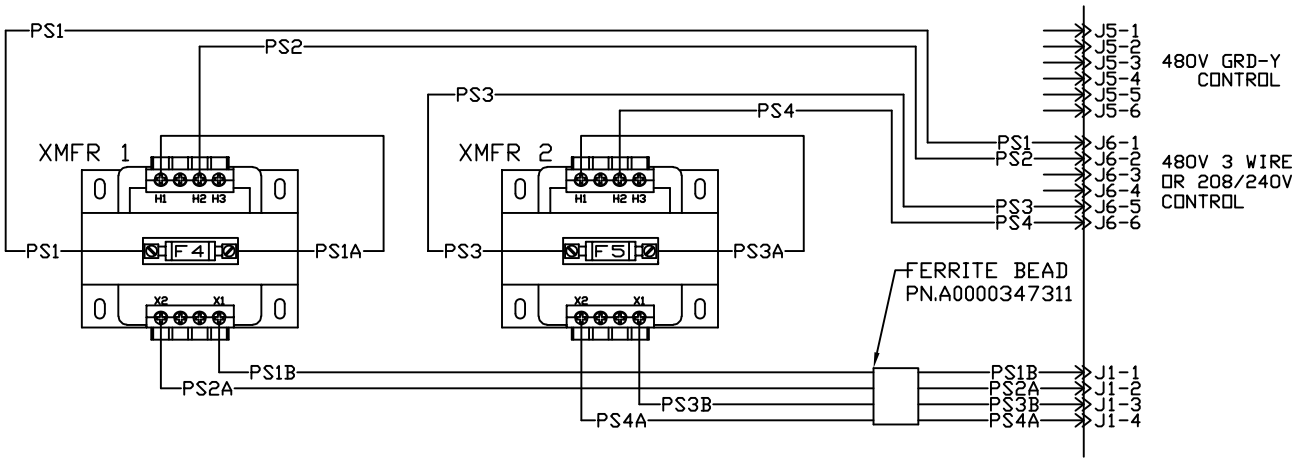
480V GRD-Y CONTROL



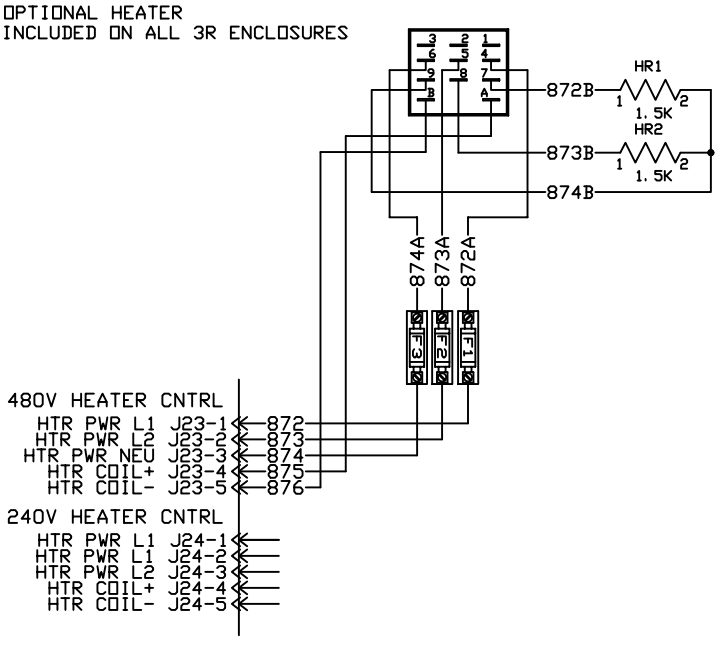
208/240V CONTROL



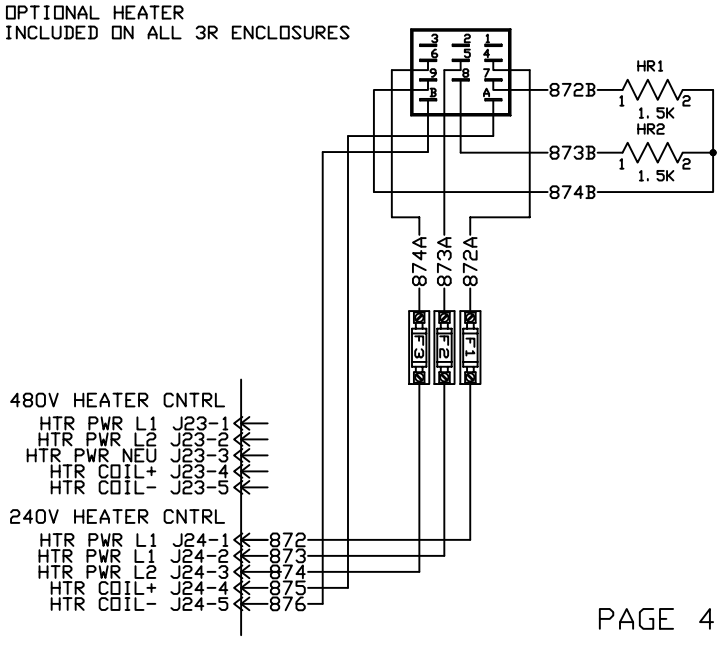
480V 3 WIRE CONNECTION WITH TRANSFORMERS



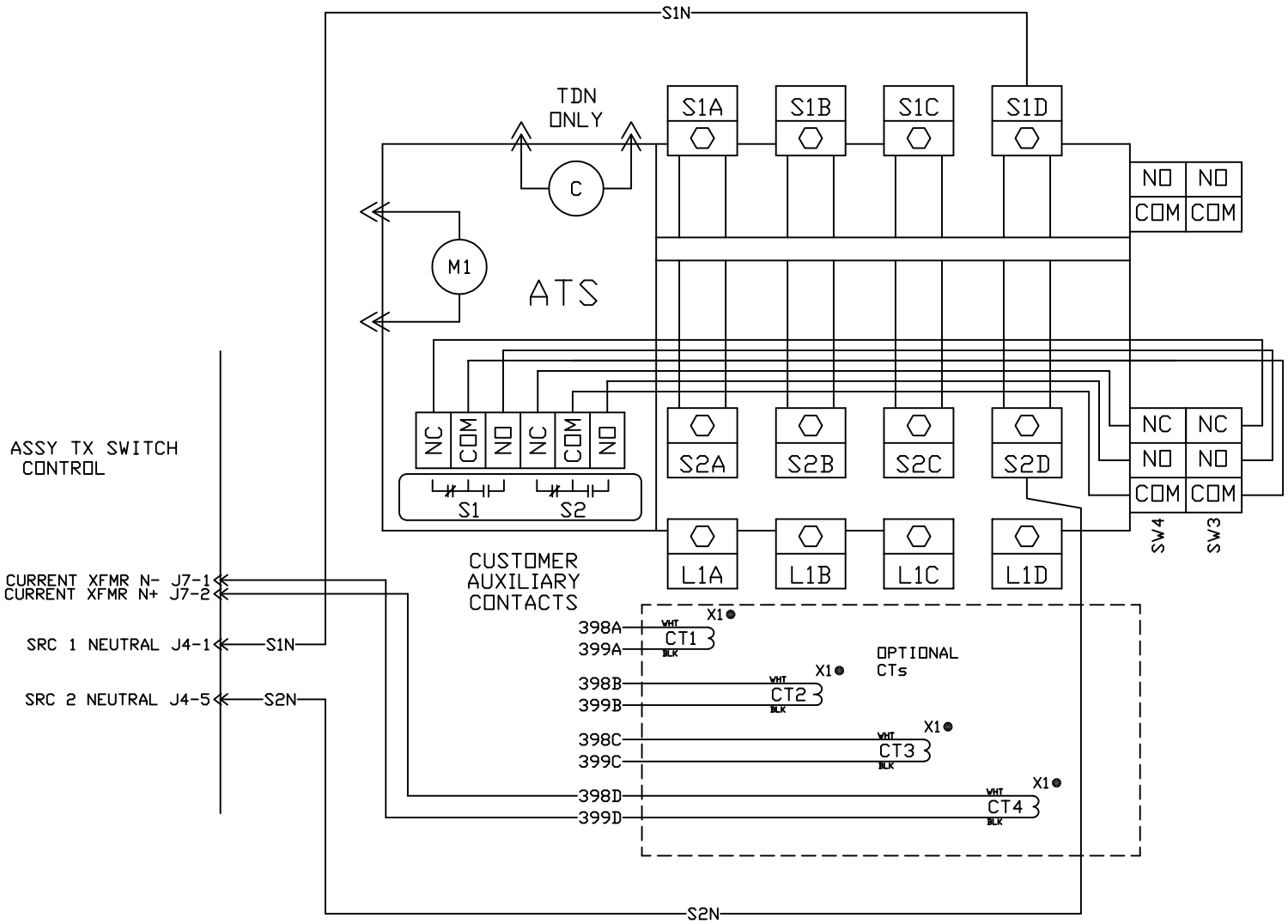
480V HEATER CONTROL



208/240V HEATER CONTROL



4 POLE SWITCHED NEUTRAL CONNECTIONS



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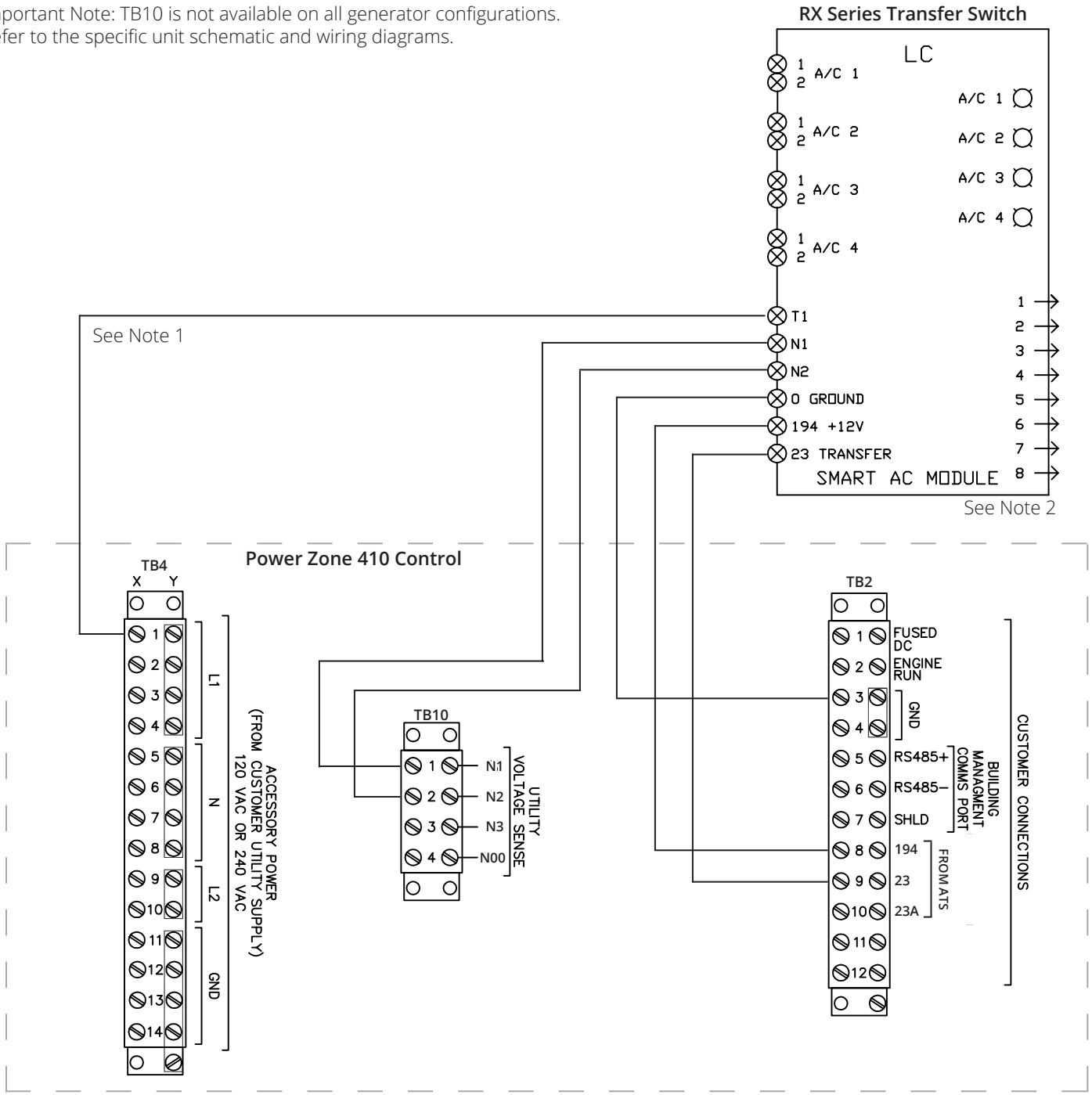
POWER ZONE® CONTROL PLATFORM
Power Zone® 410 Control Interconnections

Power Zone 410 Control with Residential Series Transfer Switch

Important Note: TB10 is not available on all generator configurations.
Refer to the specific unit schematic and wiring diagrams.



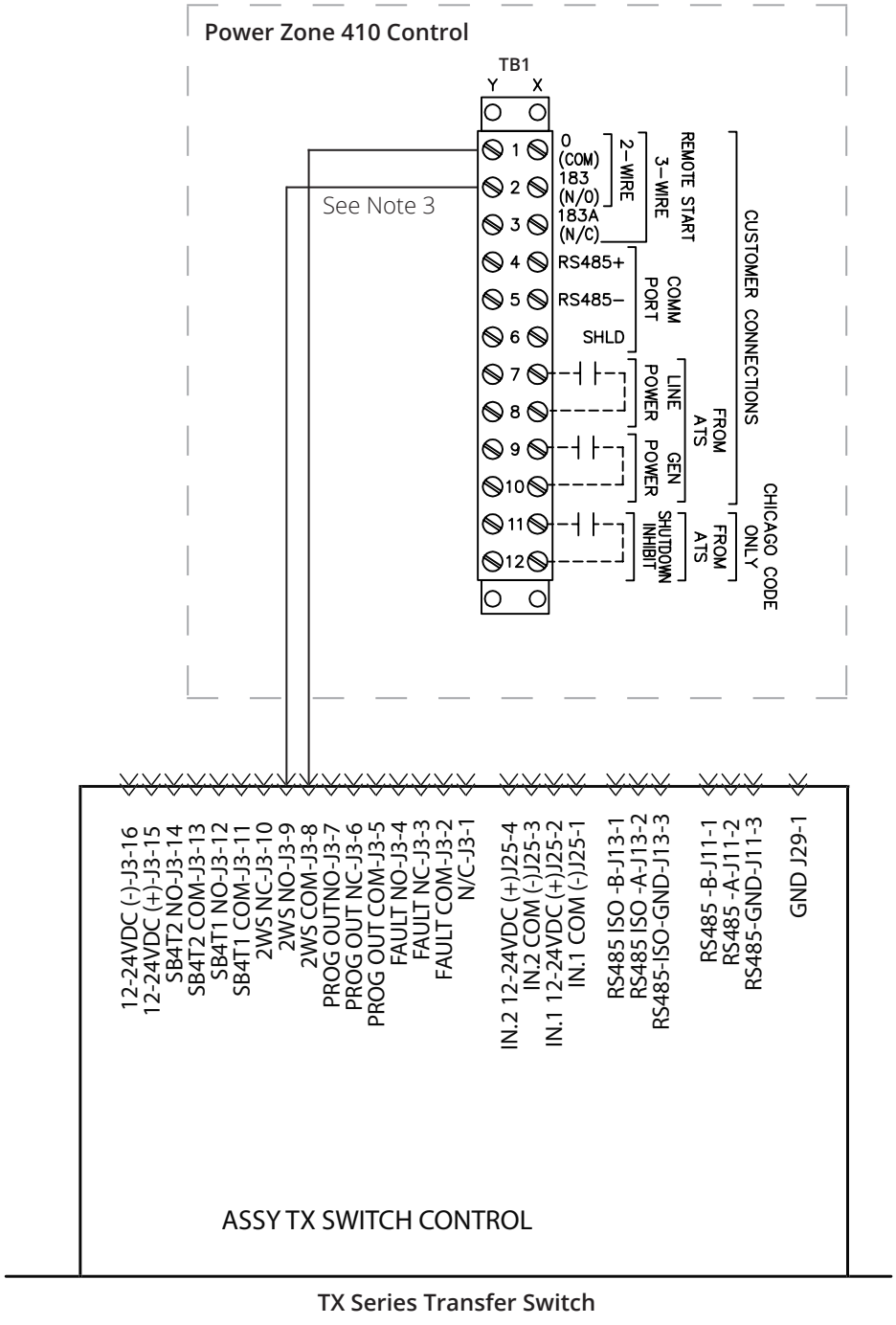
Note 1: When connecting RX Series Smart AC Module T1 for battery charger, Power Zone 410 TB4 must tie to generator neutral bar.
Note 2: If utilizing a three phase Residential transfer switch, an additional kit is required for proper phase sensing functionality:

- RTS___G3, RTS___J3, or RTS___M3 series transfer switches require kit G0074110
- RTS___K3 or RTS___R3 series transfer switches require kit G0074120

Part No. A0001371118
Rev. F 7/9/24

POWER ZONE® CONTROL PLATFORM
Power Zone® 410 Control Interconnections

Power Zone 410 Control with TX Series Transfer Switch



Note 3: For 3-wire start, connect Power Zone 410 Control TB1, 183A (N/C) to TX Series Transfer Switch J3-10.

Part No. A0001371118
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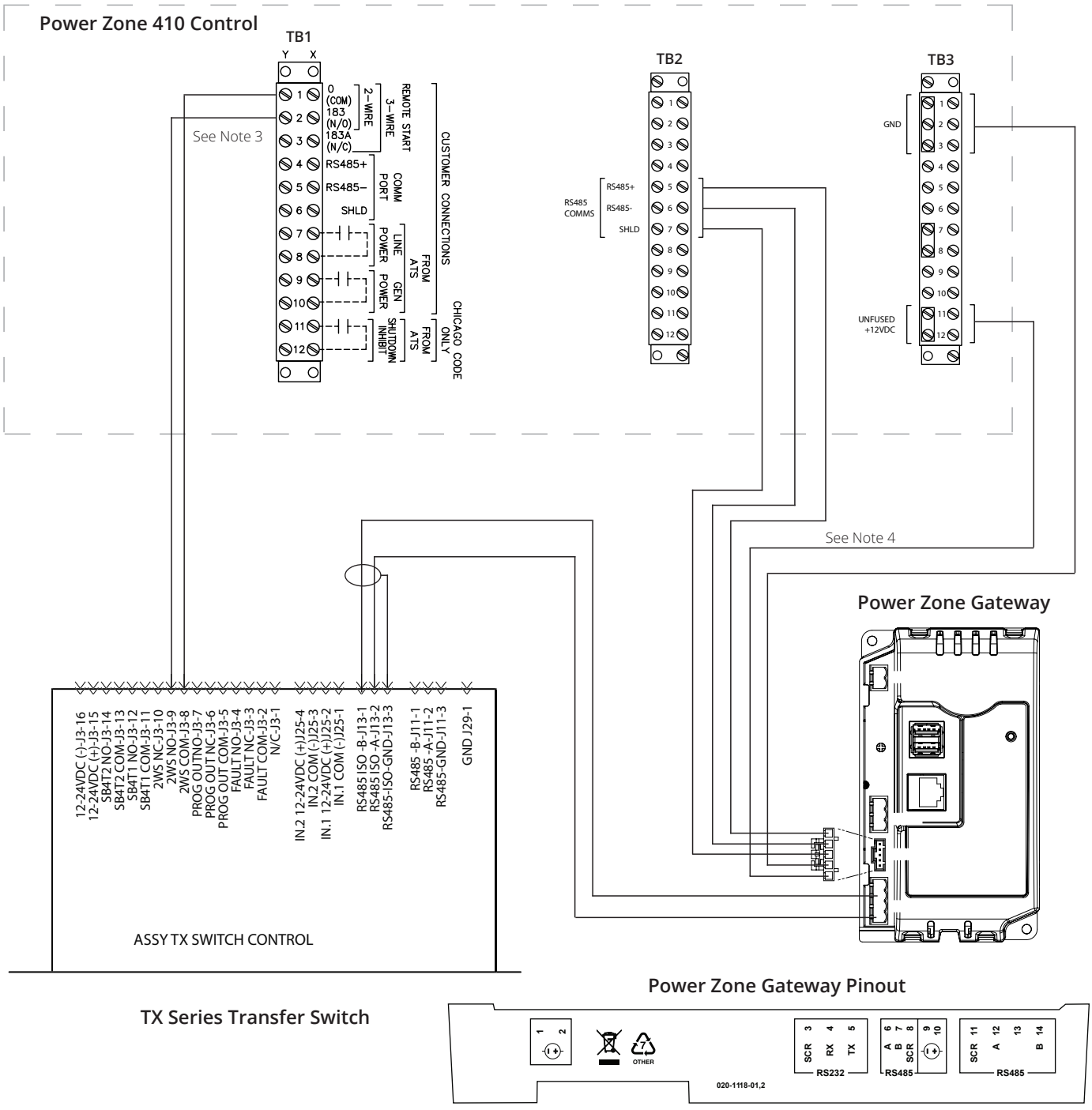
POWER ZONE® CONTROL PLATFORM
Power Zone® 410 Control Interconnections

Power Zone 410 Control with TX Series Transfer Switch and Gateway



Note 3: For 3-wire start, connect Power Zone 410 Control TB1, 183A (N/C) to TX Series Transfer Switch J3-10.
Note 4: Harness for connections between Power Zone Gateway and Power Zone 410 is provided when unit is configured to include Gateway.

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Part No. A0001371118
Rev. F 7/9/24

STATEMENT OF EXHAUST EMISSIONS
2025 FPT Diesel Fueled Generator

The measured emissions values provided here are proprietary to Generac and it's authorized dealers. This information may only be disseminated upon request to regulatory governmental bodies for emissions permitting purposes or to specifying organizations as submittal data when expressly required by project specifications, and shall remain confidential and not open to public viewing. This information is not intended for compilation or sales purposes and may not be used as such, nor may it be reproduced without the expressed written permission of Generac Power Systems, Inc.. The data provided shall not be meant to include information made public by Generac.

Generator Model	kW_e	Engine Disp (L)	Engine Family	Engine Model	Rated Engine Power (BHP)	Fuel Consumption (gal/hr)	Aspiration	Rated RPM	EPA Certificate #	CARB Certificate #	SCAQMD CEP #	Emissions Standard Category	Certification Type
SD035	35	4.5	SFPXL04.5DTD	F4GE9455B*J	79	5.05	Turbocharged/ Aftercooled	1800	SFPXL04.5DTD-004	N/A	N/A	Tier 3	Stationary Emergency CI
SD040	40	4.5	SFPXL04.5DTD	F4GE9455B*J	79	5.05	Turbocharged/ Aftercooled	1800	SFPXL04.5DTD-004	N/A	N/A	Tier 3	Stationary Emergency CI
SD050	50	4.5	SFPXL04.5DTD	F4GE9455B*J	79	5.05	Turbocharged/ Aftercooled	1800	SFPXL04.5DTD-004	N/A	N/A	Tier 3	Stationary Emergency CI
SD060	60	4.5	SFPXL06.7DGB	F4GE9485A*J	131	6.84	Turbocharged/ Aftercooled	1800	SFPXL06.7DGB-005	N/A	511714	Tier 3	Stationary Emergency CI
SD080	80	4.5	SFPXL06.7DGB	F4GE9485A*J	131	6.84	Turbocharged/ Aftercooled	1800	SFPXL06.7DGB-005	N/A	511714	Tier 3	Stationary Emergency CI
SD100	100	6.7	SFPXL06.7DGB	F4GE9685A*J	198	10.04	Turbocharged/ Aftercooled	1800	SFPXL06.7DGB-005	N/A	511715	Tier 3	Stationary Emergency CI
SD130	130	6.7	SFPXL06.7DGB	F4GE9685A*J	198	10.04	Turbocharged/ Aftercooled	1800	SFPXL06.7DGB-005	N/A	511715	Tier 3	Stationary Emergency CI
SD150 DSE	150	6.7	SFPXL06.7DGS	F4HE9685A*J	279	13.5	Turbocharged/ Aftercooled	1800	SFPXL06.7DGS-006	N/A	511717	Tier 3	Stationary Emergency CI
SD150	150	6.7	SFPXL06.7DGS	F4HE0685F*J	282	13.5	Turbocharged/ Aftercooled	1800	SFPXL06.7DGS-006	N/A	640593	Tier 3	Stationary Emergency CI
SD175 DSE	175	6.7	SFPXL06.7DGS	F4HE0685F*J	282	13.5	Turbocharged/ Aftercooled	1800	SFPXL06.7DGS-006	N/A	640593	Tier 3	Stationary Emergency CI
SD175	175	6.7	SFPXL06.7DGS	F4HE9685A*J	279	13.5	Turbocharged/ Aftercooled	1800	SFPXL06.7DGS-006	N/A	511717	Tier 3	Stationary Emergency CI
SD200	200	8.7	SFPXL08.7TR3	F2CE9685A*E	389	19.1	Turbocharged/ Aftercooled	1800	SFPXL08.7TR3-008	N/A	511712	Tier 3	Stationary Emergency CI
SD230	230	8.7	SFPXL08.7TR3	F2CE9685A*E	389	19.1	Turbocharged/ Aftercooled	1800	SFPXL08.7TR3-008	N/A	511712	Tier 3	Stationary Emergency CI
SD250	250	8.7	SFPXL08.7TR3	F2CE9685A*E	389	19.1	Turbocharged/ Aftercooled	1800	SFPXL08.7TR3-008	N/A	511712	Tier 3	Stationary Emergency CI
SD275	275	10.3	SFPXL10.3TR3	F3AE9685A-E	449	22.1	Turbocharged/ Aftercooled	1800	SFPXL10.3TR3-009	N/A	511713	Tier 3	Stationary Emergency CI
SD/MD300	300	10.3	SFPXL10.3TR3	F3AE9685A-E	449	22.1	Turbocharged/ Aftercooled	1800	SFPXL10.3TR3-009	N/A	511713	Tier 3	Stationary Emergency CI
SD/MD350	350	12.9	SFPXL12.9IGR	F3BE9685A-E	530	27.02	Turbocharged/ Aftercooled	1800	SFPXL12.9IGR-010	N/A	511711	Tier 3	Stationary Emergency CI

Emissions Based on Engine Power of Specific Engine Model
These Values are Actual Composite Weighted Exhaust Emissions Results Over the EPA 5-Mode Test Cycle

Generator Model	CO	NOx + NMHC	PM	Grams/kW-hr Grams/bhp-hr
SD035	1.40	4.3	0.32	Grams/kW-hr
	1.04	3.23	0.24	Grams/bhp-hr
SD040	1.40	4.3	0.32	Grams/kW-hr
	1.0	3.23	0.24	Grams/bhp-hr
SD050	1.40	4.33	0.32	Grams/kW-hr
	1.0	3.2	0.22	Grams/bhp-hr
SD060	0.8	3.78	0.16	Grams/kW-hr
	0.6	2.8	0.12	Grams/bhp-hr
SD080	0.8	3.78	0.16	Grams/kW-hr
	0.6	2.8	0.12	Grams/bhp-hr
SD100	0.8	3.78	0.16	Grams/kW-hr
	0.6	2.8	0.1	Grams/bhp-hr
SD130	0.8	3.78	0.16	Grams/kW-hr
	0.6	2.76	0.12	Grams/bhp-hr
SD150 DSE	1.1	3.71	0.08	Grams/kW-hr
	0.82	2.7	0.1	Grams/bhp-hr
SD150	1.1	3.71	0.08	Grams/kW-hr
	0.89	2.76	0.06	Grams/bhp-hr
SD175 DSE	1.1	3.71	0.08	Grams/kW-hr
	0.8	2.7	0.1	Grams/bhp-hr

Part No. A0006524151
Rev. D 7/17/25

STATEMENT OF EXHAUST EMISSIONS
2025 FPT Diesel Fueled Generator

SD175	1.1	3.71	0.08	Grams/kW-hr
	0.8	2.7	0.1	Grams/bhp-hr
SD200	0.5	3.54	0.13	Grams/kW-hr
	0.37	2.61	0.097	Grams/bhp-hr
SD230	0.50	3.4	0.07	Grams/kW-hr
	0.4	2.5	0.05	Grams/bhp-hr
SD250	0.50	3.54	0.13	Grams/kW-hr
	0.37	2.61	0.097	Grams/bhp-hr
SD275	1.3	3.80	0.11	Grams/kW-hr
	0.67	2.76	0.089	Grams/bhp-hr
SD/MD300	1.3	3.80	0.11	Grams/kW-hr
	1.0	2.80	0.1	Grams/bhp-hr
SD/MD350	0.70	3.78	0.03	Grams/kW-hr
	0.515	2.780	0.022	Grams/bhp-hr

These Values are 100% Load Data Exhaust Emissions Results

Generator Model	CO	NOx + NMHC	PM	Grams/kW-hr Grams/bhp-hr
SD035	0.85	4.25	0.29	Grams/kW-hr
	0.63	3.17	0.22	Grams/bhp-hr
SD040	0.85	4.25	0.29	Grams/kW-hr
	0.63	3.17	0.22	Grams/bhp-hr
SD050	0.85	4.25	0.29	Grams/kW-hr
	0.63	3.13	0.21	Grams/bhp-hr
SD060	0.31	4.93	0.06	Grams/kW-hr
	0.23	3.67	0.04	Grams/bhp-hr
SD080	0.31	4.93	0.06	Grams/kW-hr
	0.23	3.67	0.04	Grams/bhp-hr
SD100	0.31	4.93	0.06	Grams/kW-hr
	0.23	3.63	0.04	Grams/bhp-hr
SD130	0.31	4.93	0.06	Grams/kW-hr
	0.23	3.68	0.04	Grams/bhp-hr
SD150 DSE	0.62	5.24	0.05	Grams/kW-hr
	0.46	3.85	0.04	Grams/bhp-hr
SD150	0.62	5.24	0.05	Grams/kW-hr
	0.46	3.91	0.04	Grams/bhp-hr
SD175 DSE	0.62	5.24	0.05	Grams/kW-hr
	0.46	3.85	0.04	Grams/bhp-hr
SD175	0.62	5.24	0.05	Grams/kW-hr
	0.46	3.85	0.04	Grams/bhp-hr
SD200	0.20	4.56	0.02	Grams/kW-hr
	0.14	3.35	0.0147	Grams/bhp-hr
SD230	0.44	4.42	0.01	Grams/kW-hr
	0.33	3.30	0.01	Grams/bhp-hr
SD250	0.18	6.5	0.01	Grams/kW-hr
	0.132	4.78	0.007	Grams/bhp-hr
SD275	0.98	3.3	0.02	Grams/kW-hr
	0.72	2.46	0.01	Grams/bhp-hr
SD/MD300	0.98	3.3	0.02	Grams/kW-hr
	0.72	2.43	0.01	Grams/bhp-hr
SD/MD350	0.6	3.98	0.01	Grams/kW-hr
	0.441	2.927	0.07	Grams/bhp-hr

- The stated values are actual exhaust emission test measurements obtained from an engine representative of the type described above.
- Values based on 5-Mode testing are official data of record as submitted to regulatory agencies for certification purposes. Testing was conducted in accordance with prevailing EPA protocol, which is typically accepted by SCAQMD and other regional authorities.
- No emissions values provided above are to be construed as guarantees of emission levels for any given Generac generator unit.
- Generac Power Systems, Inc. reserves the right to revise this information without prior notice.
- Consult state and local regulatory agencies for specific permitting requirements.
- The emission performance data supplied by the equipment manufacturer is only one element required toward completion of the permitting and installation process. State and local regulations may vary on a case-by-case basis and local agencies must be consulted by the permit application/equipment owner prior to equipment purchase or installation. The data supplied herein by Generac Power Systems Inc. cannot be construed as a guarantee of installability of the generating set.

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Generac Power Systems 5 Year (5C) Extended Limited Warranty for Industrial Standby Generators

For the period of warranty noted below, which begins upon the successful start-up and/or on-line activation of the unit, Generac Power Systems, Inc. "Generac" warrants that its Generator will be free from defects in material and workmanship for the items and period set forth below. Generac will, at its discretion, repair or replace any part(s) which, upon evaluation, inspection and testing by Generac or an Independent Authorized Service Dealer, is found to be defective. Any equipment that the purchaser/owner claims to be defective must be evaluated by the nearest Independent Authorized Service Dealer. Emissions components are excluded from coverage under this extended warranty. Emissions warranty coverage is detailed in a separate emissions warranty.

Warranty Coverage: Warranty coverage period is for Five (5) years or two-thousand (2,000) hours, whichever occurs first.

Warranty Coverage in Year(s) 1-5
Parts, Labor and Limited Travel

Limited Gearbox Coverage:

Year(s): 1-5 Coverage	Year(s): 6-10 Coverage
Limited Parts and Labor	Limited Parts Only

Guidelines:

1. Unit must be registered and proof of purchase available.
2. Any and all warranty repairs and/or concerns must be performed and/or addressed by an Independent Authorized Service Dealer, or branch thereof. Repairs or diagnostics performed by individuals other than Independent Authorized Service Dealers not authorized in writing by Generac will not be covered.
3. This Warranty is transferable between ownership of original install site.
4. Generac supplied engine coolant heaters (block-heaters), heater controls and circulating pumps are only covered during the first year of the warranty provision.
5. Generac may choose to repair, replace or refund a piece of equipment in its sole discretion.
6. Enclosures are warranted against rust for the first year of ownership only. Damage caused after receipt of generator is the responsibility of the owner and is not covered by this warranty. Nicks, scrapes, dents or scratches to the painted enclosure should be repaired promptly by the owner.
7. Warranty only applies to permanently wired and mounted units.
8. Damage to any covered components or consequential damages caused by the use of a non-OEM part will not be covered by the warranty.
9. Proof of performance of all required maintenance must be available.
10. Travel allowance is limited to 300 miles maximum and seven and one half (7.5) hours maximum (per occurrence, whichever is less) round trip from the nearest Independent Authorized Service Dealer. Any additional travel required will not be covered.
11. Engines, driven components and fuel tanks used in Generac's standby power products system can carry a separate manufacturer's (OEM) warranty (the "OEM Warranties"), unless otherwise expressly stated. OEM Warranties are in addition to this Warranty. All warranty claims for defects in material and/or workmanship on Generac product OEM components, may be directed through the OEM distributor/dealer network. OEM Warranties may vary and are subject to change. Generac shall have no liability under OEM warranties.

The following will NOT be covered by this warranty:

1. Costs of normal maintenance (i.e. tune-ups, associated part(s), adjustments, loose/leaking clamps, installation and start-up).
2. Damage/failures to the generator caused by accidents, shipping, handling, or improper storage.
3. Damage/failures caused by operation with improper fuels, speeds, loads or installations other than what's recommended or specified by Generac Power Systems.
4. Damage to the generator due to the use of non-Generac parts and/or equipment, contaminated fuels, oils, coolants/antifreeze or lack of proper fuels, oil or coolants/antifreeze.
5. Failures due to normal wear and tear, accident, misuse, abuse, neglect, improper installation, improper sizing, or rodent, reptile, and/or insect infestation.
6. Rental equipment used while warranty repairs are being performed and/or any extraordinary equipment used for removal and/or reinstallation of generator (i.e. cranes, hoists, lifts, et. al.).
7. Planes, ferries, railroad, buses, helicopters, snowmobiles, snow-cats, off-road vehicles or any other mode of transport deemed not standard by Generac.
8. Products that are modified or altered in a manner not authorized by Generac in writing.
9. Starting batteries, fuses, light bulbs, engine fluids and any related labor.
10. Steel enclosures that rust as a result of improper installation, location in a harsh or salt water environment, or are scratched where the integrity of applied paint is compromised.
11. Units sold, rated or used for "Prime Power", "Trailer Mounted" or "Rental Unit" applications as defined by Generac. Contact an Independent Authorized Service Dealer for definitions.
12. Shipping costs associated with expedited shipping.
13. Additional costs for overtime, holiday or emergency labor costs for repairs outside of normal business hours.
14. Any incidental, consequential or indirect damages caused by defects in materials or workmanship, or any delay in repair or replacement of the defective part(s).
15. Failures caused by any act of God or external cause including without limitation, fire, theft, freezing, war, lightning, earthquake, windstorm, hail, water, tornado, hurricane, or any other matters which are reasonably beyond the manufacturer's control.

THIS WARRANTY SUPERSEDES ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. SPECIFICALLY, GENERAC MAKES NO OTHER WARRANTIES AS TO THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ANY IMPLIED WARRANTIES WHICH ARE ALLOWED BY LAW, SHALL BE LIMITED IN DURATION TO THE TERMS OF THE EXPRESS WARRANTY PROVIDED HEREIN. SOME JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. GENERAC'S ONLY LIABILITY SHALL BE THE REPAIR OR REPLACEMENT OF PART(S) AS STATED ABOVE. IN NO EVENT SHALL GENERAC BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, EVEN IF SUCH DAMAGES ARE A DIRECT RESULT OF GENERAC'S NEGLIGENCE. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU ALSO HAVE OTHER RIGHTS UNDER APPLICABLE LAW.

FOR AUSTRALIA ONLY: Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.
FOR NEW ZEALAND ONLY: Nothing in this warranty statement excludes, restricts or modifies any condition, warranty right or remedy which pursuant to the New Zealand Legislation (Commonwealth or State) including the Fair Trading Practices Act of 1986 or the Consumer Guarantees Act 1993 ("CGA") applies to this limited warranty and may not be so excluded, restricted or modified. Nothing in this statement is intended to have the effect of contracting out of the provisions of the CGA, except to the extent permitted by that Act, and these terms are to be modified to the extent necessary to give effect to that intention. If you acquire goods from Generac Power Systems or any of its authorized resellers and distributors for the purposes of a business, then pursuant to section 43(2) of the CGA, it is agreed that the provisions of the CGA do not apply.

GENERAC POWER SYSTEMS, INC. • P.O. BOX 8 • Waukesha, WI, USA 53187
Ph: (888) GENERAC (436-3722) • Fax: (262) 544-4851

To locate the nearest Independent Authorized Service Dealer and to download schematics, exploded views and parts lists
visit our website: www.generac.com

Part No. 0J4301 Revision M (2/16)

Generac Power Systems 2 Year (2B) Limited Warranty for Industrial
Transfer Switch Systems

For the period of warranty noted below, which begins upon the successful start-up and/or on-line activation/registration of the unit, Generac Power Systems, Inc. “Generac” warrants that its transfer switch will be free from defects in material and workmanship for the items and period set forth below. Generac will, at its discretion, repair or replace any part(s) which, upon evaluation, inspection and testing by Generac or an Independent Authorized Service Dealer, is found to be defective. Any equipment that the purchaser/owner claims to be defective must be evaluated by the nearest Independent Authorized Service Dealer.

Warranty Coverage in Year(s): 1	Warranty Coverage in Year(s): 2
Parts, Labor and Limited Travel	Limited Parts Only

Guidelines:

1. Unit must be registered and proof of purchase available.
2. Any and all warranty repairs and/or concerns must be performed and/or addressed by an Independent Authorized Service Dealer, or branch thereof. Repairs or diagnostics performed by individuals other than Independent Authorized Service Dealers not authorized in writing by Generac will not be covered.
3. Warranty is transferable between ownership of original installation site.
4. Generac may choose to repair, replace or refund a piece of equipment in its sole discretion.
5. Warranty only applies to permanently wired and mounted units.
6. Enclosures are warranted for the first year of ownership only. Damage caused after receipt of generator is the responsibility of the owner and is not covered by this warranty. Nicks, scrapes, dents or scratches to the painted enclosure should be repaired promptly by the owner.
7. Proof of performance of all required maintenance must be available.
8. Travel allowance is limited to 300 miles maximum or seven and a half (7.5) hours maximum (per occurrence, whichever is less) round trip from the nearest Independent Authorized Service Dealer. Any additional travel required will not be covered.

The following will NOT be covered by this warranty:

1. Costs of normal maintenance (i.e. associated part(s), adjustments, installation or start-up).
2. Damage to the transfer switch system caused by accidents, shipping, handling or improper storage.
3. Damage/failures caused by operation with loads or installations other than what’s recommended or specified by Generac. Unauthorized modification/misapplication will not be warranted unless authorized by Generac in writing.
4. Rental equipment used while warranty repairs are being performed and/or any extraordinary equipment used for removal and/or reinstallation of transfer switch (i.e. cranes, hoists, lifts, et. al.).
5. Planes, ferries, railroad, buses, helicopters, snowmobiles, snow-cats, off-road vehicles or any other mode of transport deemed not standard by Generac.
6. Failures due to normal wear and tear, accident, misuse, abuse, neglect, improper installation, or improper sizing.
7. Damage to any covered components or consequential damages caused by the use of a non-OEM part will not be covered by this warranty.
8. Damage related to rodent, reptile, and/or insect infestation.
9. Repairs or diagnostics performed by individuals other than Independent Authorized Service Dealers not authorized in writing by Generac.
10. Steel enclosures that rust as a result of improper installation, location in a harsh or salt water environment, or are scratched where the integrity of applied paint is compromised.
11. Fuses, light bulbs and any related labor.
12. Units sold, rated or used for “Prime Power,” “Trailer Mounted” or “Rental Unit” applications as defined by Generac. Contact an Independent Authorized Service Dealer for definitions.
13. Failures caused by any act of God or external cause including without limitation, fire, theft, freezing, war, lightning, earthquake, windstorm, hail, water, tornado, hurricane, or any other matters which are reasonably beyond the manufacturer’s control.
14. Shipping costs associated with expedited shipping.
15. Any incidental, consequential or indirect damages caused by defects in materials or workmanship, or any delay in repair or replacement of the defective part(s).
16. Any unit built/manufactured prior to 2014 models.
17. Overtime, holiday or emergency labor.
18. Living or travel expenses of person(s) performing service, except as specifically included within the terms of a specific unit warranty period.

THIS WARRANTY SUPERSEDES ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. SPECIFICALLY, GENERAC MAKES NO OTHER WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ANY IMPLIED WARRANTIES WHICH ARE ALLOWED BY LAW, SHALL BE LIMITED IN DURATION TO THE TERMS OF THE EXPRESS LIMITED WARRANTY PROVIDED HEREIN. SOME JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. GENERAC'S ONLY LIABILITY SHALL BE THE REPAIR OR REPLACEMENT OF PART(S) AS STATED ABOVE. IN NO EVENT SHALL GENERAC BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, EVEN IF SUCH DAMAGES ARE A DIRECT RESULT OF GENERAC’S NEGLIGENCE. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU COULD ALSO HAVE OTHER RIGHTS UNDER APPLICABLE LAW.

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FOR NEW ZEALAND ONLY: Nothing in this warranty statement excludes, restricts or modifies any condition, warranty right or remedy which pursuant to the New Zealand Legislation (Commonwealth or State) including the Fair Trading Practices Act of 1986 or the Consumer Guarantees Act 1993 (“CGA”) applies to this limited warranty and may not be so excluded, restricted or modified. Nothing in this statement is intended to have the effect of contracting out of the provisions of the CGA, except to the extent permitted by that Act, and these terms are to be modified to the extent necessary to give effect to that intention. If you acquire goods from Generac Power Systems or any of its authorized resellers and distributors for the purposes of a business, then pursuant to section 43(2) of the CGA, it is agreed that the provisions of the CGA do not apply.

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visit our website: www.generac.com

Part No. 0J4302 Revision H (4/21)

CERTIFICATE

This is to certify that

Generac Power Systems, Inc.

S45 W29290 Hwy. 59
Waukesha, WI 53189
United States of America

with the organizational units/sites as listed in the annex

has implemented and maintains a **Quality Management System**.

Scope:
Design, Manufacture, and Distribution of Power Products and Solutions.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 9001 : 2015

Certificate registration no.	10012920 QM15
Date of original certification	2021-06-25
Date of certification	2024-06-06
Valid until	2027-07-15

DQS Inc.

David Tellez
Managing Director

DQS IS A MEMBER OF

Accredited Body: DQS Inc., 1500 McConnor Parkway, Suite 400, Schaumburg, IL 60173 USA
The validity of the certification can only be verified by the QR-code.

Annex to certificate
Registration No. 10012920 QM15

Generac Power Systems, Inc.

S45 W29290 Hwy. 59
Waukesha, WI 53189
United States of America

Location	Scope
10012920 **Generac Power Systems, Inc.** **S45 W29290 Hwy. 59** **Waukesha, WI 53189** **United States of America**	Design and Support of Power Products and Solutions.
10012922 **Generac Power Systems, Inc.** **211 Murphy Dr.** **Eagle, WI 53119** **United States of America**	Manufacture and Distribution of Power Products and Solutions.
10012923 **Generac Power Systems, Inc.** **757 N. Newcomb St.** **Whitewater, WI 53190** **United States of America**	Manufacture and Distribution of Power Products and Solutions.
10012924 **Generac Power Systems, Inc.** **900 N. Parkway** **Jefferson, WI 53549** **United States of America**	Manufacture of Power Products and Solutions.
10013528 **Generac Power Systems** **3815 Oregon St.** **Oshkosh, WI 54902** **United States of America**	Manufacture and Distribution of Power Products.
10014175 **Generac Power Systems, Inc.** **351 Collins Road** **Jefferson, WI 53549** **United States of America**	Parts and Components Receiving, Warehousing, Return and Reconditioning of Product, and Distribution to Generac Locations.
10017103 **Generac Mobile** **215 Power Drive** **Berlin, WI 54923** **United States of America**	Manufacture and Distribution of Power Products.

This annex (edition: 2024-06-06) is only valid in connection with the above-mentioned certificate.

Annex to certificate
Registration No. 10012920 QM15

Generac Power Systems, Inc.

S45 W29290 Hwy. 59
Waukesha, WI 53189
United States of America

Remote Location	Scope
10017439 **Generac Mobile** **745 E. Knopf St.** **Berlin, WI 54923** **United States of America**	The remote location at Belin, WI performs the following primary functions: Parts and Components Receiving, Warehousing, and Shipping.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2025 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: **FPT Industrial S.p.A.**
(U.S. Manufacturer or Importer)

Certificate Number: SFPXL06.7DGB-005

Effective Date: 07/22/2024

Expiration Date: 12/31/2025

Byron J. Bunker, Division Director
Compliance Division

Issue Date: 07/22/2024

Revision Date: N/A

Model Year: 2025
Manufacturer Type: Original Engine Manufacturer
Engine Family: SFPXL06.7DGB

Mobile/Stationary Indicator: Stationary
Emissions Power Category: 130<=kW<225
Fuel Type: Diesel
After Treatment Devices: No After Treatment Devices Installed
Non-after Treatment Devices: No Non-After Treatment Devices Installed

Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Part 60, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 60.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

The actual engine power may lie outside the limits of the Emissions Power Category shown above. See the certificate application for details.

GENERAC®

S.O.: 4932993 20
Type: SD60
Engine: D4.5F.2

Owner's Manual

For

Stationary Industrial Generators

Gaseous or Diesel

Only qualified service personnel may install, operate, and maintain this equipment.

ISO000182a

This product is not intended to be used in a critical life support application.

ISO000209b

SAVE THIS MANUAL FOR FUTURE REFERENCE

Use this page to record important information about this generator.

Gen Model:	
Model:	
Serial:	
Alternate No:	
Production Date:	
Country of Origin:	
KW / KVA:	
Volts:	
Amps:	
Hz:	
Phase:	
Controller P/N:	

Record the information found on the unit data label on this page. See ***Safety Messages*** for the location of the unit data label. The unit has a label plate affixed to the inside partition, to the left of the control panel console. Always supply the complete model and serial numbers of the unit when contacting an Independent Authorized Service Dealer (IASD) about parts and service.

Operation and Maintenance:
Correct maintenance and care of the unit ensures a minimum number of problems, and keeps operating expenses at a minimum. It is the operator's responsibility to perform all safety inspections, to verify all maintenance for safe operation is performed promptly, and to have the equipment inspected periodically by an IASD. Normal maintenance, service, and replacement of parts are the responsibility of the owner/operator and are not considered defects in materials or workmanship within the terms of the warranty. Individual operating habits and usage may contribute to the need for additional maintenance or service.

When the generator requires servicing or repairs, Generac recommends contacting an IASD for assistance.

Authorized service technicians are factory-trained and are capable of handling all service needs. To locate the nearest IASD, please visit the dealer locator at: ***www.generac.com/Dealer-Locator***.

NOTE: For stationary, non-emergency use in the United States, consult applicable state/district regulations and permits.

NOTE: For equipment used outside the United States, consult applicable country/region regulations and permits.

⚠WARNING

Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

- Always start and operate the engine in a well-ventilated area.
- If in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system.
- Do not idle the engine except as necessary.

For more information go to www.P65Warnings.ca.gov/diesel. (000394)

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Section 1: Introduction and Safety

Introduction

Thank you for purchasing a Generac Power Systems, Inc. product. This unit has been designed to provide high performance, efficient operation and years of use when maintained properly.

The information in this manual is accurate based on products produced at the time of publication. The manufacturer reserves the right to make technical updates, corrections, and product revisions at any time without notice.

Read This Manual Thoroughly

Read instruction manual. Read and understand manual completely before using this equipment.

(ISO000100)

If any section of this manual is not understood, contact the nearest Independent Authorized Service Dealer (IASD) or Generac Customer Service at 1-888-436-3722 (1-888-GENERAC), or visit ***www. generac. com*** for starting, operating, and servicing procedures. The owner is responsible for proper maintenance and safe use of the unit.

SAVE THESE INSTRUCTIONS for future reference. This manual contains important instructions for the generator that should be followed during installation, operation and maintenance of the generator and batteries. Always supply this manual to any individual that will use this machine.

Installation, Operation and Maintenance

This generator set must be installed by an IASD or other competent, qualified contractor. Initial startup must be performed and documented by an IASD. An IASD can also provide the necessary training for authorized operators. It is the operator's responsibility to perform all safety inspections, to verify all maintenance for safe operation is performed promptly, and to have the equipment inspected periodically by an IASD.

Access to the generator shall be through the use of a special tool, or lock and key, or other means of security and shall be controlled by the authority responsible for the location.

Verify the environment does not contain combustible materials such as gases or dust.

Normal maintenance service and replacement of parts are the responsibility of the owner and, as such, are not considered defects in materials or workmanship within the terms of the warranty. Individual operating habits and usage contribute to the need for maintenance service.

Correct maintenance and care of the generator will ensure a minimum number of problems and keep operating expenses at a minimum. See an IASD for service aids and accessories.

Safety Messages

The manufacturer cannot anticipate every possible circumstance that might involve a hazard. The alerts in this manual, and on tags and decals affixed to the unit, are not all-inclusive. If using a procedure, work method, or operating technique the manufacturer does not specifically recommend, verify it is safe for others and does not render the equipment unsafe.

Throughout this publication and on tags and decals affixed to the unit, three types of safety messages are used to alert personnel to special instructions about a particular operation which may be hazardous if performed incorrectly or carelessly. Observe them carefully. Their definitions are as follows:

	HAZARD WARNING Yellow triangle with black border and black symbol; indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	MANDATORY ACTION Blue circle with white symbol; indicates an action required to safeguard personal health and / or avoid causing a hazardous situation which could result in death or serious injury.
	PROHIBITION Red ring with diagonal bar and black symbol; indicates a prohibited action. Performing the prohibited action may cause a hazardous situation which could result in death or serious injury.
—	**NOTE** Notes provide additional information important to a procedure or component.

These safety messages cannot eliminate the hazards they indicate. Observing safety precautions and strict compliance with the special instructions while performing the action or service are essential to preventing accidents.

How to Obtain Service

Use this page to record important information about the generator set. This label is typically located on the side of the control panel.

Each generator set has a data label containing important information about the unit.

Always supply complete model number and serial number of the unit as given on the data label when contacting an IASD about parts or service. For quick and easy reference, copy the information printed on the data label located on the generator onto the sample label printed here. See ***Figure 1-1***.

GENERATOR UNIT

GEN MODEL:
MODEL:
SERIAL:
ALTERNATE NO:
PROD DATE:
COUNTRY OF ORIGIN:

GENERATOR DATA

KW KVA HZ PF

UPSIZE ALT KW KVA

VOLT / AMP

ENG RPM ALT RPM

X'D X"D

PHASE

UNBALANCED LOAD CAPACITY

ROTOR STATOR CLASS

WINDINGS @ AMBIENT TEMP

MANUF. LOC

003564

Figure 1-1. Data Label (Sample)

General Hazards

Installation must always comply with applicable codes, standards, laws, and regulations.

(ISO000190)

Automatic start-up. Disconnect mains power and render the equipment inoperable before attempting repairs or maintenance.

(ISO000191)

Disconnect the negative battery cable, then the positive battery cable, when working on unit.

(ISO000130)

Only qualified service personnel may install, operate, and maintain this equipment.

(ISO000182)

Fuel lines are pressurized. Servicing the fuel lines may release high pressure fuel and could result in death or serious injury.

(ISO000501)

Do not wear jewelry when starting or operating this product.

(ISO000115)

Keep clothing, hair, and appendages away from moving parts.

(ISO000111)

Do not alter construction of, installation, or block ventilation for generator set.

(ISO000146)

Do not operate or service this machine if not fully alert.

(ISO000215)

Do not stand on top of generator set or use generator set as a step.

(ISO000216)

Always set the safety disconnect switch to MANUAL before working on equipment.

(ISO000194)

Electricity present. Potentially lethal voltages are generated by this equipment. Render the equipment safe before attempting repairs or maintenance.

(ISO000187)

Eye goggles are required to be worn when using this machine. Failure to wear eye goggles could result in permanent vision loss.

(ISO000101)

Pinch point. Keep hands clear of these areas when installing the front panel or closing the roof.

(ISO000526)

This product is not intended to be used in a critical life support application.

(ISO000209)

Wear ear protection.

(ISO000107)

In the design and construction, all edges or cutting profiles have been eliminated. Any burring due to adjustment and assembly operations has also been eliminated during the assembly phases.

The use of gloves shall be utilized when handling parts which may have edges or angles.

Exhaust Hazards

Asphyxiating atmosphere.Carbon monoxide, a colorless odorless poisonous gas, is emitted in engine exhaust while equipment is running. Avoid inhalation of exhaust gases.

(ISO000103)

Do not alter construction of, installation, or block ventilation for generator set.

(ISO000146)

Always use a battery operated carbon monoxide alarm indoors and installed according to the manufacturer's instructions.

(ISO000178)

Electrical Hazards

Electricity Present. Potentially lethal voltages are generated by this equipment. Do not contact bare wires, terminals, and connections while generator set is running.

(ISO000144)

Installation must comply with all national and local electrical building codes.

(ISO000218)

Use only approved switchgear to isolate generator from the normal power source.

(ISO000237)

Verify electrical system is properly grounded before applying power.

(ISO000152)

Do not wear jewelry when starting or operating this product.

(ISO000115)

Avoid water contact with a power source.

(ISO000104)

Asphyxiating Atmosphere. Carbon monoxide is emitted in engine exhaust while equipment is running. Do not operate unit without a properly functioning exhaust system.

(ISO000340)

In the event of an electrical accident, immediately shut power OFF. Use non-conductive implements to free victim from live conductor. Apply first aid and get medical help.

(ISO000145)

Electricity Present. Potentially lethal voltages are generated by this equipment. Do not contact bare wires, terminals, and connections while generator set is running.

(ISO000144)

Only a trained and licensed electrician should perform wiring and connections to unit.

(ISO000155)

Installation must comply with all national and local electrical building codes.

(ISO000218)

Refer to local codes and standards for safety equipment required when working with a live electrical system.

(ISO000257)

Lifting Hazards

Electricity present. Potentially lethal voltages are generated by this equipment. Render the equipment safe before attempting repairs or maintenance.

(ISO000187)

Properly connect lifting cables, chains, and straps.

(ISO000346)

Do not use lifting hook if there are signs of damage or corrosion. Doing so could result in death, serious injury, or property damage.

(ISO000349)

Do not use lifting hook other than as directed.

(ISO000350)

Comply with regulations the local agency for workplace health and safety has established.

(ISO000538)

Lift point. Install lifting attachments to this location and only locations identified as such. Do not connect lifting device directly to the lift point.

(ISO000532)

Only qualified service personnel may install, operate, and maintain this equipment.

(ISO000182)

Fire Hazards

No smoking near equipment. Flammable and explosive gases are present inside this equipment.

(ISO000528)

No open flames near equipment. Flammable and explosive gases are present inside this equipment.

(ISO000529)

Fuel and vapors are extremely flammable. Do not operate indoors. Doing so could result in death, serious injury, or property or equipment damage.

(ISO000281)

Do not alter construction of, installation, or block ventilation for generator set.

(ISO000146)

Installation must comply with all national and local electrical building codes.

(ISO000218)

Use only fully-charged fire extinguishers rated “ABC” by the NFPA. Discharged or improperly rated fire extinguishers will not extinguish electrical fires in automatic standby generators.

(ISO000219)

Unit must be positioned in a manner that prevents combustible material accumulation underneath.

(ISO000147)

Hot surface. Keep equipment away from combustible materials during operation. Do not touch hot surfaces when operating equipment. After equipment shutdown, allow sufficient time for surfaces to cool prior to contact.

(ISO000108)

Do not obstruct cooling and ventilating airflow around the generator set.

(ISO000217)

Comply with regulations the Occupational Safety and Health Administration (OSHA) has established, or with equivalent standards. Also, verify that the unit is applied, used, and maintained in accordance with the manufacturer's instructions and recommendations. Do nothing that might alter safe application/usage and render the unit in noncompliance with the aforementioned codes, standards, laws, and regulations.

Explosion Hazards

No open flames near equipment. Flammable and explosive gases are present inside this equipment.

(ISO000529)

Connection of fuel source must be completed by a qualified professional technician or contractor.

(ISO000151)

Fuel and vapors are extremely flammable and explosive. No leakage of fuel is permitted.

(ISO000192)

No smoking near equipment. Flammable and explosive gases are present inside this equipment.

(ISO000528)

Hot surface. Keep equipment away from combustible materials during operation. Do not touch hot surfaces when operating equipment. After equipment shutdown, allow sufficient time for surfaces to cool prior to contact.

(ISO000108)

Battery Hazards

Do not wear jewelry while working on this equipment. Doing so will result in death or serious injury.

(ISO000188)

Do not dispose of batteries in a fire. Batteries are explosive. Electrolyte solution can cause burns and blindness. If electrolyte contacts skin or eyes, flush with water and seek immediate medical attention.

(ISO000162)

Batteries emit explosive gases while charging. Keep fire and spark away. Wear protective gear when working with batteries.

(ISO000137)

Disconnect the negative battery cable, then the positive battery cable, when working on unit.

(ISO000130)

Disconnect battery ground terminal before working on battery or battery wires.

(ISO000164)

Batteries contain sulfuric acid and can cause severe chemical burns. Wear protective gear when working with batteries.

(ISO000138)

Do not open or mutilate batteries. Released electrolyte solution has been known to be harmful to the skin and eyes and to be toxic. If electrolyte contacts skin or eyes, flush with water and seek immediate medical attention.

(ISO000163)

Always recycle batteries at an official recycling center in accordance with all local laws and regulations.

(ISO000228)

No smoking near equipment. Flammable and explosive gases are present inside this equipment.

(ISO000528)

No open flames near equipment. Flammable and explosive gases are present inside this equipment.

(ISO000529)

Always recycle batteries in accordance with local laws and regulations. Contact your local solid waste collection site or recycling facility to obtain information on local recycling processes. For more information on battery recycling, visit the Battery Council International website at: ***http://batterycouncil.org***.

Standards Index

The generator owner must strictly comply with all applicable national, state, or local laws, codes, and regulations pertaining to the installation of enginegenerator power systems. Always use the current acceptable version or edition of the applicable code or standard which applies to the local jurisdiction. In the absence of pertinent local laws and standards, the following published booklets may be used as a guide:

National Fire Protection Association (NFPA) 70: The National Electric Code (NEC)*

1. NFPA10: Standard for Portable Fire Extinguishers*
2. NFPA 30: Flammable and Combustible Liquids Code*
3. NFPA 37: Standard for Stationary Combustion Engines and Gas Turbines*
4. NFPA 54: National Fuel Gas Code*
5. NFPA 58: Standard for Storage and Handling of Liquefied Petroleum Gases*
6. NFPA 68: Standard on Explosion Protection by Deflagration Venting*
7. NFPA 70E: Standard for Electrical Safety in the Workplace*
8. NFPA 99: Health Care Facilities Code*
9. NFPA 101: Life Safety Code*
10. NFPA 110: Standard for non-emergency and Standby Power Systems*
11. NFPA 211: Standard for Chimneys, Fireplaces, Vents, and Solid Fuel Burning Appliances*
12. NFPA 220: Standard on Types of Building Construction*
13. NFPA 5000: Building Code* 14. International Building Code**
14. Agricultural Wiring Handbook***
15. ASAE EP-364.2 Installation and Maintenance of Farm Standby Electric Power****

This list is not all inclusive. Check with the Authority Having Local Jurisdiction (AHJ) for any local codes or standards which may be applicable to the jurisdiction where the generator is installed. The above listed standards are available from the following Internet sources:

* ***www.nfpa.org***

** ***www.iccsafe.org***

*** ***www.rerc.org*** Rural Electricity Resource Council; P. O. Box 309; Wilmington, OH 45177-0309

**** ***www.asabe.org*** American Society of Agricultural & Biological Engineers; 2950 Niles Road; St. Joseph, MI 49085

Section 2: General Information

Unit Identification

Data Label

Each generator set has a data label containing important information about the generator. The data label lists unit serial number, rated voltage, amps, wattage capacity, etc.

NOTE: The figure below is a generic representation only. See data label(s) affixed to unit for actual information on a particular model.

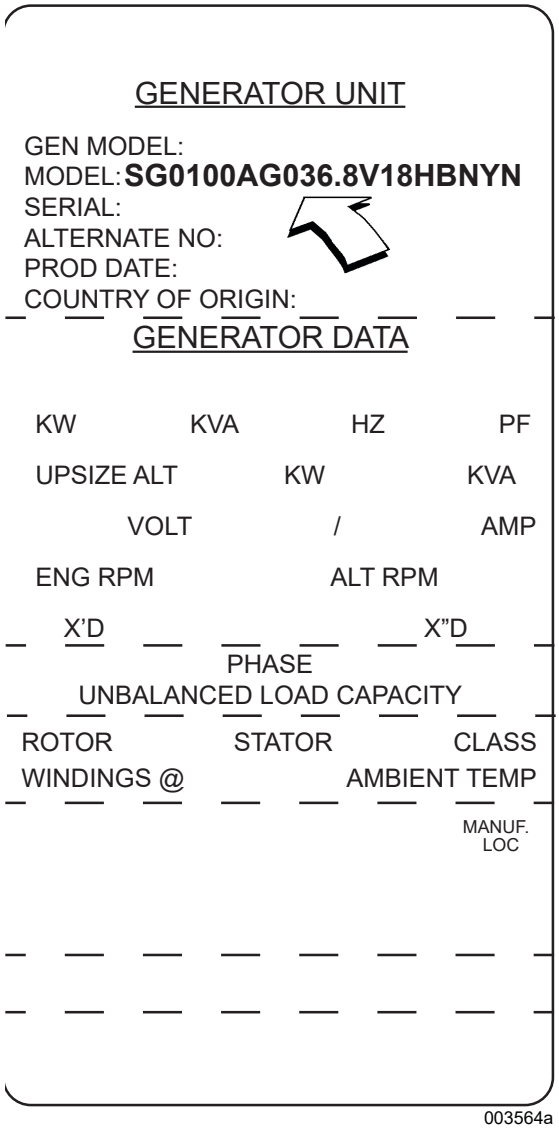
Model Identification Code

The model identification code gives important information about the generator set. For example, if the code is:

SG 0100 A G03 6.8 V 18 H B N Y N

then the generator set would have the attributes shown in bold below:

S	Standby	
	M	Modular
	P	Prime
	W	Prime Modular (MPS)
	C	Continuous
	Z	Protector Series
G	Gaseous engine	
	D	Diesel engine
	B	Bi-Fuel
0100	kW rating (0100 = 100kW)	
A	Voltage code (see ***Voltage Code***)	
G03	Engine designation (for internal use)	
6.8	Engine size (6.8 = 6.8L, 14.2 = 14.2L)	
V	Fuel type (see ***Fuel Type***)	
18	Engine RPM (see ***Engine RPM***)	
H	Control Panel (see ***Controller Type***)	
B	Brushless excitation	
	P	Permanent magnet (external) excitation
	D	Direct excitation
	A	AREP
K	Compact L2 sound attenuated	
Y	Exhaust muffler mounted	



Sample

	N	Exhaust muffler not provided	
	L	Exhaust muffler shipped loose with unit	
N	Emission designation (for internal use)		

Voltage Code

Voltages	Code	Description
60 Hz	**A**	120/240 VAC, single-phase, three-lead
	D	120/240 VAC, single- or three-phase, 12-lead (Full capacity single- or three-phase; cannot be reconnected for 277/480 VAC)
	G	120/208 VAC, three-phase, 12-lead
	H	231/400 VAC, three-phase, 12-lead (Adjustable from 380 VAC to 416 VAC)
	J	120/240AC, three-phase, three-lead VAC, three-phase, 12-lead
	K	277/480 VAC, three-phase, 12-lead
	L	346/600 V
50 Hz	**M**	110/220 VAC, single-phase, three-lead (Adjustable to 120/240 VAC)
	N	115/200 VAC, single-phase, 12-lead
	P	100/200 VAC, three-phase, 12-lead (Adjustable to 240 VAC)
	R	231/400 VAC, three-phase, 12-lead (Adjustable from 380 VAC to 416 VAC)
	S	480 VAC, three-phase, three-lead

Fuel Type

Code	Description
B	Bi-Fuel Diesel and Natural Gas
D	Diesel
G	Gasoline
N**	Natural Gas (NG) (Normal)
S*	Natural Gas (Low Pressure)
V	Liquid Propane Vapor Withdraw (LPV)
L	Liquid Propane Withdraw (LPL)
P**	Dual Fuel NG (Normal) / LPL Secondary
R**	Dual Fuel NG (Normal) / LPV Secondary
Q*	Dual Fuel NG (Low Pressure) / LPL Secondary
T*	Dual Fuel NG (Low Pressure) / LPV Secondary

*Low Pressure Range = 7–11 in H_2O (1.7–2.7 kPa)

**Normal Pressure Range = 11–14 in H_2O (2.7–3.5 kPa)

Engine RPM

Example	Description
15	1,500 RPM
18	1,800 RPM
23	2,300 RPM
30	3,000 RPM
36	3,600 RPM

NOTE: Engines operating above 1,500 or 1,800 RPM use a gearbox to reduce the engine RPM to the desired alternator rotor RPM of 1,500 RPM (50 Hz operation) or 1,800 RPM (60 Hz operation).

Controller Type

Code	Description
A	ComAp
B	Deep Sea (DSE) G8610
C	Deep Sea (DSE) G8601
D	Power Zone 410
E	Power Zone 410 (Turbo)
G	G-Panel
H	H-Panel
P	Power Zone Pro Sync
S	Power Zone Pro
T	Power Zone Pro (Turbo)

Emissions - Generac Certified Engines Only

The United States Environmental Protection Agency (U. S. EPA) requires this engine to comply with exhaust

emissions standards. Locate the Emission Control Information decal on the engine to review certification details. The engine in this generator is certified to operate on liquid propane or natural gas. The emissions control system for this engine is identified on the Emission Control Information decal and include some of the following: EM (Engine Modification), ECM (Engine Control Module), HO2S (Heated Oxygen Sensor), TWC (Three-Way Catalytic Converter). See the included emissions warranty for emissions warranty information. Follow the maintenance specification in this manual to ensure the engine complies with applicable emissions standards for the duration of the product's life.

Equipment Description

This equipment is a revolving field, alternating current type generator set. The generator set is designed to supply electrical power for the operation of compatible electrical loads when utility power supply is not available or has dropped to an unacceptable level.

The generator's revolving field is directly connected to and driven by an engine by means of flexible discs or a gearbox. Generators with a 4-pole rotor are driven at a rated speed of 1,800 rpm to supply a frequency of 60 Hertz. 4-Pole rotors operating at 50 Hertz are driven at 1,500 rpm.

See data label affixed to the unit for rated AC voltage, wattage, amperage, number of phases, etc. See ***Model Identification Code*** for an explanation of how to identify the unit's features.

Standard Generator Features

The generator incorporates the following features:

- Rotor insulation system is Class "H" rated, and the stator insulation is Class "H" rated as defined by NEMA MG1-22.4 and NEMA MG1-1.65.
- Generator is self-ventilated and drip-proof constructed.
- Voltage waveform deviation, total harmonic content of the AC waveform and "telephone influence factor" have been evaluated and are acceptable according to NEMA MG1-22.
- All prototype tested models have passed three-phase symmetrical short circuit test to ensure system protection and reliability.

Generator and Load Compatibility

The generator must be fully compatible with the rated voltage, phase, and frequency of the connected electrical loads. The generator, connected electrical devices, or both, can be damaged if voltage, phase, and frequency are not compatible.

NOTE: This manual assumes the generator set has been correctly selected, installed, and interconnected by a competent, qualified electrician or installation contractor. Once installation is complete, do nothing which may result in non-compatibility between the generator and connected electrical loads.

Single-Phase "A" or "M" Code Units

The following statement applies to single-phase units with an "A" or "M" code alternator:

The generator is suitable for supplying typical residential loads, such as induction motors (sump pumps, refrigerators, air conditioners, furnaces, etc.), electronic components (TV, computer, monitor, etc.), lighting loads, and microwaves.

Three-Phase Load Imbalance Limits

For three-phase units, the maximum load imbalance between phases can not exceed 25% of rated load (current).

Ambient Condition Derate

The maximum ambient temperature for the generator is indicated on the unit data label. Derate values for ambient temperature in excess of that indicated on the data label, as well as altitude, may apply depending on the engine and kW rating of the unit. Contact an IASD for any derate values applicable to this specific generator at its installed location.

Engine and Generator Protective Devices

The generator set may be required to operate for long periods of time without an operator to monitor conditions such as coolant temperature, oil pressure, voltage, frequency, etc. For this reason, the generator set has numerous sensors to provide the control panel with the information it needs to protect both the engine and generator. The control panel is designed to shut down the engine if potentially damaging conditions occur. These conditions can include low oil pressure, high coolant temperature, low coolant level, engine overspeed, over or under voltage, over or under frequency, etc. These settings are configured at the factory and can be adjusted by an IASD if required.

NOTE: Engine and generator protective devices are only mentioned here for the owner's general information. For details, consult the applicable control panel technical manual. The list below is not all inclusive.

Coolant Temperature Sensor

The control panel automatically shuts down the engine if the engine coolant temperature rises above a safe level.

Low Coolant Level Sensor

Should the engine coolant level drop below the level of the low coolant temperature sensor, it is possible for the engine to overheat without automatic shutdown. To prevent such overheating, the engine has a low coolant level sensor. If the level of engine coolant drops below the level of the low coolant level sensor, the control panel will shut the engine down.

Oil Pressure Sensor

This sensor monitors engine oil pressure. If oil pressure drops below a safe level, the control system automatically shuts down the engine.

Oil Temperature Sensor (If Equipped)

The control panel automatically shuts down the engine if the oil temperature rises above a safe level.

Overspeed Shutdown

A speed circuit controls engine cranking, startup, operation, and shutdown. Engine speed signals are delivered to the control panel whenever the unit is running. Should the engine overspeed above a safe, preset value, the control panel initiates an automatic engine shutdown.

Overcrank Shutdown

After a pre-specified duration of cranking, this function ends the cranking if the engine has failed to start. The default settings are:

- The unit will attempt to start (crank) three times.
- Each crank cycle lasts either 10 or 15 seconds, followed by a five second rest (to cool the starter).
- After three starting attempts the unit will shutdown.

RPM Sensor Loss Shutdown

If the speed signal to the control panel is lost, engine shutdown will occur.

Low Fuel Pressure Warning

- Some gaseous units are equipped with a low fuel pressure warning switch which will trigger a Warning alarm if the fuel pressure drops below a minimum setting.
- Diesel units with fuel tanks are equipped with High and Low fuel level warning alarms, as well as a low fuel level shutdown alarm.

DC Fuses

Located inside the front panel, the fuses protect the control panel wiring and components from damaging overload. For fuse location and identification, see the corresponding control panel manual.

Fuel System

This generator set is equipped with one of the following fuel systems:

- Diesel fuel system
- Natural Gas (NG) fuel system
- Bi-Fuel Diesel and Natural Gas
- LP gas vapor withdrawal fuel system (LPV)
- LP liquid withdrawal fuel system (LPL)
- Dual fuel system: Natural Gas (primary fuel source), LP gas vapor (secondary fuel source)
- Dual fuel system: Natural Gas (primary fuel source, LP liquid (secondary fuel source)

Diesel Fuel System

The manufacturer recommends the use of No. 2 diesel fuel when temperatures are above freezing, and No. 1 diesel fuel when temperatures drop below freezing. Diesel fuel must meet the following requirements:

Beginning October 1, 2010, owners and operators that use diesel fuel must use diesel fuel that meets:

- Sulfur content of 15 parts per million (ppm) maximum.
- Cetane index or aromatic content as follows: A minimum cetane index of 40, or a maximum aromatic content of 35 volume percent.

NG Fuel System

NG is supplied by a local utility in its vapor state through in ground piping.

Bi-fuel Fuel System

Combines diesel fuel and natural gas fuel systems.

LP Fuel System

LP is supplied as a liquid in pressurized tanks. It is usually made up of propane, butane, or a mixture of both gases.

LP Vapor Withdrawal Fuel System

Utilizes the vapors formed above the liquid fuel in the supply tank. Approximately 10– 20 percent of the tank capacity is needed for fuel expansion from the liquid to the vapor state.

LP Liquid Withdrawal Fuel System

LP in a liquid withdrawal system must be converted to its gaseous state before it is introduced into the engine carburetor. A vaporizer converter is used to accomplish

this. In such a converter, heated engine coolant is ported through the converter to provide the necessary heat for conversion of the fuel from a liquid to a gaseous state.

NOTE: Units with LP gas liquid withdrawal systems incorporate a block heater as standard equipment. The heater is powered by the utility power source during nonoperating periods to provide heated coolant to aid in the fuel vaporization process.

Dual Fuel: NG/LP Fuel System

Some applications consist of a dual-fuel system. This type of fuel system allows the generator to run on either natural gas (primary) or LP vapor or liquid (secondary). In the event that the primary source (utility supplied) becomes unavailable, the unit automatically switches to the secondary source. It can do so while in operation or while not operating.

Specifications

Generator

See data plate on the generator for rated watts, amperes, frequency, voltage, phase, and other important information.

Engine Oil Recommendations

The engine has been filled with factory engine oil of a grade recommended by the engine supplier. See the applicable engine service manual for engine oil recommendations.

The manufacturer recommends an initial oil and filter change after the first 50 hours (or first three months) of service operation. Use a high quality detergent oil with an appropriate classification and viscosity for the engine type and ambient temperature conditions. Contact your IASD for oil recommendations. Synthetic oils meeting the same service category and viscosity requirements for the application may be used.

- Recommended API Service Category for gaseous engines: SJ, SL, SM, or SN.
- Recommended API Service Category for diesel engines: CH-4, CI-4, or CJ-4

Coolant

Do not use mouth to siphon coolant. Doing so could result in death or serious injury.

(ISO000149)

Do not open coolant system until engine has completely cooled. Doing so could result in serious injury.

(ISO000154)

Do not use any chromate base rust inhibitor with propylene glycol base antifreeze, boosters, or additives.

(ISO000165)

Use only deionized or distilled water and Ethylene glycol antifreeze (Propylene glycol can also be used but do not mix with Ethylene glycol). When adding coolant, always add the recommended 50-50 mixture. Follow engine servicing manual specifications for coolant type.

Gearbox Lubrication (If Equipped)

Use only SAE 90 gear oil with the correct proportion of Lucas Heavy Duty Oil Stabilizer. See ***Maintenance Schedule*** section for more information.

Starting Aids (if Equipped)

One or more of the following starting aids may be provided to ensure quicker, easier starts under varying climactic conditions.

- Engine coolant heater
- Engine oil heater
- Battery warmer
- Glow plugs

These aids are powered by a normal (utility) power source during non-operating periods.

Engine Coolant Heater

Heats the engine coolant when the unit is not operating. This action keeps the engine warm even in cold weather, helping to ensure quicker starts. Powered by a circuit normally fed by the utility power supply.

Engine Oil Sump Heater

Keeps the oil in the sump heated to allow easier starting and faster engine warm-up. Powered by a circuit normally fed by the utility power supply.

Battery Warmer

Keeps the battery warm so it can provide full cranking current when starting in cold conditions. Powered by a circuit normally fed by the utility power supply.

Glow Plugs / Intake Air Heater

Internally heat the cylinders of a diesel engine. This assists in achieving a chamber temperature high enough for combustion. Powered by a circuit normally fed by battery power.

Section 3: Operation

Generator Control and Operation

Only qualified service personnel may install, operate, and maintain this equipment.

(ISO000182)

Operation of this generator set should only be performed by an authorized operator, which is, someone who has been properly trained by an IASD. Contact a local IASD for assistance in training Authorized Operators.

The following instructions assume the generator has been correctly installed, serviced, tested, adjusted, and otherwise prepared for use by a competent, qualified installation contractor and IASD. Carefully read the Safety Rules and any other safety information before attempting to operate this (and related) equipment.

Grounding the Generator

Do not connect ground wire to any pipe that carries a flammable or explosive substance. Doing so will result in death or serious injury.

(ISO000211)

Do not operate or service this machine if not fully alert.

(ISO000215)

See ***Figure 3-1***. Ground the generator set in accordance with all codes and regulatory requirements.

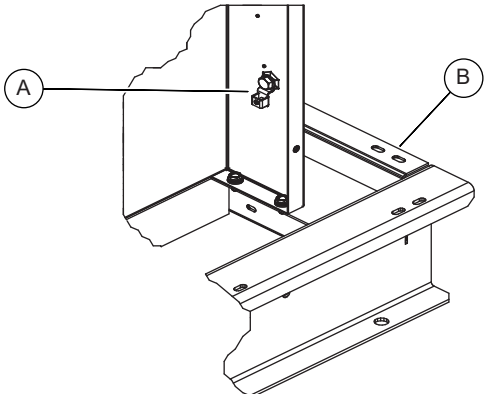


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Figure 3-1. Grounding Electrode Terminal (Typical)

A	Grounding Electrode Terminal
B	Base Frame

Generator AC Neutral Connections

Grounding is recommended only at one point in the system. Consult local building codes for correct neutral grounding requirements.

Initial Startup

The initial startup of the generator set must be performed and documented by an IASD.

Control Panel Interface

See ***Figure 3-2***, ***Figure 3-3***, ***Figure 3-4***, ***Figure 3-5***, ***Figure 3-6***, and ***Figure 3-7***. The Control Panel Interface mounted on the generator allows the operator to monitor, and if necessary, manually start the generator. See ***Table 3-1*** for callout definitions for the figures that follow.

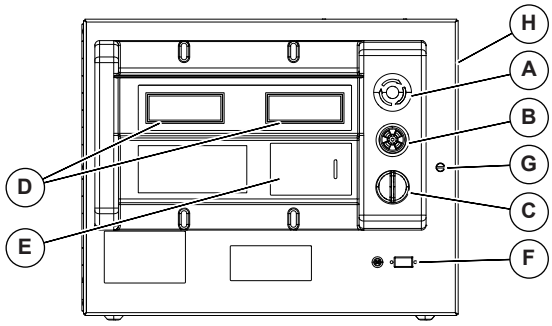

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Figure 3-2. H-Panel

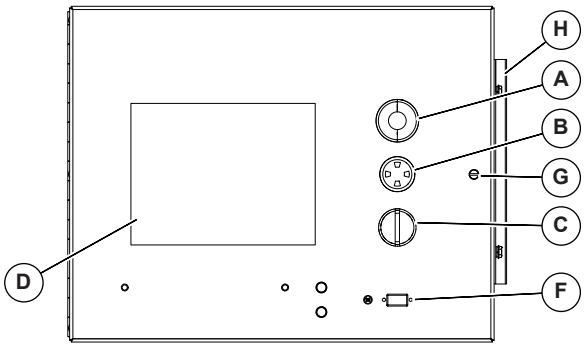

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Figure 3-3. G-Panel

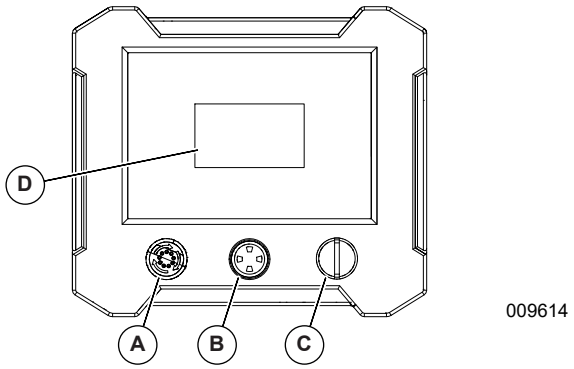


Figure 3-4. Power Zone® Pro

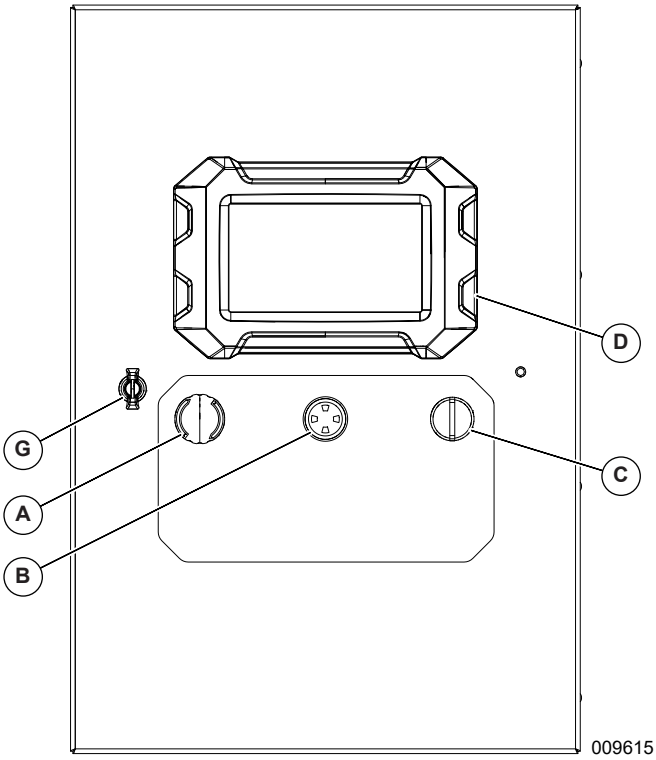


Figure 3-5. Power Zone Pro Sync

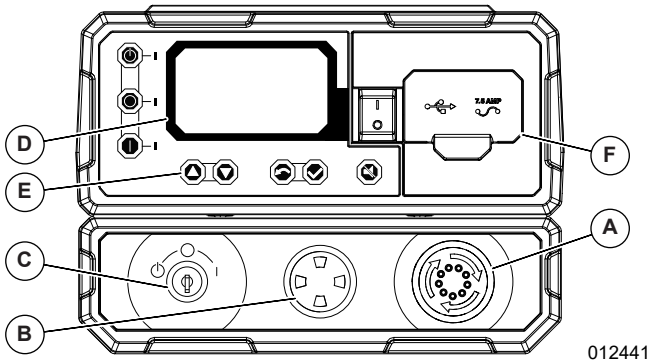


Figure 3-6. Power Zone 410

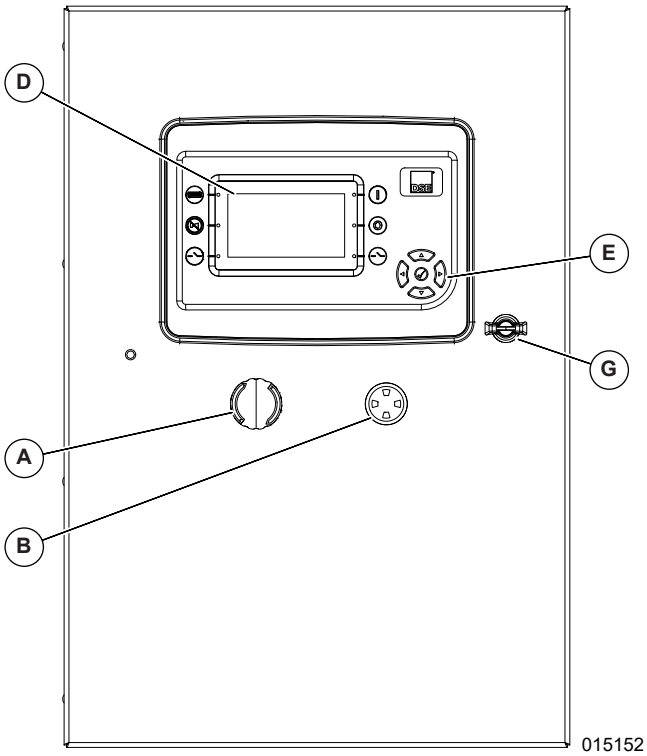


Figure 3-7. DSE G8601

Table 3-1. Control Panel and Interface Definitions

A	Emergency Stop Button
B	Common Alarm
C	Key Switch
D	Display Window
E	Arrow Key Pad
F	Communication Port
G	Panel Access
H	Battery Charger

NOTE: Refer to the accompanying control panel manual for more information.

Emergency Stop Button

Do not use the emergency stop switch to power down the unit under normal operating circumstances.

(ISO000246)

Pressing the Emergency Stop button while the unit is running will immediately shut the generator down. To restart the unit, the Emergency Stop Button must be manually reset, the alarm acknowledged, the Key Switch turned to the OFF position, and then turned to either the

AUTO or MAN position, depending on the desired mode of operation.

Common Alarm Horn

The Common Alarm and corresponding output are activated whenever a fault condition is set for Alarm and if the fault is Active. The Common Alarm will not activate on Warnings or DTC fault conditions. Pressing the ENTER button on the key pad will acknowledge the alarm and silence the horn. The manufacturer recommends that the local IASD be notified of any alarm condition in order for qualified service personnel to assess and correct the situation.

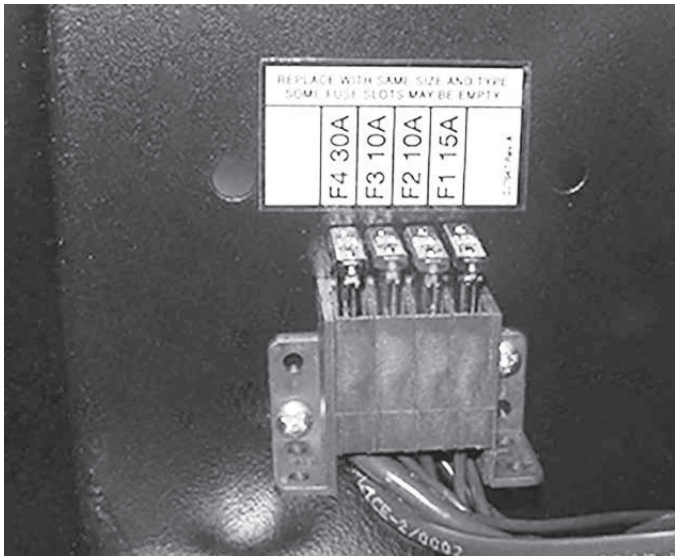
Key Switch (if Equipped)

The key switch positions are:

- **AUTO**: Generator automatically starts when a correctly connected automatic transfer switch senses a loss or reduction of available utility power.
- **OFF**: Immediately shuts down generator and prevents it from starting automatically.
- **MAN**: Immediately starts generator.

Fuse Block

The fuse block is located inside the control panel at the back lower left corner, and provides electrical protection for the DC power, wiring and other electrical components.



001066

Figure 3-8. Panel Fuse Block (Reference Only)

NOTE: Some units will NOT have a fuse in the F4 slot.

Additional Components

Generator Main Line Circuit Breaker (MLCB) (Generator Disconnect)

A generator MLCB (generator disconnect) is located in the high voltage customer connections panel, typically located to the right of the control panel. The generator MLCB (generator disconnect) serves as protection for the AC wiring and alternator, while also providing a means of disconnecting the generator.

Automatic Transfer Switch

Handle transfer switches carefully when installing. Never install a damaged transfer switch. Doing so could result in death or serious injury, equipment and property damage.

(ISO000195)

A typical automatic transfer switch monitors utility voltage and when that voltage falls outside of specific parameters, it will initiate the generator start command. As long as the generator control is in the AUTO position, it responds to the automatic transfer switch start command.

For information about any connected automatic transfer switch, consult the applicable transfer switch owner's manual.

Automatic Battery Charger

One of the following types of battery chargers may be provided:

- 2.5-amp
- 10-amp
- 20-amp

The 2.5-amp charger is 12 VDC only. The 10-amp charger is available either as a 12 VDC or 24 VDC. The 20-amp charger operates as both 12 VDC or 24 VDC. The appropriate battery charger is installed per the engine's battery system.

All chargers are fully automatic float types and are fully fuse protected (input and output). They have automatic current limiting to reduce risk of overcharging, and have automatic maintenance of charge voltage. Therefore, they can be connected to the batteries continuously.

The chargers require the connection of a charged battery in order to turn on. The battery provides boost voltage for the charger, so a completely dead battery will not allow the charger to operate. The boost required is approximately 9 to 11 volts for a 12 VDC system, and 18 to 22 volts for a 24 VDC system. Replace the battery if it is below the boost voltage.

Alarm Response Procedures

The generator is protected by factory set alarms and warnings. The alarms and warnings alert the owner of a fault condition that requires attention and action to keep the generator operating in an efficient and safe running order.

When any alarm is triggered, the common alarm horn sounds and the corresponding fault will be displayed.

NOTE: Not all faults can be corrected and cleared by the owner/operator. Some warnings, and most alarm conditions, must be safely cleared by a qualified dealer or trained technician.

Warnings

Warnings are the lowest level alarm, and are generated to alert the operator an operating condition has changed and may require action or inspection. Warnings clear once they are no longer active.

Non-Shutdown Alarms

Non-shutdown alarms are more urgent than warnings, and indicate a system parameter which is approaching or has exceeded a safe operating limit. Non-shutdown alarms require some form of action, such as inspection, close monitoring, etc. These types of alarms clear when they are no longer active and have been acknowledged.

Shutdown Alarms

Shutdown alarms protect the generator from damage and indicate a system fault which, if continued without immediate inspection or correction, would result in damage to the unit. Shutdown alarms are cleared only after key switch has been placed in OFF and they are no longer active.

Alarm Display Window

For information regarding alarm codes and troubleshooting procedures, see the applicable control panel manual.

General Fault Response Procedure

NOTE: See corresponding control panel manual for detailed alarm descriptions and specific procedures.

1. Use keypad or touch screen to navigate to the alarm display.
2. Carefully read each line of the alarm warning page to determine which fault condition is present. If there is more than one fault, the most recent is listed first.
3. Depending on the fault condition, toggle to the corresponding area.
4. Observe the information displayed for the affected area.
5. Determine corrective action necessary.
6. When the fault condition is cleared, the alarm display will turn off.

Operating the Unit with an Automatic Transfer Switch

If the generator has been installed along with an automatic transfer switch, the engine may be started and stopped automatically or manually.

NOTE: See applicable manual for any transfer switch being used and note the dangers during operation.

Normal operation is the generator in AUTOMATIC working with an automatic transfer switch. When the transfer switch senses a utility failure or loss it will provide a start command to the generator, the generator will automatically start and the transfer switch will transfer power to the load from utility to generator (emergency). It is important both the generator and any connected automatic transfer switch(es) be correctly connected and in AUTOMATIC mode for normal operation.

Operating Unit - Manual Transfer Switch

Do not manually transfer under load. Disconnect transfer switch from all power sources prior to manual transfer.

(ISO000132)

Only authorized personnel should access transfer switch interior. Transfer switch doors should be kept closed and locked.

(ISO000213)

If the generator was installed in conjunction with a transfer switch capable of manual operation only, or when an automatic transfer switch has failed and can only be transferred manually, the following procedure applies. A manually operated transfer switch is one which will not provide automatic startup.

Manual Engine Startup and Transfer

See applicable documentation for the control panel. For additional and specific information about any transfer switch connected to the generator, see applicable transfer switch manual as well.

Proceed as follows to manually transfer load from the utility source to the generator (emergency source):

1. With generator OFF, and the generator MLCB (generator disconnect) set to OFF (OPEN), turn OFF or disconnect utility power circuit to the transfer switch, using the means provided (such as the utility MLCB or other means of disconnect).

2. Manually set automatic transfer switch (ATS) to EMERGENCY (STANDBY/GENERATOR) with load circuits connected to the emergency (generator) power supply.
3. Set generator's MLCB (generator disconnect) to OFF (OPEN).
4. Start generator.
5. Allow engine to stabilize and warm up.
6. Verify all applicable instrument and gauge readings. When all readings are correct, set generator's MLCB (generator disconnect) to ON (CLOSED).

Load circuits are now powered by the stationary emergency generator.

Transfer Load and Shutdown

Proceed as follows to manually transfer load back to utility power source and shut down generator:

1. Set generator's MLCB (generator disconnect) to OFF (OPEN).
2. Verify utility power to the transfer switch is OFF (open the utility disconnect).
3. Manually set automatic transfer switch to UTILITY (NORMAL), i. e., load circuits connected to the utility.
4. Turn ON utility power supply to the transfer switch using the means provided (such as the utility MLCB).
5. Allow generator to run at no-load for five to ten minutes to stabilize internal temperatures.
6. Shut down generator.

Shutting Generator Down While Under Load

IMPORTANT NOTE: To turn generator OFF during utility outages to perform maintenance, or conserve fuel, follow these steps:
To turn generator OFF (while running in AUTO and ONLINE):

1. Turn main utility disconnect OFF.
2. Set generator MLCB (generator disconnect) to OFF (OPEN).
3. Allow generator to run for five minutes to cool down.
4. Turn generator OFF.

To turn generator back ON:

1. Put generator back into AUTO and allow to start and warm-up for a few minutes.
2. Set generator MLCB (generator disconnect) to ON (CLOSED).

   The system will now be operating in AUTOMATIC mode. The generator MLCB (generator disconnect) can be turned ON (CLOSED). To shut unit OFF, this complete process must be repeated.

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Section 4: Maintenance

Maintenance

Maintenance

Regular maintenance will improve performance and extend engine/equipment life. Generac Power Systems, Inc. recommends that all maintenance work be performed by an Independent Authorized Service Dealer (IASD). Regular maintenance, replacement, or repair of the emissions control devices and systems may be performed by any repair shop or person of the owner's choosing. To obtain emissions control warranty service free of charge, the work must be performed by an IASD. See the emissions warranty.

Periodic inspection, service, and maintenance of this unit is critical in ensuring its reliable operation. The following is the manufacturer's recommended maintenance schedule. The established intervals are the maximum required when the unit is used in typical standby service applications (approximately 250 hours per year). Maintenance items need to be performed more frequently if the unit is used in severe applications (such as long duration outages, very high or very low ambient conditions, or extremely dirty or dusty environments). Use calendar time or hours of operation, whichever occurs first, from the previous maintenance interval to determine the next required maintenance interval. Note some inspections are based only on hours of operation.

There may be times when the generator must operate continuously for long periods of time (for example, extended utility outages). During such extended operational periods some items will require more frequent checking (based on hours). Use the "Extended Run-Time Maintenance Inspections" recommendation for such periods of operation.

Follow all applicable safety and caution statements found in the unit operating manual or engine service/ maintenance manual before performing any maintenance checks or service.

NOTE: Only remove safety guards necessary to access service area. Do not remove guards where not required. After service, verify all guards are correctly installed and secured.

Service Maintenance Intervals

Extended Run-Time Maintenance Inspections: Daily inspections which must be performed when the unit is operated continuously for extended periods of time. These inspections and routine monthly inspections can be performed by an Authorized Operator.

NOTE: For units equipped with a gearbox, the gearbox oil should be inspected monthly or every 100 hours of operation.

- A **one-time** post installation, initial operation, service inspection of the generator set to verify it is ready to operate, transfer to, and carry load when required, and to identify any potential problem areas. *Performed ONLY ONCE following the first three months or first 50 hours of operation after installation and startup of the unit.*

The various service maintenance intervals are designated by interval numbers:

1. A frequent, periodic inspection of the generator set to verify it is ready to operate when required and to identify any potential problem areas. *Performed monthly, or every 24 hours (interrupted) of operation of the unit.*
2. An operational service inspection of the generator set to verify it is ready to operate and carry load when required, and to identify any potential problem areas. *Performed semi-annually (6 months) or every 125 hours of operation of the unit.*
3. A mid-level service inspection of the generator set to verify it is ready to operate and carry load when required, and to identify any potential problem areas. *Performed annually or every 250 hours of operation of the unit.*
4. A comprehensive service inspection of the generator set to verify it is correctly serviced and ready to operate and carry load when required, and to identify any potential problem areas. *Performed biannually (every 24 months or 500 hours).*

NOTE: Maintenance levels 2, 3, and 4 require the use of the applicable engine service manual and must be performed by a qualified service technician.

Maintenance Schedule

The following pages contain the maintenance schedule describing the inspections/tasks which need to be accomplished at each designated maintenance interval. Some maintenance level tasks are combined. For example, if the six month tasks are due, both the monthly and the six month task should be completed at the same time. Similarly, when the annual tasks are due, the monthly and semi-annual tasks should also be completed. There is space on the sheets for recording the date and signature of the person completing the task, as well as recording the engine hours and other pertinent information. At the bottom of each sheet, space is also provided to record any fluids added, parts replaced or corrective action taken. All of this recorded information

provides a detailed maintenance history of the unit. This maintenance history may be required for warranty validation purposes, and is a good idea to maintain throughout the lifetime of the unit.

The manufacturer recommends service procedures beyond the normal monthly checks be performed by an IASD.

Notes and Maintenance Item Explanations

Maintenance Item	Description
Oil and oil filter	Change oil and filter shortly after start up or commissioning of the unit. The recommendation is that this be done after the first 50 hours of operation or after the first three months of service. Perform oil and filter changes every 250 hours (or yearly) thereafter. If an oil analysis program is used (annually), the acceptable oil change interval can be extended to 500 hours or every two years, based on the results of the analysis.
Gearbox oil (if equipped)	Change gearbox oil every two years or 600 hours of operation. Check gearbox oil level monthly or every 100 hours of operation.
Coolant quality	Check coolant annually for proper thermal protection levels. Drain, flush, and refill the cooling system with fresh coolant every two years regardless of operating hours.
Flexible hoses	Change coolant, fuel (gaseous supply hoses from regulator to mixer), oil, charge air cooling, and block heater hoses, flexible joints, etc.) every two years regardless of operating hours.
Accessory drive belts	Replace accessory drive belts every two years regardless of operating hours. If necessary, check and replace automatic tensioner (if used).
Magnetic pickup (s) mounted on flywheel housing	Remove, clean, inspect, and reset magnetic pickups to the correct operational output voltage every two years.
Crank and/or cam pickup for ignition system	Visually inspect (outside) for cleanliness and tightness.
Fuel and fuel filters (if equipped)	Fuel filters should be replaced per engine manufacturer's recommendations, or as needed for correct engine operation. Primary fuel/water separator is equipped with a drain to drain any condensation that accumulates.
Diesel exhaust fluid (DEF) (if equipped)	DEF quality can be measured by using a refractometer. DEF must comply with ISO standard 22241-1 with an urea solution of 32.5%. DEF has a shelf life of up to 18 months, depending on storage conditions.

NOTE: Certain applications may require more frequent maintenance inspections and more frequent operation under load.

NOTE: This schedule does not reflect all of the possible requirements of an individual engine manufacturer service schedule, particularly if the unit is used in other than a standby power application.

NOTE: For more information about service schedules and support for your application, contact a local IASD.

Disabling a Generator for Maintenance

There are two conditions when maintenance checks may have to be performed on the unit:

1. When the unit is in standby mode (automatic) and NOT running. To disable the unit from starting in this condition, in order to perform maintenance checks or service, follow the steps in ***Disabling Generator from Starting***.
2. When the unit is running and providing power to the load. To shut down the unit safely, without damaging loads or the generator, follow the steps for shutting down a unit while in operation. See ***Shutting Down and Starting an Operating Generator***. Before shutting down an operating unit for maintenance, always warn personnel that power will be shut down temporarily, so equipment that might be damaged can be properly turned OFF or placed in standby.

Disabling Generator from Starting

To prevent injury, BEFORE performing any maintenance, proceed as follows to disable the generator set from starting and/or connecting to load:

1. Set control panel AUTO/OFF/MANUAL switch to OFF.
2. Remove control panel fuse (see wiring diagram).
3. Turn off power to the battery charger by removing battery charger ATC style fuse or opening the battery charger circuit breaker located in the load control panel.
4. Disconnect negative (-) battery cable.

NOTE: Battery charger must be turned off before disconnecting negative (-) battery cable to prevent an over-current condition from burning out sensitive control panel components and circuits.

NOTE: Following any maintenance, reverse these steps so unit is returned to standby setup for normal operation.

Shutting Down and Starting an Operating Generator

Proceed as follows if the unit is operating and required inspections must be performed:

1. Verify power to load can be interrupted (warn any equipment users that there will be a temporary power disruption). There may be other procedures which must be done before shutting a unit down, depending on application.
2. Set utility MLCB to OPEN.
3. Set generator MLCB (generator disconnect) to OPEN.
4. Allow unit to cool down (running at no-load) for approximately five minutes to prevent damage to critical engine components.
5. Set control panel AUTO/OFF/MANUAL switch to OFF. There may be safety tag-outs or lockouts required at this point, depending on application.
6. Perform necessary maintenance inspections or tasks (based on hourly requirements).
7. When all inspections have been completed and any discrepancies corrected, set the control panel AUTO/OFF/MANUAL switch to AUTO.
8. When generator is running, and all engine/generator parameters (voltage, frequency, coolant temp, oil pressure, etc.) have been verified as correct, set generator MLCB (generator disconnect) to CLOSED. The unit will accept and carry the load.
9. Visually inspect the generator set to verify it is operating correctly.
10. Set utility MLCB to CLOSED.

Maintenance Tasks

Visually Inspecting Unit

Visually inspect unit periodically. If problems are found contact an IASD. Look for the following:

- Any debris, trash, grass or weed growth, which would obstruct the flow of cooling air into and out of the unit ventilation louvers.
- Visually inspect hoses and hose connections for signs of leakage. This includes all coolant hoses, fuel hoses, exhaust system connections, intake system connections, etc. Also look at the engine block and gearbox (if equipped) for signs of fluid leakage.
- Visually inspect the engine accessory drive belts for evidence of obvious wear, fraying or deterioration, and obvious looseness. A “squealing” sound heard during starting and running could indicate a loose belt.

Checking Engine Fluids

The following checks can be performed by a trained Authorized Operator. Observe all safety precautions outlined in ***Safety Messages***.

Checking Engine Oil Level

Skin irritation. Avoid prolonged or repeated contact with used motor oil. Used motor oil has been shown to cause skin cancer in laboratory animals. Thoroughly wash exposed areas with soap and water. Rubber gloves are recommended.

(ISO000210)

An Authorized Operator should check the levels of engine oil and engine coolant monthly (or every 24 hours of operation). The oil level should be maintained between the FULL and ADD marks on the engine dipstick. Recommended fluids are listed in ***Engine Oil Recommendations***.

Proceed as follows to inspect the engine oil:

1. Locate the engine oil dipstick.
2. The most accurate oil level readings are measured when the engine is cold. If the engine was running, wait at least ten minutes before proceeding.
3. Remove oil dipstick and wipe it dry with a clean, lint free cloth.
4. Slowly insert the clean oil dipstick into the oil dipstick tube. Visually verify oil dipstick is fully seated in the oil dipstick tube. A visual inspection is required because some oil dipsticks require more effort than others to fully seat.
5. Remove the dipstick after 10 seconds.
6. Inspect oil level on both sides of the oil dipstick. The lower of the two readings will be the correct oil level measurement.
7. Add oil (if necessary) to adjust the level. After adding or changing the oil, the engine should run for one minute before checking the oil level. Remember to wait ten minutes to allow the engine to cool and oil to fully drain into the oil pan.

Typical causes of inaccurate oil level readings:

- Reading the high level of the oil dipstick.
- Reading the oil dipstick before the oil fully drains into the oil pan.

- Inserting and removing the oil dipstick too quickly.
- The oil dipstick is not fully seated in the oil dipstick tube.

Checking Coolant Level

Do not use mouth to siphon coolant. Doing so could result in death or serious injury.

(ISO000149)

Do not allow coolant to contact skin or eyes. If coolant is consumed, seek medical attention immediately. Failure to do so will result in death or serious injury.

(ISO000559)

Wash hands thoroughly after handling. Do not store in an open container. Keep away from children and animals. Failure to do so could result in death or serious injury.

(ISO000321)

Do not open coolant system until engine has completely cooled. Doing so could result in serious injury.

(ISO000154)

Do not use any chromate base rust inhibitor with propylene glycol base antifreeze, boosters, or additives.

(ISO000165)

Visually check the coolant expansion tank and verify the coolant level is between the “Cold” and “Hot” level markings. To add coolant to the system add it to the expansion tank when the engine is cool (not at operating temperature, not running). Add only a 50/50 mixture of the correct antifreeze and distilled or deionized water to the coolant system.

Inspecting and Changing the Gearbox Oil (if Equipped)

Inspect monthly, or every 100 hours of operation. Biannually (or every 600 hours), an authorized service technician should completely drain and refill the gearbox.

Gear oil used is 80W-90. Lucas Heavy Duty Oil Stabilizer should be added as follows by fluid volume:

- 390 Gearbox - Approximately 32 oz total. 26 oz gear oil and 6 oz Lucas Heavy Duty Oil Stabilizer.
- 520 Gearbox - Approximately 55 oz total. 44 oz gear oil and 11 oz Lucas Heavy Duty Oil Stabilizer.

Proceed as follows to inspect gearbox oil level:

1. Disable generator from starting.
2. See ***Figure 4-1***. Remove oil level check plug (B).

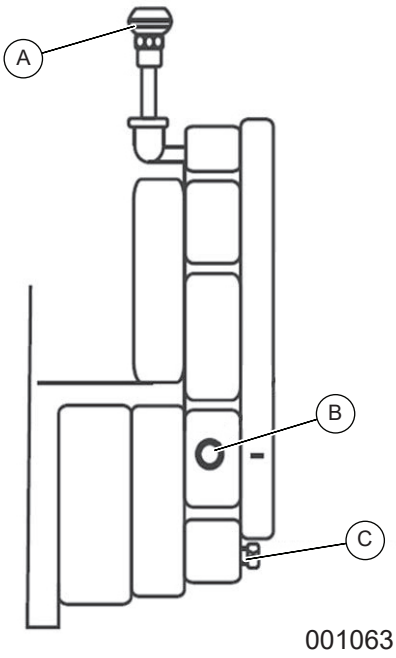

Figure 4-1. Gearbox Oil Servicing Points

3. The oil level should be at the bottom edge of the oil level check plug hole.

   NOTE: Do NOT overfill gearbox. If too much fluid is added, allow the excess oil to drain from the level check plug hole and collect it in a suitable container or with rags.
4. Do NOT overfill gearbox. If too much fluid is added, allow the excess oil to drain from the level check plug hole and collect it in a suitable container or with rags.
5. Replace the vent cap and oil level check plug and tighten.

Proceed as follows to change gearbox oil:

1. Disable generator from starting.
2. Remove oil drain plug (C) and drain oil into an appropriate container. Dispose of or recycle the oil according to local or national laws.
3. Install oil drain plug.
4. To add oil to gearbox, remove oil level check plug and oil filler/vent cap.
5. Add recommended oil/stabilizer mix until it just starts to flow from oil level check plug opening.
6. Install and tighten oil filler/vent cap and oil level check plug.

Return generator to operating condition. Start unit and inspect for leaks.

Maintaining the Battery

Do not wear jewelry while working on this equipment. Doing so will result in death or serious injury.

(ISO000188)

Always set the safety disconnect switch to MANUAL before working on equipment.

(ISO000194)

Batteries emit explosive gases. Always disconnect negative battery cable first to avoid spark.

(ISO000238)

Do not dispose of batteries in a fire. Batteries are explosive. Electrolyte solution can cause burns and blindness. If electrolyte contacts skin or eyes, flush with water and seek immediate medical attention.

(ISO000162)

Only qualified service personnel may install, operate, and maintain this equipment.

(ISO000182)

Disconnect battery ground terminal before working on battery or battery wires.

(ISO000164)

Batteries contain sulfuric acid and can cause severe chemical burns. Wear protective gear when working with batteries.

(ISO000138)

Do not open or mutilate batteries. Released electrolyte solution has been known to be harmful to the skin and eyes and to be toxic. If electrolyte contacts skin or eyes, flush with water and seek immediate medical attention.

(ISO000163)

Batteries emit explosive gases while charging. Keep fire and spark away. Wear protective gear when working with batteries.

(ISO000137)

Always recycle batteries at an official recycling center in accordance with all local laws and regulations.

(ISO000228)

Always recycle batteries in accordance with local laws and regulations. Contact your local solid waste collection site or recycling facility to obtain information on local recycling processes. For more information on battery recycling, visit Call2Recycle website at: ***http://Call2Recycle.org/locator***.

Per UL 2200 Edition 3, Clause 96.5.e:

“CAUTION - A battery presents a risk of high short circuit current. The following precautions are to be observed when working on batteries:

- Remove watches, rings, or other metal objects;
- Use tools with insulated handles.”

Per UL 2200 Edition 3, Clause 97.2.a:

“CAUTION - The electrolyte is a dilute sulfuric acid that is harmful to the skin and eyes. It is electrically conductive and corrosive. The following procedures are to be observed:

- Wear full eye protection and protective clothing;
- Where electrolyte contacts the skin, wash it off immediately with water;
- Where electrolyte contacts the eyes, flush thoroughly and immediately with water and seek medical attention; and
- Spilled electrolyte is to be washed down with an acid-neutralizing agent. A common practice is to use a solution of 500 grams (one pound) bicarbonate of soda to 4 liters (one gallon) of water. The bicarbonate of soda solution is to be added until the evidence of reaction (foaming) has ceased. The resulting liquid is to be flushed with water and the area dried.”

Per UL 2200 Edition 3, Clause 97.2.b:

“CAUTION - Lead-acid batteries present a risk of fire because they generate hydrogen gas. The following procedures are to be followed:

- • DO NOT SMOKE when near batteries;
- • DO NOT cause flame or spark in battery area; and
- • Discharge static electricity from body before touching batteries by first touching a grounded metal surface.”

IMPORTANT NOTE: Stationary emergency generators installed with automatic transfer switches will crank and start automatically when NORMAL (UTILITY) source voltage is removed or is below an acceptable preset level. To prevent automatic startup and possible injury to personnel, do not connect battery cables until NORMAL source voltage at the

transfer switch is correct and the system is ready to be placed into operation.

IMPORTANT NOTE: Verify the AUTO/OFF/MANUAL switch is set to OFF before connecting the battery cables. If the switch is set to AUTO or MANUAL, the generator can crank and start as soon as the battery cables are connected.

IMPORTANT NOTE: Verify utility power supply to the battery charger is turned OFF and the 10A and 15A fuses are removed from the generator control panel and the ATC style fuse removed from the battery charger, or sparking may occur at the battery posts as the cables are attached and cause an explosion.

An Authorized Operator should inspect the engine battery system monthly. At this time, the battery fluid level should be checked and distilled water added if needed. Battery cables and connections also should be inspected for cleanliness and corrosion.

Once every six months, an Authorized Service Technician should inspect the battery system. At this time the battery condition and state of charge should be checked using a battery hydrometer. The battery should be recharged or replaced as required.

IMPORTANT NOTE: A negative ground system is used. Battery connections are shown on the wiring diagrams. Verify the battery is correctly connected and terminals are tight. Observe battery polarity when connecting the battery to the generator set.

Additional considerations:

- Wear rubber gloves and boots.
- Do not place tools or metallic objects on top of battery.
- Disconnect charging source prior to connecting or disconnecting battery terminals.
- Servicing of batteries is to be performed or supervised by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from batteries.
- Determine if battery is inadvertently grounded. Remove source of ground when inadvertently grounded. Contact with any part of a grounded battery is capable of resulting in electrical shock. The risk of such shock is reduced when such grounds are removed during installation and maintenance (applicable to a generator not having a grounded supply circuit)

Installing and Replacing Battery

When required, the battery must be replaced with one of equivalent size, voltage, and CCA (cold crank amp capacity). Consult the Unit Specification Sheet or contact the local IASD for proper battery sizing.

A new battery must be filled with the proper electrolyte and be fully charged before installing.

Preliminary Instructions

1. Set AUTO/OFF/MANUAL switch on the generator control panel to OFF.
2. Turn off utility power supply to battery charger circuit.
3. Remove 10A fuse from generator control panel.
4. Remove ATC style fuse from battery charger.

Battery cables are connected to the generator connection points at the factory. Connect the cables to the battery posts as shown in ***12 VDC System*** and ***24 VDC System***.

12 VDC System

1. See ***Figure 4-2***. Connect the red battery cable (E) from the starter contactor to the positive (POS or +) battery post (F).
2. Connect the black battery cable (A) to the frame ground to the negative (NEG or -) battery post (B).

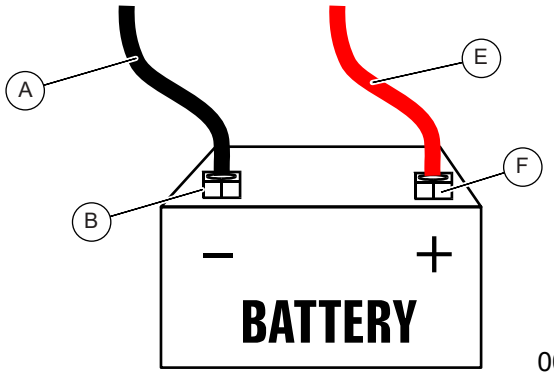

Figure 4-2. 12 VDC System

24 VDC System

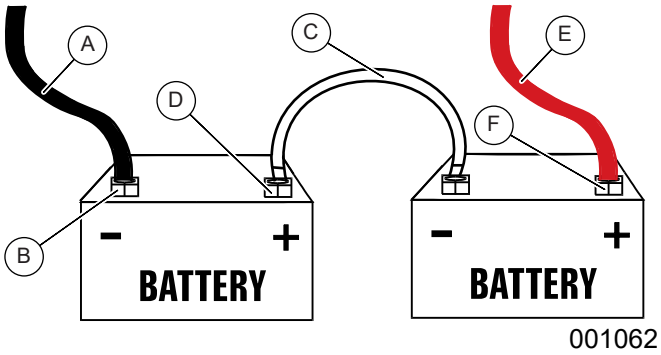

Figure 4-3. 24 VDC System

1. See ***Figure 4-3***. Connect red positive (+) battery cable (E) from the starter contactor to positive (POS or +) post of battery A (F).
2. Connect black negative (-) battery cable (A) to frame ground to negative (NEG or -) post of battery B (B).

   NOTE: On 24V gaseous units, center tap wire number 13 between the batteries..

3. Connect either a black or red jumper cable (C) from negative (NEG or -) post of battery A to positive (POS or +) post of battery B.

Final Instructions

Do not make battery connections in reverse. Doing so will result in equipment damage.

(ISO000167)

Always recycle batteries in accordance with local laws and regulations. Contact your local solid waste collection site or recycling facility to obtain information on local recycling processes. For more information on battery recycling, visit Call2Recycle website at: ***http://Call2Recycle.org/locator***.

1. Install the ATC style fuse in the battery charger.
2. Install 10A fuse in the generator control panel.
3. Turn on utility power supply to the battery charger circuit.
4. If unit was previously operational, turn AUTO/OFF/MANUAL switch on the generator control panel to AUTO.

Other Maintenance Checks

The following inspections should be performed by an IASD, or an Authorized Operator. These maintenance items require a high level of experience and skill to evaluate and correct.

- Inspect engine accessory drive belts
- Inspect hoses and connections
- Inspect fuel supply system
- Inspect exhaust system

All non-emissions related service maintenance or repairs should be completed by an authorized service technician to maintain the warranty status of a unit. Emissions related maintenance and repairs may be performed by a person or repair shop of the owner’s choosing.

Extended Run-Time Maintenance Checks

These maintenance tasks can be performed by an IASD or an Authorized Operator. Comply with all safety notices contained in the owner's manual.

IASD/Authorized Operator Maintenance Tasks. Perform steps 1 through 8 and 11 every 24 continuous operating hours.	**Task Completed Date/Initials**
1. Before shutting the unit down, perform a thorough visual inspection for leaks, loose components or connections, excessive apparent wear or damage. Any discrepancies noted should be further inspected and corrected while the unit is shut down.	
2. Shut the unit down per the procedure in the owner's manual.	
3. Check the engine oil level. The level should be between the low and full markings on the dipstick. Adjust as necessary.	
4. Check the engine coolant level. Make sure the level in the coolant catch tank is between the cold and hot level markings. Adjust as necessary. Use only a 50/50 mixture of appropriate coolant.	
5. Visually inspect the engine accessory drive belts and fan coupling device (if equipped) for correct tension and any signs of abrasion, wear, deterioration or damage. Correct as necessary.	
6. Visually inspect all hoses and connections (exhaust, intake, coolant, block heater, fuel lines and filters, oil filters, etc) for leaks, tightness, signs of deterioration, wear, or damage. Correct as necessary.	
7. Check the air inlets and outlets (enclosure or building vents) for debris or blockage. Correct as necessary.	
8. Visually inspect the fuel supply system for signs of leaks or damage. Correct as necessary.	
9. Gearbox Equipped Only: Check the gearbox oil level every 100 operating hours. Adjust as necessary.	
10. Weekly When Operating: Check the battery electrolyte level (if accessible). Adjust as necessary (add only distilled or deionized water to replenish battery cells).	
11. Return the unit to operational condition and restart. Check unit voltage and frequency. Visually inspect the unit for leaks, loose connections components, or safety guards. Place the unit back in service.	
Date inspection Completed: Unit Hour-Meter Reading:	
IASD/Authorized Operator signature signifying inspection complete:	
Record any oil or coolant added and notes about any discrepancies found and corrective action taken.	

Maintenance Level 1A

One Time at 50 Hours / 3 Months. These maintenance tasks must be performed by an IASD. Comply with all safety notices contained in the owner's manual. Some of these tasks require the use of the applicable engine service manual.

IASD Tasks. **Perform these tasks in addition to the regularly scheduled Monthly maintenance tasks.**	**Task Completed Date/Initials**
1. Disable unit from operating per the procedure found in the owner's manual.	
2. Inspect decal condition and location. Contact an IASD if any decals are damaged, illegible, or missing.	
3. Inspect engine valve clearance (valve lash) as specified in the engine service manual. **NOTE:** Inspect all hoses, piping, and connections (intake, exhaust, coolant, block heater, fuel and filters, oil lines and filters) for tightness, leaks, deterioration or damage. Correct as necessary. This is NOT required for engines with hydraulic lifters. See engine service manual.	
4. Change engine oil.	
5. Change oil filter(s).	
6. Check engine accessory drive belts and fan coupling device (if equipped) for correct tension, wear or abrasion, deterioration, or damage. Correct as necessary.	
7. Inspect all hoses, piping, and connections (intake, exhaust, coolant, block heater, fuel and filters, oil lines and filters) for tightness, leaks, deterioration or damage. Correct as necessary.	
8. Inspect wiring connections (at generator MLCB, customer connections, control terminal strips, battery, etc) for loose connections, corrosion or damage. Correct as necessary.	
9. Return unit to operational condition and test. Place unit in automatic and open service disconnect to force unit to start and transfer to load. Exercise unit against load for 15 minutes, visually inspecting for leaks, loose connections, components, and any abnormal operating conditions. Verify safety guards are in place. Record the unit voltage, frequency, kW and kVA while running. Restore utility power and monitor transfer to utility, cool-down and shutdown. Correct any discrepancies.	
Voltage: Frequency: kW: kVa:	
10. If control has alarm and/or event or run logs, record the alarm and event logs to a history file for the unit.	
11. Return the unit to operational condition.	
Date inspection Completed: Unit Hour-Meter Reading:	
IASD signature signifying inspection complete:	
Record any oil or coolant added and notes about any discrepancies found and corrective action taken.	

Maintenance Level 1 - Monthly or Every 24 Hours

These maintenance tasks can be performed by an IASD or an Authorized Operator. Comply with all safety notices contained in the owner's manual.

IASD/Authorized Operator Maintenance Tasks	Task Completed Date/Initials
1. Disable unit from operating per the instructions in the owner's manual.	
2. Inspect decal condition and location. Contact an IASD if any decals are damaged, illegible, or missing.	
3. Check engine oil level. Oil level should be between the low and full markings on the dipstick. Adjust as necessary.	
4. **Gearbox Equipped Only:** Check gearbox oil level. Adjust as necessary.	
5. Check engine coolant level. Verify level in the coolant catch tank is between the cold and hot level markings. Adjust as necessary. Use only a 50/50 mixture of appropriate coolant.	
6. Check battery electrolyte level (if accessible). Adjust as necessary (add only distilled or deionized water to replenish battery cells).	
7. Inspect battery terminal posts, connections, cables and charger connections, and battery hold-downs for signs of corrosion, looseness, etc. Remove, clean, and tighten connections as necessary.	
8. Inspect operation and condition of the battery charger. Inspect operation and condition of optional block heater, oil sump heater, and battery warmer (if equipped). Correct discrepancies as necessary.	
9. Inspect air inlets and outlets (enclosure or building vents) for debris or blockage. Correct as necessary.	
10. Visually inspect fuel supply system for signs of leaks or damage. Correct as necessary.	
11. Perform a 5 minute, no-load operational test of the unit. Check unit voltage and frequency. Visually inspect unit for leaks, wear, damage, loose connections or components, and corrosion. Correct as necessary. Verify safety guards are in place. Voltage: Frequency:	
12 If control has alarm and/or event or run logs, record the alarm and event logs to a history file for the unit.	
13. Return unit to operational condition.	
Date inspection Completed: Unit Hour-Meter Reading:	
IASD/Authorized Operator signature signifying inspection complete:	
Record any oil or coolant added and notes about any discrepancies found and corrective action taken.	

Maintenance Level 2 - Semi-Annual or Every 125 Hours

These maintenance tasks must be performed by an IASD. Perform these tasks every six months or every 125 hours of operation. Perform these tasks in addition to the regularly scheduled Monthly maintenance tasks. Comply with all safety notices contained in the owner's manual. Some of the tasks will require the use of the applicable engine service manual.

IASD Tasks	Task Completed Date/Initials
1. Disable unit from operating per the procedure found in the owner's manual.	
2. Inspect decal condition and location. Contact an IASD if any decals are damaged, illegible, or missing.	
3. Inspect engine accessory drive belts and fan coupling device (if equipped) for correct tension, wear, abrasion, deterioration, or damage. Correct as necessary.	
4. Inspect all hoses, piping, and connections (intake, exhaust, coolant, block heater, fuel and filters, oil lines and filters) for tightness, leaks, deterioration or damage. Correct as necessary.	
5. Load test the battery or test electrolyte levels (specific gravity) with a hydrometer.	
6. Return unit to operational condition and test. Place unit in AUTOMATIC and open the service disconnect to force the unit to start and transfer to the load. Exercise unit against the load for 15 minutes, visually inspecting for leaks, loose connections, components, and any abnormal operating conditions. Verify safety guards are in place. Record the unit voltage and frequency while running. Restore utility power and monitor transfer to utility, cool-down and shutdown. Correct any discrepancies.	
Voltage: Frequency: kW: kVa:	
7. If control has alarm and/or event or run logs, record the alarm and event logs to a history file for the unit.	
8. Return the unit to operational condition.	
Date inspection Completed: Unit Hour-Meter Reading:	
IASD signature signifying inspection complete:	
Record any oil or coolant added and notes about any discrepancies found and corrective action taken.	

Maintenance Level 3 - Annual or Every 250 Hours

These maintenance tasks must be performed by an IASD. Perform these tasks every 12 months or every 250 hours of operation. Perform these tasks in addition to the regularly scheduled Monthly and Semi-Annual maintenance tasks. Comply with all safety notices contained in the owner's manual. Some of the tasks will require the use of the applicable engine service manual.

IASD Tasks	Task Completed Date/Initials
1. Disable unit from operating per procedure found in the owner's manual. Some of the following tasks will require the use of the applicable engine service manual.	
2. Inspect decal condition and location. Contact an IASD if any decals are damaged, illegible, or missing.	
3. Change engine oil (or change engine oil at the interval defined in the engine service manual).	
4. Change engine oil filter(s) (or change engine oil filter at the interval defined in the engine service manual).	
5. Inspect air filter. Replace as necessary (or inspect and replace air filter at the interval defined in the engine service manual).	
6. **Gaseous Units Only**: Inspect, clean, and gap spark plugs. Replace as necessary.	
7. **Gaseous Units Only**: Inspect ignition wires for damage, deterioration and tightness. Replace as necessary.	
8. **Diesel Units Only**: Test fuel quality. If required, strip any water/sediment from the tank. Filter or polish fuel and add any additional additives required to maintain fuel quality.	
9. **Diesel Units Only**: Change primary and secondary fuel filters (if equipped). Clean any water separator or mechanical strainer (if equipped). Prime and bleed fuel system per engine service manual procedures.	
10. Inspect engine accessory drive belts and fan coupling device (if equipped) for correct tension, wear or abrasion, deterioration, or damage. Correct as necessary.	
11. Inspect all hoses, piping, and connections (intake, exhaust, coolant, block heater, fuel and filters, oil lines and filters) for tightness, leaks, deterioration or damage. Correct as necessary.	
12. Visually inspect radiator and charge air core (if equipped), unit enclosure drains for any build up of dirt, debris, or oil contamination (external). Clean, correct as necessary.	
13. Check coolant thermal protection level. Correct as necessary.	
14. Inspect all wiring connections in the high voltage and low voltage connection panels. Check for loose connections, corrosion, arcing or damage. Verify torque on all main load lugs at generator connections (generator MLCB) and transfer switch connections (see applicable transfer switch manual). Correct as necessary.	
15. Return unit to operational condition and test. Place unit in automatic and open service disconnect to force unit to start and transfer to load. Exercise unit against the load for 1 hour (60 minutes). Visually inspect for leaks, loose connections, components, and any abnormal operating conditions. Verify safety guards are in place. Record unit voltage, frequency and kW while running. Restore utility power and monitor transfer to utility, cool-down and shutdown. Correct any discrepancies.	
Voltage: Frequency: kW: kVa:	
16. If control has alarm and/or event or run logs, record the alarm and event logs to a history file.	
17. Return unit to operational condition and place back in automatic operation.	
Date inspection Completed: Unit Hour-Meter Reading:	
IASD signature signifying inspection complete:	
Record any oil or coolant added and notes about any discrepancies found and corrective action taken.	

Maintenance Level 4 - Bi-Annual or Every 500 Hours

These maintenance tasks must be performed by an IASD. Perform these tasks every 24 months or every 500 hours of operation. Perform these tasks in addition to the regularly scheduled Monthly, Semi-Annual and Annual maintenance tasks. Comply with all safety notices contained in the owner's manual. Some of the tasks will require the use of the applicable engine service manual.

IASD Tasks	Task Completed Date/Initials
1. Disable unit from operating per procedure found in the owner's manual. Some of the following tasks will require the use of the applicable engine service manual.	
2. Inspect decal condition and location. Contact an IASD if any decals are damaged, illegible, or missing.	
3. Inspect engine valve clearance (valve lash) as specified in the engine service manual. **NOTE:** This is NOT required for engines with hydraulic lifters. See engine service manual.	
4. **Gearbox Equipped Only**: Change gearbox oil. Can be extended to 600 hours.	
5. Replace engine air filter(s).	
6. **Gaseous Units Only**: Replace spark plugs. Gap per engine specifications.	
7. Replace engine accessory drive belts. Inspect and lubricate (if required) the belt tensioning device (if equipped) and replace if necessary.	
8. Drain and flush cooling system. Fill with fresh coolant of appropriate type (50/50 mixture).	
9. Replace all flexible hoses: Coolant hoses including block heater hoses and vaporizer hoses (if equipped); charge air system connection hoses/joints/couplings, and any flexible fuel or oil lines.	
10. Replace fuel filter. Verify fuel system is purged and primed before running unit (diesel only).	
11. Remove, clean, inspect, reinstall and reset to correct voltage level the flywheel magnetic pickup(s) (if equipped).	
12. Inspect all wiring connections in the high voltage and low voltage connection panels. Check for loose connections, corrosion, arcing or damage. Verify torque on all main load lugs at generator connections (generator MLCB) and transfer switch connections (see applicable transfer switch manual). Correct as necessary.	
13. Return unit to operational condition and test. Place unit in automatic and open the service disconnect to force unit to start and transfer to load. Use an appropriate load bank to supplement load to full rated load (100% kW at rated kVA) if possible. Exercise unit against the load for 2 hours (120 minutes). Visually inspect for leaks, loose connections, components, and any abnormal operating conditions. Verify safety guards are in place. Record the unit voltage, frequency, kW and kVA while running. Remove load bank load, restore utility power and monitor transfer to utility, cool-down and shutdown. Correct any discrepancies.	
Voltage: Frequency: kW: kVa:	
14. If control has alarm and/or event or run logs, record the alarm and event logs to a history file.	
15. Return unit to operational condition and place back in automatic operation.	
Date inspection Completed: Unit Hour-Meter Reading:	
IASD signature signifying inspection complete:	
Record any oil or coolant added and notes about any discrepancies found and corrective action taken.	

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Section 5: Warranty Information

For emissions warranty information see the separate emissions warranty statement included with the generator.

For questions regarding making an emissions-related warranty claim or how to make arrangements for authorized repairs, please use the contact information on the emissions warranty statement.

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Part No. 0J5019 Rev. AB 07/02/2025
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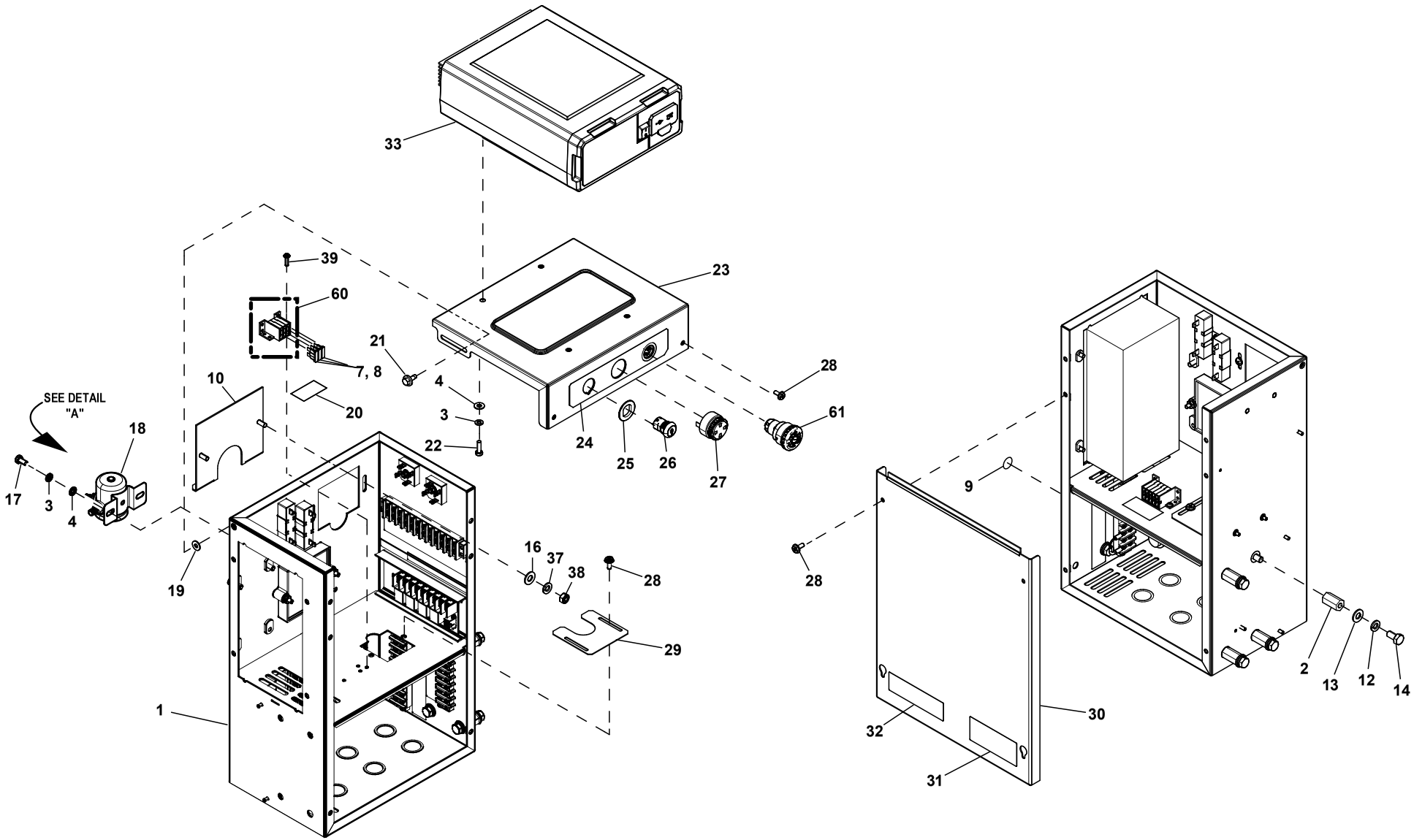
GROUP A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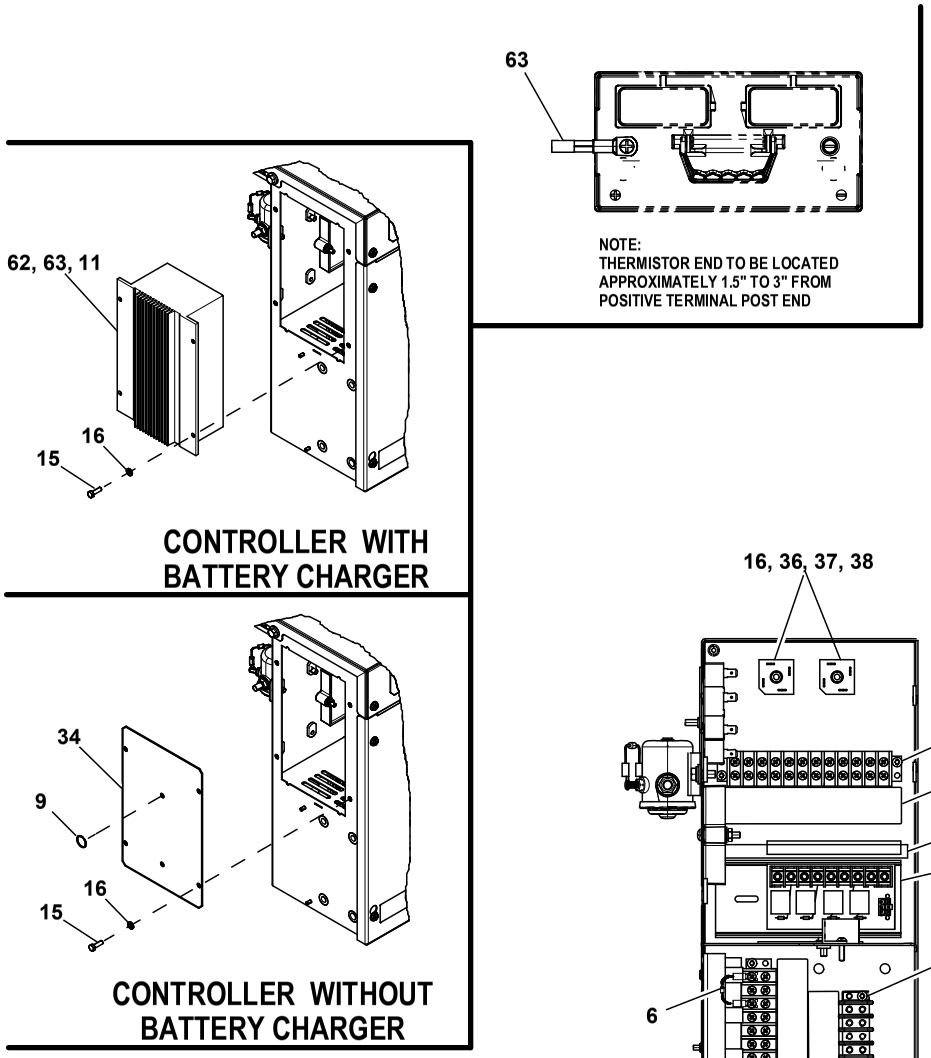
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NOTE:
THERMISTOR END TO BE LOCATED
APPROXIMATELY 1.5" TO 3" FROM
POSITIVE TERMINAL POST END
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CONTROLLER WITH
BATTERY CHARGER
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CONTROLLER WITHOUT
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DETAIL "A"
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EXPLODED VIEW: EV POWERZONE 410 CONTROL BOX

DRAWING#: A0002036936

GROUP A

ITEM	PART#	QTY.	DESCRIPTION
1	A0001663265	1	ST03 WELDMENT POWERZONE 410
2	A0001893005	4	STANDOFF M8 X 25.4MM X 14 MM HEX
(3)3	G022097	4/6	WASHER LOCK M6-1/4
(3)4	G022473	4/6	WASHER FLAT 1/4-M6 ZINC
5	-	-	-
6	0C8065	1	DIODE ASSEMBLY
7	0E7403B	2	FUSE ATO TYPE 10 AMP (RED) (NOT SHOWN)
8	0E7403C	1	FUSE ATO TYPE 15 AMP (BLUE) (NOT SHOWN)
(1)9	0F6145	9/11	SEAL WEATHER .63DIA
10	A0003244993	1	PLATE WIRE SNGL GALV
(1)11	A0002235989	1/0	HARN CHARGER BATTERY 10A PZ410 (NOT SHOWN)
	A0002352110	1/0	HARN BATTERY CHARGER PWR CORD PZ410 Y02 (NOT SHOWN)
12	G022129	8	WASHER LOCK M8-5/16
13	G022145	8	WASHER FLAT 5/16-M8 ZINC
14	G042907	8	SCREW HHC M8-1.25 X 16 C8.8
15	G049815	4	SCREW HHC M5-0.8 X 16 G8.8
16	G051713	11	WASHER FLAT M5
(3)17	G047411	2/4	SCREW HHC M6-1.0 X 16 C8.8
(3)18	G056739	1/2	RELAY SOLENOID 12VDC PNL MNT
19	0A2115	2	WASHER FLAT NYLON 3/16BS .625 X .062 THK
20	A0002312038	1	DECAL CONTROL BOX 3 FUSES (10A, 15A)
21	0C2454	2	SCREW HWHT M6-1 X 16 N WA Z/JS
22	G042568	4	SCREW HHC M6-1.0 X 20 C8.8
23	A0001699695	1	ST03 MOUNTING PLATE PZ 410
24	A0000973786	1	DECAL NFPA, DUALITY
25	10000045152	1	KEY SWITCH SPACER STANDARD, PZ LITE
26	A0000221556	1	HARN SWITCH KEY PZP
27	0G3053	1	PEIZO BUZZER PANEL MNT
28	G091526	6	SCREW PPHM M5-0.8 X 12 ZNC
29	10000043450	1	ST03 PLATE WIRE HARN BLOCKOFF 40MM
30	A0001664603	1	ST03 POWERZONE 410 COVER
31	0F1732	1	DECAL FUSES LOCATED INSIDE
32	0G3546	1	DECAL WRN BATT CHRG 12/24V BI
33	A0000660367	1	ASSEMBLY, DUALITY CONTROLLER
34	A0000292228	0/1	ST03 COVER CTRL PNL W/HARN ACCESS
35	A0000247682	1	POWERZONE SOLENOID RELAY DIODE ASSEMBLY
36	G029673	2	DIO BRIDGE 25A 600V
37	G049226	7	WASHER LOCK M5
38	G051716	7	NUT HEX M5-0.8 G8 CLEAR ZINC
39	0J5462	10	SCREW HDPHT M4-0.7 X 16 ZP
40	A0002312047	1	DECAL TB3 12VDC PZ410
41	A0002312059	1	DECAL PZ410 RELAY BOARD 12V RB1
42	0E9764	2	RAIL SNAPTRACK PCB HOLDER BULK(6" LG)
43	0C3990	4	SCREW PPHT M4.07 X 10 ZP
44	A0002312051	1	DECAL REMOTE E-STOP PZ410
45	A0002312044	1	DECAL TB2 PZ410 LV CUST CONN
(3)46	0F5752A	1/0	RES WW 10R 5% 15W QK CONN
(3)47	G052777	2/1	WASHER FLAT M3
(3)48	G043182	2/1	WASHER LOCK M3
(3)49	G051714	2/1	NUT HEX M3-0.5 G8 CLEAR ZINC
50	0F5752B	1	RES WW 25R 5% 25W QK CONN
51	0E3161	1	ASSY PCB BOSCH GOV DRIVER
52	G020911	2	SCREW PPHM M5-0.8 X 30 ZINC
53	-	-	-
54	-	-	-
55	-	-	-
56	G026850	1	WASHER LOCK EXT 1/4 STL
57	0J0575	1	DECAL CUSTOMER WIRE #14
58	A0002312062	1	DECAL RB3 CUST CONN PZ410
59	A0001415858	1	DECAL TB1 DUALITY LV CUSTOMER CONN
60	A0002099972	REF	HARN COMPLETE D4.5/6.7L G17 PZ410 (NOT SHOWN)

EXPLODED VIEW: EV POWERZONE 410 CONTROL BOX

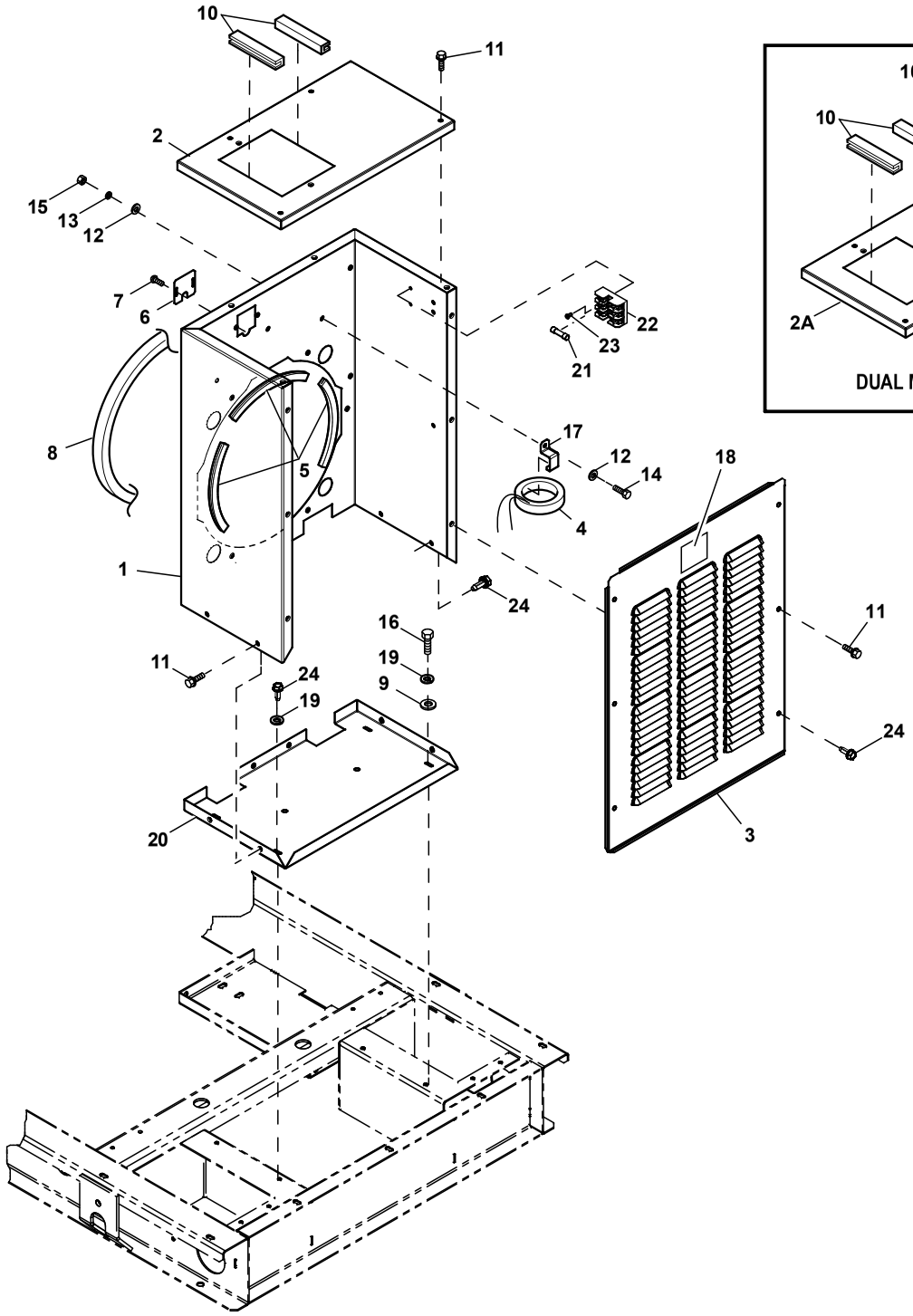
DRAWING#: A0002036936

GROUP A

ITEM	PART#	QTY.	DESCRIPTION
61	10000045196	1	E-STOP KEDU HY57B
(2)(1)62	A0001973922	1/0	ASSY 10A 12V BC WITH TEMP SENSE
(2)(1)63	A0002203352	1/0	THERMISTOR ASSY 10A 12/24V CHARGER
64	0G6962B	1	ASSY PCB RELAY 12VDC

NOTES:
1) QTY WITH BATTERY CHARGER/QTY W/O BATTERY CHARGER
2) QTY WITH TEMPERATURE SENSE/QTY W/O TEMPERATURE SENSE
3) QTY FOR 4.5L/QTY FOR 3.3L

GROUP A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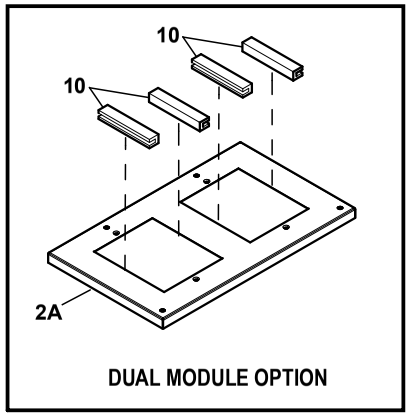
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DUAL MODULE OPTION

EXPLODED VIEW: EV 390 ALTERNATOR TOWER ASM

DRAWING #: A0000313204

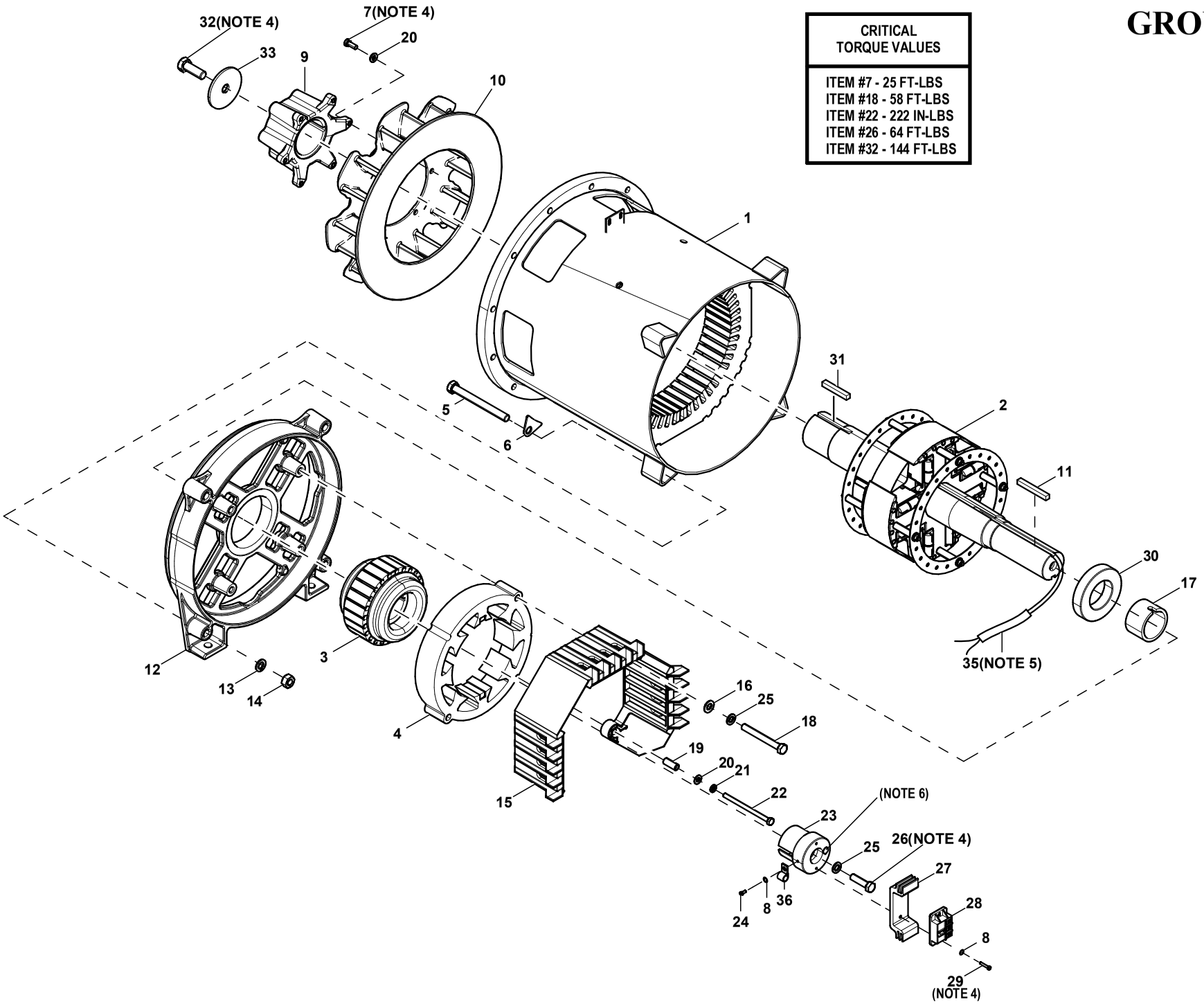
GROUP A

ITEM	PART#	QTY.	DESCRIPTION
1	A0000186248	1	ST03 MAIN ALT TOWER 390 W/ SHROUD G4.5L
2	A0000092337	1	ST03 TOP ALT TOWER 390 G4.5L G26 SGL CB A-GRP
	A0000151568	1	ST03 TOP ALT TOWER 390 G4.5L G26 SGL CB B-GRP
2A	10000039218	1	ST03 TOP ALT TOWER 390 G4.5L G26 DUAL CB A-GRP
	10000045347	1	ST03 TOP ALT TOWER 390 DUAL CB B-GRP
3	0H94320ST03	1	COVER, ALT TOWER 390
(1)4	0J0481	2 / 3	XFMR CURRENT 50A W/O BRKT UL
	A0004179434	2 / 3	XFMR CURRENT 050A W/O BRKT UL
	0J0481A	2 / 3	XFMR CURRENT 100A W/O BRKT UL
	A0004179435	2 / 3	XFMR CURRENT 100A W/O BRKT UL
	0J0481B	2 / 3	XFMR CURRENT 150A W/O BRKT UL
	A0004179436	2 / 3	XFMR CURRENT 150A W/O BRKT UL
	0J0481C	2 / 3	XFMR CURRENT 200A W/O BRKT UL
	A0004179437	2 / 3	XFMR CURRENT 200A W/O BRKT UL
	0J0481D	2 / 3	XFMR CURRENT 300A W/O BRKT UL
	0J0481E	2 / 3	XFMR CURRENT 400A W/O BRKT UL
	0J0481F	2 / 3	XFMR CURRENT 500A W/O BRKT UL
	0J0481G	2 / 3	XFMR CURRENT 600A W/O BRKT UL
5	G056326	3	TRIM VINYL BLACK 1/8GP (8"LG)
6	0J01360ST03	1	PLATE, WIRE HARN BLOCKOFF
7	0J5464	2	SCREW THTT M5-0.8 X 16 ZP
8	G052250	1	TAPE FOAM 1X1 (52" LG)
9	G022473	3	WASHER FLAT 1/4-M6 ZINC
(1)10	G056326	2 / 4	TRIM VINYL BLACK 1/8GP (6"LG)
11	0C2454	14	SCREW HWHT M6-1 X 16 N WA Z/JS
(1)12	G022145	4 / 6	WASHER FLAT 5/16-M8 ZINC
(1)13	G022129	2 / 3	WASHER LOCK M8-5/16
(1)14	G042907	2 / 3	SCREW HHC M8-1.25 X 16 C8.8
(1)15	G045771	2 / 3	NUT HEX M8-1.25 G8 CLEAR ZINC
16	G024983	3	SCREW HHTT 1/4-20 X 3/4 CZ
(1)17	0J1857	2 / 3	CT BRKT 1.1" WINDOW FRAME
	0J1857A	2 / 3	CT BRKT 2.25" WINDOW FRAME
18	0C1229	1	DECAL WARNING ELECTRICAL SHOCK
19	G022097	4	WASHER LOCK 1/4-M6
20	A0000310123	1	ST03 ALT TOWER BOTTOM 390
(2)21	FU0057A04	3 / 0	FUSE,1A,600V
(2)22	10000023556	1 / 0	HARN VOLTAGE SENSE POWER ZONE
(2)23	G045764	2 / 0	SCREW HHTT M4-0.7 X 8 ZP
24	0E3257	3	SCREW HHFTT M6-1.0 X 16

NOTES (UNLESS OTHERWISE SPECIFIED):
(1) QTY. REQUIRED FOR 1 PHASE / QTY. REQUIRED FOR 3 PHASE.
(2) QTY REQUIRED FOR POWERZONE PRO / QTY REQUIRED FOR PZ410

GROUP A

CRITICAL TORQUE VALUES
ITEM #7 - 25 FT-LBS
ITEM #18 - 58 FT-LBS
ITEM #22 - 222 IN-LBS
ITEM #26 - 64 FT-LBS
ITEM #32 - 144 FT-LBS



EXPLODED VIEW: EV ALTCOMPRT P/390 SAE 10

DRAWING #: 0L5086

GROUP A

ITEM	PART#	QTY.	DESCRIPTION
1	0L3396B	1	STR 390 035 AM1
	0L3396H	1	STR 390 035 DM1
	0L3396E	1	STR 390 035 KM1
	0L3397B	1	STR 390 035 AM2
	0L3397H	1	STR 390 035 DM2
	0L3397E	1	STR 390 035 KM2
	0L3987B	1	STR 390 035 AM3
	0L3987H	1	STR 390 035 DM3
	0L3987E	1	STR 390 035 KM3
	0L3394B	1	STR 390 025 AM1
	0L3394H	1	STR 390 025 DM1
	0L3394E	1	STR 390 025 KM1
	0L3405B	1	STR 390 130 AM4
	0L3406E00A	1	STR 390 130 KM4
	0L3406E	1	STR 390 130 KM4
	0L3406J	1	STR 390 130 KM4
	0L3403B	1	STR 390 100 AM3
	0L3404E	1	STR 390 100 KM3
	0L3404J	1	STR 390 100 KM3
	0L3401B	1	STR 390 080 AM3
	0L3402H	1	STR 390 080 AM3
	0L3401E	1	STR 390 080 KM3
	0L3401J	1	STR 390 080 KM2
	0L3400B	1	STR 390 060 AM2
	0L3400E	1	STR 390 060 KM2
	0L3400J	1	STR 390 060 LM2
	0L3991B	1	STR 390 060 AM3
	0L3991E	1	STR 390 060 KM3
	0L3399B	1	STR 390 050 AM2
	0L3399H	1	STR 390 050 DM2
	0L3399E	1	STR 390 050 KM2
	0L3990B	1	STR 390 050 AM3
	0L3990H	1	STR 390 050 DM3
	0L3990E	1	STR 390 050 KM3
	0L3398B	1	STR 390 040 AM2
	0L3398H	1	STR 390 040 DP2
	0L3398E	1	STR 390 040 KM2
	0L3398J	1	STR 390 040 LM2
	0L3989B	1	STR 390 040 AM3
	0L3398H	1	STR 390 040 DP2
	0L3398E	1	STR 390 040 KM2
2	0L3371H	1	RTR 390 35KW DM1
	0L3371E	1	RTR 390 35KW KM1
	0L3372H	1	RTR 390 35KW DM2
	0L3372E	1	RTR 390 35KW KM2
	0L3967H	1	RTR 390 35KW DM3
	0L3967E	1	RTR 390 35KW KM3
	0L3370H	1	RTR 390 25KW DM1
	0L3370E	1	RTR 390 25KW KM1
	0L3386J	1	RTR 390 130KW AM4
	0L3387E	1	RTR 390 130KW KM4
	0L3384J	1	RTR 390 100KW AM3
	0L3385E	1	RTR 390 100KW KM3
	0L3383J	1	RTR 390 80KW AM3
	0L3384J	1	RTR 390 100KW AM3
	0L3383E	1	RTR 390 80KW KM3
	0L3381J	1	RTR 390 60KW AM2
	0L3381E	1	RTR 390 60KW KM2
	0L4062J	1	RTR 390 60KW AM3
	0L4062E	1	RTR 390 60KW KM3
	0L3376J	1	RTR 390 50KW AM2
	0L3376H	1	RTR 390 50KW DM2
	0L3376E	1	RTR 390 50KW KM2
	0L4059J	1	RTR 390 50KW AM3

EXPLODED VIEW: EV ALTCOMPRT P/390 SAE 10

DRAWING #: 0L5086

GROUP A

ITEM	PART#	QTY.	DESCRIPTION
	0L4059H	1	RTR 390 50KW DM3
	0L4059E	1	RTR 390 50KW KM3
	0L3373H	1	RTR 390 40KW DM2
	0L3373E	1	RTR 390 40KW KM2
	0L3992H	1	RTR 390 40KW DM3
	0L3992E	1	RTR 390 40KW KM3
	10000044788	1	RTR 390 80GB BR MACE
	10000044789	1	RTR 390 130KP4 GB SAE TECUMSEH
3	(1)087272	1	ASSY EXCITER 2.00" STACK
	(2)0L5045	1	ASSY EXCITER 2 ¾
4	(1)0L2314	1	EXR FLD CANLESS 2.00" STACK MA
	(2)0K9815	1	EXR FLD CNLSS 2.75 STACK MACE
5	0A5580	4	SCREW HHC M14-2.0 X 140 C8.8
6	0A1633	4	WASHER,390 SAE ALT.
7	G055173	6	SCREW HHC M8-1.25 X 20 C10.9
8	G023365	3	WASHER LOCK INT #8
(3)9	G021941	1	COUPLER 390 SAE
	0A3009	1	HUB 390 SAE FAN
10	0G0724	1	FAN MACHINED 390 SAE ALTERATOR
(3)11	(1) 0A7662	1	KEY SQ 3/8 X 3-3/4 STEEL
	(2) 0E7708	1	KEY SQ 3/8 X 4 1/4 STEEL
12	G068113	1	REAR BEARING CARRIER
13	G043123	4	WASHER LOCK M14
14	G051779	4	NUT HEX M14-2.0 G8 YEL CHR
15	0H8394A	1	390, BOARD SOLID LEAD TERM BRL
16	G049808	2	WASHER FLAT M12
17	0H7625E	1	COLLAR SLIP FIT 43.91MM
18	(1) 052623	2	SCREW HHC M12-1.75 X 100 PC8.8
	(2) 0K4243	2	SCREW HHC M12-1.75X120 C8.8
19	0H9157	2	DOWEL PIN HOLLOW 1/2 X 1-1/4
20	G022145	8	WASHER FLAT 5/16-M8 ZINC
21	G022129	8	WASHER LOCK M8-5/16
22	(1)G073941	2	SCREW HHC M8-1.25 X 115 C8.8
	(2)0L5064	2	SCREW HHC M8-1.25 X 130 C8.8
23	G090064	1	CAP END ROTOR 390MM
24	G033133	1	SCREW HHM #8-32 X 3/8
25	G051769	3	WASHER LOCK M12
26	G053559	1	SCREW HHC M12-1.75 X 45 C8.8
27	G090063	1	BRIDGE SUPPORT DIODE 15"
28	G090152	1	ASSY BRIDGE RECTIFIER
29	G033143	2	SCREW HHM #8-32 X 7/8
(3)30	G052624	1	BEARING BALL 6212 SEALED
(3)31	0A1138	1	KEY SQ 3/8 X 2-1/2 STEEL
(3)(7)32	0A2601	1	SCREW HHC M16-2.0 X 45 C8.8
(3)(7)33	0A2602	1	WASHER FLAT .688ID X 3.25OD
34	G022678	0.5CC	ADHESVE THREADLOK 242BLUE
35	037554C	1	SLEEVING UL #2 .268ID 3"PRECUT
36	G020151	1	CLAMP STL/VNL .312 X .203

NOTES (UNLESS OTHERWISE SPECIFIED):
(1) FOR 25KW / 35KW UNITS
(2) FOR 40KW AND LARGER UNITS
(3) CONTAINED IN ROTOR ASSEMBLY (I/N 2)
(4) APPLY ITEM 34
(5) ROTOR LEADS WITH SLEEVING (I/N 35) TO BE ROUTED THRU HOLE IN ROTOR END CAP (I/N 23).
(6) APPLY RTV SILICONE TO ROTOR LEAD PASS –THROUGH HOLE IN ROTOR END CAP.
(7) ITEM NOT NEEDED FOR GEAR BOX ASSEMBLY.

ITEM	PART#	QTY.	DESCRIPTION

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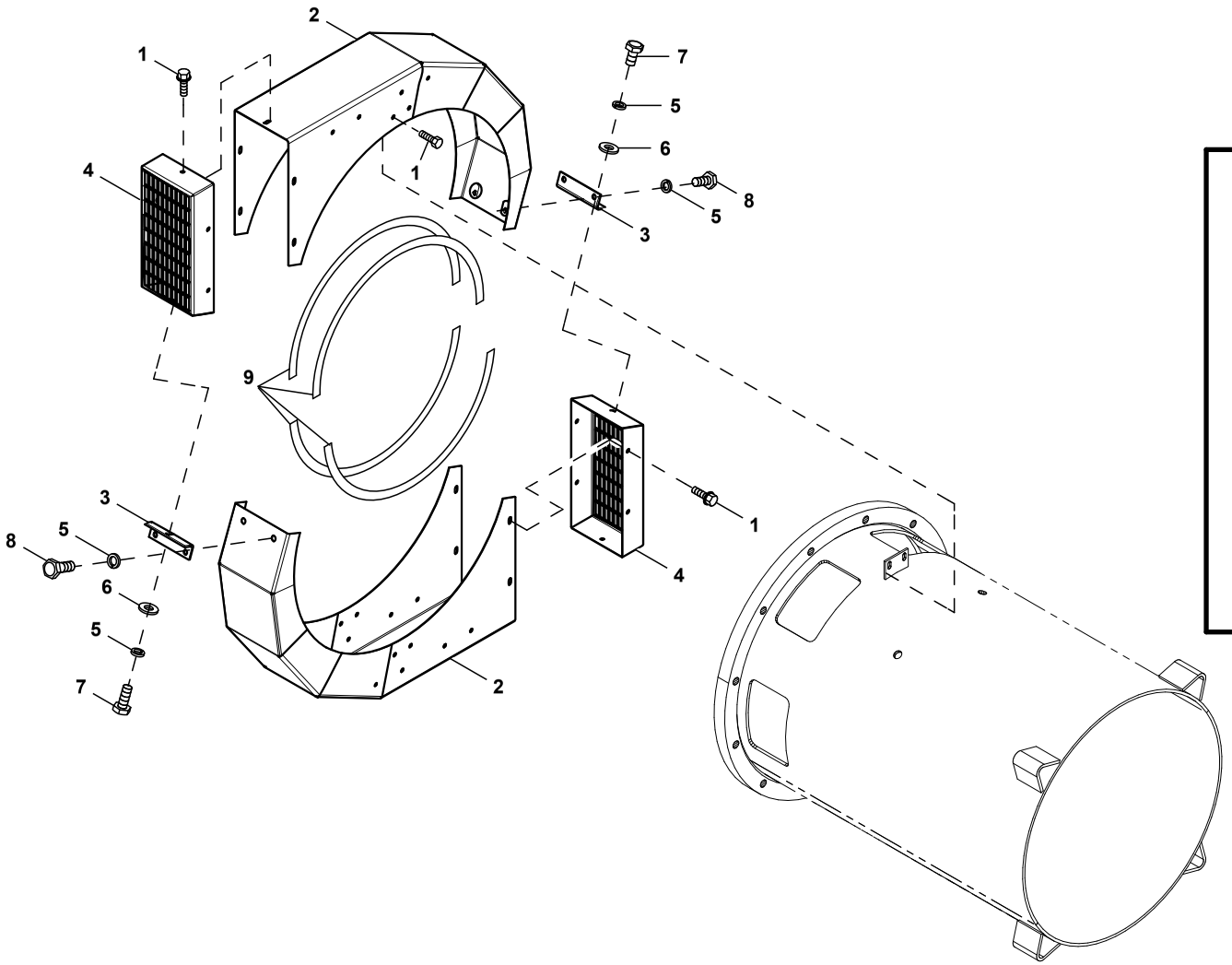
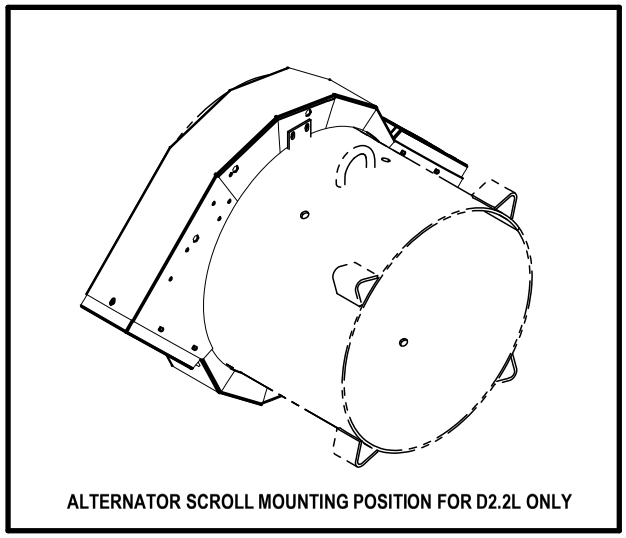




ALTERNATOR SCROLL MOUNTING POSITION FOR D2.2L ONLY

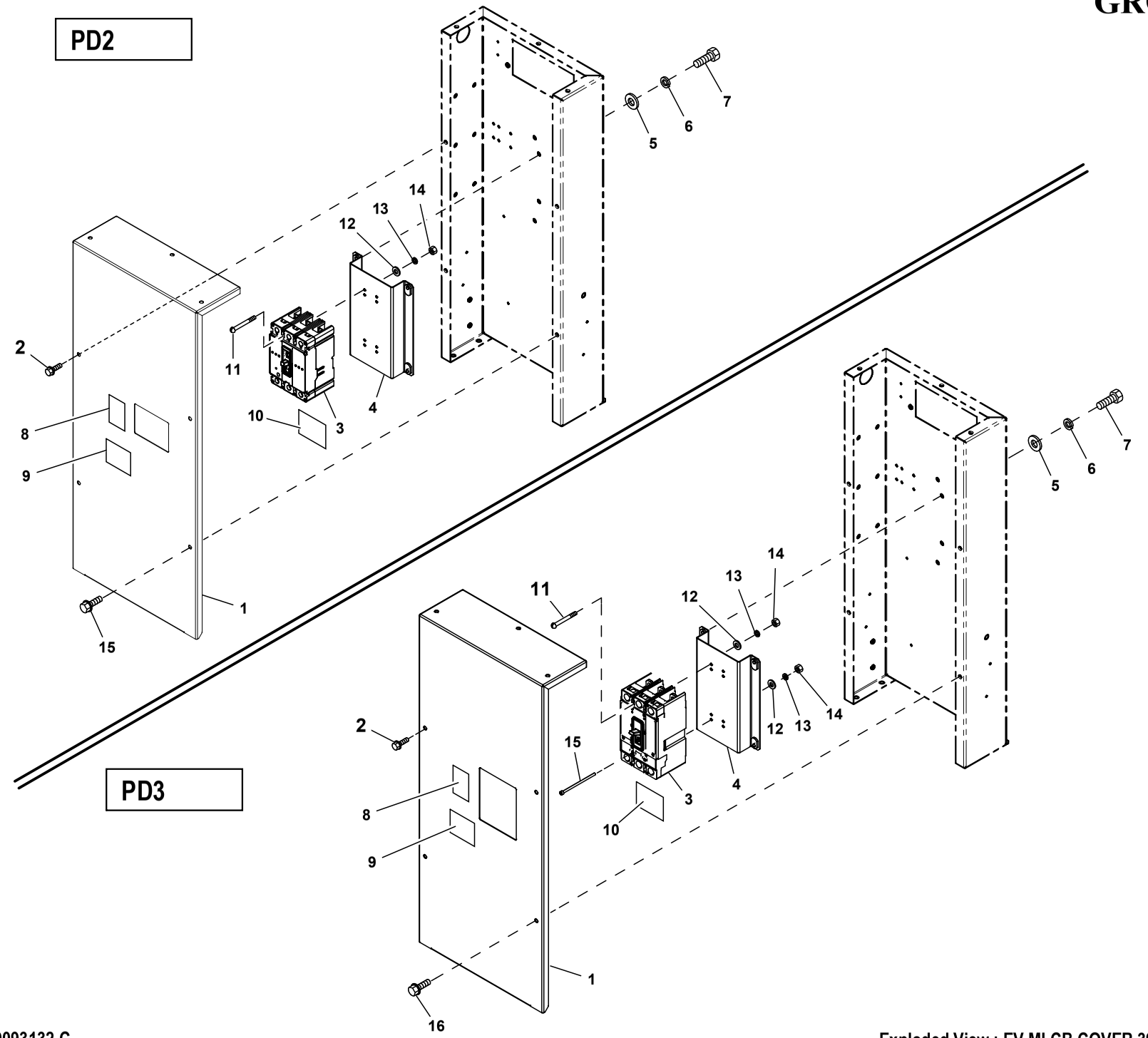
EXPLODED VIEW: EV ASSY SCROLL 390 SAE

DRAWING #: 0L2973

GROUP H

ITEM	PART#	QTY.	DESCRIPTION
1	0A2110	12	SCREW HWHS 1/4-20 X 1/2 ZYC
2	0A2491	2	SHROUD ALT SHEET METAL
3	0A2496	2	BRKT TENSIONER SAE SCROLL
4	0A2497	2	SCREEN SHROUD SA
5	G022097	2	WASHER LOCK M6-1/4
6	G022473	2	WASHER FLAT 1/4-M6 ZINC
7	G045757	2	SCREW HHC M6-1.0 X 25 C8.8
8	G047411	4	SCREW HHC M6-1.0 X 16 C8.8
9	G056326	8	TRIM VINYL BLACK 1/8GP

GROUP A



Revision : CN-0093132-C
Date : 11/18/24

Exploded View : EV MLCB COVER 390 MD1
Drawing No. : A0003770581

EXPLODED VIEW: EV MLCB COVER 390 MD1

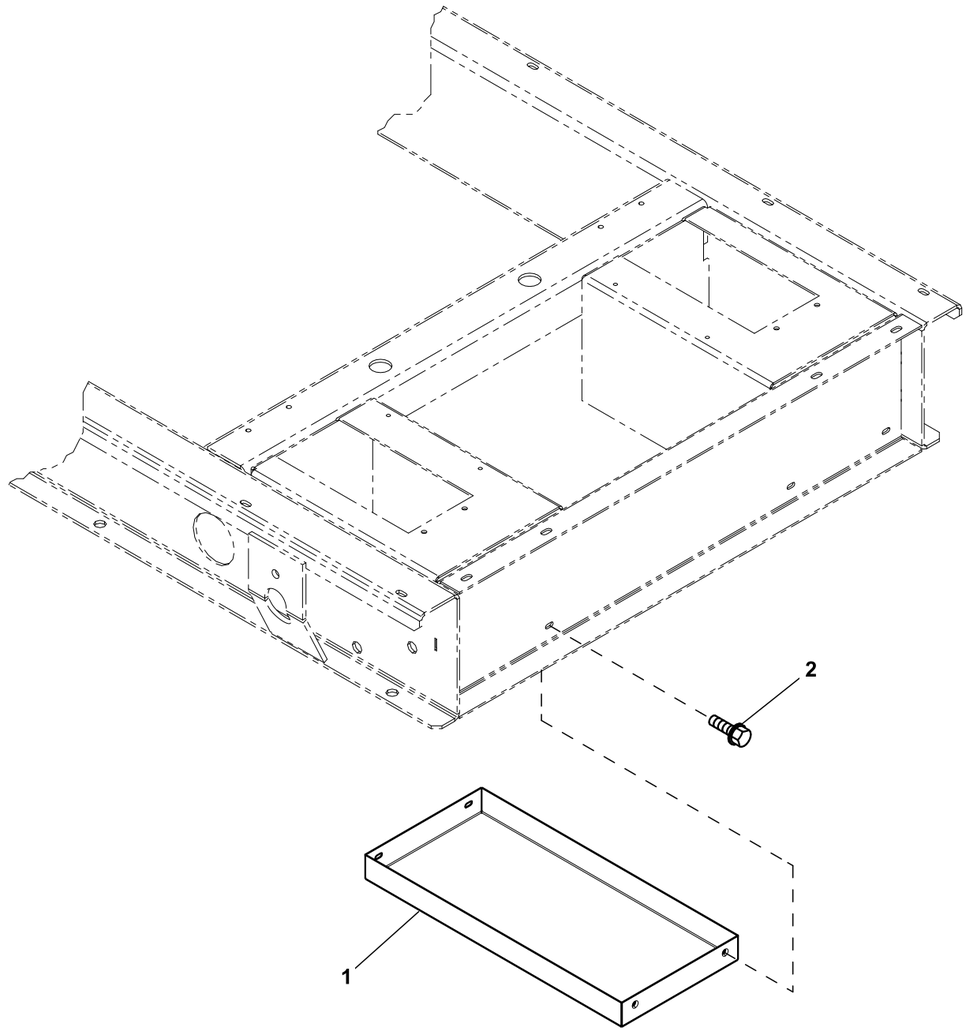
DRAWING #: A0003770581

GROUP A

ITEM	PART#	QTY.	DESCRIPTION
		UL CIRCUIT BREAKER (PD2)	
1	A0003398447	1	ST03 MD1 MODULE COVER 390 PD2
2	0C2454	6	SCREW HWHT M6-1 X 16 N WA Z/JS
3	REF	1	CIRCUIT BREAKER (EATON PD2)
4	0J14860ST03	1	CB MTG BRKT F/JG
5	G022145	4	WASHER FLAT 5/16-M8 ZINC
6	G022129	4	WASHER LOCK M8-5/16
7	G042907	4	SCREW HHC M8-1.25 X 16 C8.8
8	0J0679	1	DECAL, CANADIAN SAFETY CODE
9	0J0546	REF	DECAL, HV CUSTOMER CONN INSIDE
	10000011043	REF	DECAL, HV CUSTOMER CONN INSIDE
10	0D3719C	REF	DECAL CUSTOMER CONN E1 E2 E3
	0D3719D	REF	DECAL CUSTOMER CONN E1 E3
11	0J4899	4	SCREW SHC M4-0.7 X 45 C12.9
12	G043180	4	WASHER FLAT M4
13	G022264	4	WASHER LOCK #8-M4
14	G051715	4	NUT HEX M4-0.7 G8 YEL CH
15	0E3257	1	SCREW HHFTT M6-1.0 X 16
		UL CIRCUIT BREAKER (PD3)	
1	A0003398829	1	ST03 MD1 MODULE COVER 390 PD3
2	0C2454	6	SCREW HWHT M6-1 X 16 N WA Z/JS
3	REF	1	ST03 MD1 MODULE COVER 390 PD3
4	A0002852962	1	ST03 CB MNT BRKT PD3 MD1/MD2
5	G022145	4	WASHER FLAT 5/16-M8 ZINC
6	G022129	4	WASHER LOCK M8-5/16
7	G042907	4	SCREW HHC M8-1.25 X 16 C8.8
8	0J0679	1	DECAL, CANADIAN SAFETY CODE
9	0J0546	REF	DECAL, HV CUSTOMER CONN INSIDE
	10000011043	REF	DECAL, HV CUSTOMER CONN INSIDE
10	0D3719C	REF	DECAL CUSTOMER CONN E1 E2 E3
	0D3719D	REF	DECAL CUSTOMER CONN E1 E3
11	A0002282783	2	SCREW SHC M5-0.8 X 110 C8.8
12	G051713	4	WASHER FLAT M5
13	G049226	4	WASHER LOCK M5
14	G051716	4	NUT HEX M5-0.8 G8 CLEAR ZINC
15	0J4467	2	SCREW SHC M5-0.8 X 100 C12.9
16	0E3257	1	SCREW HHFTT M6-1.0 X 16

ITEM	PART	QTY.	DESCRIPTION
(1)(2)1	---	1/2	GLAND PLATE
(1)2	0C2454	4/8	SCREW HWHT M6-1 X 16 N WA Z/JS

(1) QTY. REQUIRED FOR SINGLE CIRCUIT BREAKER / QTY. REQUIRED FOR DUAL CIRCUIT BREAKER.
(2) SEE BILL OF MATERIALS FOR PART NUMBER.



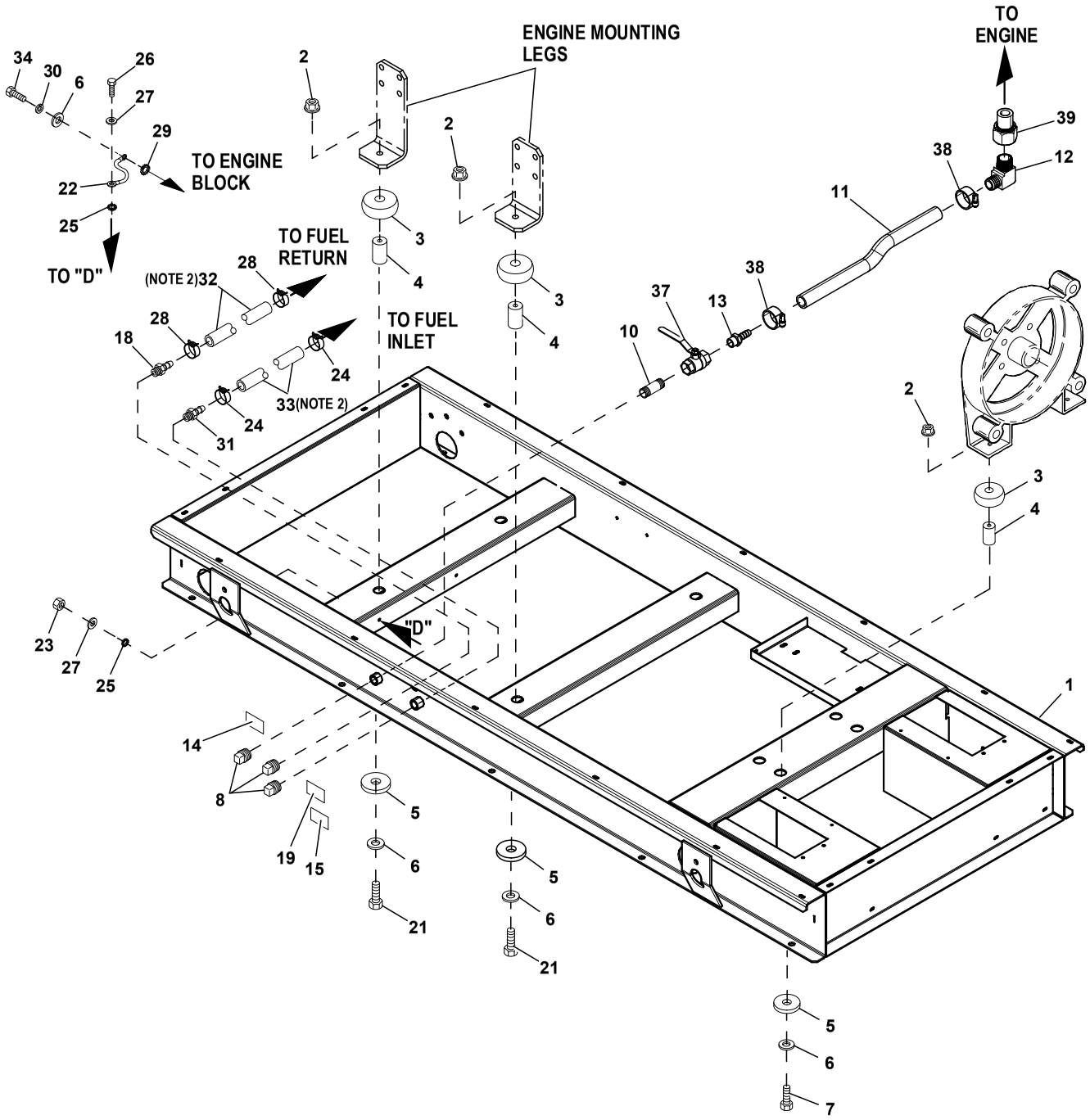
NOTE:
GLAND PLATE (ITEM 1), TO BE INSTALLED UNDER EACH HIGH VOLTAGE CONNECTION TOWER.

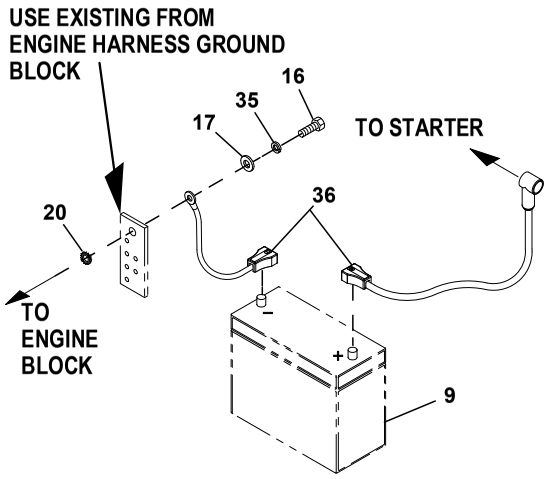
Date	Revision
9/13/11	H-9623-C

GROUP C

FIRST USE: CCI			EXPLODED VIEW: EV GLAND PLATE			GENERAC
RELEASED FOR PRODUCTION: R. LINCOLN	APPD: RWL	MFG: PJS	CHKD: WCL	DWN: SJB	DWG. NO.	REV
DATE: 3/17/11	DATE: 3/17/11	DATE: 3/15/11	DATE: 2/17/11	DATE: 3/2/11	0J4768	C

GROUP C





Revision : -A-
Date : 10/09/22

Exploded View : EV 12R MTG BASE D4.5L G17 60/80KW
Drawing No. : A0003249091

EXPLODED VIEW: EV 12R MTG BASE D4.5L G17 60/80KW

DRAWING #: A0003249091

GROUP C

APPLICABLE TO:

ITEM	PART#	QTY.	DESCRIPTION
(1)1	0H99360ST0R	1	MOUNTING BASE 4.5L G17 60/80KW
2	G052860	6	NUT FLANGED HEX M12-1.75
3	052251A	6	DAMPENER VIB 50 WHITE
4	G052257	6	SPACER .49 X .62 X 1.87 PWDR/ZNC
5	G052252	6	DAMPENER VIBRATION
6	G052259	7	WASHER FLAT M12
7	G055597	2	SCREW HHC M12-1.75 X 85 G8.8
8	G024310	3	PLUG STD PIPE 1/2 STEEL SQ HD
9	G061119	REF	BATTERY BCI GRP 31 925 CCA
	061119A	REF	31E BATTERY SERVICE DRY 925CCA
10	G030985	1	NIPPLE CLOSE 1/2 X 1.125
11	G065386	1	HOSE 1H018-10 AQP 5/8
12	G056460	1	BARBED EL 90 1/2 NPT X 5/8
13	G044118	1	BARBED STR 1/2NPT X 5/8
14	050277A	1	DECAL OIL DRAIN TRI AIN
(3)15	G056727	REF	DECAL FUEL INLET
16	G049814	1	SCREW HHC M10-1.5 X 25 C8.8
17	G022131	1	WASHER FLAT 3/8-M10 ZINC
(3)18	0H7484	REF	BARBED STR 1/2NPT X 5/16
(3)19	G056726	REF	DECAL FUEL RETURN
20	G025507	1	WASHER LOCK EXT 7/16 STL
21	G052891	4	SCREW HHC M12-1.75 X 80 G8.8
22	0536210307	1	ASSY WIRE #1 14.00"
23	G049813	1	NUT HEX M6 X 1.0 G8 YEL CHR
(3)24	048031J	REF	CLAMP HOSE BAND .63
25	G027482	2	WASHER SHAKEPROOF EXT 5/16 STL
26	G042568	1	SCREW HHC M6-1.0 X 20 G8.8
27	G022473	2	WASHER FLAT 1/4-M6 ZINC
(3)28	048031N	REF	CLAMP HOSE BAND .53
29	G025507	1	WASHER LOCK EXT 7/16 STL
30	G051769	1	WASHER LOCK M12
(3)31	0D7020	REF	BARBED STR 1/2NPT X 3/8"
(3)32	0C8008	REF	HOSE 5/16 SAE 30R7 (24"LG)
(3)33	0D7532	REF	HOSE DIESEL 3/8" FC598-06 (67"LG)
34	G063837	1	SCREW HHC M12-1.75 X 30 C10.9
35	G046526	1	WASHER LOCK M10
36	0H5360	1	BATTERY CABLE KIT 4.5L G17
37	0G5212A	1	VALVE 1/2"
38	G057822	2	CLAMP HOSE #8.53-1.00
39	0A4707H	1	ADAPTER 1/2NPT X M22-1.5

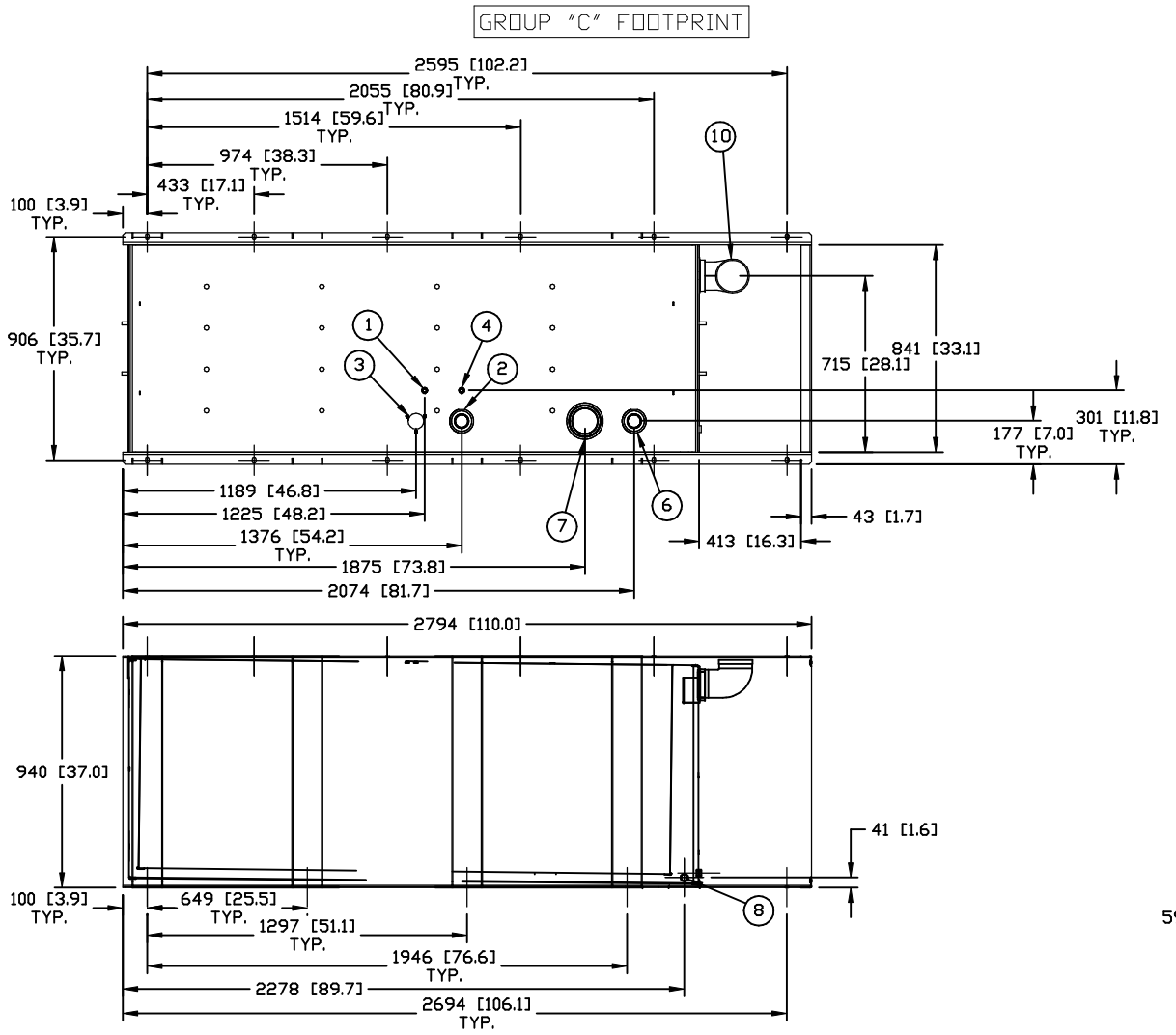
NOTES (UNLESS OTHERWISE SPECIFIED):

(1) SHEET METAL PARTS LISTED IN THE BOM TABLE, PRIOR TO 1/1/16, ARE REPRESENTING GENERIC PARTS (NO COLOR) :
- MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO SAP BOM.
- CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169).

(2) INSTALL FITTINGS AND FUEL CONNECTIONS TO BASE TANK IF REQUIRED.

(3) SEE BILL OF MATERIALS FOR STANDARD OR STAINLESS STEEL COMPONENTS FUEL RETURN AND SUPPLY COMPONENTS. STANDARD FUEL FITTINGS ARE DEPICTED IN THE IMAGERY AS REFERENCE.

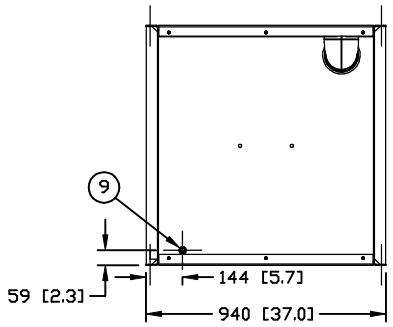
GROUP G



ITEM#	TANK FITTING	PROVIDING FUNCTION
1	3/8" NPT COUPLING	FUEL RETURN
2	2" NPT WELD FLANGE	FUEL FILL
3		MECH. / ELEC. FUEL LEVEL
4	3/8" NPT COUPLING	FUEL SUPPLY
5	NOT USED FOR ANYTHING	
6	2" NPT WELD FLANGE	VENT
7	4" NPT WELD FLANGE	EMERGENCY VENT
8	3/4" NPT COUPLING	DRAIN
9	1/2" NPT COUPLING	LEAK DETECTOR
10	4" NPT WELD FLANGE	OUTER EMERGENCY VENT

TANK P/N - REVISION	0H93880ST03
TOTAL TANK CAPACITY	1344 [355]
USABLE TANK CAPACITY	1325 [350]
DRY WEIGHT	628 Kg. [1384 lbs.]

CAPACITIES SHOWN: LITERS [GALLONS]
WEIGHTS SHOWN: KILOGRAMS [POUNDS]
UL #142 LISTED



REVISION: H-6769-A
DATE: 11/30/10

EXPLODED VIEW:
INSTALL DRAWING B-GRP MNTD ON C-GRP
DRAWING #: 0H9406

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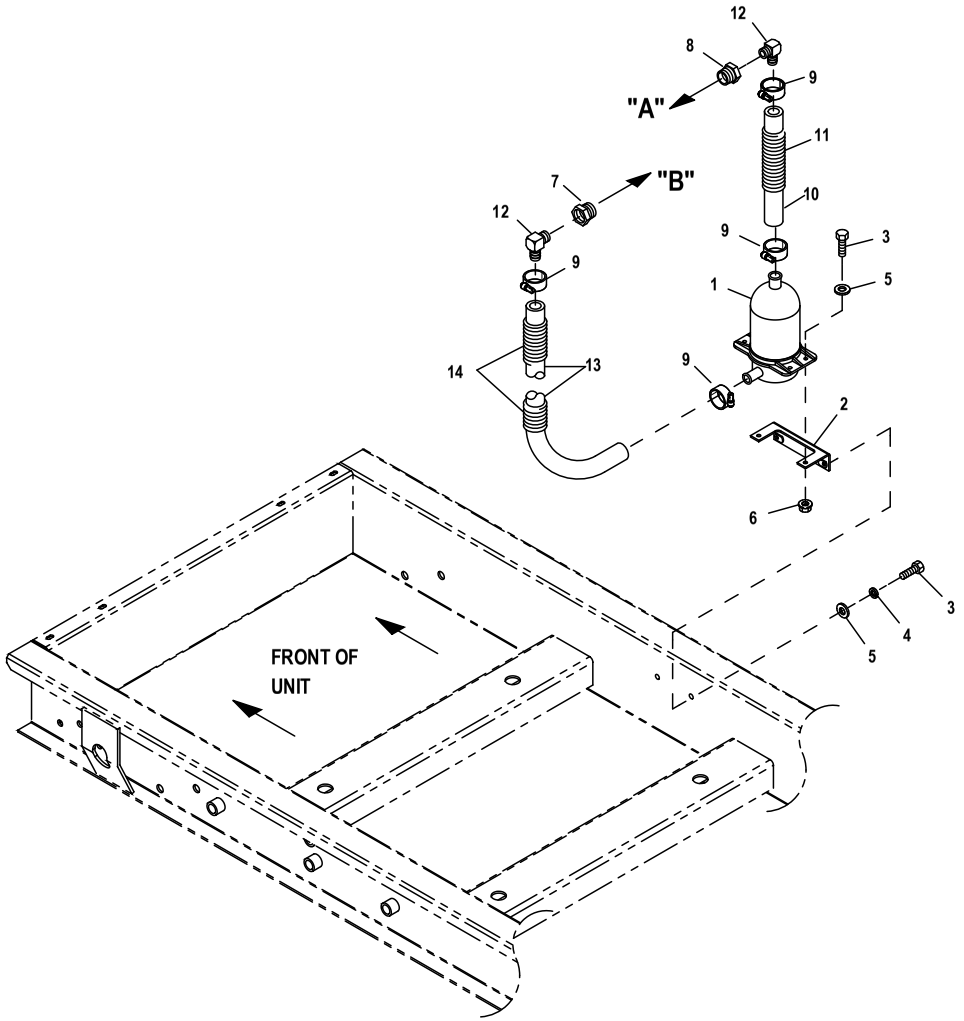
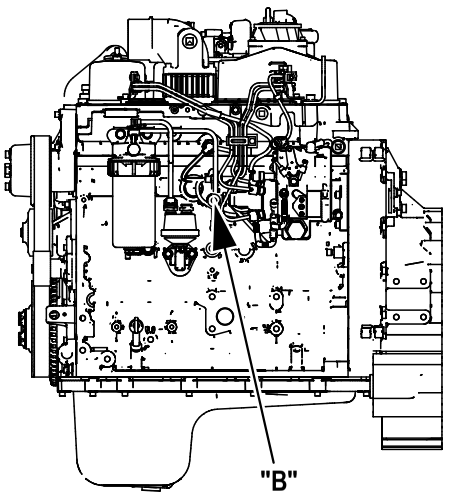
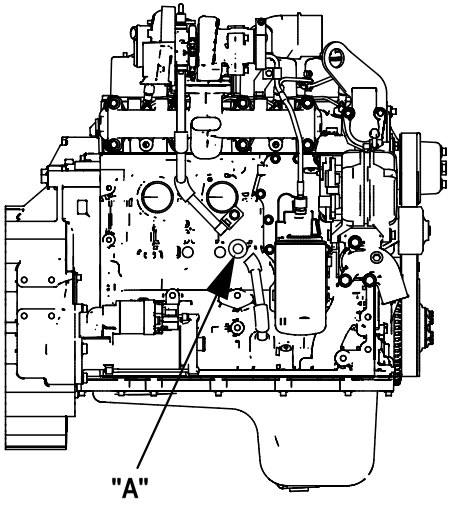

12
8
"A"
9
11
7
"B"
10
12
9
3
1
5
9
14
13
2
9
6
3
4
5
FRONT OF
UNIT


"B"


"A"

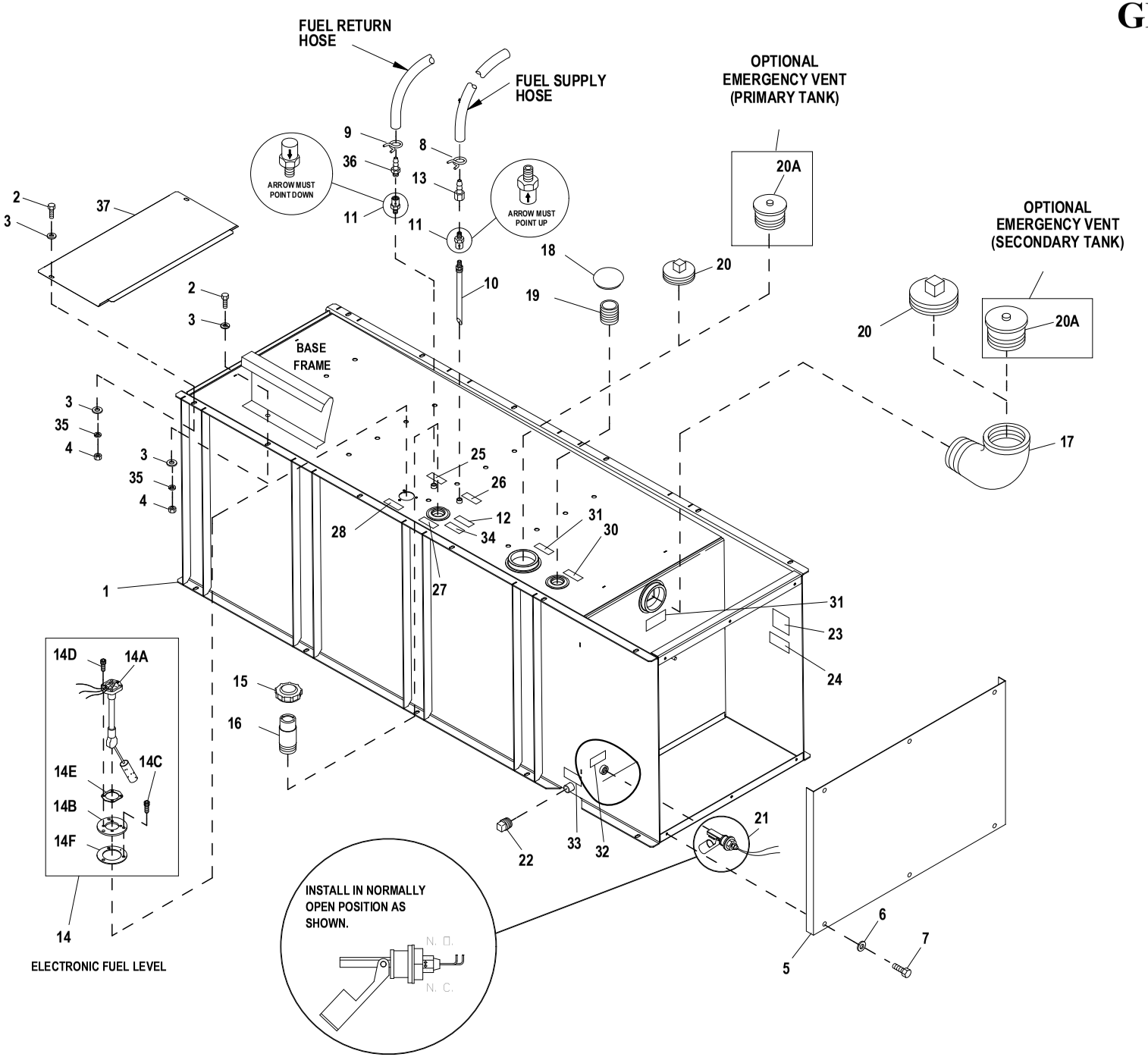
EXPLODED VIEW: EV BLOCK HEATER 4.5L G17

DRAWING #: 0H4603

GROUP C

ITEM	PART#	QTY.	DESCRIPTION
1	084918L	1	HEATER BLOCK 1500W 120V
	084918A	1	HEATER BLOCK 1000W 120V
2	084427	1	BRACKET HEATER W/WELDNUTS
3	042568	4	SCREW HHC M6-1.0 X 20 C8.8
4	022097	2	WASHER LOCK M6-1/4
5	022473	4	WASHER FLAT 1/4-M6 ZINC
6	052857	2	NUT TOP LOCK FL M6-1.0
7	0A4707D	1	ADAPTER 3/8NPT X M16-1.5
8	0A4707E	1	ADAPTER 3/8NPT X M18-1.5
9	G057822	4	CLAMP HOSE #8 .53-1.00
10	050967	1	HOSE COOL 5/8 ID 20R3 (16” LG)
11	077043E	1	CONDUIT FLEX 1.0"ID (13.5” LG)
12	034339	2	BARBED EL 90 3/8NPT X 5/8
13	050967	1	HOSE COOL 5/8 ID 20R3 (37.5”LG)
14	077043F	1	CONDUIT FLEX 1.25"ID (35”LG)

GROUP D



NOTE: APPLY SEALANT TO ALL PIPE THREADS

EXPLODED VIEW: EV BASE EV BASE TANK D4.5F BGRP/CGRP

DRAWING #: A0002308814

GROUP C

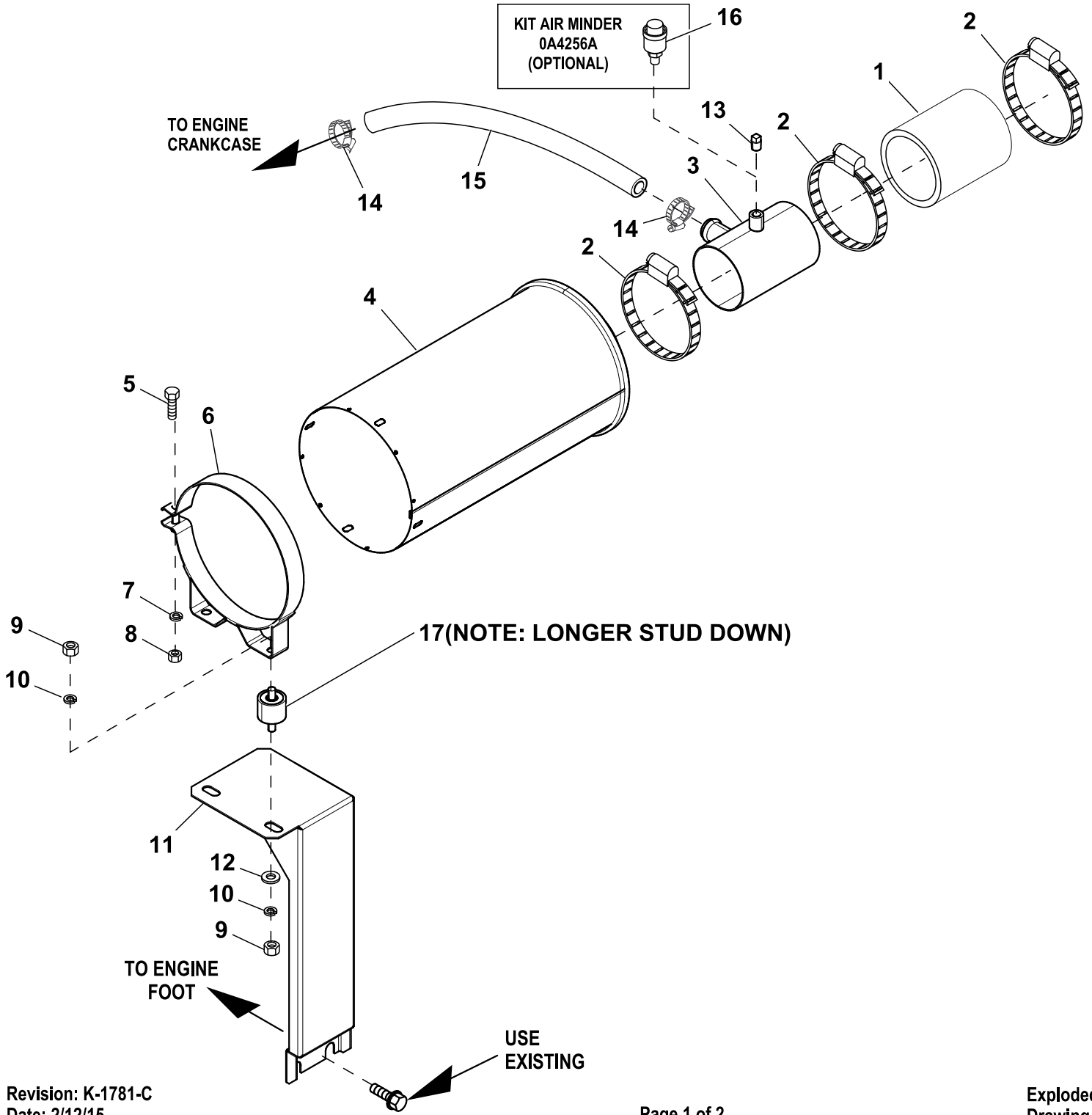
ITEM	PART#	QTY.	DESCRIPTION
(6)1	0H93880ST0R	1	TNK D4.5F B-GRP MNTED TO C-GRP
2	0A7934	10	SCREW HHC 5/8-11 X 1-3/4 G8
3	022247	20	WASHER FLAT 5/8 ZINC
4	022245	10	NUT HEX 5/8-11 STEEL
5	0D3747B	1	COVER STUB-UP 3FT C
6	050190	6	WASHER FLAT .344 ID X 1.0 OD
7	051754	6	SCREW HHC M8-1.25 X 12 G8.8
(7)8	REF	REF	CLAMP HOSE BAND .66
(7)9	REF	REF	CLAMP HOSE BAND .53
10	021623D	1	PIPE FUEL DIP-3FT-FUEL INLET
11	070327	2	VALVE CHECK 3/8 NPT
(1)12	021825F	1	DECAL EMER RELIEF VENT F-GRPDW
(7)13	0D3038A	REF	BARBED STR FE 3/8 NPT X 3/8
14	A0002308608	1	KIT FUEL LEVEL (3FT)
	(TO INCLUDE ITEMS 14A, 14B, 14C, 14D, 14E, & 14F)		
(3)14A	A0002273014	1(REF)	ELEC FUEL GAUGE-240 OHM, 840MM
(3)14B	0D2668	1	PLATE ADAPTOR
(3)14C	052829	3	SCREW SHC M8-1.25 X 14 G12.9
(3)14D	097962	4	SCREW SHC M6-1.0 X 25 G12.9
(3)14E	0E4351	1	GASKET,ROCHESTER FUEL LEVELGAUGE
(3)14F	0E4352	1	GASKET, ADAPTER PLATE
(2)15	0A1492	1	CAP FUEL FILL
(2)16	0D2670A	1	FUEL FILL NECK,210MM LONG
17	028667	1	ELBOW 90D STREET 4" NPT
(2)18	021178	1	VENT OEM 2" NPT
(2)19	090608	1	NIPPLE PIPE 2NPT X 7 BLK IRON
(5)20	028619B	2	PLUG PIPE 4" SQ.HD.
(4)20A	0A1380	2	VENT EMERGENCY 4" NPT
21	096500V	1	ASSY FUEL LEAK DET ALARM W/CON
22	025655	1	PLUG STD PIPE 3/4" STEEL SQ HD
23	021821	1	PLATE GENERAC
24	021823	1	PLATE UL
(1)25	0A1478	1	LABEL FUEL RETURN
(1)26	0A1477	1	LABEL FUEL SUPPLY
(1)27	0A1476	1	LABEL FUEL FILL
(1)28	0A1546	1	LABEL FUEL LEVEL
(1)30	0A1479	1	LABEL VENT
(1)31	021826	2	LABEL VENT EMERGENCY
(1)32	0A1481	1	LABEL DETECTOR LEAK
(1)33	0A1482	1	LABEL DRAIN
(1)34	021824	1	LABEL WARNING
35	022246	10	WASHER LOCK 5/8
(7)36	067982	REF	BARBED STR 3/8NPT X 5/16
(6)37	0H2993TST0R	1	FRONT BLOCK OFF BGRP ON CGRP

NOTES (UNLESS OTHERWISE SPECIFIED):
(1) ITEMS ARE IN LABELS KITS P/N 0A1493
(2) ITEMS ARE IN FUEL FILL KIT P/N 0D2737
(3) ITEMS ARE IN FUEL LEVEL KIT P/N 0H5761A
(4) ITEMS ARE IN EMERGENCY VENT KIT P/N 0D2450
(5) ITEMS ARE IN PIPE PLUG KIT P/N 0D3027
(6) SHEET METAL PARTS LISTED IN THE BOM TABLE ARE REPRESENTING GENERIC PARTS (NO COLOR)

- MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO XA BOM.
- CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169).

(7) SEE BILL OF MATERIAL FOR STANDARD OR STAINLESS STEEL COMPONENTS FUEL RETURN AND SUPPLY COMPONENTS. STANDARD FUEL FITTINGS ARE DEPICTED IN THE IMAGERY AS REFERENCE.

GROUP D


KIT AIR MINDER
0A4256A
(OPTIONAL)
16
2
1
13
2
TO ENGINE
CRANKCASE
15
14
3
14
2
4
5
6
7
8
9
10
17(NOTE: LONGER STUD DOWN)
11
12
10
9
TO ENGINE
FOOT
USE
EXISTING

EXPLODED VIEW: EV AIR CLEANER STD D4.5L G17

DRAWING #: 0J5072

GROUP D

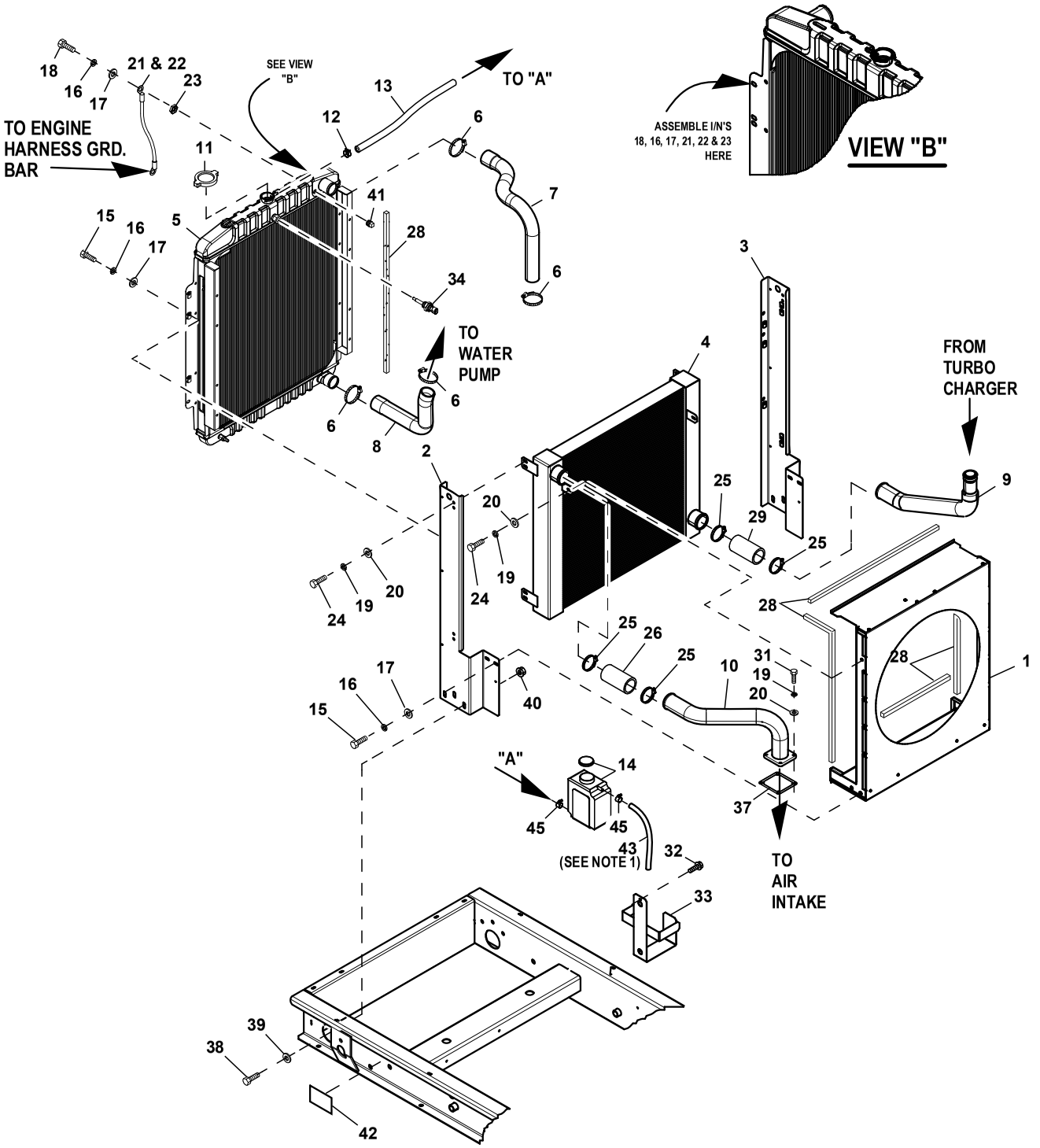
APPLICABLE TO:

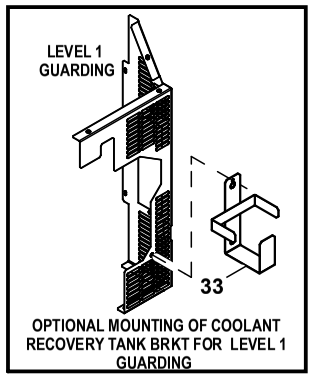
ITEM	PART#	QTY.	DESCRIPTION
1	0A5260A	1	HOSE 3"ID X 3.0"LG
2	066212	3	CLAMP HOSE #52 2.81-3.75
3	0H2371	1	AIR INTAKE TUBE
4	0F1922	1	AIR CLEANER 3"IN X 6.75"OD
5	024200	1	SCREW RHM 1/4-20 X 2-1/2
6	0C4071	1	MOUNTING BAND
7	022097	1	WASHER LOCK M6-1/4
8	022127	1	NUT HEX 1/4-20 STEEL
9	045771	4	NUT HEX M8-1.25 G8 CLEAR ZINC
10	022129	4	WASHER LOCK M8-5/16
(1)11	0J49480ST0R	1	BRACKET AIR CLEANER D4.5L G17
12	022145	2	WASHER FLAT 5/16-M8 ZINC
13	026073	1	PLUG STD PIPE 1/8 STEEL SQ HD
14	057824	2	CLAMP HOSE #16 .87-1.50
15	0C5209	1	HOSE 1ID LOW PRES OIL/WATER (10”LG)
16	0A4256A	1	KIT AIR MINDER
17	085652	2	VIB MNT 25.0 X 31.8 X M8-1.25

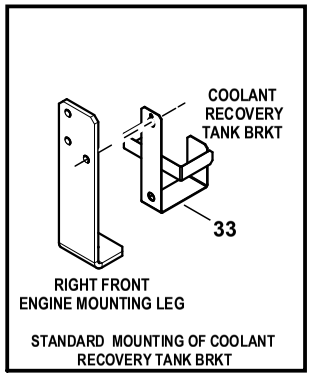
(1) SHEET METAL PARTS LISTED IN THE BOM TABLE ARE REPRESENTING GENERIC PARTS (NO COLOR)

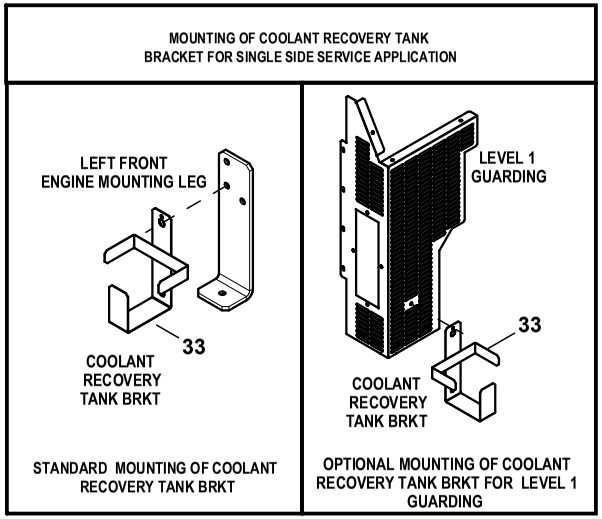
- MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO AS400 BOM.
- CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169).

GROUP D


TO ENGINE HARNESS GRD. BAR
SEE VIEW "B"
TO "A"
ASSEMBLE I/N'S 18, 16, 17, 21, 22 & 23 HERE
VIEW "B"
TO WATER PUMP
FROM TURBO CHARGER
TO AIR INTAKE
"A"
(SEE NOTE 1)


LEVEL 1 GUARDING
33
OPTIONAL MOUNTING OF COOLANT RECOVERY TANK BRKT FOR LEVEL 1 GUARDING


COOLANT RECOVERY TANK BRKT
33
RIGHT FRONT ENGINE MOUNTING LEG
STANDARD MOUNTING OF COOLANT RECOVERY TANK BRKT


MOUNTING OF COOLANT RECOVERY TANK BRACKET FOR SINGLE SIDE SERVICE APPLICATION
LEFT FRONT ENGINE MOUNTING LEG
33
COOLANT RECOVERY TANK BRKT
STANDARD MOUNTING OF COOLANT RECOVERY TANK BRKT
LEVEL 1 GUARDING
33
COOLANT RECOVERY TANK BRKT
OPTIONAL MOUNTING OF COOLANT RECOVERY TANK BRKT FOR LEVEL 1 GUARDING

EXPLODED VIEW: EV COOLING SYSTEM D4.5L 80KW

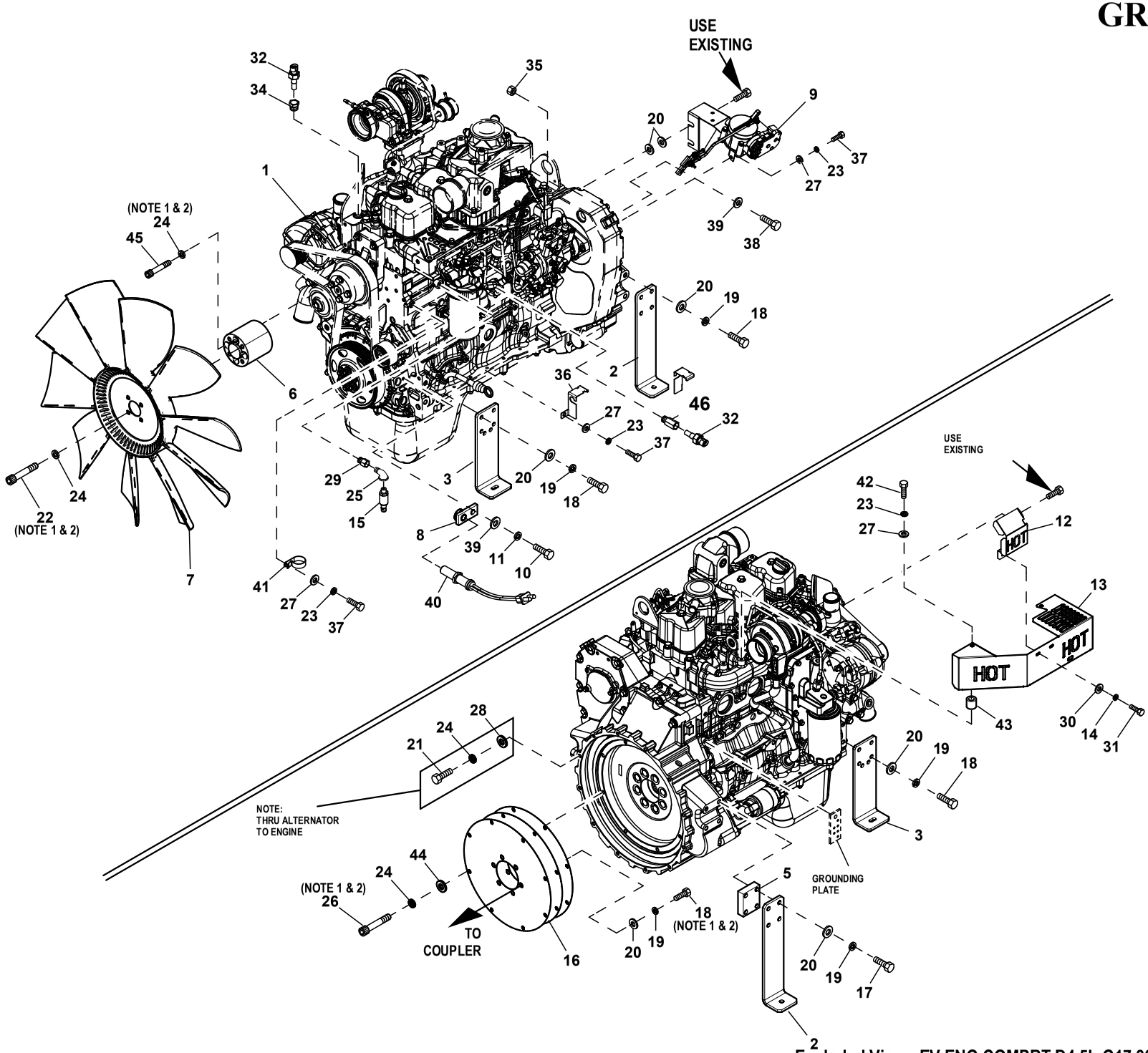
DRAWING #: A0002036819

GROUP D

ITEM	PART#	QTY.	DESCRIPTION
1	0H86460ST03	1	VENTURI, 4.5/6.7L G17 22" FAN
2	0G2900AST03	1	SUPPORT R/H SIDE RADIATOR
3	0G29000ST03	1	SUPPORT L/H SIDE RADIATOR
4	0H1901	1	ASSY CAC 4.5L (IN=LWR/RT)
5	0G1286G	1	RAD RH-IN/OUT DEAERATN BAFFL
	10000030474	1	RAD RH-IN/OUT DEAERATN BAFFLE
6	0G1285C	4	CLAMP CNST TENSION 1.75-2.625
7	0H1985	1	HOSE UPPER RADIATOR
8	0H1984	1	HOSE LOWER RADIATOR
9	0H4166	1	ASSY PIPE CAC-IN 4.5L G17
10	0H4586	1	ASSY CAC OUT 4.5L G17
11	0E4162	1	CAP RADIATOR 20 PSI
12	048031C	1	CLAMP HOSE BAND.50
13	0C8008	1	HOSE 5/16 SAE 30R7 (68”LG)
14	G076749	1	TANK COOLANT RECOVERY
15	G051756	9	SCREW HHC M10-1.5 X 20 C8.8
16	G046526	10	WASHER LOCK M10
17	G022131	10	WASHER FLAT 3/8-M10 ZINC
18	G049814	1	SCREW HHC M10-1.5 X 25 C8.8
19	G022129	14	WASHER LOCK M8-5/16
20	G022145	14	WASHER FLAT 5/16-M8 ZINC
21	0G7895A	1	HARN RADIATOR GND 80"
22	077043H	1	CONDUIT FLEX .25"ID (80”LG)
23	0A4456	1	WASHER LOCK SPECIAL 3/8
24	G039253	10	SCREW HHC M8-1.25 X 20 C8.8
25	0G1285D	4	CLAMP CNST TENSION 2.25-3.125
26	0A5398B	1	HOSE 2.5"ID X 4.0"LG
28	G052250	1	TAPE FOAM 1X1 (184”LG)
29	084294B	1	HOSE 2.5"ID X 4.0"LG
30	G085662	1	TIE WRAP UL 14.6 X .14 BLK (NOT SHOWN)
31	G039287	4	SCREW HHC M8-1.25 X 45 C8.8
32	0C2454	1	SCREW HWHT M6-1 X 16 N WA Z/JS
33	G080712	1	BRKT COOLANT RECOVERY TANK
34	0H1827	1	PROBE COOLANT LEVEL 3/8-18NPTF
37	0H2288	1	GASKET G17 INTAKE MANIFOLD
38	G051768	6	SCREW HHC M12-1.75 X 25 C8.8
39	G049808	6	WASHER FLAT M12
40	G052860	6	NUT TOP LOCK FL M12-1.75
41	026073A	1	PLUG STD PIPE 1/4 STEEL SQ HD
42	G050276	1	DECAL RADIATOR DRAIN
43	G029032	1	HOSE 9/32 ID (8” LG)
44	G057593	1	CABLE TIE MOUNT (NOT SHOWN)
(2)45	0C7649	2	CLAMP HOSE .38-.87

NOTES (UNLESS OTHERWISE SPECIFIED):
(1) FASTEN HOSE TO BRKT COOLANT RECOVERY TANK, I/N 33, USING TIE WRAP I/N 45 AND CABLE TIE MOUNT I/N 44.
(2) TORQUE TO 6 FT LBS

GROUP D



Revision : -A-
Date : 12/2/21

Exploded View : EV ENG COMPRT D4.5L G17 80KW
Drawing No. : A0002036846

EXPLODED VIEW: EV ENG COMPRT D4.5L G17 80KW

DRAWING #: A0002036846

GROUP D

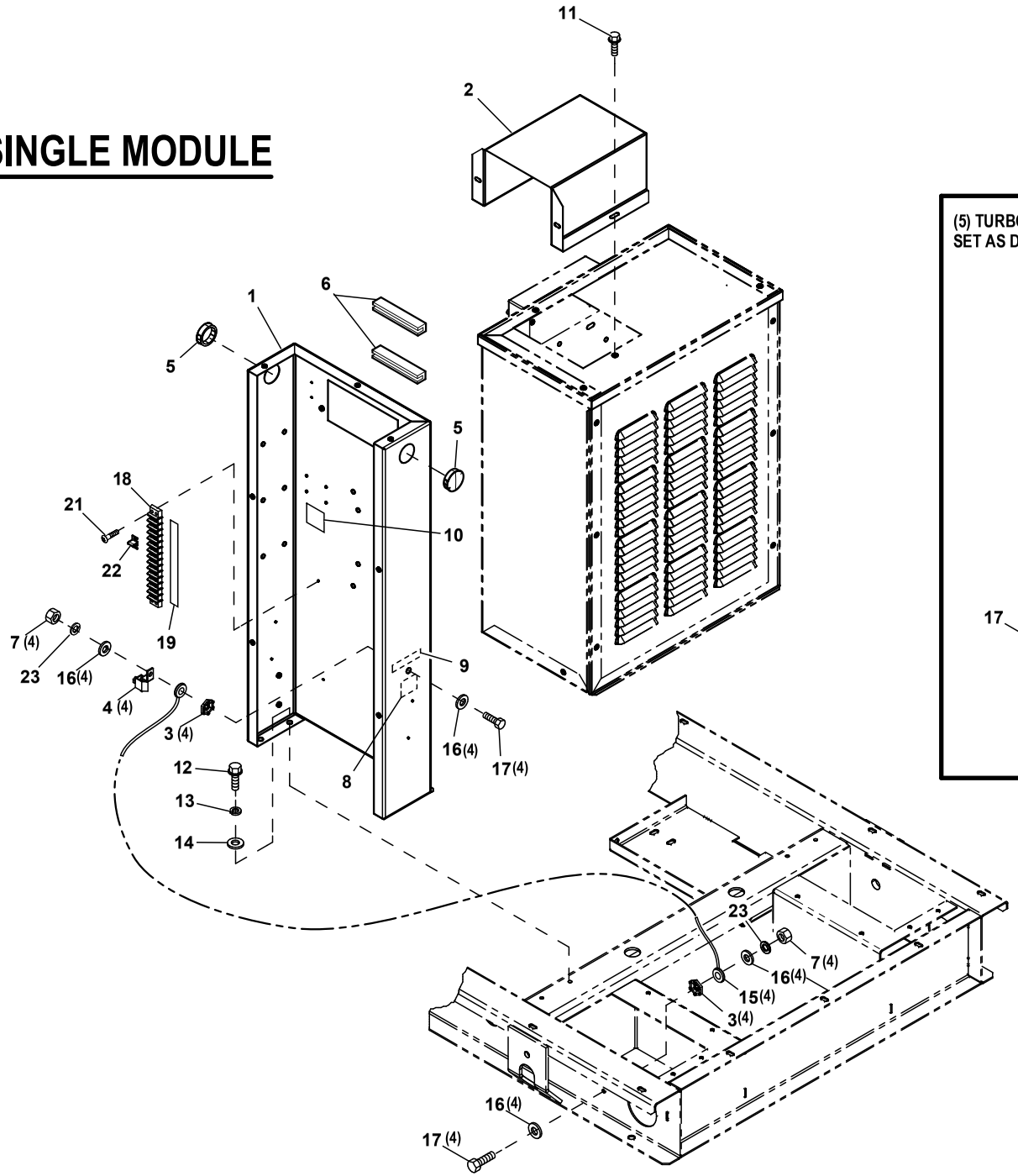
ITEM	PART#	QTY.	DESCRIPTION
1	0H4048	REF	ENGINE D4.5L G17 80KW
2	0H22980ST03	2	ENGINE MOUNT
3	A0000569363	2	ST03 LH/RH ENGINE FOOT 4.5L G17
4	A0002099972	1	HARN COMPLETE D4.5/6.7L G17 PZ410 (NOT SHOWN)
5	0H32010ST03	1	ENGINE FOOT SPACER
6	0H2119B	1	FAN SPACER 4.5L LOW FTP
7	0F4011	1	FAN COOL 22" DIA 10 BLADE LH
8	0H50020ST03	1	MAG PICKUP ADAPTER 6.7L LO G17
9	0H5182A	1	KIT D4.5L G17 BOSCH ACTUATOR
10	G045757	1	SCREW HHC M6-1.0 X 25 C8.8
11	G022097	1	WASHER LOCK M6-1/4
12	0H41880SS0R	1	HEAT SHIELD, TURBO 4.5L G17
13	0H58500SS0R	1	HEAT SHIELD EXHAUST MANIFOLD
14	G049226	2	WASHER LOCK M5
15	10000018192	1	SENSOR-OIL PRESSURE 5V
16	G020604	3	FLEX PLATE
17	G081816	4	SCREW HHC M12-1.75 X 55 C10.9
(1)(2)18	G063837	16	SCREW HHC M12-1.75 X 30 C10.9
19	G051769	20	WASHER LOCK M12
20	G049808	24	WASHER FLAT M12
21	G057642	12	SCREW HHC M10-1.5 X 40 C8.8
(1)(2)22	G052648	4	SCREW SHC M10-1.5 X 20 C12.9
23	G022129	9	WASHER LOCK M8-5/16
24	G046526	28	WASHER LOCK M10
25	G036277	1	ELBOW 90D STREET 1/8
(1)(2)26	0J4574	8	SCREW SHC M10-1.5 X 25 C8.8
27	G022145	5	WASHER FLAT 5/16-M8 ZINC
28	G022131	12	WASHER FLAT 3/8-M10 ZINC
29	0A4707A	1	ADPATER 1/8NPT X M10-1.0
30	G023897	2	WASHER FLAT #10 ZINC
31	G049815	2	SCREW HHC M5-0.8 X 16 G8.8
32	0E0502	2	TEMPERATURE SENDER, DELPHI
33	0G0349	1	HARN OIL TEMP SENDER OPTION (NOT SHOWN)
34	G030418	1	BSHG RDCR HEX 1/2 TO 3/8
35	G052857	1	NUT TOP LOCK FL M6-1.0
36	0F2776A	1	BRACKET SIGNAL CONDITIONER
37	G042907	3	SCREW HHC M8-1.25 X 16 C8.8
38	G047411	1	SCREW HHC M6-1.0 X 16 G8.8
39	G022473	2	WASHER FLAT 1/4-M6 ZINC
40	0D2244M	1	ASSY MAGPICKUP(3/8-24 MALE)
41	055934H	1	CLAMP STL/VNL .62 X .406 Z
42	G042909	2	SCREW HHC M8-1.25 X 30 C8.8
43	022625C	2	SPACER .37 X .75 X .62 ST/ZNC
44	G070264	8	WASHER FLAT M10
(1)(2)45	G090502	4	SCREW SHC M10-1.25 X 60 C12.9
46	0A4707L	1	ADAPTER 3/8NPT X M14-1.5

NOTES (UNLESS OTHERWISE SPECIFIED):

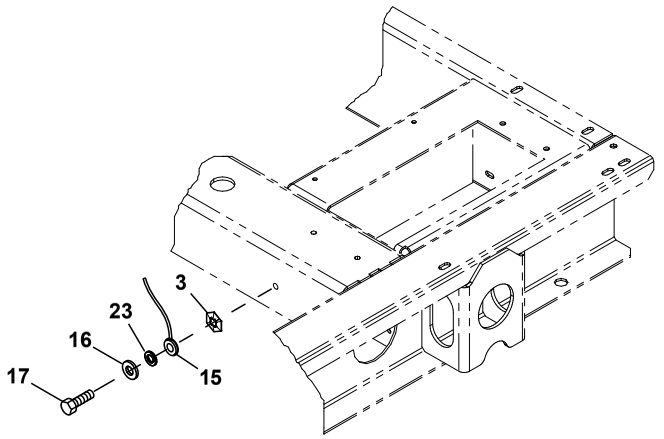
(1) APPLY MEDIUM STRENGTH BLUE THREAD LOCKING FLUID TO THREADS.

(2) ALL STANDARD HARDWARE TO BE TORQUED PER EDS001. (FOR REFERENCE ONLY)

SINGLE MODULE

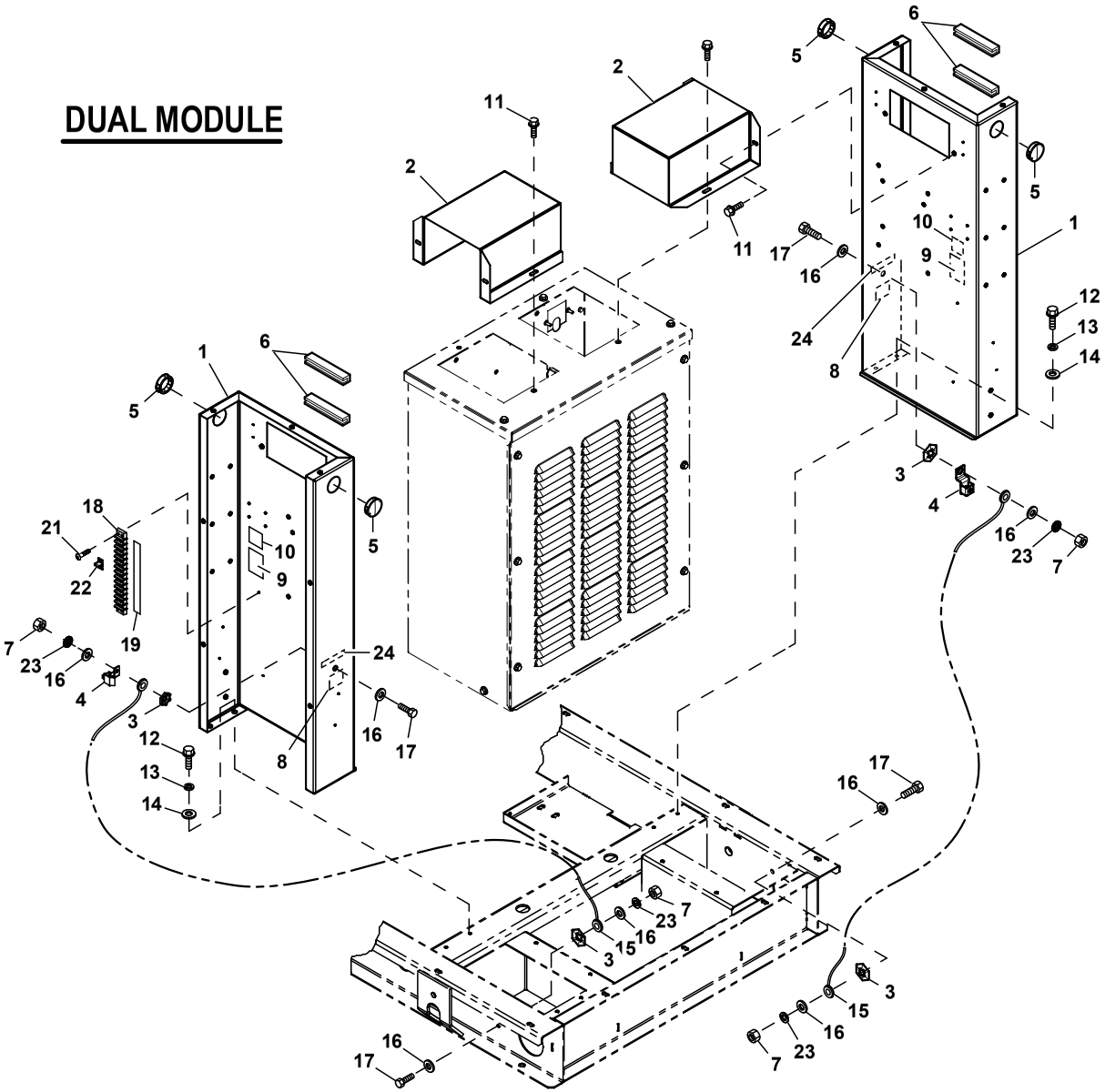


(5) TURBO UNITS HAVE ADDITIONAL HOLES FOR ALTERNATOR UPSIZE, USE LEFTMOST SET AS DEFAULT.

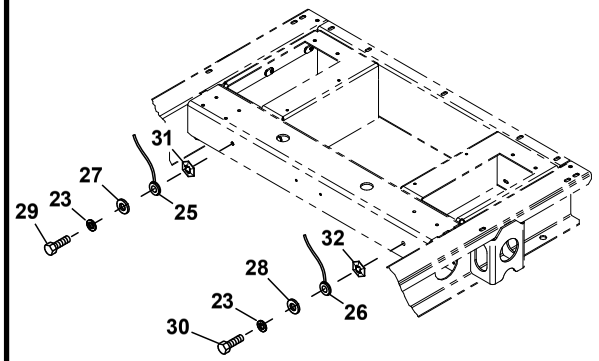


G4.5L UNITS ONLY

DUAL MODULE



(5) TURBO UNITS HAVE ADDITIONAL HOLES FOR ALTERNATOR UPSIZE, USE LEFTMOST SET AS DEFAULT.



G4.5L UNITS ONLY

EXPLODED VIEW: EV CONBOX 390 MODULE

DRAWING #: 0J1339

APPLICABLE TO:

GROUP A

ITEM	PART#	QTY.	DESCRIPTION
		SINGLE MODULE	
(1)1	0H95790ST0R	1	MD1 / MD2 CB MODULE 390 ALT
	(1)(4)0H9579DST0R	1	MD1, MAIN MODULE 390 ALT G5.4L
(1)2	0J17560ST0R	1	WIRE TUNNEL, MD1-2 390 ALT
3	0A4456	2	WASHER LOCK SPECIAL 3/8
4	G061383	1	LUG SLDLSS 3/0-#4 X 13/32 CU
5	0E1534A	2	PLUG PLASTIC 1.50"
6	G056326	2	TRIM VINYL BLACK 1/8GP (7.1"LG)
7	G045772	2	NUT HEX M10-1.5 G8 YEL CHR
8	G067210B	1	DECAL GROUND
9	A0002299389	1	DECAL, GROUNDING ELECTRODE
10	A0005763017	1	DECAL NEUTRAL EN/FR/SP
11	0C2454	4	SCREW HWHT M6-1 X 16 N WA Z/JS
12	G024526	4	SCREW HHTT 5/16-18 X 3/4 CZ
13	G022129	4	WASHER LOCK M8-5/16
14	G022145	4	WASHER FLAT 5/16-M8 ZINC
15	G0441140781	1	WIRE ASM, GND 2/0 WIRE 3/8 LUG
16	G022131	4	WASHER FLAT 3/8-M10 ZINC
17	G049541	2	SCREW HHC M10-1.5 X 35 C8.8
(3)(2)18	0J0455	REF	BLOCK, TERM 14 POS X 8 X 1600V
(3)(2)19	0J9078	REF	DECAL TB4 HV CUSTOMER CONN
(3)(2)21	0J5462	REF	SCREW THTT M4-0.7 X 16 ZP
22	G023827	REF	BLOCK TERM JUMPER FOR S142/542
23	G046526	3	WASHER LOCK M10

NOTES (UNLESS OTHERWISE SPECIFIED):

(1) SHEET METAL PARTS LISTED IN THE BOM TABLE ARE REPRESENTING GENERIC PARTS (NO COLOR)
- MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO SAP BOM.
- CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169).

(2) WILL BE INSTALLED ON PRIMARY CB MODULES ONLY. NOT REQUIRED WITH LOAD CENTER.

(3) NOT REQUIRED IF EQUIPPED WITH 0J1594, KIT BATTERY CHARGER POWER CORD.

(4) ON G4.5L TRUBO UNITS, GROUND WIRE SHOUD BE ROUTED ON OUTSIDE OF ITEM 1 AND ATTACH TO HOLE ON INSIDE OF SUPPORT BRACKET.

		DUAL MODULE	
(1)1	0H95790ST0R	2	MD1 / MD2 CB MODULE 390 ALT
	(1)(4)0H9579DST0R	2	MD1, MAIN MODULE 390 ALT G5.4L
(1)2	0J17560ST0R	2	WIRE TUNNEL, MD1-2 390 ALT
3	0A4456	4	WASHER LOCK SPECIAL 3/8
4	G061383	2	LUG SLDLSS 3/0-#4 X 13/32 CU
5	0E1534A	4	PLUG PLASTIC 1.50"
6	G056326	4	TRIM VINYL BLACK 1/8GP (7.1"LG)
7	G045772	4	NUT HEX M10-1.5 G8 YEL CHR
8	067210A	2	DECAL GROUND LUG
9	0H8006	2	DECAL CAUTION ELEC SHOCK SM
10	A0005763017	2	DECAL NEUTRAL EN/FR/SP
11	0C2454	8	SCREW HWHT M6-1 X 16 N WA Z/JS
12	G024526	8	SCREW HHTT 5/16-18 X 3/4 CZ
13	G022129	8	WASHER LOCK M8-5/16
14	G022145	8	WASHER FLAT 5/16-M8 ZINC
15	G0441140781	2	WIRE ASM, GND 2/0 WIRE 3/8 LUG
16	G022131	8	WASHER FLAT 3/8-M10 ZINC
17	G049541	4	SCREW HHC M10-1.5 X 35 C8.8
(3)(2)18	0J0455	REF	BLOCK, TERM 14 POS X 8 X 1600V
(3)(2)19	0J9078	REF	DECAL, TB4 HV CUSTOMER CONN
(3)(2)21	0J5462	REF	SCREW THTT M4-0.7 X 16 ZP
22	G023827	REF	BLOCK TERM JUMPER FOR S142/542
23	G046526	6	WASHER LOCK M10
24	A0002299389	2	DECAL, GROUNDING ELECTRODE

NOTES (UNLESS OTHERWISE SPECIFIED):

(1) SHEET METAL PARTS LISTED IN THE BOM TABLE ARE REPRESENTING GENERIC PARTS (NO COLOR)
- MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO SAP BOM.
- CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169).

(2) WILL BE INSTALLED ON PRIMARY CB MODULES ONLY. NOT REQUIRED WITH LOAD CENTER.

(3) NOT REQUIRED IF EQUIPPED WITH 0J1594, KIT BATTERY CHARGER POWER CORD.

(4) ON G4.5L TRUBO UNITS, GROUND WIRE SHOUD BE ROUTED ON OUTSIDE OF ITEM 1 AND ATTACH TO HOLE ON INSIDE OF SUPPORT BRACKET.

EXPLODED VIEW: EV CONBOX 390 MODULE

DRAWING #: 0J1339

GROUP A

APPLICABLE TO:

ITEM	PART#	QTY.	DESCRIPTION

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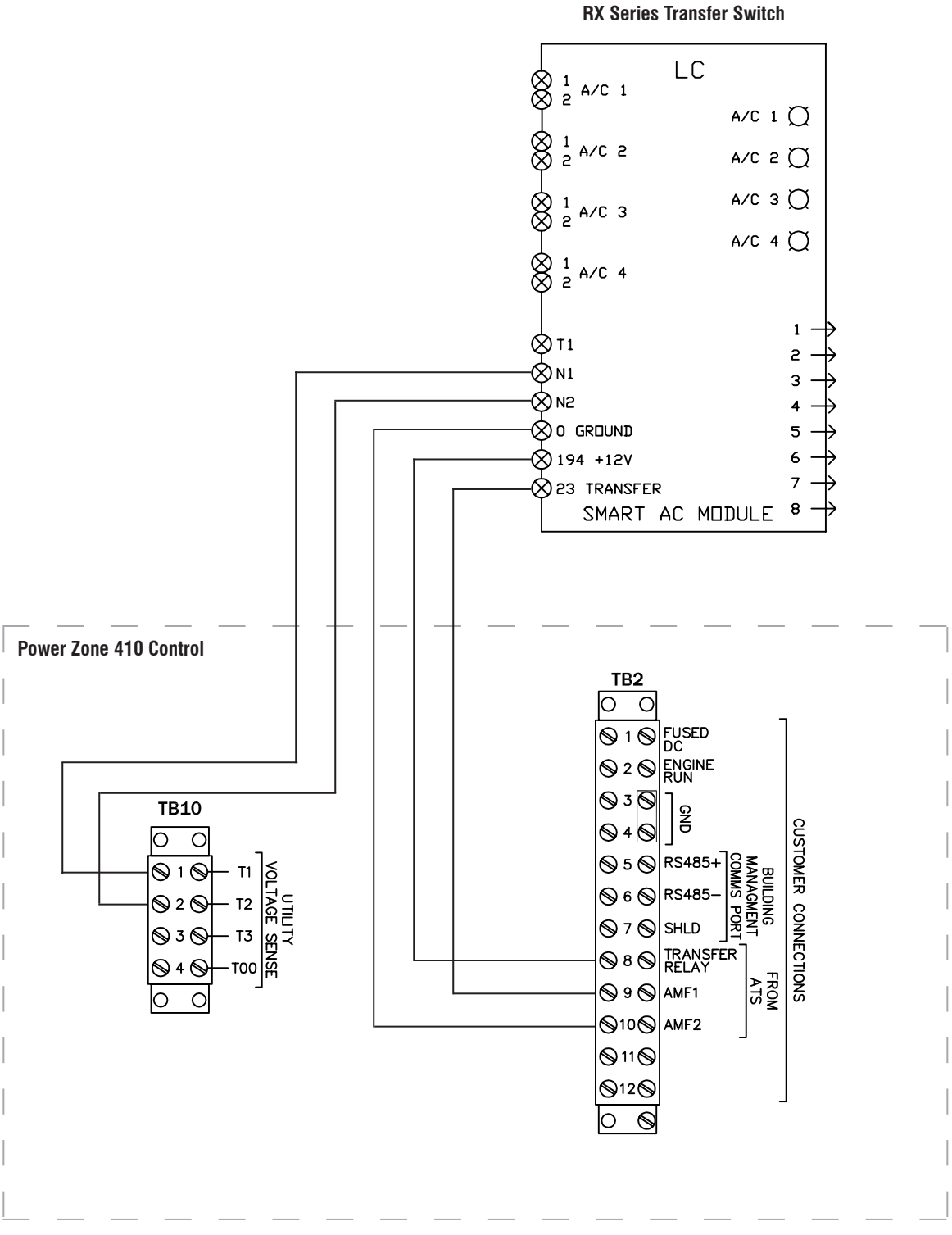
POWER ZONE® CONTROL PLATFORM

Power Zone® 410 Control Interconnections

Power Zone 410 Control with RX Series Transfer Switch



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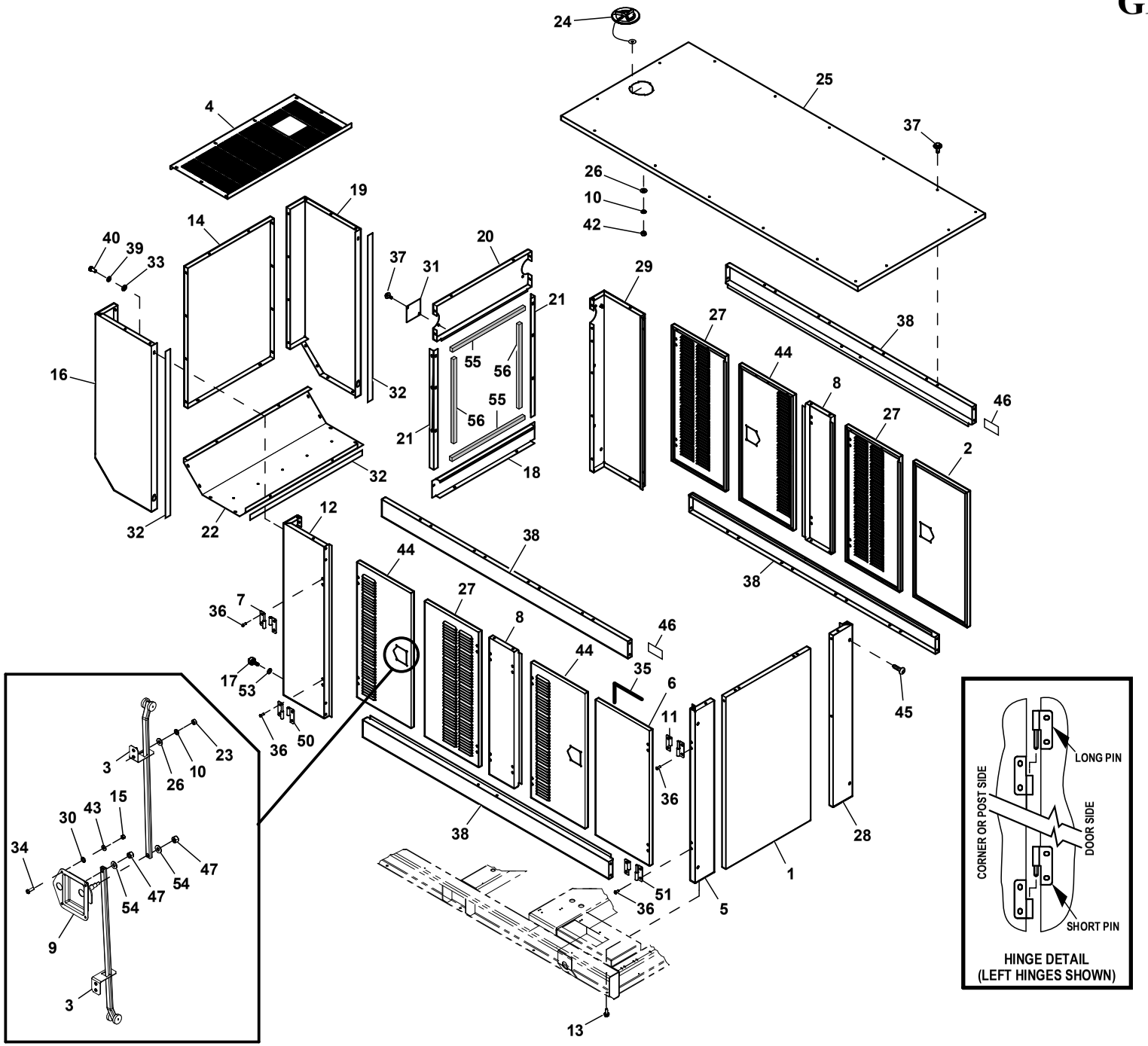
Part No. A0001371118
Rev. B 12/21/21

GROUP F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3
LONG PIN
CORNER OR POST SIDE
DOOR SIDE
SHORT PIN
HINGE DETAIL
(LEFT HINGES SHOWN)

EXPLODED VIEW: EV ENCL STD B-GRP

DRAWING #: 0J0425

GROUP F

ITEM	PART#	QTY.	DESCRIPTION
(1)1	0H98250ST0R	1	CENTER PANEL REAR
(1)2	0J15800ST0R	1	DOOR LH SOLID
(1)3	0J16010ST0R	8	BRACKET, ROD GUIDE
(1)4	0H41870AL0R	1	EXHAUST RH B-GROUP
(1)5	0H98180ST0R	1	CORNER POST LH REAR
(1)6	0J15810ST0R	1	DOOR RH SOLID
7	0C3594	4	ASSY M6 HINGE L/H TOP
(1)8	0H98270ST0R	2	CENTER SUPPORT DOORS B-GRP
9	0J0992	4	T-HANDLE, 2-POINT DBL DOOR
	0J3227	4	T-HANDLE 2PNT W/PADLOCK HASP
10	G022097	17	WASHER LOCK M6-1/4
11	0C3594A	4	ASSY M6 HINGE R/H TOP
(1)12	0H98130ST0R	1	CORNER POST LH FRONT
13	0E3257	14	SCREW HWHTF M6-1.0 X 16
(1)14	0C33360ST0R	1	DUCT FRONT PANEL RAW
15	0C6748	16	NUT HEX LOCK M4-0.7 SS NYL INS
(1)16	0C33330ST0R	1	DUCT FRONT LH RAW
(4)17	0C3393	2	SCREW SHOULDER M8-1.25 X 20
(1)18	0H37650ST0R	1	RAD BLOCKOFF BOT 4.5L G17
(1)19	0C33340ST0R	1	DUCT FRONT RH RAW
(1)20	0H37630ST0R	1	RAD BLOCKOFF UPPER 4.5L G17
(1)21	0H37640ST0R	2	RAD BLOCKOFF SIDES 4.5L G17
(1)22	0C33350ST0R	1	DUCT BOTTOM RAW
23	G049813	16	NUT HEX M6-1.0 G8 CLEAR ZINC
24	0C2634A	1	ASSY ACCESS COVER
(1)25	0K9593AAL0R	1	ASSY, ROOF B-GRP
26	G022473	17	WASHER FLAT 1/4-M6 ZINC
(1)27	0J15830ST0R	3	DOOR RH LOUVERED
(1)28	0H98160ST0R	1	CORNER POST RH REAR
(1)29	0H98150ST0R	1	CORNER POST RH FRONT
30	G022769	4	WASHER LOCK INT #10
(1)31	A0002462979	1	COVER EXHAUST HOLE GALV
32	G066760	1	STRIP SEALANT 1/8 X 1 (165.6” LG)
33	G022145	2	WASHER FLAT 5/16-M8 ZINC
34	0C6749	16	SCREW PPHM M4-0.7 X 12 SS
35	0A9881	1	TRIM VINYL SEAL 590.4" LG
36	0A3359	64	SCREW BHSC M6-1.0 X 16 SS
37	0C2454	86	SCREW HWHT M6-1 X 16 N WA Z/JS
(1)38	0H98260ST0R	4	BRACE SIDE TOP & BOTTOM
39	G022129	2	WASHER LOCK M8-5/16
(4)40	G039253	2	SCREW HHC M8-1.25 X 20 C8.8
41	0J0993A	8	ROLLER ROD, T-HANDLE
42	G022127	1	NUT HEX 1/4-20 STEEL
43	G080490	16	WASHER FLAT #8 SS
(1)44	0J15820ST0R	3	DOOR LH LOUVERED
45	0C3397	4	SCREW RATCHET BLK NYLON
46	0E7222	24	RAIN SHIELD,DOOR JAMB
(3)47	G027529	REF	NUT HEX LOCK 1/4-20 NY INS
48	0J6432	6	SMALL DOOR CARDBOARD INSERT (NOT SHOWN)
49	0C3948	8	SPACER DOOR (NOT SHOWN)
50	0C3594B	4	ASSY, M6 HINGE LH BOTTOM
51	0C3594C	4	ASSY, M6 HINGE RH BOTTOM
(2)52	G077992	50	NUT HEX LOCK M6-1.0 SS NY INS
53	G070006	2	WASHER LOCK M8 SS
(3)54	G022473	REF	WASHER FLAT 1/4-M6 ZINC
55	G052250	2	TAPE FOAM 1X1 (30” LG)
56	G052250	2	TAPE FOAM 1X1 (33” LG)

NOTES (UNLESS OTHERWISE SPECIFIED):

(1) SHEET METAL PARTS LISTED IN THE BOM TABLE, PRIOR TO 1/1/16, ARE REPRESENTING GENERIC PARTS (NO COLOR) :

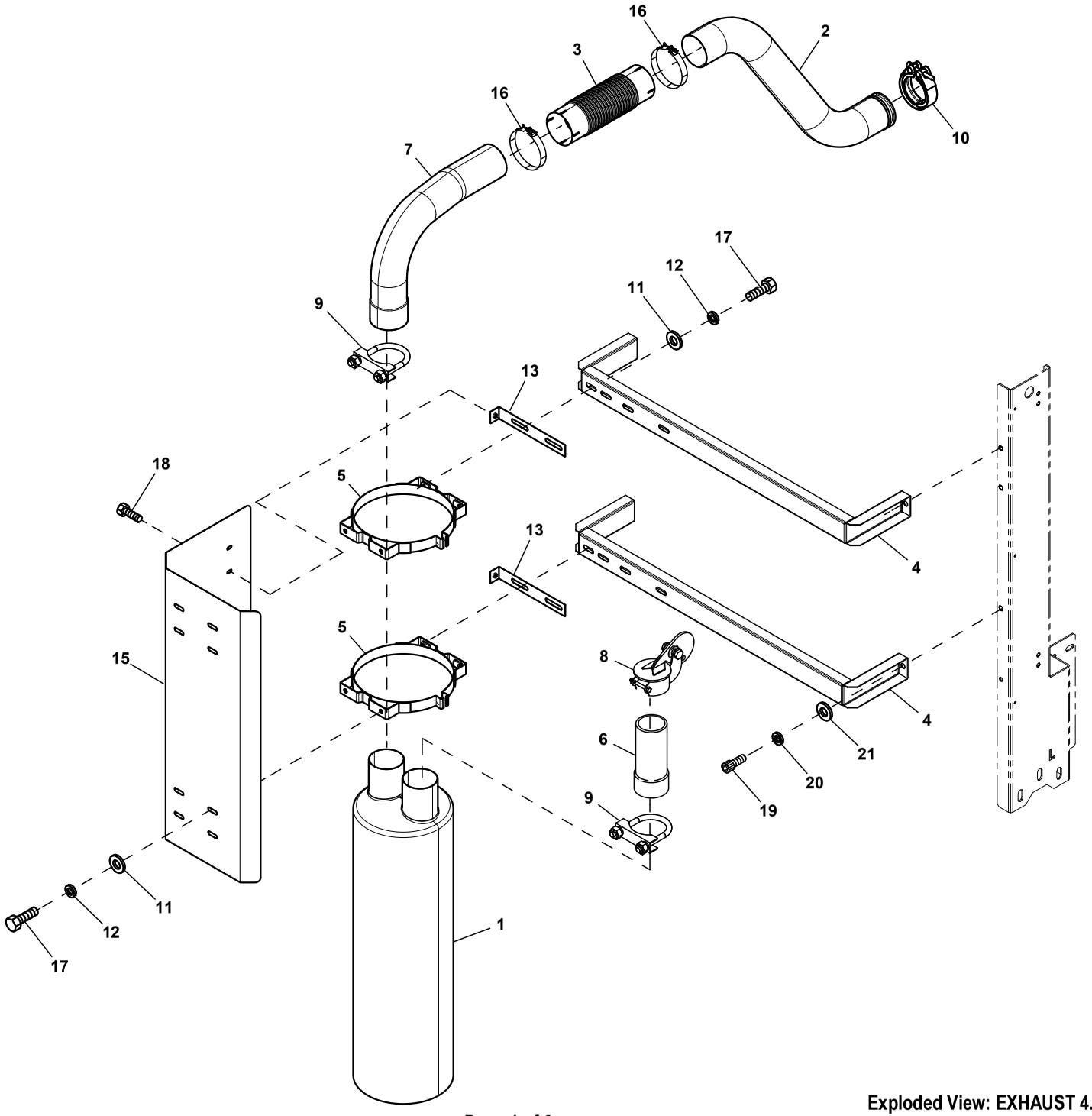
- MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO SAP BOM.
- CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169).

(2) FOR ALUMINUM ENCLOSURES ONLY.

(3) HARDWARE INCLUDED IN ITEM 9 P/N 0J0992

(4) APPLY BLUE LOCTITE

GROUP F



Revision: CN-0068522-J
Date: 4/5/23

Exploded View: EXHAUST 4.5L G17
Drawing No.: 0H4164

EXPLODED VIEW: EV EXH 4.5L G17

DRAWING #: 0H4164

GROUP F

ITEM	PART#	QTY.	DESCRIPTION
1	0C9652	1	MUFFLER 3” INLET/OUTLET
	0C9652A	1	MUFFLER,3"DIA IN&OUTLT W/DRAIN
2	0H4162	1	ASSY 4.5L G17 EXHAUST
3	0A5215C	1	PIPE FLEX 3”
(2)4	A0000910059	2	ST03 BRACKET MUFFLER MTG
5	0C4114	2	CLAMP MUFFLER BAND
6	0C9640	1	TUBE STRAIGHT 'B' GROUP
7	0K9539	1	3" TUBE 90 DEG ELBOW 'B' GROUP
8	G059902	1	RAIN CAP 3.00 / 3.19
9	G055978	2	BOLT U 3/8-16 X 3.25
(1)10	0H6303	1(REF)	CLIP
11	G022145	8	WASHER FLAT 5/16-M8 ZINC
12	G022129	8	WASHER LOCK M8-5/16
13	0C4170	2	BRACKET EXHAUST SHIELD
14	0G3011	1	BLANKET EXHAUST (NOT SHOWN)
15	0C3094	1	HEAT SHIELD GEN 2
16	0C3433B	2	CLAMP BAND 3.0"
17	G042907	8	SCREW HHC M8-1.25 X 16 G8.8
18	0C2454	2	SCREW TH-FRM M6-1 X 16 N WA Z/JS
19	G052647	4	SCREW SHC M10-1.5 X 25 C12.9
20	G046526	4	WASHER LOCK M10
21	G022131	4	WASHER FLAT 3/8-M10 ZINC

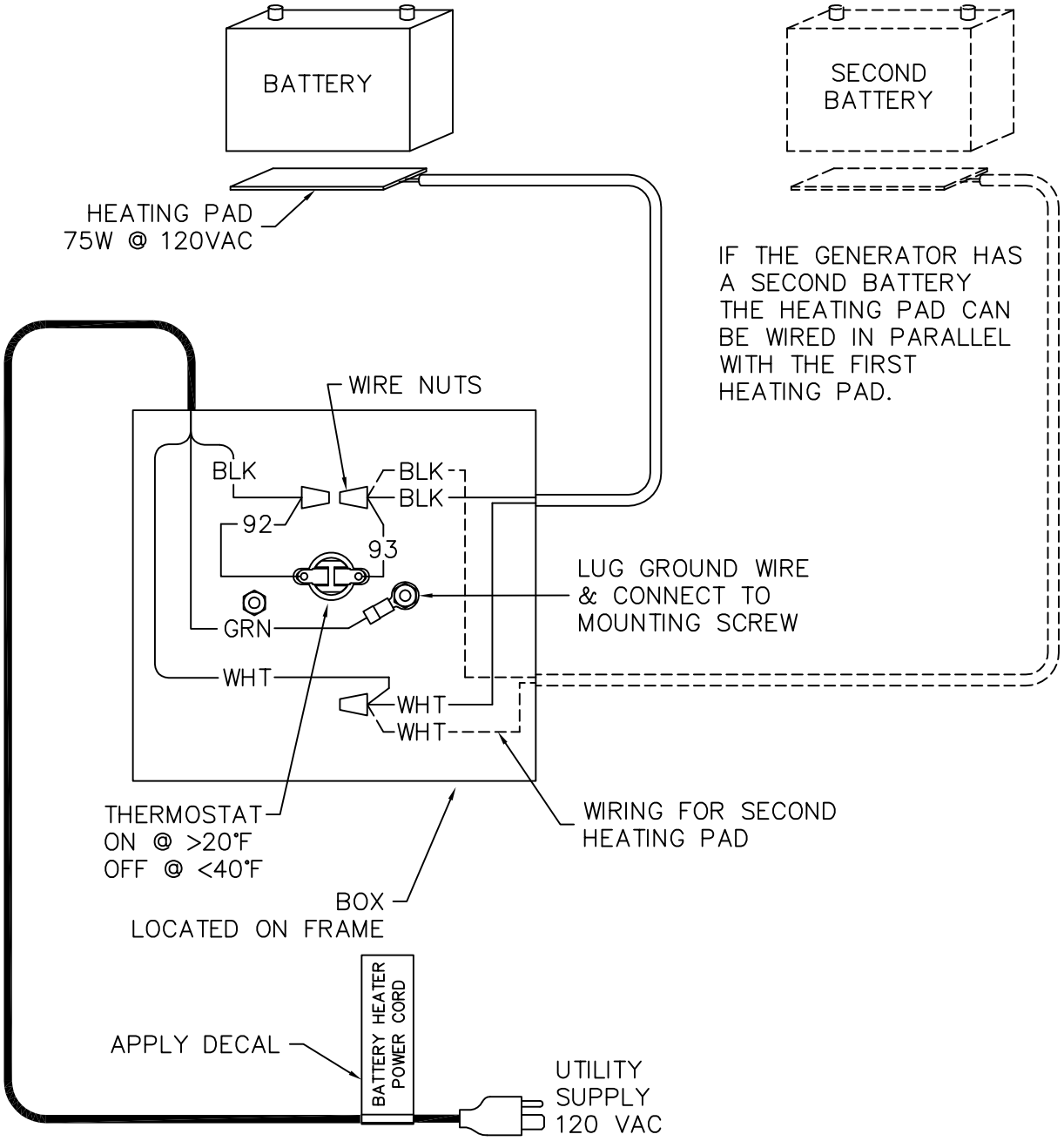
NOTES (UNLESS OTHERWISE SPECIFIED):

(1) SUPPLIED WITH ENGINE KIT.

(2) SHEET METAL PARTS LISTED IN THE BOM TABLE, PRIOR TO 1/1/16, ARE REPRESENTING GENERIC PARTS (NO COLOR) :

- MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO SAP BOM.
- CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169).

WIRING FOR BATTERY HEATERS



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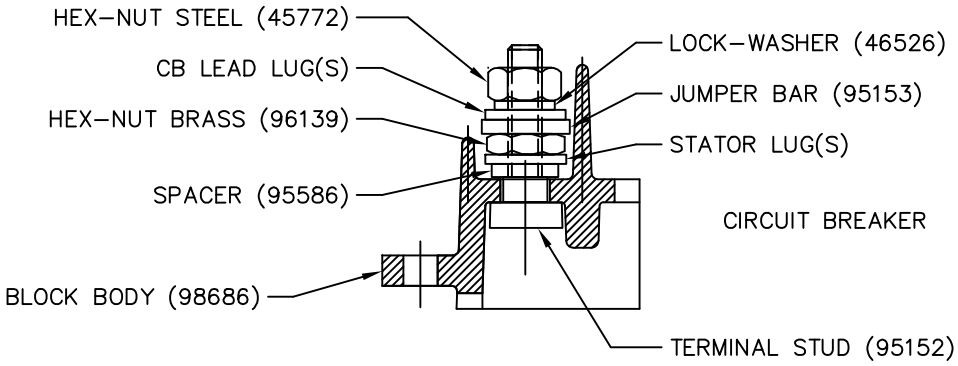
GROUP G

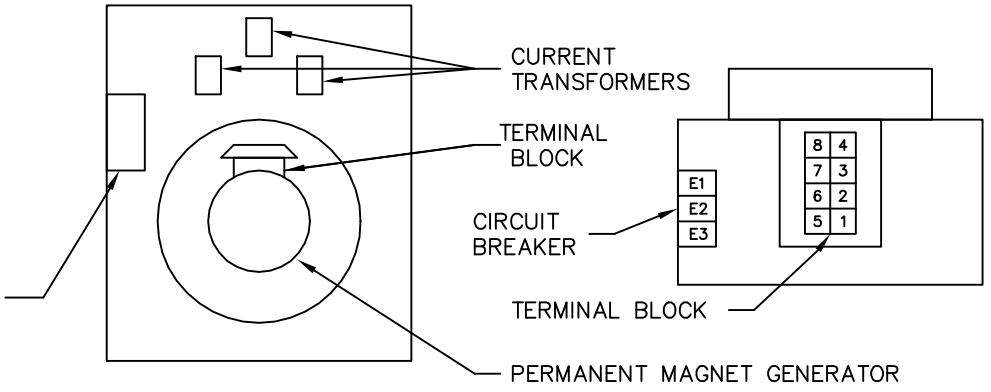
POINT TO POINT CONNECTIONS FOR 390mm PME STATORS WITH CONFIGURABLE TERMINAL BLOCKS				
VOLTAGE CODE	D,J + P (SERIES DELTA)	G & N (PARALLEL WYE)	K & R (SERIES WYE)	A & M (PARALLEL ZIG-ZAG)
FIT JUMPER BAR(S) AS FOLLOWS	–	LINK 8 TO 4	LINK 8 TO 4	LINK 8 TO 4
	–	LINK 7 TO 3	–	LINK 7 TO 3
	–	LINK 6 TO 2	–	LINK 6 TO 2
	–	LINK 5 TO 1	–	LINK 5 TO 1
FIT WIRE LINKS AS FOLLOWS	TB7 TO CB E1	TB7 TO CB E1	TB7 TO CB E1	TB8 TO CB E1
	TB6 TO CB E2	TB6 TO CB E2	TB6 TO CB E2	TB5 TO CB E3
	TB5 TO CB E3	TB5 TO CB E3	TB5 TO CB E3	–
LOCATION OF NEUTRAL	TB3	LINK BETWEEN TB8 + TB4	LINK BETWEEN TB8 + TB4	LINK BETWEEN TB7 + TB3
CONNECT STATOR LEADS AS FOLLOWS	S6 + S9 TO TB1	S9 TO TB1	S6 + S9 TO TB1	S9 TO TB1
	S5 + S8 TO TB2	S8 TO TB2	S5 + S8 TO TB2	S6 + S8 TO TB2
	S4 + S7 TO TB3	S7 TO TB3	S4 + S7 TO TB3	S4 + S5 TO TB3
	S3 + S10 TO TB5	S4,S5 + S6 TO TB4	S3 TO TB5	S7 TO TB4
	S2 + S12 TO TB6	S3 TO TB5	S2 TO TB6	S3 TO TB5
	S1 + S11 TO TB7	S2 TO TB6	S1 TO TB7	S2 + S12 TO TB6
	–	S1 TO TB7	S10,S11+S12 TO TB8	S10 + S11 TO TB7
	–	S10,S11+S12 TO TB8	–	S1 TO TB8

WIRE SIZES AND PART NUMBERS FOR TERMINAL BLOCK TO CIRCUIT BREAKER CONNECTION									
VOLTAGE CODE	D,J + P (SERIES DELTA)		G & N (PARALLEL WYE)		K & R (SERIES WYE)		A & M (PARALLEL ZIG-ZAG)		
POWER	P/N (SIZE)	QTY	P/N (SIZE)	QTY	P/N (SIZE)	QTY	P/N (SIZE)	QTY	
20kW 50Hz TO 35kW 60Hz	115-44114 (6)	1	118-44114 (4)	1	121-44114 (10)	1	124-44114 (2)	1	T1
	116-44114 (6)	1	119-44114 (4)	1	122-44114 (10)	1	–	–	T2
	117-44114 (6)	1	120-44114 (4)	1	123-44114 (10)	1	126-44114 (2)	1	T3
32kW 50Hz TO 50kW 60Hz	118-44114 (4)	1	124-44114 (2)	1	127-44114 (8)	1	130-44114 (2/0)	1	T1
	119-44114 (4)	1	125-44114 (2)	1	128-44114 (8)	1	–	–	T2
	120-44114 (4)	1	126-44114 (2)	1	129-44114 (8)	1	132-44114 (2/0)	1	T3
48kW 50Hz TO 80kW 60Hz	130-44114 (2/0)	1	130-44114 (2/0)	1	121-44114 (10)	2	124-44114 (2)	2	T1
	131-44114 (2/0)	1	131-44114 (2/0)	1	122-44114 (10)	2	–	–	T2
	132-44114 (2/0)	1	132-44114 (2/0)	1	123-44114 (10)	2	126-44114 (2)	2	T3
80kW 50Hz TO 125kW 60Hz	136-44114 (3/0)	1	133-44114 (1)	2	124-44114 (2)	1	136-44114 (3/0)	2	T1
	137-44114 (3/0)	1	134-44114 (1)	2	125-44114 (2)	1	–	–	T2
	138-44114 (3/0)	1	135-44114 (1)	2	126-44114 (2)	1	138-44114 (3/0)	2	T3

SECTIONAL VIEW OF TERMINAL BLOCK ASSY.



END AND PLAN VIEWS OF GENERATOR LOWER PANEL



EXPLODED VIEW:
390M TERMINAL BLOCK
DRAWING #: G099924

REVISION: -A-
DATE: 11/19/97

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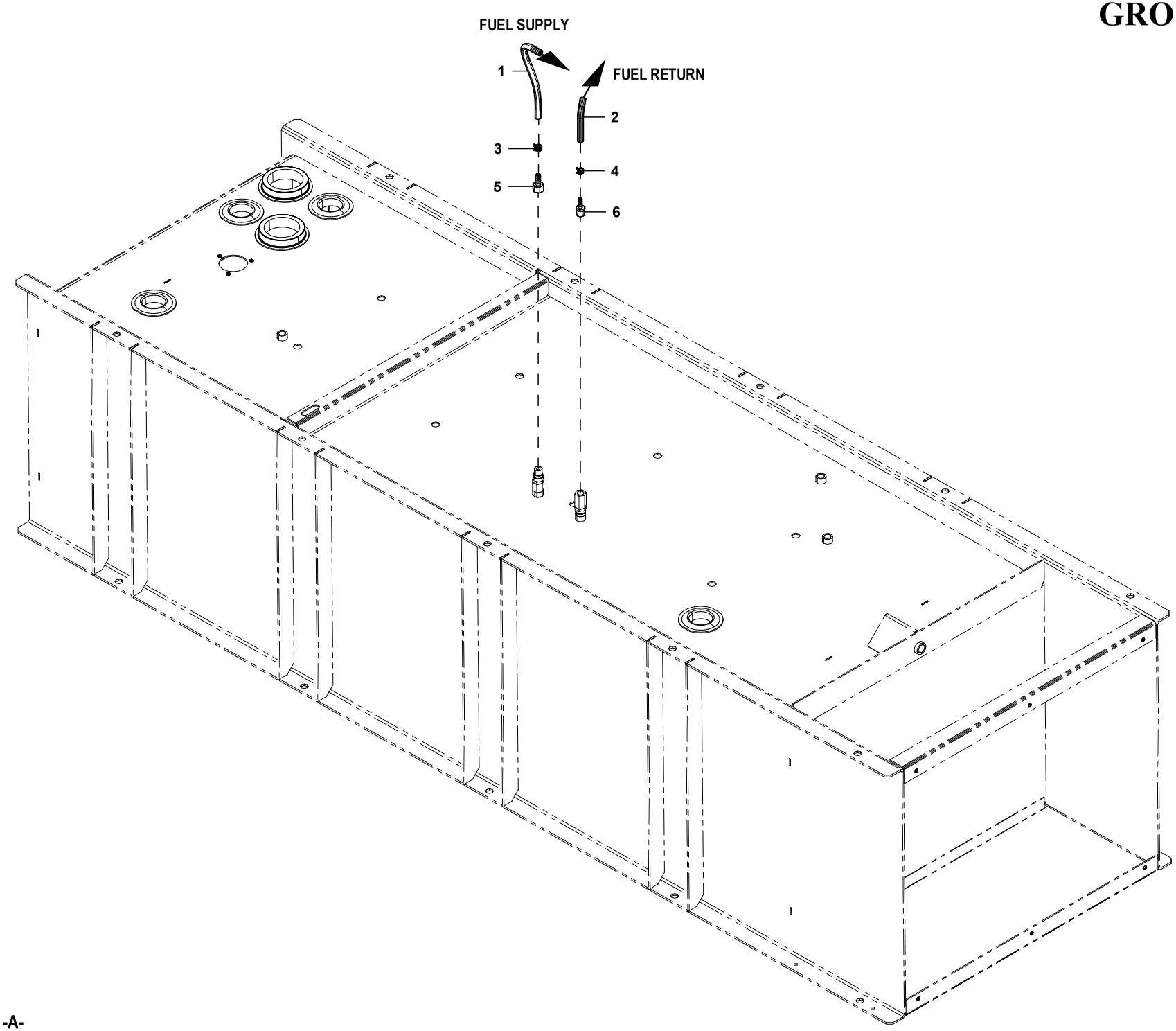


Revision : -A-
Date :09/01/22

Exploded View : EV KIT STANDARD FUEL FITTINGS TANK D4.5L
Drawing No. : A0003282968

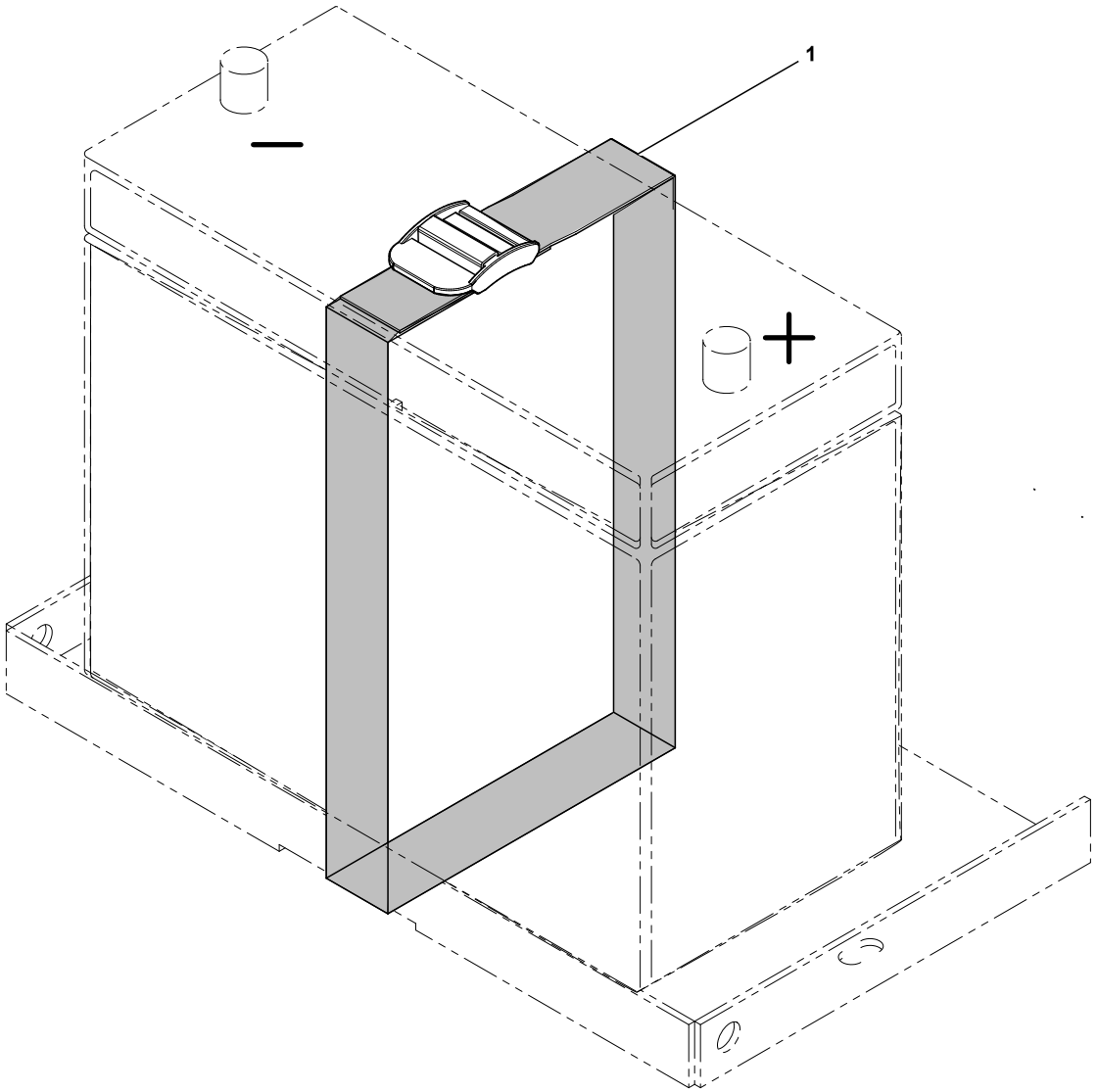
EXPLODED VIEW: EV KIT STANDARD FUEL FITTINGS TANK D4.5L

DRAWING #: A0003282968

GROUP C

APPLICABLE TO:

ITEM	PART#	QTY.	DESCRIPTION
1	0D7532	1	HOSE DIESEL 3/8 FC598-06(67")
2	0C8008	1	HOSE 5/16 SAE 30R7(24")
3	048031J	1	CLAMP HOSE BAND .63
4	048031N	1	CLAMP HOSE BAND .53
5	0D3038A	1	BARBED STR FE 3/8 NPT X 3/8
6	G067982	1	BARBED STR 3/8NPT X 5/16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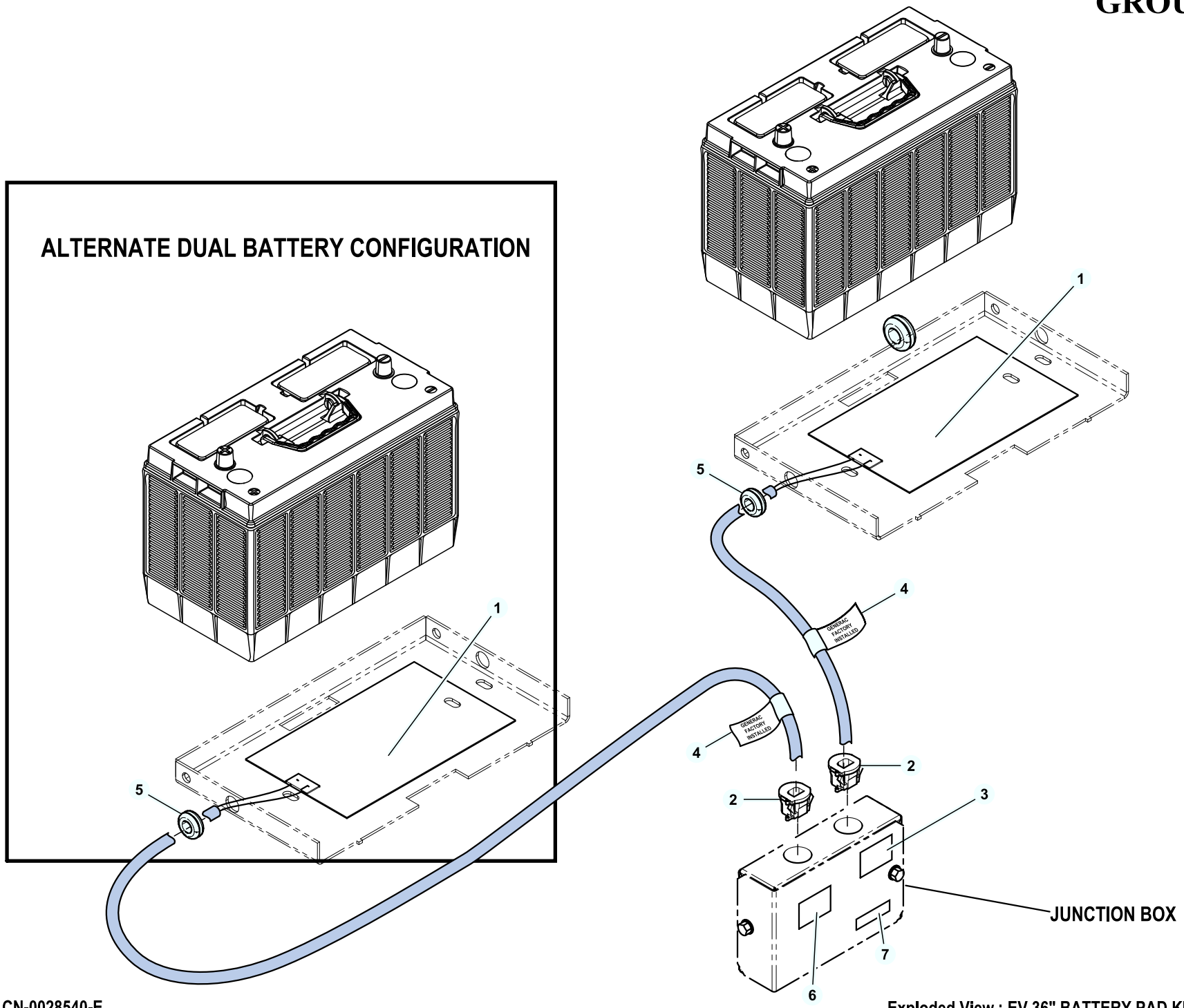
EXPLODEDVIEW: EV KIT BATT HOLD DOWN STRAP

DRAWING#: A0001819941

GROUP C

APPLICABLETO:

ITEM	PART#	QTY.	DESCRIPTION
1	0J3501	1	STRAP BATTERY 1.5X36


ALTERNATE DUAL BATTERY CONFIGURATION
1
5
4
GENMAC FACTORY INSTALLED
2
3
JUNCTION BOX
6
7

EXPLODED VIEW: EV 36" BATTERY PAD KITS

DRAWING #: 0J9038

GROUP H

ITEM	PART#	QTY.	DESCRIPTION
(1)1	0J3259	1 / 2	HEATING PAD 120VAC 75W 6X10
(1)2	0J8896	1 / 2	BUSHING, STRAIN RND(.290-.385)
3	0G5704	1	DECAL BATT WARMER CONNECTION
(1)(2)4	0J9273	1 / 2	LABEL FACTORY INSTALLED
5	030809	1 / 2	GROMMET 11/16 X 1/8 X 7/16
(3)6	0G3546A	1	DECAL WRN BATT CHRG 120VAC TRI
(3)7	0H8147	1	DECAL HEATER PREP KIT

(1) QUANTITY REQUIRED FOR SINGLE BATTERY CONFIGURATION / QUANTITY REQUIRED FOR DUAL BATTERY CONFIGURATION.
(2) ONLY INCLUDED IF KIT IS FACTORY INSTALLED.
(3) STRUCTURED WITH KIT 0H8026.

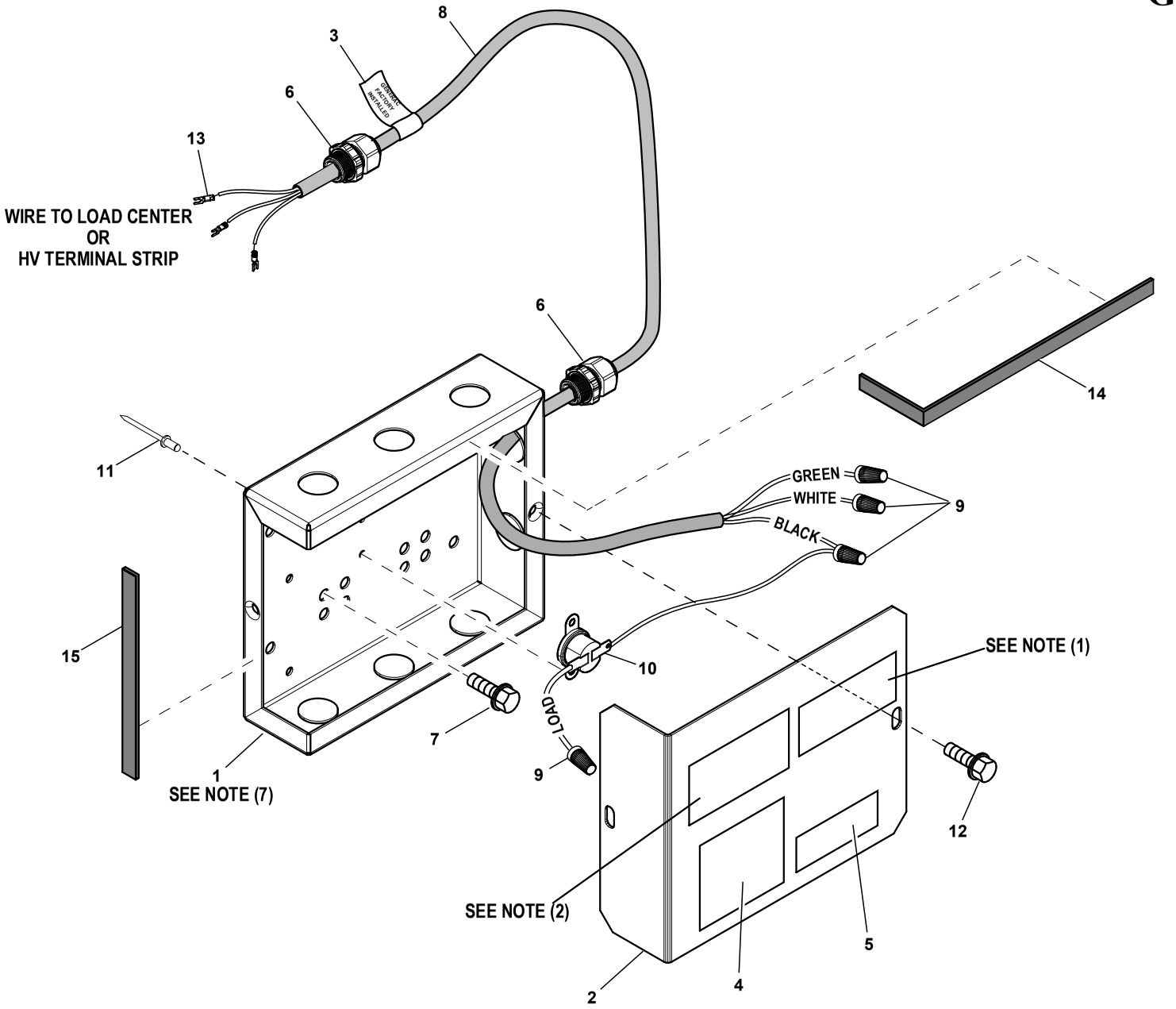
Battery Heater Connection

1. Disconnect battery cables to prevent accidental start-up. Disconnect the negative battery cable first from the battery post indicated by (-) or NEG.
2. Make sure power is off from the appropriate power source.
3. Install grommet(s) (item 5) into battery tray. Push wires thru grommet (item 5).
4. To connect the wires, hold the bare metal leads together and place a wire nut over them, then twist clockwise until tight. For all these connections, use the wires nuts provided.
5. Connect the ground wire from 120V power source to the ground wire from battery heater.
6. Using wire nuts provided connect the white wire and black wire from the battery heater as follows:
   - The white (common) power wire from 120V power source to 1st wire from the battery heater.
   - The wire from load side of thermostat to 2nd wire from the battery heater.
   - Reference wiring diagram 0J3444B

CAUTION: Be sure no bare wire or wire strands are visible after making connections.

7. Push all wires and wire nuts into junction box.
8. Assemble junction box cover to junction box.
9. Reconnect battery cables to battery posts. Connect the positive cable first to the battery post indicated by (+) or POS.

GROUP H


8
3
6
13
WIRE TO LOAD CENTER
OR
HV TERMINAL STRIP
6
14
11
GREEN
WHITE
BLACK
9
15
10
SEE NOTE (1)
LOAD
9
7
1
SEE NOTE (7)
12
SEE NOTE (2)
5
4
2

EXPLODED VIEW: EV HEATER PREP KIT INSTALLED

DRAWING #: 0J9037

GROUP H

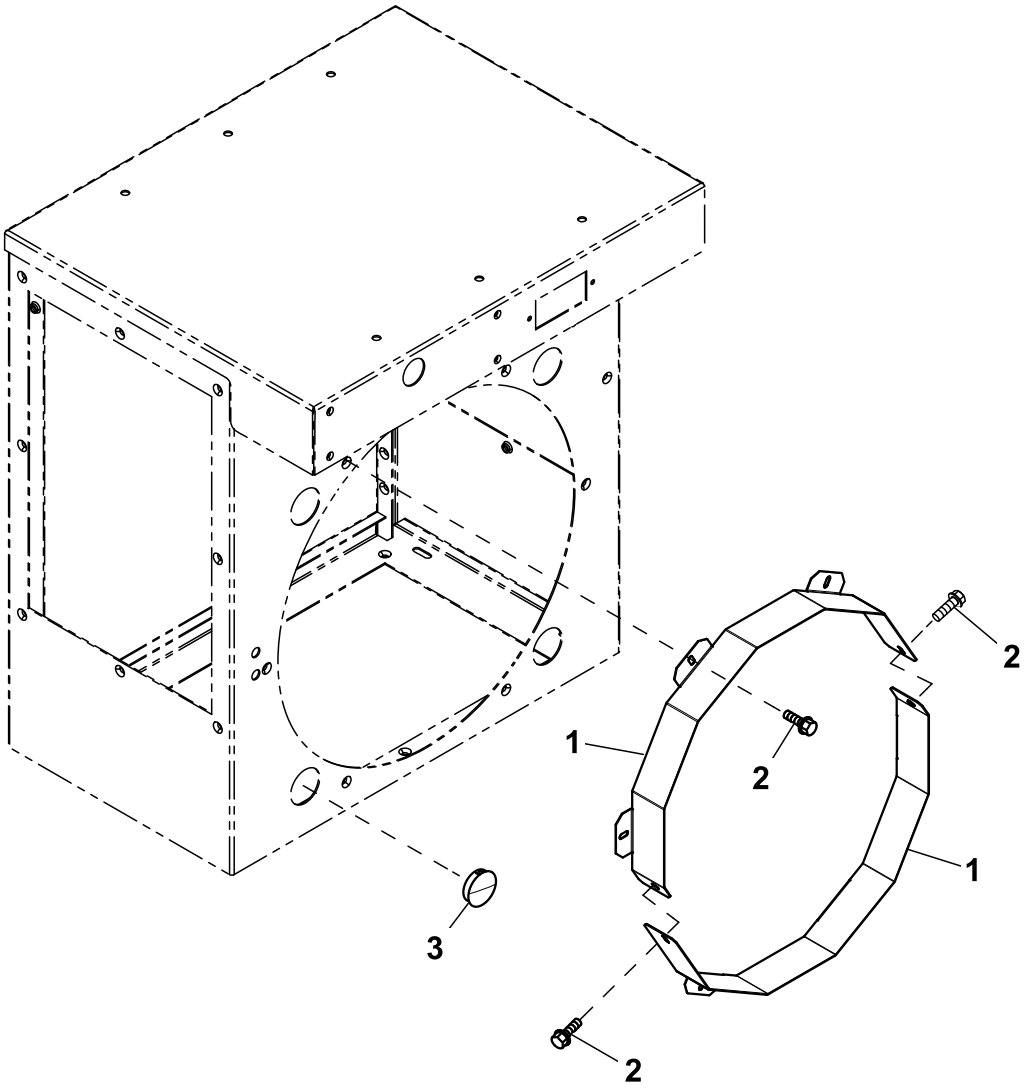
ITEM	PART#	QTY.	DESCRIPTION
(3)(7)1	0H55060ST0R	1	JUNCTION BOX
(3)2	0H55070ST0R	1	JUNCTION BOX COVER
(4)3	0J9273	1	LABEL FACTORY INSTALLED
4	0G3546A	1	DECAL WRN BATT CHRG 120VAC TRI
5	0H8147	1	DECAL HEATER PREP KIT
6	A0007082985	2	STRAIN RLF, M20 .170/.450 ID, WT
7	0E3257	2	SCREW HWHTF M6-1.0 X 16
8	0J8182	1	CABLE 18-3 TYPE SE00W/ST00W (120"LG)
(6)9	G027959	4	WIRE NUT #30-451 YEL
	G033123	4	WIRE NUT #452 RED
10	G052010	1	ASSY THERMOSTAT AND LEAD
11	G036261	2	RIVET POP .125 X .275 SS
12	0C2454	2	SCREW HWHT M6-1 X 16 N WA Z/JS
(5)13	G061532	3	LUG SNPSPD INS 16-14 X.3 X.88
14	089961B	2	FOAM STRIP 10MM WIDE X 2MM THK (9.3" LG)
15	089961B	2	FOAM STRIP 10MM WIDE X 2MM THK (5.2" LG)

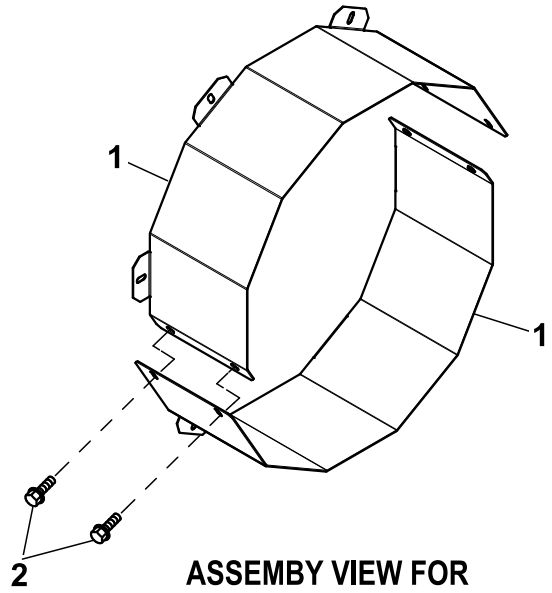
NOTES (UNLESS OTHERWISE SPECIFIED):
(1) PARTS INCLUDED IN OPTIONAL BATTERY WARMER KIT.
(2) PARTS INCLUDED IN OPTIONAL OIL WARMER.
(3) SHEET METAL PARTS LISTED IN THE BOM TABLE, PRIOR TO 1/1/16, ARE REPRESENTING GENERIC PARTS (NO COLOR) :

- MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO SAP BOM.
- CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169).

(4) ONLY INCLUDED IF KIT IS FACTORY INSTALLED.
(5) ONLY TO BE USED WHEN WIRING TO HV TERMINAL STRIP.
(6) G027959 USED IN KIT OH8026.
G033123 USED IN KIT 0H8026A.
(7) UNUSED MOUNTING HOLES TO BE COVERED WITH WEATHER SEAL (P/N 0F6145).

GROUP H





ASSEMBY VIEW FOR SHROUD 0J75910ST0R ONLY

EXPLODED VIEW: EV 390 ALT SHROUD KIT CCI

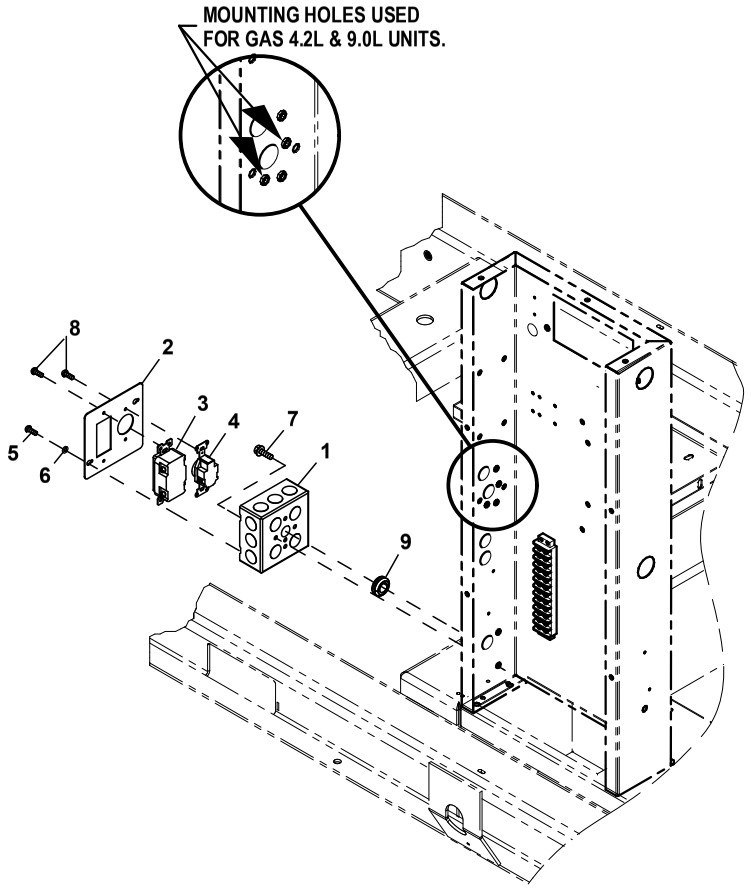
DRAWING #: 0J7592

GROUP H

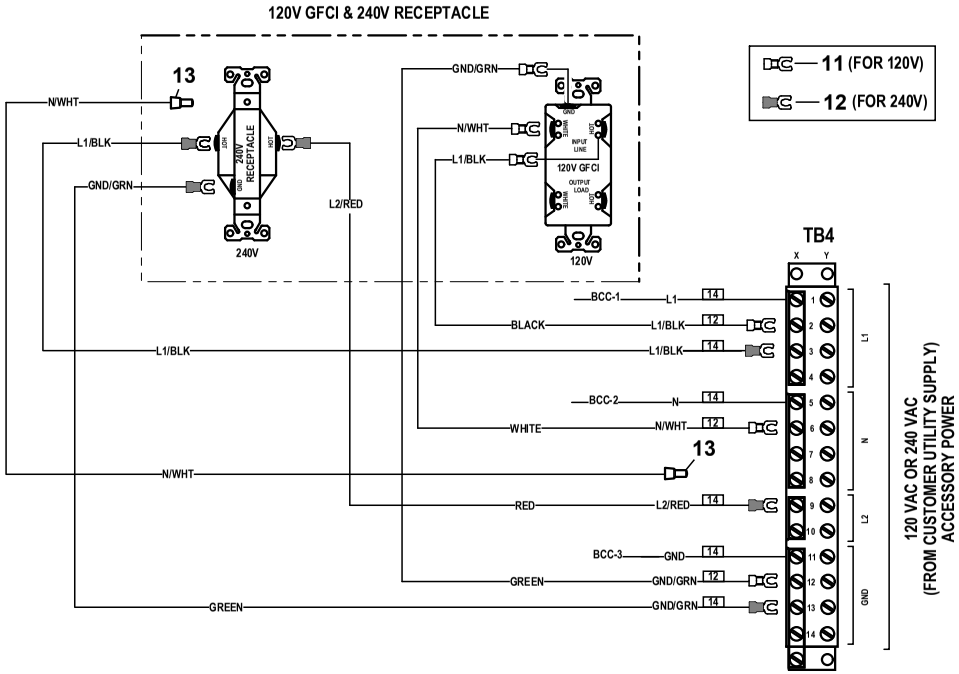
ITEM	PART#	QTY.	DESCRIPTION
(1)1	0J7590AST0R	2	SHROUD 390 ALT X 76MM
	0J75900ST0R	2	SHROUD 390 ALT X 50MM
	0J75910ST0R	2	SHROUD 390 ALT X 150MM
(2)2	0C2454	8/10	SCREW HWHT M6-1 X 16 N WA Z/JS
3	0E1534A	4	PLUG PLASTIC 1.50"

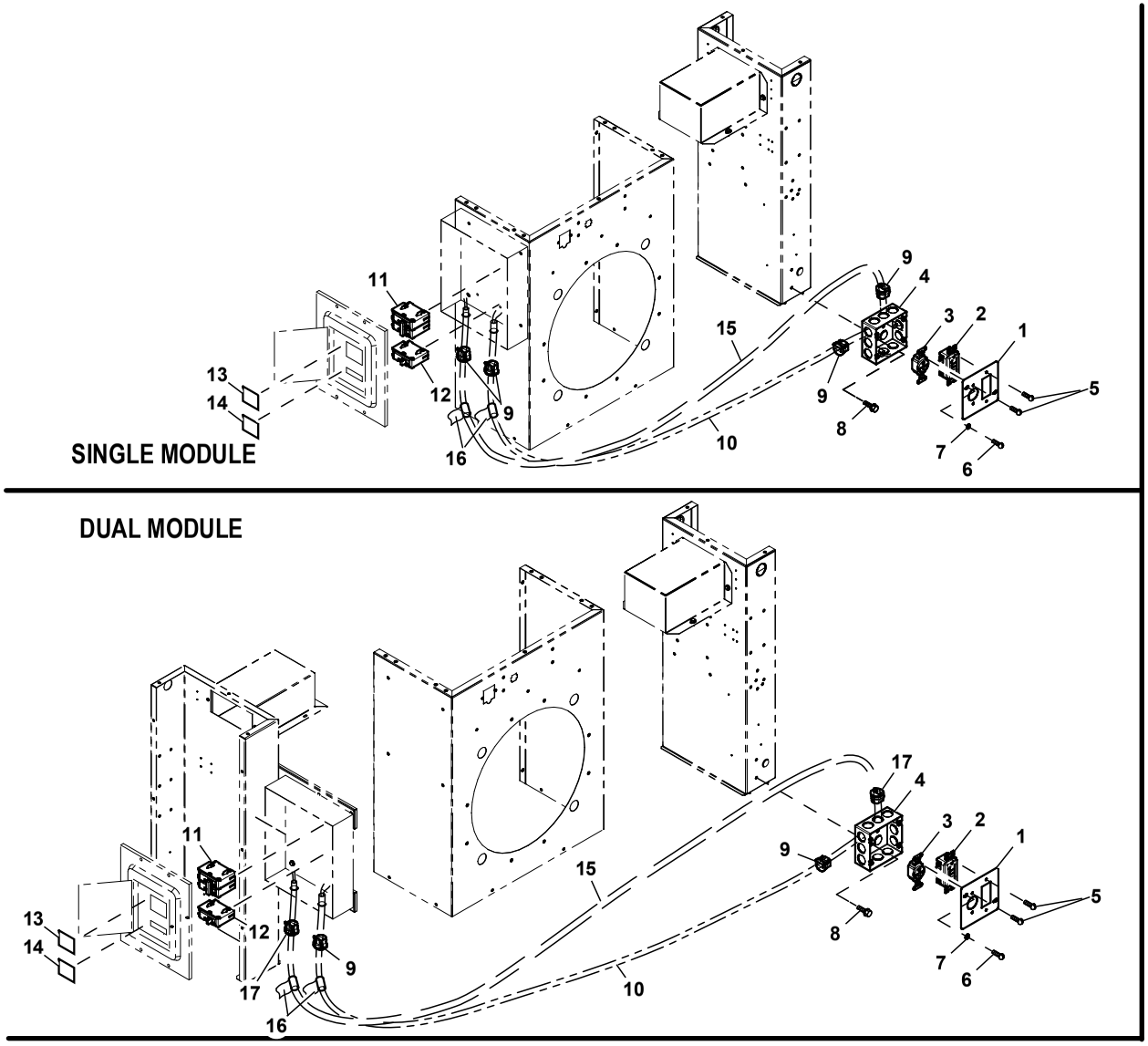
(1)NOTE:
0J7590AST0R INCLUDED IN KIT #0J7593A
0J75900ST0R INCLUDED IN KIT #0J7593
0J75910ST0R INCLUDED IN KIT #0J7593B

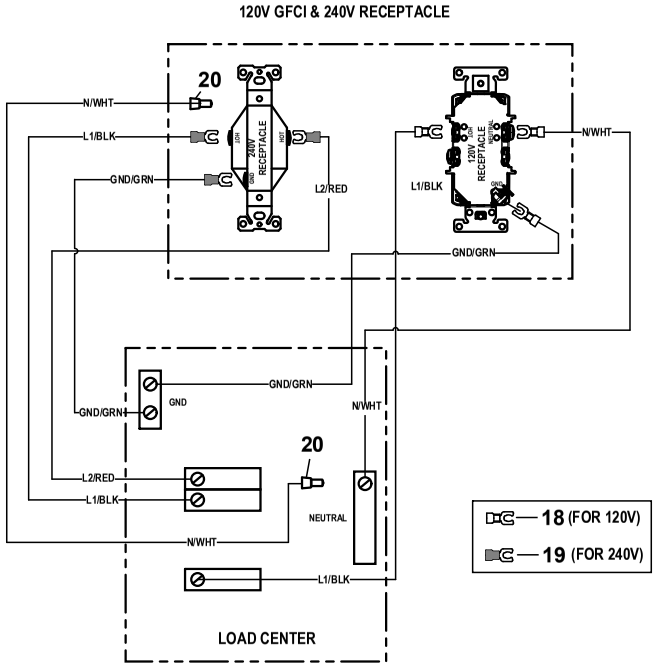
(2) QTY DETERMINED BY SHROUD MOUNTING REQUIREMENTS.



WITHOUT LOAD CENTER







WITH LOAD CENTER

EXPLODED VIEW: EV/WD 120 GFCI OUTLET KIT

DRAWING #: 0J1610

GROUP H

ITEM	PART#	QTY.	DESCRIPTION
	WITHOUT LOAD CENTER (PAGE 1)		
1	0F7357	1	BOX SQUARE 4-11/16 W/KNO'S
2	0F7278	1	COVER DUAL RECEPT 120/240
3	0F6207	1	OUTLET 20A GFCI 125V
4	0F4776	1	OUTLET 15A 250V NEMA 6-15R IVY
5	G036901	2	SCREW PPHM #6-32 X 3/8
6	G022155	2	WASHER LOCK #6
7	0E3257	2	SCREW HWHTF M6-1.0 X 16
8	REF	4	SCREWS (SUPPLIED WITH OULETS)
9	023484D	1	BUSHING SNAP SB-875-11
10	0J5337	1	HARN 120V/240V OUTLET BOX CCI (NOT SHOWN)
(1)11	G074734	6	LUG SNPSPD INS 12-10X.32X1.016 (120V)
(1)12	G061532	6	LUG SNPSPD INS 16-14 X.3 X.88 (240V)
(1)(2)13	G074029	2	LUG CL END 22-14 X .31 CU/TIN

NOTES:
(1) PARTS IN CLUDED IN ITEM 10 0J5337 - HARN 120V/240V OUTLET BOX CCI
(2) PLACE CAP G074029 ON N/WHT WIRE OF A0005256677.

	WITH LOAD CENTER (PAGE 2)		
1	0F7278	1	COVER DUAL RECEPT 120/240
2	0F6207	1	OUTLET 20A GFCI 125V
3	0F4776	1	OUTLET 15A 250V NEMA 6-15R IVY
4	0F7357	1	BOX SQUARE 4-11/16 W/KNO'S
5	REF	4	SCREWS (SUPPLIED WITH OULETS)
6	G036901	2	SCREW PPHM #6-32 X 3/8
7	G022155	2	WASHER LOCK #6
8	0E3257	2	SCREW HWHTF M6-1.0 X 16
9	0J8898	2	BUSHING, STRAIN RND(.525-.600)
10	A0005256677	1	CABLE 14-4 TYPE SE00W/ST00W
11	0E7888G (1)	1	CB 0015A 2P PLUG IN SIEMENS
	A0000457735 (2)	1	CB 0015A 2P PLUG IN EATON
	CK0251A00 (3)	1	BREAKER-SQ D, 2POLE, 15A PLUG IN TYPE
12	0E7888C (1)	1	CB 0020A 1P PLUG IN SIEMENS
	A0000457734 (2)	1	CB 0020A 1P PLUG IN EATON
	CK0248A00 (3)	1	BREAKER-SQ D, 1POLE, 20A PLUG IN TYPE
13	0F9521B	1	LABEL 15A 240VAC OUTLET
14	0C4738B	1	DECAL GFCI PROTECTED OUTLET
15	0J8179	1	CABLE 12-3 TYPE SE00W/ST00W
16	0J9273	2	LABEL FACTORY INSTALLED
17	0J8899	2	BUSHING, STRAIN RND(.600-.700)
18	G074734	3	LUG SNPSPD INS 12-10X.32X1.016 (120V)
19	G061532	3	LUG SNPSPD INS 16-14 X.3 X.88 (240V)
(4)20	G074029	2	LUG CL END 22-14 X .31 CU/TIN

NOTES:
1. USE ONLY WITH SIEMENS LOAD CENTERS.
2. USE ONLY WITH EATON LOAD CENTERS.
3. USE ONLY WITH SQUARE D LOAD CENTERS.
4. PLACE CAP G074029 ON N/WHT WIRE OF A0005256677.

ITEM	PART#	QTY.	DESCRIPTION

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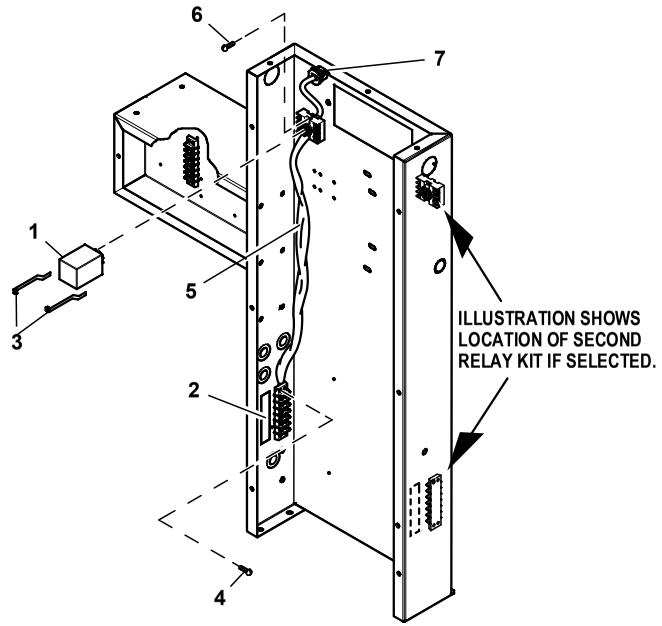
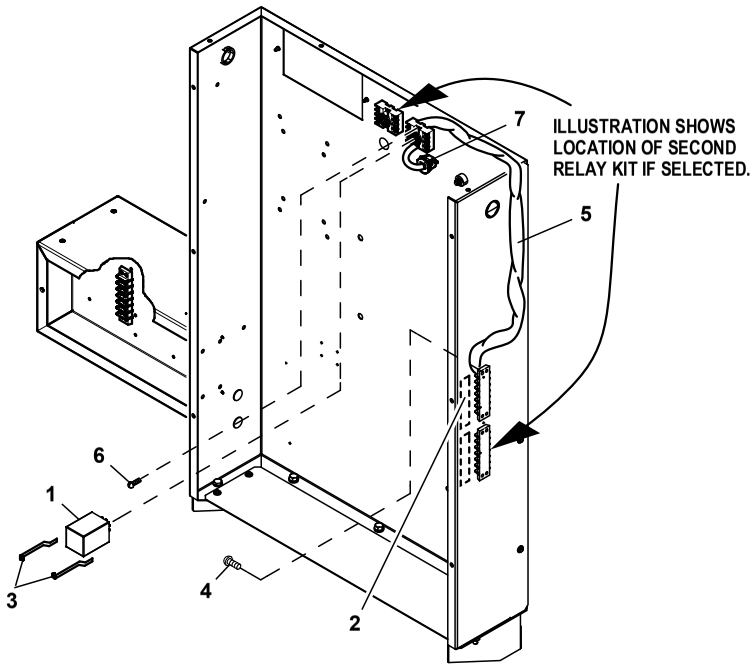
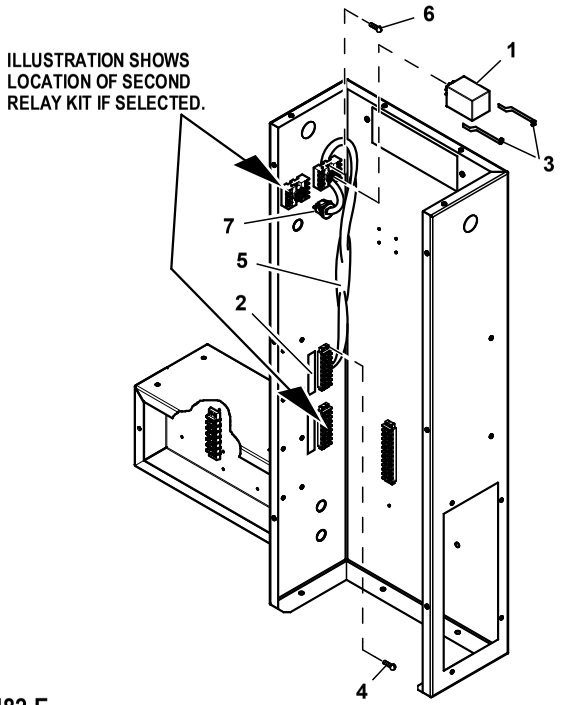
GROUP B


6
7
1
5
3
2
ILLUSTRATION SHOWS
LOCATION OF SECOND
RELAY KIT IF SELECTED.
4


7
ILLUSTRATION SHOWS
LOCATION OF SECOND
RELAY KIT IF SELECTED.
5
6
1
3
4
2


6
ILLUSTRATION SHOWS
LOCATION OF SECOND
RELAY KIT IF SELECTED.
1
3
7
5
2
4

EXPLODED VIEW: EV KIT 12/24V RUN RELAY

DRAWING#: 0J1171

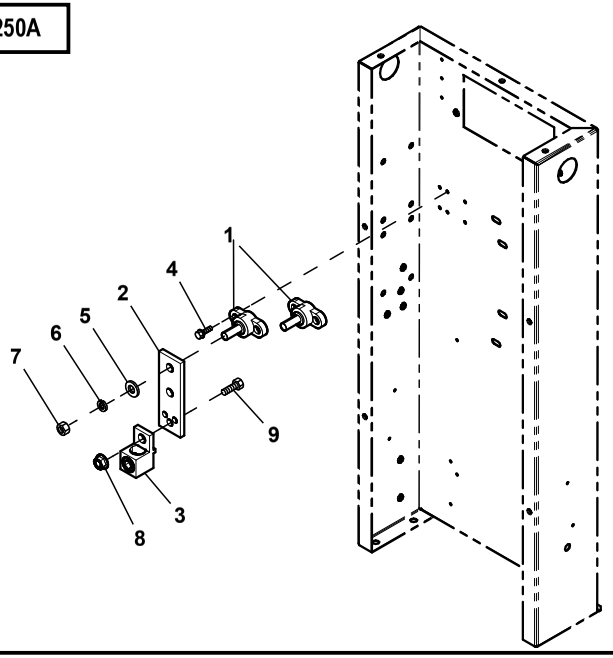
GROUP B

ITEM	PART#	QTY.	DESCRIPTION
1	0C3211E	1	RELAY PNL 12VDC DPDT 8PIN
	0C3211F	1	RELAY 24VDC DPDT 8 PIN
(1)2	0J0400	1/2	DECAL, HV CONNECTION RUN RELAY
3	0C3211H	2	SPRING RELAY RETAINING
(1)4	0J5462	2/4	SCREW THTT M4-0.7 X 16 ZP
5	0J0836	1	HARN RUN RELAY H-PANEL
(1)6	0F5828	2/4	SCREW PHTT M4-0.7 X 25 ZP
7	0J8896	1	BUSHING, STRAIN RND(.290-.385)

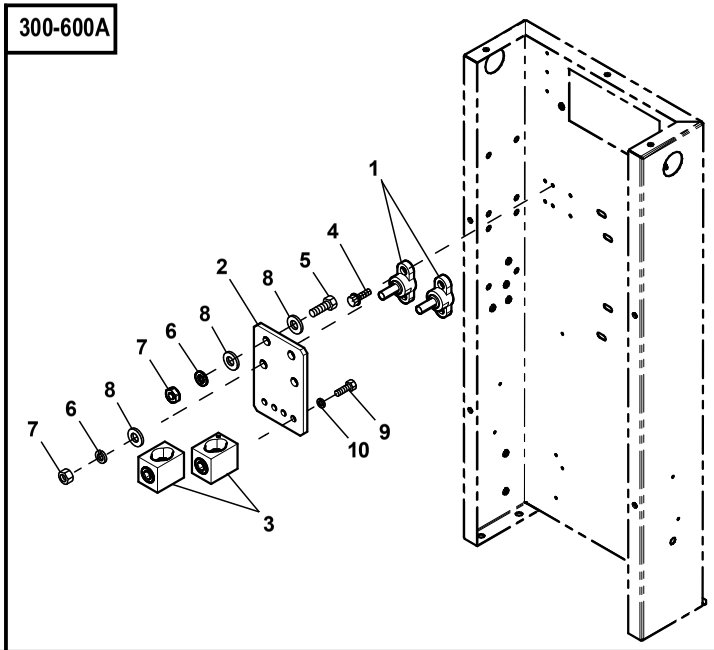
(1) QTY. MAY CHANGE BASED ON OPTION OFFERED.

GROUP H

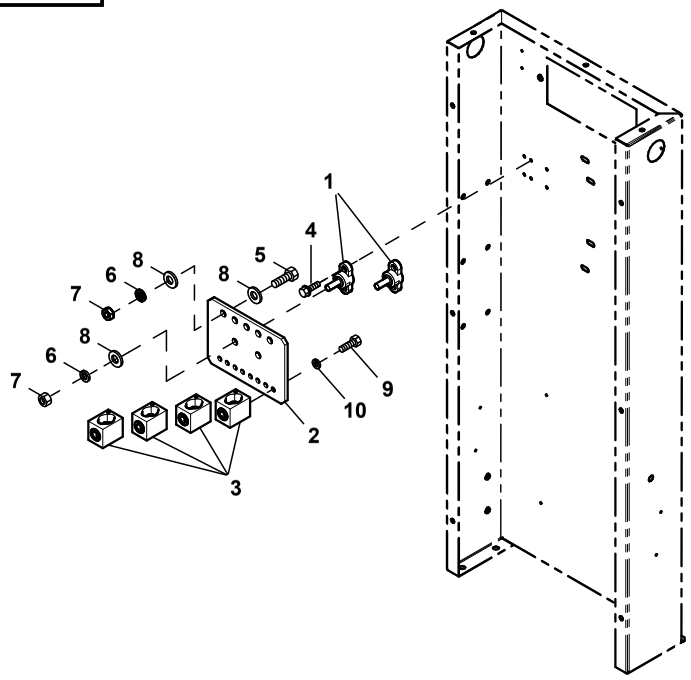
250A



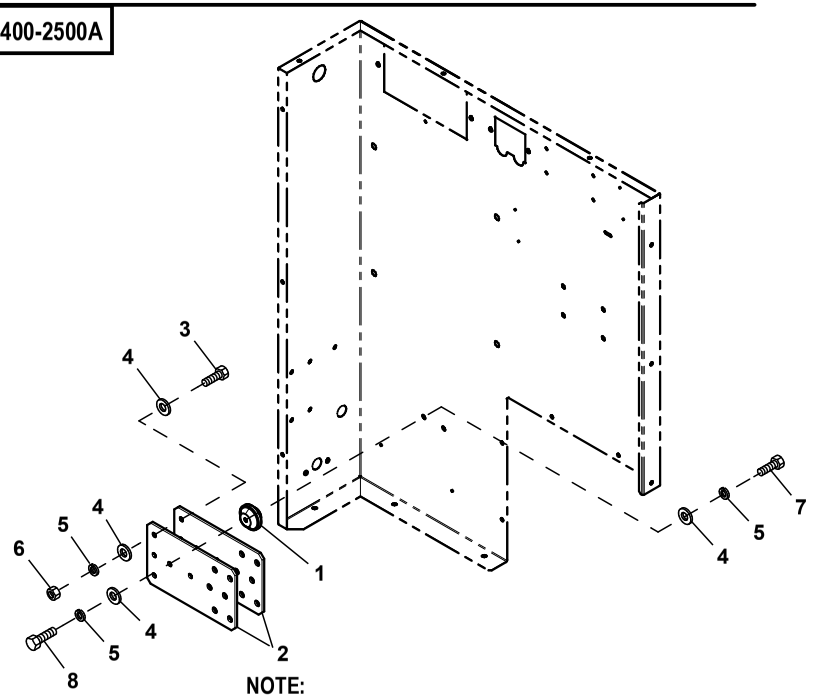
300-600A



700-1200A



1400-2500A



NOTE:
ALL ENCLOSURES SHOWN AS MOUNTING REFERENCE ONLY.
DI-ELECTRIC GREASE SHOULD BE APPLIED TO ALL ELECTRICAL CONDUCTOR TERMINALS AT BUS BAR LOCATION.

EXPLODED VIEW: EV, NEUTRAL BLOCK 0-250A

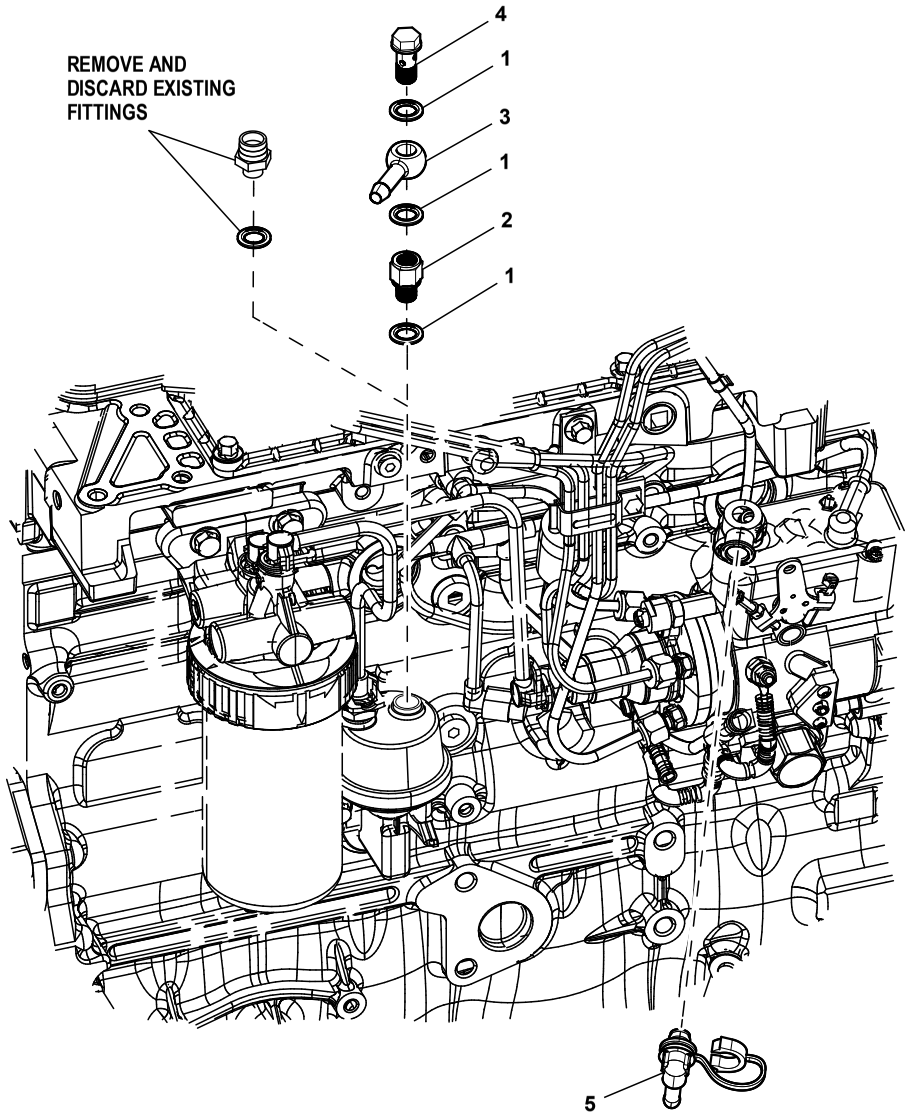
DRAWING #: 0J1047

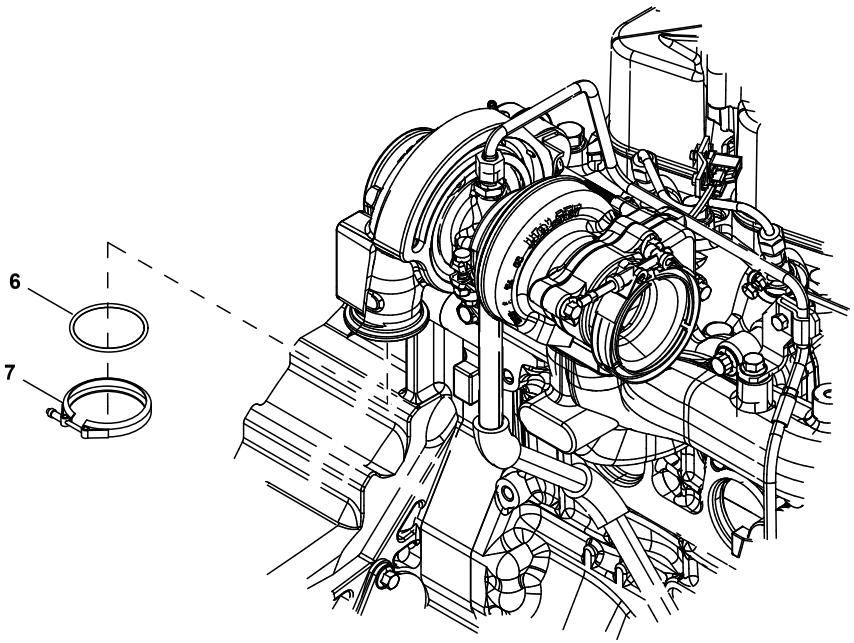
GROUP H

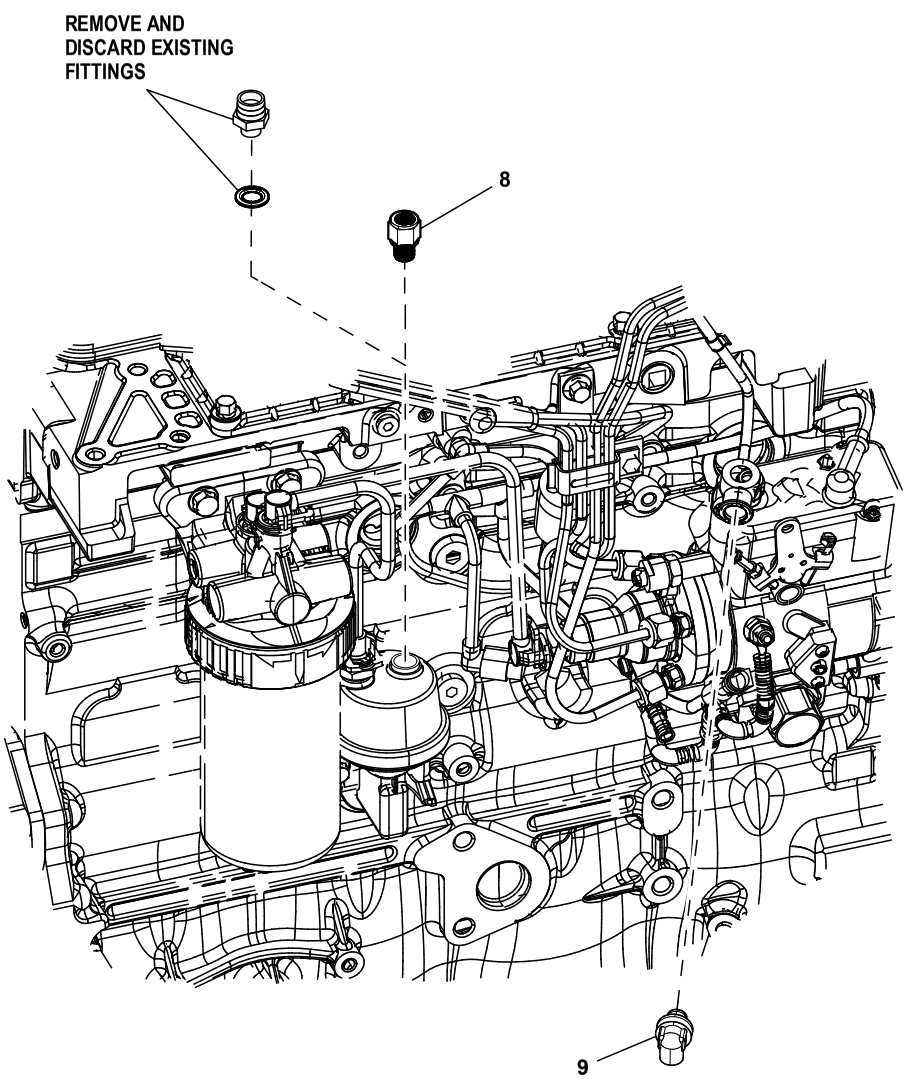
APPLICABLE TO:

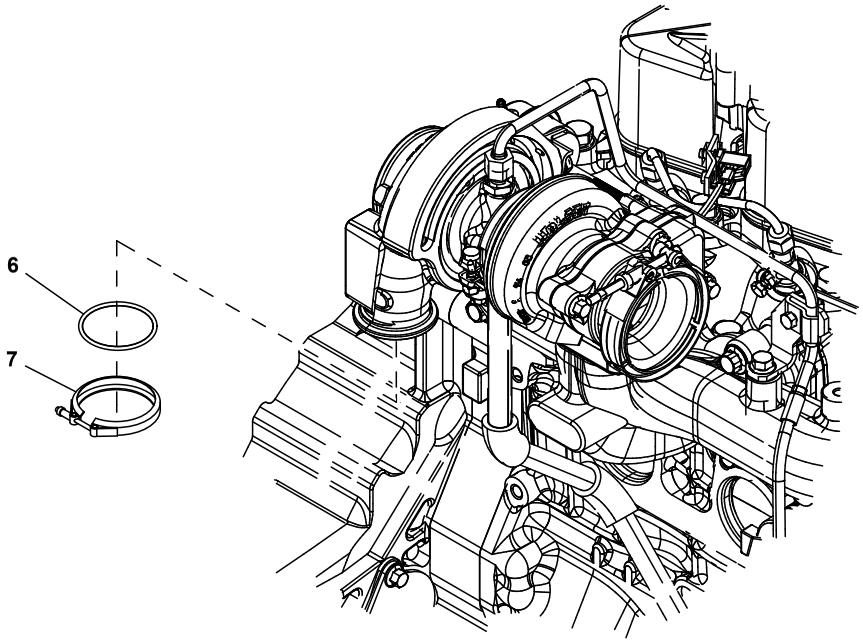
ITEM	PART#	QTY.	DESCRIPTION
		NEUTRAL BLOCK (250A)	
1	G057073	2	JUNCTION BLOCK 3/8-16
2	0H9690	1	BUS BAR NTRL BLK 15-250A
3	0F8451	1	LUG SLDLSS 300 MCM-6 AL/CU
4	0J5464	4	SCREW HDPHT M5-0.8 X 16 ZP
5	G022131	2	WASHER FLAT 3/8-M10 ZINC
6	G022237	2	WASHER LOCK 3/8
7	G022241	2	NUT HEX 3/8-16 STEEL
8	G067989	1	NUT HEX FL WHIZ M8-1.25
9	G043107	1	SCREW HHC M8-1.25 X 25 C8.8
		NEUTRAL BLOCK (300A - 600A)	
1	G057073	2	JUNCTION BLOCK 3/8-16
2	0H9689A	1	BUS BAR, NTRL BLK 520 0-600A
3	0A7822	2	LUG SLDLSS 600/250-1/0X1/4-28
4	0J5464	4	SCREW HDPHT M5-0.8 X 16 ZP
5	G022511	2	SCREW HHC 3/8-16 X 1-1/4 G5
6	G022237	4	WASHER LOCK 3/8
7	G022241	4	NUT HEX 3/8-16 STEEL
8	G022131	6	WASHER FLAT 3/8-M10 ZINC
9	G045335	4	SCREW HHC 1/4-28 X 3/4 G5
10	G022097	4	WASHER LOCK M6-1/4
		NEUTRAL BLOCK (700A – 1200A)	
1	G057073	2	JUNCTION BLOCK 3/8-16
2	0H9689	1	BUS BAR, NTRL BLK 520 600-1600
3	0A7822	4	LUG SLDLSS 600/250-1/0X1/4-28
4	0J5464	4	SCREW HDPHT M5-0.8 X 16 ZP
5	G022511	5	SCREW HHC 3/8-16 X 1-1/4 G5
6	G022237	6	WASHER LOCK 3/8
7	G022241	6	NUT HEX 3/8-16 STEEL
8	G022131	12	WASHER FLAT 3/8-M10 ZINC
9	G045335	8	SCREW HHC 1/4-28 X 3/4 G5
10	G022097	8	WASHER LOCK M6-1/4
		NEUTRAL BLOCK (1400A – 2500A)	
1	0C6937M	2	INSULATOR, STANDOFF 600V3/8-16
2	0J4583	2	BUS BAR, 1/4"X6"X10"
3	G031578	3	SCREW HHC 3/8-16 X 1-1/2 G8
4	G022131	10	WASHER FLAT 3/8-M10 ZINC
5	G022237	7	WASHER LOCK 3/8
6	G022241	3	NUT HEX 3/8-16 STEEL
7	G023152	2	SCREW HHC 3/8-16 X 3/4 G5
8	G029745	2	SCREW HHC 3/8-16 X 1 G5

GROUP D









NOTE: CONFIGURATION WHEN USING SS FUEL LINES

EXPLODED VIEW: EV 4.5L 80KW G17 ENGINE KIT

DRAWING#: 0H6009A

GROUP D

ITEM	PART#	QTY.	DESCRIPTION
(2)1	0H6298	3/0	WASHER
(2)2	0H6299	1/0	THREADED UNION
(2)3	0H6297	1/0	SWIVEL COUPLING
(2)4	0H6295	1/0	BANJO BOLT M12-1.5 X 25
(2)5	0H6296	1/0	ELBOW COUPLING
(2)6	0H6302	1	O-RING
(2)7	0H6303	1	CLIP
(1)8	0A4707B	1	ADAPTER 1/4NPT X M12-1.5
(1)9	0H6296A	1	FIT ELBOW 0H6296 W/1/8 NPT

NOTE (UNLESS OTHER SPECIFIED):
(1)SUPPLIED IN KIT 0F3039K
(2) PART SUPPLIED IN ENGINE KIT 0H5009A / SUPPLIED IN ENGINE KIT A0006114632

ITEM	PART#	QTY.	DESCRIPTION

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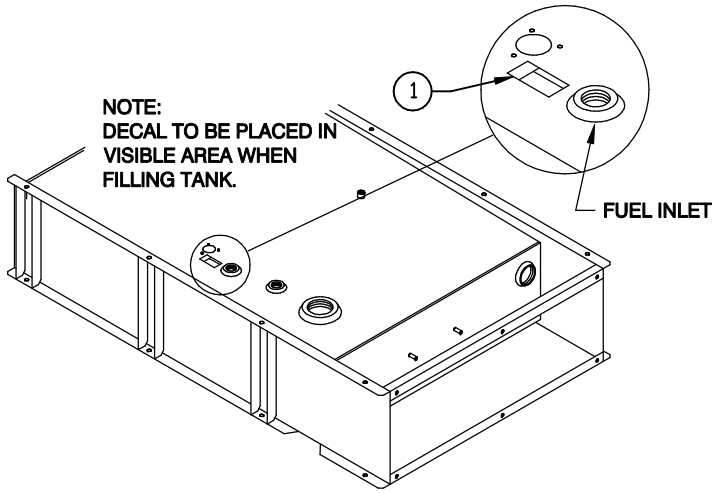
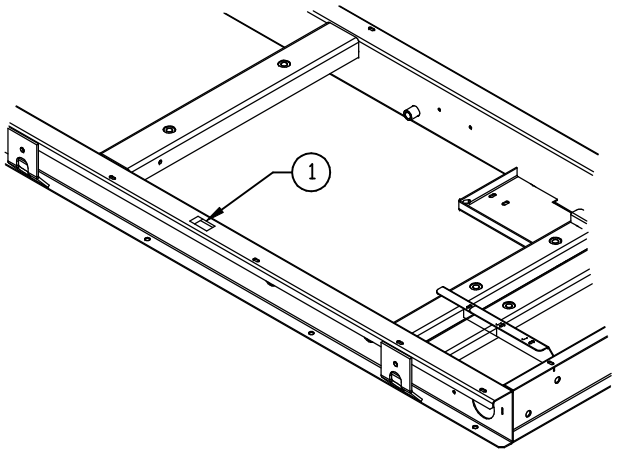


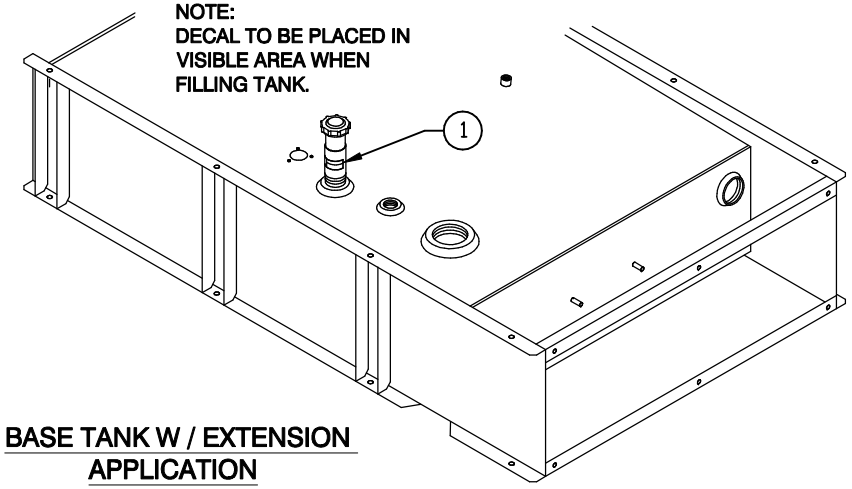
BASE TANK APPLICATION



OPEN SET APPLICATION

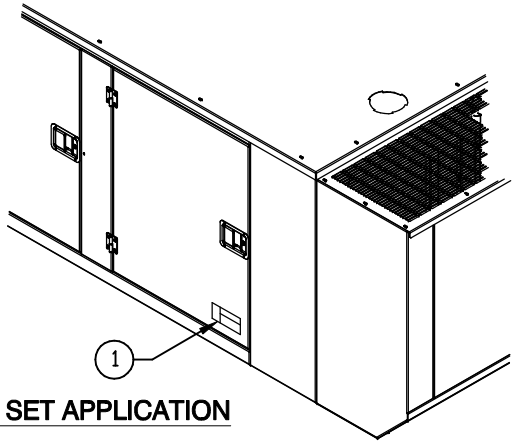
I/N	PART NO.	QTY	DESCRIPTION
1	0H9028	2	DECAL ULTRA LOW SULFER DSL

NOTE:
WHEN USING EXTERNAL FUEL SOURCE
DECAL MUST BE APPLIED IN VISIBLE
AREA OF FUEL FILL.



BASE TANK W / EXTENSION APPLICATION

NOTE:
DECAL TO BE PLACED
ON DOOR USED TO FILL
FUEL.



CLOSED SET APPLICATION

REVISION: H-6666-B
DATE: 05/11/10

EXPLODED VIEW:
LOW SULFUR FUEL
DRAWING #: 0G8716

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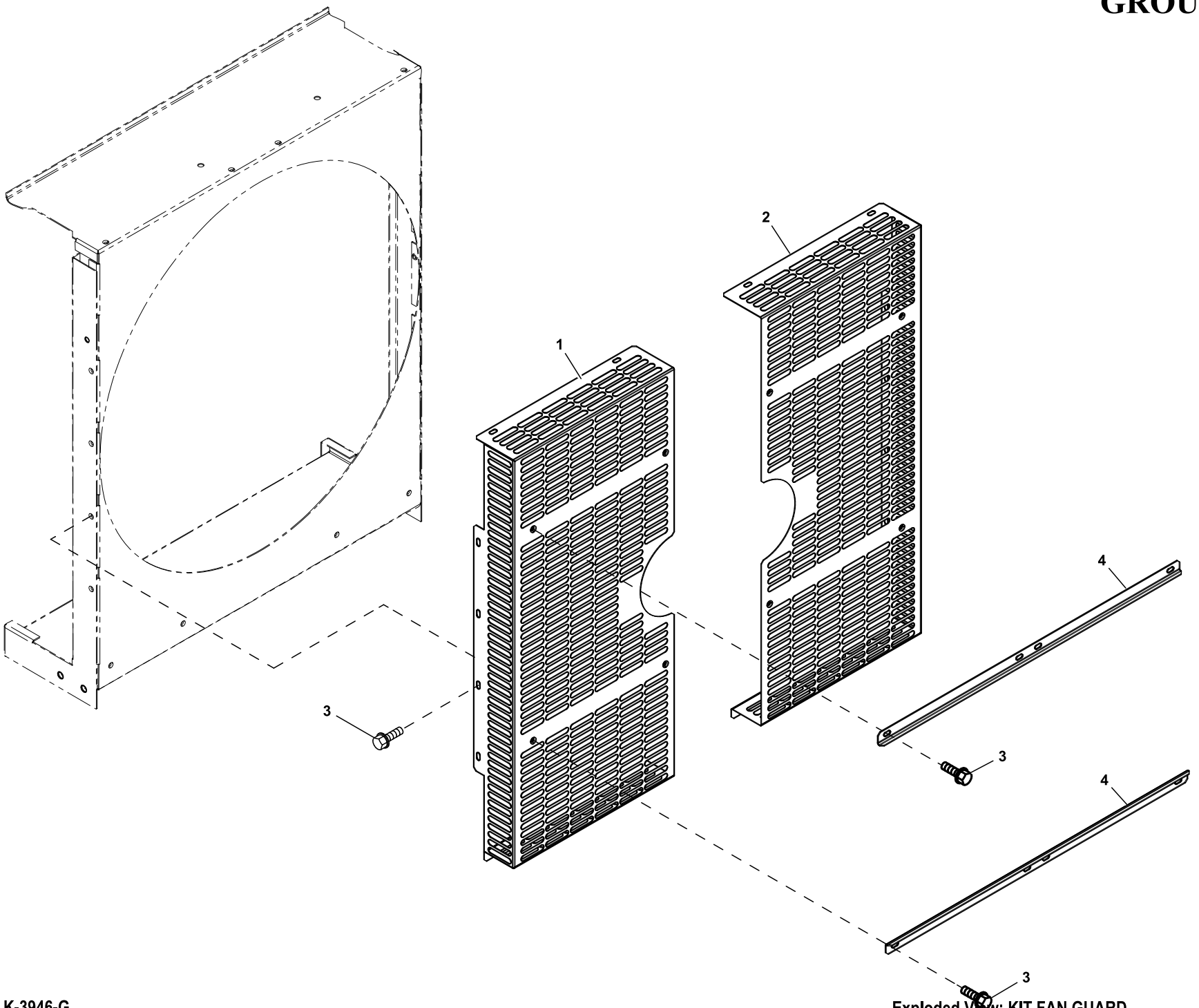
GROUP H



Revision: K-3946-G
Date: 9/24/15

Exploded View: KIT FAN GUARD
Drawing No.: 0G4310

EXPLODED VIEW: EV FAN GUARD KIT

DRAWING #: 0G4310

GROUP H

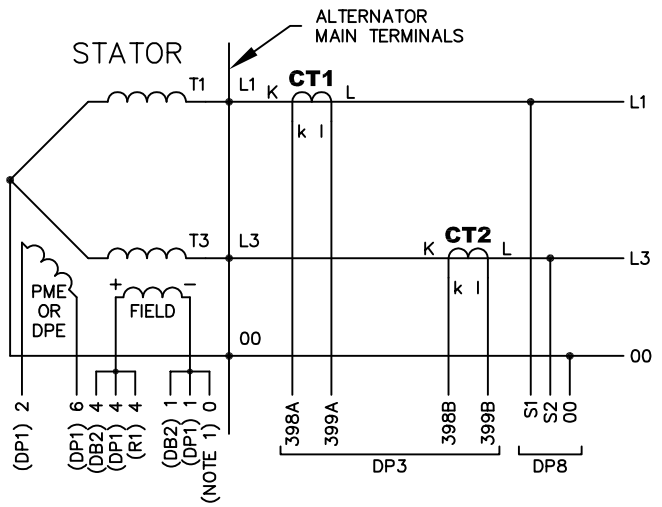
ITEM	PART#	QTY.	DESCRIPTION
(1)1	0G29160ST0R	1	FAN GUARD L/H SIDE
(1)2	0G29170ST0R	1	FAN GUARD R/H SIDE
3	0C2454	24	SCREW HWHT M6-1 X 16 N WA Z/JS
(1)4	0G24170ST0R	2	SUPPORT BRACKET, FAN GUARD

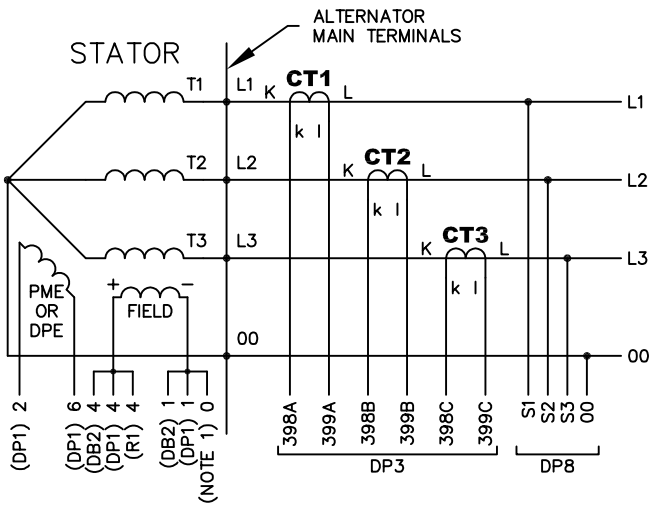
NOTES (UNLESS OTHERWISE SPECIFIED):

(1) SHEET METAL PARTS LISTED IN THE BOM TABLE ARE REPRESENTING GENERIC PARTS (NO COLOR)

- MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO AS400 BOM.
- CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169).

1





NOTES:

1) WIRE# 0 IS CHASSIS GROUND (BATTERY –) UNLESS NOTED OTHERWISE.
2) WIRE# 13 IS UNFUSED +12VDC (BATTERY+)
3) WIRE# 14 IS FUSED +12VDC WHEN GENERATOR IS CRANKING OR RUNNING.
4) WIRE# 15 IS FUSED +12VDC WHEN E–STOP IS NOT ACTIVATED.
5) WIRE# 15A IS FUSED +12VDC FOR GENERAL USE.
6) WIRE# 15B IS FUSED +12VDC TO THE CONTROL MODULE FOR FUEL & START RELAYS.
7) WIRE# 15E IS FUSED +12VDC THAT BREAKS FUEL & START CIRCUITS WHEN E–STOP IS ACTIVATED.

LEGEND

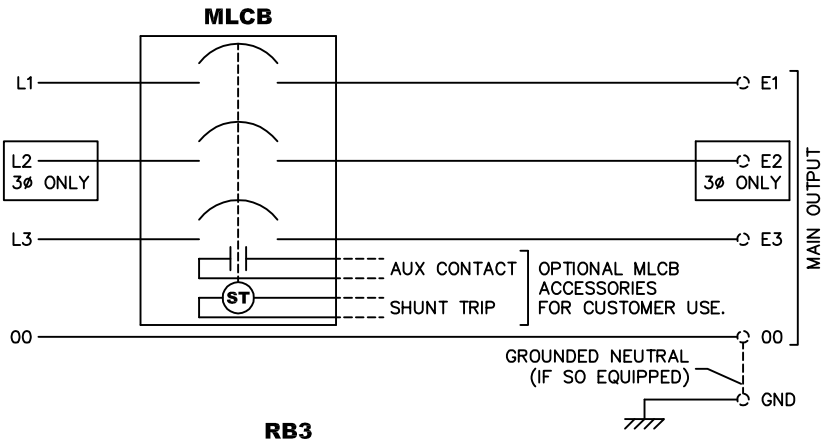
AH_ – ALARM HORN	DUIO – PZ410 I/O EXPANSION MODULE	OPS – OIL PRESSURE SENDER
ALT – DC CHARGE ALTERNATOR	ES_ – EMERGENCY STOP	OTS – OIL TEMPERATURE SENDER
BAT – BATTERY	FB_ – FUSE BLOCK	PME – PERMANENT MAGNET EXCITER
BCC – BATTERY CHARGER CONNECTOR	FLS – FUEL LEVEL SENDER	R_ – RESISTOR
BCH – BATTERY CHARGER	GA – GOVERNOR ACTUATOR	RB_ – RELAY BOARD
CT_ – CURRENT TRANSFORMER	GD – GOVERNOR DRIVER	SC – STARTER CONTACTOR
DB_ – DIODE BRIDGE	GFCI – GROUND FAULT CURRENT INTERRUPT	SM – STARTER MOTOR
DC_ – DUIO CONNECTOR	IP – INJECTOR PUMP	ST – SHUNT TRIP
DP_ – PZ410 CONTROLLER CONNECTOR	LD – LEAK DETECTOR (FUEL TANK)	SW1 – OFF/AUTO/MANUAL SWITCH
DPE – EXCITER	MLCB – MAIN LINE CIRCUIT BREAKER	WLS – COOLANT LEVEL SENDER
DS_ – DOOR SWITCH	MPU_ – MAGNETIC PICKUP	WTS – COOLANT TEMPERATURE SENDER

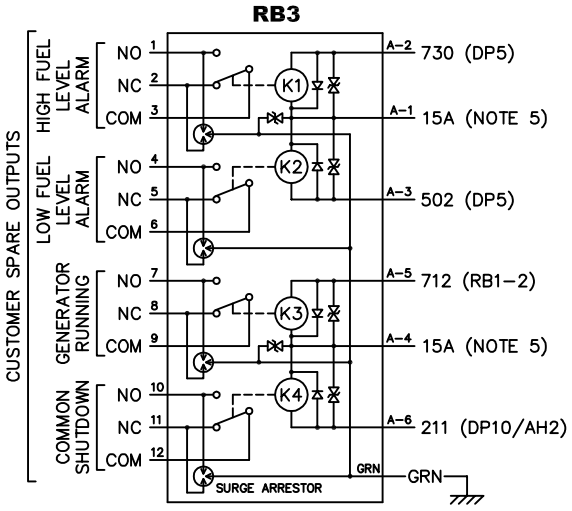
SCHEMATIC - DIAGRAM

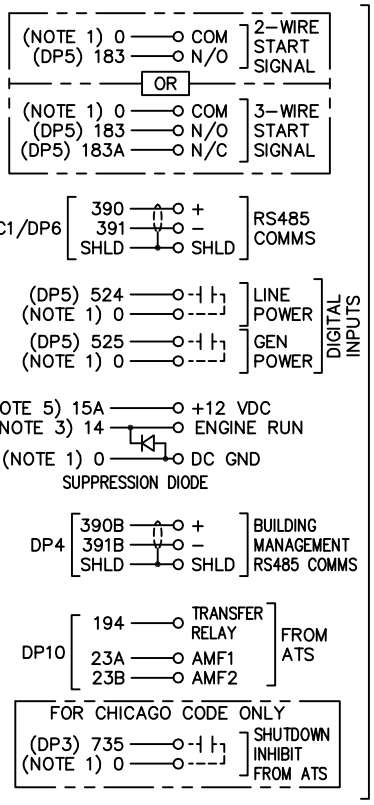
REVISION: CN-0056751-B
DATE: 5/19/22

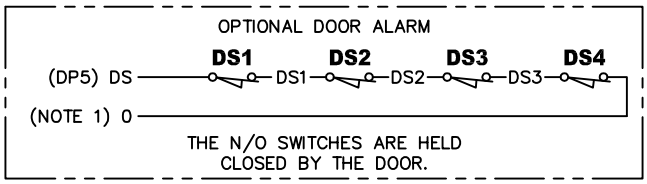
D4.5/D6.7L G17 PZ410

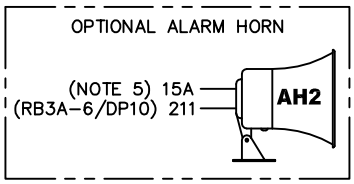
DRAWING #: A0002056850

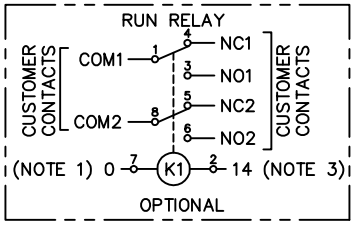


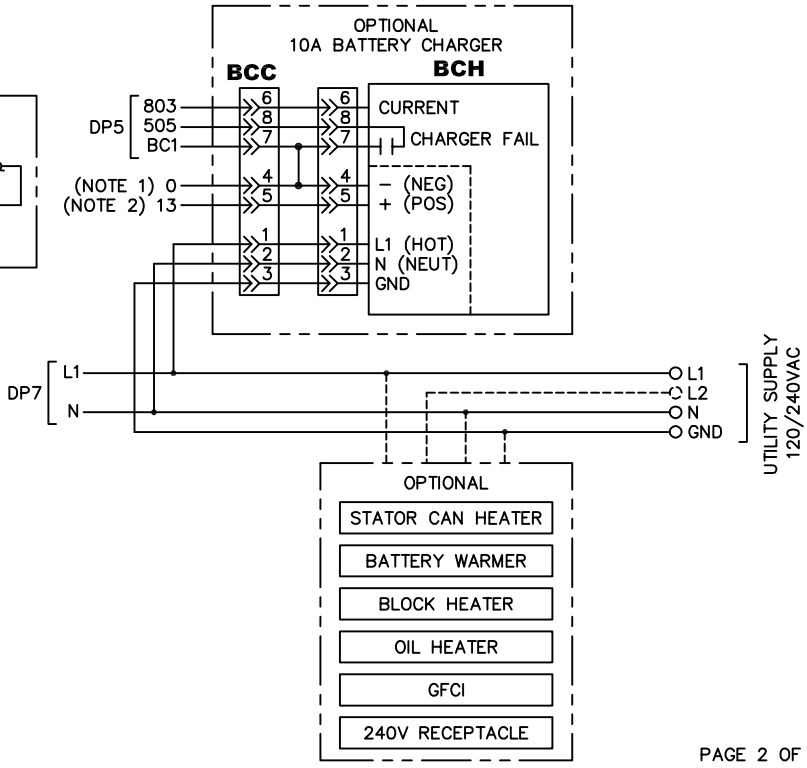












SCHEMATIC - DIAGRAM

REVISION: CN-0056751-B

DATE: 5/19/22

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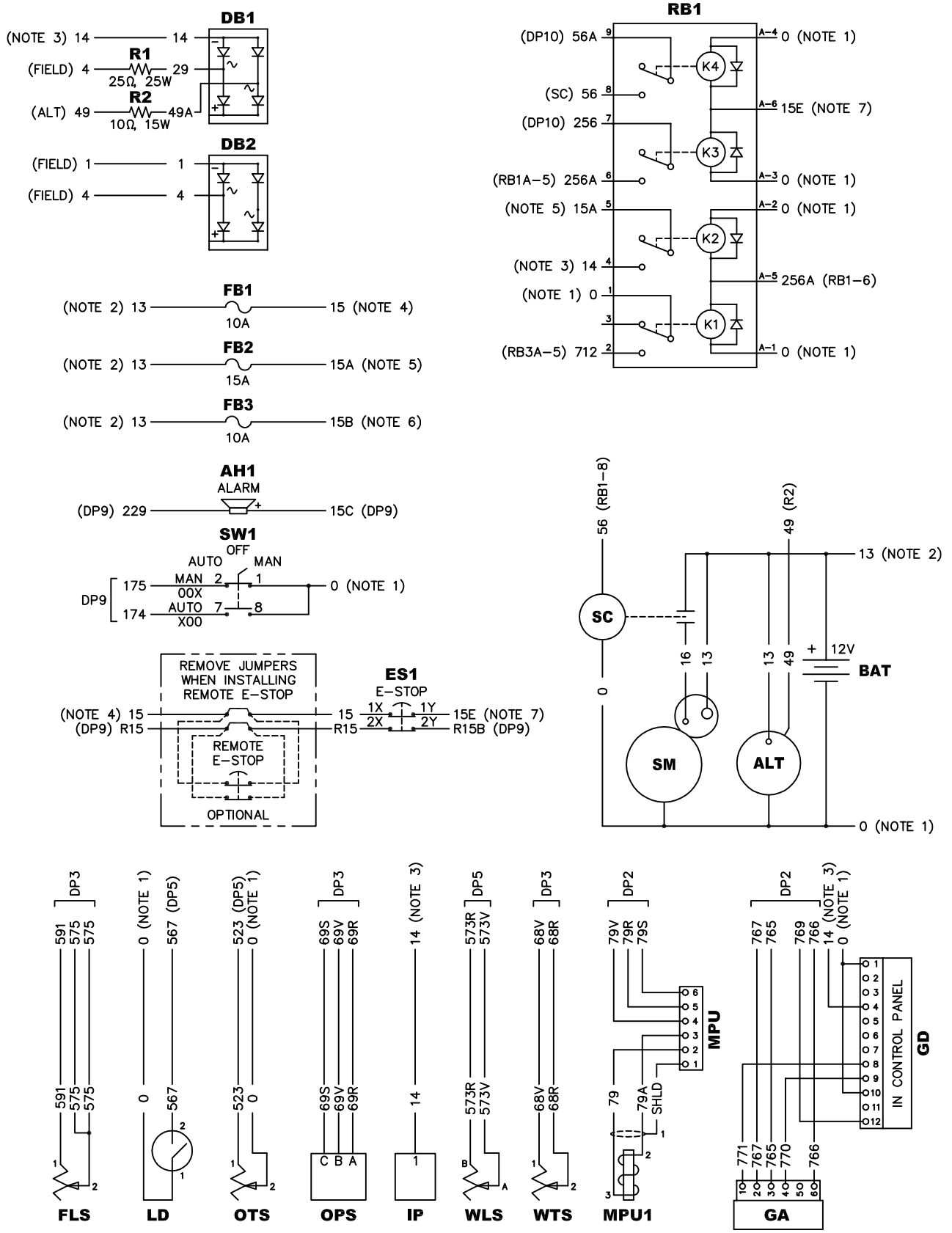
D4.5/D6.7L G17 PZ410

DRAWING #: A0002056850



SCHEMATIC - DIAGRAM

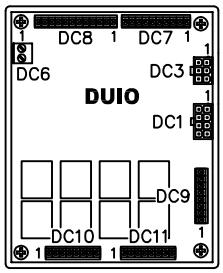
REVISION: CN-0056751-B

DATE: 5/19/22

D4.5/D6.7L G17 PZ410

DRAWING #: A0002056850

OPTIONAL PZ410 I/O EXPANSION MODULE
WITH INSTALLATION HARNESS



DC1 RS485 COMMS

PIN	WIRE	FROM	FUNC
1	391	DP6	RS485 1 (–)
2	391	CUST CON	RS485 2 (–)
3	–	–	RS485 1 (GND)
4	–	–	RS485 2 (GND)
5	390	DP6	RS485 1 (+)
6	390	CUST CON	RS485 2 (+)
7	SHLD	DP6	RS485 1 (SHIELD)
8	SHLD	CUST CON	RS485 2 (SHIELD)

DC3 CAN BUS

PIN	WIRE	FROM	FUNC
1	–	–	CAN 1 (HIGH)
2	–	–	CAN 2 (HIGH)
3	–	–	CAN 1 (LOW)
4	–	–	CAN 2 (LOW)
5	–	–	CAN 1 (SHIELD)
6	–	–	CAN 2 (SHIELD)

DC6 POWER

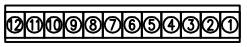
PIN	WIRE	FROM	FUNC
1	15A	NOTE 5	6–36 +VDC
2	0	NOTE 1	GND

DC7

DIGITAL INPUTS
PULL LOW TO ACTIVATE

PIN	WIRE	FROM	FUNC
1	–	–	DIN1
2	–	–	DIN2
3	–	–	DIN3
4	–	–	DIN4
5	–	–	INPUT COMMON GND
6	–	–	DIN5
7	–	–	DIN6
8	–	–	DIN7
9	–	–	DIN8
10	–	–	INPUT COMMON GND

DC8



ANALOG INPUTS

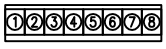
PIN	WIRE	FROM	FUNC
1	–	–	AI1 +5V
2	–	–	AI1
3	–	–	AI1 GND
4	–	–	AI2 +5V
5	–	–	AI2
6	–	–	AI2 GND
7	–	–	AI3 +5V
8	–	–	AI3
9	–	–	AI3 GND
10	–	–	AI4 +5V
11	–	–	AI4
12	–	–	AI4 GND

DC9

OUTPUTS; PULSE WIDTH MODULATION & ANALOG

PIN	WIRE	FROM	FUNC	
8	–	–	AO2–	ANALOG MAX 10V 0.01A
7	–	–	AO2+	
6	–	–	AO1–	
5	–	–	AO1+	
4	–	–	PWM2–	PULSE WIDTH MODULATION MAX 36V 0.1A
3	–	–	PWM2+	
2	–	–	PWM1–	
1	–	–	PWM1+	

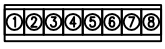
DC10



RELAY OUTPUTS 1–4
MAX 30V 5A

PIN	WIRE	FROM	FUNC
1	–	–	DOUT1 (COM)
2	–	–	DOUT1 (N/O)
3	–	–	DOUT2 (COM)
4	–	–	DOUT2 (N/O)
5	–	–	DOUT3 (COM)
6	–	–	DOUT3 (N/O)
7	–	–	DOUT4 (COM)
8	–	–	DOUT4 (N/O)

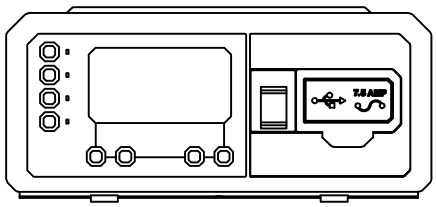
DC11



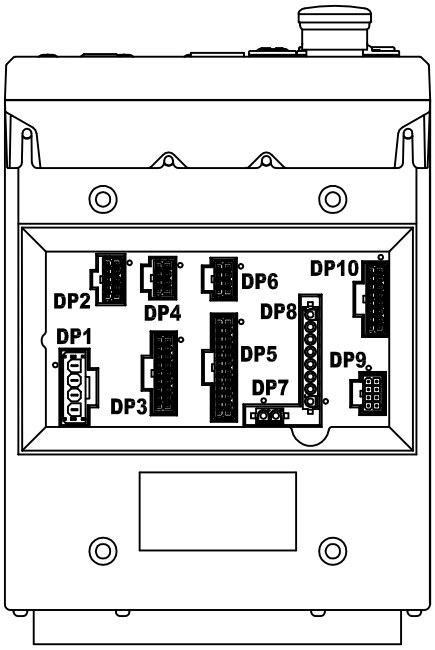
RELAY OUTPUTS 5–8
MAX 30V 5A

PIN	WIRE	FROM	FUNC
1	–	–	DOUT5 (COM)
2	–	–	DOUT5 (N/O)
3	–	–	DOUT6 (COM)
4	–	–	DOUT6 (N/O)
5	–	–	DOUT7 (COM)
6	–	–	DOUT7 (N/O)
7	–	–	DOUT8 (COM)
8	–	–	DOUT8 (N/O)

PZ410 CONTROL PANEL



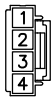
FRONT VIEW



BOTTOM VIEW

DP1

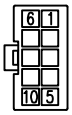
PIN



PIN	WIRE	FROM	FUNCTION
1	2	PME	DPE 1 CURRENT LIMITING
2	1	FIELD	FIELD (–)
3	6	PME	DPE 2
4	4	FIELD	FIELD (+)

DP2

PIN

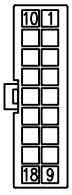


FUNCTION	FROM	WIRE	PIN
THROTTLE PWM	GD–12	769	6
–	–	–	7
–	–	–	8
SPEED (RET)	MPU–5	79R	9
SPEED (SIG)	MPU–6	79S	10

PIN	WIRE	FROM	FUNCTION
1	766	GA–6	THROTTLE POSITION (SIG)
2	765	GA–3	THROTTLE POSITION (+)
3	767	GA–2	THROTTLE POSITION (RET)
4	–	–	–
5	79V	MPU–4	SPEED (+12V)

DP3

PIN

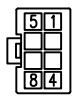


FUNCTION	FROM	WIRE	PIN
COOLANT TEMP (+)	WTS–1	68V	10
COOLANT TEMP (RET)	WTS–2	68R	11
OIL PRESSURE (+5V)	OPS–B	69V	12
OIL PRESSURE (SIG)	OPS–C	69S	13
OIL PRESSURE (RET)	OPS–A	69R	14
FUEL LEVEL (+5V)	FLS–2	575	15
FUEL LEVEL (SIG)	FLS–2	575	16
FUEL LEVEL (RET)	FLS–1	591	17
SHUTDOWN INHIBIT	CUST CON	735	18

PIN	WIRE	FROM	FUNCTION
1	–	–	–
2	–	–	–
3	–	–	–
4	398A	CT1–2	CURRENT A (+)
5	399A	CT1–1	CURRENT A (–)
6	398B	CT2–2	CURRENT B (+)
7	399B	CT2–1	CURRENT B (–)
8	398C	CT3–2	CURRENT C (+)
9	399C	CT3–1	CURRENT C (–)

DP4

PIN



FUNCTION	FROM	WIRE	PIN
RS485 2 (–)	CUST CON	391B	5
RS485 2 (+)	CUST CON	390B	6
–	–	–	7
–	–	–	8

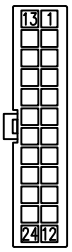
PIN	WIRE	FROM	FUNCTION
1	–	–	–
2	–	–	–
3	–	–	–
4	SHLD	CUST CON	RS485 2 (SHIELD)

SCHEMATIC - DIAGRAM

DP5

FUNCTION	FROM	WIRE	PIN
LOW FUEL LEVEL ALARM	RB3A–3	502	13
HIGH FUEL LEVEL ALARM	RB3A–2	730	14
OIL TEMPERATURE SENSOR	OTS–1	523	15
–	–	–	16
EXT. BATT. CHARGER CURRENT	BCC–6	803	17
–	–	–	18
AUXILIARY SHUTDOWN	GND	0	19
–	–	–	20
–	–	–	21
EXT. BATT. CHARGER FAIL	BCC–8	505	22
COOLANT LEVEL (+)	WLS–A	573V	23
COOLANT LEVEL (–)	WLS–B	573R	24

PIN



PIN	WIRE	FROM	FUNCTION
1	567	LD–2	RUPTURED TANK
2	0	CUST CON	2/3–WIRE START (COM)
3	183	CUST CON	2/3–WIRE START (N/O)
4	183A	CUST CON	3–WIRE START (N/C)
5	525	CUST CON	TRANSFER SWITCH POSITION (GEN)
6	524	CUST CON	TRANSFER SWITCH POSITION (UTILITY)
7	DS	DS1	DOOR ALARM
8	BC1	BCC–7	EXT. BATT. CHARGER PRESENT
9	–	–	–
10	–	–	–
11	–	–	–
12	–	–	–

DP6

FUNCTION	FROM	WIRE	PIN
RS485 1 (–)	DC1–1/CUST CON	391	5
RS485 1 (+)	DC1–5/CUST CON	390	6
–	–	–	7
–	–	–	8

PIN

PIN	WIRE	FROM	FUNCTION
1	–	–	–
2	–	–	–
3	–	–	–
4	SHLD	DC1–7/CUST CON	RS485 1 (SHIELD)

DP7

PIN

PIN	WIRE	FROM	FUNCTION
1	L1	BCC–1/CUST CON	BATTERY CHARGER HOT
2	N	BCC–2/CUST CON	BATTERY CHARGER NEUTRAL

DP8

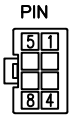
PIN

PIN	WIRE	FROM	FUNCTION
8	–	–	–
7	–	–	–
6	–	–	–
5	–	–	–
4	00	NEU	NEUTRAL VOLTAGE SENSE (GEN)
3	S3	MLCB CØ	CØ VOLTAGE SENSE (GEN)
2	S2	MLCB BØ	BØ VOLTAGE SENSE (GEN)
1	S1	MLCB AØ	AØ VOLTAGE SENSE (GEN)

DP9

FUNCTION	FROM	WIRE	PIN
E–STOP (+12V)	ES1–2X	R15	1
E–STOP (RET)	ES1–2Y	R15B	2
KEYSWITCH PRESENT	SW1–1/8	0	3
KEYSWITCH GND	SW1–1/8	0	4

PIN

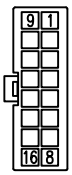


PIN	WIRE	FROM	FUNCTION
5	15C	AH1+	ALARM HORN (+)
6	229	AH1–	ALARM HORN (–)
7	175	SW1–2	KEYSWITCH MANUAL START
8	174	SW1–7	KEYSWITCH AUTO START

DP10

FUNCTION	FROM	WIRE	PIN
–	–	–	9
–	–	–	10
–	–	–	11
–	–	–	12
–	–	–	13
TRANSFER RELAY COIL (12V)	CUST CON	194	14
AMF(1)	CUST CON	23A	15
AMF(2)	CUST CON	23B	16

PIN



PIN	WIRE	FROM	FUNCTION
1	13	BATTERY+	NOTE 2
2	13	BATTERY+	NOTE 2
3	15B	FB3	NOTE 6
4	0	GND	NOTE 1
5	0	GND	ALARM RELAY (COM)
6	211	RB3A–6/AH2	ALARM RELAY (N/O)
7	56A	RB1–9	START RELAY
8	256	RB1–7	FUEL RELAY

GD CONNECTOR

PIN	WIRE	FROM	FUNCTION
1	0	GND	NOTE 1
4	14	RB1–4	NOTE 3
8	771	GA–1	THROTTLE DRIVE LOW
9	770	GA–4	THROTTLE DRIVE HIGH
10	0	GND	NOTE 1
12	769	DP2–7	THROTTLE PWM

SCHEMATIC - DIAGRAM

REVISION: CN-0056751-B

DATE: 5/19/22

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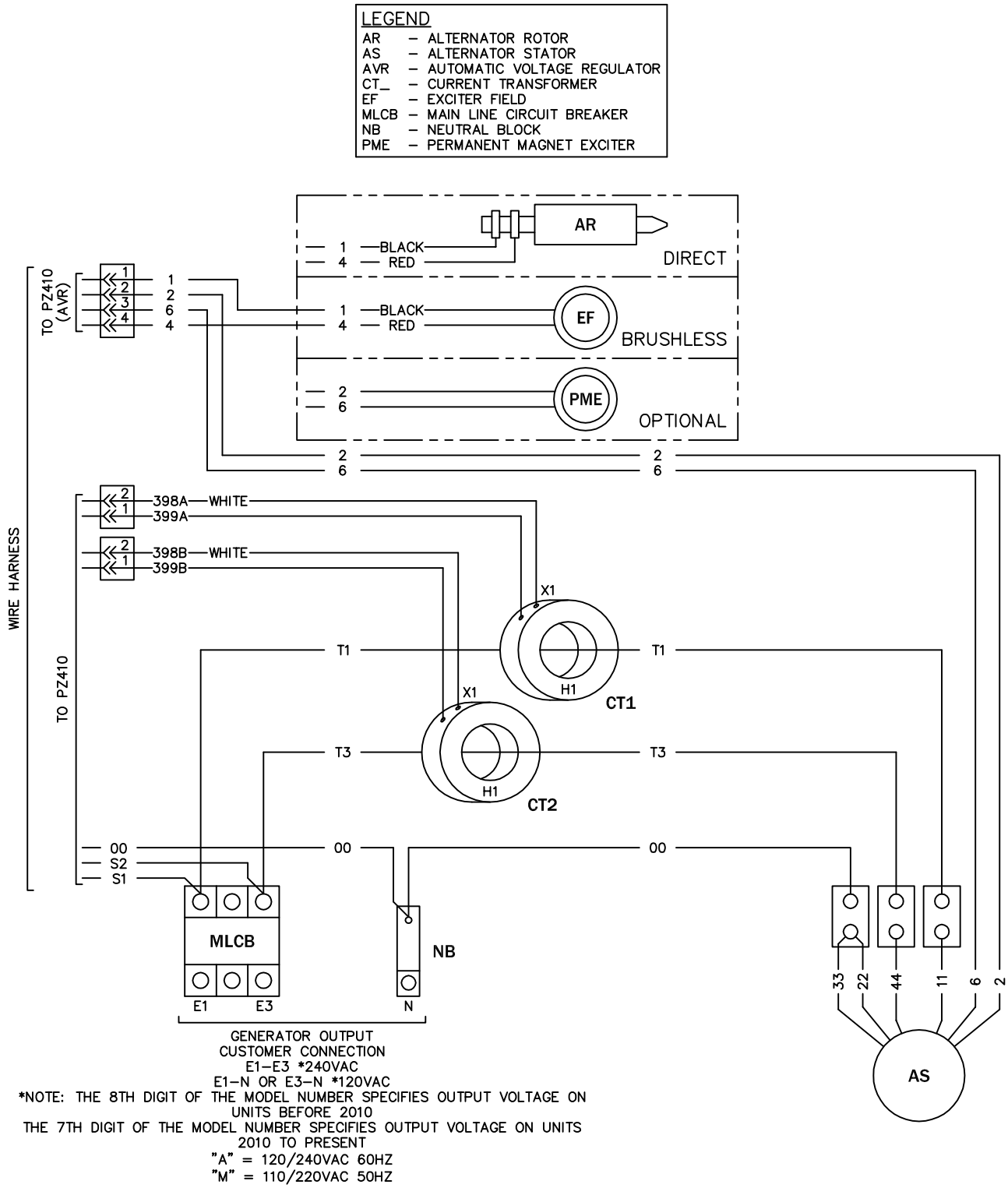
D4.5/D6.7L G17 PZ410

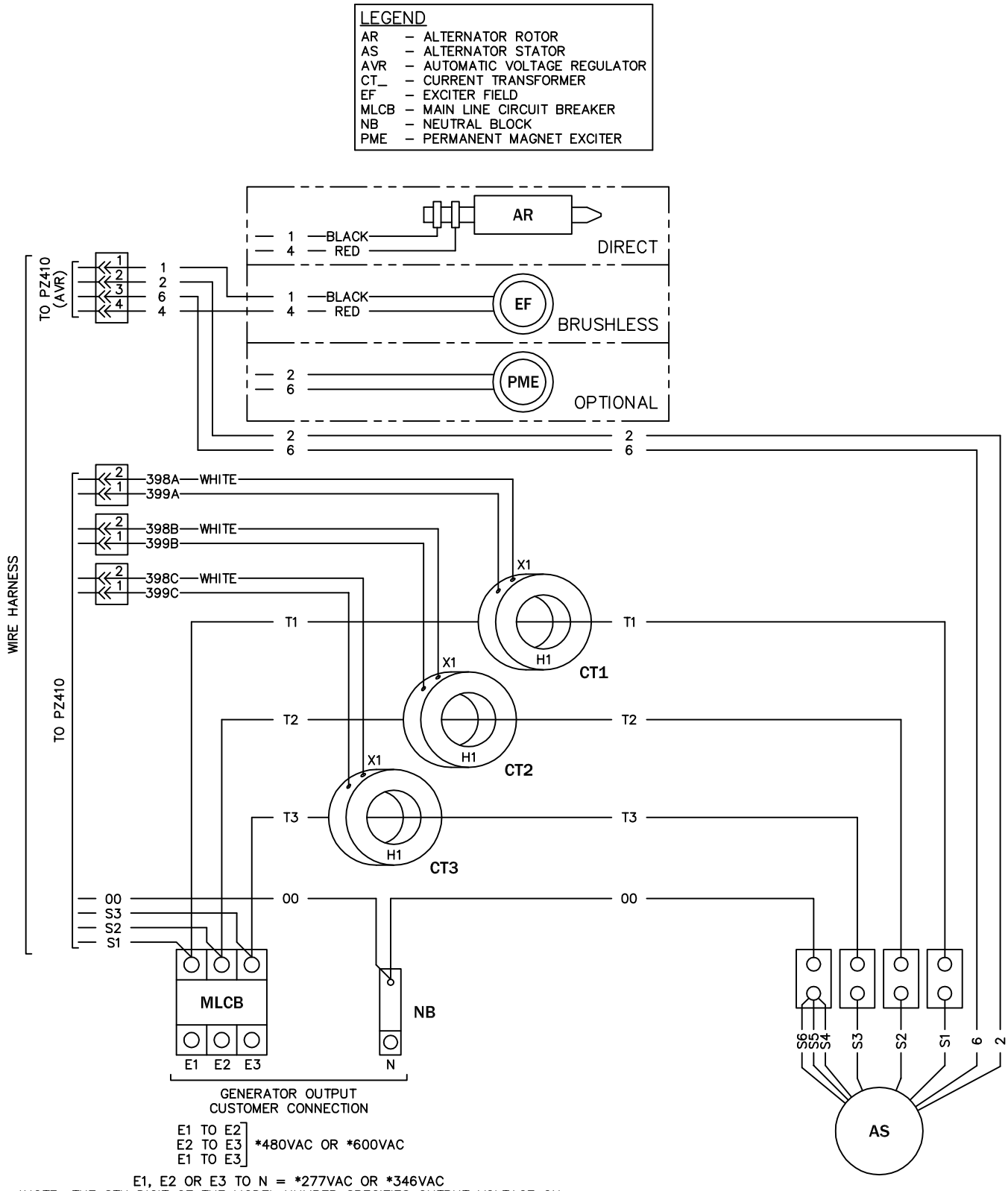
DRAWING #: A0002056850

OPTION 1 - SINGLE PHASE, POWER ZONE 410 CONTROL PANEL, DIRECT DRIVE, 4 LEAD



PAGE 1 OF 6

OPTION 2 - THREE PHASE WYE, POWER ZONE 410 CONTROL PANEL, DIRECT DRIVE, 6 LEAD



WIRING - DIAGRAM

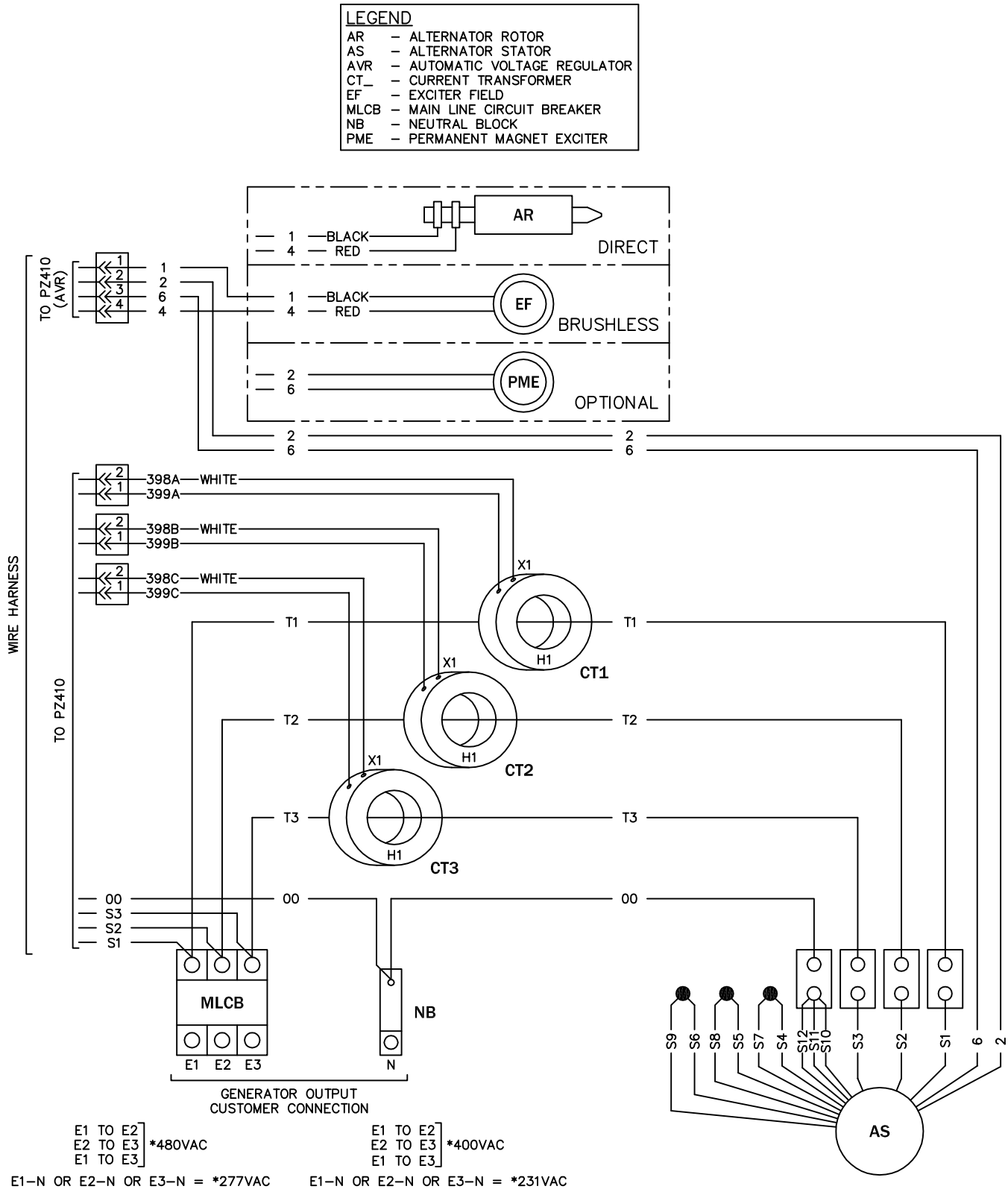
REVISION: CN-0055468-A

DATE: 4/5/22

390/520 ALTERNATOR PZ410

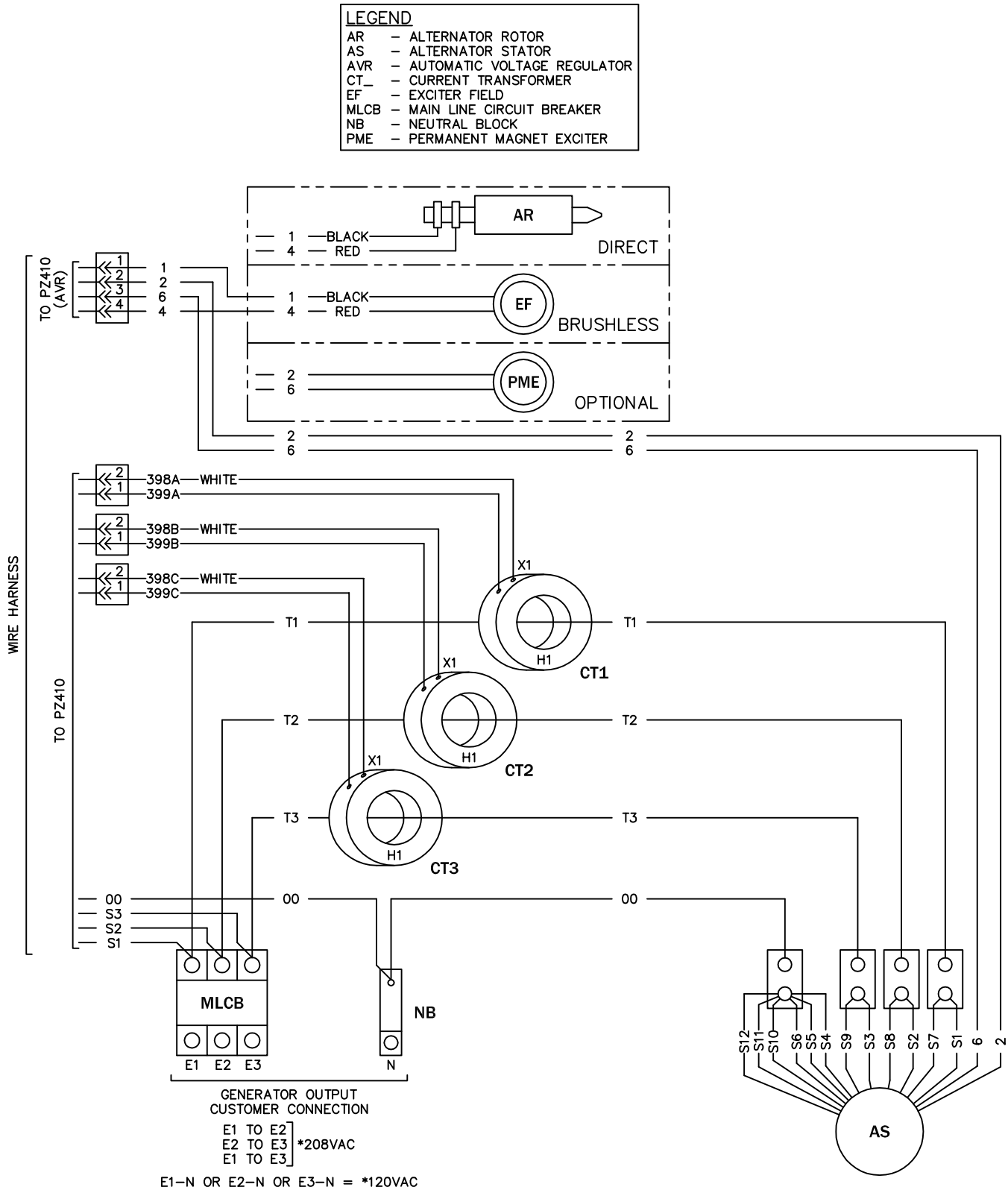
DRAWING #: A0002288662

OPTION 3 - THREE PHASE SERIES WYE, POWER ZONE 410 CONTROL PANEL, DIRECT DRIVE, 12 LEAD



PAGE 3 OF 6

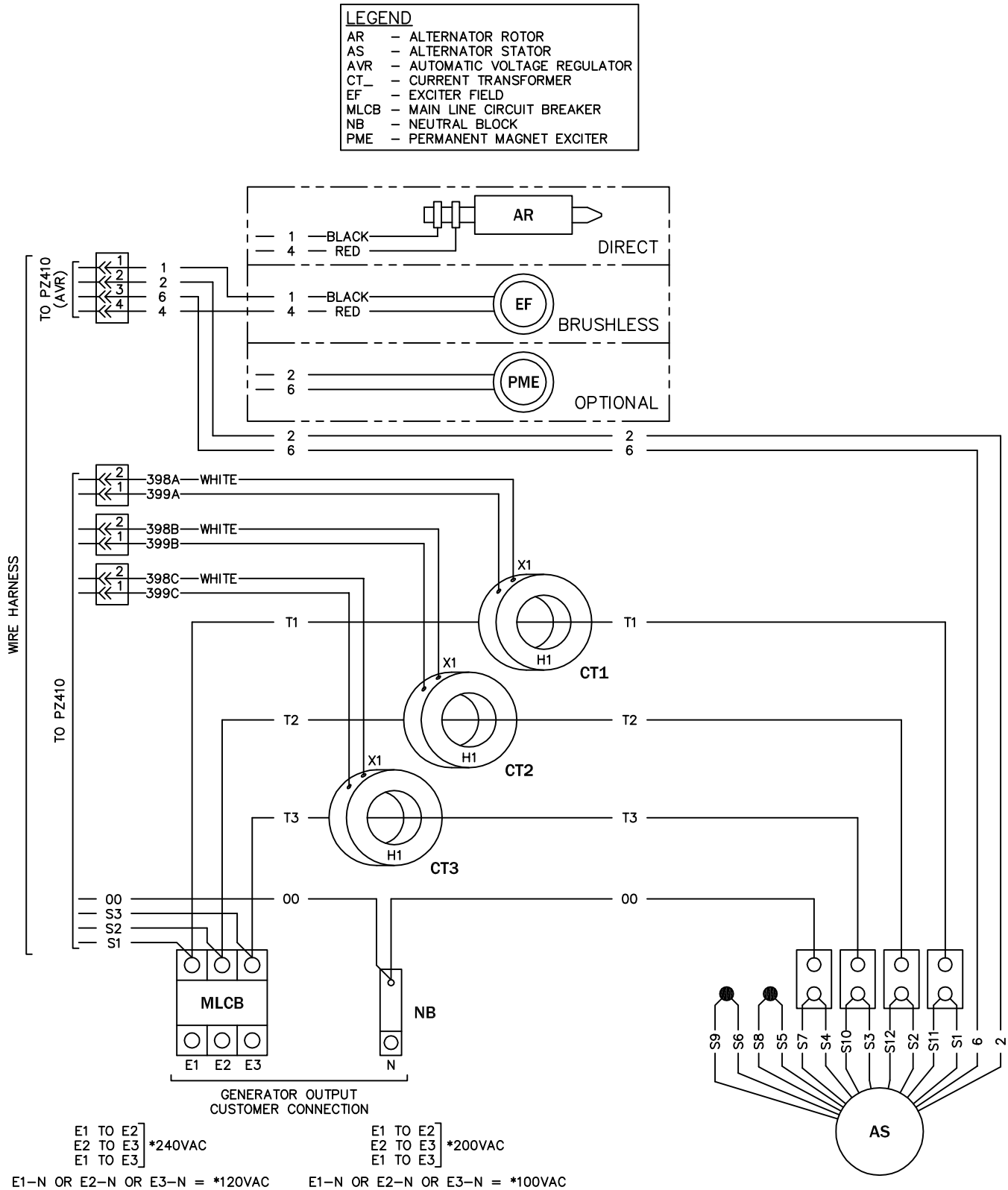
OPTION 4 - THREE PHASE PARALLEL WYE, POWER ZONE 410 CONTROL PANEL, DIRECT DRIVE, 12 LEAD



*NOTE: THE 8TH DIGIT OF THE MODEL NUMBER SPECIFIES OUTPUT VOLTAGE ON UNITS BEFORE 2010
THE 7TH DIGIT OF THE MODEL NUMBER SPECIFIES OUTPUT VOLTAGE ON UNITS 2010 TO PRESENT
"G" = 120/208VAC 60HZ

PAGE 4 OF 6

OPTION 5 - THREE PHASE SERIES DELTA, POWER ZONE 410 CONTROL PANEL, DIRECT DRIVE, 12 LEAD



PAGE 5 OF 6

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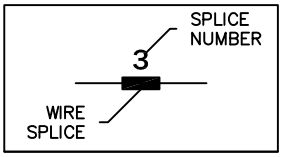
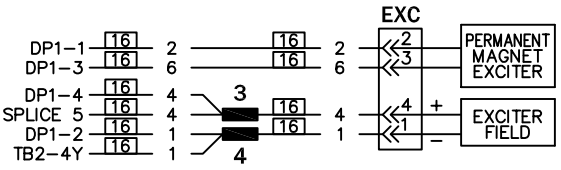
LEGEND

AH_ – ALARM HORN	FB_ – FUSE BLOCK	OTS – OIL TEMPERATURE SENDER
ALT – DC CHARGE ALTERNATOR	FLS – FUEL LEVEL SENDER	R_ – RESISTOR
BCC – BATTERY CHARGER CONNECTOR	GA – GOVERNOR ACTUATOR	RB_ – RELAY BOARD
BCH – BATTERY CHARGER	GD – GOVERNOR DRIVER	RB_A – RELAY BOARD CONNECTOR
CT_ – CURRENT TRANSFORMER	GFCI – GROUND FAULT CIRCUIT INTERRUPT	SC – START CONTACTOR
DB_ – DIODE BRIDGE	GND – GROUND BAR CONNECTION	SM – STARTER MOTOR
DC_ – DUIO CONNECTOR	IP – INJECTOR PUMP	SW1 – OFF/AUTO/MANUAL SWITCH
DP_ – PZ410 CONTROLLER CONNECTOR	LD – LEAK DETECTOR (FUEL TANK)	SWC – OPERATOR SWITCH CONNECTOR
DS_ – DOOR SWITCH	MLCB – MAIN LINE CIRCUIT BREAKER	TB_ – TERMINAL BLOCK
DUIO – PZ410 I/O EXPANSION MODULE	MPU_ – MAGNETIC PICKUP	WLS – COOLANT LEVEL SENDER
ES1 – EMERGENCY STOP SWITCH	OPS – OIL PRESSURE SENDER	WTS – COOLANT TEMPERATURE SENDER
EXC – ALT EXCITATION CONNECTOR		

NOTE: ALL WIRES 18 AWG 600V UL LISTED UNLESS SHOWN OTHERWISE



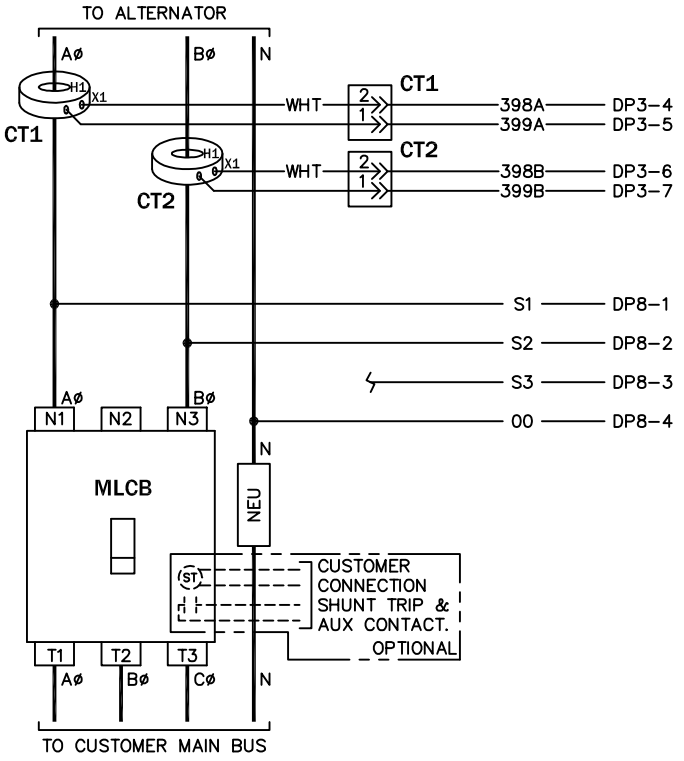
ALTERNATOR EXCITATION



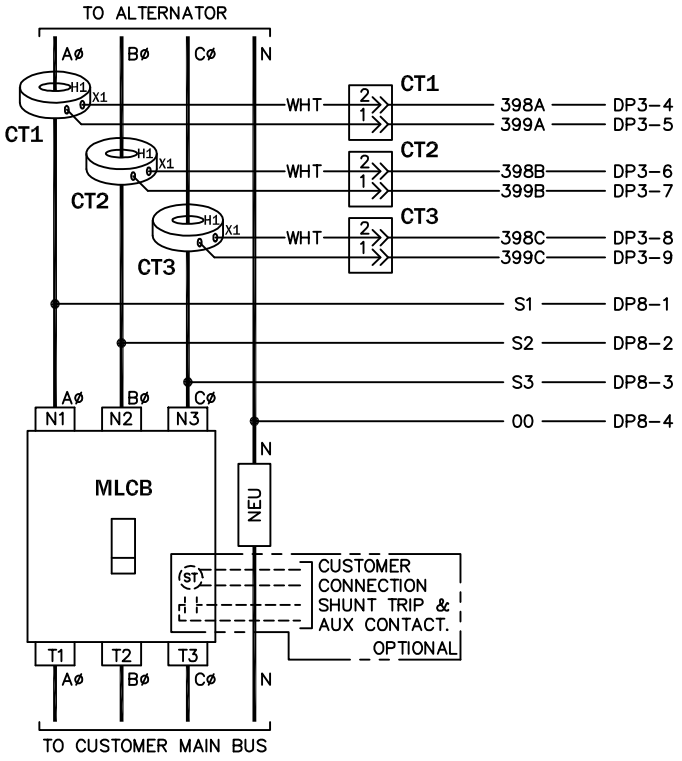
COMPONENTS LOCATED IN HIGH VOLTAGE CUSTOMER CONNECTION MODULE

NOTE: ALL WIRES IN THIS SECTION ARE 600V RATED

CONNECTIONS FOR 1Ø UNIT



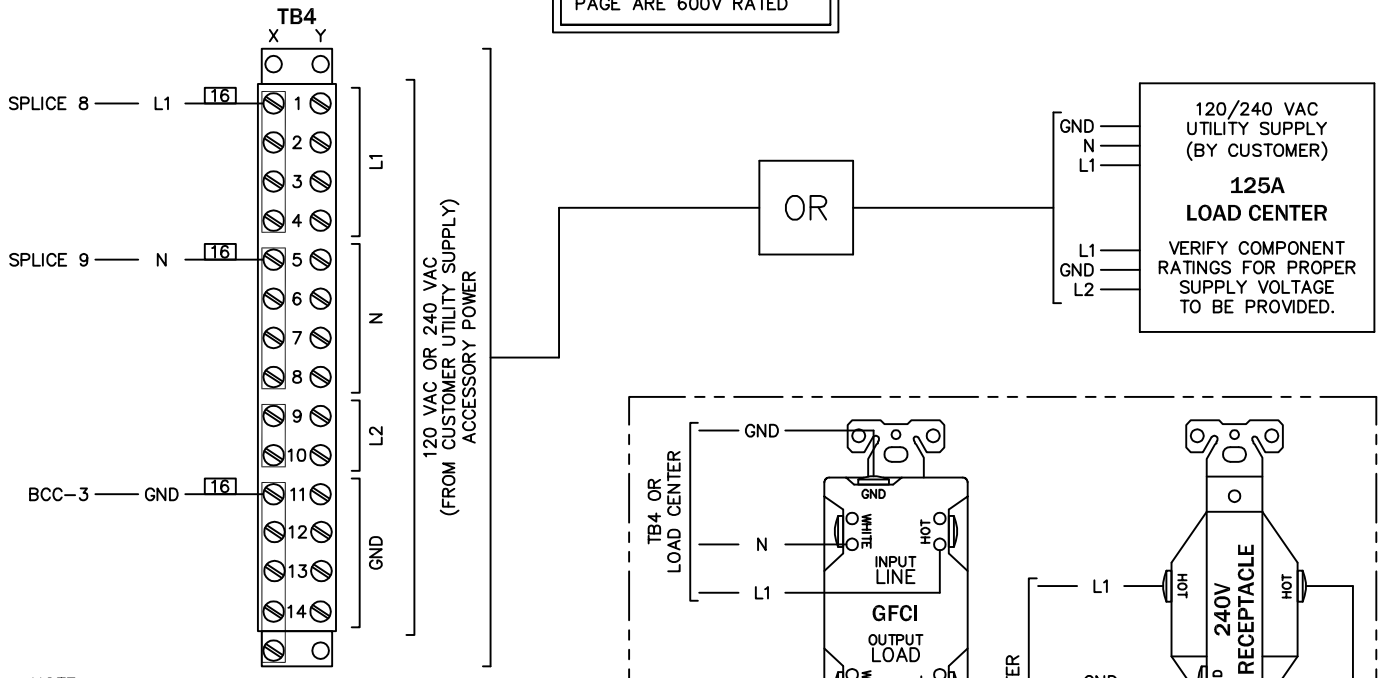
CONNECTIONS FOR 3Ø UNIT



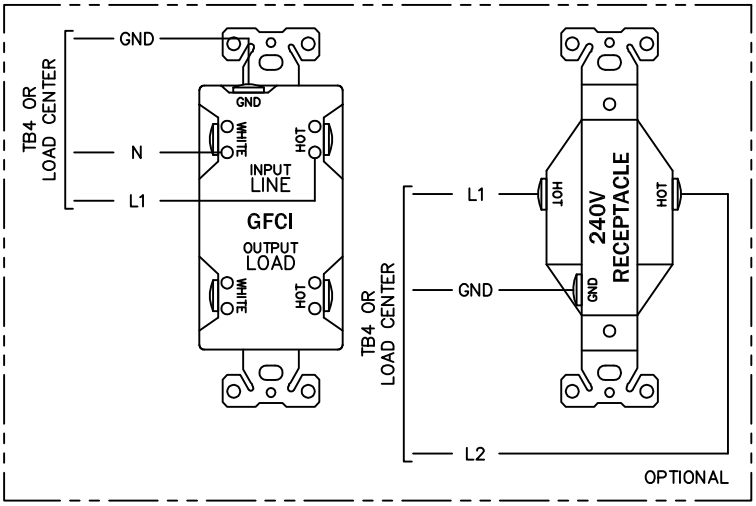
PAGE 1 OF 8

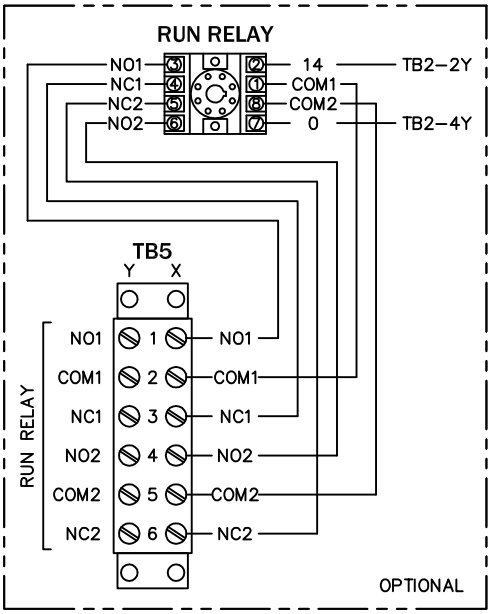
COMPONENTS LOCATED IN HIGH VOLTAGE CUSTOMER CONNECTION MODULE

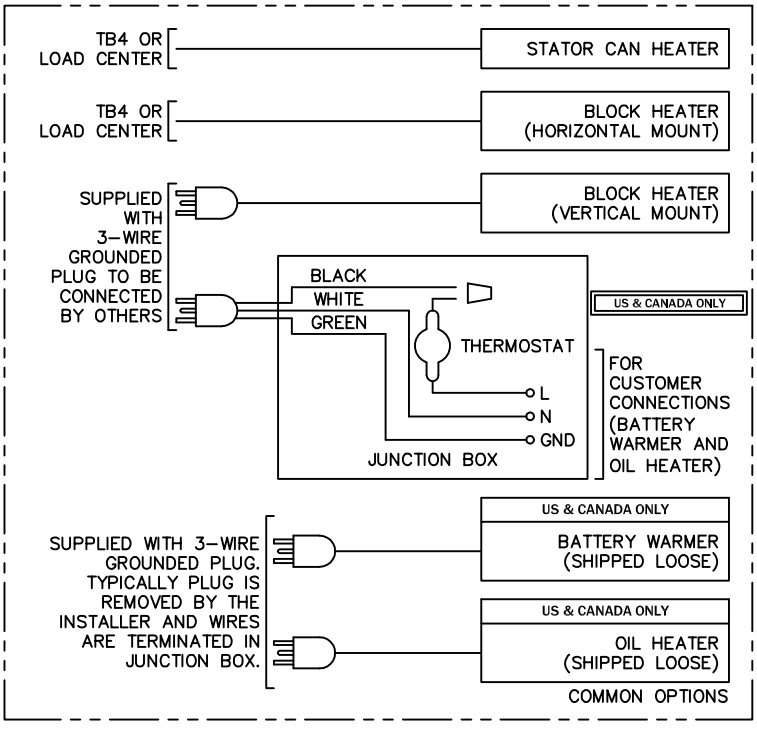
NOTE: ALL WIRES ON THIS PAGE ARE 600V RATED



NOTE:
FOR FIELD WIRING TO CUSTOMER CONNECTIONS (TERMINAL STRIP)
MAXIMUM WIRE SIZE: #10 AWG
RECOMMENDED TIGHTENING TORQUE: 14 LB–IN





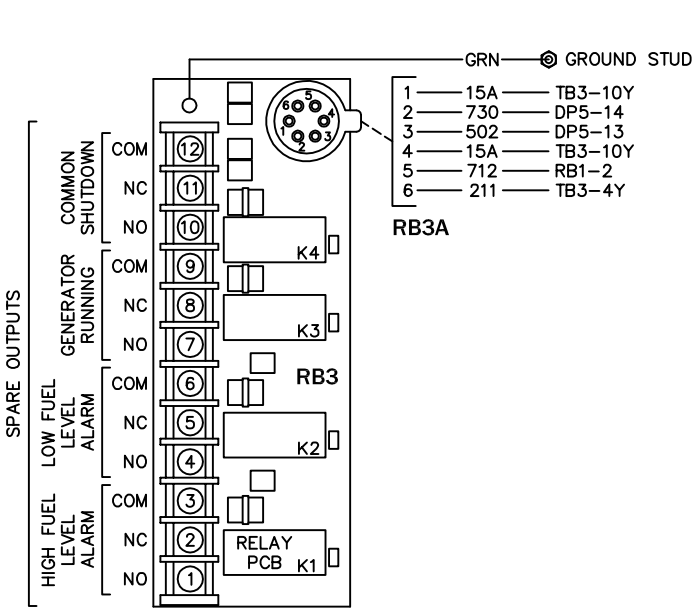


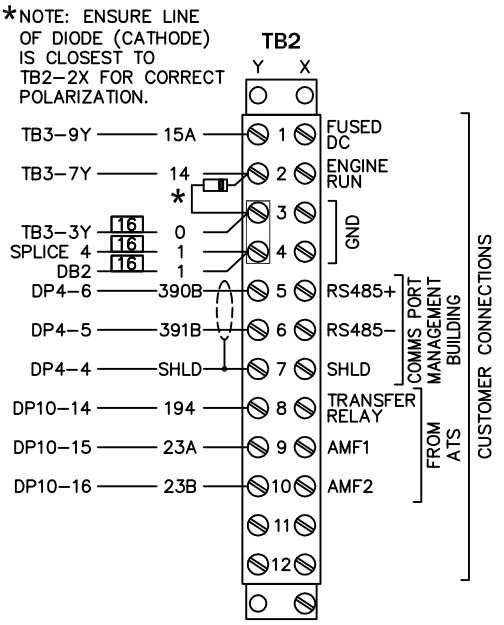
WIRING - DIAGRAM

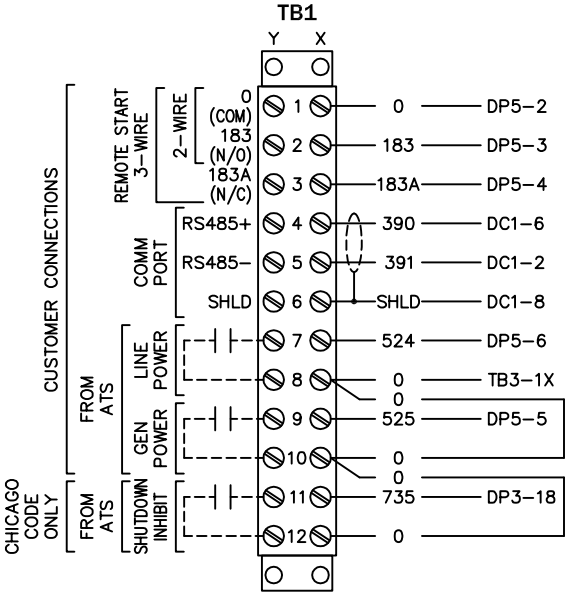
REVISION: CN-0056751-B
DATE: 5/19/22

D4.5L/D6.7L G17 PZ410
DRAWING #: A0002056849

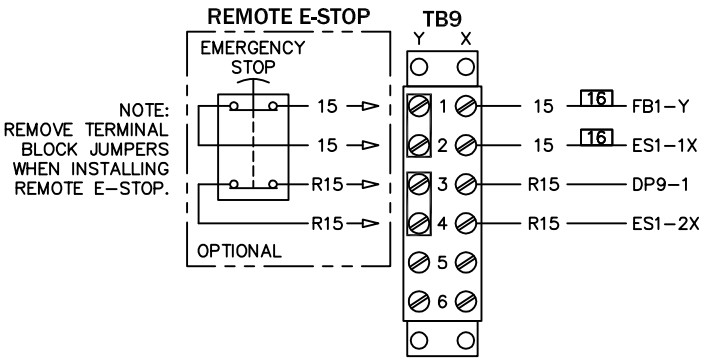
COMPONENTS LOCATED ON LOW VOLTAGE CUSTOMER CONNECTION PANEL

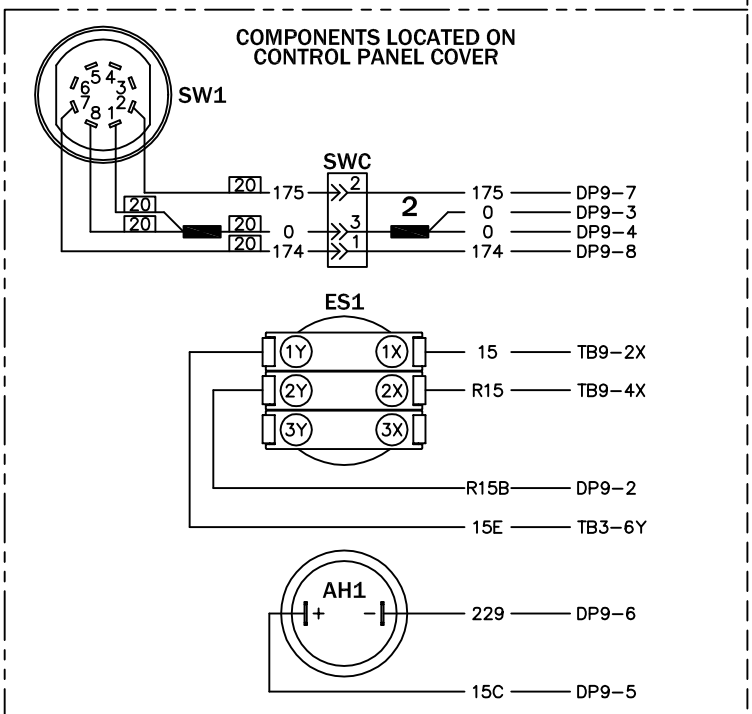






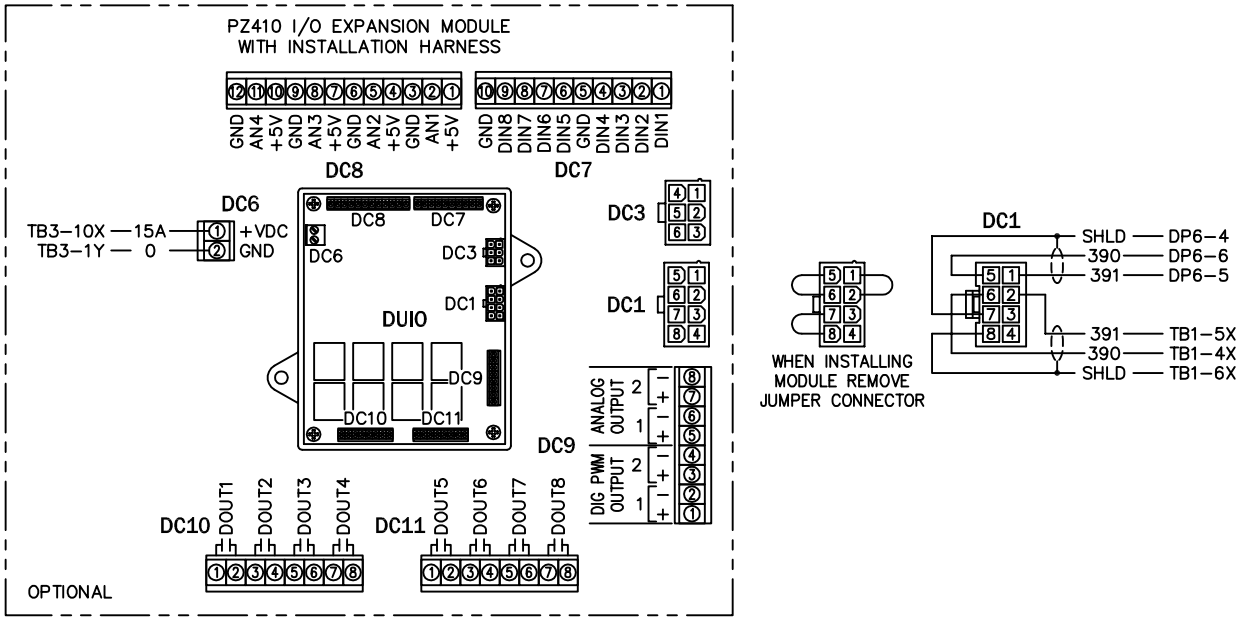
NOTE:
FOR FIELD WIRING TO CUSTOMER CONNECTIONS (TERMINAL STRIPS AND RELAY BOARD)
MAXIMUM WIRE SIZE: #14 AWG
RECOMMENDED TIGHTENING TORQUE: 12 LB–IN



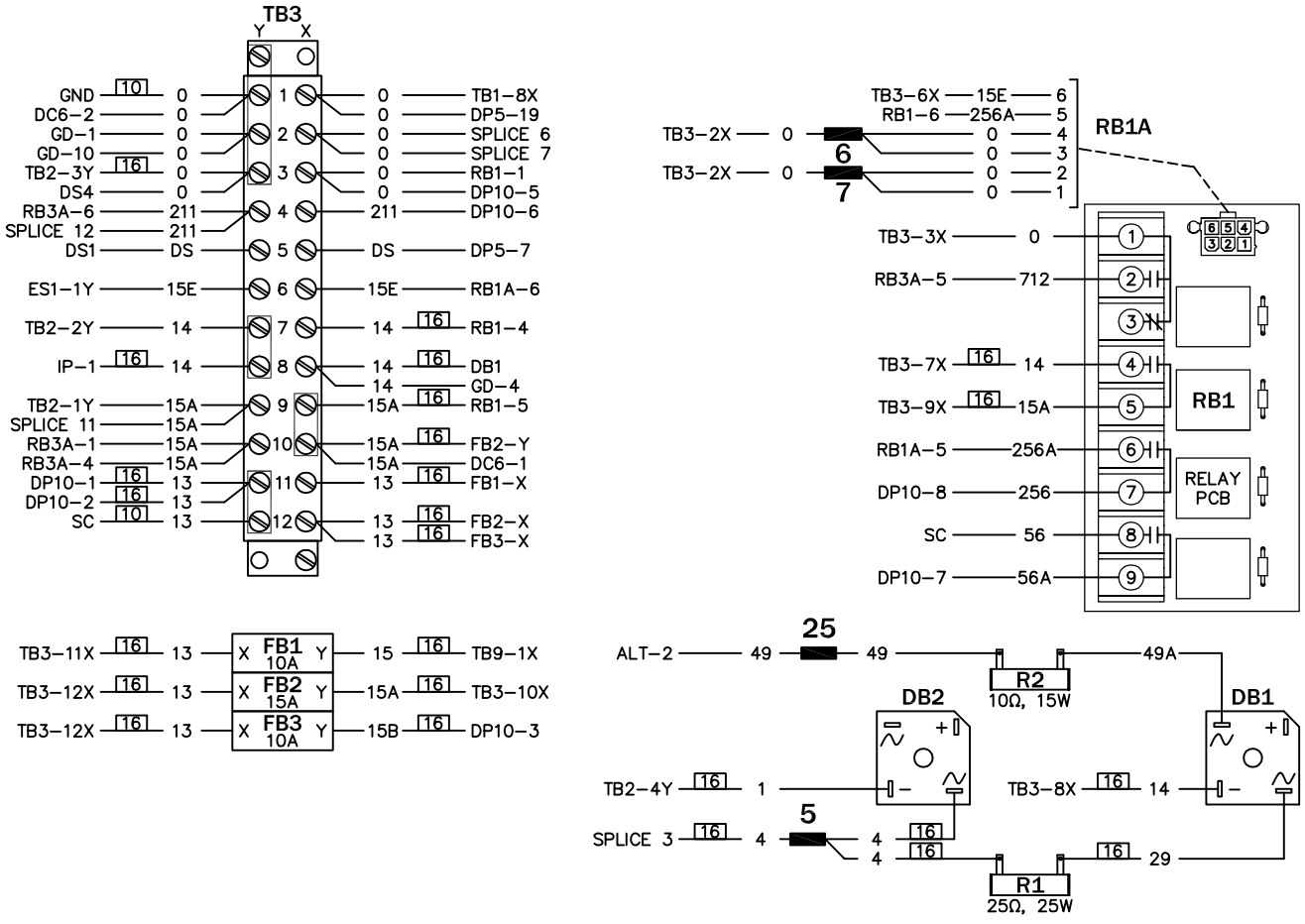


PAGE 3 OF 8

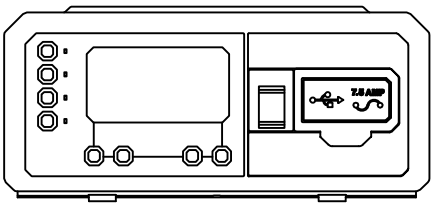
COMPONENTS LOCATED ON LOW VOLTAGE CUSTOMER CONNECTION PANEL



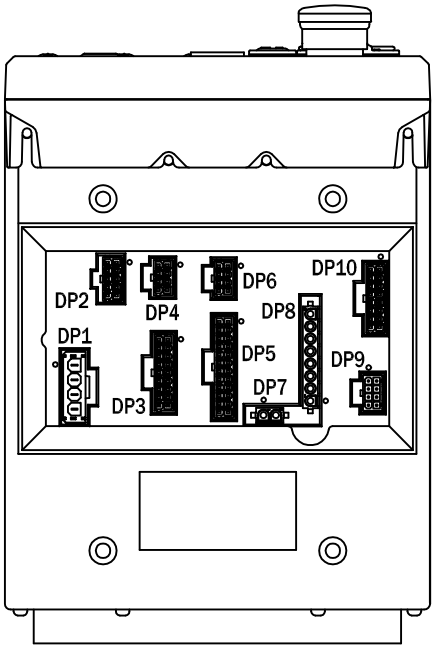
COMPONENTS LOCATED IN CONTROL PANEL



COMPONENTS LOCATED IN CONTROL PANEL



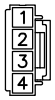
FRONT VIEW



BOTTOM VIEW

DP1

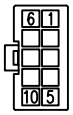
PIN



PIN	WIRE	FROM
1	2	EXC–2
2	1	SPLICE 4
3	6	EXC–3
4	4	SPLICE 3

DP2

PIN

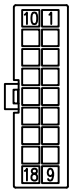


FROM	WIRE	PIN
GD–12	769	6
–	–	7
–	–	8
MPU–5	79R	9
MPU–6	79S	10

PIN	WIRE	FROM
1	766	SPLICE 17
2	765	SPLICE 15
3	767	SPLICE 14
4	–	–
5	79V	MPU–4

DP3

PIN



FROM	WIRE	PIN
SPLICE 23	68V	10
SPLICE 24	68R	11
SPLICE 20	69V	12
SPLICE 19	69S	13
SPLICE 18	69R	14
SPLICE 10	575	15
SPLICE 10	575	16
FLS–1	591	17
TB1–11X	735	18

PIN	WIRE	FROM
1	–	–
2	–	–
3	–	–
4	398A	CT1–2
5	399A	CT1–1
6	398B	CT2–2
7	399B	CT2–1
8	398C	CT3–2
9	399C	CT3–1

DP4

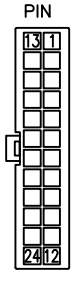
PIN

FROM	WIRE	PIN
TB2–6Y	391B	5
TB2–5Y	390B	6
–	–	7
–	–	8

PIN	WIRE	FROM
1	–	–
2	–	–
3	–	–
4	SHLD	TB2–7Y

DP5

PIN

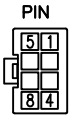


FROM	WIRE	PIN
RB3A–3	502	13
RB3A–2	730	14
SPLICE 21	523	15
–	–	16
BCC–6	803	17
–	–	18
TB3–1X	0	19
–	–	20
–	–	21
BCC–8	505	22
WLS–A	573V	23
WLS–B	573R	24

PIN	WIRE	FROM
1	567	LD–2
2	0	TB1–1X
3	183	TB1–2X
4	183A	TB1–3X
5	525	TB1–9X
6	524	TB1–7X
7	DS	TB3–5X
8	BC1	BCC–7
9	–	–
10	–	–
11	–	–
12	–	–

DP6

PIN



FROM	WIRE	PIN
DC1–1	391	5
DC1–5	390	6
–	–	7
–	–	8

PIN	WIRE	FROM
1	–	–
2	–	–
3	–	–
4	SHLD	DC1–7

DP7

PIN

PIN	WIRE	FROM
1	L1	SPLICE 8
2	N	SPLICE 9

DP8

PIN

PIN	WIRE	FROM
8	–	–
7	–	–
6	–	–
5	–	–
4	00	NEU
3	S3	MLCB–CØ
2	S2	MLCB–BØ
1	S1	MLCB–AØ

DP9

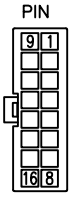
PIN

FROM	WIRE	PIN
TB9–3X	R15	1
ES1–2Y	R15B	2
SPLICE 2	0	3
SPLICE 2	0	4

PIN	WIRE	FROM
5	15C	AH1+
6	229	AH1–
7	175	SWC–2
8	174	SWC–1

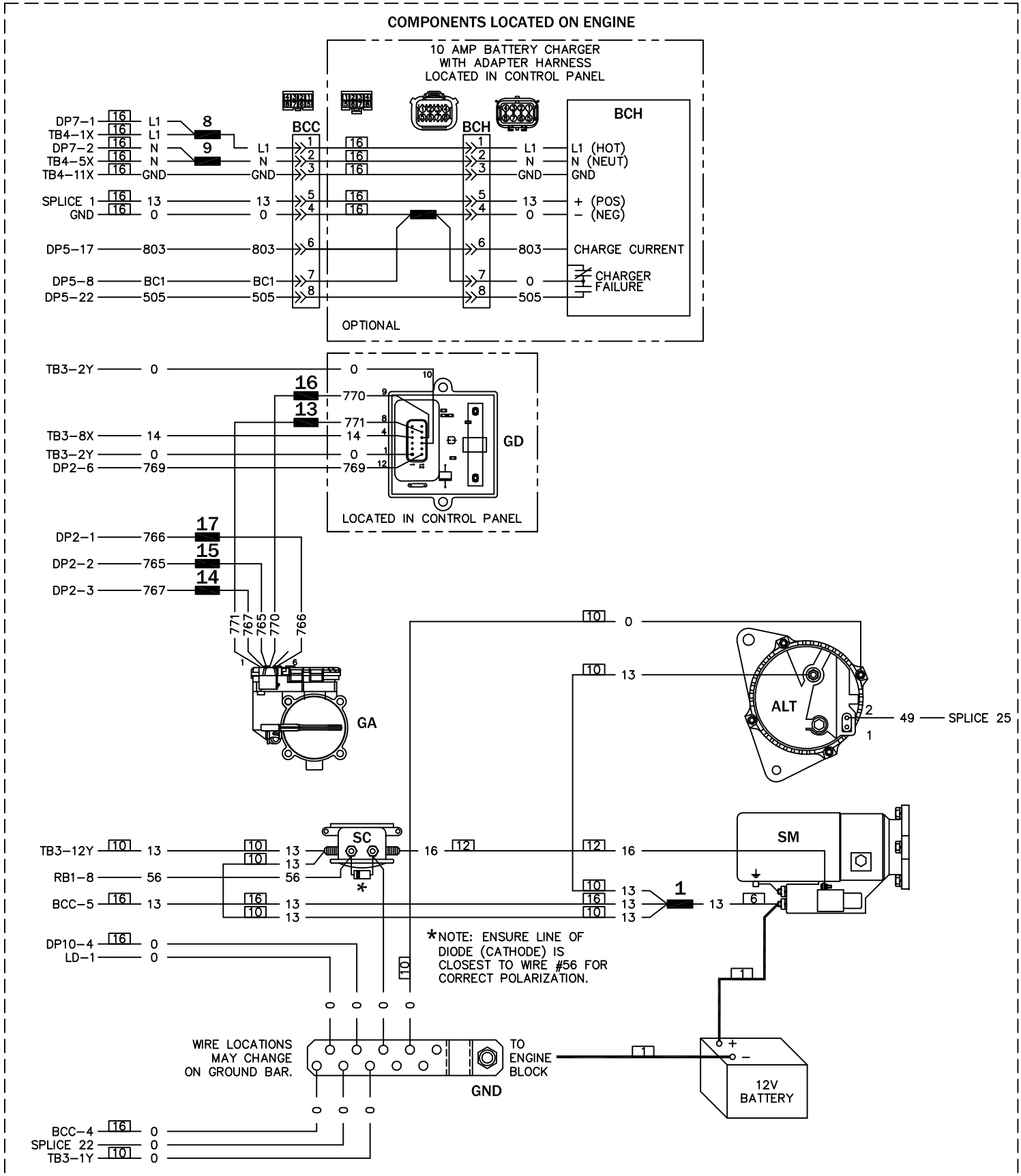
DP10

PIN



FROM	WIRE	PIN
–	–	9
–	–	10
–	–	11
–	–	12
–	–	13
TB2–8Y	194	14
TB2–9Y	23A	15
TB2–10Y	23B	16

PIN	WIRE	FROM
1	13	TB3–11Y
2	13	TB3–11Y
3	15B	FB3–Y
4	0	GND
5	0	TB3–3X
6	211	TB3–4X
7	56A	RB1–9
8	256	RB1–7



WIRING - DIAGRAM

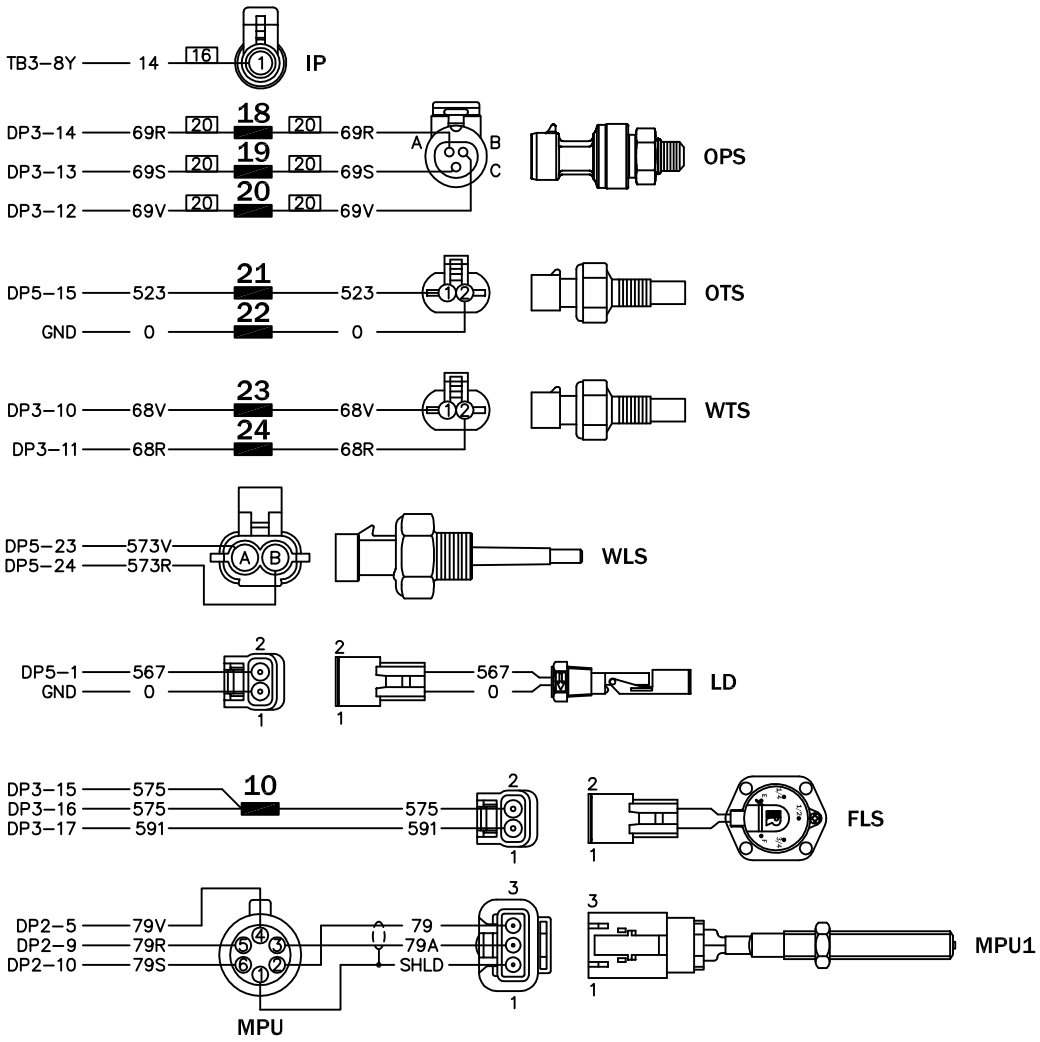
REVISION: CN-0056751-B

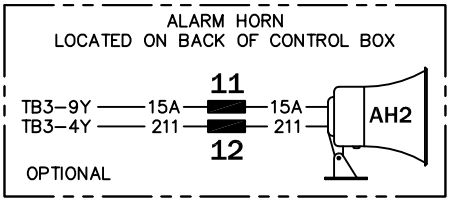
DATE: 5/19/22

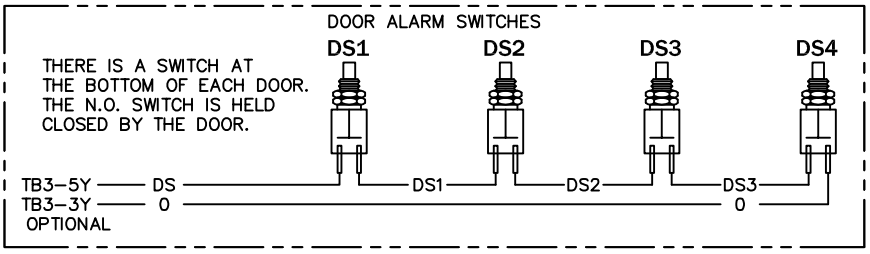
D4.5L/D6.7L G17 PZ410

DRAWING #: A0002056849

COMPONENTS LOCATED ON ENGINE







PAGE 7 OF 8

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Warranty

GENERAC POWER SYSTEMS STANDARD FIVE-YEAR COMPREHENSIVE LIMITED WARRANTY FOR STANDBY POWER SYSTEMS

NOTE: ALL UNITS MUST HAVE A START-UP INSPECTION PERFORMED BY AN AUTHORIZED GENERAC SERVICE DEALER.

For a period of five (5) years or two thousand (2,000) hours of operation from the date of start up, which ever occurs first, Generac Power Systems, Inc. will, at its option, repair or replace any part(s) which, upon examination, inspection, and testing by Generac Power Systems or an Authorized/Certified Generac Power Systems Dealer, or branch thereof, is found to be defective under normal use and service, in accordance with the warranty schedule set forth below. Repair or replacement pursuant to this limited warranty shall not renew or extend the original warranty period. Any repaired product shall be warranted for the remaining original warranty period only. Any equipment that the purchaser/owner claims to be defective must be examined by the nearest Authorized/Certified Generac Power Systems Dealer, or branch thereof. This warranty applies only to Generac Power Systems Generators used in "Standby" applications, as Generac Power Systems, Inc. has defined Standby, provided said generator has been initially installed and/or inspected on-site by an Authorized/Certified Generac Power Systems Dealer, or branch thereof. It is highly recommended that scheduled maintenance, as outlined by the generator owner's manual, be performed by an Authorized/Certified Generac Power Systems Dealer, or branch thereof. This will verify service has been performed on the unit throughout the warranty period. This warranty is limited to and available only on Liquid-cooled units.

*****This warranty only applies to units sold for use in the US and Canada.*****

WARRANTY SCHEDULE

YEARS ONE, TWO, THREE, FOUR AND FIVE — Limited comprehensive coverage on mileage, labor, and parts listed.
• ALL COMPONENTS — ENGINE, ALTERNATOR AND TRANSFER SWITCH

GEARBOX EQUIPPED UNITS - LIMITED GEARBOX COVERAGE

YEARS ONE THROUGH FIVE — Parts and labor coverage on gearbox and components.
YEARS SIX THROUGH TEN — Parts only coverage on gearbox and components.

GUIDELINES:

1. Travel allowance is limited to 300 miles maximum, and 7.5 hours maximum (per occurrence), round trip, to the nearest authorized Generac Service Facility, and only applies to permanently wired and mounted units.
2. All warranty repairs, must be performed and/or addressed by an Authorized/Certified Generac Power Systems Dealer, or branch thereof.
3. A Generac Power Systems, Inc. Transfer Switch is highly recommended to be used in conjunction with the generator set. If a Non-Generac Power Systems, Inc. Transfer Switch is substituted for use and directly causes damage to the generator set, no warranty coverage shall apply.
4. All warranty expense allowances are subject to the conditions defined in Generac's General Service Policy Manual.
5. Units that have been resold are not covered under the Generac Power Systems Warranty, as this Warranty is not transferable.
6. Unit enclosure is only covered during the first year of the warranty provision.
7. Use of Non-Generac replacement part(s) will void the warranty in its entirety.
8. Engine coolant heaters (block-heaters), heater controls and circulating pumps are only covered during the first year of the warranty provision.
9. Generac may chose to Repair, Replace or Refund a piece of equipment.
10. Warranty Labor Rates are based on normal working hours. Additional costs for overtime, holiday or emergency labor costs for repairs outside of normal business hours will be the responsibility of the customer.
11. Warranty Parts shipment costs are reimbursed at ground shipment rates. Costs related to requests for expedited shipping will be the responsibility of the customer.
12. Batteries are warranted by the battery manufacturer.
13. Verification of required maintenance may be required for warranty coverage.

THIS WARRANTY SHALL NOT APPLY TO THE FOLLOWING:

Any unit built/manufactured prior to July 1, 2004.
1. Any unit that did not have a start up inspection performed by an Authorized Generac Service Dealer, costs of normal maintenance (i.e. tune-ups, associated part(s), adjustments, loose/leaking clamps, installation and start-up).
2. Any failure caused by contaminated fuels, oils, coolants/antifreeze or lack of proper fuels, oils or coolants/antifreeze.
3. Units sold, rated or used for "Prime Power", "Trailer Mounted" or "Rental Unit" applications as Generac has defined Prime Power,Trailer Mounted or Rental Unit. Contact a Generac Distributor for Prime Power, Trailer Mounted or Rental Unit definition and warranty.
4. Failures caused by any external cause or act of God such as, but not limited to, collision, fire, theft, freezing, vandalism, riot or wars, lightning, earthquake, windstorm, hail, volcanic eruption, water or flood, tornado, hurricane, terrorist acts or nuclear holocaust.
5. Products that are modified or altered in a manner not authorized by Generac Power Systems in writing.
6. Failures due, but not limited to, normal wear and tear, accident, misuse, abuse, negligence, or improper installation or sizing.
7. Any incidental, consequential or indirect damages caused by defects in materials or workmanship, or any delay in repair or replacement of the defective part(s).
8. Damage related to rodent and/or insect infestation.
9. Failure due to misapplication, misrepresentation, or bi-fuel conversion.
10. Telephone, facsimile, cellular phone, satellite, Internet, or any other communication expenses.
11. Rental equipment used while warranty repairs are being performed (i.e. rental generators, cranes, etc.).
12. Modes of transportation deemed abnormal (refer to Generac General Service Policy Manual).
13. Steel enclosures that are rusting due to improper installation, location in a harsh or saltwater environment or scratched where integrity of paint applied is compromised.
14. Any and all expenses incurred investigating performance complaints unless defective Generac materials and/or workmanship were the direct cause of the problem.
15. Starting batteries, fuses, light bulbs, engine fluids, and overnight freight cost for replacement part(s).

THIS WARRANTY IS IN PLACE OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, SPECIFICALLY, GENERAC POWER SYSTEMS MAKES NO OTHER WARRANTIES AS TO THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Any implied warranties which are allowed by law shall be limited in duration to the terms of the express warranty provided herein. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to purchaser/owner.

GENERAC POWER SYSTEMS' ONLY LIABILITY SHALL BE THE REPAIR OR REPLACEMENT OF PART(S) AS STATED ABOVE. IN NO EVENT SHALL GENERAC POWER SYSTEMS BE LIABLE FOR ANY INCIDENTAL, OR CONSEQUENTIAL DAMAGES, EVEN IF SUCH DAMAGES ARE A DIRECT RESULT OF GENERAC POWER SYSTEMS' NEGLIGENCE.
Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to purchaser/ owner. Purchaser/owner agrees to make no claims against Generac Power Systems, Inc. based on negligence. This warranty gives purchaser/owner specific legal rights. Purchaser/owner also may have other rights that vary from state to state.

Generac Power Systems, Inc. • P.O. Box 8 • Waukesha, WI 53187 • Ph: (262) 544-4811 • Fax: (262) 544-4851

Part No. 0J4301 Rev. B 06/03/11

United States Environmental Protection Agency Warranty Statement
(Stationary Emergency Compression-Ignition Generators)

Warranty Rights, Obligations and Coverage

Your emission-related warranty covers only components whose failure would increase an engine's emissions of any regulated pollutant where they are designed, built, and equipped to be free from defects in materials and workmanship under applicable regulations of section 213 of the clean air act. To receive information about how to make an emission-related warranty claim, and how to make arrangements for authorized repairs call **1-800-333-1322** or **www.generac.com**. Emission- related warranty claims may be denied without proof of proper maintenance or use, accidents beyond the control of the manufacturer, or act of God. Proper maintenance is specified in the Owner's Manual. Usage is limited to stationary emergency operations and 100 hours per year for maintenance and readiness testing. The warranty period begins when the engine is placed into service. Warranty periods for compression ignition engines greater than 25 horsepower is five years. This warranty is applicable to compression-ignition generator models; equal to and larger than an SD80 starting 1/1/2011, equal to and larger than an SD35 starting 1/1/2012, and all compression-ignition generator models starting 1/1/2013.

Important Note

This warranty statement explains your rights and obligations under the Emission Control System Warranty, which is provided to you by Generac pursuant to federal law. Note that this warranty shall not apply to any incidental, consequential or indirect damages caused by defects in materials or workmanship or any delay in repair or replacement of the defective part(s). This warranty is in place of all other warranties, expressed or implied. Specifically, Generac makes no other warranties as to the merchantability or fitness for a particular purpose. Any implied warranties which are allowed by law, shall be limited in duration to the terms of the express warranty provided herein. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

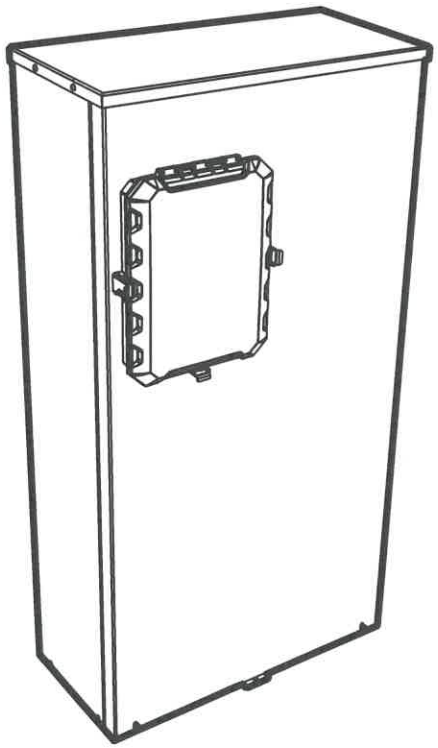
GENERAC® POWER SYSTEMS, INC.
211 MURPHY DR. • P.O. BOX 310
EAGLE, WI 53119

GENERAC®

Owner's Manual

TX Automatic Transfer Switch

Emergency Rated, Service Entrance and Non-Service Entrance
100 - 400 Amp, Single-Phase 208 (Wye and Delta) - 480 VAC (Wye and Delta)



MODEL:_____
SERIAL:_____
DATE PURCHASED:_____

SAVE THIS MANUAL FOR FUTURE REFERENCE

⚠WARNING

CANCER AND REPRODUCTIVE HARM

www.P65Warnings.ca.gov.

(000393a)

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Section 1: Safety

Introduction

Thank you for purchasing a Generac Power Systems Inc. product. This unit has been designed to provide high performance, efficient operation, and years of use when maintained properly.

Read This Manual Thoroughly

⚠WARNING

Consult Manual. Read and understand manual completely before using product. Failure to completely understand manual and product could result in death or serious injury. (000100a)

If any section of this manual is not understood, contact the nearest Independent Authorized Service Dealer (IASD) or Generac Customer Service at 1-888-436-3722 (1-888-GENERAC), or visit ***www.generac.com*** for starting, operating, and servicing procedures. The owner is responsible for proper maintenance and safe use of the unit.

SAVE THESE INSTRUCTIONS for future reference. This manual contains important instructions that must be followed during placement, operation, and maintenance of the unit and its components. Always supply this manual to any individual that will use this unit, and instruct them on how to correctly start, operate, and stop the unit in case of emergency.

Safety Rules

The manufacturer cannot anticipate every possible circumstance that might involve a hazard. The alerts in this manual, and on tags and decals affixed to the unit, are not all inclusive. If using a procedure, work method, or operating technique that the manufacturer does not specifically recommend, verify that it is safe for others and does not render the equipment unsafe.

Throughout this publication, and on tags and decals affixed to the unit, DANGER, WARNING, CAUTION, and NOTE blocks are used to alert personnel to special instructions about a particular operation that may be hazardous if performed incorrectly or carelessly. Observe them carefully. Alert definitions are as follows:

⚠DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

(000001)

⚠WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

(000002)

⚠CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

(000003)

NOTE: Notes contain additional information important to a procedure and will be found within the regular text of this manual.

These safety alerts cannot eliminate the hazards that they indicate. Common sense and strict compliance with the special instructions while performing the action or service are essential to preventing accidents.

Electrical Hazards

⚠DANGER

Electrocution. High voltage is present at transfer switch and terminals. Contact with live terminals will result in death or serious injury.

(000129)

⚠DANGER

Electrocution. Water contact with a power source, if not avoided, will result in death or serious injury.

(000104)

⚠DANGER

Electrocution. In the event of electrical accident, immediately shut power OFF. Use non-conductive implements to free victim from live conductor. Apply first aid and get medical help. Failure to do so will result in death or serious injury. (000145)

⚠DANGER

Electrical backfeed. Use only approved switchgear to isolate generator from the normal power source. Failure to do so will result in death, serious injury, and equipment damage.

(000237)

⚠DANGER

Electrocution, equipment and property damage. Handle transfer switches carefully when installing. Never install a damaged transfer switch. Doing so could result in death or serious injury, equipment and property damage. (000195)

⚠DANGER

Electrocution. Turn utility supply OFF before working on utility connections of the transfer switch. Failure to do so will result in death or serious injury. (000123

⚠DANGER

Electrocution. Do not disable or modify the connection box door safety switch. Doing so will result in death or serious injury.

(000157)

⚠DANGER

Automatic start-up. Disconnect utility power and render unit inoperable before working on unit. Failure to do so will result in death or serious injury.

(000191)

⚠DANGER

Equipment malfunction. Installing a dirty or damaged transfer switch will cause equipment malfunction and will result in death or serious injury.

(000119)

⚠DANGER

Electrocution. Turn utility supply OFF before working on utility connections of the transfer switch. Failure to do so will result in death or serious injury. (000123)

⚠DANGER

Electrocution. Do not wear jewelry while working on this equipment. Doing so will result in death or serious injury.

(000188)

⚠DANGER

Electrocution. Only authorized personnel should access transfer switch interior. Transfer switch doors should be kept closed and locked. Failure to do so will result in death or serious injury. (000213)

⚠DANGER

Electrocution. In the event of electrical accident, immediately shut power OFF. Use non-conductive implements to free victim from live conductor. Apply first aid and get medical help. Failure to do so will result in death or serious injury. (000145)

⚠WARNING

Electric shock. Only a trained and licensed electrician should perform wiring and connections to unit. Failure to follow proper installation requirements could result in death, serious injury, and equipment or property damage.

(000155a)

⚠CAUTION

Equipment damage. Verify all conductors are tightened to the factory specified torque value. Failure to do so could result in damage to the switch base.

(000120)

⚠CAUTION

Equipment damage. Perform functional tests in the exact order they are presented in the manual. Failure to do so could result in equipment damage.

(000121)

⚠CAUTION

Equipment damage. Exceeding rated voltage and current will damage the auxiliary contacts. Verify that voltage and current are within specification before energizing this equipment. (000134a)

- Competent, qualified personnel should install, operate, and service this equipment. Adhere strictly to local, state and national electrical and building codes. When using this equipment, comply with regulations established by the National Electrical Code (NEC), CSA Standard; the Occupational Safety and Health Administration (OSHA), or the local agency for workplace health and safety.
- If working on this equipment while standing on metal or concrete, place insulative mats over a dry wood platform. Work on this equipment only while standing on such insulative mats.
- Never work on this equipment while physically or mentally fatigued.
- Any voltage measurements should be performed with a meter that meets UL3111 safety standards, and meets or exceeds overvoltage class CAT III.

Section 2: General Information

Equipment Description

Automatic Transfer Switch

The commercial transfer switch range (TX) is designed to operate independently with any standard generator utilizing 2-wire start. The transfer switch is programmed locally using the integrated display and touchpad.

The TX switch controller dictates all operation of transfer switch operation, generator function, and setpoint/timing considerations. The control monitors voltages and frequencies against setpoints, initiates generator function, controls inphase or time delay transfers, manages generator shutdown, performs exercise operations, and logs events. An integrated display is used to change setpoint values, perform desired operational changes, and monitor status.

A simple dry contact (Form C) is provided as a 2-Wire Start (2WS) for generator control. This allows for control of nearly any generator with a simple 2-wire system. An additional communications link is provided for RS-485 communication, allowing external query of transfer switch status and remote voltage and optional power and current monitoring.

The automatic transfer switch is used for transferring critical electrical load from a normal (utility) power source to a standby (emergency) power source. Such a transfer of electrical loads occurs automatically when the normal power source has failed or is substantially reduced and the standby source voltage and frequency have reached an acceptable level. The transfer switch prevents electrical feedback between two different power sources (such as the normal and standby sources) and, for that reason, codes require it in all standby electric system installations.

Communications

Operation of the TX transfer switch is fully functional without communications with a Generator or other external device. An RS-485 communications port is available for remote monitoring of the transfer switch via a Modbus client.

Generac Digital Control Platform Generators

NOTE: This control is not compatible for direct communication with Generac gensets.

Communications parameters within the TX switch control are by default set to:

- Modbus Server Port
- 9,600 Baud
- No parity, 1 stop bit

The Network uses Modbus RTU protocol. Communications should be sent at a rate of one message per second.

Modbus write capability is accessible by writing the password to the security register on the map. If the control is unlocked via Modbus, values in the register are readable and writable. If not, the registers are not visible to Modbus. Only installer and dealer passwords are checked. Password duration for Modbus is five minutes.

Generator Connection

This switch is provided with a "2-wire start" output. The 2-wire start output is for the remote start and stop of generators. The 2-wire start connection is J18, pins 8, 9, and 10, wire numbers 178 and 183.

The 2-wire start output allows the Automatic Transfer Switch (ATS) to start and stop the generator automatically.

NOTE: Some emergency applications may use 3-wire start (Normally Open and Normally Closed contacts) for continuous monitoring purposes. This feature is standard.

Transfer Switch Labels

A Withstand Ratings label is permanently affixed to the transfer switch enclosure and duplicated on the front cover. Use this transfer switch only with the specific limits shown on the label and on other decals and labels that may be affixed to the switch. This will prevent damage to equipment and property.

When requesting information or ordering parts for this equipment, make sure to include all information from the data label located on the subplate inside the transfer switch.

Transfer Switch Enclosure

The standard switch enclosure is a National Electrical Manufacturer's Association (NEMA) 1 type. NEMA 1 type enclosures primarily provide protection against contact with the enclosed equipment and provide a degree of protection against dust, falling dirt, and dripping non-corrosive liquids. NEMA 1 type enclosures are for indoor use only.

An optional NEMA 3R type steel enclosure version is available and easily recognizable by the addition of seals around the cover and lockable enclosures over the controller and circuit breaker (if applicable). The NEMA 3R type enclosure provides additional protection against rain and snow. NEMA 3R type enclosures are for indoor or outdoor use.

Safe Use of Transfer Switch

Before installing, operating, or servicing this equipment, read the safety rules carefully. Comply strictly with all safety rules to prevent accidents and/or damage to the equipment. The manufacturer recommends that a copy of the safety rules be posted near the transfer switch. Also, be sure to read all instructions and information found on tags, labels and decals affixed to the equipment.

Publications that outline the safe use of transfer switches are the following:

- NFPA 70; National Electrical Code
- NFPA 70E; Standard for Electrical Safety in the Workplace
- UL 1008; Standard for Safety-Automatic Transfer Switches

NOTE: It is essential to use the latest version of any standard to ensure correct and current information.

Section 3: Installation

Introduction to Installation

Though this equipment has been wired and tested at the factory, the installer should verify all wiring connections are proper. Installing the switch includes the following procedures:

- Mounting the enclosure.
- Connecting power source and load leads.
- Connecting the generator connection.
- Programming setpoints, function options, and schedules within the TX switch controller.
- Installing/connecting any options and accessories.
- Testing functions.

Unpacking

Carefully unpack transfer switch. Inspect closely for any damage. Purchaser must file damage claim with carrier for noted shipping damage.

Verify all packing material is removed from switch before installation.

Attach any lifting device to the transfer switch mounting holes or brackets. Do not lift the switch at any other point.

Mounting

⚠DANGER

Electrocution, equipment and property damage. Handle transfer switches carefully when installing. Never install a damaged transfer switch. Doing so could result in death or serious injury, equipment and property damage. (000195)

⚠DANGER

Electrocution. Turn utility supply OFF before working on utility connections of the transfer switch. Failure to do so will result in death or serious injury. (000123)

⚠DANGER

Equipment malfunction. Installing a dirty or damaged transfer switch will cause equipment malfunction and will result in death or serious injury. (000119)

⚠WARNING

Equipment damage. Only qualified service personnel may install, operate, and maintain this equipment. Failure to follow proper installation requirements could result in death, serious injury, and equipment or property damage. (000182a)

Mounting dimensions for the transfer switch enclosure are in this manual. Enclosures are typically mounted to the wall. Components are generally mounted in a standard NEMA 1-type enclosure. A NEMA 3R, is also available. See *Transfer Switch Options*.

Install the transfer switch as close as possible to the electrical loads that are to be connected to it.

The transfer switch is a modular design. The front enclosure cover is removable. The top mounting bracket can be removed for easy mounting to a wall. The controller is hinged for routing power wiring behind it. It also has quick connect electrical connections and a quick release hinge for easy removal during installation.

1. See *Figure 3-1*. Remove the controller (A) from the transfer switch enclosure by gently lifting the latch release on the inside of the hinge while pulling the controller away from the enclosure.
2. Remove the entire subplate assembly (B) to ease enclosure mounting.

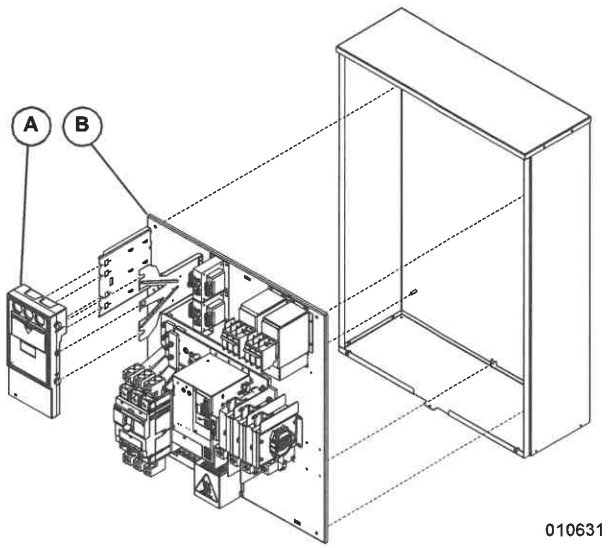

Figure 3-1. Remove Controller and Subplate Assembly

3. See *Figure 3-2*. Secure the upper enclosure mounting bracket (C) to the wall and raise the enclosure over the studs (D) to secure the enclosure.
4. Stand the enclosure on a flat surface. If the surface is not flat, add shims to make the enclosure level. Mount to a wall or support structure for vertical stability.
5. Secure the lower enclosure bracket (E) to the wall and lower the enclosure over the studs (F) to secure the enclosure.

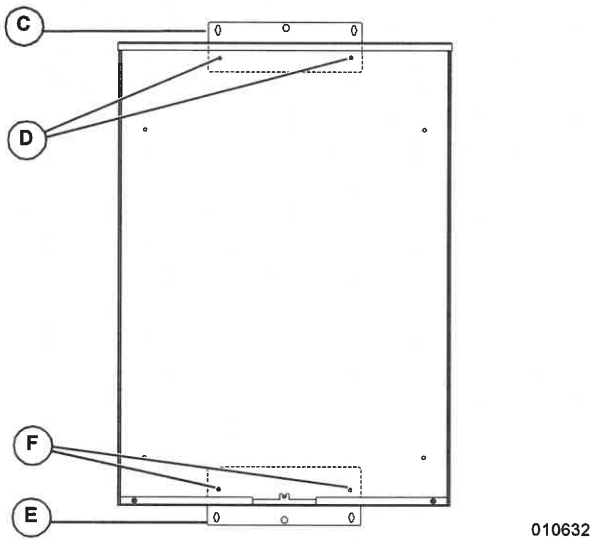

Figure 3-2. Secure Mounting Brackets

6. To prevent switch distortion, level all mounting points. If necessary, use washers behind mounting holes to level the unit.
7. If any conduits are entering the enclosure, holes should be placed at this time to prevent contaminates from entering into the electrical components.
8. Reinstall the subplate assembly.
9. The high power connections can be made at the transfer switch contactor and breaker (if equipped).
10. Reinstall the control hinge and connect the control wiring harness to the appropriate connectors. See *Configuring Controller for Nominal Voltage* to verify it is set for your system voltage.

Connecting Power Source and Load Lines

⚠DANGER

Electrocution. Turn utility and emergency power supplies to OFF before connecting power source and load lines. Failure to do so will result in death or serious injury. (000116)

⚠DANGER

Electrocution. Turn utility supply OFF before working on utility connections of the transfer switch. Failure to do so will result in death or serious injury. (000123)

Wiring diagrams and electrical schematics are provided in this manual. Power source and load connections are made at a transfer mechanism inside the switch enclosure.

Follow torque requirements listed on the transfer switch for contactor lugs. Follow torque requirements on the main circuit breaker lugs (if equipped). All Switched Neutral applications require the Neutral connection furthest from A phase (far right when facing switch).

Transfer Mechanisms

See *Figure 3-3*. The 3-pole switch shown is used with a single-phase system, when the single-phase neutral line is to be switched during transfer; or with a three-phase system, when neutral is not to be switched.

All power cables should enter the switch next to the transfer mechanism terminals. Standard terminal lugs on the transfer mechanism are solderless, screw type.

Connect power source and load conductors to clearly marked terminal lugs on transfer mechanism as follows:

- Load leads (C): Connect to terminals LA, LB, and LC.
- Normal (utility) Source Leads (A): To terminals S1A, S1B, and S1C.
- Standby (emergency) Source Leads (B): Connect to transfer mechanism terminal lugs S2A, S2B, and S2C.

NOTE: For Non Service Rated equipment, S1 and S2 may be reversed for convenience during installation. Control settings allow for S2 to be set for Utility and S1 to be set for Emergency based on control Primary (Preferred) Source setting.

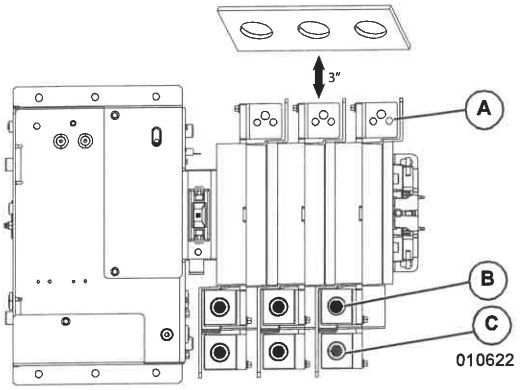

Figure 3-3. Typical 3-Pole Transfer Mechanism (200 Amp Shown)

The transfer mechanism may be either a 2-pole, 3-pole, or 4-pole type. The switch enclosure includes a neutral block for connection of the neutral line. All Switched Neutral applications require the Neutral connection furthest from A phase (far right when facing switch).

A cable support bracket is included and must be installed on the utility side terminals of all three cycle rated switches. Slide the utility wires through the bracket during installation and secure to cabling approximately three (3) inches away from terminal lugs using plastic ties, wire lacing, or other appropriate means. If more than one utility feed is used, please contact Generac for an additional cable support.

Before connecting wiring cables to terminals, remove any surface oxides from the cable ends with wire brush. If aluminum conductors are used, apply appropriate No Oxide joint compound. Tighten terminal lugs to the torque values specified on the Transfer Switch Data Label.

Standard terminal lugs on the transfer mechanism are solderless, screw-type and are compatible with copper or aluminum cable.

IMPORTANT NOTE: 400A contactors have factory installed covers on the terminals. Do not remove.

⚠WARNING

Electric shock. Maintain correct electrical clearance between live metal parts and grounded metal according to local code requirements. Failure to do so could result in serious injury or equipment damage.

(000743)

Amps	Cable Support Part Number
200A	A0000715179
400A	A0000715180

Transfer Mechanism

The transfer mechanism houses the main, current carrying contacts, along with other mechanical and electrical components, required for operating the switch. The main contacts are electrically operated and mechanically latched in place. See *Figure 3-3*.

Power for the operating actuators is taken from the source of supply that the Customer Load is being transferred to. Therefore, transfer to any power source cannot occur unless that power source is available to the switch.

Main contacts are actuated by an over center spring linkage driven by a high speed motor. The rotating shaft assembly contains contacts that transfer the load between Source 1 and Source 2. These contacts ensure all phases are actuated together and maintain safe electrical clearances. When equipped with a neutral position, a mechanical latch is used to maintain a middle position ensuring the load is isolated from both Source 1 and Source 2. The use of a single set of movable contacts allows for faster operation while maintaining proper electrical clearances.

Transfer Mechanism Operation

The primary driver of the mechanism is a high speed DC motor using a proportional control system allowing consistent operation regardless of system voltage. This motor is used to charge a spring and then force the contacts off from their resting position. The charged spring moves the contacts into the middle (OFF) position for a neutral latched mechanism (optional TDN), or to the alternate position for an inphase mechanism (standard). A solenoid is used to release the mechanism from the latched (OFF) position, completing the transfer operation (optional TDN).

All operations of the switch while energized require the TX switch controller to modulate the source power for proper operation.

Main Contacts at Source 1 (Utility)

The illustration shows the load terminals connected to the Source 1 (utility) terminals. The indicator will display "S1." See *Figure 3-4*.

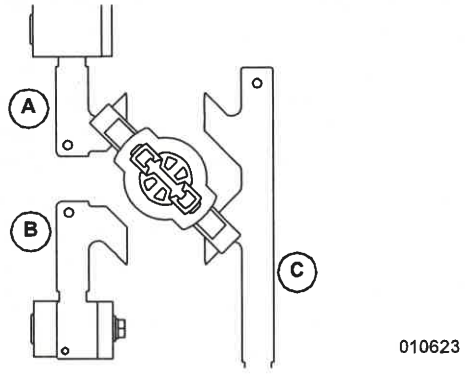

Figure 3-4. Main Contact at Source 1 (Utility)

A	Source 1 Position "ON"
B	Source 2 Position "OFF"
C	Load

Main Contacts at Neutral (Optional TDN)

Load terminals are disconnected from both power supply terminals. "0" will be displayed in the indicating window. See *Figure 3-5*.

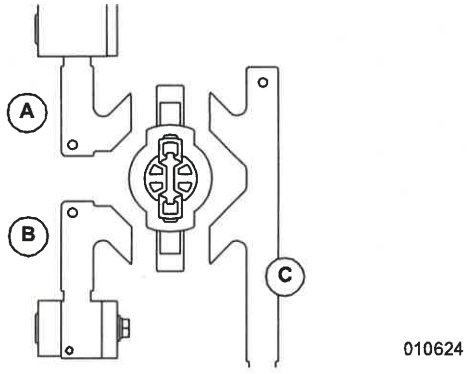

Figure 3-5. Main Contacts at Neutral

A	Source 1 Position "OFF"
B	Source 2 Position "OFF"
C	Load

Main Contacts at Standby (Emergency)

Load terminals are connected to the Source 2 (emergency) power supply. The indicating window will display "S2." See *Figure 3-6*.

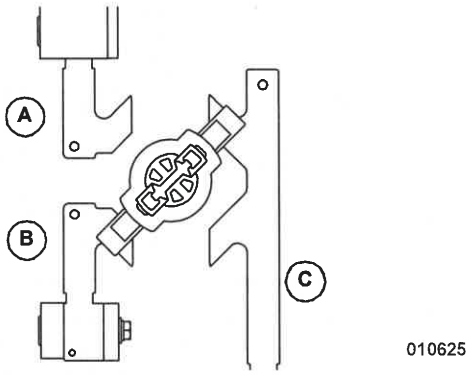

Figure 3-6. Main Contacts at Source 2 (Emergency)

A	Source 1 Position "OFF"
B	Source 2 Position "ON"
C	Load

Configuring Controller for Nominal Voltage

The transfer switch control is compatible with various voltage sources without additional hardware, but must be properly configured to provide nominal 208-277 VAC to the power control circuit and the correct parallel/series load setting to the anti-condensation heater (if equipped). Connectors J5/J6 on the main harness (A000041477) and J23/J24 on the heater harness (A0000405404) are used to make the appropriate connections to allow the transfer switch to be connected to the system voltages as listed in the table below. J5/J6 and J23/J24 are connected by the factory for the voltage selected during product selection. The harness connections must be configured if the product is to be installed at an alternate voltage. To change selections:

1. See *Figure 3-7*. Remove the screw and interlock plate (A).
2. Move connectors J5/J6 (B) and J23/J24 (C) to their specified location.
3. Install the interlock plate and screw.

⚠DANGER

Electrocution. High voltage is present at transfer switch and terminals. Contact with live terminals will result in death or serious injury.

(000129)

IMPORTANT NOTE: The interlock plate MUST be installed after selection to protect against potentially hazardous voltages and to ensure both heater and control power are correctly configured.

⚠CAUTION

Equipment damage. Exceeding rated voltage and current will damage the auxiliary contacts. Verify that voltage and current are within specification before energizing this equipment. (000134a)

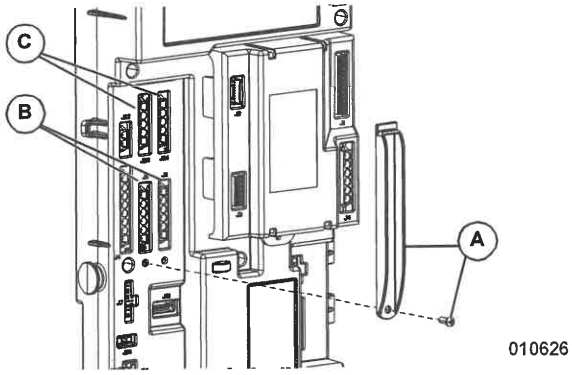

Figure 3-7. Remove/Install Interlock Plate

⚠WARNING

Electric shock. Only a trained and licensed electrician should perform wiring and connections to unit. Failure to follow proper installation requirements could result in death, serious injury, and equipment or property damage. (000155a)

IMPORTANT NOTE: In applications where the Neutral Block is not connected to a wired Neutral, the control power supply connectors MUST be connected to J6/J24 (voltage is 208/240VAC) or a 480 V Delta Kit MUST be utilized. The control power supply source, when configured for 480 VAC GRD-Y (J5/J23), is from Phase A to the Neutral Block. An unconnected Neutral Block and J5 connection will result in hazardous voltages existing on the otherwise unconnected Neutral Block and may pose a shock hazard.

IMPORTANT NOTE: Only the voltages and wiring specified in the table below are acceptable for use with this transfer switch. Voltages such as 120 VAC, 480 V Corner Grounded Delta, 480 V V-Delta, 480 V Ungrounded, 600 V systems, and anything other than listed in the table below are not acceptable without additional hardware. If factory configured for 480 V Delta, additional transformers are included and wired as shown in the schematic diagram. See Installation Drawing *No. A0000347533-D (Part 3 of 3)*.

Connectors	System Voltages
J5/J23	480 VAC GRD-Y*
J6/J24	208/240 VAC

*See Important Notes above for all 3-wire applications

Connecting Generator 2-Wire Start Signals

The customer connections are accessible through the front sliding door of the control. A connection label is located on the backside of the sliding door. Connect suitable, approved wiring to transfer switch terminals J:18:8 (COM) and J:18:9 (2WS NO). Route these wires through suitable, approved conduit (separate from power leads) and connect to identically numbered terminals in the AC connection (lower) panel of the engine-generator set. See *Figure 3-8*.

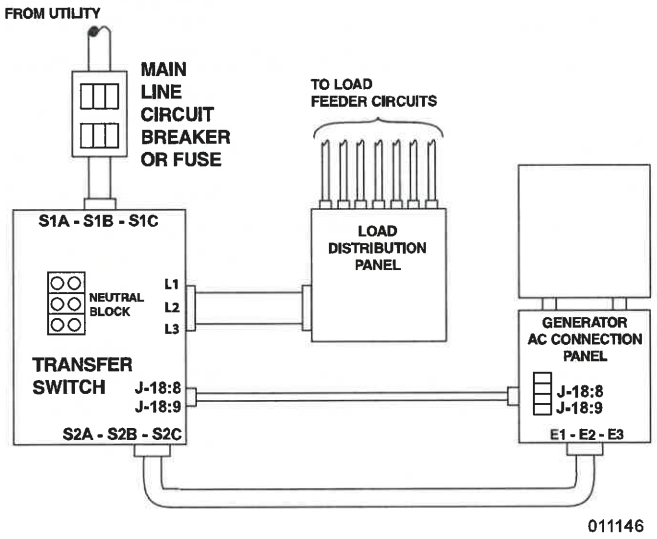

Figure 3-8. Connection Diagram - Three Phase with Neutral Shown (Typical)

NOTE: In the standard 2-wire start system, closure of Wire J18:8 and J18:9 circuit by switch circuit action must result in generator engine cranking and startup.

If the control is not powered by any sources, the 2-wire start system is active (closed). This allows the genset to start in the event of all power loss to the control.

An additional normally Closed contact (J18:10) is provided for 3-wire start systems to intended to meet applications which require continuous monitoring of the 2-wire start system.

Recommended wire gauge sizes for this wiring depends on the length of the wire, as recommended in the following chart.

Maximum Wire Length	Recommended Wire Size
460 ft (140 m)	No. 18 AWG.
461 to 730 ft (223 m)	No. 16 AWG.
731 to 1,160 ft (354 m)	No. 14 AWG.
1,161 to 1,850 ft (565 m)	No. 12 AWG.

Connecting Controller Communication Wires

Use shielded 2-wire communications cable (such as Belden #9460) to make the communications line connection to the TX transfer switch. This cable must be routed in a separate conduit between the TS transfer switch and the power cables. The cable must be connected as follows:

- TX transfer switch J13:1 B+, J13:2 A-, and J13:3 Ground located in the customer connection compartment within the TX switch controller.

Setting RS-485 Terminator Resistor

See *Figure 3-9*. The RS-485 wiring standards require a terminating resistor to be installed on the last component in a string of parallel connected devices. This resistor is located within the TX switch controller in the rear of the customer connection access area. To activate the resistor, remove the jumper from between J14:1 and J14:2 and install the jumper between J14:2 and J14:3.

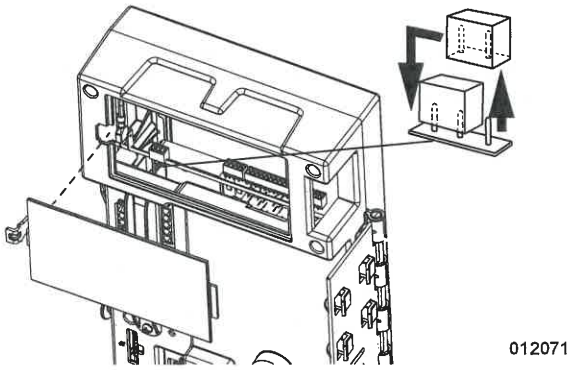

Figure 3-9. Terminator Resistor

Programming

Synchronization Limits

Synchronization requirements are:

- Generator frequency within 1Hz
- Voltage within +/- 5% of Nominal
- Phase difference within +/- 10 degrees

Voltage Limits

The following criteria are used for a local determination of proper Utility.

Dropout — any phase outside 85% to 110% of nominal (not the average voltage).

Pickup — all phases 90% to 105% of nominal (programmable).

Auxiliary Contacts

Two auxiliary switches are offered as standard on the TX switch. Both switches are Form C, with one switch actuated when in Source 1 position and the other switch actuated when in Source 2 position. See *Figure 3-10*. Both switches are wired to terminal blocks (A) located on the switch mechanism for convenient wiring.

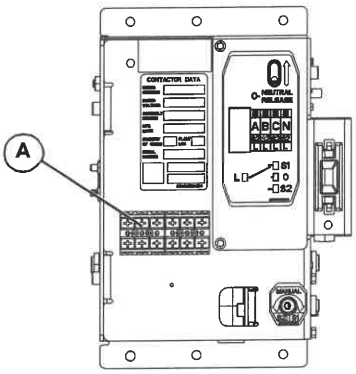

Figure 3-10. Terminal Block Location

Additionally, there are two switches used for the TX switch controller to determine position. SW1 and SW2 in *Figure 3-11* are for the TX controller. SW3 and SW4 are customer auxiliary 3 and 4 respectively.

NOTE: The SW1 and SW2 microswitches are rated specifically for signal wiring with low current gold plated contacts.

Contact operation is shown in the following chart:

	Switch Position		
	Source 1	**Neutral**	**Source 2**
Customer Auxiliary 3 - Common to Normally Open	Closed	Open	Open
Customer Auxiliary 3 - Common to Normally Closed	Open	Closed	Closed
Customer Auxiliary 4 - Common to Normally Open	Open	Open	Closed
Customer Auxiliary 4 - Common to Normally Closed	Closed	Closed	Open

NOTE: SW3 and SW4 Customer Auxiliary Contacts are rated 10 amps at 125 or 250 volts AC. Do not exceed the rated voltage or current of the contacts.

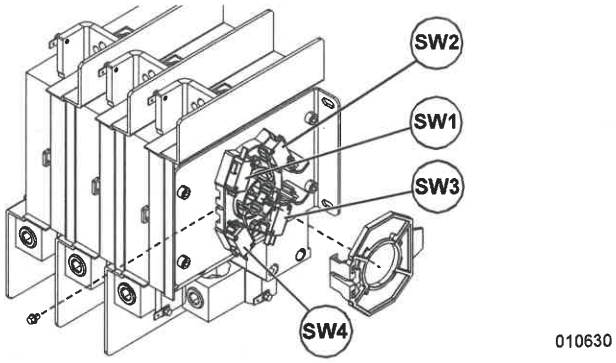

Figure 3-11. 100-400 amp Switches

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Section 4: Operation

Functional Tests and Adjustments

Following transfer switch installation and interconnection, inspect the entire installation carefully. A competent, qualified electrician should inspect it. The installation should comply strictly with all applicable codes, standards, and regulations. When absolutely certain the installation is proper and correct, complete a functional test of the system. Perform functional tests in the exact order presented in this manual, or damage to the switch could result.

IMPORTANT NOTE: Before proceeding with functional tests, verify the instructions and information in this section is understood. Also read the information and instructions of labels and decals affixed to the switch. Note any options or accessories that might be installed and review their operation. Confirm that there is no debris present in and/or around the switch mechanism from the installation.

Manual Operation

⚠DANGER

Electrocution. Do not manually transfer under load. Disconnect transfer switch from all power sources prior to manual transfer. Failure to do so will result in death or serious injury, and equipment damage.

(000132)

⚠WARNING

Sudden start-up. Always set the switch control to MAINTENANCE MODE before working on equipment. Failure to do so could result in death or serious injury.

(000683)

A manual switch handle is shipped with the transfer switch. Manual operation must be checked before the transfer switch is operated electrically. To check manual operation, proceed as follows:

1. In the transfer switch enclosure, set the Maintenance Mode setting on the TX Switch Control to MAINTENANCE MODE. This prevents the generator from starting automatically as soon as the utility power source is turned OFF. If actuating prior to initial energization of control, isolate connector J18 of the customer interconnections to ensure generator start command is inhibited.
2. If so equipped, turn the generator's AUTO/OFF/MANUAL switch to OFF.
3. Turn OFF both normal and standby power supplies to the transfer switch, with whatever means provided, such as the main line circuit breaker(s).
4. See *Figure 4-1*. Note position of transfer mechanism main contacts by observing the display window (A) as follows:
   - "1" Displayed - load terminals (L1A, L1B, L1C) are connected to Upper Source 1 terminals (S1A, S1B, S1C).
   - "2" Displayed - load terminals (L1A, L1B, L1C) are connected to Lower Source 2 terminals (S2A, S2B, S2C).
   - "O" Displayed - load terminals (L1A, L1B, L1C) are isolated from both sources.

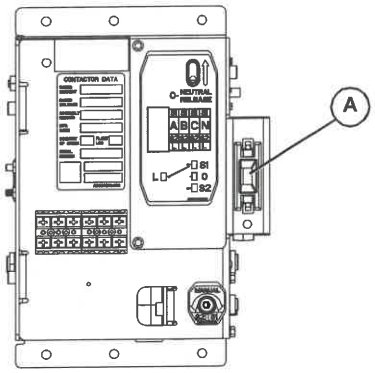


Figure 4-1. Main Contacts

5. See *Figure 4-2*. Insert manual operator into the lower receptacle to prepare to operate the switch manually.

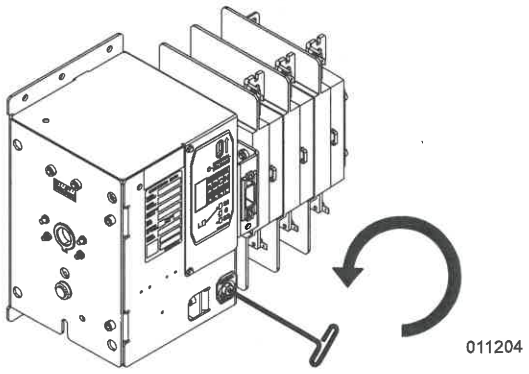


Figure 4-2. Insert Manual Operator into Lower Receptacle

NOTE: Rotate handle counter-clockwise to transfer OUT of Source 1.

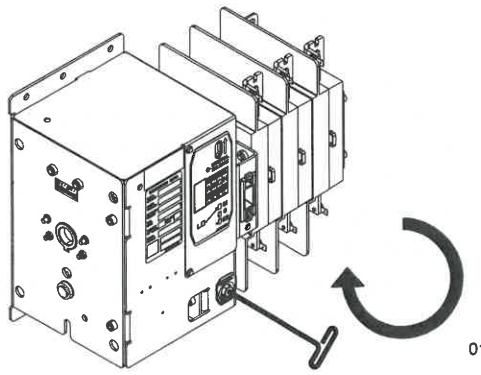


Figure 4-3. Rotate Manual Operator Clockwise

NOTE: Rotate handle clockwise to transfer OUT of Source 2.

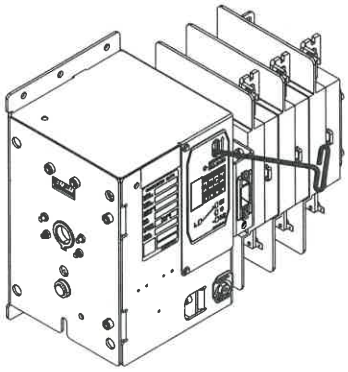


Figure 4-4. Insert Manual Operator into Upper Receptacle

Performing Manual Operation

Source 1 to Source 2 Transition

Before proceeding, verify the position of the switch by observing window in ***Figure 4-1***. If window reads "S1," proceed with Step 1, and if it reads "White" or "S2," proceed with Step 2.

1. See ***Figure 4-2***. With the manual operator inserted into the lower receptacle, rotate handle counterclockwise to transfer out of Source 1. Approximately ten rotations will be necessary. Switch will exit from Source 1 and either "White" or "S2" will be displayed in the observing window. If "S2" is displayed, transition is complete and manual handle may be removed. If switch is equipped with time delay option, "White" will be displayed.
2. If the observing window displays "White," the switch is in the Neutral Off position and the neutral catch must be released to complete the desired operation. To release the Neutral Off position, insert the manual operator into the upper receptacle on the mechanism as shown in ***Figure 4-4***. When fully engaged, use light pressure up to release the latch. The contactor will now be in either Source 1 or Source 2 position. Repeat Step 1 if necessary.

Source 2 to Source 1 Transition

Before proceeding, verify the position of the switch by observing window in ***Figure 4-1***. If window reads "S2," proceed with Step 1, and if it reads "White" or "S1," proceed with Step 2.

1. See ***Figure 4-2***. With the manual operator inserted into the lower receptacle, rotate handle clockwise to transfer out of Source 2. Approximately ten rotations will be necessary. Switch will exit from Source 2 and either "White" or "S1" will be displayed in the observing window. If "S1" is displayed, transition is complete and manual handle may be removed. If switch is equipped with time delay option, "White" will be displayed.
2. If the observing window displays "White," the switch is in the Neutral Off position and the neutral catch must be released to complete the desired operation.To release the Neutral Off position, insert the manual operator into the upper receptacle on the mechanism as shown in ***Figure 4-4***. When fully engaged, use light pressure up to release the latch. The contactor will now be in either Source 1 or Source 2 position. Repeat step 1 if necessary.

Source 1 or Source 2 to Neutral Position

If switch is equipped with a time delay/neutral option, the switch may be mechanically placed into the neutral position. This operation is performed by completing Step 1 in the ***Source 1 to Source 2 Transition*** or ***Source 2 to Source 1 Transition***. This position is exited by completing Step 2 in the applicable section.

NOTE: The transition between sources must be completed once started and it is not recommended to attempt returning to the previous source once in the neutral position.

NOTE: Remove manual operating handle after use and return it to its storage location.

Voltage Checks

⚠DANGER

Electrocution. High voltage is present at transfer switch and terminals. Contact with live terminals will result in death or serious injury.

(000129)

IMPORTANT NOTE: Any voltage measurements should be performed with a meter that meets UL3111 safety standards, and meets or exceeds overvoltage class CAT III.

Before performing voltage checks, verify the following:

1. Disconnect all loads from transfer switch until all voltage checks and phase rotation checks have been completed.
2. Set the Maintenance Mode setting on the TX Switch Control to MAINTENANCE MODE. If actuating prior to initial energization of control, isolate connector J18 of the customer interconnections to ensure generator start command is inhibited.
3. Check the transfer switch data label for rated voltage. Verify voltage is compatible with normal and standby power source voltages. Verify the Transfer Switch Control is properly configured for the system voltage by performing the procedure in ***Configuring Controller for Nominal Voltage*** and ensuring voltage selection connectors are in the specified locations.

Perform voltage checks as follows:

1. Inside the transfer switch enclosure, verify the control is in MAINTENANCE MODE or connector J18 of the customer interconnections is removed.
2. If generator is so equipped, set the AUTO/OFF/MANUAL switch to OFF.
3. Verify "1" is visible in the observation window. See ***Manual Operation*** for location of position indication window.

IMPORTANT NOTE: Before proceeding, manually connect the load to Source 1 power supply. Observation window must indicate "1."

4. See ***Figure 4-5***. Remove battery isolation tab (A) to energize the transfer switch controller.

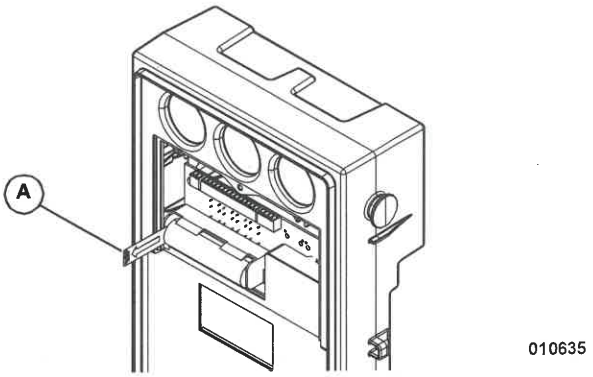


Figure 4-5. Remove Battery Isolation Tab

NOTE: If the battery isolation tab has been removed and both utility and generator sources are unavailable for more than 1 hour, the internal battery will be depleted and power from Source 1 or Source 2 will be required to activate the controller and charge the battery.

5. Turn ON the normal (utility) power supply to the transfer switch, with whatever means provided (such as the main line circuit breaker).

⚠DANGER

Electrocution. High voltage is present at transfer switch and terminals. Contact with live terminals will result in death or serious injury.

(000129)

6. With utility voltage available to the transfer switch, verify the switch position LED for Source 1 on the transfer switch controller is ON. If the switch position LED is OFF, turn off the utility power supply to the transfer switch by whatever means provided (such as the main line circuit breaker), then return to Step 1 of ***Voltage Checks***.
7. On the transfer switch controller, verify the Source 1 Available LED is ON.
8. With an accurate AC voltmeter, check the phase-to- phase (line-to-line) and phase-to-neutral (line-to- neutral) voltages present at transfer mechanism terminals S1A, S1B, S1C, and neutral. supplied voltages must be fully compatible with transfer switch rated voltage.

IMPORTANT NOTE: Verify the phase rotation of power lines and transfer switch load power lines are compatible. The control has configurable phase rotation settings, see *Phase Rotation* for details.

9. Refer to the standby generator owner's manual. Make sure the generator engine has been properly serviced and prepared for use, as outlined in that manual. Then start the generator engine manually. Let the engine stabilize and warm up for a few minutes.

10. Turn ON the standby (emergency) power supply to the transfer switch by whatever means provided (such as the main line circuit breaker).
11. With the generator running, check that the Source 2 Available LED on the switch enclosure door is ON.
12. With an accurate AC voltmeter, check phase-to phase (line-to-line) and phase-to neutral (line-to neutral) voltages present at transfer mechanism terminals S2A, S2B and S2C. Also check AC frequency at those terminals. Generator AC output voltage and frequency must be compatible with transfer switch rated voltage and frequency.

IMPORTANT NOTE: Verify the phase rotation of Source 2 power lines and transfer switch Source 1 and load power lines are compatible.

13. If supplied voltage or frequency is incorrect, refer to standby generator Owner's Manual. If AC frequency is incorrect, adjust engine governed speed. If voltage is incorrect, adjust generator's voltage regulator or correct the problem.
14. When supplied voltage and frequency is correct, shut down the engine manually.

IMPORTANT NOTE: Supplied voltages from both Source 1 and Source 2 power sources must be compatible with transfer switch rated voltage before proceeding.

15. Connect the transfer switch load to the transfer switch after completion of *Voltage Checks*. Connect the load to the transfer switch by whatever means provided, such as circuit breaker(s), then proceed to *Electrical Operation*.

Electrical Operation

Test transfer system electrical operation as follows:

1. On the enclosure door, check that the Source 1 available led is ON.
2. On the enclosure door, check that the switch position-Source 1 (utility) LED is ON.

IMPORTANT NOTE: The Source 1 (utility) available LED and the switch position-Source 1 (utility) LED (on enclosure door) must both be ON before proceeding to Step 3.

3. Refer to the appropriate owner's manual. Verify the standby generator is prepared for automatic operation.
4. Set TEST MODE on the TX switch controller to NORMAL. Generator startup and transfer to the standby power source should occur. See *Sequence of Operation*.
5. Set TEST MODE on the TX switch controller to OFF to initiate the re-transfer sequence. The customer load will be transferred back to the Source 1 (utility) power source, using the preset times. The generator will shut down once the engine cool down timer has expired.

Controller Operation

This section will familiarize the reader with the Human Machine Interface (HMI) and indicators on the TX Switch Control mounted in the switch, visible through the door. See *Figure 4-6*.

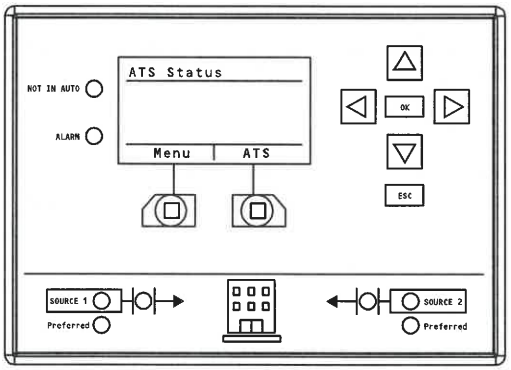


Figure 4-6. TX Switch Controller

Controller Power Supply

The normal power for operating the controller and the transfer switch contactor is provided by factory wired leads to Source 1, Source 2, and the Neutral Block or Switched Neutral Pole. Completion of the steps in Configuring Controller for Nominal Voltage provides the controller with the requisite 208-277 VAC nominal power inputs from S1 and S2 at J1 of the controller. If the voltage at these terminals is below 150 VAC, the controller will transition to an auxiliary power source if available. If the voltage exceeds 350 VAC, the message "Plug J5/J6 connector into J5" should appear, indicating an overvoltage condition to the controller. Correct this condition immediately by reconfiguring the controller for nominal voltage. Extended overvoltage operation will cause damage to the controller, even if switching is not attempted.

Normal power source functionality is indicated by the LCD display backlight. The controller can provide power to the contactor, when the backlight is ON, to transition and provide power to the optional I/O module.

All processor functions and the inputs/outputs within the customer wiring area of controller are functional on battery or auxiliary power, with the exception of USB functionality.

Switch Position LEDs

The transfer switch position is monitored by two auxiliary contacts mounted on the transfer switch mechanism. These LEDs display the position of the main contacts.

If there is a transfer switch error (failure to close or open) the Alarm LED will illuminate. See ***Fault Indication***.

Source 1 Available LED (Utility)

This LED indicates Source 1 voltage is present and the source is within tolerances set in the TX Switch Control.

Source 2 Available LED (Generator/Emergency)

This LED indicates Source 2 voltage is present and the source is within tolerances set in the TX Switch Control.

Source Loss Timer

Both Test Modes are failsafe. If secondary source goes out of tolerances while Primary Source is acceptable, the Source Loss Timer will activate. Once timed-out, the control will initiate transfer back to primary, observing Timer Delay Neutral (if equipped).

Test Mode: Normal

Test Mode is used to simulate a power loss condition on the primary source. Setting the Test Mode setting in the TX Switch Control to Normal will command a transfer to Source 2 (standby) using all the pre-programmed timers and settings associated with a power loss with the exception of Signal Before Transfer, which is active during test modes. The unit will transfer back to Source 1 (utility) after the Test Mode setting of OFF is selected and the Return to Source 1 timer expires. If the secondary source fails while in Test Mode, the unit will transfer back to the primary source if available.

Test Mode: Fast Test

Fast Test Mode is used to simulate a power loss condition on the primary source, but reduce the duration of the test time while maintaining critical transfer and generator timers. Setting the Test Mode setting in the TX Switch Control to Fast Test will cause a transfer to Source 2 (standby) using the same settings as Normal Test Mode, but with the following timers are reduced to five seconds:

- Line Interrupt Delay timer
- Return to Utility timer

Turning Test Mode OFF

Turning OFF the test mode will return the controller to the preferred source using normal sequence of operations with programmed time delays.

Maintenance Mode

Setting the Maintenance mode to ON from the ATS menu screen disables all automatic operation of the transfer switch controller. The 2WS and all other outputs associated with transfer logic are removed until Maintenance mode is set to OFF. At this point, the controller will reset the contactor position based upon the position feedback and resume automatic functions. Maintenance mode is to be enabled whenever a manual operation is performed and/or to prevent unintended 2WS, contactor operation, or any other automatic transfer function.

Exercise Timer

The ATS control contains an integrated Exercise timer to periodically verify proper functioning of the emergency backup system. The settings for Exercise may be accessed under the Exercise screen. Exercise will attempt to start (and transfer to if selected) the secondary source. The Exercise Duration Timer starts when the secondary source is called for and completes when the Exercise Duration Timer expires. If successful, at the expiration of the Exercise Timer, the Exercise is logged as completed. If the secondary source fails or if the transfer is unsuccessful, a Fault Indication is triggered and the fault is logged. At the conclusion of the Exercise, if applicable, the load is transfered back to the preferred source with all of the settings of Normal Test.

Sequence of Operation

When acceptable Source 1 (utility) source voltage is available and the Maintenance setting in the TX Switch Controller is set to Off, observe the following:

- Source 1 Available LED is ON
- Source 1 Switch Position LED is ON

Sequence 1 - Source 1 (Utility) Voltage Dropout

- Source 1 (utility) voltage goes outside of the value set in the TX Switch Controller (range is 50-90% of nominal voltage, factory default setting is 85%).
- Voltage dropout triggers Sequence 2.

Sequence 2 - Line Interrupt Delay

- Line Interrupt Delay, called Loss Delay in the TX Switch Controller, can be set between zero and 120 seconds. Factory default setting is three seconds.
- If voltage dropout lasts longer than the Loss Delay setting, the generator start sequence is activated.
- Once the Generator voltage reaches Load Accept Voltage and Load Accept Frequency, this will trigger Sequence 3.

Sequence 3 - Engine Minimum Run and Engine Warmup Timers

- Engine Warmup timer starts. The Engine Warmup timer can be set from zero to 1,800 seconds. Factory default is three seconds.
- Engine Minimum Run timer starts after Engine Warmup timer. The Engine Minimum Run timer can be set from five to 30 minutes. Factory default setting is five minutes.
- The expiration of the Engine Warmup timer triggers Sequence 4.

Sequence 4 - Signal Before Transfer

- Signal Before Transfer timer does not operate in a Source 1 (utility) fail sequence, Sequence 5 starts immediately.
- In Test or Demand Response modes, the Signal Before Transfer timer starts. The Signal Before Transfer relay is energized for the duration of the timer. The Signal Before Transfer timer can be set from zero to 120 seconds. Factory default is 30 seconds.
- The expiration of the Signal Before Transfer timer triggers Sequence 5; however, the Signal Before Transfer output is held until the transfer is complete

Sequence 5 - ATS Transfer to Source 2 (Generator) Position

- ATS transfer mechanism operates to connect the Customer Load to the Source 2 (generator) supply. Customer Load will be supplied from Source 2 until Sequence 6 is initiated.
- If inphase operation is selected, the timing of the close operation will occur when the generator's voltage and frequency is synced to the utility's parameters.
- If inphase conditions are not met within the programmed time period, one of the following actions will be taken:
  - The inphase switch will show an alarm and remain trying to sync until either Source 1 or Source 2 is turned off.
  - If switch has neutral mechanism, switch will transfer to neutral and wait until Timer Delay Neutral times out. Then it will complete transfer to Source 1 or Source 2.

NOTE: The default Sync timeout is 60 seconds.

- Once transfer is completed, Source 2 Switch Position LED will turn ON.

Sequence 6 - Source 1 (Utility) Voltage Pickup

- The TX Switch Controller continues to monitor the Source 1 (utility) source voltage. When the Source 1 voltage and frequency is above the voltage pickup setting, Sequence 7 will be initiated.

Sequence 6a - Return to Source 1

- If the secondary source has failed and the Primary Source is good, the control will start at the Secondary loss timer with the value of the Loss Delay. Once timed out, the control will initiate transfer to primary source.

Sequence 7 - Return to Source 1 (Utility) Timer

- Return to Source 1 (utility) timer, called Return Delay in the TX Switch Controller, starts. The Source 1 voltage must stay above the pickup level. If the Source 1 voltage falls below the pickup value, the Return Delay timer is reset. The Return Delay timer can be set from zero to 1,800 seconds. Factory default is 1,200 seconds.
- The expiration of the Return Delay timer triggers Sequence 8.
- If Manual Return to Primary setting is set to "Yes," the ATS Screen will display "Ret to Pri Press OK." Once OK is pressed on this screen, the control will go to Sequence 8.

Sequence 8 - Signal Before Transfer

- Signal Before Transfer timer starts. The Signal Before Transfer relay is energized for the duration of the timer. The Signal Before Transfer timer can be set from zero to 120 seconds. Factory default is 30 seconds.
- The expiration of the Signal Before Transfer timer triggers Sequence 9; however, the Signal Before Transfer output is held until the transfer is complete.

Sequence 9 - ATS Transfer to Source 1 (Utility) Position

- ATS transfer mechanism operates to connect the Customer Load to the Source 1 (utility) supply. Customer Load will be supplied from Source 1.
- If inphase operation is selected, the timing of the close operation will occur when the generator's voltage and frequency is synced to the utility's parameters.
- If inphase conditions are not met within the programmed time period, one of the following actions will be taken:
  - The inphase switch will show an alarm and remain trying to sync until either Source 1 or Source 2 is turned off.
  - If switch has neutral mechanism, switch will transfer to neutral and wait until Timer Delay Neutral times out. Then it will complete transfer to Source 1 or Source 2.

NOTE: The default Sync timeout is 60 seconds.

- Once transfer is completed, Source 2 Switch Position LED will turn OFF.
- The connection of the Customer Load to Source 1 triggers Sequence 10.
- Source 1 Switch Position LED is ON.

Sequence 10 - Engine Cooldown Timer

- Engine Cooldown timer starts. The Engine Cooldown timer can be set from zero to 1,800 seconds. Factory default is 1,800 seconds.
- The engine generator will shut down when the Engine Cooldown timer and the Engine Minimum Run Timer expires.

NOTE: At the conclusion of Sequence 10 the system is armed and ready for the next Source 1 (utility) failure or exercise sequence. The switch is factory set so Source 1 is Preferred (typically utility).

Permissive & Loadshed

On a 2-position switch, if an input is programmed to permissive, the permissive signal must be asserted in order to initiate transfer to secondary. On a 3-position switch, if the Permissive Signal is removed, a loadshed function will be performed. The ATS transfer mechanism operates to move to Neutral position during loadshed. It will remain in Neutral for a minimum of the Time Delay Neutral (TDN) programmed duration. After the expiration of the TDN timer, the Neutral position is maintained until one of the following events occurs:

- The permissive input is reasserted and the ATS transfer mechanism immediately operates to connect the Customer Load to Source 2 (generator) supply.
- Source 1 is deemed within tolerances as acceptable and the ATS transfer mechanism operates to connect the Customer Load to Source 1 (utility) supply.

Demand Response

If an input is programmed for Demand Response, and the signal is asserted, the ATS will attempt to start and transfer to the Secondary Source utilizing TDN or Inphase operation functions. It will remain in Secondary Source until the signal is deasserted. If the Secondary Source fails while Demand Response is asserted, the ATS will attempt to transfer back to the Primary Source and attempt to start the secondary source.

Timers

Access a list of active timers by using the right or left arrows to toggle to the Timers screen. The expiration of an active timer will automatically remove it from the screen.

To bypass timers:

1. Use the up or down arrows to select the timer
2. Press the right hotkey below the screen labeled "Skip."

This bypasses the selected timer.

IMPORTANT NOTE: Bypassing timers may result in equipment damage. Please exercise caution when using this function.

See ***List of Faults*** for additional faults.

2 Wire Start (2WS)

The control will issue a 2WS start command to the generator by closing J18:9 (NO) and J18:8 (COM).

NOTE: The 2WS command is also initiated in the event of all power losses to the control, including loss of battery power. During a 2WS start command from the control, J18:10 (NC) and J18:8 (COM) will open.

Fault Indication

The control has an LED on the front face that indicates when a fault condition occurs. Fault conditions are recognized when:

- There is a controller or transfer switch fault
- The control senses the genset or transfer switch fails
- The transfer switch fails to perform as expected

For customer remote monitoring, J18:4 (NO) and J18:2 (COM) will be asserted (closed) during Fault Indication.

The Fault Indication State remains until all faults have been acknowledged.

Auxiliary DC Control Power

Auxiliary DC Control Power can be provided in addition to the on-board rechargeable battery to provide control power for communications in the event of extended AC power loss that exceeds 30 minutes.

The auxiliary power will also maintain control memory of the exercise routine if the rechargeable battery is depleted.

A 12-24 VDC battery power supply can optionally be provided to J3:1(+), J3:2(-). The external power supply must be earth ground referenced (for example, a generator battery where the NEG terminal is chassis grounded).

To install an external power supply:

1. Remove the ground wire jumper from J3:2.
2. Isolate using wire nut or other appropriate means.
3. Connect the external supply.

Phase Rotation

The phase rotation is set by default to ABC or single phase monitoring. Phase rotation may be set to CBA or OFF.

IMPORTANT NOTE: Turning OFF Phase Rotation monitor, wiring phase rotation different between sources, and performing inphase operation will result in an open transition out-of-phase operation. It is not recommended to use the OFF setting for systems that attempt in-phase operations as damage to motor loads may result.

Manual Return to Primary

Manual Return to Primary function prevents the control from automatically initiating a transfer back to Primary Source once the Return Delay Timer expires. On the ATS Status screen, a message saying "Ret to Pri Press OK" will display. Pressing "OK" while on the ATS Status screen will initiate transfer back to primary. If the Primary Source loses power while waiting for input, the transfer switch returns to Secondary Source. The Primary Return Timer will restart once the Primary Source returns with power. If the Secondary Source loses power, the Source Loss Timer is initiated. When the timer expires, a transfer is initiated.

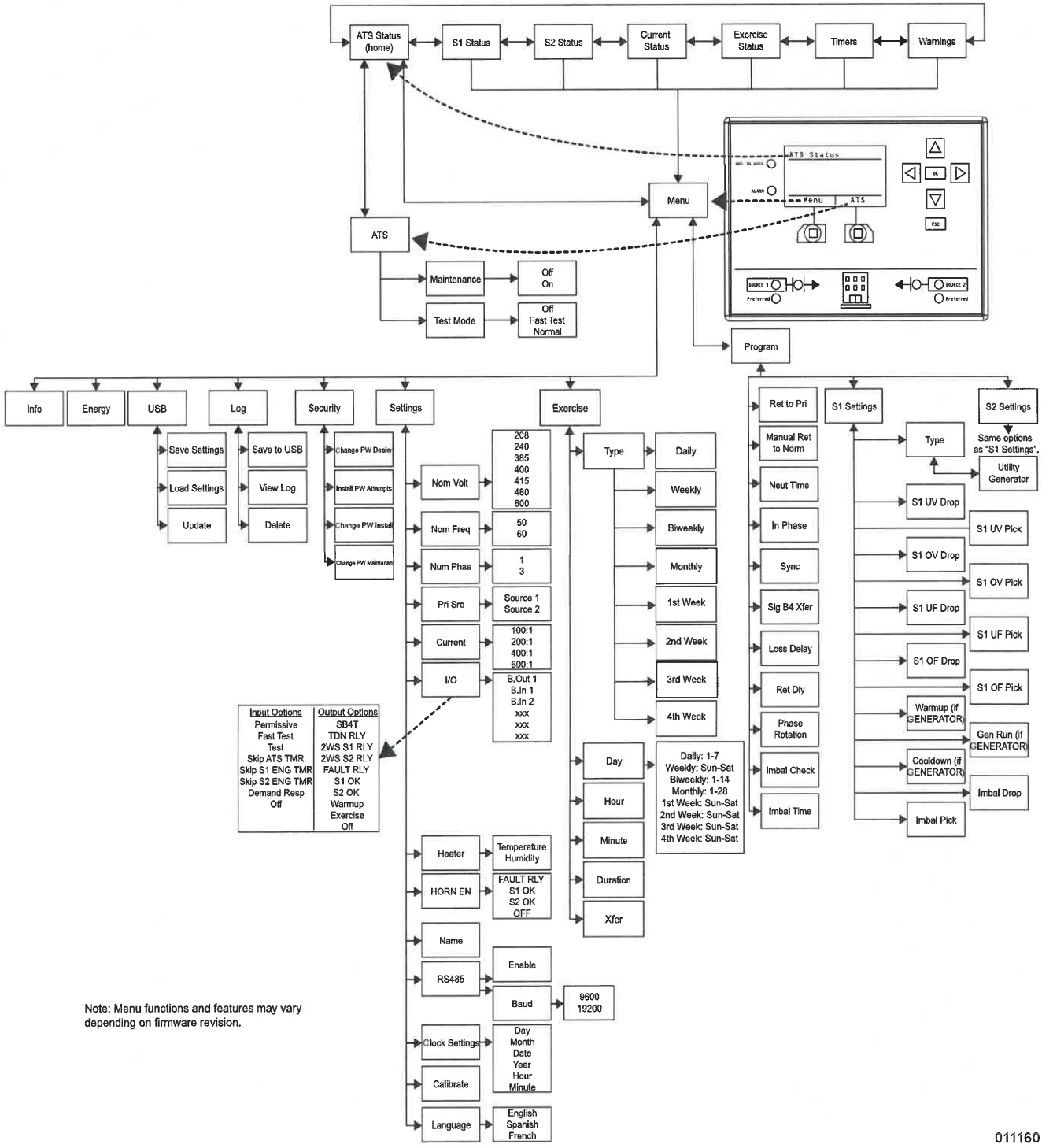
Summary of Parameters

Summary of Parameters		
Voltage and Frequency Settings	**Range**	**Default Value**
Source 1 (Normal) is Genset	Yes or No	No
Source 1 Undervoltage Dropout	50-97%	85%
Source 1 Undervoltage Pickup	52-99%	90%
Source 1 Overvoltage Dropout	105-120%	110%
Source 1 Overvoltage Pickup	103-118%	105%
Source 1 Underfrequency Dropout	90-97%	90%
Source 1 Underfrequency Pickup	91-99%	95%
Source 1 Overfrequency Dropout	103-110%	105%
Source 1 Overfrequency Pickup	101-109%	102%
Source 1 Voltage Imbalance Drop	5-20%	5%
Source 1 Voltage Imbalance Pickup	3-18%	3%
Source 1 Warmup Time	0-1800s	3s
Source 1 Cooldown Time	0-1800s	1800s
Source 1 Minimum Run Time	300-1800s	1200s
Source 2 is Generator	Yes or No	Yes
Source 2 Undervoltage Dropout	50-97%	85%
Source 2 Undervoltage Pickup	52-99%	90%
Source 2 Overvoltage Dropout	105-120%	110%
Source 2 Overvoltage Pickup	103-118%	105%
Source 2 Underfrequency Dropout	90-97%	90%
Source 2 Underfrequency Pickup	91-99%	99%
Source 2 Overfrequency Dropout	103-110%	105%
Source 2 Overfrequency Pickup	101-109%	102%
Source 2 Voltage Imbalance Drop	5-20%	5%
Source 2 Voltage Imbalance Pickup	3-18%	3%
Source 2 Minimum Run Time	300-1800s	1200s
Source 2 Warmup Time	0-1800s	3s
Source 2 Cooldown Time	0-1800s	1800s
Phase Rotation Check	ABC, CBA, OFF	ABC
Supply Overvoltage	350 VAC	Fixed
Manual Return to Normal	Yes or No	
Time Delay Settings		
Transfer to Emergency	120s max	30s
Re-transfer to Normal	1,800s max	1,800s
Time Delay Neutral	120s max	30s
Elevator Signal	120s max	30s
In Phase Transfer	Yes or No	
In Phase Synchronization Time	60-3600s	300s
Preferred Source	S1, S2	S1
Voltage Imbalance Enable	Yes or No	
Voltage Imbalance Timeout	10-30s max	20s

Menu Map

Press the ESC button from any screen to go to a higher level screen. Navigate to the desired menu by pressing the arrow buttons. When the desired menu is selected, press the OK button. The MENU button is accessible from all screens. The ATS button is only accessible from the ATS Status screen.

NOTE: Some screens require a Maintenance Password, an Installer Password, or a Dealer Password to access. See ***Security*** for more information.



ATS Status Icons

Icon	Definition
	Fast Test
	Test
	Maintenance
	Demand Response
	Permissive
	Exercise
	USB Connected
	IO Board Attached
	Dealer Unlock
	Maintenance Unlock
	Installer Unlock

Transfer Switch Options

The transfer switch may be equipped with one or more of the following options:

- Signal Before Transfer
- NEMA 1 or 3R
- Heater (Standard with 3R)
- TDN (Time Delay Neutral)
- Current Transformers
- Optional I/O Board with 4 Inputs and Outputs
- Service Entrance Rating (Equipped with Circuit Breaker)

Signal Before Transfer

See *Figure 4-7*. The Signal Before Transfer operation includes a signal relay accessible at J18 on the controller (A).

NOTE: See *Figure 4-8*. The customer connection diagram is located under the sliding door of the control.

The logic for this operation is set in the TX Switch Controller. The delay time is adjustable from zero to 120 seconds. Set the timer to "0" when this option is not desired.

The basic operation of the option is to delay (for the period of time set) the transfer of the mechanism while a signal relay (SR) is energized. When the relay is energized, two sets of the dry contacts are closed. Reference the switch wiring diagram.

NOTE: This delay is not active on a Source 1 (utility) failure. Transfer during Source 1 failure is immediate.

NOTE: The Signal Before Transfer feature provides a time delay that allows elevators to continue operating before transfer to another power supply occurs.

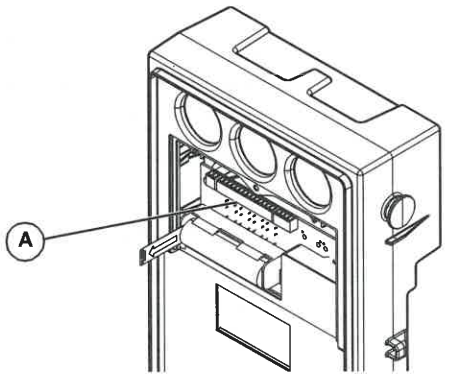


Figure 4-7. Signal Before Transfer

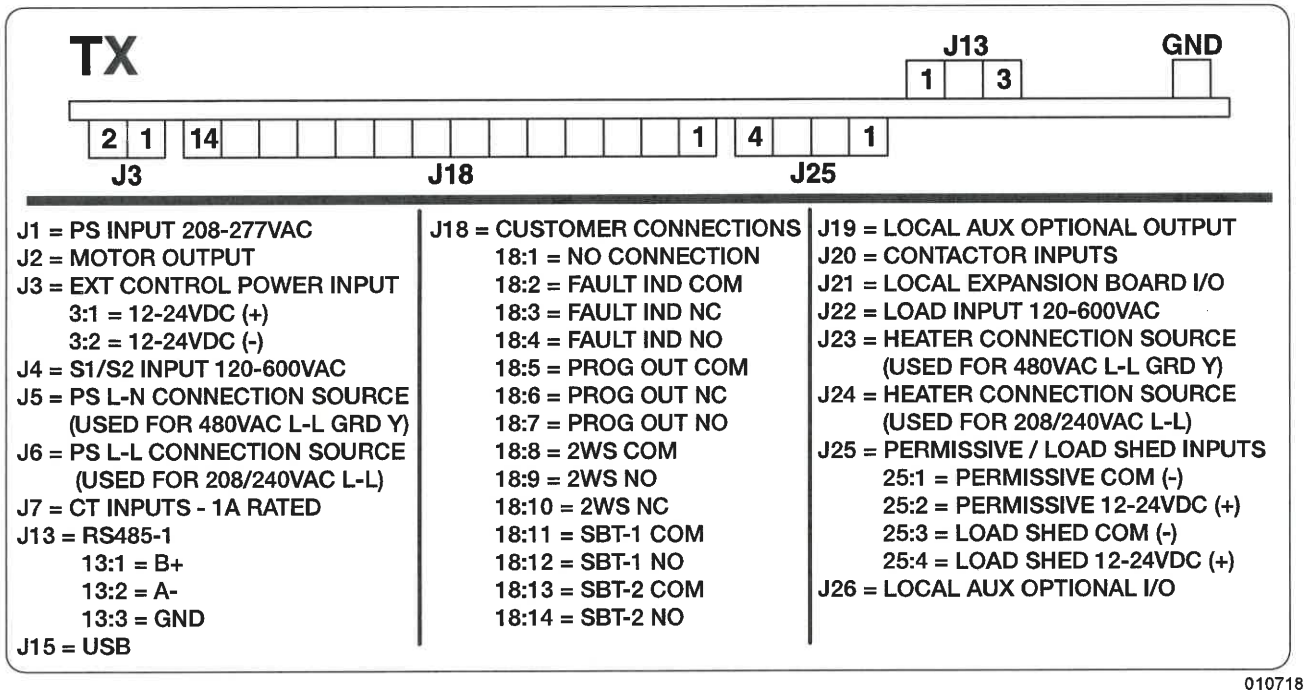


Figure 4-8. Customer Connections Diagram

Customer Programmable Input/Output (I/O) Parameters

A signal relay and two input channels are available at J18 and additional channels are optionally available to be mapped to the following functions within the I/O menu screen. Relays will activate if controller enters the following states in operation and deactivate once the controller exits these states:

Outputs

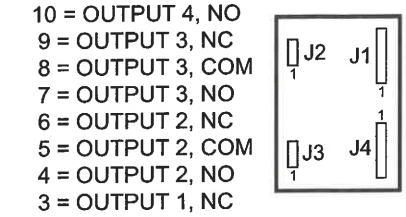
- Signal Before Transfer (SB4T)
  - Signal to system that a transfer will take place.
- Time Delay Neutral (TDN)
  - Signal to indicate control is in neutral.
- 2-Wire Start for Source 1 (2WS1)
  - Start signal for Engine connected to Source 1.
- 2-Wire Start for Source 2 (2WS2)
  - Start signal for Engine connected to Source 2.
- Alarm
  - Warning indication to external systems that an active fault exists.
- Source 1 OK (S1OK)
  - Indicates that Source 1 Voltage is acceptable.
- Source 2 OK (S2OK)
  - Indicates that Source 2 Voltage is OK and acceptable.
- Secondary Warmup (WARMUP)
  - Indicates secondary source is in warmup. Signal is removed when warmup timer expires.
- Exercising (EXERCISING)
  - Indicates control is exercising. Signal is removed when exercise timer expires.

Inputs

- Permissive/Loadshed (PERMISSIVE)
  - Allows transfer to secondary source. In switches with Neutral mechanisms, removal of signal triggers loadshed operation
- Fast Test (FAST_TEST)
  - Simulates a power loss event, starting and transferring to secondary. Fast test reduces loss timeout and delay timeout to five seconds.
- Test
  - Simulates a power loss event, starting and transferring to secondary.
- ATS Timer Bypass (ATS_BYPASS)
  - Expires the active timer in ATS Automatic Transfer, and moves to next ATS operation sequence. Active timer is bypassed on activation of signal and is a one shot operation.
- Source 1 Timer Bypass (S1 TIMER BYPASS)
  - Bypasses the warmup, cooldown, and minimum run timer for Source 1.
- Source 2 Timer Bypass (S2 TIMER BYPASS)
  - Bypasses the warmup, cooldown, and minimum run timer for Source 2.
- Demand Response
  - Takes loads off primary and transfers them to secondary. Attempts to start and transfer to secondary when asserted. If secondary source fails, it will transfer back to primary if available.

Customer Optional I/O Parameters

The transfer switch may be equipped with an Optional (I/O) module to provide additional programmable inputs and outputs. This module is installed on the back side of the control. These inputs and outputs are powered and functional when S1 or S2 are available and may be mapped to any of the customer programmable I/O parameters. Customer wiring may be landed directly onto the I/O module as shown in *Figure 4-9*.



J1 = RELAY OUTPUTS, 250VAC, 8A
12 = OUTPUT 4, NC
11 = OUTPUT 4, COM
10 = OUTPUT 4, NO
9 = OUTPUT 3, NC
8 = OUTPUT 3, COM
7 = OUTPUT 3, NO
6 = OUTPUT 2, NC
5 = OUTPUT 2, COM
4 = OUTPUT 2, NO
3 = OUTPUT 1, NC
2 = OUTPUT 1, COM
1 = OUTPUT 1, NO

J2 = AUX MAIN CB JUMPER

J3 = OPTICALLY ISOLATED INPUTS
6 = INPUT 1, 8-35 VAC/VDC
5 = INPUT 2, 8-35 VAC/VDC
4 = INPUT 3, 8-35 VAC/VDC
3 = INPUT 4, 8-35 VAC/VDC
2 = 12V COM ISOLATED SUPPLY
1 = 12V POS ISOLATED SUPPPLY (50mA MAX.)

J4 = RELAY OUTPUT RESERVED FOR FACTORY USE

011145

Figure 4-9. Customer Optional I/O

Security

The system utilizes the HMI mechanism to check security level and lock out access via navigation to windows. The Security levels are:

- **Maintenance** - for end user operation of ATS. Able to access and/or adjust:
  - Exercise Time and Duration
  - View Log
  - ATS Test
- **Installer** - for setup of ATS. Able to set:
  - Language
  - Date and Time
  - Exercise Time and Duration
  - Source 1 and Source 2 Tolerance
  - Neutral Timeout
  - Loss Delay
  - Return Delay
  - Generator Warmup Time
  - Generator Cool Down Time
  - Generator Minimum Run Time
  - Inphase Transition
  - Nominal Voltage and Frequency
  - Number of Phases
  - Primary Source
  - Programmable (I/O)
  - Heater Settings (if equipped)
- **Dealer** - for dealer access to all functional controls including nominal voltage and frequency of Control.

NOTE: Installer level has a factory set number of ten successful logins. After ten unsuccessful login attempts, the dealer password will be needed to regain access into the control levels. The dealer level can change the number of successful attempts remaining.

Default passwords are as follows:

Maintenance	7123
Installer	8123

Upon successful entry of a password, associated screens will be available for editing and/or viewing for 25 minutes.

The Passwords can be changed via the Security Menu. Each level can change the password of the lower levels.

Security Menu

This window gives HMI access to Security functions. Depending on what level password is entered, functions will be displayed on the HMI.

Option	Description	Seen at Unlock Level
Unlock	Gives a password window	Below Dealer
Password Dealer	Resets Dealer Password	Dealer
Installer Attempts	Sets number of installer password Successes	Dealer
Password Installer	Changes Installer Password	Installer or Higher
Password Maintenance	Changes Maintenance Password	Maintenance or Higher

Heater

The heater ensures operation in extreme environmental conditions and turns on below programmed temperature.

Logging

The logging function monitors source events and provides values for failures. It displays up to 200 events with dates and times of failures, and stores the violating values. The events can be downloaded to a flash drive via the USB port located on the control.

Voltage loss S1 Phase B.	Maintenance mode entered.
Voltage loss S1 Phase C.	Maintenance mode left.
Voltage Return S1 Phase A.	ATS entered Loss Delay State.
Voltage Return S1 Phase B.	ATS entered Time Delay Neutral State.
Voltage Return S1 Phase B.	ATS entered Synchronization State.
Voltage loss S2 Phase A.	ATS Operated to Primary Source.
Voltage loss S2 Phase B.	ATS Operated to Secondary Source.
Voltage loss S2 Phase C.	ATS Operated to Neutral.
Voltage Return S2 Phase A.	ATS entered Primary Return Delay State.
Voltage Return S2 Phase B.	ATS entered an error state.
Voltage Return S2 Phase C.	ATS on Primary Source.
S1A Freq loss.	ATS on Secondary Source.
S1A Freq return.	ATS Started Exercise.
S2A Freq loss.	Exercise was successful.
S2A Freq Return.	Exercise failed, no voltage for 1 minute on Secondary Source.
ATS Settings were saved.	Secondary engine started to warm up.
Heater Activated.	Secondary alternator started to cool warm up.
Heater Deactivated.	

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Section 5: Maintenance

Operate Transfer Switch

Operate the transfer switch at least once each month. This can be done by performing a NORMAL TEST of the system. Because the System Test switch only simulates failure of the UTILITY power source, service is interrupted only during the actual transfer of the load.

Clean and Inspect Transfer Switch

Protect the transfer switch against construction grit, metal chips, excessive moisture and other harmful dirt at all times. At least once each year, turn OFF all power supplies to the switch, then brush and vacuum away dust and dirt that has accumulated inside the enclosure. After cleaning, inspect the transfer switch carefully. Look for evidence of arcing, burning, hot spots, charring, and other damage. If any of these are found, have the switch assembly checked by an authorized service technician.

Lubrication

Operating parts inside the transfer mechanism have been properly lubricated at the time of assembly. Under normal conditions no additional lubrication should be required. The service technician should lubricate all recommended points whenever major transfer mechanism components are replaced.

IMPORTANT NOTE: Use only specified greases to lubricate contactor parts. DO NOT USE ANY SUBSTITUTES.

Use the following lubricants for the Operating Mechanism (Between movable contact and busbars):

- Dow Corning (Molykote) BR2 Plus; (Mfg. by Dow Corning Co., USA)
- Liqui-Moly (Mfg. by DAI TO Co., Ltd., Japan)

Main Current Carrying Contacts

At least once annually, have an IASD check the main current carrying contacts in the transfer mechanism. They will repair or replace major components that have been found defective.

Battery

The battery in the transfer switch controller is of the lithium ion protected cell type. The battery is rechargeable. Contact Generac for replacement on an annual basis. The battery or an external 12-24 VDC power supply is required to retain the clock and exercise settings during any power loss to S1 and S2.

Part Number	Description
A0000214872	3.6V type NCM18650 2600MAH Lithium Ion Rechargeable Battery

The controller circuitry will protect the battery in the event of extended power outages for up to one hour.

Fault Types

When a fault is presented, the Alarm LED on the front panel is illuminated and the Fault Indicator Relay is closed. For all faults, except for Source Miswire and Source Voltage High, the ATS control will continue to attempt all functions while in the Fault Indication State. The system needs to be inspected for proper functionality when this occurs.

Faults are displayed on the Warnings screen. Fault can be acknowledgeable (ACKABLE) or unacknowledgeable (UNACKABLE). When a fault is acknowledged (ACKD), it may stay on the screen, but the fault light will turn off and the relay opens.

If multiple faults exist, all faults will need to be ACKD in order to clear the fault indication. Faults are removed from the screen if fault conditions are removed.

Fault types include:

- Acknowledged (ACKD)
  - The fault is present, the Alarm LED is not lit, and the relay is open.
- Acknowledgeable (ACKABLE)
  - Fault is present and fault is asserted until user acknowledges fault. Once acknowledged, the Alarm LED turns off and the relay opens.
- Unacknowledgeable (UNACKABLE)
  - Fault is displayed and cannot be acknowledged by the user.

List of Faults

Fault	Description	Fault Types
ATS Fail	Indicates the ATS failed to transfer within 10 seconds. The ATS must be inspected and reset from the ATS menu.	Acknowledgeable
Exercise Fail	If secondary source is interrupted for more than 30 seconds during exercise, exercise stops and this fault is displayed.	Acknowledgeable
Secondary Source Failure	If the generator is called and does not present valid voltage for more than 30 seconds, this warning is presented. It is cleared upon detection of good secondary source voltage.	Acknowledgeable
Crank Failure	Indicates the engine failed at start. Voltage was not detected within tolerance after 90 seconds.	Acknowledgeable
IO Board Failure	Indicates the I/O Board is disconnected. This warning only appears if an I/O board is required to drive the contactor and is not detected.	Unacknowledgeable
Contactor Operation Failure	Contactor feedback indicates the previous operation did not succeed on the last attempt.	Acknowledgeable
Contactor Position Failure	Contractor position feedback is not correct for what the automatic operation dictates.	Unacknowledgeable
Supply Voltage High	Indicates that 480V is applied to the Control Power Circuit. The Control may be damaged with extended operation at 480V. Refer to ***Configuring Controller for Nominal Voltage*** to remedy.	Unacknowledgeable
S1 Miswire	This is the warning structure to indicate if S1 is wired with incorrect phase rotation. The warning comes up when Phase B is detected to be in the angle that C should be in.	Unacknowledgeable
S2 Miswire	This is the warning structure to indicate if S2 is wired with incorrect phase rotation. The warning comes up when Phase B is detected to be in the angle that C should be in.	Unacknowledgeable

Update Firmware

1. Load the update file onto the top level of a flash drive.

IMPORTANT NOTE: The flash drive must be formatted to FAT32 file system with a maximum size of 32GB. SanDisk® or Samsung® models between 8-32GB are highly recommended for best compatibility.

2. Before update, the control should be powered normally or an external battery should be connected to J3.
3. Insert the flash drive into the USB port on the controller.
4. Navigate to the USB Menu. The Dealer Password must be inputted when prompted.
5. Select Update.
6. Select "No" until the file to update appears on the screen.
7. Select "Yes."

The control will illuminate all six green LEDs during the update. Once complete, The ATS Status Screen will be displayed and the flash drive can be removed.

USB Settings File

The ATS controller settings can be downloaded onto a USB flash drive. The file can be edited in a word processing program, like Notepad, and then re-upload it to the controller. Settings files are compatible across individual controllers with firmware v1.19 and up.

To download a file, navigate to Menu and then to USB. The Dealer level password is required to access the USB Menu. Once unlocked, insert the USB flash drive into the USB port under the controller cover. Once the USB icon is displayed in the top corner, select "Save Settings." A file called ATSsettings.csv is saved onto the USB flash drive.

To load a setting file onto the controller, copy the ATSsettings.csv file onto a USB flash drive. Insert the USB flash drive into the USB port under the top cover. Once the USB icon is displayed, navigate to the USB menu, and select "Load Settings." The Controller will read the file and look for settings. Valid settings are loaded and displayed on the screen.

If a setting is recognized but the value trying to be set is invalid, "Error" will be displayed. Scroll down the list and review the loaded settings. Once reviewed, select "Save Settings." This will write the values to the control. Select "ESC" to go back to the USB Menu without overwriting any values on the controller.

USB Settings File Options

Setting	Name	Maximum Value	Minimum Value
Transfer to Emergency	Pri Loss Time:	120	0
Re-transfer to Normal	Pri Ret Time:	1800	0
Time Delay Neutral	Time Delay Neut:	120	0
In Phase Transfer	In phase xfer:	0 = No, 1 = Yes	
Elevator Signal	SB4T Delay:	120	0
System Nominal Frequency	Nominal Freq:	0 = 50Hz, 1 = 60Hz	
System Nominal Voltage	Nominal Volt:	0 = 208V, 1 = 240V, 2 = 380V, 3 = 400V, 4 = 415V, 5 = 480V, 6 = 600V	
System Number of Phases	Phase:	0 = Single Phase, 1 = 3 Phase	
Current Transformer Ratio	CT Ratio:	0 = 100:1, 1 = 200:1, 2 = 400:1, 3 = 600:1	
Preferred Source	Pri SRC Num:	0 = Source 1, 1 = Source 2	
Source 1 (Normal) is Genset	Src1 isgen:	0 = Utilty, 1 = Genset	
Source 1 Undervoltage Dropout	S1 UV Dropout:	97	50
Source 1 Undervoltage Pickup	S1 UV Pickup:	99	52
Source 1 Overvoltage Dropout	S1 OV Dropout:	120	105
Source 1 Overvoltage Pickup	S1 OV Pickup:	118	103
Source 1 Underfrequency Dropout	S1 UF Dropout:	97	90
Source 1 Underfrequency Pickup	S1 UF Pickup:	99	91
Source 1 Overfrequency Dropout	S1 OF Dropout:	110	103
Source 1 Overfrequency Pickup	S1 OF Pickup:	109	101
Source 1 Warmup Time	Src1 warmup	1800	0
Source 1 Cooldown Time	Src1 cooldown	1800	0
Source 1 Minimum Run Time	Src1 minrun	1800	300
Source 1 Voltage Imbalance Drop	S1 Imbal Drop	20	5
Source 1 Voltage Imbalance Pickup	S1 Imbal Pickup	18	3
Source 2 is Generator	Src2 isgen	0 = Utilty, 1 = Genset	
Source 2 Undervoltage Dropout	S2 UV Dropout:	97	50
Source 2 Undervoltage Pickup	S2 UV Pickup:	99	52
Source 2 Overvoltage Dropout	S2 OV Dropout:	120	105
Source 2 Overvoltage Pickup	S2 OV Pickup:	118	103
Source 2 Underfrequency Dropout	S2 UF Dropout:	97	90
Source 2 Underfrequency Pickup	S2 UF Pickup:	99	91
Source 2 Overfrequency Dropout	S2 OF Dropout:	110	103
Source 2 Overfrequency Pickup	S2 OF Pickup:	109	101
Source 2 Warmup Time	Src2 warmup	1800	0
Source 2 Cooldown Time	Src2 cooldown	1800	0
Source 2 Minimum Run Time	Src2 minrun	1800	300
Source 2 Voltage Imbalance Drop	S2 Imbal Drop	20	5
Source 2 Voltage Imbalance Pickup	S2 Imbal Pickup	18	3
Voltage Imbalance Enable	Imbal En	1	0
Voltage Imbalance Timeout	Imbal Time	30	10
Manual Return to Normal	Ret To Norm	1	0
Phase Rotation Check	Rot Check	0 = ABC, 1 = CBA, 2 = Off	

In Phase Synchronization Time	Sync Time	3600	60
Board input 1 Function	Board In 1 Setting:	1 = Permissive, 2 = Fast Test, 3 = Normal Test, 4 = ATS Timer Bypass, 5 = S1 Timer Bypass, 6 = S2 Timer Bypass, 7 = Demand Response, 8 = Off	
Board Input 2 Function	Board In 2 Setting:		
IO Board In 1 Function	Opt In 1 Setting:		
IO Board In 2 Function	Opt In 2 Setting:		
IO Board In 3 Function	Opt In 3 Setting:		
IO Board In 4 Function	Opt In 4 Setting:		
Programmable Relay Function	Board Out Setting:	1 = Elevator Signal, 2 = Time Delay Neutral, 3 = S2 2WS, 4 = S2 2WS, 5 = Fault, 6 = S1 OK, 7 = S2 OK, 8 = Secondary Warmup, 9 =Exercising	
IO Board Out 1 Function	Opt Out 1 Setting:		
IO Board Out 2 Function	Opt Out 2 Setting:		
IO Board Out 3 Function	Opt Out 3 Setting:		
IO Board Out 4 Function	Opt Out 4 Setting:		
Horn Alarm Function	Horn:		

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Section 6: Modbus Map

Description

This section describes the transfer switch data available via the communication port on the control.

Communication Settings

Default Baud Rate	9600

Modbus Settings

Device Default Address	240

Data Map

Status (Viewable Locked)

Register	Function	Bit (if defined)
500	ATS Status	0: Source 1 OK
		1: Source 2 OK
		2: On Primary Source
		3: PS Loss Dleay
		4: Wait for Secondary Source OK
		5: Signal before transfer to Secondary Source
		6: Operate to Time Delay Neutral (destination Secondary Source)
		7: Syncing (destination to Secondary Source)
		8: Operating to Secondary Source
		9: On secondary Source
		10: Primary Return Delay
		11: Signal before transfer to Primary Source
		12: Operating to neutral (destination Primary Source)
		13: Syncing (destination to primary source)
		14: Operating contact to Primary Source
501	ATS Timer	In seconds
502	Contactor Status	0: Contactor in S1
		1: Contactor in S2
		2: Contactor in Neutral
503	S1 Engine Status	11-0: Engine timer seconds
		12: Engine Warmup
		13: Engine Minimum Run
		14: Engine Cooldown
504	S2 Engine Status	11-0: Engine timer seconds
		12: Engine Warmup
		13: Engine Minimum Run
		14: Engine Cooldown
505	ATS test status	1: Normal Test Asserted
		2: Fast Test Asserted
506	Exercise Timer (seconds)	–
507	ATS TVSS Status	Bit 5: TVSS failure
508	S1 AB Voltage * 100	–
509	S1 BC Voltage * 100	–
510	S1 AC Voltage * 100	–
511	S2 AB Voltage * 100	–
512	S2 BC Voltage * 100	–
513	S2 AC Voltage * 100	–
514	Load Current A * 10	–
515	Load Current B * 10	–
516	Load Current C * 10	–
517	Load Current N * 10	–
518	S1 kW * 10	–
519	S2 kW * 10	–
520	S1 kWh * 10	–
521	S2 kWh * 10	–
522	S1 Frequency * 10	–
523	S2 Frequency * 10	–
524	Temperature (°C) * 100	–
525	Humidity (%) * 100	–

ATS Program (Viewable Maintenance)

Register	Function	Notes
600	Primary Source Loss Time	–
601	Primary Source Return Time	–
602	Time Delay Neutral Value	–
603	In phase Transfer	1 for yes, 0 for no
604	Signal Before Transfer	–
605	Unbalance Check	–
606	Unbalance Time	–
607	Source 1 Is Engine	1 for yes, 0 for no
608	Source 1 Under Voltage Dropout	–
609	Source 1 Under Voltage Pickup	–
610	Source 1 Over Voltage Dropout	–
611	Source 1 Over Voltage Pickup	–
612	Source 1 Under Frequency Dropout	–
613	Source 1 Under Frequency Pickup	–
614	Source 1 Over Frequency Dropout	–
615	Source 1 Over Frequency Pickup	–
616	Source 1 Warmup	–
617	Source 1 Minimum Run	–
618	Source 1 Cooldown	–
619	Source 1 Unbalance Drop	–
620	Source 1 Unbalance Pickup	–
621	Source 2 Is Engine	1 for yes, 0 for no
622	Source 2 Under Voltage Dropout	–
623	Source 2 Under Voltage Pickup	–
624	Source 2 Over Voltage Dropout	–
625	Source 2 Over Voltage Pickup	–
626	Source 2 Under Frequency Dropout	–
627	Source 2 Under Frequency Pickup	–
628	Source 2 Over Frequency Dropout	–
629	Source 2 Over Frequency Pickup	–
630	Source 2 Warmup	–
631	Source 2 Minimum Run	–
632	Source 2 Cooldown	–
633	Source 2 Unbalance Drop	–
634	Source 2 Unbalance Pickup	–

ATS Settings (Viewable Dealer)

Register	Function	Notes
700	Nominal Voltage	0 = 208V, 1 = 240V, 2 = 480V, 3 = 600V
701	Nominal Frequency	0 = 50Hz, 1 = 60Hz
702	Number of Phases	0 = Single Phase, 1 = 3 phase
703	Primary Source	0 = Source 1, 1 = Source 2
704	CT Ratio	0 = 100:1, 1 = 200:1, 2 = 400:1, 3 = 600:1
705	Heater Temperature Setpoint	–
706	Heater Humidity Setpoint	–

Security

Register	Function	Notes
100	Security Register	Accessible from write single register (0x6)
101	Security Level	Current Unlocked Security Level

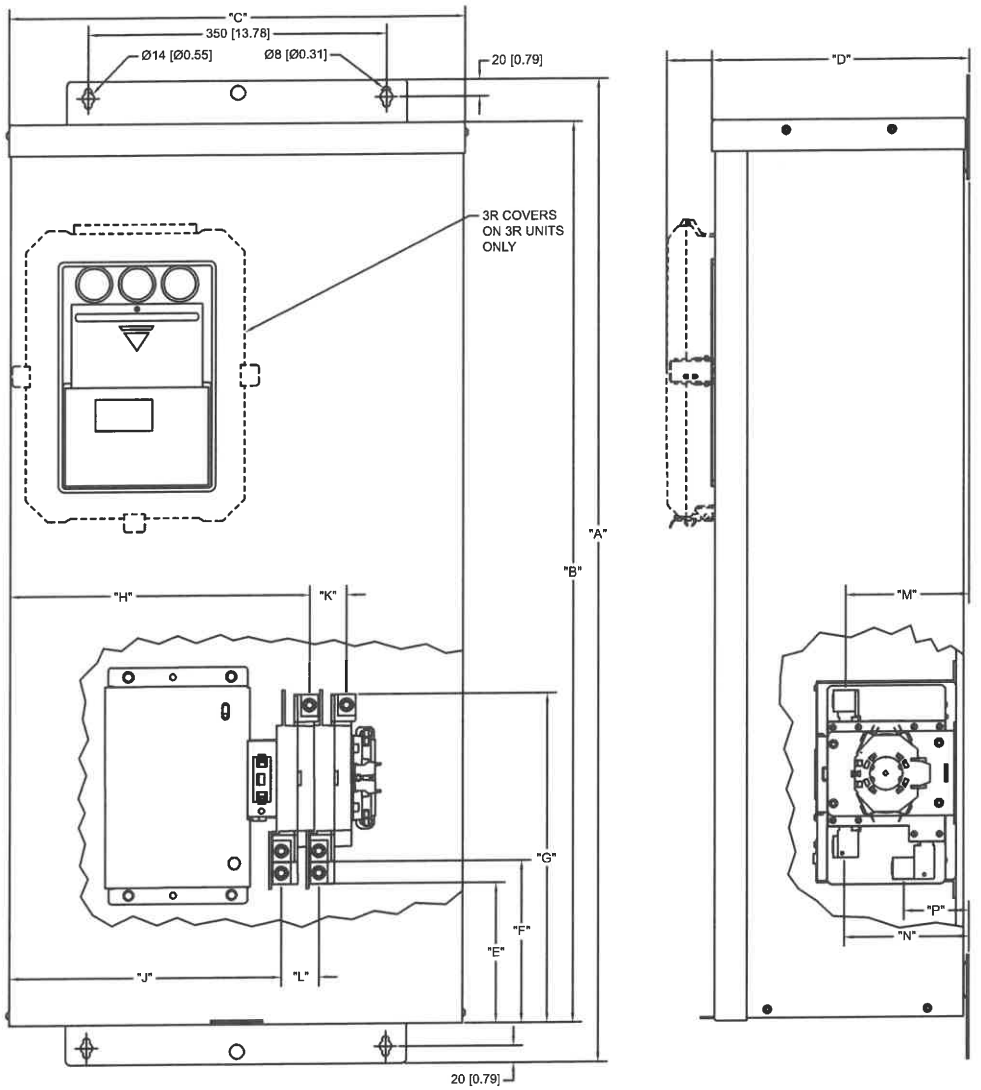
Exercise Settings (Viewable: Everyone Writable: Maintenance)

Register	Function	Notes
650	Exercise Seconds	Exercise Seconds
651	Exercise Type	0 = Daily, 1 = Weekly, 2 = Bi Weekly, 3 = Monthly, 4 = First Week, 5 = Second Week, 6 = Third Week, 7 = Fourth Week
652	Exercise Day	1-7 is day for weekly and 1st-4th week types, 1-14 for biweekly, Date (1-28) for monthly
653	Exercise Hour	–
654	Exercise Minute	–
655	Exercise Duration	–
656	Exercise Xfer	0 for no exercise, 1 for yes

Section 7: Installation Drawings

100-200 Amp ID TX Switch Non Service Entrance 2-pole

No. A0000430680-D (Part 1 of 12)



ALL DIMENSION ARE: mm [inches]

DESCRIPTION	HEIGHT "A"	HEIGHT "B"	WIDTH "C"	DEPTH "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"	DIM "K"	DIM "L"	DIM "M"	DIM "N"	DIM "P"	WEIGHT
100A NON SER NEMA 1	903	806	538	305	226	252	471	348	315	44	44	149	149	79	48kg
	[35.55]	[31.71]	[21.16]	[12.00]	[8.89]	[9.91]	[18.54]	[13.70]	[12.40]	[1.73]	[1.73]	[5.88]	[5.88]	[3.11]	105.6lbs
100A NON SER NEMA 3R	903	806	538	355	226	252	471	348	315	44	44	149	149	79	50kg
	[35.55]	[31.71]	[21.16]	[13.99]	[8.89]	[9.91]	[18.54]	[13.70]	[12.40]	[1.73]	[1.73]	[5.88]	[5.88]	[3.11]	110.0lbs
150A NON SER NEMA 1	903	806	538	305	237	263	460	348	315	44	44	153	153	83	53kg
	[35.55]	[31.71]	[21.16]	[12.00]	[9.31]	[10.34]	[18.12]	[13.70]	[12.40]	[1.73]	[1.73]	[6.04]	[6.04]	[3.26]	116.6lbs
150A NON SER NEMA 3R	903	806	538	355	237	263	460	348	315	44	44	153	153	83	55kg
	[35.55]	[31.71]	[21.16]	[13.99]	[9.31]	[10.34]	[18.12]	[13.70]	[12.40]	[1.73]	[1.73]	[6.04]	[6.04]	[3.26]	121.0lbs
200A NON SER NEMA 1	903	806	538	305	237	263	460	348	315	44	44	153	153	83	53kg
	[35.55]	[31.71]	[21.16]	[12.00]	[9.31]	[10.34]	[18.12]	[13.70]	[12.40]	[1.73]	[1.73]	[6.04]	[6.04]	[3.26]	116.6lbs
200A NON SER NEMA 3R	903	806	538	355	237	263	460	348	315	44	44	153	153	83	55kg
	[35.55]	[31.71]	[21.16]	[13.99]	[9.31]	[10.34]	[18.12]	[13.70]	[12.40]	[1.73]	[1.73]	[6.04]	[6.04]	[3.26]	121.0lbs

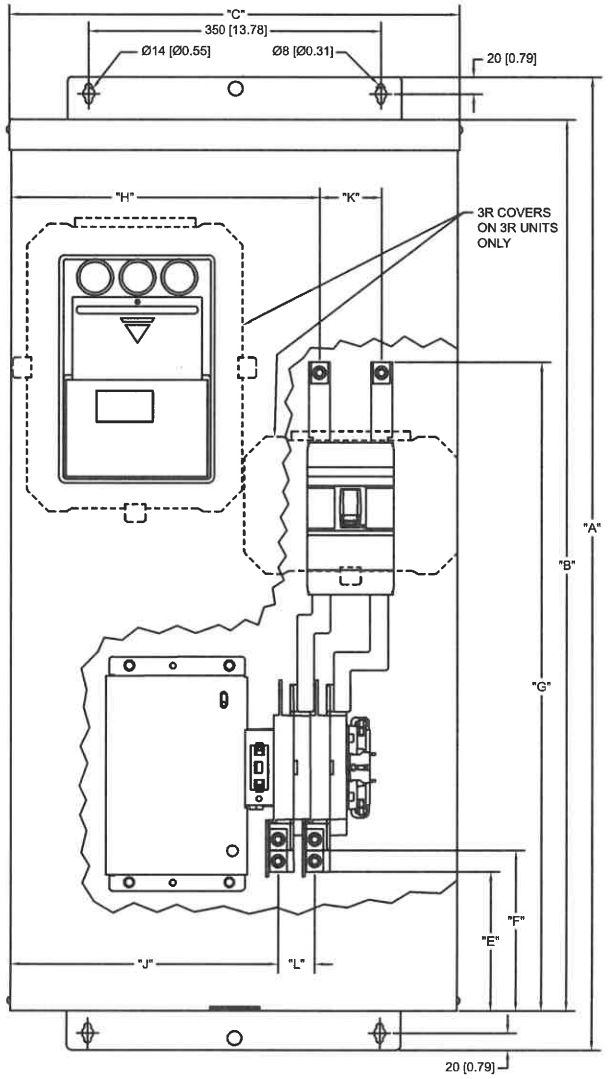
REVISION: D
REVISION DATE: 10/06/2020

ID TX SWITCH NON SERVICE ENTRANCE 2-POLE 100A-200A
A0000430680 (DRAWING: A0000561085)
NOT TO SCALE

011905

100-200 Amp ID TX Switch Non Service Entrance 3-pole

No. A0000430681-D (Part 2 of 12)



ALL DIMENSION ARE: mm [inches]

DESCRIPTION	HEIGHT "A"	HEIGHT "B"	WIDTH "C"	DEPTH "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"	DIM "K"	DIM "L"	DIM "M"	DIM "N"	DIM "P"	WEIGHT
100A SER NEMA 1	1303	1206	538	305	242	268	973	369	320	75	44	257	148	79	70kg
	[51.31]	[47.47]	[21.16]	[12.00]	[9.54]	[10.56]	[38.29]	[14.54]	[12.61]	[2.95]	[1.73]	[10.10]	[5.84]	[3.11]	154.0lbs
100A SER NEMA 3R	1303	1206	538	355	242	268	973	369	320	75	44	257	148	79	72kg
	[51.31]	[47.47]	[21.16]	[13.99]	[9.54]	[10.56]	[38.29]	[14.54]	[12.61]	[2.95]	[1.73]	[10.10]	[5.84]	[3.11]	158.4lbs
150A SER NEMA 1	1303	1206	538	305	253	279	973	369	320	75	44	257	153	83	75kg
	[51.31]	[47.47]	[21.16]	[12.00]	[9.96]	[10.98]	[38.29]	[14.54]	[12.61]	[2.95]	[1.73]	[10.10]	[6.04]	[3.26]	165.0lbs
150A SER NEMA 3R	1303	1206	538	355	253	279	973	369	320	75	44	257	153	83	77kg
	[51.31]	[47.47]	[21.16]	[13.99]	[9.96]	[10.98]	[38.29]	[14.54]	[12.61]	[2.95]	[1.73]	[10.10]	[6.04]	[3.26]	169.4lbs
200A SER NEMA 1	1303	1206	538	305	253	279	973	369	320	75	44	257	153	83	75kg
	[51.31]	[47.47]	[21.16]	[12.00]	[9.96]	[10.98]	[38.29]	[14.54]	[12.61]	[2.95]	[1.73]	[10.10]	[6.04]	[3.26]	165.0lbs
200A SER NEMA 3R	1303	1206	538	355	253	279	973	369	320	75	44	257	153	83	77kg
	[51.31]	[47.47]	[21.16]	[13.99]	[9.96]	[10.98]	[38.29]	[14.54]	[12.61]	[2.95]	[1.73]	[10.10]	[6.04]	[3.26]	169.4lbs

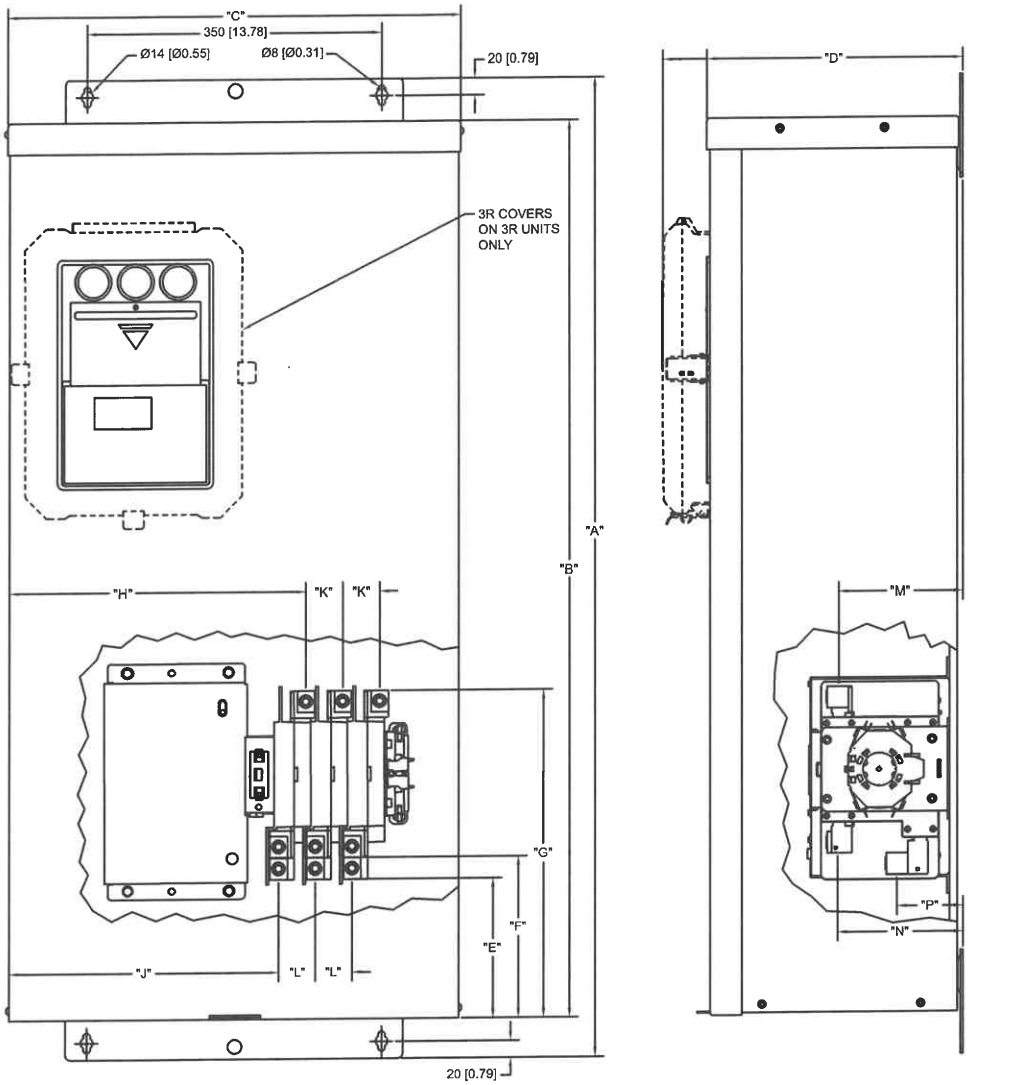
REVISION: D
REVISION DATE: 10/06/2020

ID TX SWITCH SERVICE ENTRANCE 2-POLE 100A-200A
A0000430681 (DRAWING: A0000561085)
NOT TO SCALE

011906

100-200 Amp ID TX Switch Non Service Entrance 4-pole

No. A0000430682-D (Part 3 of 12)



ALL DIMENSION ARE: mm [inches]

DESCRIPTION	HEIGHT "A"	HEIGHT "B"	WIDTH "C"	DEPTH "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"	DIM "K"	DIM "L"	DIM "M"	DIM "N"	DIM "P"	WEIGHT
100A NON SER NEMA 1	903	806	538	305	226	252	471	348	315	44	44	149	149	79	48kg
	[35.55]	[31.71]	[21.16]	[12.00]	[8.89]	[9.91]	[18.54]	[13.70]	[12.40]	[1.73]	[1.73]	[5.88]	[5.88]	[3.11]	105.6lbs
100A NON SER NEMA 3R	903	806	538	355	226	252	471	348	315	44	44	149	149	79	50kg
	[35.55]	[31.71]	[21.16]	[13.99]	[8.89]	[9.91]	[18.54]	[13.70]	[12.40]	[1.73]	[1.73]	[5.88]	[5.88]	[3.11]	110.0lbs
150A NON SER NEMA 1	903	806	538	305	237	263	460	348	315	44	44	153	153	83	53kg
	[35.55]	[31.71]	[21.16]	[12.00]	[9.31]	[10.34]	[18.12]	[13.70]	[12.40]	[1.73]	[1.73]	[6.04]	[6.04]	[3.26]	116.6lbs
150A NON SER NEMA 3R	903	806	538	355	237	263	460	348	315	44	44	153	153	83	55kg
	[35.55]	[31.71]	[21.16]	[13.99]	[9.31]	[10.34]	[18.12]	[13.70]	[12.40]	[1.73]	[1.73]	[6.04]	[6.04]	[3.26]	121.0lbs
200A NON SER NEMA 1	903	806	538	305	237	263	460	348	315	44	44	153	153	83	53kg
	[35.55]	[31.71]	[21.16]	[12.00]	[9.31]	[10.34]	[18.12]	[13.70]	[12.40]	[1.73]	[1.73]	[6.04]	[6.04]	[3.26]	116.6lbs
200A NON SER NEMA 3R	903	806	538	355	237	263	460	348	315	44	44	153	153	83	55kg
	[35.55]	[31.71]	[21.16]	[13.99]	[9.31]	[10.34]	[18.12]	[13.70]	[12.40]	[1.73]	[1.73]	[6.04]	[6.04]	[3.26]	121.0lbs

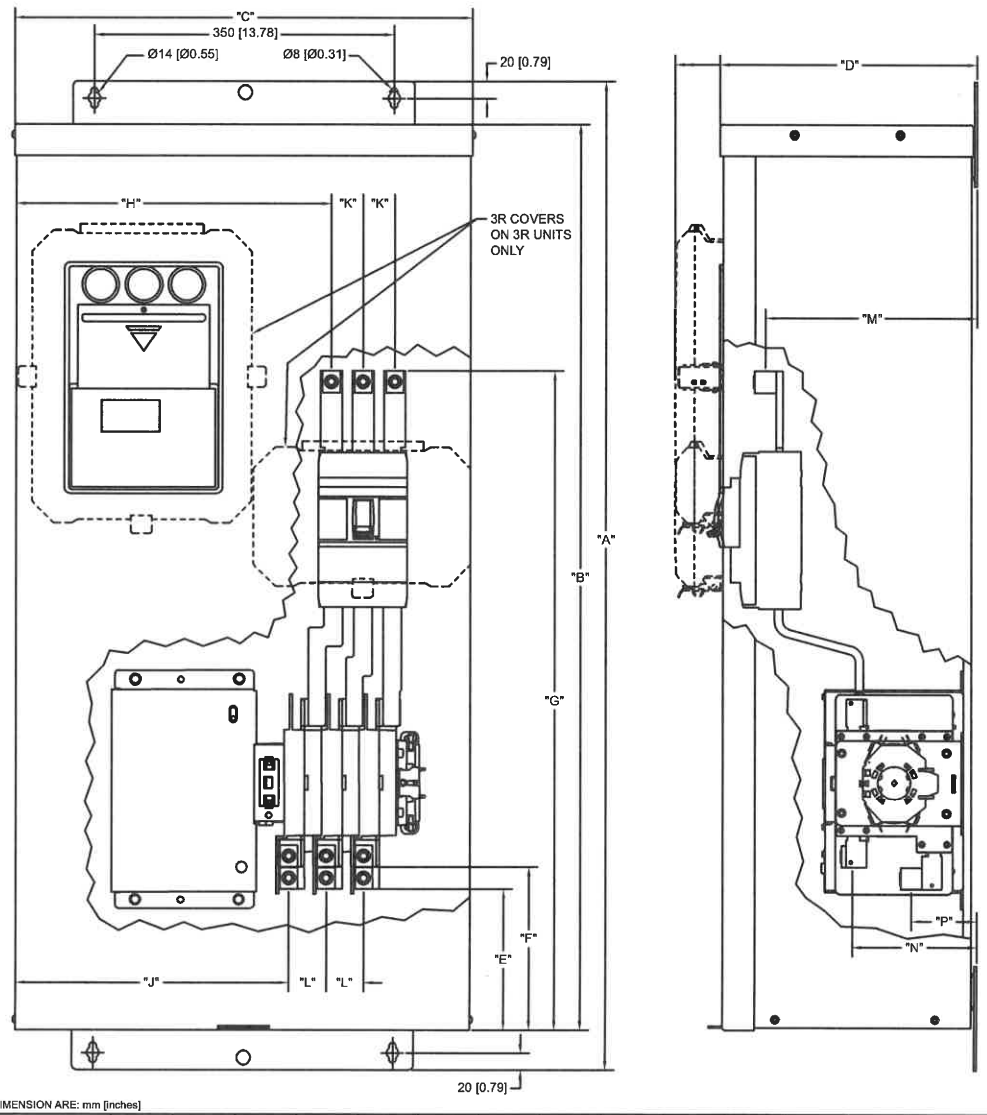
REVISION: D
REVISION DATE: 10/06/2020

ID TX SWITCH NON SERVICE ENTRANCE 3-POLE 100A-200A
A0000430682 (DRAWING: A0000561085)
NOT TO SCALE

011907

100-200 Amp ID TX Switch Service Entrance 2-pole

No. A0000430683-D (Part 4 of 12)



ALL DIMENSION ARE: mm [inches]

DESCRIPTION	HEIGHT "A"	HEIGHT "B"	WIDTH "C"	DEPTH "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"	DIM "K"	DIM "L"	DIM "M"	DIM "N"	DIM "P"	WEIGHT
100A SER NEMA 1	1303	1206	538	305	242	268	973	369	320	38	44	257	148	79	70kg
	[51.31]	[47.47]	[21.16]	[12.00]	[9.54]	[10.56]	[38.29]	[14.54]	[12.61]	[1.48]	[1.73]	[10.10]	[5.84]	[3.11]	154.0lbs
100A SER NEMA 3R	1303	1206	538	355	242	268	973	369	320	38	44	257	148	79	72kg
	[51.31]	[47.47]	[21.16]	[13.99]	[9.54]	[10.56]	[38.29]	[14.54]	[12.61]	[1.48]	[1.73]	[10.10]	[5.84]	[3.11]	158.4lbs
150A SER NEMA 1	1303	1206	538	305	253	279	973	369	320	38	44	257	153	83	75kg
	[51.31]	[47.47]	[21.16]	[12.00]	[9.96]	[10.98]	[38.29]	[14.54]	[12.61]	[1.48]	[1.73]	[10.10]	[6.04]	[3.26]	165.0lbs
150A SER NEMA 3R	1303	1206	538	355	253	279	973	369	320	38	44	257	153	83	77kg
	[51.31]	[47.47]	[21.16]	[13.99]	[9.96]	[10.98]	[38.29]	[14.54]	[12.61]	[1.48]	[1.73]	[10.10]	[6.04]	[3.26]	169.4lbs
200A SER NEMA 1	1303	1206	538	305	253	279	973	369	320	38	44	257	153	83	75kg
	[51.31]	[47.47]	[21.16]	[12.00]	[9.96]	[10.98]	[38.29]	[14.54]	[12.61]	[1.48]	[1.73]	[10.10]	[6.04]	[3.26]	165.0lbs
200A SER NEMA 3R	1303	1206	538	355	253	279	973	369	320	38	44	257	153	83	77kg
	[51.31]	[47.47]	[21.16]	[13.99]	[9.96]	[10.98]	[38.29]	[14.54]	[12.61]	[1.48]	[1.73]	[10.10]	[6.04]	[3.26]	169.4lbs

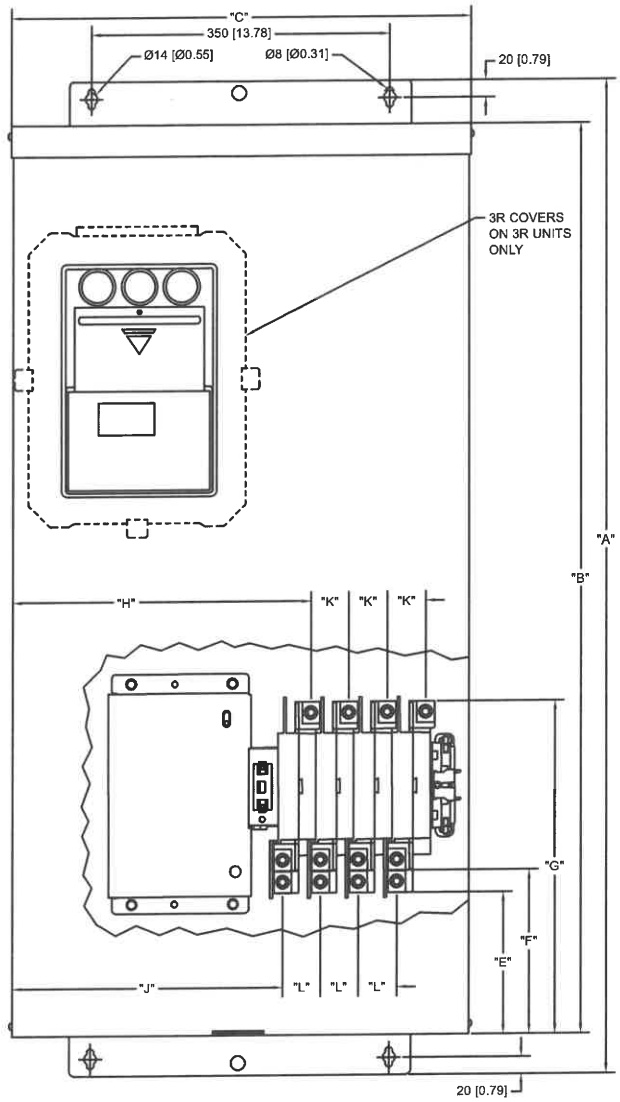
REVISION: D
REVISION DATE: 10/06/2020

ID TX SWITCH SERVICE ENTRANCE 3-POLE 100A-200A
A0000430683 (DRAWING: A0000561085)
NOT TO SCALE

011908

100-200 Amp ID TX Switch Service Entrance 3-pole

No. A0000430684-D (Part 5 of 12)



ALL DIMENSION ARE: mm [inches]

DESCRIPTION	HEIGHT "A"	HEIGHT "B"	WIDTH "C"	DEPTH "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"	DIM "K"	DIM "L"	DIM "M"	DIM "N"	DIM "P"	WEIGHT
100A NON SER NEMA 1	903	806	538	305	226	252	471	348	315	44	44	149	149	79	48kg
	[35.55]	[31.71]	[21.16]	[12.00]	[8.89]	[9.91]	[18.54]	[13.70]	[12.40]	[1.73]	[1.73]	[5.88]	[5.88]	[3.11]	105.6lbs
100A NON SER NEMA 3R	903	806	538	355	226	252	471	348	315	44	44	149	149	79	50kg
	[35.55]	[31.71]	[21.16]	[13.99]	[8.89]	[9.91]	[18.54]	[13.70]	[12.40]	[1.73]	[1.73]	[5.88]	[5.88]	[3.11]	110.0lbs
150A NON SER NEMA 1	903	806	538	305	237	263	460	348	315	44	44	153	153	83	53kg
	[35.55]	[31.71]	[21.16]	[12.00]	[9.31]	[10.34]	[18.12]	[13.70]	[12.40]	[1.73]	[1.73]	[6.04]	[6.04]	[3.26]	116.6lbs
150A NON SER NEMA 3R	903	806	538	355	237	263	460	348	315	44	44	153	153	83	55kg
	[35.55]	[31.71]	[21.16]	[13.99]	[9.31]	[10.34]	[18.12]	[13.70]	[12.40]	[1.73]	[1.73]	[6.04]	[6.04]	[3.26]	121.0lbs
200A NON SER NEMA 1	903	806	538	305	237	263	460	348	315	44	44	153	153	83	53kg
	[35.55]	[31.71]	[21.16]	[12.00]	[9.31]	[10.34]	[18.12]	[13.70]	[12.40]	[1.73]	[1.73]	[6.04]	[6.04]	[3.26]	116.6lbs
200A NON SER NEMA 3R	903	806	538	355	237	263	460	348	315	44	44	153	153	83	55kg
	[35.55]	[31.71]	[21.16]	[13.99]	[9.31]	[10.34]	[18.12]	[13.70]	[12.40]	[1.73]	[1.73]	[6.04]	[6.04]	[3.26]	121.0lbs

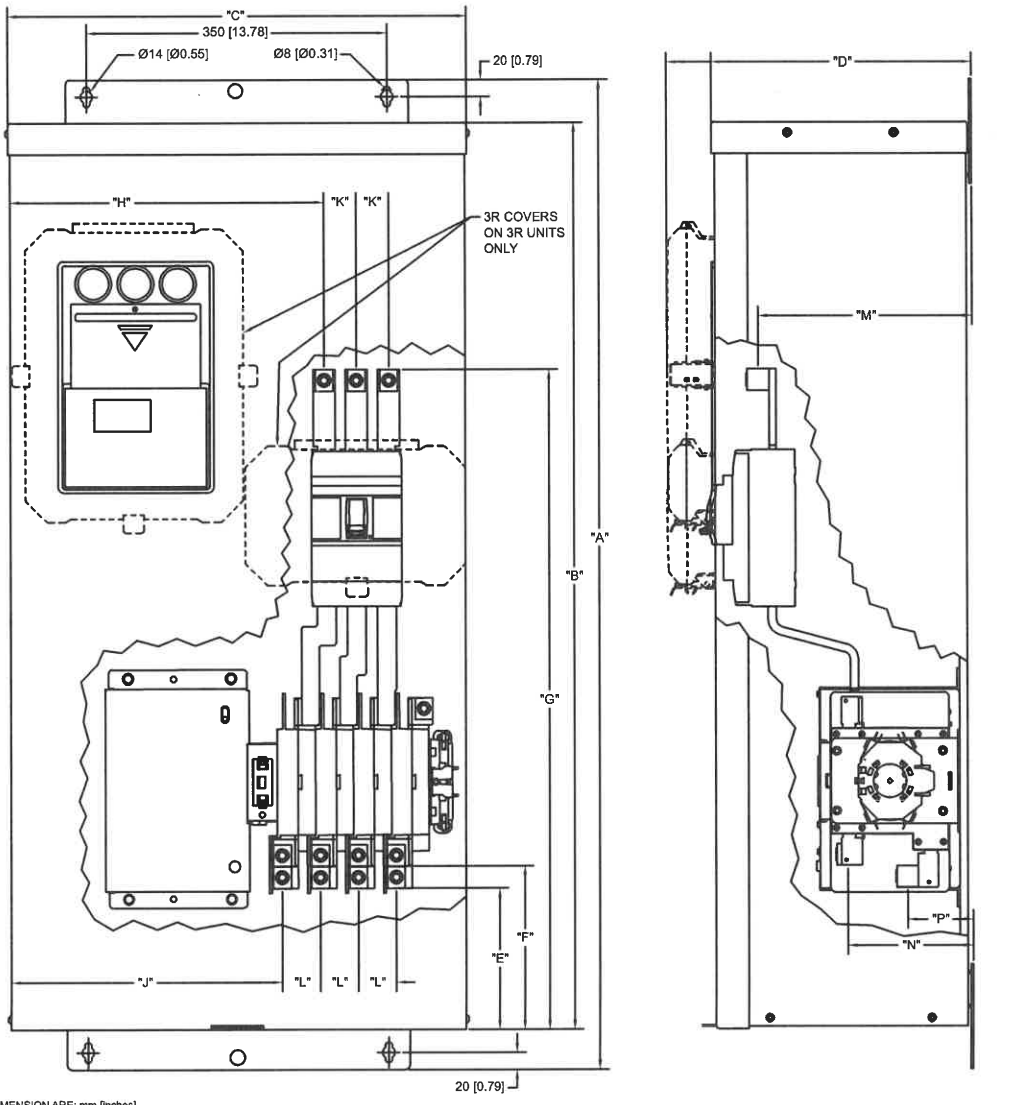
REVISION: D
REVISION DATE: 10/06/2020

ID TX SWITCH NON SERVICE ENTRANCE 4-POLE 100A-200A
A0000430684 (DRAWING: A0000561085)
NOT TO SCALE

011909

100-200 Amp ID TX Switch Service Entrance 4-pole

No. A0000430685-D (Part 6 of 12)



ALL DIMENSION ARE: mm [inches]

DESCRIPTION	HEIGHT "A"	HEIGHT "B"	WIDTH "C"	DEPTH "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"	DIM "K"	DIM "L"	DIM "M"	DIM "N"	DIM "P"	WEIGHT
100A SER NEMA 1	1303	1206	538	305	242	268	973	369	320	38	44	257	148	79	70kg
	[51.31]	[47.47]	[21.16]	[12.00]	[9.54]	[10.56]	[38.29]	[14.54]	[12.61]	[1.48]	[1.73]	[10.10]	[5.84]	[3.11]	154.0lbs
100A SER NEMA 3R	1303	1206	538	355	242	268	973	369	320	38	44	257	148	79	72kg
	[51.31]	[47.47]	[21.16]	[13.99]	[9.54]	[10.56]	[38.29]	[14.54]	[12.61]	[1.48]	[1.73]	[10.10]	[5.84]	[3.11]	158.4lbs
150A SER NEMA 1	1303	1206	538	305	253	279	973	369	320	38	44	257	153	83	75kg
	[51.31]	[47.47]	[21.16]	[12.00]	[9.96]	[10.98]	[38.29]	[14.54]	[12.61]	[1.48]	[1.73]	[10.10]	[6.04]	[3.26]	165.0lbs
150A SER NEMA 3R	1303	1206	538	355	253	279	973	369	320	38	44	257	153	83	77kg
	[51.31]	[47.47]	[21.16]	[13.99]	[9.96]	[10.98]	[38.29]	[14.54]	[12.61]	[1.48]	[1.73]	[10.10]	[6.04]	[3.26]	169.4lbs
200A SER NEMA 1	1303	1206	538	305	253	279	973	369	320	38	44	257	153	83	75kg
	[51.31]	[47.47]	[21.16]	[12.00]	[9.96]	[10.98]	[38.29]	[14.54]	[12.61]	[1.48]	[1.73]	[10.10]	[6.04]	[3.26]	165.0lbs
200A SER NEMA 3R	1303	1206	538	355	253	279	973	369	320	38	44	257	153	83	77kg
	[51.31]	[47.47]	[21.16]	[13.99]	[9.96]	[10.98]	[38.29]	[14.54]	[12.61]	[1.48]	[1.73]	[10.10]	[6.04]	[3.26]	169.4lbs

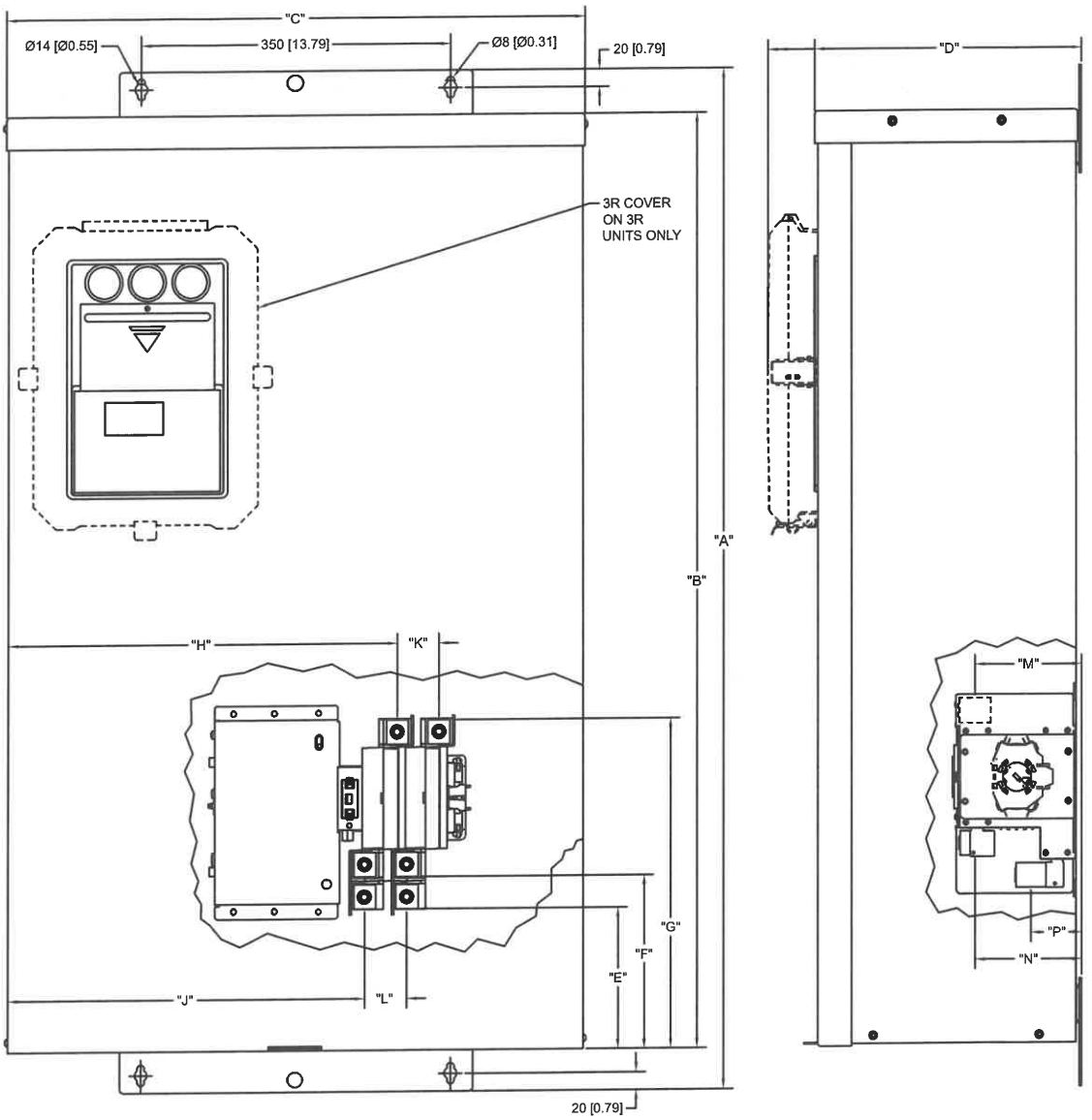
REVISION: D
REVISION DATE: 10/06/2020

ID TX SWITCH SERVICE ENTRANCE 4-POLE 100A-200A
A0000430685 (DRAWING: A0000561085)
NOT TO SCALE

011910

400 Amp ID TX Switch Non Service Entrance 2-pole

No. A0000430686-D (Part 7 of 12)



ALL DIMENSION ARE: mm [inches]

DESCRIPTION	HEIGHT "A"	HEIGHT "B"	WIDTH "C"	DEPTH "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"	DIM "K"	DIM "L"	DIM "M"	DIM "N"	DIM "P"	WEIGHT
300A NON SER NEMA 1	1305	1205	614	305	246	292	516	377	331	59	59	166	166	84	79kg
	[51.38]	[47.46]	[24.16]	[12.00]	[9.70]	[11.50]	[20.30]	[14.84]	[13.05]	[2.32]	[2.32]	[6.52]	[6.52]	[3.32]	173.8lbs
300A NON SER NEMA 3R	1305	1205	614	355	246	292	516	377	331	59	59	166	166	84	81kg
	[51.38]	[47.46]	[24.16]	[13.99]	[9.70]	[11.50]	[20.30]	[14.84]	[13.05]	[2.32]	[2.32]	[6.52]	[6.52]	[3.32]	178.2lbs
400A NON SER NEMA 1	1305	1205	614	305	246	292	516	377	331	59	59	166	166	84	79kg
	[51.38]	[47.46]	[24.16]	[12.00]	[9.70]	[11.50]	[20.30]	[14.84]	[13.05]	[2.32]	[2.32]	[6.52]	[6.52]	[3.32]	173.8lbs
400A NON SER NEMA 3R	1305	1205	614	355	246	292	516	377	331	59	59	166	166	84	81kg
	[51.38]	[47.46]	[24.16]	[13.99]	[9.70]	[11.50]	[20.30]	[14.84]	[13.05]	[2.32]	[2.32]	[6.52]	[6.52]	[3.32]	178.2lbs

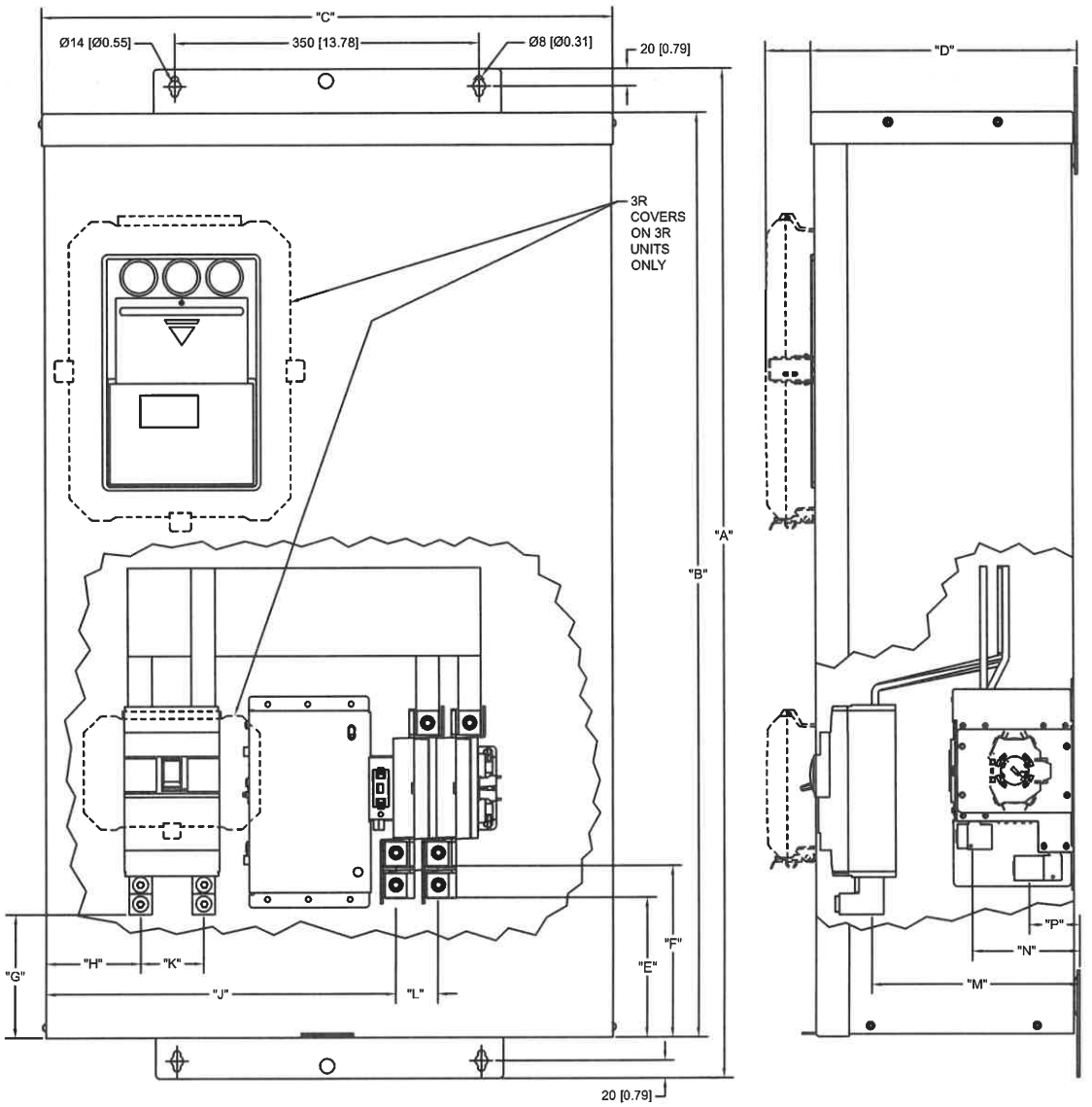
REVISION: D
REVISION DATE: 10/06/2020

ID TX SWITCH NON SERVICE ENTRANCE 2-POLE 300A-400A
A0000430686 (DRAWING: A0000561085)
NOT TO SCALE

011911

400 Amp ID TX Switch Non Service Entrance 3-pole

No. A0000430687-D (Part 8 of 12)



ALL DIMENSION ARE: mm [inches]

DESCRIPTION	HEIGHT "A"	HEIGHT "B"	WIDTH "C"	DEPTH "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"	DIM "K"	DIM "L"	DIM "M"	DIM "N"	DIM "P"	WEIGHT
300A SER NEMA 1	1305	1205	860	305	251	297	228	192	562	92	59	222	166	84	118kg
	[51.38]	[47.46]	[33.86]	[12.00]	[9.90]	[11.70]	[8.97]	[7.56]	[22.13]	[3.62]	[2.32]	[8.73]	[6.52]	[3.32]	259.6lbs
300A SER NEMA 3R	1305	1205	860	355	251	297	228	192	562	92	59	222	166	84	120kg
	[51.38]	[47.46]	[33.86]	[13.99]	[9.90]	[11.70]	[8.97]	[7.56]	[22.13]	[3.62]	[2.32]	[8.73]	[6.52]	[3.32]	264.0lbs
400A SER NEMA 1	1305	1205	860	305	251	297	228	192	562	92	59	222	166	84	118kg
	[51.38]	[47.46]	[33.86]	[12.00]	[9.90]	[11.70]	[8.97]	[7.56]	[22.13]	[3.62]	[2.32]	[8.73]	[6.52]	[3.32]	259.6lbs
400A SER NEMA 3R	1305	1205	860	355	251	297	228	192	562	92	59	222	166	84	120kg
	[51.38]	[47.46]	[33.86]	[13.99]	[9.90]	[11.70]	[8.97]	[7.56]	[22.13]	[3.62]	[2.32]	[8.73]	[6.52]	[3.32]	264.0lbs

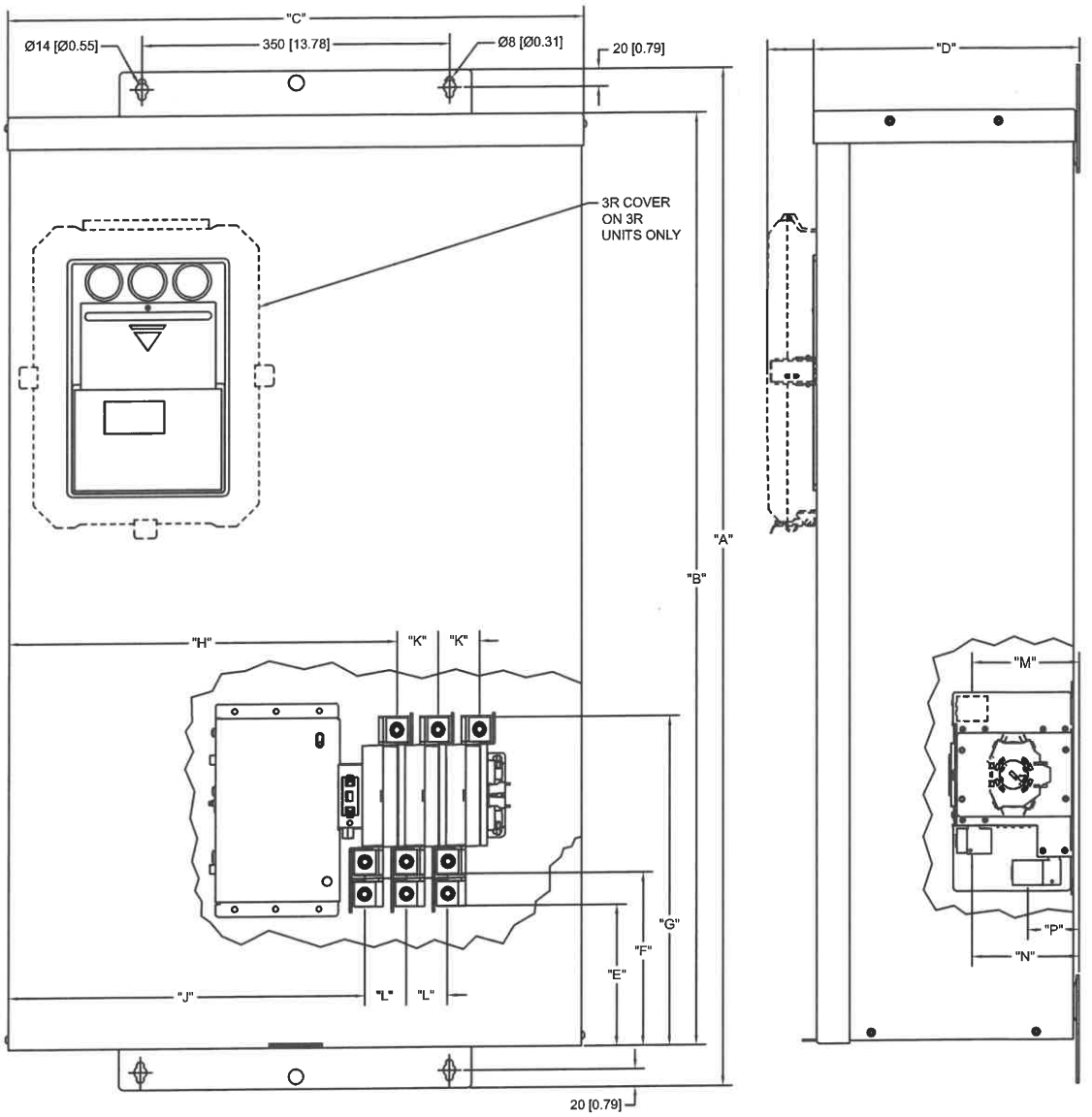
REVISION: D
REVISION DATE: 10/06/2020

ID TX SWITCH SERVICE ENTRANCE 2-POLE 300A-400A
A0000430687 (DRAWING: A0000561085)
NOT TO SCALE

011912

400 Amp ID TX Switch Non Service Entrance 4-pole

No. A0000430688-D (Part 9 of 12)



ALL DIMENSION ARE: mm [inches]

DESCRIPTION	HEIGHT "A"	HEIGHT "B"	WIDTH "C"	DEPTH "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"	DIM "K"	DIM "L"	DIM "M"	DIM "N"	DIM "P"	WEIGHT
300A NON SER NEMA 1	1305	1205	614	305	246	292	516	377	331	59	59	166	166	84	79kg
	[51.38]	[47.46]	[24.16]	[12.00]	[9.70]	[11.50]	[20.30]	[14.84]	[13.05]	[2.32]	[2.32]	[6.52]	[6.52]	[3.32]	173.8lbs
300A NON SER NEMA 3R	1305	1205	614	355	246	292	516	377	331	59	59	166	166	84	81kg
	[51.38]	[47.46]	[24.16]	[13.99]	[9.70]	[11.50]	[20.30]	[14.84]	[13.05]	[2.32]	[2.32]	[6.52]	[6.52]	[3.32]	178.2lbs
400A NON SER NEMA 1	1305	1205	614	305	246	292	516	377	331	59	59	166	166	84	79kg
	[51.38]	[47.46]	[24.16]	[12.00]	[9.70]	[11.50]	[20.30]	[14.84]	[13.05]	[2.32]	[2.32]	[6.52]	[6.52]	[3.32]	173.8lbs
400A NON SER NEMA 3R	1305	1205	614	355	246	292	516	377	331	59	59	166	166	84	81kg
	[51.38]	[47.46]	[24.16]	[13.99]	[9.70]	[11.50]	[20.30]	[14.84]	[13.05]	[2.32]	[2.32]	[6.52]	[6.52]	[3.32]	178.2lbs

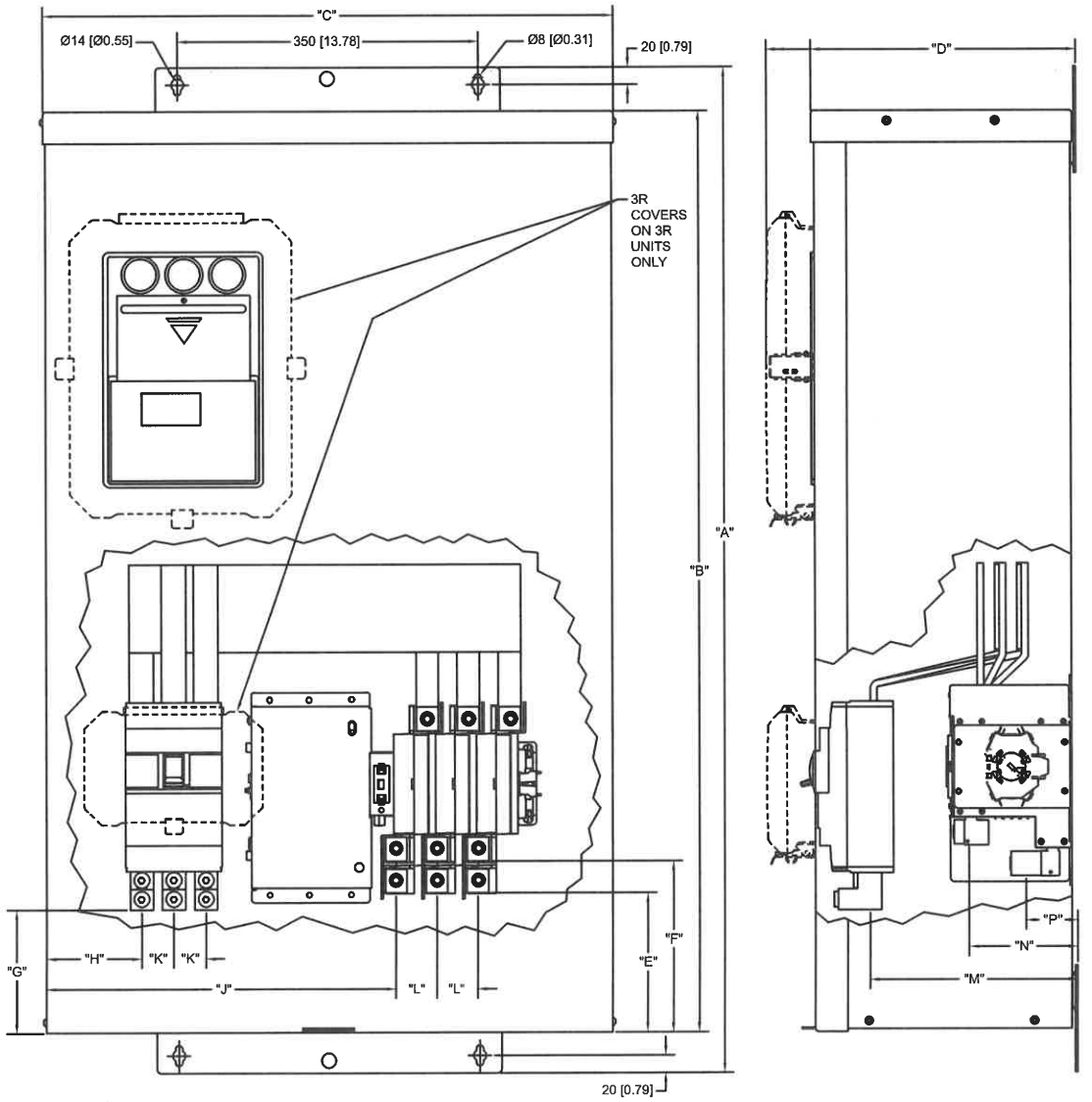
REVISION: D
REVISION DATE: 10/06/2020

ID TX SWITCH NON SERVICE ENTRANCE 3-POLE 300-400A
A0000430688 (DRAWING: A0000561085)
NOT TO SCALE

011913

400 Amp ID TX Switch Service Entrance 2-pole

No. A0000430689-D (Part 10 of 12)



ALL DIMENSION ARE: mm [inches]

DESCRIPTION	HEIGHT "A"	HEIGHT "B"	WIDTH "C"	DEPTH "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"	DIM "K"	DIM "L"	DIM "M"	DIM "N"	DIM "P"	WEIGHT
300A SER NEMA 1	1305	1205	860	305	251	297	228	192	562	46	59	222	166	84	118kg
	[51.38]	[47.46]	[33.86]	[12.00]	[9.90]	[11.70]	[8.97]	[7.56]	[22.13]	[1.81]	[2.32]	[8.73]	[6.52]	[3.32]	259.6lbs
300A SER NEMA 3R	1305	1205	860	355	251	297	228	192	562	46	59	222	166	84	120kg
	[51.38]	[47.46]	[33.86]	[13.99]	[9.90]	[11.70]	[8.97]	[7.56]	[22.13]	[1.81]	[2.32]	[8.73]	[6.52]	[3.32]	264.0lbs
400A SER NEMA 1	1305	1205	860	305	251	297	228	192	562	46	59	222	166	84	118kg
	[51.38]	[47.46]	[33.86]	[12.00]	[9.90]	[11.70]	[8.97]	[7.56]	[22.13]	[1.81]	[2.32]	[8.73]	[6.52]	[3.32]	259.6lbs
400A SER NEMA 3R	1305	1205	860	355	251	297	228	192	562	46	59	222	166	84	120kg
	[51.38]	[47.46]	[33.86]	[13.99]	[9.90]	[11.70]	[8.97]	[7.56]	[22.13]	[1.81]	[2.32]	[8.73]	[6.52]	[3.32]	264.0lbs

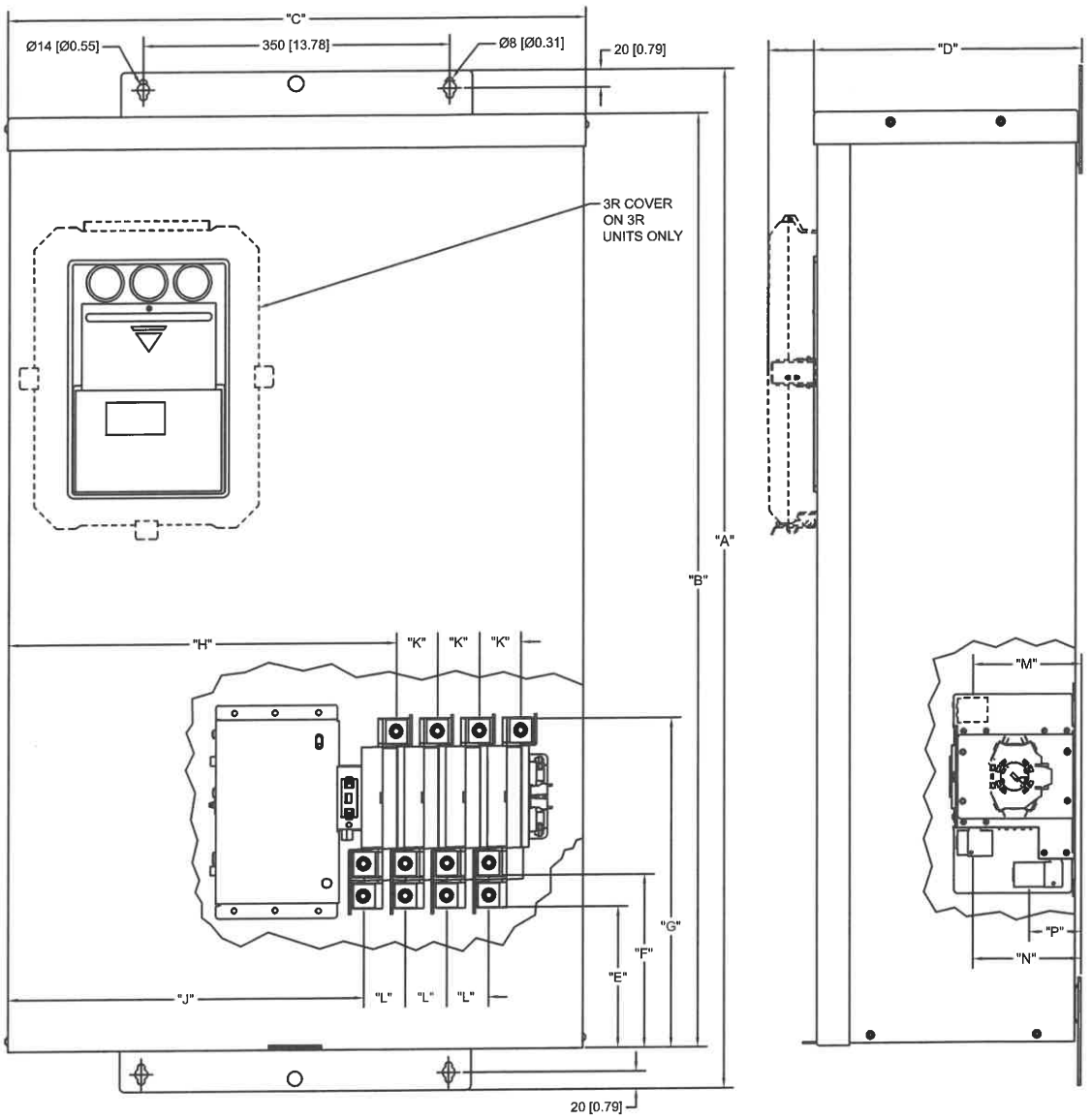
REVISION: D
REVISION DATE: 10/06/2020

ID TX SWITCH SERVICE ENTRANCE 3-POLE 300A-400A
A0000430689 (DRAWING: A0000561085)
NOT TO SCALE

011914

400 Amp ID TX Switch Service Entrance 3-pole

No. A0000430690-D (Part 11 of 12)



ALL DIMENSION ARE: mm [inches]

DESCRIPTION	HEIGHT "A"	HEIGHT "B"	WIDTH "C"	DEPTH "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"	DIM "K"	DIM "L"	DIM "M"	DIM "N"	DIM "P"	WEIGHT
300A NON SER NEMA 1	1305	1205	614	305	246	292	516	377	331	59	59	166	166	84	79kg
	[51.38]	[47.46]	[24.16]	[12.00]	[9.70]	[11.50]	[20.30]	[14.84]	[13.05]	[2.32]	[2.32]	[6.52]	[6.52]	[3.32]	173.8lbs
300A NON SER NEMA 3R	1305	1205	614	355	246	292	516	377	331	59	59	166	166	84	81kg
	[51.38]	[47.46]	[24.16]	[13.99]	[9.70]	[11.50]	[20.30]	[14.84]	[13.05]	[2.32]	[2.32]	[6.52]	[6.52]	[3.32]	178.2lbs
400A NON SER NEMA 1	1305	1205	614	305	246	292	516	377	331	59	59	166	166	84	79kg
	[51.38]	[47.46]	[24.16]	[12.00]	[9.70]	[11.50]	[20.30]	[14.84]	[13.05]	[2.32]	[2.32]	[6.52]	[6.52]	[3.32]	173.8lbs
400A NON SER NEMA 3R	1305	1205	614	355	246	292	516	377	331	59	59	166	166	84	81kg
	[51.38]	[47.46]	[24.16]	[13.99]	[9.70]	[11.50]	[20.30]	[14.84]	[13.05]	[2.32]	[2.32]	[6.52]	[6.52]	[3.32]	178.2lbs

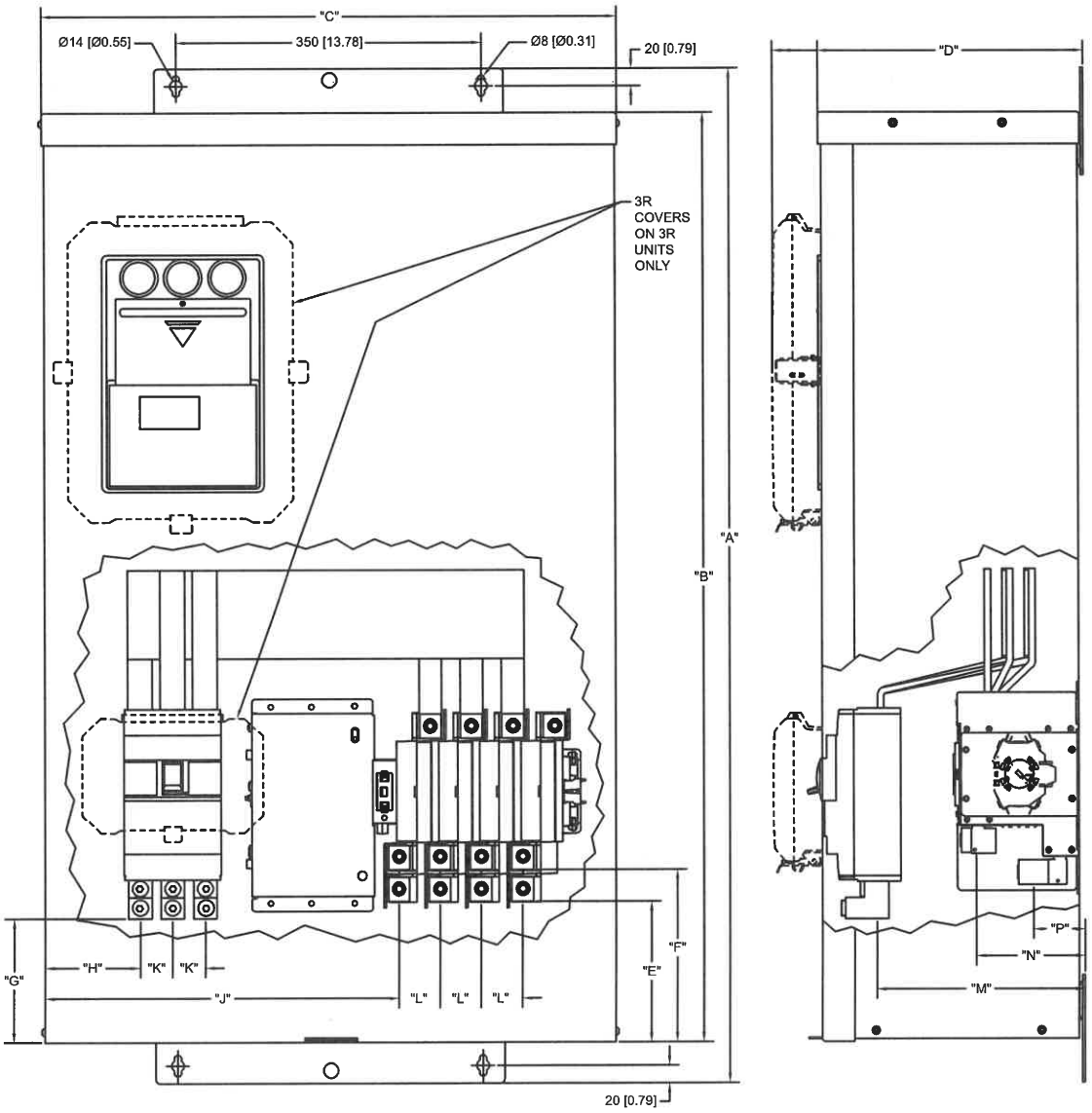
REVISION: D
REVISION DATE: 10/06/2020

ID TX SWITCH NON SERVICE ENTRANCE 4-POLE 300A-400A
A0000430690 (DRAWING: A0000561085)
NOT TO SCALE

011915

400 Amp ID TX Switch Service Entrance 4-pole

No. A0000430691-D (Part 12 of 12)



ALL DIMENSION ARE: mm [inches]

DESCRIPTION	HEIGHT "A"	HEIGHT "B"	WIDTH "C"	DEPTH "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"	DIM "K"	DIM "L"	DIM "M"	DIM "N"	DIM "P"	WEIGHT
300A SER NEMA 1	1305	1205	860	305	251	297	228	192	562	46	59	222	166	84	118kg
	[51.38]	[47.46]	[33.86]	[12.00]	[9.90]	[11.70]	[8.97]	[7.56]	[22.13]	[1.81]	[2.32]	[8.73]	[6.52]	[3.32]	259.6lbs
300A SER NEMA 3R	1305	1205	860	355	251	297	228	192	562	46	59	222	166	84	120kg
	[51.38]	[47.46]	[33.86]	[13.99]	[9.90]	[11.70]	[8.97]	[7.56]	[22.13]	[1.81]	[2.32]	[8.73]	[6.52]	[3.32]	264.0lbs
400A SER NEMA 1	1305	1205	860	305	251	297	228	192	562	46	59	222	166	84	118kg
	[51.38]	[47.46]	[33.86]	[12.00]	[9.90]	[11.70]	[8.97]	[7.56]	[22.13]	[1.81]	[2.32]	[8.73]	[6.52]	[3.32]	259.6lbs
400A SER NEMA 3R	1305	1205	860	355	251	297	228	192	562	46	59	222	166	84	120kg
	[51.38]	[47.46]	[33.86]	[13.99]	[9.90]	[11.70]	[8.97]	[7.56]	[22.13]	[1.81]	[2.32]	[8.73]	[6.52]	[3.32]	264.0lbs

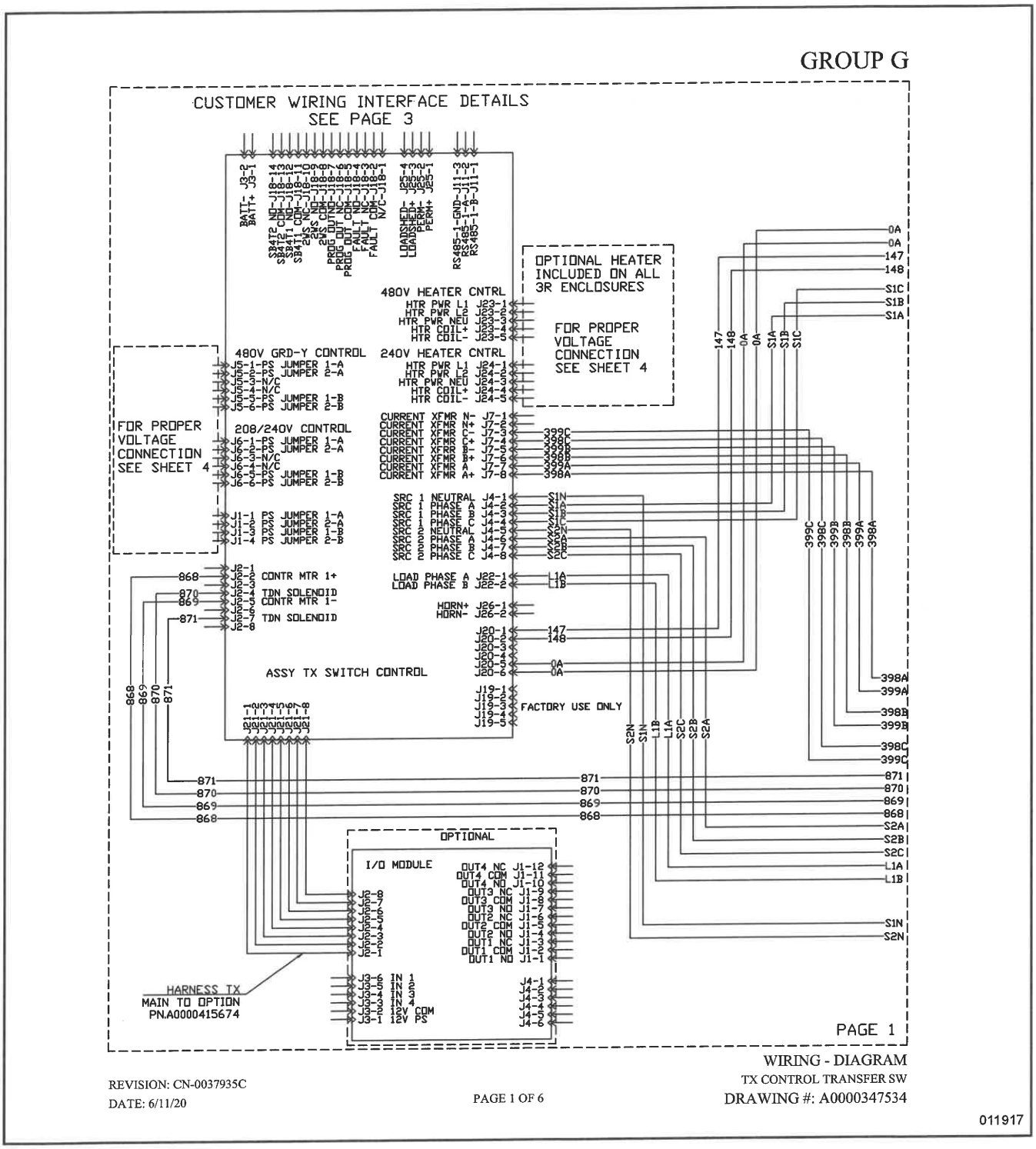
REVISION: D
REVISION DATE: 10/06/2020

ID TX SWITCH SERVICE ENTRANCE 4-POLE 300A-400A
A0000430691 (DRAWING: A0000561085)
NOT TO SCALE

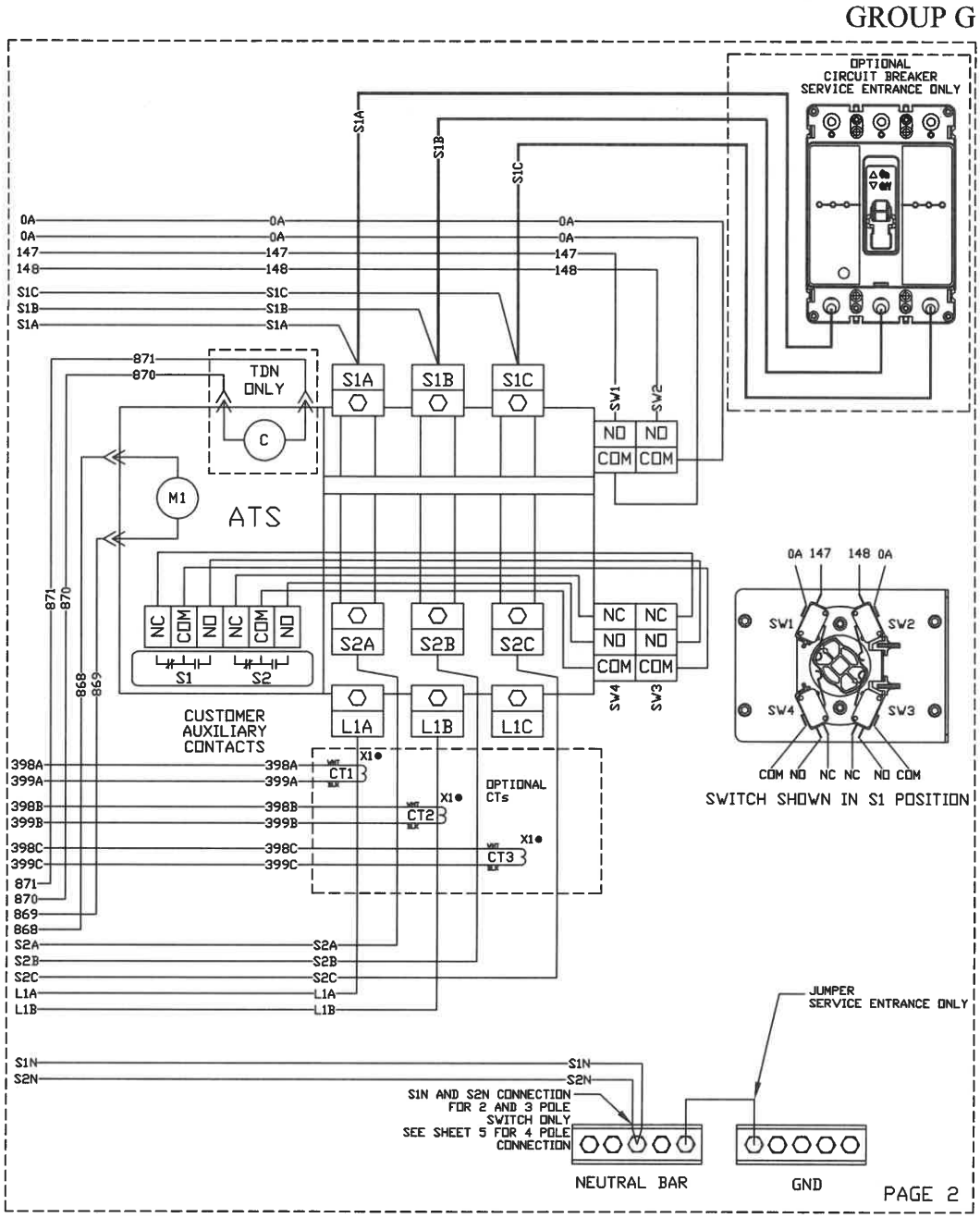
011916

Wiring Diagram - TX Control Transfer SW

No. A0000347534-C (Part 1 of 3)



No. A0000347534-C (Part 2 of 3)



WIRING - DIAGRAM
TX CONTROL TRANSFER SW
DRAWING #: A0000347534

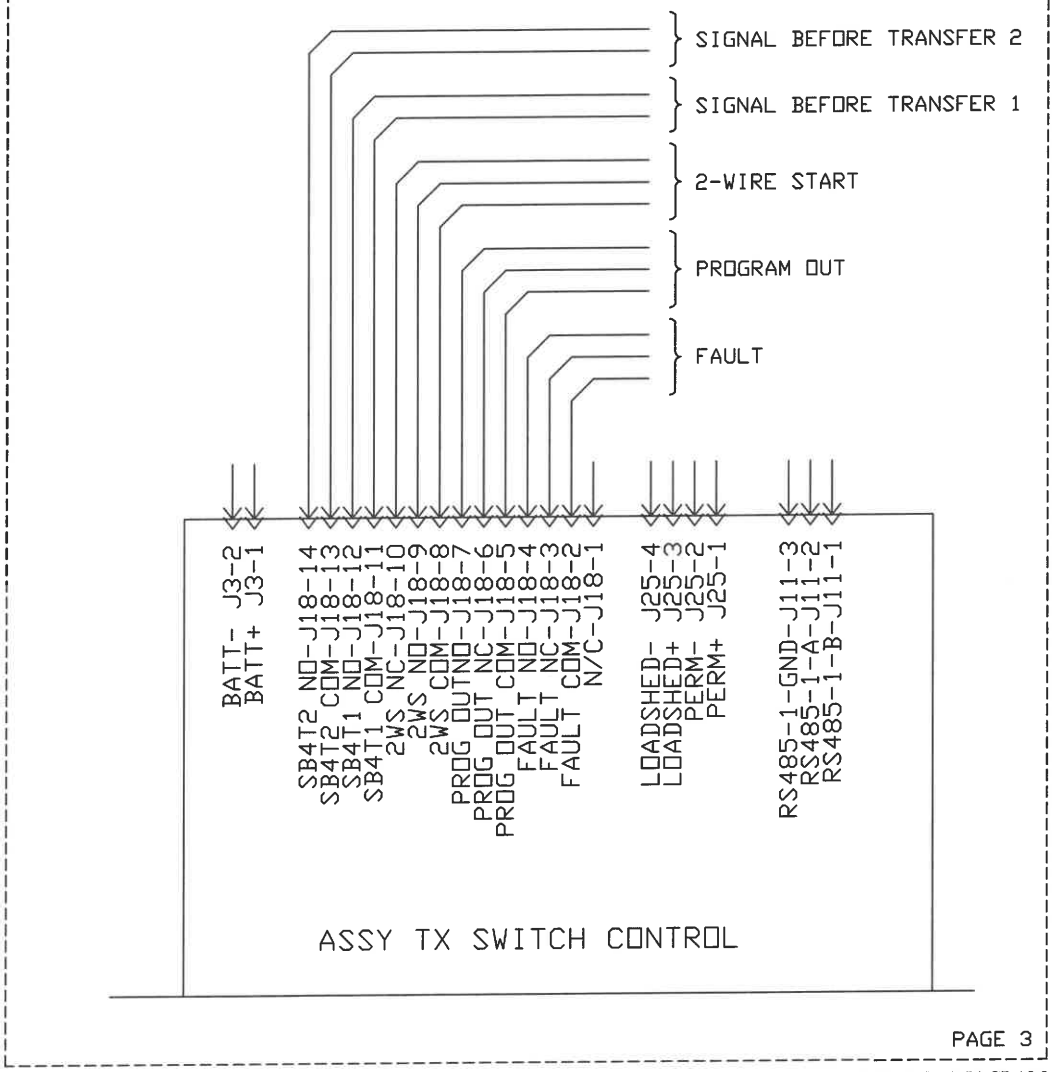
REVISION: CN-0037935C
DATE: 6/11/20

PAGE 2 OF 6

011918

No. A0000347534-C (Part 3 of 3)

GROUP G



WIRING - DIAGRAM
TX CONTROL TRANSFER SW
DRAWING #: A0000347534

REVISION: CN-0037935C
DATE: 6/11/20

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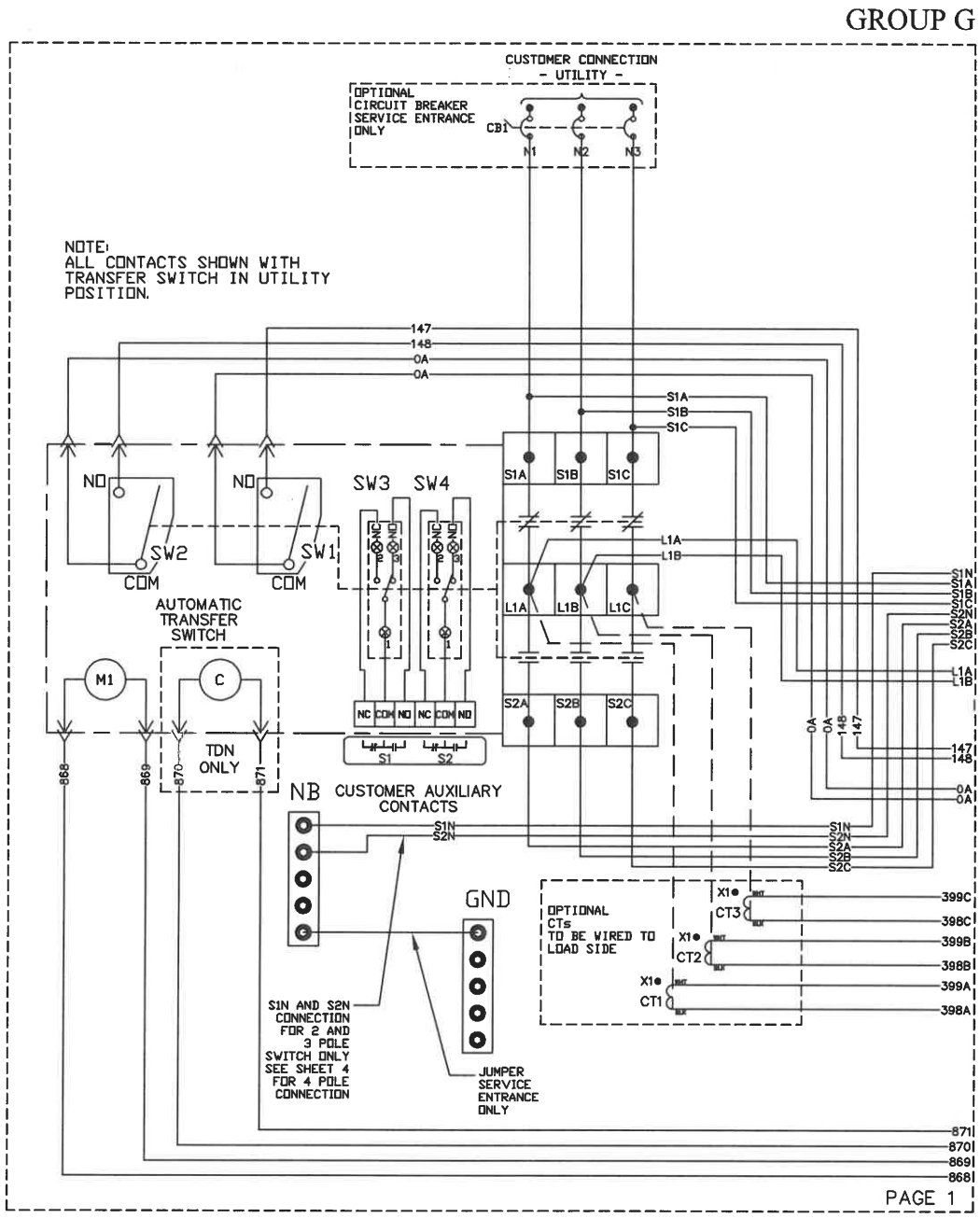
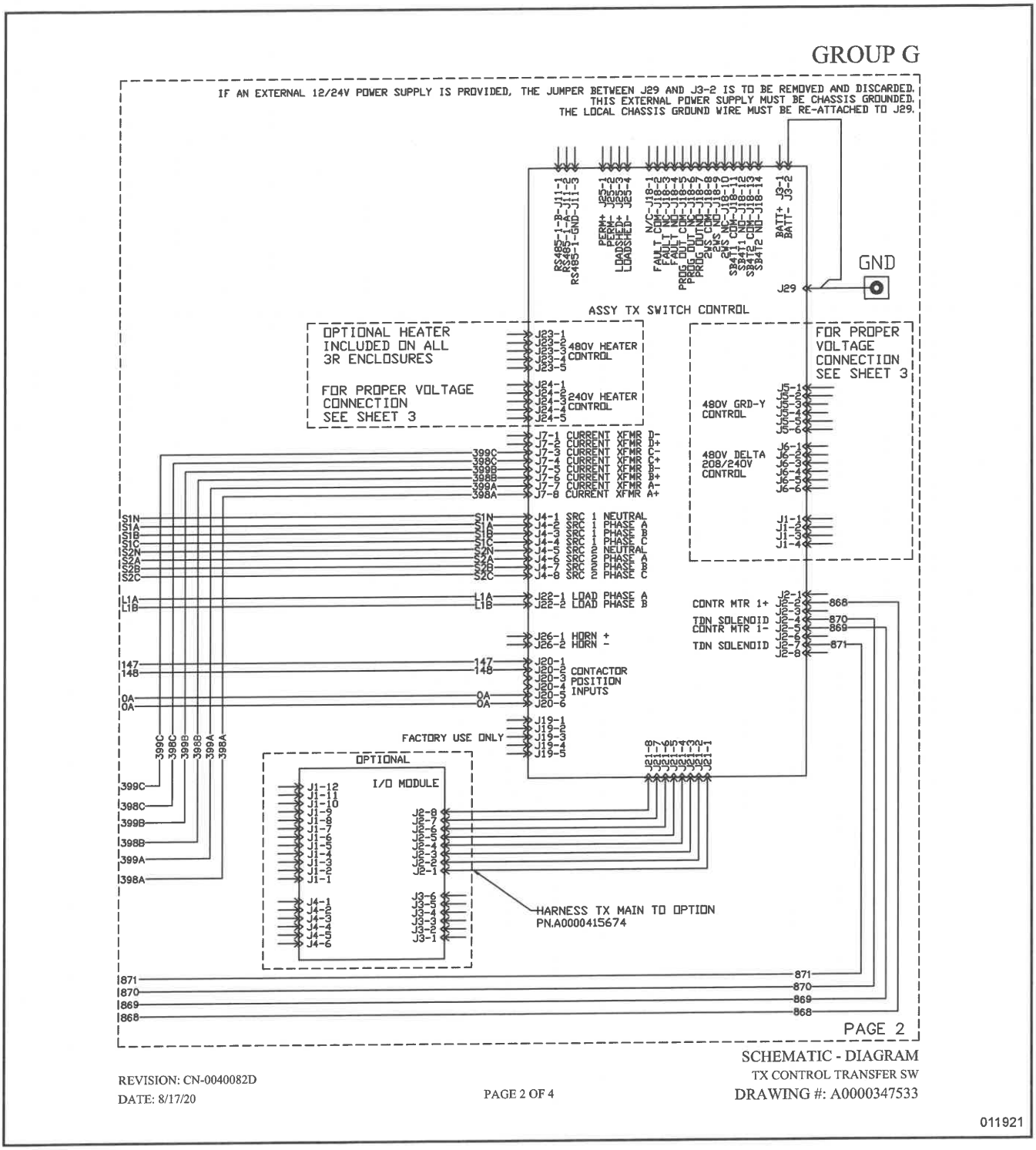
011919

Schematic Diagram - TX Control Transfer SW

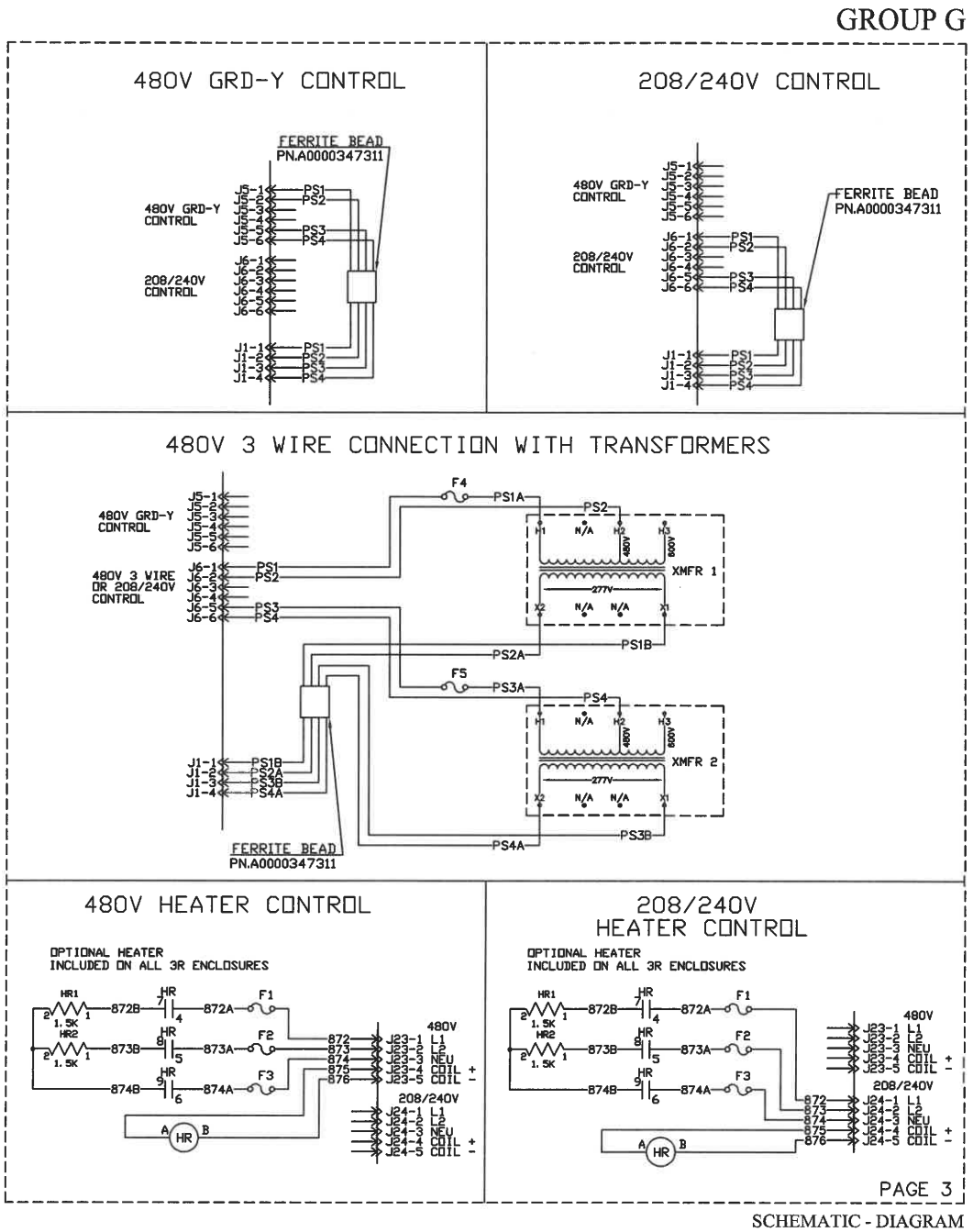
No. A0000347533-D (Part 1 of 3)



No. A0000347533-D (Part 2 of 3)



No. A0000347533-D (Part 3 of 3)



SCHEMATIC - DIAGRAM
TX CONTROL TRANSFER SW
DRAWING #: A0000347533

REVISION: CN-0040082D
DATE: 8/17/20

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011922

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Part No. A0000347502 Rev. D 02/05/2021

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Prepared By:
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9120 Old City Pond Road
Covington,GA 30014
tnolan@mayerelectric.com
D:770-929-0160

Proposal Name: CHAMBLEE PUBLIC WORKS

Quote Name: CHAMBLEE PUBLIC WORKS

Proposal Number: P-250520-5263090

Quote Number: Q-5989275

Quote Date: 09/17/2025

Through Addenda Number: 0

Sales Representative: Ian Johnstone

Conditions of Sale

Except as otherwise provided below, this Quotation is subject to Coordinated Project Terms. See https://www.schneider-electric.us/en/download/document/0100PL0043

Notwithstanding any provision to the contrary in the referenced Coordinated Project Terms or any other documentation provided in connection with this proposal, this quote is valid for 30 days. Quoted lead times are approximate and subject to change.

Schneider Electric reserves the right to amend, withdraw or otherwise alter this submission without penalty or charge as a result of any event beyond its control arising from or due to the current Covid-19 epidemic or events subsequent to this epidemic / pandemic including changes in laws, regulations, by laws or direction from a competent authority.

TABLE OF CONTENTS

Panelboards

This Section Contains Products: Panelboards

Life Is On Schneider Electric

Proposal Name: CHAMBLEE PUBLIC WORKS

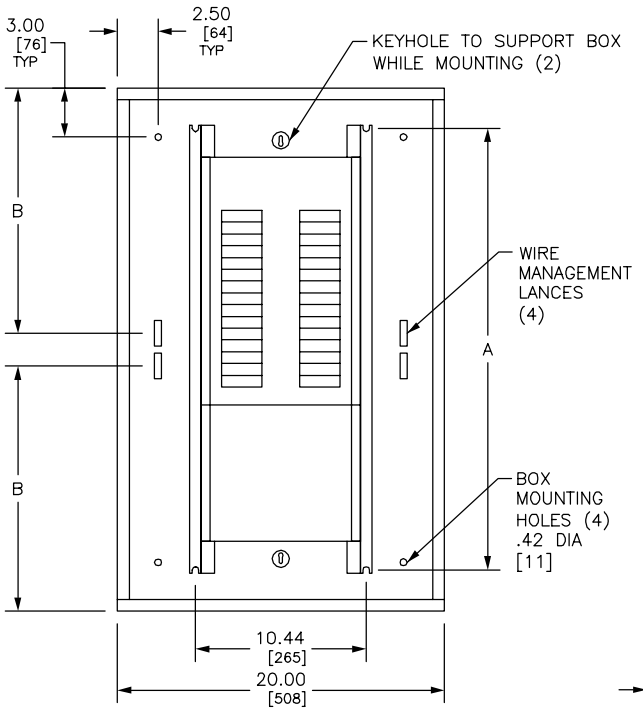
Quote Name: CHAMBLEE PUBLIC WORKS

Quote Number: Q-5989275

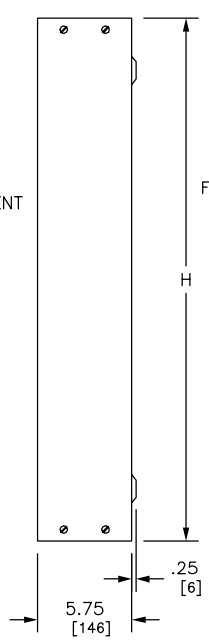
Quote Date: 09/17/2025

Seq #	Qty	Product Description
1	1	**Designation :** **Product Details:** 1-NQ454L2C-NQ M/L CU INT 54CKT 225A 3P4W Consisting of 208Y/120V 3Ph 4W 60Hz SCCR: 10kA Fully Rated Main Lug Only: 100A Main Acc: Feed Thru Lugs Incoming Conductors: 1 - #6 - 2/0 AWG AL Ground Bar Bus: 225A Rated Copper: Silver/Tin Plated 54 Circuit Interior Type 1,Box: 44H x 20W x 5.75D Incoming: Bottom Trim: Surface with Door Box Cat No: MH44BE Front Cat No: NC44S Ref. Drawing: PBA701A Feeders: 1 - 30A/2P QOB-VH 38 - 20A/1P QOB-VH 7 - 20A/1P QOB Prepared Space 7 - 20A/1P QOB-VH-GFI Optional Features: Standard Panel (Box Ahead),Blank Endwalls,Standard Solid Neutral,Standard Ground Bar Branch User Placement 2-PK27GTA-LOAD CENTER EQUIPMENT GROUND BAR ASSY 1-NQFTL2H-PNLBD NQ 225A FTL KIT 54 CKT AND HIGHER 1-QOB230VH-MINIATURE CIRCUIT BREAKER 240V 30A 38-QOB120VH-MINIATURE CIRCUIT BREAKER 120/240V 20A 7-QOB120VHGFI-MINIATURE CIRCUIT BREAKER 120V 20A 1-MH44BE-PANELBOARD ENCLOSURE/BOX TYPE 1 44H 20W 1-NC44S-PANELBOARD COVER/TRIM NF TYPE 1 S 44H

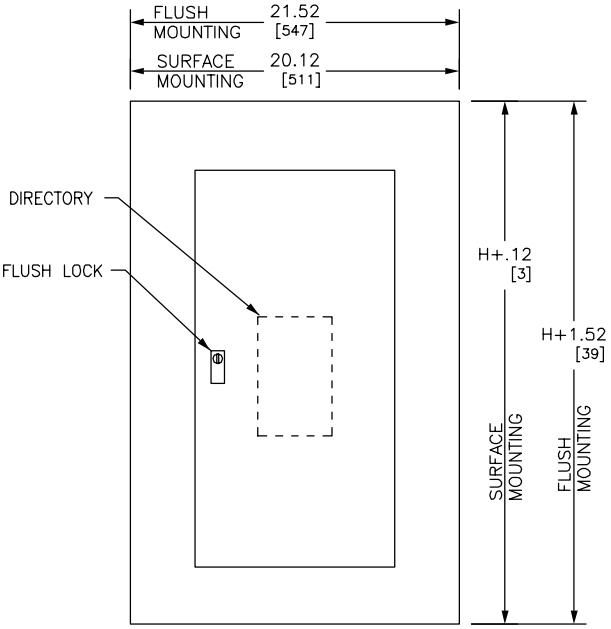
REV	DESCRIPTION	BY	DATE				
–	– – – –	– –	– – / – –	–	– – – –	– –	– – / – –



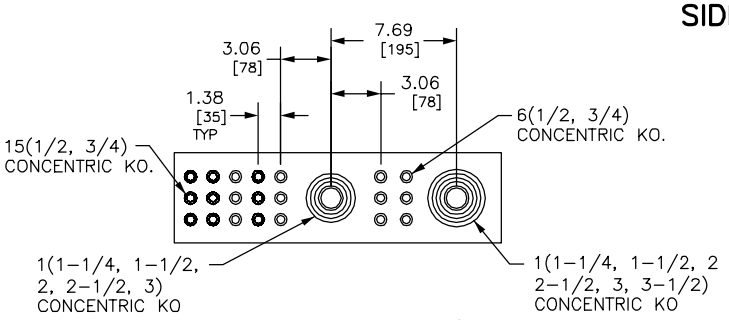
TYPICAL BOX WITH INTERIOR



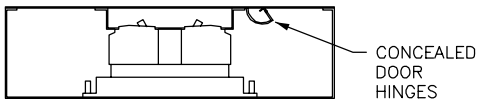
TYPICAL BOX
SIDE VIEW



TYPICAL FRONT



ENDWALL WITH KNOCKOUTS
(OTHER ENDWALL IS BLANK)



TYPICAL MOUNTING OF
QO, QOB BREAKERS

DUAL DIMENSIONS: INCHES / MILLIMETERS

MAXIMUM MAIN LUGS AMPERE RATING	MAXIMUM NUMBER OF CIRCUITS	H		A		B	
		IN	MM	IN	MM	IN	MM
100A	18	26.00	660	21.00	533	11.00	279
	30	32.00	813	27.00	686	15.00	381
225A	30	32.00	813	27.00	686	15.00	381
	42 & 54	38.00	965	33.00	838	15.00	381
	72	44.00	1118	39.00	991	15.00	381
	84	50.00	1270	45.00	1143	15.00	381
100A WITH SUB FEED LUGS OR FEED THRU LUGS	18	26.00	660	21.00	533	15.00	381
	30	32.00	813	27.00	686	15.00	381
225A WITH SUB FEED LUGS	30	38.00	965	33.00	838	15.00	381
	42 & 54	44.00	1118	39.00	991	15.00	381
	72	50.00	1270	45.00	1143	15.00	381
	84	56.00	1422	51.00	1295	15.00	381
225A WITH FEED THRU LUGS	30 & 42	38.00	965	33.00	838	15.00	381
	54	44.00	1118	39.00	991	15.00	381
	72	50.00	1270	45.00	1143	15.00	381
	84	56.00	1422	51.00	1295	15.00	381
225A WITH SUB FEED BREAKER	30	50.00	1270	45.00	1143	15.00	381
	42 & 54	56.00	1422	51.00	1295	15.00	381
	72	62.00	1575	57.00	1448	15.00	381
	84	68.00	1727	63.00	1600	15.00	381

REFER TO DP CATALOG CLASS 1640 FOR ADDITIONAL INFORMATION

FOR TYPE 3R APPLICATIONS USE IN CONJUNCTION WITH PBA711

NQ PANELBOARDS MEET THE APPLICABLE REQUIREMENTS OF UL AND CSA.

BOX: CODE GAUGE GALVANIZED STEEL. ONE ENDWALL IS BLANK, THE OTHER HAS KNOCKOUTS.

FRONT: MONO–FLAT CONSTRUCTION WITH CONCEALED TRIM SCREWS AND DOOR HINGES. ANSI 49 GRAY BAKED ENAMEL FINISH ELECTRODEPOSITED OVER CLEANED PHOSPHATIZED STEEL.

LOCK: FLUSH LOCK WITH BRUSHED STAINLESS STEEL ESCUTCHEON. NSR–251 KEY.

JOB NAME:	– – –	EQUIPMENT DESIGNATION:	– – –
JOB LOCATION:	– – –	EQUIPMENT TYPE:	NQ MLO 100A/225A TYPE 1
DRAWN BY:	– – –	DRAWING TYPE:	– – –
ENGR:	– – –	SQUARE D Schneider Electric	
DATE:	AUGUST 2007		
DRAWING STATUS:	– – –	DWG# PBA701A	PG 01 OF 01 REV –

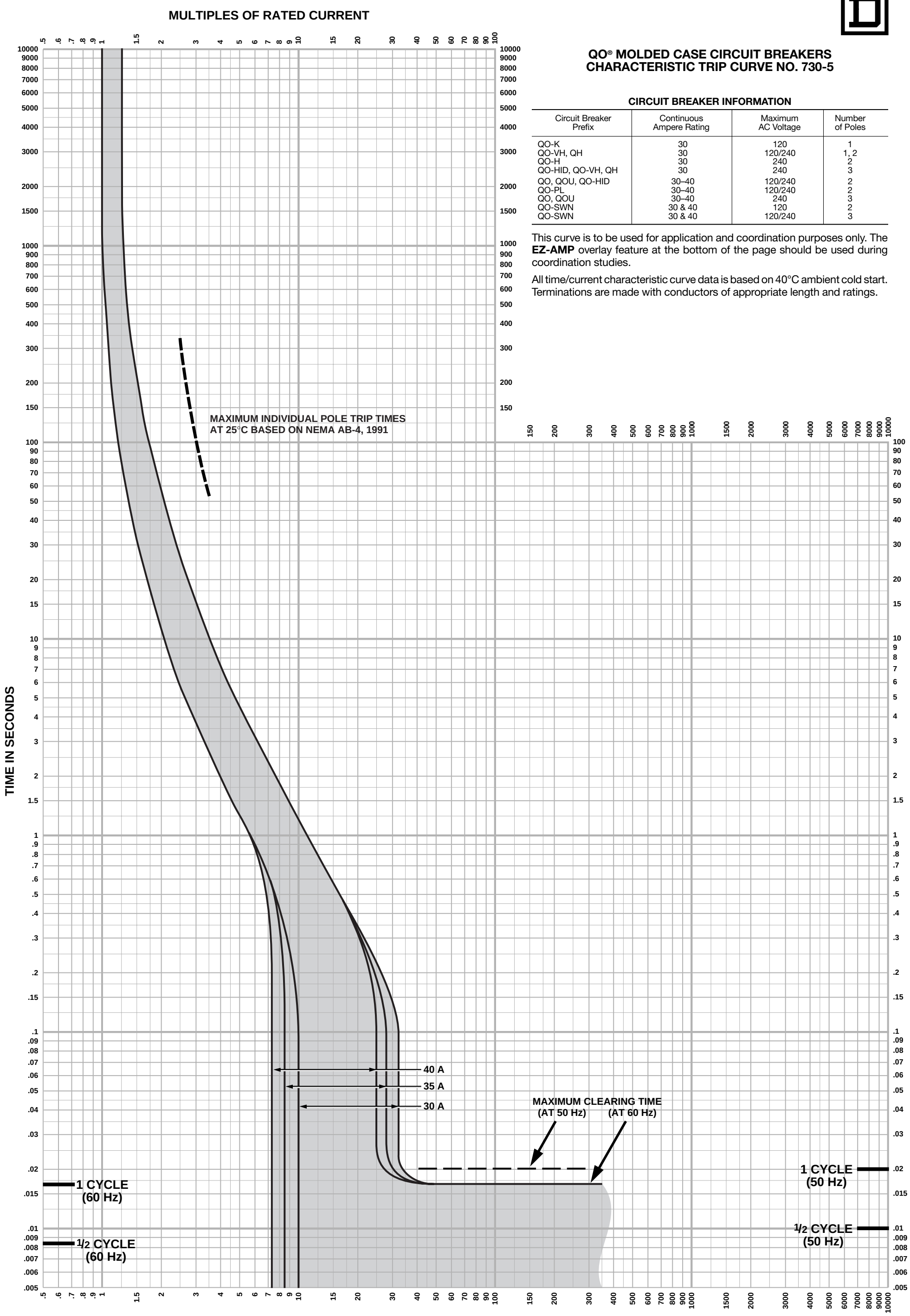
QO® MOLDED CASE CIRCUIT BREAKERS
CHARACTERISTIC TRIP CURVE NO. 730-5

CIRCUIT BREAKER INFORMATION

Circuit Breaker Prefix	Continuous Ampere Rating	Maximum AC Voltage	Number of Poles
QO-K	30	120	1
QO-VH, QH	30	120/240	1, 2
QO-H	30	240	2
QO-HID, QO-VH, QH	30	240	3
QO, QOU, QO-HID	30–40	120/240	2
QO-PL	30–40	120/240	2
QO, QOU	30–40	240	3
QO-SWN	30 & 40	120	2
QO-SWN	30 & 40	120/240	3

This curve is to be used for application and coordination purposes only. The **EZ-AMP** overlay feature at the bottom of the page should be used during coordination studies.

All time/current characteristic curve data is based on 40°C ambient cold start. Terminations are made with conductors of appropriate length and ratings.



SQUARE D®

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Curve No. 0730TC0105
January 2001
Drawing No. B48095-730-05
(Replaces 0730TC8705)

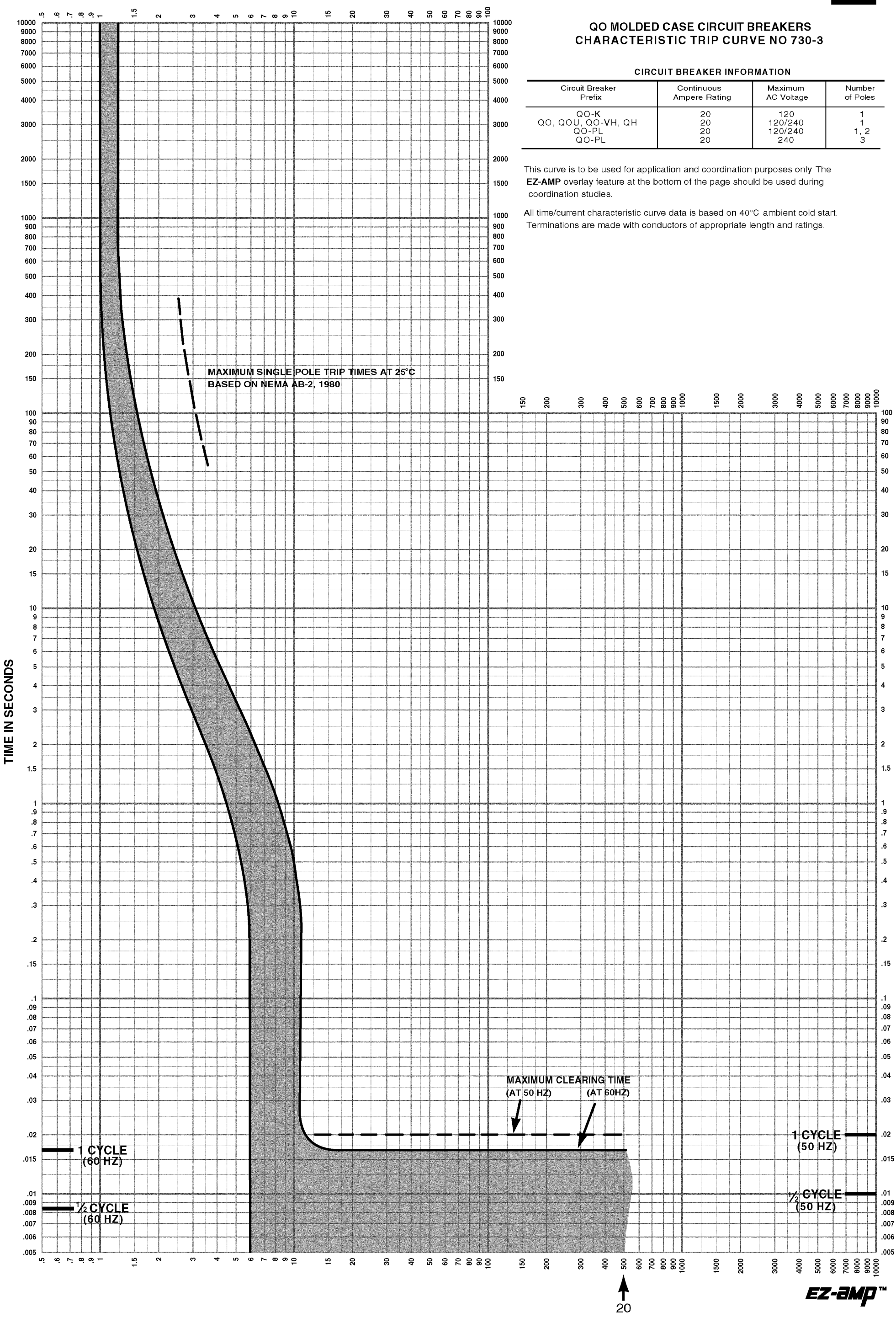
QO MOLDED CASE CIRCUIT BREAKERS
CHARACTERISTIC TRIP CURVE NO 730-3

CIRCUIT BREAKER INFORMATION

Circuit Breaker Prefix	Continuous Ampere Rating	Maximum AC Voltage	Number of Poles
QO-K	20	120	1
QO, QOU, QO-VH, QH	20	120/240	1
QO-PL	20	120/240	1, 2
QO-PL	20	240	3

This curve is to be used for application and coordination purposes only The **EZ-AMP** overlay feature at the bottom of the page should be used during coordination studies.

All time/current characteristic curve data is based on 40°C ambient cold start. Terminations are made with conductors of appropriate length and ratings.



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MULTIPLES OF RATED CURRENT

Drawing No. B48095-730-03

June, 1995

Order No.0730TC8703R5/95
(Replaces 0730TC8703)

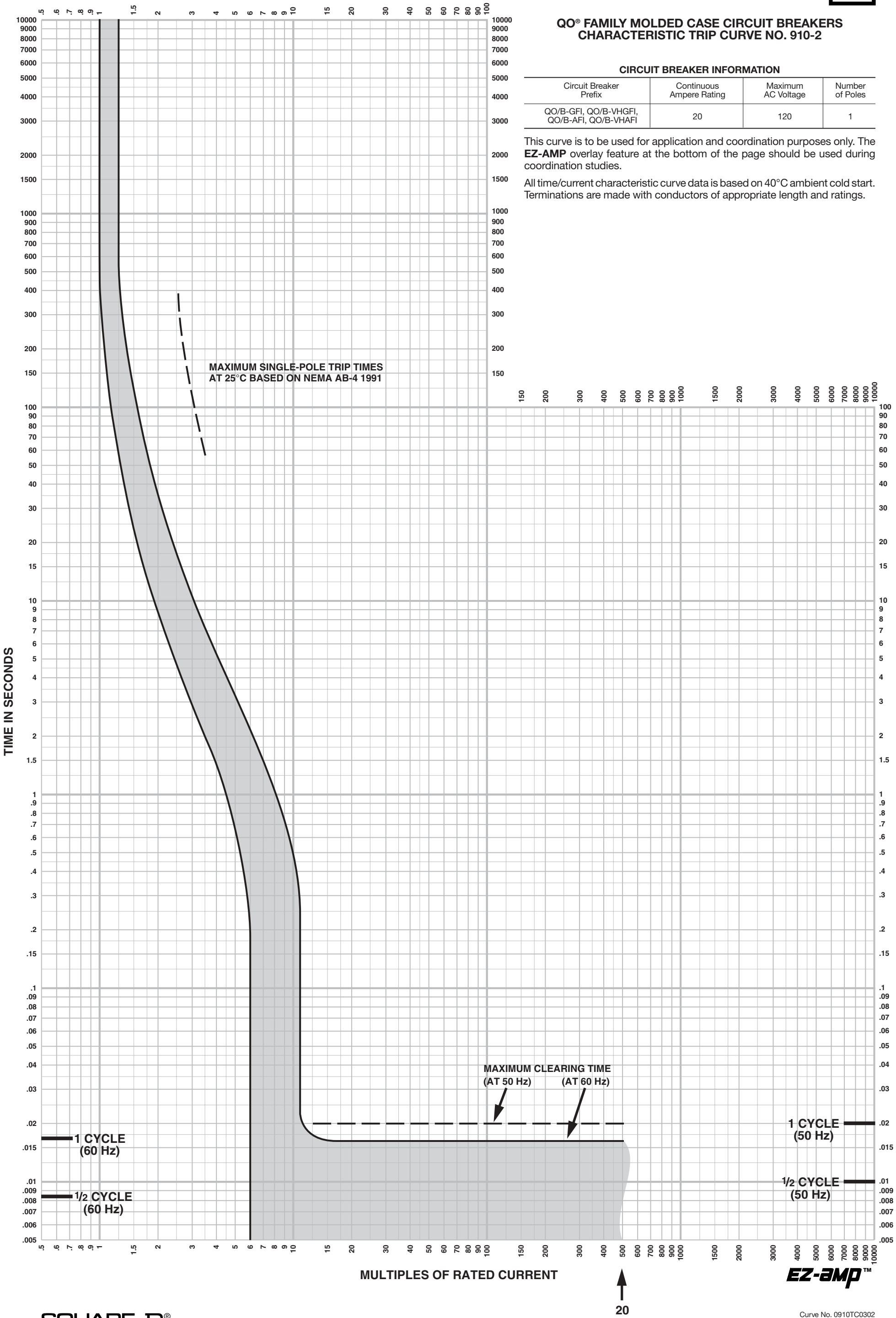
QO® FAMILY MOLDED CASE CIRCUIT BREAKERS
CHARACTERISTIC TRIP CURVE NO. 910-2

CIRCUIT BREAKER INFORMATION

Circuit Breaker Prefix	Continuous Ampere Rating	Maximum AC Voltage	Number of Poles
QO/B-GFI, QO/B-VHGFI, QO/B-AFI, QO/B-VHAFI	20	120	1

This curve is to be used for application and coordination purposes only. The **EZ-AMP** overlay feature at the bottom of the page should be used during coordination studies.

All time/current characteristic curve data is based on 40°C ambient cold start. Terminations are made with conductors of appropriate length and ratings.



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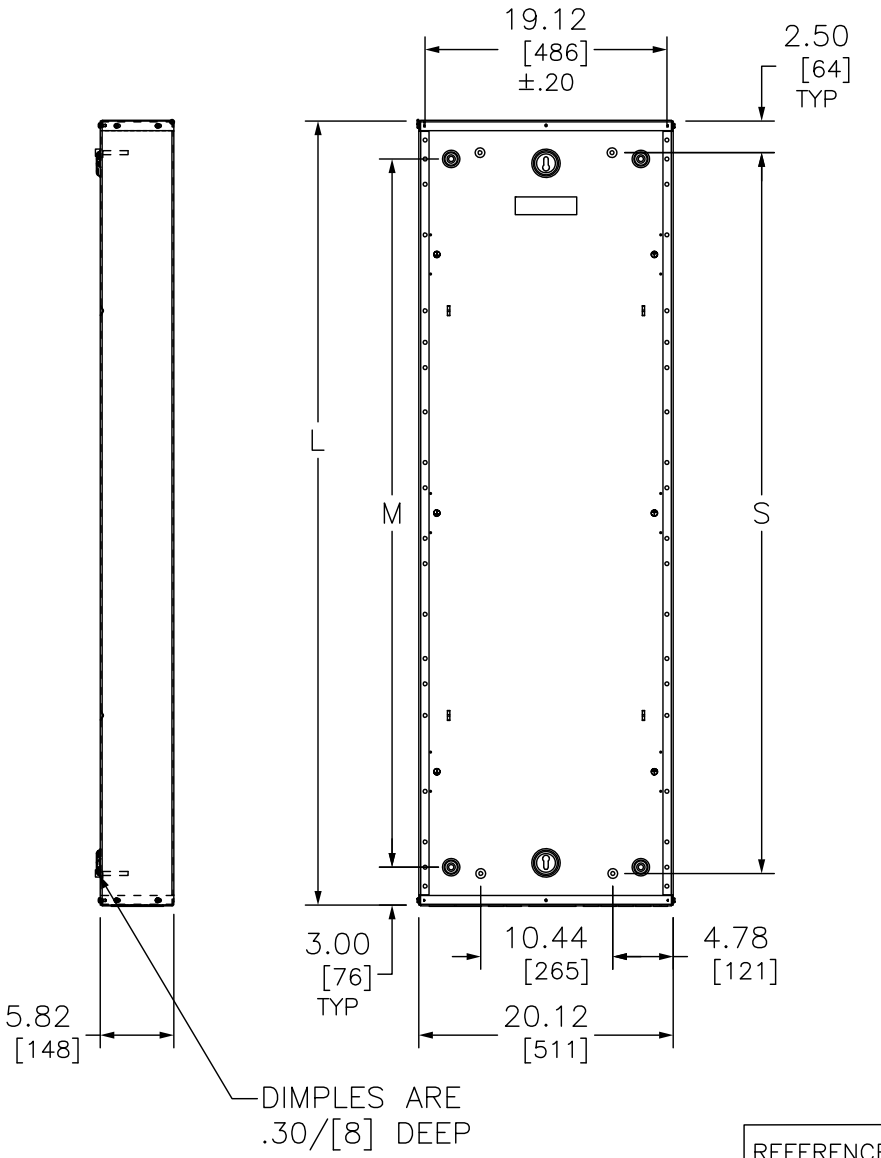
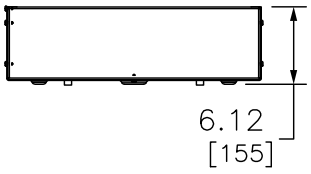
Curve No. 0910TC0302
January 2003
Drawing No. B48095-910-02
(Replaces 0910TC0102)

REV	DESCRIPTION	BY	DATE	–	----	--	--/--/--
–	----	--	--/--/--	–	----	--	--/--/--



DUAL DIMENSIONS: INCHES
MILLIMETERS



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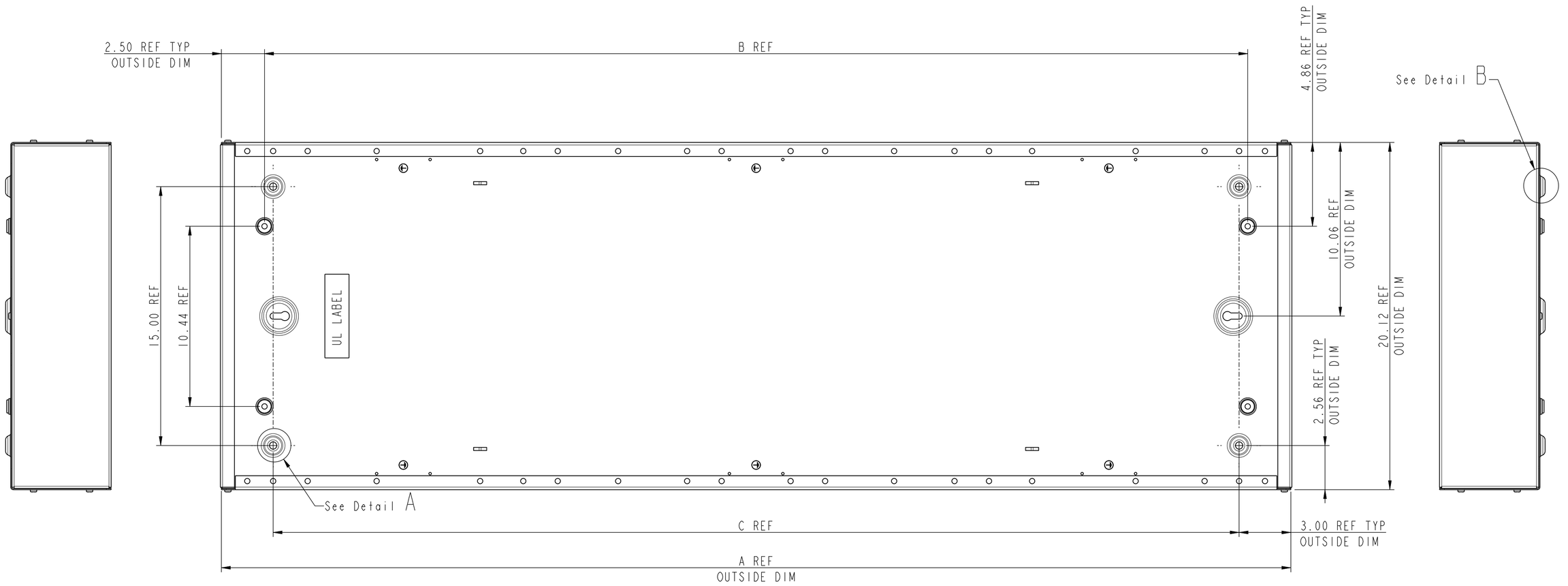
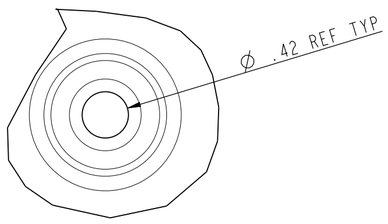
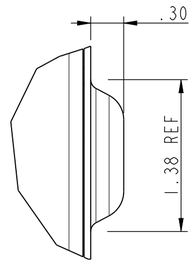
MH32BE	32.00	813	27.00	686	26.00	660
MH38BE	38.00	965	33.00	838	32.00	813
MH44BE	44.00	1118	39.00	991	38.00	965
MH50BE	50.00	1270	45.00	1143	44.00	1118
MH56BE	56.00	1422	51.00	1295	50.00	1270
MH62BE	62.00	1575	57.00	1448	56.00	1422
MH68BE	68.00	1727	63.00	1600	62.00	1575
MH74BE	74.00	1880	69.00	1753	68.00	1727
MH80BE	80.00	2032	75.00	1905	74.00	1880
MH86BE	86.00	2184	81.00	2057	80.00	2032
MH92BE	92.00	2337	87.00	2210	86.00	2184

JOB NAME:	---	EQUIPMENT DESIGNATION:	---
JOB LOCATION:	---	EQUIPMENT TYPE:	NEMA 1 BOXES
DRAWN BY:	---	DRAWING TYPE:	---
ENGR:	---	SQUARE D by Schneider Electric	
DATE:	JULY 2018		
DRAWING STATUS:	---	DWG# PBA601	PG 1 OF 1 REV –





DETAIL A
SCALE 1.000



DETAIL B
SCALE 1.000

REF CAT NO	A	B	C
MH26BE	26.00	21.00	20.00
MH32BE	32.00	27.00	26.00
MH38BE	38.00	33.00	32.00
MH44BE	44.00	39.00	38.00
MH50BE	50.00	45.00	44.00
MH56BE	56.00	51.00	50.00
MH62BE	62.00	57.00	56.00
MH68BE	68.00	63.00	62.00
MH74BE	74.00	69.00	68.00
MH80BE	80.00	75.00	74.00
MH86BE	86.00	81.00	80.00
MH92BE	92.00	87.00	86.00

Scale: 0.250

Technical Specification:

Units of measure : in

Schneider Electric

CUSTOMER DRAWING

NEMA 1 BE ENCLOSURES

Document Number: **80116-395-5X**

Doc. Rev.: 00

Sheet: 1/1

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State:

Original format A2

CATALOG NUMBER	A		B		C	
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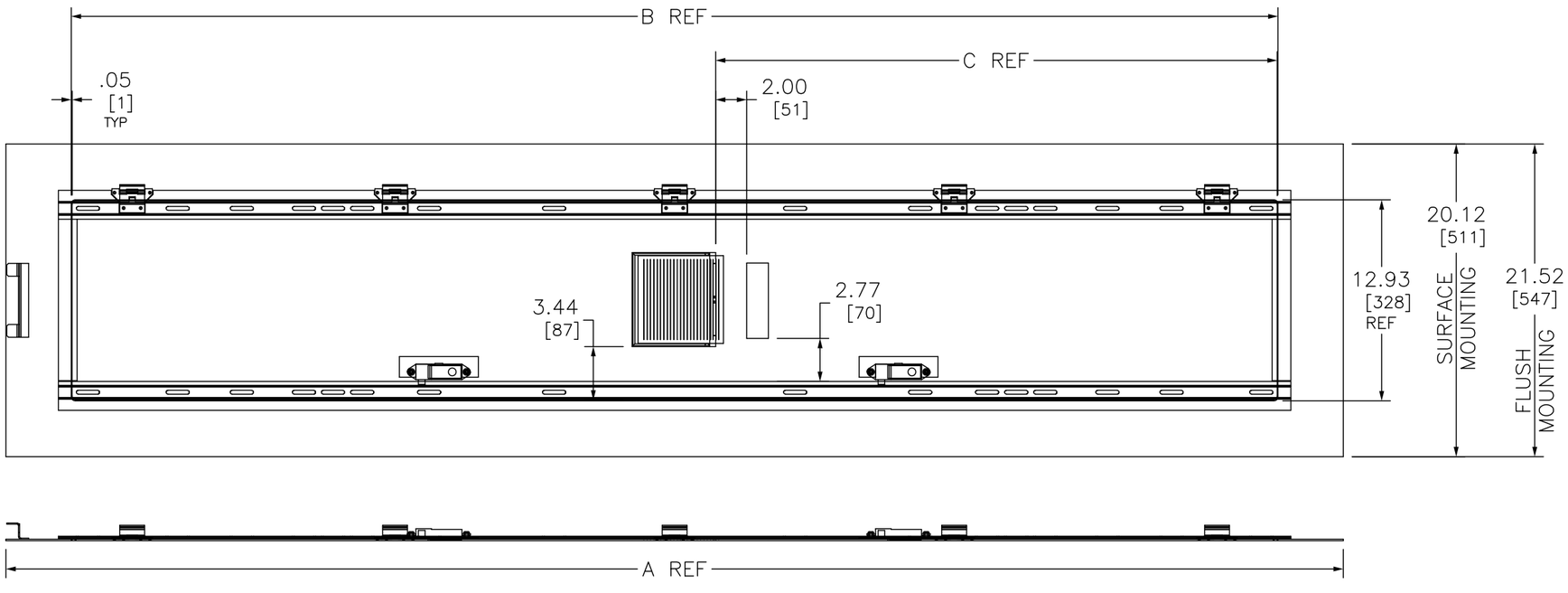
NC26S	26.12	663	17.70	436	6.16	156
NC32S	32.12	816	23.70	602	9.16	233
NC38S	38.12	968	29.70	754	12.16	309
NC44S	44.12	1121	35.70	907	15.16	385
NC50S	50.12	1273	41.70	1059	18.16	461
NC56S	56.12	1425	47.70	1212	21.16	537
NC62S	62.12	1578	53.70	1364	24.16	614
NC68S	68.12	1730	59.70	1516	27.16	690
NC74S	74.12	1883	65.70	1669	30.16	766
NC80S	80.12	2035	71.70	1821	33.16	842
NC26F	27.52	699	17.70	436	6.16	156
NC32F	33.52	851	23.70	602	9.16	233
NC38F	39.52	1004	29.70	754	12.16	309
NC44F	45.52	1156	35.70	907	15.16	385
NC50F	51.52	1309	41.70	1059	18.16	461
NC56F	57.52	1461	47.70	1212	21.16	537
NC62F	63.52	1613	53.70	1364	24.16	614
NC68F	69.52	1766	59.70	1516	27.16	690
NC74F	75.52	1918	65.70	1669	30.16	766
NC80F	81.52	2071	71.70	1821	33.16	842
NC86S	86.12	2187	77.70	1974	36.16	918
NC86F	87.52	2071	77.70	1974	36.16	918
NC35S	35.12	892	26.70	678	10.66	271
NC35F	36.52	928	26.70	678	10.66	271
NC41S	41.12	1044	32.70	831	13.66	347
NC41F	42.52	1080	32.70	831	13.66	347
NC92S	92.12	2340	83.70	2126	39.16	995



DUAL DIMENSIONS: INCHES
MILLIMETERS

PANELBOARD COVER
TRIM TYPE 1
SURFACE/FLUSH

SQUARE D™
by Schneider Electric

DWG# NO. PWFDS-SYTI-0164

Product data sheet
Characteristics

NQ454L2C
Panelboard interior, NQ, main lugs, 225A, Cu bus, 54 pole spaces, 3 phase, 4 wire, 240VAC, 48VDC

Product availability: Stock - Normally stocked in distribution facility

Price*: 1994.00 USD

Main

Product or Component Type	Interiors
Load center type	Main lugs
Circuit breaker type	QOB QOB-VH QHB
Material	Copper

Complementary

Number of spaces	54
Enclosure nominal height	38 In (965.2 mm)
Enclosure nominal width	20 In (508 mm)
Enclosure nominal depth	5.75 In (146.05 mm) NEMA 1 6.5 In (165.1 mm) NEMA 3R/12
Line Rated Current	225 A
[Iu] rated interrupted current	10 KA 22 KA 65 KA
Phase	3 phase 4 wires
[Ue] rated operational voltage	240 V AC 48 V DC
Connections - terminals	Lug line AWG 6...350 kcmil aluminium Lug neutral AWG 6...350 kcmil aluminium
Tightening torque	40.005…50.007 Lbf.In (4.52…5.65 N.m) 0.02…0.10 in² (13.30…67.43 mm²) (AWG 6...AWG 2/0) 100.01 Lbf.In (11.3 N.m) 0.02…0.10 in² (13.30…67.43 mm²) (AWG 6...AWG 2/0) 274.99 Lbf.In (31.07 N.m) 0.02…0.3 in² (13.30…177.3 mm²) (AWG 6...350 kcmil) 274.99 Lbf.In (31.07 N.m) 0.02…0.2 in² (13.30…126.7 mm²) (AWG 6...250 kcmil) 274.99 Lbf.In (31.07 N.m) 0.2…0.2 in² (107.2…152 mm²) (AWG 4...300 kcmil)
Height	33.00 In (838.20 mm)
Width	10.44 In (265.18 mm)

Environment

Standards	UL CSA

Ordering and shipping details

Category	US1PE1A09151
Discount Schedule	PE1A
GTIN	785901871705
Returnability	Yes
Country of origin	MX

Packing Units

Unit Type of Package 1	PCE
Nbr. of units in pkg.	1
Package 1 Height	6.200 In (15.748 cm)
Package 1 Width	14.000 In (35.560 cm)
Package 1 Length	38.000 In (96.520 cm)
Package weight(Lbs)	22.441 Lb(US) (10.179 kg)
Unit Type of Package 2	PAL
Number of Units in Package 2	18
Package 2 Height	40.000 In (101.600 cm)
Package 2 Width	40.000 In (101.600 cm)
Package 2 Length	48.000 In (121.920 cm)
Package 2 Weight	395.999 Lb(US) (179.622 kg)

Environmental data

California proposition 65	WARNING: This product can expose you to chemicals including: Nickel compounds, which is known to
Total lifecycle Carbon footprint	93 kg CO2 eq.
Carbon footprint of the manufacturing phase [A1 to A3]	67.2040678584
Carbon footprint of the manufacturing phase [A1 to A3]	67 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	2.8884179916
Carbon footprint of the distribution phase [A4]	3 kg CO2 eq.
Carbon footprint of the installation phase [A5]	0.1283768157
Carbon footprint of the installation phase [A5]	0.1 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	0.0254773433
REACh free of SVHC	Yes
Carbon footprint of the use phase [B2, B3, B4, B6]	0 kg CO2 eq.
Toxic heavy metal free	Yes
Mercury free	Yes
Sustainable packaging	No
RoHS exemption information	Yes
Carbon footprint of the end-of-life phase [C1 to C4]	23.0438436462
Carbon footprint of the end-of-life phase [C1 to C4]	23 kg CO2 eq.
Carbon footprint (kg CO2 eq, Total Life cycle)	93
Packaging made with recycled cardboard	Yes
Packaging without single use plastic	No
EU RoHS Directive	Compliant EU RoHS Declaration
REACh Regulation	REACh Declaration
REACh Regulation	Free of Substances of Very High Concern above the threshold
EU RoHS Directive	Compliant

Circularity Profile	No need of specific recycling operations
Take-back	No

Contractual warranty

Warranty (in months)	18

Product Life Status : Commercialised

Product data sheet
Characteristics

PK27GTA
Load center accessory, QO/Homeline, ground bar kit, 27 terminals

Product availability: Stock - Normally stocked in distribution facility

Price*: 33.80 USD

Main

Range of Product	QO
Product or Component Type	Bar

Complementary

Number of connectors	27 26
Height	0.437 In (11.100 mm)
Depth	0.312 In (7.925 mm)
Tightening torque	50 lb.in, AWG 6...AWG 2/0

Ordering and shipping details

Category	US1DE3A00102
Discount Schedule	DE3A
GTIN	785901156819
Returnability	Yes
Country of origin	US

Packing Units

Unit Type of Package 1	PCE
Nbr. of units in pkg.	1
Package 1 Height	3.600 In (9.144 cm)
Package 1 Width	0.400 In (1.016 cm)
Package 1 Length	9.400 In (23.876 cm)
Package weight(Lbs)	4.480 Oz (127.006 g)
Unit Type of Package 2	CAR
Number of Units in Package 2	10
Package 2 Height	4.000 In (10.160 cm)
Package 2 Width	4.800 In (12.192 cm)

Package 2 Length	16.000 In (40.640 cm)
Package 2 Weight	3.060 Lb(US) (1.388 kg)

Environmental data

California proposition 65	WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov
REACh free of SVHC	Yes
Toxic heavy metal free	Yes
Mercury free	Yes
Sustainable packaging	No
RoHS exemption information	Yes
Packaging made with recycled cardboard	No
Packaging without single use plastic	No
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
REACh Regulation	REACh Declaration
REACh Regulation	Free of Substances of Very High Concern above the threshold
EU RoHS Directive	Compliant
Take-back	No

Contractual warranty

Warranty (in months)	18

Product Life Status : Commercialised

Product data sheet
Characteristics

NQFTL2H
Panelboard accessory, NQ, lug kit, feed thru, 225A, 54 circuits or higher

Product availability: Stock - Normally stocked in distribution facility

Price*: 476.00 USD

Main

Product or Component Type	Lug kit

Complementary

Number of circuits	84 72 54
Line Rated Current	225 A
Tightening torque	24.8…30.09 Lbf.In (2.8…3.4 N.m) (AWG 1/0...350 kcmil)

Environment

Product Certifications	cULus

Ordering and shipping details

Category	US1PE1A08332
Discount Schedule	PE1A
GTIN	785901508151
Returnability	Yes
Country of origin	MX

Packing Units

Unit Type of Package 1	PCE
Nbr. of units in pkg.	1
Package 1 Height	5.3 In (13.5 cm)
Package 1 Width	9.3 In (23.6 cm)
Package 1 Length	13.1 In (33.3 cm)
Package weight(Lbs)	5.71 Lb(US) (2.59 kg)
Unit Type of Package 2	PAL
Number of Units in Package 2	24

Package 2 Height	40.0 In (101.6 cm)
Package 2 Width	40.0 In (101.6 cm)
Package 2 Length	48.00 In (121.92 cm)
Package 2 Weight	137.04 Lb(US) (62.16 kg)

Environmental data

California proposition 65	WARNING: This product can expose you to chemicals including: Nickel compounds, which is known to the State of California to cause cancer, and Bisphenol A (BPA), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov
REACh free of SVHC	Yes
Toxic heavy metal free	Yes
Mercury free	Yes
Sustainable packaging	No
RoHS exemption information	Yes
Environmental Disclosure	Product Environmental Profile
Packaging made with recycled cardboard	No
Packaging without single use plastic	No
EU RoHS Directive	Compliant EU RoHS Declaration
REACh Regulation	REACh Declaration
REACh Regulation	Free of Substances of Very High Concern above the threshold
EU RoHS Directive	Compliant
Take-back	No

Contractual warranty

Warranty (in months)	18

Product Life Status : Commercialised

Product data sheet
Characteristics

QOB230VH
Mini circuit breaker, QO, 30A, 2 pole, 120/240VAC, 22kA, bolt on

Product availability: Stock - Normally stocked in distribution facility

Price*: 184.68 USD

Main

Product or Component Type	Miniature circuit-breaker
Range of Product	QO
Line Rated Current	30 A
[Ue] rated operational voltage	120/240 V AC 240 V AC 120 V AC
Mounting Mode	Bolt-on
Poles description	2P
Circuit breaker type	Standard
Circuit breaker application	HACR rated
Electrical Connection	Pressure plate

Complementary

Breaking capacity	22 KA 120/240 V AC 22 KA 240 V AC 22 KA 120 V AC
Number of spaces required	2
AWG gauge	AWG 14...AWG 8 copper or aluminium
Tightening torque	40.7 Lbf.In (4.6 N.m)
Height	3.0 In (76 mm)
Width	1.5 In (38 mm)
Depth	2.9 In (74 mm)
Net Weight	0.580 Lb(US) (0.263 kg)

Environment

Product Certifications	UL Listed[RETURN]CSA
Ambient Air Temperature for Operation	104 °F (40 °C)

Ordering and shipping details

Category	US10DE200015
Discount Schedule	0DE2
GTIN	785901371946
Returnability	Yes
Country of origin	MX

Packing Units

Unit Type of Package 1	PCE
Nbr. of units in pkg.	1
Package 1 Height	1.600 In (4.064 cm)
Package 1 Width	3.50 In (8.89 cm)
Package 1 Length	3.50 In (8.89 cm)
Package weight(Lbs)	0.580 Lb(US) (0.263 kg)
Unit Type of Package 2	CAR
Number of Units in Package 2	5
Package 2 Height	3.600 In (9.144 cm)
Package 2 Width	13.00 In (33.02 cm)
Package 2 Length	20.600 In (52.324 cm)
Package 2 Weight	25.373 Lb(US) (11.509 kg)

Environmental data

California proposition 65	WARNING: This product can expose you to chemicals including: Nickel (Metallic), which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov
Total lifecycle Carbon footprint	19 kg CO2 eq.
Carbon footprint of the manufacturing-phase [A1 to A3]	1.5367681088
Carbon footprint of the manufacturing-phase [A1 to A3]	2 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	0.0339331646
Carbon footprint of the distribution phase [A4]	0 kg CO2 eq.
Carbon footprint of the installation phase [A5]	0.0000656955
Carbon footprint of the installation phase [A5]	0 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	17.3042434783
Carbon footprint of the use phase [B2, B3, B4, B6]	17 kg CO2 eq.
Toxic heavy metal free	Yes
Mercury free	Yes
Sustainable packaging	No
RoHS exemption information	Yes
Carbon footprint of the end-of-life phase [C1 to C4]	0.0480783612
Carbon footprint of the end-of-life phase [C1 to C4]	0 kg CO2 eq.
Environmental Disclosure	Product Environmental Profile
Carbon footprint (kg CO2 eq, Total Life cycle)	19
Packaging made with recycled cardboard	No
Packaging without single use plastic	Yes
EU RoHS Directive	Compliant EU RoHS Declaration
REACh Regulation	REACh Declaration
SCIP Number	Af42fb01-813d-40c0-ae28-b8b3299dbc99
REACh Regulation	Reference contains Substances of Very High Concern above the threshold
EU RoHS Directive	Compliant

Halogen content performance	Halogen free product
Circularity Profile	No need of specific recycling operations
Take-back	No

Contractual warranty

Warranty (in months)	18

Product Life Status : Commercialised

Product data sheet
Characteristics

QOB120VH
Mini circuit breaker, QO, 20A, 1 pole, 120/240VAC, 22kA, bolt on

Product availability: Stock - Normally stocked in distribution facility

Price*: 77.76 USD

Main

Product or Component Type	Miniature circuit-breaker
Range of Product	QO
Line Rated Current	20 A
[Ue] rated operational voltage	120/240 V AC 120 V AC
Mounting Mode	Bolt-on
Poles description	1P
Circuit breaker type	Standard
Circuit breaker application	HACR rated
Electrical Connection	Pressure plate

Complementary

Breaking capacity	22 KA 120/240 V AC 22 KA 120 V AC
Number of spaces required	1
AWG gauge	AWG 14...AWG 8 copper or aluminium
Tightening torque	40.7 Lbf.In (4.6 N.m)
Height	3.0 In (76 mm)
Width	0.7 In (19 mm)
Depth	2.9 In (74 mm)
Net Weight	0.300 Lb(US) (0.136 kg)

Environment

Product Certifications	UL Listed[RETURN]CSA
Ambient Air Temperature for Operation	104 °F (40 °C)

Ordering and shipping details

Category	US10DE200015
Discount Schedule	0DE2
GTIN	785901371731
Returnability	Yes
Country of origin	US

Packing Units

Unit Type of Package 1	PCE
Nbr. of units in pkg.	1
Package 1 Height	0.700 In (1.778 cm)
Package 1 Width	3.200 In (8.128 cm)
Package 1 Length	3.300 In (8.382 cm)
Package weight(Lbs)	4.800 Oz (136.078 g)
Unit Type of Package 2	BB1
Number of Units in Package 2	10
Package 2 Height	3.400 In (8.636 cm)
Package 2 Width	2.700 In (6.858 cm)
Package 2 Length	7.700 In (19.558 cm)
Package 2 Weight	2.851 Lb(US) (1.293 kg)
Unit Type of Package 3	CAR
Number of Units in Package 3	100
Package 3 Height	8.100 In (20.574 cm)
Package 3 Width	7.700 In (19.558 cm)
Package 3 Length	17.00 In (43.18 cm)
Package 3 Weight	29.050 Lb(US) (13.177 kg)

Environmental data

California proposition 65	WARNING: This product can expose you to chemicals including: Nickel (Metallic), which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov
Total lifecycle Carbon footprint	18 kg CO2 eq.
Carbon footprint of the manufacturing-phase [A1 to A3]	0.7951343373
Carbon footprint of the manufacturing-phase [A1 to A3]	0.8 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	0.0175572516
Carbon footprint of the distribution phase [A4]	0 kg CO2 eq.
Carbon footprint of the installation phase [A5]	0.0000339913
Carbon footprint of the installation phase [A5]	0 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	17.3042434783
Carbon footprint of the use phase [B2, B3, B4, B6]	17 kg CO2 eq.
Toxic heavy metal free	Yes
Mercury free	Yes
Sustainable packaging	No
RoHS exemption information	Yes
Carbon footprint of the end-of-life phase [C1 to C4]	0.0248760731
Carbon footprint of the end-of-life phase [C1 to C4]	0 kg CO2 eq.
Environmental Disclosure	Product Environmental Profile
Carbon footprint (kg CO2 eq, Total Life cycle)	18
Packaging made with recycled cardboard	No

Packaging without single use plastic	Yes
EU RoHS Directive	Compliant EU RoHS Declaration
REACh Regulation	REACh Declaration
SCIP Number	Af42fb01-813d-40c0-ae28-b8b3299dbc99
REACh Regulation	Reference contains Substances of Very High Concern above the threshold
EU RoHS Directive	Compliant
Halogen content performance	Halogen free product
Circularity Profile	No need of specific recycling operations
Take-back	No

Contractual warranty

Warranty (in months)	18

Product Life Status : Commercialised

Product data sheet
Characteristics

QOB120VHGFI
Mini circuit breaker, QO, 20A, 1 pole, 120VAC, 22kA, bolt on, 6mA grd fault A, pigtail

Product availability: Stock - Normally stocked in distribution facility

Price*: 497.00 USD

Main

Product or Component Type	Miniature circuit-breaker
Range of Product	QO
Line Rated Current	20 A
[Ue] rated operational voltage	120 V AC
Mounting Mode	Bolt-on
Poles description	1P
Circuit breaker type	Ground fault protecting class A 6 mA
Circuit breaker application	Not rated
Electrical Connection	Pressure plate

Complementary

Breaking capacity	22 KA 120 V AC
Number of spaces required	1
AWG gauge	AWG 14...AWG 8 copper AWG 12...AWG 8 aluminium
Tightening torque	40.7 Lbf.In (4.6 N.m) 0.004…0.02 in² (2.5…10 mm²) (AWG 16...AWG 14) 40.7 Lbf.In (4.6 N.m) 0.006…0.03 in² (4…20 mm²) (AWG 12...AWG 4)
Height	4.1 In (105 mm)
Width	0.7 In (19 mm)
Depth	2.9 In (74 mm)
Net Weight	0.500 Lb(US) (0.227 kg)

Environment

Product Certifications	UL Listed[RETURN]CSA
Ambient Air Temperature for Operation	104 °F (40 °C)

Ordering and shipping details

Category	US10DE200015
Discount Schedule	0DE2
GTIN	785901520719
Returnability	Yes
Country of origin	MX

Packing Units

Unit Type of Package 1	PCE
Nbr. of units in pkg.	1
Package 1 Height	1.500 In (3.810 cm)
Package 1 Width	5.400 In (13.716 cm)
Package 1 Length	4.000 In (10.160 cm)
Package weight(Lbs)	8.000 Oz (226.796 g)
Unit Type of Package 2	CAR
Number of Units in Package 2	38
Package 2 Height	3.600 In (9.144 cm)
Package 2 Width	13.700 In (34.798 cm)
Package 2 Length	20.700 In (52.578 cm)
Package 2 Weight	20.801 Lb(US) (9.435 kg)
Unit Type of Package 3	PAL
Number of Units in Package 3	2090
Package 3 Height	44.600 In (113.284 cm)
Package 3 Width	40.000 In (101.600 cm)
Package 3 Length	48.000 In (121.920 cm)
Package 3 Weight	1179.00007 Lb(US) (534.785 kg)

Environmental data

California proposition 65	WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov
Total lifecycle Carbon footprint	19 kg CO2 eq.
Carbon footprint of the manufacturing-phase [A1 to A3]	1.32522
Carbon footprint of the manufacturing-phase [A1 to A3]	1 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	0.029262
Carbon footprint of the distribution phase [A4]	0 kg CO2 eq.
Carbon footprint of the installation phase [A5]	0.000056652
Carbon footprint of the installation phase [A5]	0 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	17.3042434783
Carbon footprint of the use phase [B2, B3, B4, B6]	17 kg CO2 eq.
Toxic heavy metal free	Yes
Mercury free	Yes
Sustainable packaging	No
RoHS exemption information	Yes
Carbon footprint of the end-of-life phase [C1 to C4]	0.04146
Carbon footprint of the end-of-life phase [C1 to C4]	0 kg CO2 eq.
Environmental Disclosure	Product Environmental Profile
Carbon footprint (kg CO2 eq, Total Life cycle)	19
Packaging made with recycled cardboard	No
Packaging without single use plastic	Yes

EU RoHS Directive	Compliant EU RoHS Declaration
REACh Regulation	REACh Declaration
SCIP Number	Af42fb01-813d-40c0-ae28-b8b3299dbc99
REACh Regulation	Reference contains Substances of Very High Concern above the threshold
EU RoHS Directive	Compliant
Halogen content performance	Halogen free product
Circularity Profile	No need of specific recycling operations
Take-back	No

Contractual warranty

Warranty (in months)	18

Product Life Status : Commercialised

Product data sheet
Characteristics

MH44BE
Panelboard enclosure box, NQ/NF, Type 1, blank end walls, 20in W x 44in H x 5.75in D

Product availability: Stock - Normally stocked in distribution facility

Price*: 113.00 USD

Main

Product or Component Type	Enclosure
Enclosure Type	Blank end wall

Complementary

Enclosure Material	Steel
Height	44 In (1117.6 mm)
Width	20 In (508 mm)
Depth	5.75 In (146.05 mm)

Environment

NEMA Degree of Protection	NEMA 1
Product Certifications	cULus

Ordering and shipping details

Category	US1PE1A07969
Discount Schedule	PE1A
GTIN	785901082699
Returnability	Yes
Country of origin	US

Packing Units

Unit Type of Package 1	PCE
Nbr. of units in pkg.	1
Package 1 Height	6.0 In (15.2 cm)
Package 1 Width	20.0 In (50.8 cm)
Package 1 Length	44.02 In (111.8 cm)
Package weight(Lbs)	31.400 Lb(US) (14.243 kg)

Environmental data

California proposition 65	WARNING: This product can expose you to chemicals including: Nickel (Metallic), which is known to th
Total lifecycle Carbon footprint	117 kg CO2 eq.
Carbon footprint of the manufacturing phase [A1 to A3]	88.1966654063874
Carbon footprint of the manufacturing phase [A1 to A3]	88 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	7.4205681681959685
Carbon footprint of the distribution phase [A4]	7 kg CO2 eq.
Carbon footprint of the installation phase [A5]	0.00001432357640786055
Carbon footprint of the installation phase [A5]	0 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	0
REACh free of SVHC	Yes
Carbon footprint of the use phase [B2, B3, B4, B6]	0 kg CO2 eq.
Toxic heavy metal free	Yes
Mercury free	Yes
Sustainable packaging	No
RoHS exemption information	Yes
Carbon footprint of the end-of-life phase [C1 to C4]	21.030268938788844
Carbon footprint of the end-of-life phase [C1 to C4]	21 kg CO2 eq.
Environmental Disclosure	Product Environmental Profile
Carbon footprint (kg CO2 eq, Total Life cycle)	117
Packaging made with recycled cardboard	No
Packaging without single use plastic	Yes
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
REACh Regulation	REACh Declaration
REACh Regulation	Free of Substances of Very High Concern above the threshold
EU RoHS Directive	Compliant
Circularity Profile	No need of specific recycling operations
Take-back	No

Contractual warranty

Warranty (in months)	18

Product Life Status : Commercialised

Product data sheet
Characteristics

NC44S
Panelboard enclosure cover, NQ/NF, Type 1, surface, for 20in W x 44in H box

Product availability: Stock - Normally stocked in distribution facility

Price*: 663.00 USD

Main

Product or Component Type	Surface cover
Color	Gray
Cover type	Surface cover

Complementary

Enclosure Material	Steel
Height	44.12 In (1120.65 mm)
Width	20.12 In (511.05 mm)
Tightening torque	Cover 10...12 lb.in

Environment

NEMA Degree of Protection	NEMA 1
Product Certifications	cULus

Ordering and shipping details

Category	US1PE1A08352
Discount Schedule	PE1A
GTIN	785901798880
Returnability	Yes
Country of origin	VN

Packing Units

Unit Type of Package 1	PCE
Nbr. of units in pkg.	1
Package 1 Height	1.900 In (4.826 cm)
Package 1 Width	22.000 In (55.880 cm)
Package 1 Length	49.000 In (124.460 cm)

Package weight(Lbs)	24.000 Lb(US) (10.886 kg)
Unit Type of Package 2	PAL
Number of Units in Package 2	36
Package 2 Height	39.000 In (99.060 cm)
Package 2 Width	45.000 In (114.300 cm)
Package 2 Length	60.000 In (152.400 cm)
Package 2 Weight	768.0008 Lb(US) (348.359 kg)

Environmental data

California proposition 65	WARNING: This product can expose you to chemicals including: Nickel compounds, which is known to
Total lifecycle Carbon footprint	106 kg CO2 eq.
Carbon footprint of the manufacturing phase [A1 to A3]	86.65121429993656
Carbon footprint of the manufacturing phase [A1 to A3]	87 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	5.195303526471393
Carbon footprint of the distribution phase [A4]	5 kg CO2 eq.
Carbon footprint of the installation phase [A5]	0.04149007233437453
Carbon footprint of the installation phase [A5]	0 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	0
REACh free of SVHC	Yes
Carbon footprint of the use phase [B2, B3, B4, B6]	0 kg CO2 eq.
Toxic heavy metal free	Yes
Mercury free	Yes
Sustainable packaging	No
RoHS exemption information	Yes
Carbon footprint of the end-of-life phase [C1 to C4]	13.997360567550178
Carbon footprint of the end-of-life phase [C1 to C4]	14 kg CO2 eq.
Environmental Disclosure	Product Environmental Profile
Carbon footprint (kg CO2 eq, Total Life cycle)	106
Packaging made with recycled cardboard	No
Packaging without single use plastic	No
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
REACh Regulation	REACh Declaration
REACh Regulation	Free of Substances of Very High Concern above the threshold
EU RoHS Directive	Compliant
Circularity Profile	No need of specific recycling operations
Take-back	No

Contractual warranty

Warranty (in months)	18

Product Life Status : Commercialised

NQ/NQM Panelboards and QONQ Load Centers

Class 1640
80043-712-06, Rev. 08

What's in This Document

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Introduction 3
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Appendix 2: Accessory Kits 37

Safety Information

Read these instructions carefully and examine the equipment to become familiar with the device before attempting to install, operate, service, or maintain it. The following special messages may appear throughout this user guide or on the equipment to warn of hazards or to call attention to information that clarifies or simplifies a procedure.

Schneider Electric
800 Federal Street
Andover, MA 01810
USA
888-778-2733

www.se.com

As standards, specifications, and design change from time to time, please ask for confirmation of the information given in this publication.
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The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

⚠WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

⚠CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

NOTE: Provides additional information to clarify or simplify a procedure.

Please Note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

Electrical equipment should be transported, stored, installed, and operated only in the environment for which it is designed.

Introduction

This bulletin contains instructions for installing Square D™ brand NQ circuit breaker panelboards and QONQ load centers. These panelboards and load centers are Underwriters Laboratories (cULus) listed and accept QO™ and QOB branch circuit breakers.

NOTE: For technical support on the installation of this panelboard, contact the Schneider Electric Customer Information Center at 1-888-778-2733.

NOTE: See the labels on the equipment for rating and safety information. Additional equipment labels are provided with this document.

Safety Precautions

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E, NOM-029-STPS or CSA Z462 or local equivalent.
- This equipment must only be installed and serviced by qualified electrical personnel.
- Turn off all power supplying this equipment before working on or inside equipment.
- Always use a properly rated voltage sensing device to confirm power is off.
- Read and understand this entire instruction bulletin and the included NEMA PB 1.1 standards publication before installing, operating, or maintaining this equipment.
- Local codes vary, but are adopted and enforced to promote safe electrical installations. A permit may be needed to do electrical work, and some codes may require an inspection of the electrical work.
- Replace all devices, doors, and covers before turning on power to this equipment.
- Do not allow petroleum based paints, solvents, or sprays to contact the nonmetallic parts of this product.

Failure to follow these instructions will result in death or serious injury.

⚠ **WARNING:** This product can expose you to chemicals including Nickel compounds, which are known to the State of California to cause cancer, and Bisphenol A (BPA), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Installation

This section provides instructions for the following NQ panelboard and QONQ load center procedures:

- Interior Mounting for Square D Brand Enclosures, page 5.
- Neutral Bonding Strap/Cable Installation, page 8.
- QO and QOB Circuit Breaker Installation and Removal, page 12.
- Circuit Breaker Reset Instructions, page 15.
- Deadfront Preparation, page 16.

Interior Mounting for Square D Brand Enclosures

A separate standards publication, titled “General Instructions for Proper Installation, Operation, and Maintenance of Panelboards Rated 600 Volts or Less” (NEMA PB1.1), has been provided with this equipment. Familiarize yourself with the content of this document before proceeding with any of the following procedures.

If you did not receive a copy of this document, or if you have any questions regarding this equipment, contact your local distributor or Schneider Electric representative.

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Ensure all field connections are properly tightened.
- Do not over torque or under torque connections. Refer to the torque information label provided on the panelboard before tightening connections.

Failure to follow these instructions will result in death or serious injury.

To properly mount and install the NQ panelboard or QONQ load center interior, please refer to the NEMA PB 1.1 standards publication, and follow the instructions below for either Surface Mounting (Enclosure

Mounted on Wall), page 6 or Flush Mounting (Enclosure Recessed in Wall), page 6.

Surface Mounting (Enclosure Mounted on Wall)

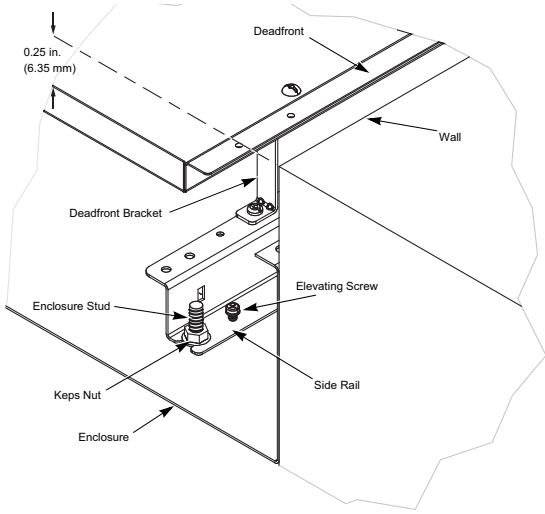
1. Mount the enclosure as instructed in the NEMA PB 1.1 standards publication.
2. Remove the deadfront from the deadfront brackets.
3. Install the interior as described below:
   a. Set the interior on the enclosure studs. An elevating screw is not required (See Interior Mounting for Square D Brand Enclosures, page 5).
   b. Tighten the Keps nuts against the interior side rails until the rails are against the back of the enclosure.
4. Based on the application and adopted installation code, a Neutral Bonding Strap and Line Side Barrier may be required. See the Neutral Bonding Strap/Cable Installation, page 8 and Appendix 2: Accessory Kits, page 37.
5. Apply equipment labels (located in the bag assembly) as directed by the instructions on the back of the equipment label sheet. Please consult local codes and standards.
6. Remount the deadfront after wiring.

Flush Mounting (Enclosure Recessed in Wall)

1. Mount the enclosure as instructed in the NEMA PB 1.1 standards publication.
2. Remove the deadfront from the deadfront brackets.

3. Install the interior as described below:
    a. Thread the (4) 10-32 x 0.875 in. self-tapping, elevating screws provided with the flush trim into the side rails.
    b. Set the interior on the enclosure studs (see Interior Mounting of Square D Brand Enclosures, page 7). Place the keps nuts onto the enclosure studs, but do not tighten.
    c. Adjust the screws so that the lip of the deadfront is approximately 0.25 inches (6.35 mm) from the wall line.
    d. Tighten the keps nuts against the side rails.
4. Based on the application and adopted installation code, a Neutral Bonding Strap and Line Side Barrier may be required. Please consult local codes and standards. See the Neutral Bonding Strap/ Cable Installation, page 8 and Appendix 2: Accessory Kits, page 37.
5. Apply equipment labels (located in the bag assembly) as directed by the instructions on the back of the equipment label sheet.
6. Remount the deadfront after wiring.

Figure 1 - Interior Mounting in Square D Brand Enclosures



Neutral Bonding Strap/Cable Installation

Based on the application and the adopted installation code, a line side barrier and neutral bonding strap may be required.

To properly bond the neutral to the panelboard, follow the instructions for either 100 or 250 A Maximum NQ Panelboards, or 400 or 600 A Maximum NQ Panelboards and QONQ Load Centers, page 10.

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E, NOM-029-STPS or CSA Z462 or local equivalent.
- Turn off all power supplying this equipment before working on or inside equipment.
- The neutral bonding strap/cable should be used only when the panelboard is installed as service entrance equipment.
- Do not mix the mounting screws with the deadfront screws.

Failure to follow these instructions will result in death or serious injury.

NOTE: Refer to Line Side Barrier and Neutral Bonding Strap Kits, page 40 for information.

NOTE: The terms “neutral bonding strap” and “neutral bonding cable”, describe the components which meet the requirements for a “neutral bonding conductor”. These are equivalent terms.

100 or 250 A Maximum NQ Panelboards

To install a neutral bonding strap on NQ panelboards with mains rated up to 225 A (with main lugs or main circuit breaker), or up to 250 A with a factory assembled main circuit breaker, refer to Bonding Strap Installation—100 or 250 A Maximum NQ Panelboards, page 10, and follow the instructions below.

1. Align the bonding strap on the side rail, as pictured.

   NOTE: For some applications, it may be necessary to remove the lug (not pictured) before installing the bonding strap.

2. Insert the two mounting screws, as pictured. Tighten the 10-32 screw to 10–12 lb.-in. (1.1–1.4 N•m) and the 1/4-20 to 25–30 lb.-in. (2.8–3.4 N•m).

   NOTE: Lug mounting screws are provided in the bonding strap bag assembly.

   a. If the lug was removed in step 1 above, reinstall it on top of the bonding strap. Tighten the 10-32 screw to 10–12 lb.-in. (1.1–1.4 N•m) and the 1/4-20 to 25–30 lb.-in. (2.8–3.4 N•m).

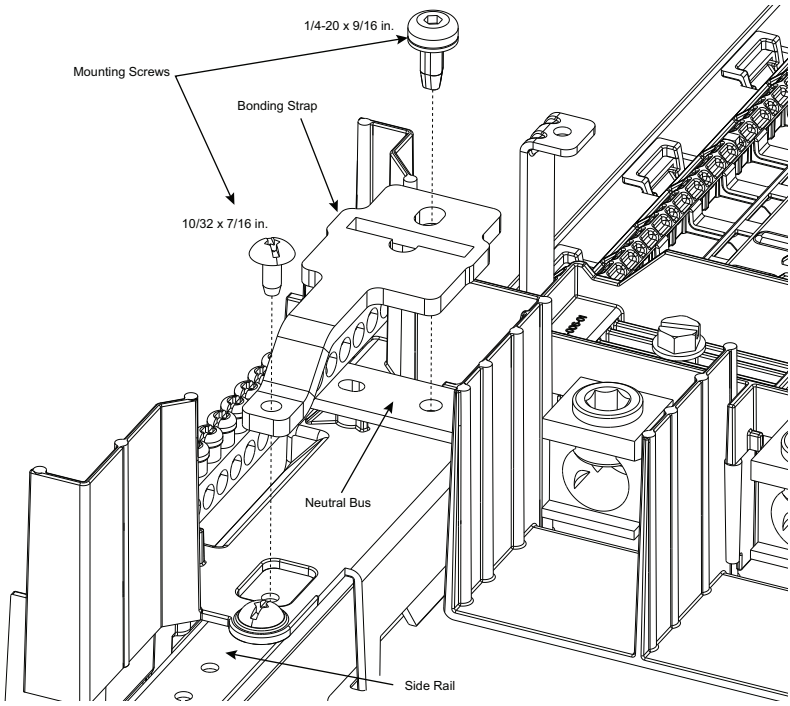
   b. Use 1/4-20 x 9/16 in. screw in mounting for 100/225 A interiors with no options. Refer to note C and D for other options.

   c. Use the 1/4-20 x 11/16 in. lug mounting screw on applications with feed-through lug, sub-feed lug, sub-feed circuit breaker, or 200% neutral applications.

   d. Use the 1/4-20 x 7/8 in. lug mounting screw on applications with 200% neutrals and with feed-through lugs, sub-feed lugs, or sub-feed circuit breakers.

Figure 2 - Bonding Strap Installation—100 or 250 A Maximum NQ Panelboards

NOTE: For bonding strap lug options, refer to C and D for the correct length of the 1/4-20 screw.



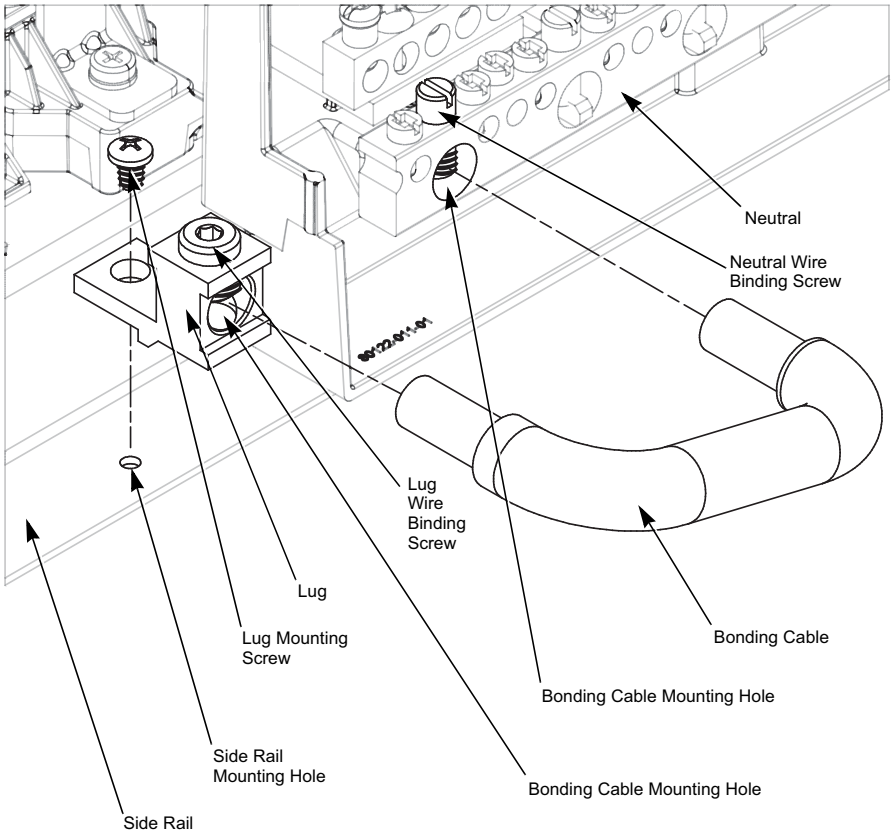
400 or 600 A Maximum NQ Panelboards and QONQ Load Centers

To install a neutral bonding cable on a 400 or 600 A maximum NQ panelboard and QONQ load center, refer to Bonding Cable Installation — 400 or 600 A Maximum NQ Panelboards and QONQ Load Centers, page 11, and follow the instructions below.

1. Align the lug on the side rail mounting hole, as pictured.

2. Tighten the lug mounting screw against the side rail to 10–12 lb.-in. (1.1–1.4 N•m).
3. Align the bonding cable, as pictured, and insert it into the lug and neutral mounting holes.
4. Tighten both the lug wire binding screw and the neutral wire binding screw to 45–50 lb.-in. (5.1–5.6 N•m).

Figure 3 - Bonding Cable Installation — 400 or 600 A Maximum NQ Panelboards and QONQ Load Centers



QO and QOB Circuit Breaker Installation and Removal

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E, NOM-029-STPS or CSA Z462 or local equivalent.
- This equipment must only be installed and serviced by qualified electrical personnel.
- Turn off all power supplying this equipment before working on or inside equipment.
- Always use a properly rated voltage sensing device to confirm power is off.
- All unused spaces must be filled with filler plates.
- Replace all devices, doors, and covers before turning on power to this equipment.
- Use only Square D™ and Schneider Electric™ brand circuit breakers and accessories. This equipment is designed and tested by Schneider Electric to performance levels which meet applicable regulatory standards.
- Ensure all field connections are properly tightened.
- Do not over torque or under torque connections. Refer to the torque information label provided on the panelboard before tightening connections.

Failure to follow these instructions will result in death or serious injury.

QO and QOB Circuit Breaker Installation

Refer to QO and QOB Circuit Breaker Installation and Removal, page 14, for the following instructions:

1. Turn OFF all power to the panelboard.
2. Turn the circuit breaker OFF.
3. Remove the deadfront.
4. Snap the wire terminal end of the circuit breaker onto the mounting rail.
5. Engage the branch connector.

   For QO Circuit Breakers: Push inward until the plug-on jaws fully engage the branch connector.
   For QOB Circuit Breakers: Push inward until the circuit breaker connector is centered on the branch connector mounting hole. Engage the screw into the branch connector hole and tighten it to the torque values shown on the interior wiring and torque diagram.
6. Install the load wire.
7. Reinstall the deadfront.
8. Install a filler plate in all branch circuit breaker spaces not used.

QO and QOB Circuit Breaker Removal

Refer to QO and QOB Circuit Breaker Installation and Removal, page 14, for the following instructions:

1. Turn OFF all power to the panelboard.
2. Remove the deadfront.
3. Remove the load wire.

4. Disengage the branch connector.

   For QO Circuit Breakers:

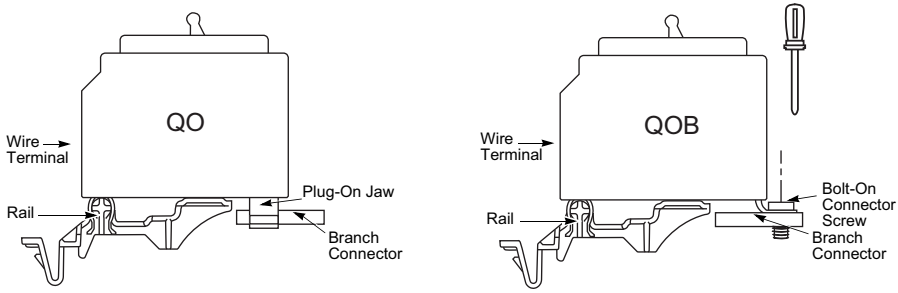
   Pull outward until the plug-on jaws fully disengage the branch connector.

   For QOB Circuit Breakers:

   Loosen the screw in the circuit breaker connector and pull the circuit breaker off of the branch connector.

5. Remove the wire terminal end of the circuit breaker from the mounting rail.
6. Reinstall the deadfront.
7. Install a filler plate in all branch circuit breaker spaces not used.

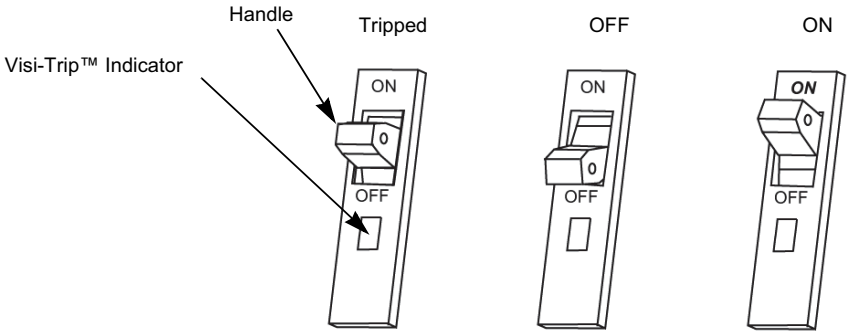
Figure 4 - QO and QOB Circuit Breaker Installation and Removal



Circuit Breaker Reset Instructions

If the circuit breaker is tripped, the handle will be at the mid-position between ON and OFF. To reset the circuit breaker, push the handle to the OFF position, then to the ON position.

Figure 5 - Circuit Breaker Handle Positions



NOTE: When the circuit breaker has tripped, the handle assumes a center position and the red Visi-Trip indicator appears in a window in the circuit breaker case. The red Visi-Trip indicator is only visible when the circuit breaker has tripped.

Deadfront Preparation

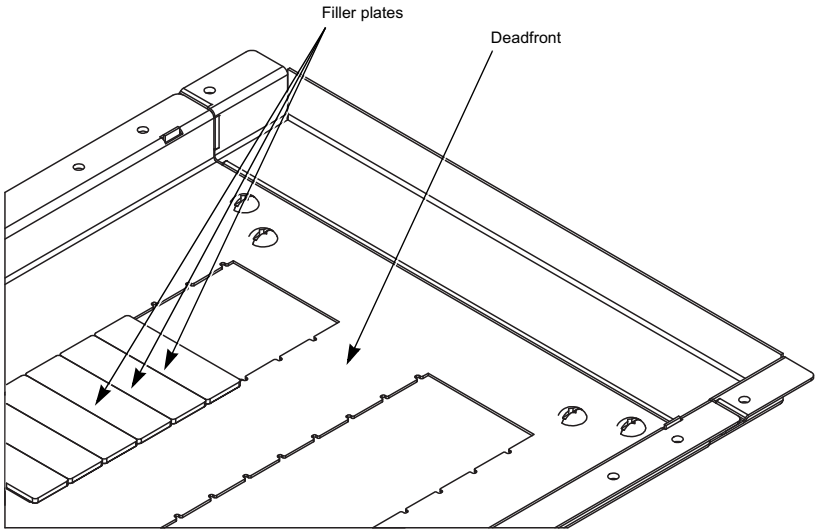
⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E, NOM-029-STPS or CSA Z462 or local equivalent.
- Before energizing the panelboard, all unused spaces must be filled with filler plates.
- Replace all devices, doors, and covers before turning on power to this equipment.

Failure to follow these instructions will result in death or serious injury.

Figure 6 - Deadfront Diagram



NOTE: The back of the deadfront lists the catalog number for the corresponding compatible filler plates.

Appendix 1: Specifications

Typical Wiring

Additional information is provided on the panelboard. See the main circuit breaker rating, if used.

Table 1 - Panelboard Typical Wiring

Voltage AC	1-Phase Panelboards		3-Phase Panelboards	
	Phase	Wires	Phase	Wires
208Y/120	—	—	3	4
120/240	1	3	—	—
240[1]	1	2	3	4
240[2]	1	3	—	—
240/120[3]	—	—	3	4 Delta

1. For this system, the neutral is not used and only circuit breakers rated 240 Vac minimum should be used. Do not use circuit breakers rated 120 V or 120/240 Vac.
2. For a grounded “B” phase system, only circuit breakers rated 240 Vac minimum should be used. Do not use circuit breakers rated 120 V or 120/240 Vac.
3. When wiring for a delta system, phases “A” and “C” must be 120 V to neutral, phase “B” 208 V to neutral. Connect only circuit breakers rated 240 Vac minimum. Do not use circuit breakers rated 120 V or 120/240 V to “B” phase.

Integral Main or Sub-Feed

PowerPacT H-, J-, L-, and Q-Frame; LA, LH, QO(B)(VH)

Figure 7 - NQ/NQM 100–225 A Main Lugs or 100–250 A Main Circuit Breaker Diagram

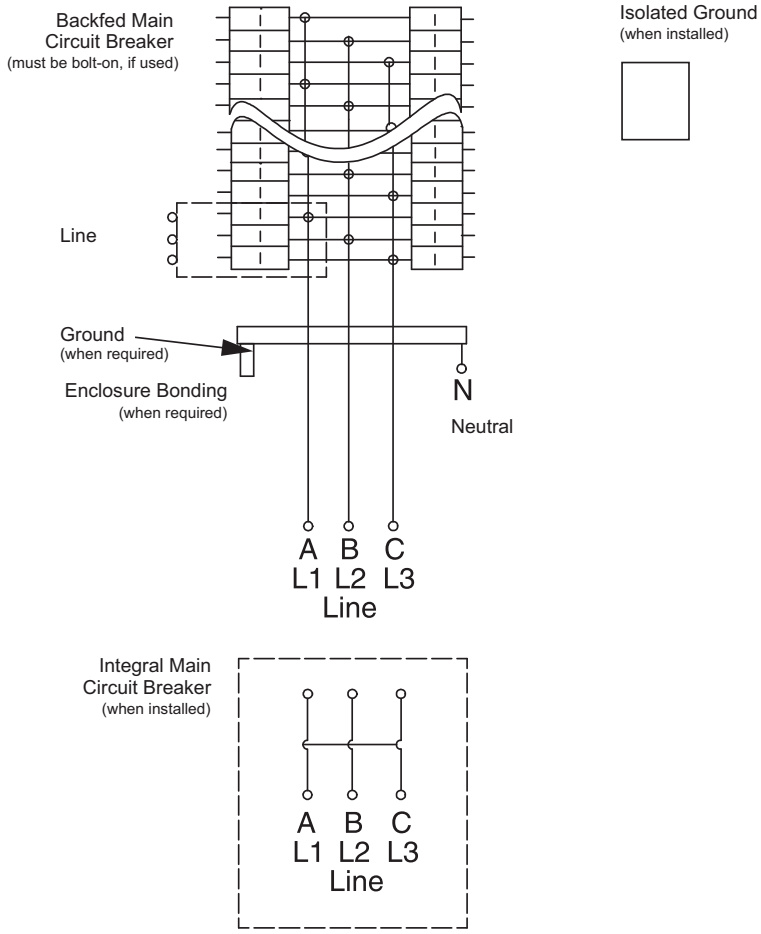


Figure 8 - NQ Panelboard or QONQ Load Center 400–600 A Main Lugs or Main Circuit Breaker with or without Feed-Through Lugs Diagram

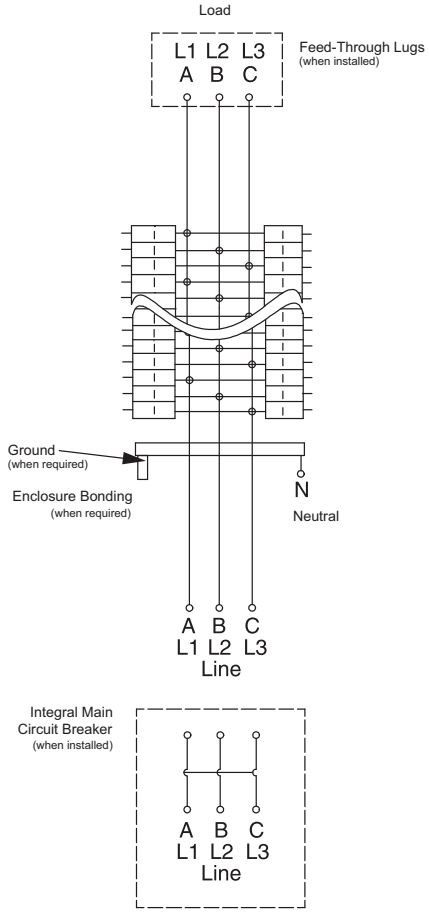


Figure 9 - NQ Panelboard or QONQ Load Center 400–600 A Main Circuit Breaker with Feed-Through Lugs or Sub-Feed Circuit Breakers

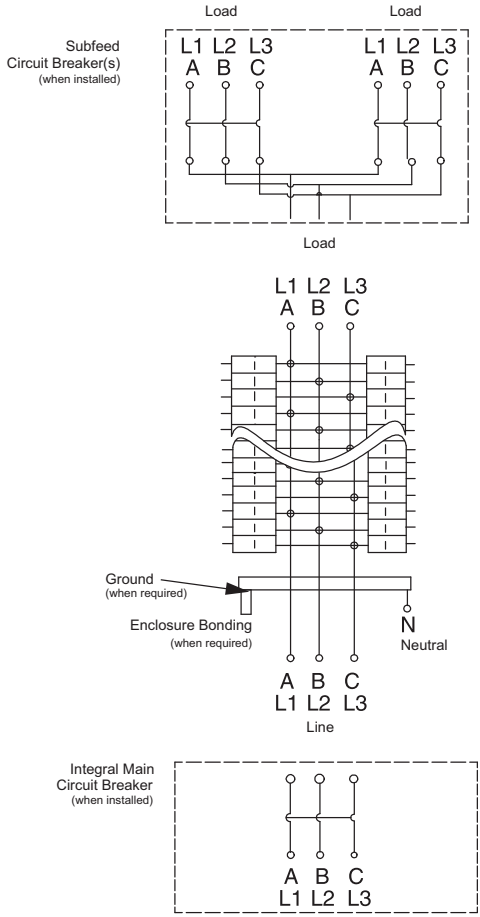
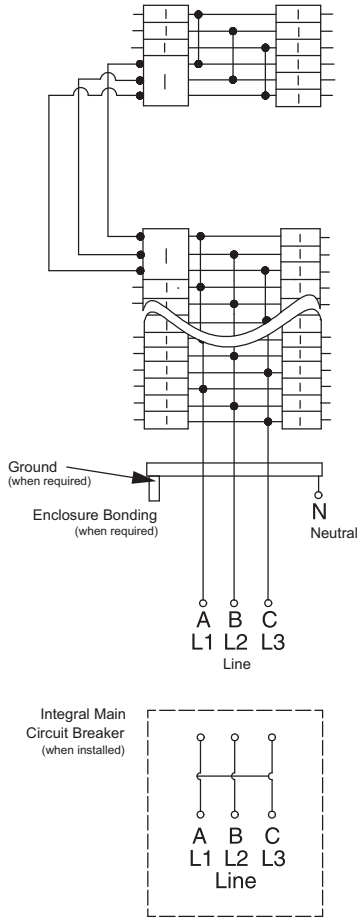


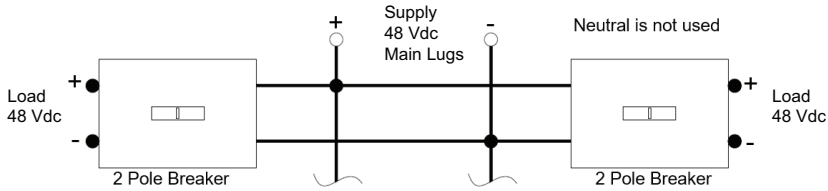
Figure 10 - Typical NQ Panelboard with Split Bus Diagram



Suitable for use on 48 Vdc Maximum Systems

For use on 48 Vdc Maximum Ungrounded Systems Only. Use only Type QO(B), 2 pole, 10–60 A branch, or branch fed main, circuit breakers with suffix 5272 that are rated for 48 Vdc maximum. Short Circuit Current Rating is limited to 5 kA when used on a 48 Vdc system.

For vertically mounted main and sub-feed circuit breakers use only H-, J-, and LA/LH-Frame circuit breakers. Short Circuit Current Rating is limited to 20 kA (H-, J-Frame), 10 kA (LA-Frame), and 50 kA (LH-Frame) when used on a 48 Vdc system.



Panelboard Ratings

Refer to local codes and standards for more information. The series rated system label is located in the bag assembly.

Series Connected Circuit Breaker Ratings (RMS Symmetrical)

- Series Ratings listed at higher system voltages apply to lower system voltages (Example: 240 3P/3W covers 208Y/120 3P/4W).
- Short circuit tests are conducted at 100–105% of the maximum rated voltage of the panelboard.
- “MC” denotes Mission Critical circuit breakers.
- Where LG is shown, LJ and LL can be used.
- Unless otherwise noted, main circuit breakers can be applied at the maximum available amperage rating.
- Suffixes HID, SWD, and SWN may also be applied to the applicable branch circuit breakers shown below.
- Where QO(B) circuit breakers are shown below, QO(B)H, QO(B)VH, and QH(B) circuit breakers may also be used.
- Two-pole CAFI circuit breakers cannot be used on three-phase systems.

Table 2 - Max. System Voltage AC: 120/240 1P/3W, 208Y/120 3P/4W, 240/120 3P/4W

Max. Short Circuit Current Rating	Square D Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses	Square D Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
		Type	1-Pole	2-Pole	3-Pole
18,000	LA/LH MC	QO(B)	15–30 A	15–30 A	—
22,000	QO(B) VH QOB-VH	QO(B)	15–70 A	15–125 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) PL	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
25,000	QD	QO(B)	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15–30 A	15–60 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
	ED	QO(B)	15–70 A	15–125 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
	BD, HD, JD, LG	QO(B)	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15–30 A	15–60 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
	BD, HD, JD, LG	QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
42,000	LA, MA	QO(B)	15–30 A	15–30 A	—

Table 2 - Max. System Voltage AC: 120/240 1P/3W, 208Y/120 3P/4W, 240/120 3P/4W (Continued)

Max. Short Circuit Current Rating	Square D Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses	Square D Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
		Type	1-Pole	2-Pole	3-Pole
65,000	QG	QO(B)	15–70 A	15–125 A	—
		QO(B) VH	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) PL	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
	EG	QO(B)	15–70 A	15–125 A	—
	EG	QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) EPE	—	—	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
	BG, HG, JG, LG	QO(B)	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15–30 A	15–60 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—

Table 2 - Max. System Voltage AC: 120/240 1P/3W, 208Y/120 3P/4W, 240/120 3P/4W (Continued)

Max. Short Circuit Current Rating	Square D Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses	Square D Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
		Type	1-Pole	2-Pole	3-Pole
100,000	QJ	QO(B)	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15–30 A	15–60 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
	EJ	QO(B)	15–70 A	15–125 A	—
		QO(B) GFI	15–30 A	15–60 A	—
	EJ	QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
	BJ, HJ, JJ	QO(B)	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15–30 A	15–60 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
	LJ	QO(B)	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) GFI	—	15–60 A	—
		QO(B) EPD	—	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—

Table 2 - Max. System Voltage AC: 120/240 1P/3W, 208Y/120 3P/4W, 240/120 3P/4W (Continued)

Max. Short Circuit Current Rating	Square D Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses	Square D Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
		Type	1-Pole	2-Pole	3-Pole
125,000	HL, JL	QO(B)	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15–30 A	15–60 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
200,000	HR, JR	QO(B)	15–70 A	15–125 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
	HR, JR	QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—

Table 3 - Max. System Voltage AC: 240 1P/2W

Max. Short Circuit Current Rating	Square D Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses	Square D Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
		Type	1-Pole	2-Pole	3-Pole
25,000	QD, BD, HD, JD, LG	QO(B) H	—	15–100 A	—
42,000	LA, MA	QDL	—	70–225 A	—
65,000	QG, BG, HG, JG, LG	QO(B) H	—	15–100 A	—
100,000	BJ, HJ, JJ, LJ	QO(B) H	—	15–100 A	—
125,000	HL, JL	QO(B) H	—	15–100 A	—

Table 4 - Max. System Voltage AC: 208Y/120 3P/4W

Max. Short Circuit Current Rating	Square D Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses	Square D Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
		Type	1-Pole	2-Pole	3-Pole
18,000	LA/LH MC	QO(B)	—	—	15–30 A
22,000	QO(B) VH, QOB-VH	QO(B) GFI	—	—	15–50 A

Table 4 - Max. System Voltage AC: 208Y/120 3P/4W (Continued)

Max. Short Circuit Current Rating	Square D Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses	Square D Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
		Type	1-Pole	2-Pole	3-Pole
25,000	QD, ED, FD, BD, HD, JD	QO(B) GFI	—	—	15–50 A
	LG	QO(B) GFI	—	—	15–30 A
65,000	QG, EG, BG, HG, JG	QO(B) GFI	—	—	15–50 A
	LG	QO(B) GFI	—	—	15–30 A
100,000	QJ	QO(B)	—	—	15–30 A
		QO(B) VH	—	—	15–100 A
		QOB-VH	—	—	110–150 A
		QO(B) PL	—	—	15–30 A
		QO(B) GFI	—	—	15–50 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	EJ, BJ, HJ, JJ	QO(B) GFI	—	—	15–50 A

Table 5 - Max. System Voltage AC: 240/120 3P/4W, 240 3P/3W

Max. Short Circuit Current Rating	Square D Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses	Square D Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
		Type	1-Pole	2-Pole	3-Pole
22,000	QOB VH QOB-VH	QO(B)	—	—	15–100 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
25,000	QD	QO(B)	—	—	15–30 A
	QD	QO(B) VH	—	—	15–100 A
		QOB-VH	—	—	110–150 A
		QO(B) PL	—	—	15–30 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	ED	QO(B)	—	—	15–100 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	BD, HD, JD	QO(B)	—	—	15–100 A
		QOB-VH	—	—	110–150 A
		QO(B) PL	—	—	15–30 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	LG	QO(B)	—	—	15–30 A
		QO(B) VH	—	—	15–100 A
		QOB-VH	—	—	110–150 A
		QO(B) EPD	—	—	15–30 A
		QO(B) EPE	—	—	15–30 A
42,000	LA, MA	QDL	—	—	70–225 A
		QO(B) VH	—	—	15–30 A
	MG	QOB-VH	—	—	110–150 A

Table 5 - Max. System Voltage AC: 240/120 3P/4W, 240 3P/3W (Continued)

Max. Short Circuit Current Rating	Square D Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses	Square D Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
		Type	1-Pole	2-Pole	3-Pole
65,000	QG	QO(B)	—	—	15–30 A
		QO(B) VH	—	—	15–100 A
	QG	QOB-VH	—	—	110–150 A
		QO(B) PL	—	—	15–30 A
	EG	QO(B)	—	—	15–100 A
		QOB-VH	—	—	110–125 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	BG, HG, JG	QO(B)	—	—	15–100 A
		QOB-VH	—	—	110–150 A
		QO(B) PL	—	—	15–30 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	LG	QO(B)	—	—	15–30 A
		QO(B) VH	—	—	15–100 A
		QOB-VH	—	—	110–150 A
		QO(B) EPD	—	—	15–30 A
		QO(B) EPE	—	—	15–30 A
100,000	EJ	QO(B)	—	—	15–100 A
		QOB-VH	—	—	110–125 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	BJ, HJ, JJ	QO(B)	—	—	15–100 A
		QOB-VH	—	—	110–150 A
		QO(B) PL	—	—	15–30 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	LJ	QO(B)	—	—	15–30 A
		QO(B) VH	—	—	15–100 A
		QOB-VH	—	—	110–150 A

Table 5 - Max. System Voltage AC: 240/120 3P/4W, 240 3P/3W (Continued)

Max. Short Circuit Current Rating	Square D Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses	Square D Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
		Type	1-Pole	2-Pole	3-Pole
125,000	HL, JL	QO(B)	—	—	15–100 A
	HL, JL	QOB-VH	—	—	110–150 A
		QO(B) PL	—	—	15–30 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
200,000	HR, JR	QO(B)	—	—	15–100 A
		QOB-VH	—	—	110–150 A

Table 6 - Max. System Voltage AC: 120/240 1P/3W, 208Y/120 3P/4W, 240/120 3P/3W

Max. Short Circuit Current Rating	Square D Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses	Square D Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
		Type	1-Pole	2-Pole	3-Pole
42,000	400 A Max. Class T3 Fuses	QO(B) VH	15–70 A	15–125 A	—
65,000	400 A Max. Class J Fuses	QO(B) VH	15–70 A	15–125 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
	400 A Max. Class T6 Fuses	QO(B) VH	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
100,000	200 A Max. Class T3 Fuses	QO(B)	15–70 A	15–125 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—

Table 6 - Max. System Voltage AC: 120/240 1P/3W, 208Y/120 3P/4W, 240/120 3P/3W (Continued)

Max. Short Circuit Current Rating	Square D Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses	Square D Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
		Type	1-Pole	2-Pole	3-Pole
200,000	200 A Max. Class T6 or J Fuses	QO(B)	15–70 A	15–125 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
	400 A Max. Class T3 Fuses	QO(B)	15–70 A	15–125 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—

Table 7 - Max. System Voltage AC: 208Y/120 3P/4W

Max. Short Circuit Current Rating	Square D Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses	Square D Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
		Type	1-Pole	2-Pole	3-Pole
65,000	400 A Max. Class J	QO(B) GFI	—	—	15–50 A
100,000	200 A Max. Class T3	QO(B) GFI	—	—	15–50 A
200,000	200 A Max. Class T6 or J Fuses	QO(B) GFI	—	—	15–50 A
	400 A Max. Class T3 Fuses	QO(B) GFI	—	—	15–50 A

Table 8 - Max. System Voltage AC: 240/120 3P/4W, 240 3P/3W

Max. Short Circuit Current Rating	Square D Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses	Square D Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
		Type	1-Pole	2-Pole	3-Pole
50,000	600 A Max. Class T3 Fuses	QO(B) VH	—	—	15–30 A
65,000	400 A Max. Class J Fuses	QO(B) VH	—	—	15–100 A
	400 A Max. Class T6 Fuses	QO(B) VH	—	—	15–100 A
		QOB-VH	—	—	110–150 A
100,000	200 A Max. Class T3 Fuses	QO(B)	—	—	15–100 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A

Table 8 - Max. System Voltage AC: 240/120 3P/4W, 240 3P/3W (Continued)

Max. Short Circuit Current Rating	Square D Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses	Square D Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
		Type	1-Pole	2-Pole	3-Pole
200,000	200 A Max. Class T6 or J Fuses	QO(B)	—	—	15–100 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	400 A Max. Class T3 Fuses	QO(B)	—	—	15–100 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A

NOTE: In the following table, Type includes AFI, CAFI, EPD, and GFI Circuit Breakers.

Table 9 - NQ Panel Mission Critical Breaker Selectivity

Maximum SCCR (RMS Symmetrical)	Integral or Remote Main Circuit Breakers	Branch Circuit Breakers			
		Type	1-Pole	2-Pole	3-Pole
Fully Rated and Selective to 10 kA at 208Y/120 Vac or at 240/120 Vac	J-W, 250 A L-W, 250 A	QOB	10–70	10–125	10–125
		QOB-H			
		QOB-VH			
		QH			
Series Rated and Selective to 12 kA at 208Y/120 Vac or at 240/120 Vac	J-W, 250 A	QOB	10–70	10–125	10–60
		QOB-H			
		QOB-VH			
		QH			
Series Rated and Selective to 15 kA at 208Y/120 Vac or at 240/120 Vac	J-W, 250 A	QOB	10–60	10–60	10–30
		QOB-H			
		QOB-VH			
		QH			

Table 9 - NQ Panel Mission Critical Breaker Selectivity (Continued)

Maximum SCCR (RMS Symmetrical)	Integral or Remote Main Circuit Breakers	Branch Circuit Breakers			
		Type	1-Pole	2-Pole	3-Pole
Series Rated and Selective to 18 kA at 208Y/120 Vac or at 240/120 Vac	J-W, 250 A	QOB	10–30	10–30	—
		QOB-H			
		QOB-VH			
		QH			
	L-W, 250 A	QOB	10–60	10–60	10–60
		QOB-H			
		QOB-VH			
		QH			
Series Rated and Selective to 30 kA at 208Y/120 Vac or at 240/120 Vac	L-W, 400 A L-W, 600 A	QOB	15–70	15–150	15–150
		QOB-H			
		QOB-VH			
		QH			

Table 10 - Short Circuit Current Rating[4] for Main Lug Interiors with Sub-Feed or Feed-Through Lugs

Maximum System Voltage AC	Maximum Current Rating	Branch Circuits[5]	Application	Adder[6]	Maximum Short Circuit Current Rating[7]
240	100	18, 30	SFL and FTL	—	10,000
	225	30, 42, 54, 72, 84, 96	SFL	6 in. (152.4 mm)	
		42	FTL	—	
		30, 54, 72, 84, 96		6 in. (152.4 mm)	
	400	30, 42, 54, 72, 84	SFL	—	25,000
		96		—	10,000
		30, 84	FTL	—	25,000
		96		—	10,000
		42, 54, 72		6 in. (152.4 mm)	25,000
	600	30, 42, 54, 72, 84	FTL	12 in. (304.8 mm)	
		96			10,000

CE Marking

- Interiors with the “CE” mark meet the IEC 61439-1 and IEC 61439-2 standards.
- Main lug interiors with the “CE” mark have been tested to withstand 10,000 RMS symmetrical amperes for 30 cycles.
- Interiors with the “CE” mark are only approved for use with QOXD or QOBXD branch circuit breakers which carry the “CE” mark.

4. This rating applies to main lug interiors, equipped with sub-feed or feed-through lugs, where the device feeding the interior is unknown or not a Square D brand device. Use of a Square D brand main circuit breaker ahead of these lugs will result in a rating equal to the rating of the circuit breaker. Short circuit tests are conducted at 100–105% of the maximum rated voltage of the panelboard.
5. 96 circuits with SPD has 84 usable branch circuits.
6. The adder is the additional length of the enclosure.
7. RMS symmetrical amperes, for three cycles.

QO2150VH, QO2175VH and QO2200VH Restrictions

NOTICE

HAZARD OF EQUIPMENT DAMAGE

- Do not install QO2150(VH), QO2175(VH) or QO2200(VH) in seismic applications.
- Do not install QO2150(VH), QO2175(VH) or QO2200(VH) in three phase system applications.
- Do not install more than a total of four QO2175(VH) or QO2200 (VH) on NEMA 1 enclosures.
- Do not install more than one QO2175(VH) or QO2200(VH) in NEMA 3R Vented Weatherproof enclosures.
- Do not install QO2150(VH), QO2175(VH) or QO2200(VH) adjacent to each other.
- Do not install in un-vented weatherproof enclosures (3R/5/12, 4/ 4X).
- For QO2175(VH) and QO2200(VH) circuit breakers install three-point latch trims.

Failure to follow these instructions can result in equipment damage.

Leave at least four circuit spaces of blank fillers or circuit breakers of 125 A or lower before another QO2150(VH), QO2175(VH) or QO2200(VH) is installed.

Place QO2150(VH), QO2175(VH) and QO2200(VH) next to line end, on the right side for top incoming applications.

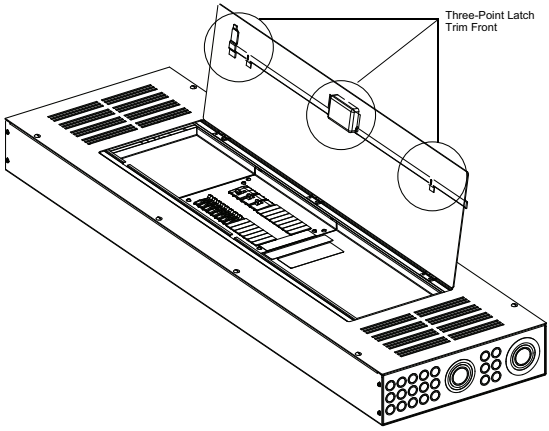
Place QO2150(VH), QO2175(VH) and QO2200(VH) next to line end, on the left side for bottom incoming applications.

QO2150(VH), QO2175(VH) and QO2200(VH) for single phase applications only.

Table 11 - Three-Point Latch Trim Fronts—Catalog Number[8]

Type	Surface Mounted	Flush Mounted
Standard	NC50VS3P	NC50VF3P
	NC56VS3P	NC50VF3P
	NC62VS3P	NC62VF3P
	NC68VS3P	NC68VF3P
	NC74VS3P	NC74VF3P
	NC80VS3P	NC80VF3P
	NC86VS3P	NC86VF3P
	NC92VS3P	NC92VF3P
Hinged	NC62VS3PHR	NC62VF3PHR
	NC68VS3PHR	NC68VF3PHR
	NC74VS3PHR	NC74VF3PHR
	NC80VS3PHR	NC80VF3PHR
	NC86VS3PHR	NC86VF3PHR
	NC92VS3PHR	NC92VF3PHR

Figure 11 - Three-Point Latch Trim Front



8. V=Vented, HR=Hinged Right, 3P=Three Point.

Appendix 2: Accessory Kits

An assortment of field-installable accessory kits are available for NQ panelboards:

- Equipment Ground Bar Kits
- Oversized Neutral Lug Kits for 100–600 A Panelboards
- Sub-Feed Lug Kits for 100–400 A Panelboards
- Main Lug Kits
  - Mechanical Lug Kits—Aluminum
  - Mechanical Lug Kits—Copper
  - Versa-Crimp Compression Lug Kits—Aluminum
  - Versa-Crimp Compression Lug Kits—Copper
- Line Side Barrier and Neutral Bonding Strap Kits

Equipment Ground Bar Kits

Equipment ground bar kits, suitable for copper or aluminum wire, meet the grounding needs of NQ panelboards and QONQ load centers.

Table 12 - Equipment Ground Bar Kits Specifications

Panelboard		Use Ground Bar Kit Catalog Number	
Branch Circuit	Mains Rating	Aluminum[9]	Copper[10]
1–42	600 A Maximum	(1) PK27GTA	(1) PK27GTACU
54–84		(2) PK27GTA	(2) PK27GTACU

Ground bar mounting locations are identified by the ground symbol stamped into the back wall of the enclosure.

9. Aluminum bars suitable for 60°C or 75°C Copper or Aluminum conductors.
10. Copper bars suitable for 60°C or 75°C Copper conductors.

Oversized Neutral Lug Kits for 100–600 A Panelboards

Oversized neutral lug kits are available for applications where termination conductors of 3 AWG or larger are required for the neutral.

Table 13 - Oversized Neutral Lug Kits for 100–600 A Panelboard Specifications

Circuit Breaker Rating	Kit Catalog Number	Wire Size Al/Cu (mm^2)
70 A	QO70AN	(1) #12–#2 AWG Al ([1] 3.3–33.6) (1)#14–#4 AWG Cu ([1] 2.1–21.2)
80–100 A	NQ100AN	(1) #14–2/0 AWG Al/Cu ([1] 2.1–67.4)
80–120 A	Q1100AN	(1) #4–1/0 AWG Al/Cu ([1] 21.2–53.5)
110–150 A	Q1150AN[11]	(1) #1–2/0 AWG Al/Cu ([1] 42.4–67.4)
175–200 A	NQ200AN	(1) #4 AWG–300 kcmil Al/Cu ([1] 21.2–152)

Sub-Feed Lug Kits for 100–400 A Panelboards

Sub-feed main lugs are available for 100, 225, or 400 A applications.

Table 14 - Sub-Feed Lug Kits for 100–400 A Panelboards Specifications

Main Amps	Kit Catalog Number	Maximum Circuits
100	NQSFL1	18, 30
225	NQSFL2	30[12], 42[12], 54[12], 72[12], 84[12]
400	NQSFL4	30, 42, 54, 72, 84

11. Use Only use 1/0 (53.5 mm^2) copper wire for 150 A branch circuit breaker applications.
12. These panels require an additional 6 inches (152.4 mm) for the box and trim, for proper wire bending space.

Main Lug Kits

Table 15 - Mechanical Lug Kits — Aluminum

Panelboard Amps	Kit Catalog Number	Wire Size Al/Cu (mm²)
100	Standard	#6–2/0 AWG (13.3–67.43 mm²)
225	Standard	#6 AWG–350 kcmil (13.3–177.3 mm²)
400	Standard	(1) 1/0 AWG–750 kcmil (2) 1/0 AWG–350 kcmil ([1] 53.48–380 mm²) ([2] 53.48–177.3 mm²)
600	Standard	(2) 1/0 AWG–750 kcmil ([2] 53.48–380 mm²)
	NQALM6A	(3) #6 AWG–250 kcmil ([3] 13.3–127 mm²)

Table 16 - Mechanical Lug Kits — Copper

Panelboard Amps	Kit Catalog Number	Wire Size Al/Cu (mm²)
100	NQCUM1	#6–2/0 AWG (13.3–67.43 mm²)
225	NQCUM2	#6 AWG–250 kcmil (13.3–127 mm²)
400	NQCUM4	(1) 1/0 AWG–750 kcmil (2) 1/0 AWG–350 kcmil
600	NQCUM6	([1] 53.48–380 mm²) ([2] 53.48–177.3 mm²)

Table 17 - Versa-Crimp™ Compression Lug Kits — Aluminum

Panelboard Amps	Kit Catalog Number	Wire Size Al/Cu (mm²)	Crimp Tool
100	NQALV1	#8–1/0 AWG (8.36–53.48 mm²)	VC6 (All)
225	NQALV2	#4 AWG–300 kcmil (21.15–152 mm²)	
400	NQALV4	(2) 2/0 AWG–500 kcmil ([2] 67.43–253.4 mm²)	VC6–3, VC6–FT
600	NQALV6		

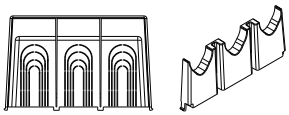
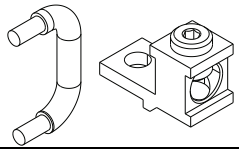
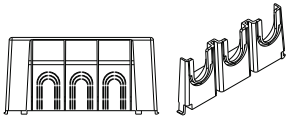
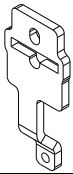
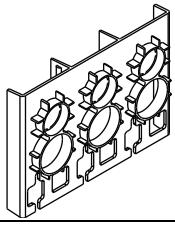
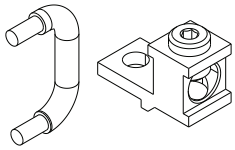
Table 18 - Versa-Crimp™ Compression Lug Kits — Copper

Panelboard Amps	Kit Catalog Number	Wire Size Al/Cu (mm²)	Crimp Tool
100	NQCUV1	#6–1/0 AWG (13.30–53.48 mm²)	VC6 (All), VC7 (All)
225	NQCUV2	2/0 AWG–300 kcmil (67.43–152 mm²)	VC6-3, VC7, VC6-FT, VC7–FT
400	NQCUV4	400–750 kcmil (202.7–380 mm²)	VC6-FT, VC7–FT, VC8
600	NQCUV6	(2) 250–500 kcm ([2) 126.7–253.4mm²)	VC6-3, VC7, VC6-FT, VC7–FT

Line Side Barrier and Neutral Bonding Strap Kits

Based on the application and the adopted installation code, a Line Side Barrier and Neutral Bonding Strap may be required. Select the appropriate barrier from the table below, based upon the main circuit breaker.

Table 19 - Line Side Barrier and Neutral Bonding Strap Kits

Catalog Number	Contents		Description
	Line Lug Cover	Neutral Bonding Strap	
NQLALLC			NQ LA/LH Line Lug Cover and Neutral Bonding Strap and Lug
NQHJQLLC			NQ PowerPacT™ H/J/Q Line Lug Cover and Neutral Bonding Strap
NQPPLLLC			PowerPacT L Line Lug Cover and Neutral Bonding Strap and Lug

Tableros NQ/NQM y centros de carga QONQ

Clase 1640
80043-712-06, Rev. 08

Qué Contiene este Documento

Información de seguridad 1
Introducción 3
Instalación 5
Anexo 1: Especificaciones 20
Anexo 2: Kits de accesorios 41

Información de seguridad

Asegúrese de leer detenidamente estas instrucciones y examine el equipo para familiarizarse con él antes de instalarlo, hacerlo funcionar o prestarle servicio de mantenimiento. Los siguientes mensajes especiales pueden aparecer en esta guía del usuario o en el equipo para advertirle sobre peligros o para llamar su atención sobre cierta información que clarifica o simplifica un procedimiento.

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La adición de cualquiera de estos símbolos a una etiqueta de seguridad de “Peligro” o “Advertencia” indica la existencia de un peligro eléctrico que podrá causar lesiones personales si no se siguen las instrucciones.

Este es el símbolo de alerta de seguridad. Se usa para avisar sobre peligros de lesiones personales. Respete todos los mensajes de seguridad con este símbolo para evitar posibles lesiones o la muerte.

⚠⚠ PELIGRO

PELIGRO indica una situación de peligro que, si no se evita, **podrá causar** la muerte o lesiones serias.

⚠ ADVERTENCIA

ADVERTENCIA indica una situación peligrosa que, si no se evita, **puede causar** la muerte o lesiones graves.

⚠ PRECAUCIÓN

PRECAUCIÓN indica una situación peligrosa que, si no se evita, **puede causar** lesiones menores o moderadas.

AVISO

AVISO se usa para abordar prácticas no relacionadas con lesiones físicas.

NOTA: Proporciona información adicional para clarificar o simplificar un procedimiento.

Observe que

Solamente el personal calificado con especialización en electricidad deberá instalar, hacer funcionar y prestar servicios de mantenimiento al equipo eléctrico. Schneider Electric no asume responsabilidad alguna por las consecuencias que surjan de la utilización de este material.

Una persona calificada es aquella que tiene destreza y conocimiento técnico relacionado con la construcción, instalación y funcionamiento del equipo eléctrico; asimismo, esta persona ha recibido capacitación sobre seguridad con la cual puede reconocer y evitar los riesgos involucrados.

Los equipos eléctricos deben transportarse, almacenarse, instalarse y operarse únicamente en el entorno para el que fueron diseñados.

Introducción

Este boletín contiene instrucciones para instalar tableros de interruptores automáticos y centros de carga QONQ de la marca Square D™. Estos tableros y centros de carga están homologados por Underwriters Laboratories (cULus) y admiten interruptores automáticos de derivación QO™ y QOB.

NOTA: Para obtener asistencia técnica sobre la instalación de este tablero, comuníquese con el Centro de información al cliente de Schneider Electric llamando al 1-888-778-2733.

NOTA: Consulte en las etiquetas del equipo los valores nominales y la información de seguridad. Junto con este documento se facilitan etiquetas adicionales para los equipos.

Precauciones de seguridad

⚠ PELIGRO

PELIGRO DE DESCARGA ELÉCTRICA, EXPLOSIÓN O DESTELLO POR ARCO ELÉCTRICO

- Utilice el equipo de protección personal (EPP) apropiado y siga las prácticas de seguridad para trabajos eléctricos. Consulte las normas NFPA 70E, NOM-029-STPS o CSA Z462, o sus equivalentes locales.
- Solo el personal capacitado en electricidad deberá instalar y prestar servicio de mantenimiento a este equipo.
- Desenergice todas las fuentes de alimentación del equipo antes de realizar cualquier trabajo dentro o fuera de él.
- Siempre utilice un dispositivo detector de tensión de valor nominal adecuado para confirmar que el equipo esté desenergizado.
- Lea y comprenda todo este boletín de instrucciones y la publicación de normas NEMA PB 1.1 incluida antes de instalar, operar o realizar el mantenimiento de este equipo.
- Los códigos locales varían, se aceptan y hacen cumplir para fomentar la seguridad en instalaciones eléctricas. Es posible que necesite un permiso para realizar el trabajo eléctrico y, en algunos casos, algunos códigos pueden requerir una inspección del trabajo eléctrico efectuado.
- Vuelva a colocar todos los dispositivos, las puertas y las cubiertas antes de energizar este equipo.
- No permita que superficies no metálicas de este producto entren en contacto con pintura, solventes o rocíos basados en derivados del petróleo.

El incumplimiento de estas instrucciones tendrá como resultado la muerte o lesiones graves.

⚠ **ADVERTENCIA:** Este producto puede exponerlo a químicos, incluidos compuestos de níquel, que son conocidos por el estado de California como causantes de cáncer, y Bisfenol A (BPA), que es conocido por el estado de California como causante de defectos de nacimiento u otros daños reproductivos. Para obtener más información, visite www.P65Warnings.ca.gov.

Instalación

Esta sección proporciona instrucciones para los siguientes procedimientos del tablero NQ y del centro de carga QONQ:

- Montaje interior para gabinetes de la marca Square D, página 5.
- Instalación del cable/correa de conexión neutra, página 8.
- Instalación y extracción de interruptores automáticos QO y QOB, página 14.
- Instrucciones de restablecimiento del interruptor automático, página 17.
- Preparación del frente muerto, página 18.

Montaje interior para gabinetes de la marca Square D

Con este equipo se ha suministrado una publicación de normas separada, titulada "Instrucciones generales para la correcta instalación, operación y mantenimiento de tableros de distribución de 600 voltios o menos" (NEMA PB1.1). Familiarícese con el contenido de este documento antes de proceder con cualquiera de los siguientes procedimientos.

Si no ha recibido una copia de este documento o si tiene alguna pregunta sobre este equipo, póngase en contacto con su distribuidor local o representante de Schneider Electric.

⚠ PELIGRO

PELIGRO DE DESCARGA ELÉCTRICA, EXPLOSIÓN O ARCO ELÉCTRICO

- Asegúrese de que todas las conexiones de campo estén correctamente apretadas.
- No apriete demasiado ni de manera insuficiente las conexiones. Antes de apretar las conexiones, consulte la etiqueta de información sobre el apriete indicado en el cuadro de distribución.

El incumplimiento de estas instrucciones tendrá como resultado la muerte o lesiones graves.

Para montar e instalar correctamente el interior del tablero NQ o del centro de carga QONQ, consulte la publicación de normas NEMA PB 1.1 y siga las instrucciones que se indican a continuación para cualquiera de los dos casos, ya sea Montaje en superficie (gabinete montado en la pared), página 6 o Montaje empotrado (gabinete empotrado en la pared), página 6.

Montaje en superficie (gabinete montado en la pared)

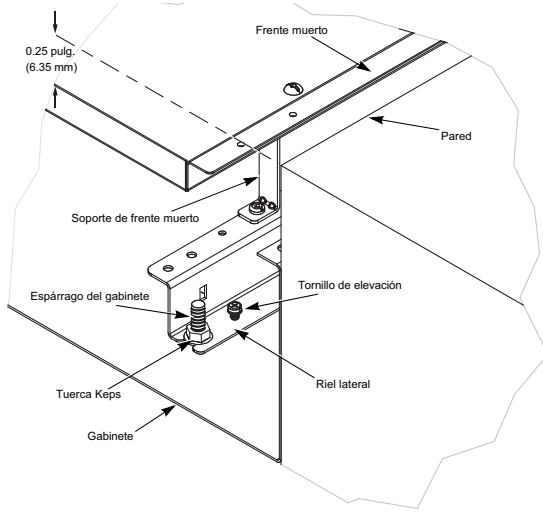
1. Monte el gabinete según las instrucciones de la publicación de normas NEMA PB 1.1.
2. Retire el frente muerto de los soportes del frente muerto.
3. Instale el interior como se describe a continuación:
   a. Coloque el interior sobre los montantes del gabinete. No es necesario un tornillo elevador (consulte Montaje interior para gabinetes de la marca Square D, página 5).
   b. Apriete las tuercas Keps contra los rieles laterales interiores hasta que los rieles queden contra la parte posterior del gabinete.
4. Según la aplicación y el código de instalación que adopte, puede ser necesaria una correa de conexión neutra y una barrera lateral de línea. Consulte Instalación del cable/correa de conexión neutra, página 8 y Anexo 2: Kits de accesorios, página 41.
5. Coloque las etiquetas del equipo (situadas en el conjunto de la bolsa) siguiendo las instrucciones del reverso de la hoja de etiquetas del equipo. Consulte los códigos y normas locales.
6. Vuelva a montar el frente muerto después del cableado.

Montaje empotrado (gabinete empotrado en la pared)

1. Monte el gabinete según las instrucciones de la publicación de normas NEMA PB 1.1.

2. Retire el frente muerto de los soportes del frente muerto.
3. Instale el interior como se describe a continuación:
    a. Enrosque los (4) tornillos elevadores autorroscantes 10-32 x 0,875 in suministrados con la moldura a ras en los rieles laterales.
    b. Coloque el interior sobre los montantes del gabinete (consulte Montaje interior de gabinetes de la marca Square D, página 8). Coloque las tuercas Keps en los espárragos del gabinete, pero no las apriete.
    c. Ajuste los tornillos de modo que el labio del frente muerto quede aproximadamente a 6,35 mm (0,25 in) de la línea de la pared.
    d. Apriete las tuercas Keps contra las barandillas laterales.
4. Según la aplicación y el código de instalación que adopte, puede ser necesaria una correa de conexión neutra y una barrera lateral de línea. Consulte los códigos y normas locales. Consulte Instalación del cable/correa de conexión neutra, página 8 y Anexo 2: Kits de accesorios, página 41.
5. Coloque las etiquetas del equipo (situadas en el conjunto de la bolsa) siguiendo las instrucciones del reverso de la hoja de etiquetas del equipo.
6. Vuelva a montar el frente muerto después del cableado.

Figura 1 - Montaje interior en gabinetes marca Square D



Instalación del cable/correa de conexión neutra

En función de la aplicación y del código de instalación adoptado, puede ser necesaria una barrera en el lado de la línea y una correa de conexión neutra.

Para conectar correctamente el neutro al tablero, siga las instrucciones para Tableros NQ de 100 o 250 A máximo, o Tableros NQ y centros de carga QONQ de 400 o 600 A máximo, página 11.

⚠ PELIGRO

PELIGRO DE DESCARGA ELÉCTRICA, EXPLOSIÓN O DESTELLO POR ARCO ELÉCTRICO

- Utilice el equipo de protección personal (EPP) apropiado y siga las prácticas de seguridad para trabajos eléctricos. Consulte las normas NFPA 70E, NOM-029-STPS o CSA Z462 o sus equivalentes locales.
- Desenergice todas las fuentes de alimentación del equipo antes de realizar cualquier trabajo dentro o fuera de él.
- La correa/cable de conexión neutra solo debe utilizarse cuando el tablero se instala como equipo de entrada de servicio.
- No mezcle los tornillos de montaje con los tornillos del frente muerto.

El incumplimiento de estas instrucciones tendrá como resultado la muerte o lesiones graves.

NOTA: Consulte Kits de barrera lateral de línea y correa de conexión neutra, página 45 para obtener información.

NOTA: Los términos "correa de conexión neutra" y "cable de conexión neutra" describen los componentes que cumplen los requisitos de un "conductor de conexión neutra". Son términos equivalentes.

Tableros NQ de 100 o 250 A máximo

Para instalar una correa de conexión neutra en tableros NQ con redes de hasta 225 A (con zapatas principales o interruptor automático principal), o hasta 250 A con un interruptor automático principal montado en fábrica, consulte Instalación de la correa de conexión: 100 o 250 A máximo en tableros NQ, página 11 y siga las siguientes instrucciones.

1. Alinee la correa de conexión en el riel lateral, como se muestra en la figura.

   NOTA: Para algunas aplicaciones, puede ser necesario retirar la zapata (no aparece en la imagen) antes de instalar la correa de conexión.

2. Inserte los dos tornillos de montaje, como se muestra en la imagen. Apriete el tornillo de 10-32 a 10-12 lb.-in. (1,1-1,4 N·m) y los tornillos de 1/4-20 a 25-30 lb.-in. (2,8-3,4 N·m).

   NOTA: Los tornillos de montaje de la zapata se incluyen en el conjunto de la bolsa de la correa de conexión.

   a. Si la zapata se retiró en el paso 1 anterior, vuelva a instalarla en la parte superior de la correa de conexión. Apriete el tornillo de 10-32 a 10-12 lb.-in. (1,1-1,4 N·m) y los tornillos de 1/4-20 a 25-30 lb.-in. (2,8-3,4 N·m).

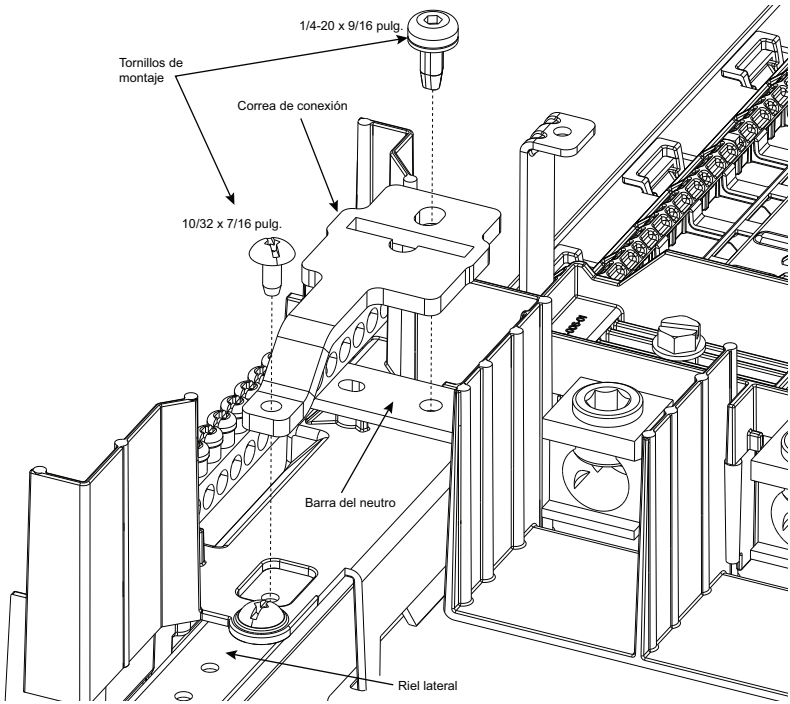
   b. Utilice un tornillo de 1/4-20 x 9/16 in en el montaje para interiores 100/225 A sin opciones. Consulte las notas C y D para conocer otras opciones.

   c. Utilice el tornillo de montaje de zapatas de 1/4-20 x 11/16 in en aplicaciones con zapatas de paso, zapatas de subalimentación, interruptores automáticos de subalimentación o aplicaciones con un neutro al 200 %.

   d. Utilice el tornillo de montaje de la zapata de 1/4-20 x 7/8 in en aplicaciones con neutros al 200 % y con zapatas de alimentación de paso, zapatas de alimentación secundaria o interruptores automáticos de alimentación secundaria.

Figura 2 - Instalación de la correa de conexión: tableros NQ de 100 o 250 A máximo

NOTA: Para las opciones de zapatas de correa de conexión, consulte C y D para conocer la longitud correcta del tornillo 1/4-20.

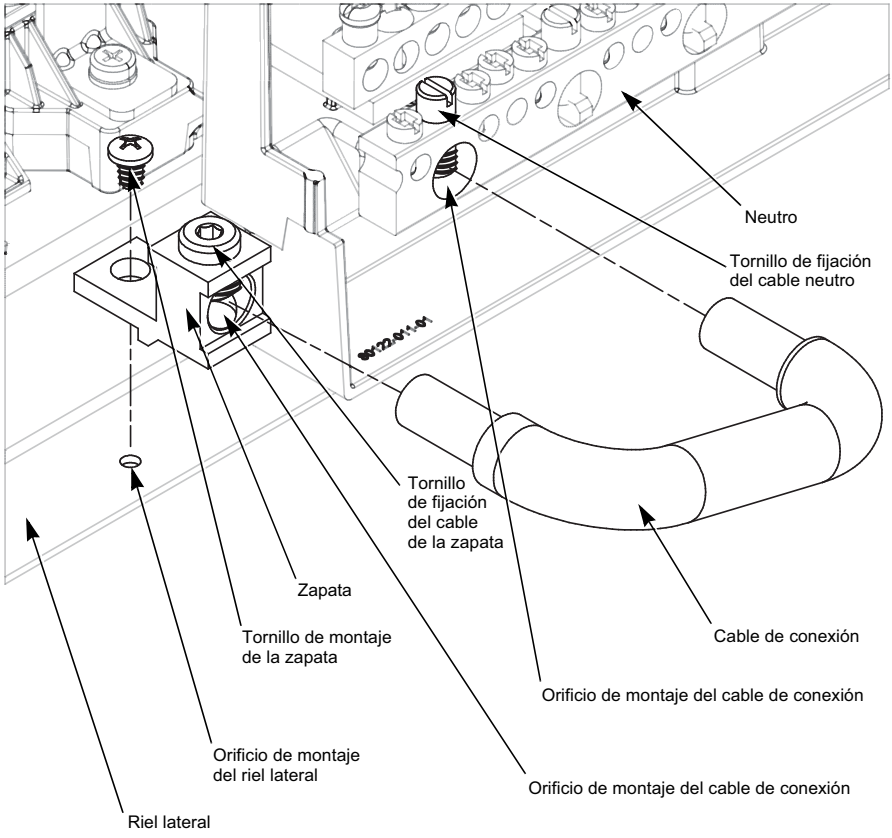


Tableros NQ y centros de carga QONQ de 400 o 600 A máximo

Para instalar un cable conexión neutra en un tablero NQ de 400 o 600 A máximo y en un centro de carga QONQ, consulte Instalación del cable de conexión: tableros NQ y centros de carga QONQ de 400 o 600 A máximo, página 13 y siga las instrucciones que se indican a continuación.

1. Alinee la zapata en el orificio de montaje del riel lateral, como se muestra en la imagen.
2. Apriete el tornillo de montaje de la zapata contra el riel lateral a 10-12 lb.-in. (1,1-1,4 N·m).
3. Alinee el cable de conexión, tal como se muestra en la imagen, e insértelo en los orificios de montaje de la zapata y el neutro.
4. Apriete los tornillos de sujeción de los conductores de zapatas y los tornillos de sujeción de los conductores de neutro a 45-50 lb. -in. (5,1-5,6 N·m).

Figura 3 - Instalación del cable de conexión: tableros NQ y centros de carga QONQ de 400 o 600 A máximo



Instalación y extracción de interruptores automáticos QO y QOB

⚠ PELIGRO

PELIGRO DE DESCARGA ELÉCTRICA, EXPLOSIÓN O DESTELLO POR ARCO ELÉCTRICO

- Utilice el equipo de protección personal (EPP) apropiado y siga las prácticas de seguridad para trabajos eléctricos. Consulte las normas NFPA 70E, NOM-029-STPS o CSA Z462, o sus equivalentes locales.
- Solo el personal capacitado en electricidad deberá instalar y prestar servicio de mantenimiento a este equipo.
- Desenergice todas las fuentes de alimentación del equipo antes de realizar cualquier trabajo dentro o fuera de él.
- Siempre utilice un dispositivo detector de tensión de valor nominal adecuado para confirmar que el equipo esté desenergizado.
- Todos los espacios no utilizados deben rellenarse con placas de relleno.
- Vuelva a colocar todos los dispositivos, las puertas y las cubiertas antes de energizar este equipo.
- Utilice solo interruptores automáticos™ y accesorios de las marcas™ Square D y Schneider Electric. Este equipo ha sido diseñado y probado por Schneider Electric con niveles de rendimiento que cumplen las normas regulatorias aplicables.
- Asegúrese de que todas las conexiones de campo estén correctamente apretadas.
- No apriete demasiado ni de manera insuficiente las conexiones. Antes de apretar las conexiones, consulte la etiqueta de información sobre el apriete indicado en el cuadro de distribución.

El incumplimiento de estas instrucciones tendrá como resultado la muerte o lesiones graves.

Instalación de interruptores automáticos QO y QOB

Consulte Instalación y extracción de interruptores automáticos QO y QOB, página 16 para las siguientes instrucciones:

1. Desconecte toda la alimentación del tablero.
2. Desactive el interruptor automático.
3. Quite el frente muerto.
4. Encaje el extremo del terminal del cable del interruptor automático en el riel de montaje.
5. Enganche el conector de derivación.

   Para interruptores automáticos QO: Empuje hacia adentro hasta que las mordazas enchufables se acoplen completamente al conector de derivación.
   Para interruptores automáticos QOB: Empuje hacia dentro hasta que el conector del interruptor automático quede centrado en el orificio de montaje del conector de derivación. Enganche el tornillo en el orificio del conector de derivación y apriételo a los valores de torque indicados en el diagrama interior de cableado y torque.
6. Instale el cable de carga.
7. Vuelva a instalar el frente muerto.
8. Instale una placa de relleno en todos los espacios de interruptores automáticos de derivación no utilizados.

Extracción de interruptores automáticos QO y QOB

Consulte Instalación y extracción de interruptores automáticos QO y QOB, página 16 para las siguientes instrucciones:

1. Desconecte toda la alimentación del tablero.
2. Quite el frente muerto.
3. Extraiga el cable de carga.

4. Desenganche el conector de derivación.

   Para interruptores automáticos QO:

   Jale hacia afuera hasta que las garras de enchufe desenganchen completamente el conector de derivación.

   Para interruptores automáticos QOB:

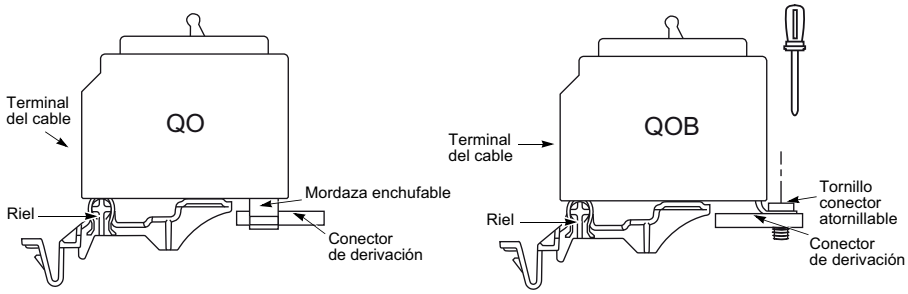
   Afloje el tornillo del conector del interruptor automático y extraiga el interruptor automático del conector de derivación.

5. Retire el extremo del terminal de alambre del interruptor automático del riel de montaje.

6. Vuelva a instalar el frente muerto.

7. Instale una placa de relleno en todos los espacios de interruptores automáticos de derivación no utilizados.

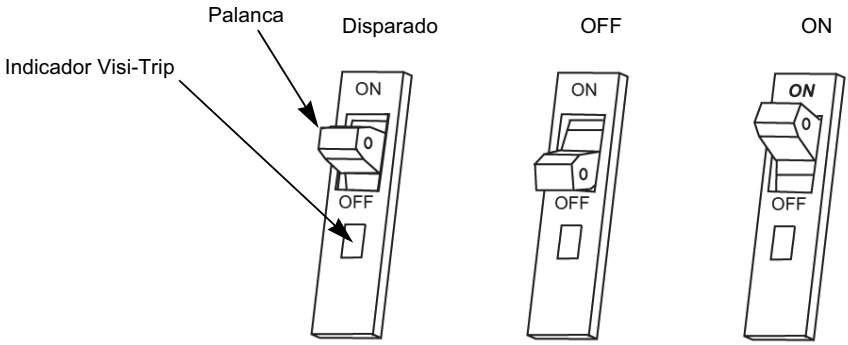
Figura 4 - Instalación y extracción de interruptores automáticos QO y QOB



Instrucciones de restablecimiento del interruptor automático

Si se dispara el interruptor automático, la palanca estará en la posición intermedia entre ON y OFF. Para restablecer el interruptor automático, empuje la palanca a la posición OFF y, a continuación, a la posición ON.

Figura 5 - Posiciones de la palanca del interruptor automático



NOTA: Cuando el interruptor automático se ha disparado, la palanca adopta una posición central y el indicador rojo Visi-Trip aparece en una ventana de la caja del interruptor automático. El indicador rojo Visi-Trip solo es visible cuando se dispara el interruptor automático.

Preparación del frente muerto

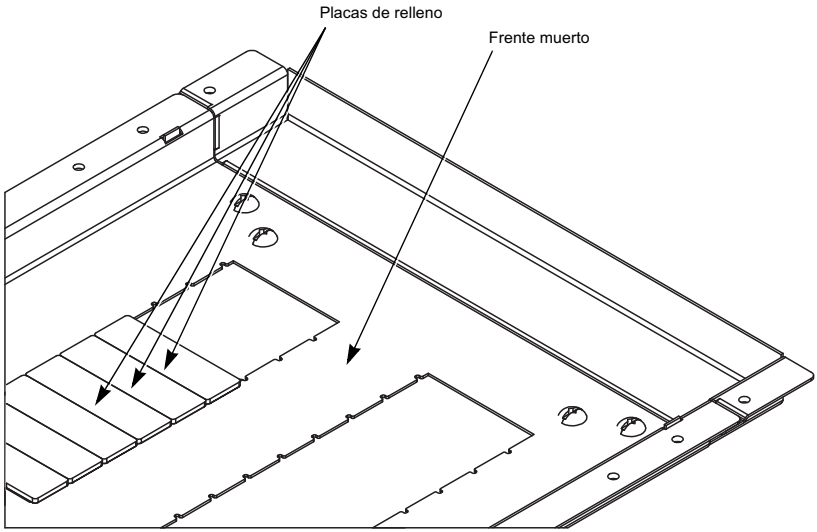
⚠ PELIGRO

PELIGRO DE DESCARGA ELÉCTRICA, EXPLOSIÓN O DESTELLO POR ARCO ELÉCTRICO

- Utilice el equipo de protección personal (EPP) apropiado y siga las prácticas de seguridad para trabajos eléctricos. Consulte las normas NFPA 70E, NOM-029-STPS o CSA Z462, o sus equivalentes locales.
- Antes de energizar el tablero, todos los espacios no utilizados deben rellenarse con placas de relleno.
- Vuelva a colocar todos los dispositivos, las puertas y las cubiertas antes de energizar este equipo.

El incumplimiento de estas instrucciones tendrá como resultado la muerte o lesiones graves.

Figura 6 - Diagrama del frente muerto



NOTA: En la parte posterior del frente muerto figura el número de catálogo de las placas de relleno compatibles correspondientes.

Anexo 1: Especificaciones

Cableado habitual

En el tablero encontrará información adicional. Consulte la capacidad del interruptor automático principal, si se utiliza.

Tabla 1 - Cableado habitual del tablero

Tensión de la CA	Tableros de 1 fase		Tableros de 3 fase	
	Fase	Cables	Fase	Cables
208Y/120	—	—	3	4
120/240	1	3	—	—
240[1]	1	2	3	4
240[2]	1	3	—	—
240/120[3]	—	—	3	4 Delta

1. Para este sistema, no se utiliza el neutro y solo deben emplearse interruptores automáticos de 240 Vca como mínimo. No utilice interruptores automáticos de 120 V o 120/240 Vca.
2. Para un sistema de fase "B" conectado a tierra, solo deben utilizarse interruptores automáticos de 240 Vca como mínimo. No utilice interruptores automáticos de 120 V o 120/240 Vca.
3. Cuando se cablea para un sistema delta, las fases "A" y "C" deben ser de 120 V a neutro, la fase "B" de 208 V a neutro. Conecte solo interruptores automáticos de 240 Vca como mínimo. No utilice interruptores automáticos de 120 V o 120/240 V a fase "B".

Alimentación integral principal o secundaria

PowerPacT con marcos H, J, L y Q; LA, LH, QO(B)(VH)

Figura 7 - Zapatas principales NQ/NQM 100-225 A o diagrama del interruptor automático principal 100-250 A

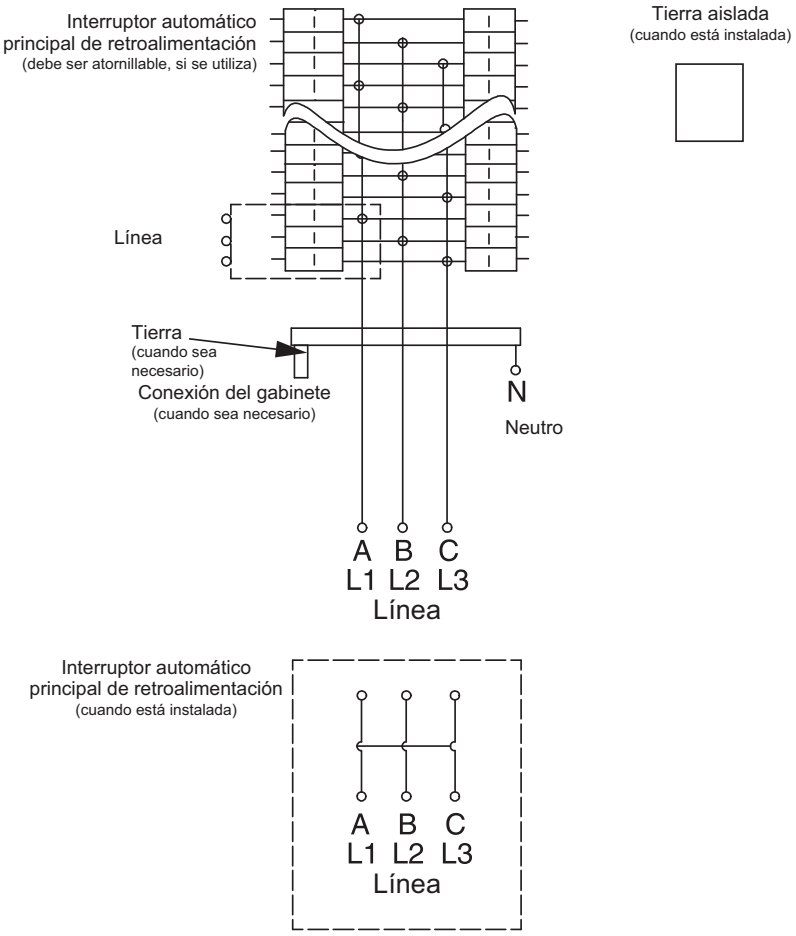


Figura 8 - Tablero NQ o centro de carga QONQ de 400-600 A o interruptor automático principal con o sin diagrama de zapatas de paso

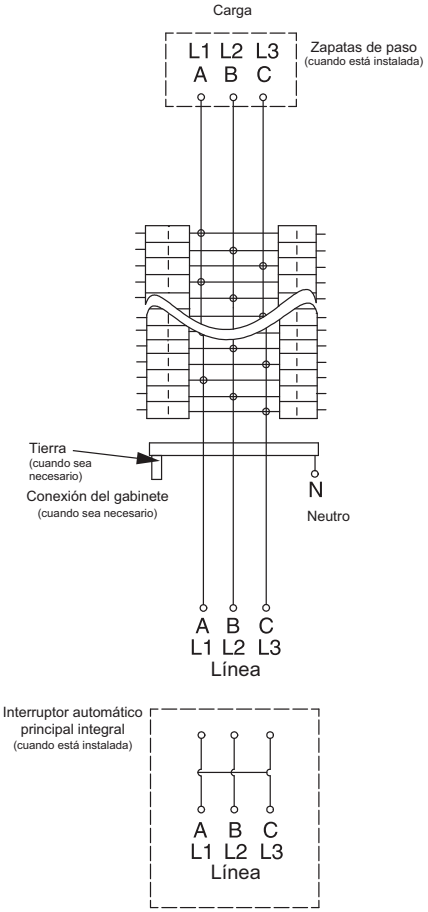


Figura 9 - Tablero NQ o centro de carga QONQ Interruptor automático principal de 400-600 A con zapatas de alimentación de paso o interruptores automáticos de alimentación secundaria

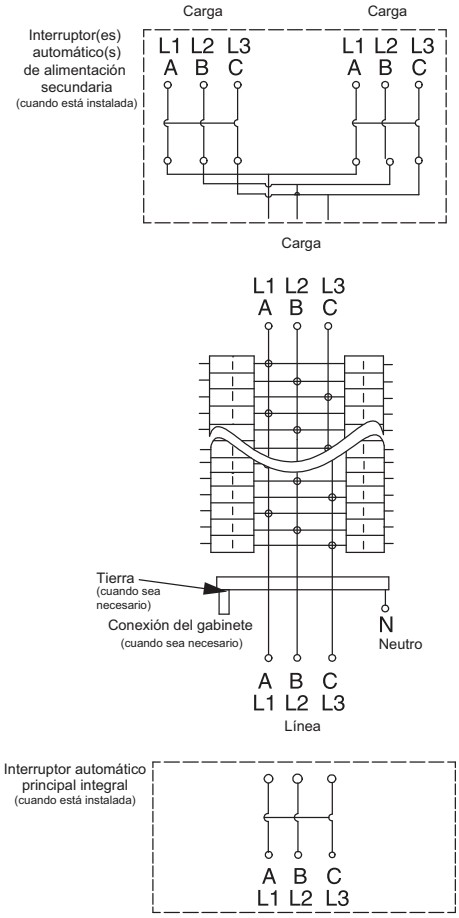
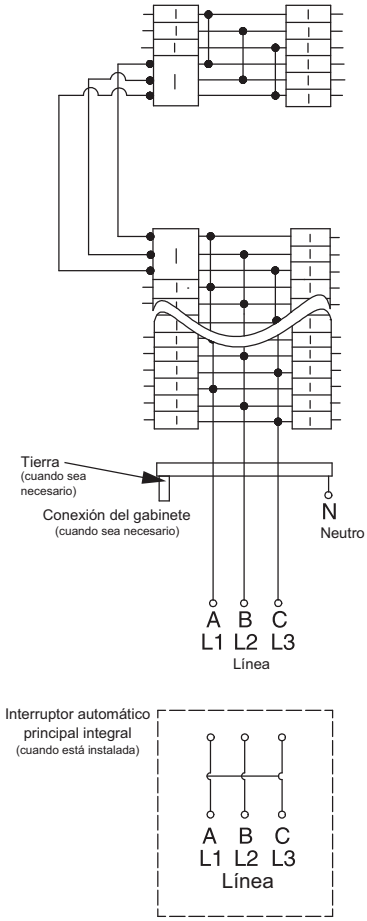


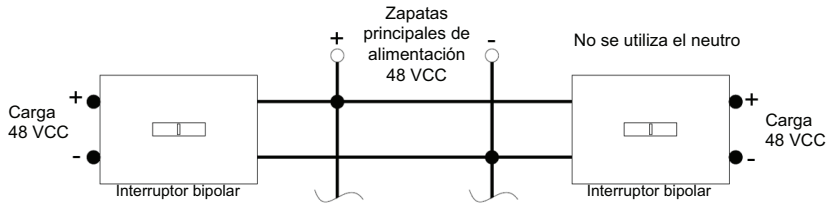
Figura 10 - Tablero NQ habitual con diagrama de barra partida



Adecuado para su uso en sistemas de un máximo de 48 VCC

Para uso exclusivo en sistemas sin conexión a tierra de un máximo de 48 VCC. Utilice únicamente interruptores automáticos de tipo QO (B) bipolares, derivados, de 10 A - 60 A o principales de alimentación derivada, con sufijo 5272, que estén clasificados para un máximo de 48 VCC. La corriente nominal de cortocircuito está limitada a 5 kA cuando se lo utiliza en un sistema de 48 VCC.

Para los interruptores automáticos principales y de subalimentación montados verticalmente, use solo interruptores automáticos de marcos H, J y LA/LH. La corriente nominal de cortocircuito está limitada a 20 kA (marco H, J), 10 kA (marco LA) y 50 kA (marco LH) cuando se lo usa en un sistema de 48 VCC.



Clasificación de tableros eléctricos

Consulte los códigos y normas locales para obtener más información. La etiqueta del sistema nominal de serie se encuentra en el conjunto de la bolsa.

Valores nominales de los interruptores automáticos conectados en serie (RMS simétrico)

- Las clasificaciones de serie que figuran con tensiones de sistema más elevadas se aplican para tensiones de sistema más bajas (ejemplo: 240 3P/3W abarca 208Y/120 3P/4W).
- Las pruebas de cortocircuito se realizan al 100-105 % de la tensión nominal máxima del tablero.
- "MC" significa interruptores automáticos de misión crítica.
- El tipo LG mostrado puede sustituirse por LJ y LL.
- A menos que se indique lo contrario, los interruptores automáticos principales pueden aplicarse al amperaje máximo disponible.

- Los sufijos HID, SWD y SWN pueden aplicarse también a los interruptores automáticos de derivación correspondientes que se muestran a continuación.
- Los interruptores automáticos QO(B) que se muestran a continuación pueden sustituirse por los interruptores automáticos QO(B)H, QO(B)VH y QH(B).
- En los sistemas trifásicos no se pueden usar interruptores automáticos CAFI bipolares.

Tabla 2 - Máxima tensión CA del sistema: 120/240 1P/3W, 208Y/120 3P/4W, 240/120 3P/4W

Corriente nominal de cortocircuito máxima	Interruptores automáticos principales y fusibles principales remotos de la marca Square D	Designación del catálogo de interruptores automáticos de derivación de la marca Square D y rangos de amperaje permitidos			
		Tipo	1 polo	2 polos	3 polos
18,000	LA/LH MC	QO(B)	15–30 A	15–30 A	—
22,000	QO(B) VH QOB-VH	QO(B)	15–70 A	15–125 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) PL	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—

Tabla 2 - Máxima tensión CA del sistema: 120/240 1P/3W, 208Y/120 3P/4W, 240/120 3P/4W (Continuación)

Corriente nominal de cortocircuito máxima	Interruptores automáticos principales y fusibles principales remotos de la marca Square D	Designación del catálogo de interruptores automáticos de derivación de la marca Square D y rangos de amperaje permitidos			
		Tipo	1 polo	2 polos	3 polos
25,000	QD	QO(B)	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15–30 A	15–60 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
	ED	QO(B)	15–70 A	15–125 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
	BD, HD, JD, LG	QO(B)	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15–30 A	15–60 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
	BD, HD, JD, LG	QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
42,000	LA, MA	QO(B)	15–30 A	15–30 A	—

Tabla 2 - Máxima tensión CA del sistema: 120/240 1P/3W, 208Y/120 3P/4W, 240/120 3P/4W (Continuación)

Corriente nominal de cortocircuito máxima	Interruptores automáticos principales y fusibles principales remotos de la marca Square D	Designación del catálogo de interruptores automáticos de derivación de la marca Square D y rangos de amperaje permitidos			
		Tipo	1 polo	2 polos	3 polos
65,000	QG	QO(B)	15–70 A	15–125 A	—
		QO(B) VH	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) PL	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
	EG	QO(B)	15–70 A	15–125 A	—
	EG	QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) EPE	—	—	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
	BG, HG, JG, LG	QO(B)	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15–30 A	15–60 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—

Tabla 2 - Máxima tensión CA del sistema: 120/240 1P/3W, 208Y/120 3P/4W, 240/120 3P/4W (Continuación)

Corriente nominal de cortocircuito máxima	Interruptores automáticos principales y fusibles principales remotos de la marca Square D	Designación del catálogo de interruptores automáticos de derivación de la marca Square D y rangos de amperaje permitidos			
		Tipo	1 polo	2 polos	3 polos
100,000	QJ	QO(B)	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15–30 A	15–60 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
	EJ	QO(B)	15–70 A	15–125 A	—
		QO(B) GFI	15–30 A	15–60 A	—
	EJ	QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
	BJ, HJ, JJ	QO(B)	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15–30 A	15–60 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
	LJ	QO(B)	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) GFI	—	15–60 A	—
		QO(B) EPD	—	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—

Tabla 2 - Máxima tensión CA del sistema: 120/240 1P/3W, 208Y/120 3P/4W, 240/120 3P/4W (Continuación)

Corriente nominal de cortocircuito máxima	Interruptores automáticos principales y fusibles principales remotos de la marca Square D	Designación del catálogo de interruptores automáticos de derivación de la marca Square D y rangos de amperaje permitidos			
		Tipo	1 polo	2 polos	3 polos
125,000	HL, JL	QO(B)	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15–30 A	15–60 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
200,000	HR, JR	QO(B)	15–70 A	15–125 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
	HR, JR	QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—

Tabla 3 - Máxima tensión CA del sistema: 240 1P/2W

Corriente nominal de cortocircuito máxima	Interruptores automáticos principales y fusibles principales remotos de la marca Square D	Designación del catálogo de interruptores automáticos de derivación de la marca Square D y rangos de amperaje permitidos			
		Tipo	1 polo	2 polos	3 polos
25,000	QD, BD, HD, JD, LG	QO(B) H	—	15–100 A	—
42,000	LA, MA	QDL	—	70–225 A	—
65,000	QG, BG, HG, JG, LG	QO(B) H	—	15–100 A	—
100,000	BJ, HJ, JJ, LJ	QO(B) H	—	15–100 A	—
125,000	HL, JL	QO(B) H	—	15–100 A	—

Tabla 4 - Máxima tensión CA del sistema: 208Y/120 3P/4W

Corriente nominal de cortocircuito máxima	Interruptores automáticos principales y fusibles principales remotos de la marca Square D	Designación del catálogo de interruptores automáticos de derivación de la marca Square D y rangos de amperaje permitidos			
		Tipo	1 polo	2 polos	3 polos
18,000	LA/LH MC	QO(B)	—	—	15–30 A
22,000	QO(B) VH, QOB-VH	QO(B) GFI	—	—	15–50 A

Tabla 4 - Máxima tensión CA del sistema: 208Y/120 3P/4W (Continuación)

Corriente nominal de cortocircuito máxima	Interruptores automáticos principales y fusibles principales remotos de la marca Square D	Designación del catálogo de interruptores automáticos de derivación de la marca Square D y rangos de amperaje permitidos			
		Tipo	1 polo	2 polos	3 polos
25,000	QD, ED, FD, BD, HD, JD	QO(B) GFI	—	—	15–50 A
	LG	QO(B) GFI	—	—	15–30 A
65,000	QG, EG, BG, HG, JG	QO(B) GFI	—	—	15–50 A
	LG	QO(B) GFI	—	—	15–30 A
100,000	QJ	QO(B)	—	—	15–30 A
		QO(B) VH	—	—	15–100 A
		QOB-VH	—	—	110–150 A
		QO(B) PL	—	—	15–30 A
		QO(B) GFI	—	—	15–50 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	EJ, BJ, HJ, JJ	QO(B) GFI	—	—	15–50 A

Tabla 5 - Máxima tensión CA del sistema: 240/120 3P/4W, 240 3P/3W

Corriente nominal de cortocircuito máxima	Interruptores automáticos principales y fusibles principales remotos de la marca Square D	Designación del catálogo de interruptores automáticos de derivación de la marca Square D y rangos de amperaje permitidos			
		Tipo	1 polo	2 polos	3 polos
22,000	QOB VH QOB-VH	QO(B)	—	—	15–100 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
25,000	QD	QO(B)	—	—	15–30 A
	QD	QO(B) VH	—	—	15–100 A
		QOB-VH	—	—	110–150 A
		QO(B) PL	—	—	15–30 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	ED	QO(B)	—	—	15–100 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	BD, HD, JD	QO(B)	—	—	15–100 A
		QOB-VH	—	—	110–150 A
		QO(B) PL	—	—	15–30 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	LG	QO(B)	—	—	15–30 A
		QO(B) VH	—	—	15–100 A
		QOB-VH	—	—	110–150 A
		QO(B) EPD	—	—	15–30 A
		QO(B) EPE	—	—	15–30 A
42,000	LA, MA	QDL	—	—	70–225 A
		QO(B) VH	—	—	15–30 A
	MG	QOB-VH	—	—	110–150 A

Tabla 5 - Máxima tensión CA del sistema: 240/120 3P/4W, 240 3P/3W (Continuación)

Corriente nominal de cortocircuito máxima	Interruptores automáticos principales y fusibles principales remotos de la marca Square D	Designación del catálogo de interruptores automáticos de derivación de la marca Square D y rangos de amperaje permitidos			
		Tipo	1 polo	2 polos	3 polos
65,000	QG	QO(B)	—	—	15–30 A
		QO(B) VH	—	—	15–100 A
	QG	QOB-VH	—	—	110–150 A
		QO(B) PL	—	—	15–30 A
	EG	QO(B)	—	—	15–100 A
		QOB-VH	—	—	110–125 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	BG, HG, JG	QO(B)	—	—	15–100 A
		QOB-VH	—	—	110–150 A
		QO(B) PL	—	—	15–30 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	LG	QO(B)	—	—	15–30 A
		QO(B) VH	—	—	15–100 A
		QOB-VH	—	—	110–150 A
		QO(B) EPD	—	—	15–30 A
		QO(B) EPE	—	—	15–30 A

Tabla 5 - Máxima tensión CA del sistema: 240/120 3P/4W, 240 3P/3W (Continuación)

Corriente nominal de cortocircuito máxima	Interruptores automáticos principales y fusibles principales remotos de la marca Square D	Designación del catálogo de interruptores automáticos de derivación de la marca Square D y rangos de amperaje permitidos			
		Tipo	1 polo	2 polos	3 polos
100,000	EJ	QO(B)	—	—	15–100 A
		QOB-VH	—	—	110–125 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	BJ, HJ, JJ	QO(B)	—	—	15–100 A
		QOB-VH	—	—	110–150 A
		QO(B) PL	—	—	15–30 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	LJ	QO(B)	—	—	15–30 A
		QO(B) VH	—	—	15–100 A
		QOB-VH	—	—	110–150 A
125,000	HL, JL	QO(B)	—	—	15–100 A
	HL, JL	QOB-VH	—	—	110–150 A
		QO(B) PL	—	—	15–30 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
200,000	HR, JR	QO(B)	—	—	15–100 A
		QOB-VH	—	—	110–150 A

Tabla 6 - Máxima tensión CA del sistema: 120/240 1P/3W, 208Y/120 3P/4W, 240/120 3P/3W

Corriente nominal de cortocircuito máxima	Interruptores automáticos principales y fusibles principales remotos de la marca Square D	Designación del catálogo de interruptores automáticos de derivación de la marca Square D y rangos de amperaje permitidos			
		Tipo	1 polo	2 polos	3 polos
42,000	Fusibles de clase T3 de 400 A máx.	QO(B) VH	15–70 A	15–125 A	—
65,000	Fusibles de clase J de 400 A máx.	QO(B) VH	15–70 A	15–125 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
	Fusibles de clase T6 de 400 A máx.	QO(B) VH	15–70 A	15–125 A	—
		QOB-VH	—	150 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
100,000	Fusibles de clase T3 de 200 A máx.	QO(B)	15–70 A	15–125 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
		QO(B) AFI	15–20 A	—	—
		QO(B) CAFI	15–20 A	15–20 A	—
		QO(B) DF	15–20 A	—	—
200,000	Fusibles de clase T6 o J de 200 A máx.	QO(B)	15–70 A	15–125 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—
	Fusibles de clase T3 de 400 A máx.	QO(B)	15–70 A	15–125 A	—
		QO(B) GFI	15–30 A	15–60 A	—
		QO(B) EPD	15–30 A	15–60 A	—

Tabla 7 - Máxima tensión CA del sistema: 208Y/120 3P/4W

Corriente nominal de cortocircuito máxima	Interruptores automáticos principales y fusibles principales remotos de la marca Square D	Designación del catálogo de interruptores automáticos de derivación de la marca Square D y rangos de amperaje permitidos			
		Tipo	1 polo	2 polos	3 polos
65,000	Fusibles de clase J de 400 A máx.	QO(B) GFI	—	—	15–50 A
100,000	Fusibles de clase T3 de 200 A máx.	QO(B) GFI	—	—	15–50 A

Tabla 7 - Máxima tensión CA del sistema: 208Y/120 3P/4W (Continuación)

Corriente nominal de cortocircuito máxima	Interruptores automáticos principales y fusibles principales remotos de la marca Square D	Designación del catálogo de interruptores automáticos de derivación de la marca Square D y rangos de amperaje permitidos			
		Tipo	1 polo	2 polos	3 polos
200,000	Fusibles de clase T6 o J de 200 A máx.	QO(B) GFI	—	—	15–50 A
	Fusibles de clase T3 de 400 A máx.	QO(B) GFI	—	—	15–50 A

Tabla 8 - Máxima tensión CA del sistema: 240/120 3P/4W, 240 3P/3W

Corriente nominal de cortocircuito máxima	Interruptores automáticos principales y fusibles principales remotos de la marca Square D	Designación del catálogo de interruptores automáticos de derivación de la marca Square D y rangos de amperaje permitidos			
		Tipo	1 polo	2 polos	3 polos
50,000	Fusibles de clase T3 de 600 A máx.	QO(B) VH	—	—	15–30 A
65,000	Fusibles de clase J de 400 A máx.	QO(B) VH	—	—	15–100 A
	Fusibles de clase T6 de 400 A máx.	QO(B) VH	—	—	15–100 A
		QOB-VH	—	—	110–150 A
100,000	Fusibles de clase T3 de 200 A máx.	QO(B)	—	—	15–100 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
200,000	Fusibles de clase T6 o J de 200 A máx.	QO(B)	—	—	15–100 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A
	Fusibles de clase T3 de 400 A máx.	QO(B)	—	—	15–100 A
		QO(B) EPD	—	—	15–50 A
		QO(B) EPE	—	—	15–50 A

NOTA: En la siguiente tabla, Tipo incluye los interruptores automáticos AFI, CAFI, EPD y GFI.

Tabla 9 - Selectividad de interruptores de misión crítica del panel NQ

SCCR máxima (RMS simétrica)	Interruptores automáticos principales integrales o remotos	Interruptores automáticos de derivación			
		Tipo	1 polo	2 polos	3 polos
Totalmente nominal y selectivo hasta 10 kA a 208Y/120 Vca o a 240/120 Vca	J-W, 250 A L-W, 250 A	QOB	10–70	10–125	10–125
		QOB-H			
		QOB-VH			
		QH			
Serie nominal y selectiva a 12 kA a 208Y/120 Vca o a 240/120 Vca	J-W, 250 A	QOB	10–70	10–125	10–60
		QOB-H			
		QOB-VH			
		QH			
Serie nominal y selectiva a 15 kA a 208Y/120 Vca o a 240/120 Vca	J-W, 250 A	QOB	10–60	10–60	10–30
		QOB-H			
		QOB-VH			
		QH			
Serie nominal y selectiva a 18 kA a 208Y/120 Vca o a 240/120 Vca	J-W, 250 A	QOB	10–30	10–30	—
		QOB-H			
		QOB-VH			
		QH			
	L-W, 250 A	QOB	10–60	10–60	10–60
		QOB-H			
		QOB-VH			
		QH			
Serie nominal y selectiva a 30 kA a 208Y/120 Vca o a 240/120 Vca	L-W, 400 A L-W, 600 A	QOB	15–70	15–150	15–150
		QOB-H			
		QOB-VH			
		QH			

Tabla 10 - Corriente nominal de cortocircuito[4] para interiores de tomas principales con tomas de alimentación secundaria o de paso

Máxima tensión CA del sistema	Corriente nominal máxima	Circuitos de derivación[5]	Aplicaciones	Sumando[6]	Corriente nominal de cortocircuito máxima[7]
240	100	18, 30	SFL y FTL	—	10,000
	225	30, 42, 54, 72, 84, 96	SFL	152.4 mm (6 in)	
		42	FTL	—	
		30, 54, 72, 84, 96		152.4 mm (6 in)	
	400	30, 42, 54, 72, 84	SFL	—	25,000
		96		—	10,000
		30, 84	FTL	—	25,000
		96		—	10,000
		42, 54, 72		152.4 mm (6 in)	25,000
	600	30, 42, 54, 72, 84	FTL	304.8 mm (12 in)	
		96			10,000

Marcado CE

- Los interiores con la marca "CE" cumplen las normas IEC 61439-1 e IEC 61439-2.
- Los interiores de las zapatas principales con la marca "CE" han sido probados para soportar 10,000 amperios simétricos RMS durante 30 ciclos.
- Los interiores con la marca "CE" solo están aprobados para su uso con interruptores automáticos de derivación QOXD o QOBXD que lleven la marca "CE".

4. Esta clasificación se aplica a los interiores de zapatas principales, equipados con zapatas de alimentación secundaria o de paso, en los que el dispositivo que alimenta el interior es desconocido o no es un dispositivo de la marca Square D. El uso de un interruptor automático principal de la marca Square D delante de estas zapatas dará como resultado una clasificación igual a la clasificación del interruptor automático. Las pruebas de cortocircuito se realizan al 100-105 % de la tensión nominal máxima del tablero.
5. 96 circuitos con SPD tienen 84 circuitos derivados utilizables.
6. El sumando es la longitud adicional del gabinete.
7. Amperes simétricos RMS, durante tres ciclos..

Restricciones QO2150VH, QO2175VH y QO2200VH

AVISO

PELIGRO DE DAÑO AL EQUIPO

- No instale QO2150(VH), QO2175(VH) o QO2200(VH) en aplicaciones sísmicas.
- No instale QO2150(VH), QO2175(VH) o QO2200(VH) en aplicaciones de sistemas trifásicos.
- No instale más de un total de cuatro QO2175(VH) o QO2200(VH) en gabinetes NEMA 1.
- No instale más de un QO2175(VH) o QO2200(VH) en gabinetes NEMA 3R ventilados resistentes impermeables.
- No instale QO2150(VH), QO2175(VH) o QO2200(VH) uno al lado del otro.
- No instale en gabinetes impermeables sin ventilación (3R/5/12, 4/4X).
- Para los interruptores automáticos QO2175(VH) y QO2200(VH) instale molduras de cierre de tres puntos.

El incumplimiento de estas instrucciones podría provocar daños en el equipo.

Deje al menos cuatro espacios de circuito de relleno en blanco o interruptores automáticos de 125 A o inferiores antes de instalar otro QO2150(VH), QO2175(VH) o QO2200(VH).

Coloque QO2150(VH), QO2175(VH) y QO2200(VH) junto al final de línea, en el lado derecho para aplicaciones de entrada superior.

Coloque QO2150(VH), QO2175(VH) y QO2200(VH) junto al final de línea, en el lado izquierdo para aplicaciones de entrada inferior.

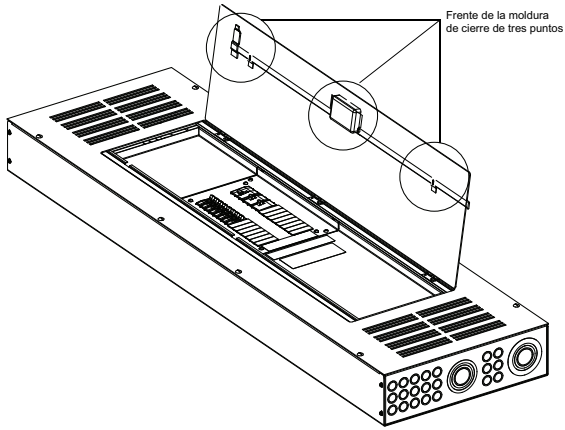
QO2150(VH), QO2175(VH) y QO2200(VH) solo para aplicaciones monofásicas.

Tabla 11 - Molduras con pestillo de tres puntos: número de catálogo[8]

Tipo	Montaje en superficie	Montaje empotrado
Estándar	NC50VS3P	NC50VF3P
	NC56VS3P	NC50VF3P
	NC62VS3P	NC62VF3P
	NC68VS3P	NC68VF3P
	NC74VS3P	NC74VF3P
	NC80VS3P	NC80VF3P
	NC86VS3P	NC86VF3P
	NC92VS3P	NC92VF3P
Con bisagras	NC62VS3PHR	NC62VF3PHR
	NC68VS3PHR	NC68VF3PHR
	NC74VS3PHR	NC74VF3PHR
	NC80VS3PHR	NC80VF3PHR
	NC86VS3PHR	NC86VF3PHR
	NC92VS3PHR	NC92VF3PHR

8. V=Venteado, HR=Articulado derecho, 3P=Tres puntos.

Figura 11 - Frente con pestillo de tres puntos



Anexo 2: Kits de accesorios

Los tableros NQ disponen de una amplia gama de kits de accesorios instalables en el lugar de trabajo:

- Kits de barra a tierra del equipo
- Kits de zapatas de neutro sobredimensionadas para tableros de 100-600 A
- Kits de zapatas de alimentación secundaria para tableros de 100-400 A
- Kits de zapatas principales
  - Kits de zapatas mecánicas: aluminio
  - Kits de zapatas mecánicas: cobre
  - Kits de zapatas de compresión Versa-Crimp: aluminio
  - Kits de zapatas de compresión Versa-Crimp: cobre
- Kits de barrera lateral de línea y correa de conexión neutra

Kits de barra a tierra del equipo

Los kits de barras a tierra para equipos, aptos para cable de cobre o aluminio, satisfacen las necesidades de puesta a tierra de los tableros NQ y los centros de carga QONQ.

Tabla 12 - Especificaciones de los kits de barras a tierra para equipos

Tablero		Utilizar el número de catálogo del kit de barra a tierra	
Circuito de derivación	Valor nominal de red	Aluminio[9]	Cobre[10]
1–42	600 A máximo	(1) PK27GTA	(1) PK27GTACU
54-84		(2) PK27GTA	(2) PK27GTACU

Las ubicaciones de montaje de la barra a tierra se identifican mediante el símbolo de tierra estampado en la pared posterior del gabinete.

Kits de zapatas de neutro sobredimensionadas para tableros de 100-600 A

Los kits de zapatas de neutro sobredimensionadas están disponibles para aplicaciones en las que se requieren conductores de terminación de 3 AWG o más para el neutro.

Tabla 13 - Especificaciones de los kits de zapatas de neutro sobredimensionadas para tableros de 100-600 A

Valor nominal del interruptor automático	Número de catálogo del kit	Calibre del cable Al/Cu(mm)[2)]
70 A	QO70AN	(1) #12-#2 AWG Al ([1] 3,3-33,6) (1)#14-#4 AWG Cu ([1] 2,1-21,2)
80-100 A	NQ100AN	(1) #14–2/0 AWG Al/Cu ([1] 2,1–67,4)
80-120 A	Q1100AN	(1) #4-1/0 AWG Al/Cu ([1] 21,2-53,5)

9. Barras de aluminio adecuadas para conductores de cobre o aluminio de 60°C o 75°C.
10. Barras de cobre adecuadas para conductores de cobre o aluminio de 60°C o 75°C.

Tabla 13 - Especificaciones de los kits de zapatas de neutro sobredimensionadas para tableros de 100-600 A (Continuación)

Valor nominal del interruptor automático	Número de catálogo del kit	Calibre del cable Al/Cu(mm)[2)]
110–150 A	Q1150AN[11]	(1) #1–2/0 AWG Al/Cu ([1] 42,4–67,4)
175-200 A	NQ200AN	(1) #4 AWG–300 kcmil Al/Cu ([1] 21,2–152)

Kits de zapatas de alimentación secundaria para tableros de 100-400 A

Las zapatas principales de alimentación secundaria están disponibles para aplicaciones de 100, 225 o 400 A.

Tabla 14 - Especificaciones de los kits de zapatas de subalimentación para los tableros de 100 a 400 A

Amperajes principales	Número de catálogo del kit	Circuitos máximos
100	NQSFL1	18, 30
225	NQSFL2	30[12], 42[12], 54[12], 72[12], 84[12]
400	NQSFL4	30, 42, 54, 72, 84

Kits de zapatas principales

Tabla 15 - Kits de zapatas mecánicas — Aluminio

Amperaje de tablero	Número de catálogo del kit	Calibre del cable Al/Cu(mm)[2)]
100	Estándar	# 6-2/0 AWG (13,3-67,43 mm^2)
225	Estándar	#6 AWG–350 kcmil (13,3–177,3 mm^2)

11. Usar solo cable de cobre 1/0 (53,5 mm)^2) para aplicaciones de interruptores automáticos de derivación de 150 A.
12. Estos paneles requieren un espacio adicional de 152,4 mm (6 pulgadas) para la caja y la moldura, con el fin de disponer de un espacio adecuado para doblar los cables.

Tabla 15 - Kits de zapatas mecánicas — Aluminio (Continuación)

Amperaje de tablero	Número de catálogo del kit	Calibre del cable Al/Cu(mm)²
400	Estándar	(1) 1/0 AWG–750 kcmil (2) 1/0 AWG–350 kcmil ([1] 53,48-380 mm²) ([2] 53,48-177.3 mm²)
600	Estándar	(2) 1/0 AWG–750 kcmil ([2] 53,48–380 mm²)
	NQALM6A	(3) #6 AWG–250 kcmil ([3] 13,3–127 mm²)

Tabla 16 - Kits de zapatas mecánicas — Cobre

Amperaje de tablero	Número de catálogo del kit	Calibre del cable Al/Cu(mm)²
100	NQCUM1	# 6-2/0 AWG (13,3-67,43 mm²)
225	NQCUM2	#6 AWG-250 kcmil (13,3-127 mm²)
400	NQCUM4	(1) 1/0 AWG–750 kcmil (2) 1/0 AWG–350 kcmil ([1] 53,48–380 mm²) ([2] 53,48–177,3 mm²)
600	NQCUM6	

Tabla 17 - Versa-Crimp™ Kits de zapatas de compresión — Aluminio

Amperaje de tablero	Número de catálogo del kit	Calibre del cable Al/Cu(mm)²	Herramienta de prensado
100	NQALV1	# 8-1/0 AWG (8,36-53,48 mm²)	VC6 (Todos)
225	NQALV2	#4 AWG-300 kcmil (21,15-152 mm²)	
400	NQALV4	(2) 2/0 AWG-500 kcmil ([2] 67,43-253,4 mm²)	VC6–3, VC6–FT
600	NQALV6		

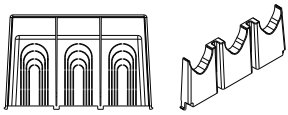
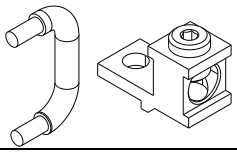
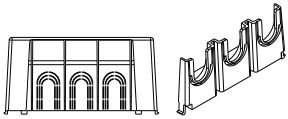
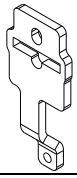
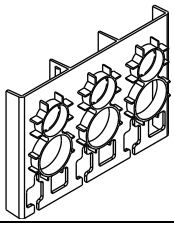
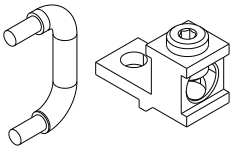
Tabla 18 - Versa-Crimp™ Kits de zapatas de compresión — Cobre

Amperaje de tablero	Número de catálogo del kit	Calibre del cable Al/Cu(mm)²	Herramienta de prensado
100	NQCUV1	# 6-1/0 AWG (13,30-53,48 mm²)	VC6 (Todos), VC7 (Todos)
225	NQCUV2	2/0 AWG–300 kcmil (67,43–152 mm²)	VC6-3, VC7, VC6-FT, VC7–FT
400	NQCUV4	400–750 kcmil (202,7–380 mm²)	VC6-FT, VC7–FT, VC8
600	NQCUV6	(2) 250–500 kcm ([2) 126.7–253,4mm²)	VC6-3, VC7, VC6-FT, VC7–FT

Kits de barrera lateral de línea y correa de conexión neutra

En función de la aplicación y del código de instalación adoptado, puede ser necesaria una barrera lateral de línea y una correa de conexión neutra. Seleccione la barrera adecuada de la siguiente tabla, en función del interruptor automático principal.

Tabla 19 - Kits de barrera lateral de línea y correa de conexión neutra

Número de catálogo	Contenido		Descripción
	Cubierta de la zapata de línea	Correa de conexión neutra	
NQLALLC			Cubierta de la zapata de línea NQ LA/LH y correa y zapata de conexión neutra
NQHJQLLC			NQ PowerPacT™ Cubierta de zapatas de línea H/J/Q y Correa de conexión neutra
NQPPLLLC			Cubierta de la zapata de línea PowerPacT L y correa y zapata de conexión neutra

Panneaux de distribution NQ/NQM et centres de charge QONQ

Classe 1640
80043-712-06, Rev. 08

Contenu de ce document

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Informations de sécurité

Lire attentivement ces directives et examiner l’appareillage pour vous familiariser avec son fonctionnement avant d’effectuer son installation ou son entretien. Les messages spéciaux suivants peuvent apparaître dans les présent manuel ou sur l’appareil pour avertir l’utilisateur de dangers potentiels ou pour attirer l’attention sur des informations qui clarifient ou simplifient une procédure.

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Puisque les normes, caractéristiques techniques et conceptions changent à l’occasion, assurez-vous de vérifier si les renseignements contenus dans la présente publication sont exacts.
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L'ajout d'un de ces deux symboles à une étiquette de sécurité de « Danger » ou d'« Avertissement » indique qu'un danger électrique existe et qu'il peut entraîner des blessures corporelles si les directives ne sont pas respectées.

Ceci est le symbole d'alerte de sécurité. Il est utilisé pour vous alerter de dangers de blessures corporelles potentielles. Veuillez vous conformer à tous les messages de sécurité qui suivent ce symbole pour éviter une blessure ou la mort.

⚠⚠ DANGER

DANGER indique une situation de danger imminent qui, si elle n'est pas évitée **entraînera** la mort ou des blessures graves.

⚠AVERTISSEMENT

AVERTISSEMENT indique une situation de danger potentiel qui, si elle n'est pas évitée, **peut entraîner** la mort ou des blessures graves.

⚠ATTENTION

ATTENTION indique une situation de danger potentiel qui, si elle n'est pas évitée, **peut entraîner** des blessures mineures ou modérées.

AVIS

AVIS est utilisé pour commenter des pratiques sans rapport avec les blessures physiques.

REMARQUE: Fournit des renseignements complémentaires pour clarifier ou simplifier une procédure.

Veuillez noter

Seul du personnel qualifié doit effectuer l'installation, l'utilisation, l'entretien et la maintenance du matériel électrique. Schneider Electric

n’assume aucune responsabilité des conséquences éventuelles découlant de l’utilisation de cette documentation.

Une personne qualifiée est une personne disposant de compétences et de connaissances dans le domaine de la construction et du fonctionnement des équipements électriques et installations et ayant bénéficié d’une formation de sécurité afin de reconnaître et d’éviter les risques encourus.

L’équipement électrique doit être transporté, entreposé, installé et utilisé exclusivement dans l’environnement pour lequel il a été conçu.

Introduction

Ces directives décrivent la procédure d’installation des panneaux de distribution à disjoncteurs NQ Square D™ et des centres de charge QONQ. Ces panneaux de distribution et centres de charge sont homologués par Underwriters Laboratories (cULus) et compatibles avec les disjoncteurs de dérivation QO™ et QOB.

REMARQUE: Pour obtenir une assistance technique sur l’installation de ce panneau de distribution, contactez le centre d’informations à la clientèle de Schneider Electric au 1-888-778-2733 (É.-U.).

REMARQUE: Reportez-vous aux étiquettes apposées sur l’appareil pour les informations de sécurité et les caractéristiques nominales. Des étiquettes d’équipement supplémentaires sont fournies avec ce document.

Mesures de sécurité

⚠DANGER

RISQUE D'ÉLECTROCUTION, D'EXPLOSION OU D'ÉCLAIR D'ARC

- Portez un équipement de protection individuelle (EPI) approprié et observez les méthodes de travail électrique sécuritaire. Voir NFPA 70E, NOM-029-STPS ou CSA Z462, ou un équivalent local de la norme.
- Seul un personnel qualifié doit effectuer l'installation et l'entretien de cet équipement.
- Coupez toutes les alimentations à cet équipement avant d'y travailler.
- Utilisez toujours un dispositif de détection de tension à valeur nominale appropriée pour vous assurer que l'alimentation est coupée.
- Il est impératif de lire et de comprendre entièrement ces directives d'utilisation ainsi que les normes NEMA PB 1.1 incluses avant de procéder à l'installation, à l'utilisation et à l'entretien de cet équipement.
- Les codes locaux varient mais sont adoptés et appliqués pour assurer des installations électriques sécuritaires. Il peut être nécessaire d'obtenir un permis pour exécuter des travaux sur des circuits électriques et certains codes peuvent exiger que le travail électrique accompli soit inspecté.
- Remettez en place tous les dispositifs, les portes et les couvercles avant de mettre l'équipement sous tension.
- Évitez que les peintures, les solvants ou les vaporisateurs à base de pétrole ne viennent en contact avec les pièces non métalliques de ce produit.

Le fait de ne pas suivre ces instructions entrainera des blessures graves, voire mortelles.

⚠ **AVERTISSEMENT:** Ce produit peut vous exposer à des produits chimiques, notamment des composés de nickel, reconnus par l'État de Californie comme pouvant causer le cancer, et du bisphénol A (BPA), reconnu par l'État de Californie comme pouvant causer des anomalies congénitales ou d'autres troubles de la reproduction. Pour plus d'informations, consulter www.P65Warnings.ca.gov.

Installation

Cette section fournit des instructions pour les procédures suivantes concernant les panneaux de distribution NQ et les centres de charge QONQ:

- Montage d’intérieur pour armoires Square D, page 5.
- Installation de la bride ou du câble de liaison du neutre, page 8.
- Installation et dépose des disjoncteurs QO et QOB, page 13.
- Instructions de réarmement du disjoncteur, page 16.
- Préparation de l’écran isolant, page 17.

Montage d’intérieur pour armoires Square D

Une publication de normes séparée, intitulée « General Instructions for Proper Installation, Operation, and Maintenance of Panelboards Rated 600 Volts or Less » [Instructions générales pour l’installation, l’utilisation et l’entretien des panneaux de distribution de tension 600 V ou moins] (NEMA PB1.1), est fournie avec cet équipement. Familiarisez-vous avec le contenu de ce document avant de suivre l’une des procédures suivantes.

Si vous n’avez pas reçu une copie de ce document, ou si vous avez des questions concernant l’équipement, contactez votre distributeur local ou votre représentant Schneider Electric.

⚠DANGER

RISQUE D'ÉLECTROCUTION, D'EXPLOSION OU D'ÉCLAIR D'ARC

- S'assurer que tous les raccordements sur site sont correctement serrés.
- Ne pas serrer les raccordements au-delà ou en deçà de la plage de couple spécifiée. Se reporter à l'étiquette d'information sur les couples de serrage apposée sur le tableau de distribution avant de serrer les raccordements.

Le fait de ne pas suivre ces instructions entrainera des blessures graves, voire mortelles.

Pour monter et installer correctement l'intérieur de panneau de distribution NF ou de centre de charge QONQ, reportez-vous à la publication de normes NEMA PB 1.1 et suivez les instructions ci-dessous pour les procédures Montage en surface (armoire montée sur un mur), page 6 ou Montage encastré (armoire encastrée dans le mur), page 7.

Montage en surface (armoire montée sur un mur)

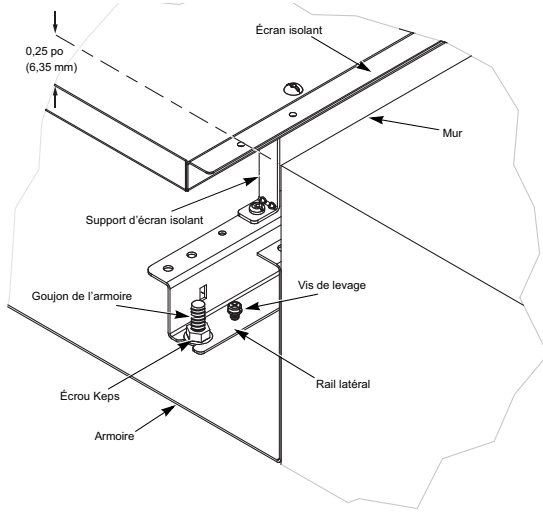
1. Montez l'armoire comme indiqué dans la publication des normes NEMA PB 1.1.
2. Retirez l'écran isolant de ses supports.
3. Installez l'intérieur comme décrit ci-dessous :
   a. Placez l'intérieur sur les goujons de l'armoire. La vis de levage n'est pas nécessaire (voir Montage d'intérieur pour armoires Square D, page 5).
   b. Serrez les écrous Keps contre les rails latéraux intérieurs jusqu'à ce que les rails soient contre le fond de l'armoire.
4. En fonction de l'application et du code d'installation adopté, une bride de fixation au neutre et une barrière côté ligne peuvent être nécessaires. Voir les sections Installation de la bride ou du câble de liaison du neutre, page 8 et Annexe 2 : Kits d'accessoires, page 40.

5. Appliquez les étiquettes d'équipement (placées dans le sachet) en suivant les instructions figurant au dos de la feuille d'étiquettes d'équipement. Reportez-vous aux codes et normes en vigueur localement.
6. Remontez l'écran isolant une fois le câblage réalisé.

Montage encastré (armoire encastrée dans le mur)

1. Montez l'armoire comme indiqué dans la publication des normes NEMA PB 1.1.
2. Retirez l'écran isolant de ses supports.
3. Installez l'intérieur comme décrit ci-dessous :
   a. Vissez dans les rails latéraux les (4) vis de levage autotaraudeuses 10-32 × 0,875 po fournies avec la façade encastrée.
   b. Placez l'intérieur sur les goujons de l'armoire (voir Montage d'intérieur pour armoires Square D, page 8). Placez les écrous Keps sur les goujons de l'armoire, mais sans les serrer.
   c. Ajustez les vis de sorte que la lèvre de l'écran isolant soit à environ 6,35 mm (0,25 po) de la ligne du mur.
   d. Serrez les écrous Keps contre les rails latéraux.
4. En fonction de l'application et du code d'installation adopté, une bride de fixation au neutre et une barrière côté ligne peuvent être nécessaires. Reportez-vous aux codes et normes en vigueur localement. Voir les sections Installation de la bride ou du câble de liaison du neutre, page 8 et Annexe 2 : Kits d'accessoires, page 40.
5. Appliquez les étiquettes d'équipement (placées dans le sachet) en suivant les instructions figurant au dos de la feuille d'étiquettes d'équipement.
6. Remontez l'écran isolant une fois le câblage réalisé.

Figure 1 - Montage à l'intérieur des armoires Square D



Installation de la bride ou du câble de liaison du neutre

En fonction de l'application et du code d'installation adopté, une barrière côté ligne et une bride de fixation au neutre peuvent être nécessaires.

Pour établir correctement la liaison du neutre au panneau de distribution, suivez les instructions des sections Panneaux de distribution NQ jusqu'à 100 ou 250 A ou Panneaux de distribution NQ jusqu'à 400 ou 600 A et centres de charge QONQ, page 11.

⚠DANGER

RISQUE D'ÉLECTROCUTION, D'EXPLOSION OU D'ÉCLAIR D'ARC

- Portez un équipement de protection individuelle (EPI) approprié et observez les méthodes de travail électrique sécuritaire. Voir NFPA 70E, NOM-029-STPS ou CSA Z462, ou un équivalent local de la norme.
- Coupez toutes les alimentations à cet équipement avant d'y travailler.
- La bride de fixation ou le câble de liaison du neutre ne doivent être utilisés que lorsque le panneau de distribution est installé comme équipement d'entrée de service.
- Veillez à ne pas mélanger les vis de montage avec les vis de l'écran isolant.

Le fait de ne pas suivre ces instructions entrainera des blessures graves, voire mortelles.

REMARQUE: Reportez-vous à la section Kits de barrières côté ligne et de brides de fixation au neutre, page 44 pour plus d'informations.

REMARQUE: Les termes « bride de fixation au neutre » et « câble de liaison du neutre » décrivent les composants qui répondent aux exigences d'un « conducteur de liaison du neutre ». Ces termes sont équivalents.

Panneaux de distribution NQ jusqu'à 100 ou 250 A

Pour installer une bride de fixation au neutre sur des panneaux de distribution NQ avec un courant secteur nominal jusqu'à 225 A (avec cosses principales ou disjoncteur principal) ou jusqu'à 250 A (avec un disjoncteur principal assemblé en usine), reportez-vous à la section Installation de la bride de fixation – Panneaux de distribution NQ jusqu'à 100 ou 250 A, page 11 et suivez les instructions ci-dessous.

1. Alignez la bride de fixation sur le rail latéral, comme illustré.

   REMARQUE: Pour certaines applications, il peut être nécessaire de retirer la cosse (non illustrée) avant d'installer la bride de fixation.

2. Insérez les deux vis de montage, comme illustré. Serrez la vis de 10-32 à un couple de 10-12 lb-po. (1,1-1,4 N•m) et la vis 1/4-20 à 25-30 lb-po. (2,8–3,4 N•m).

   REMARQUE: Les vis de montage des cosses sont fournies dans le sachet de la bride de fixation.

   a. Si la cosse a été retirée à l'étape 1 ci-dessus, réinstallez-la par-dessus la bride de fixation. Serrez la vis de 10-32 à un couple de 10-12 lb-po. (1,1-1,4 N•m) et la vis 1/4-20 à 25-30 lb-po. (2,8-3,4 N•m).

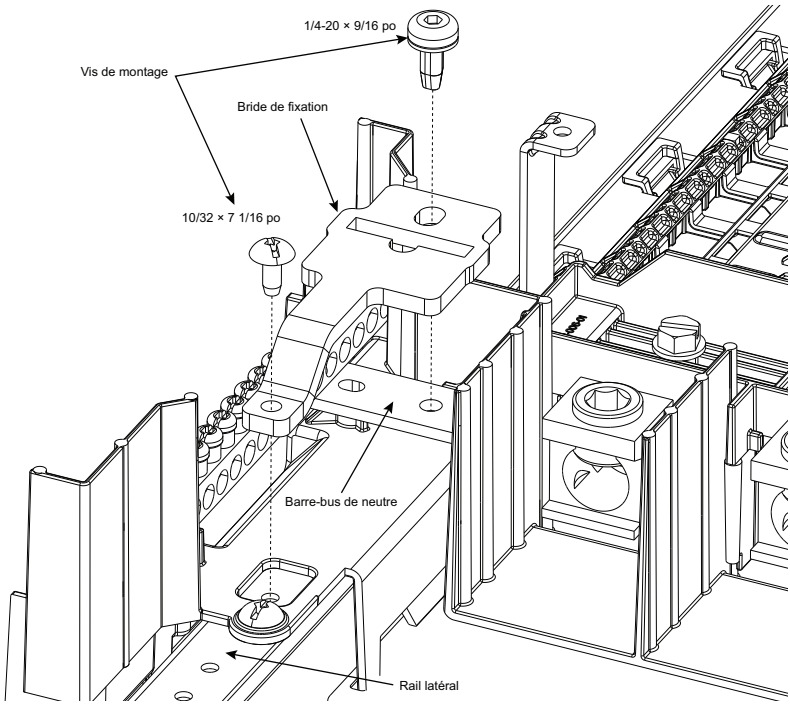
   b. Utilisez une vis 1/4-20 × 9/16 po pour le montage des intérieurs 100/225 A sans options. Voir les notes C et D pour les autres options.

   c. Utilisez la vis de montage de cosse 1/4-20 x 11/16 po dans les applications avec cosse traversante, cosse secondaire, disjoncteur secondaire ou neutre à 200 %.

   d. Utilisez la vis de montage de cosse 1/4-20 × 7/8 po dans les applications avec neutre à 200 % et cosses traversantes, cosses secondaires ou disjoncteurs secondaires.

Figure 2 - Installation d'une bride de fixation – Panneaux NQ jusqu'à 100 ou 250 A

REMARQUE: Pour les options de cosses de liaison, reportez-vous à C et D pour la longueur correcte de la vis 1/4-20.

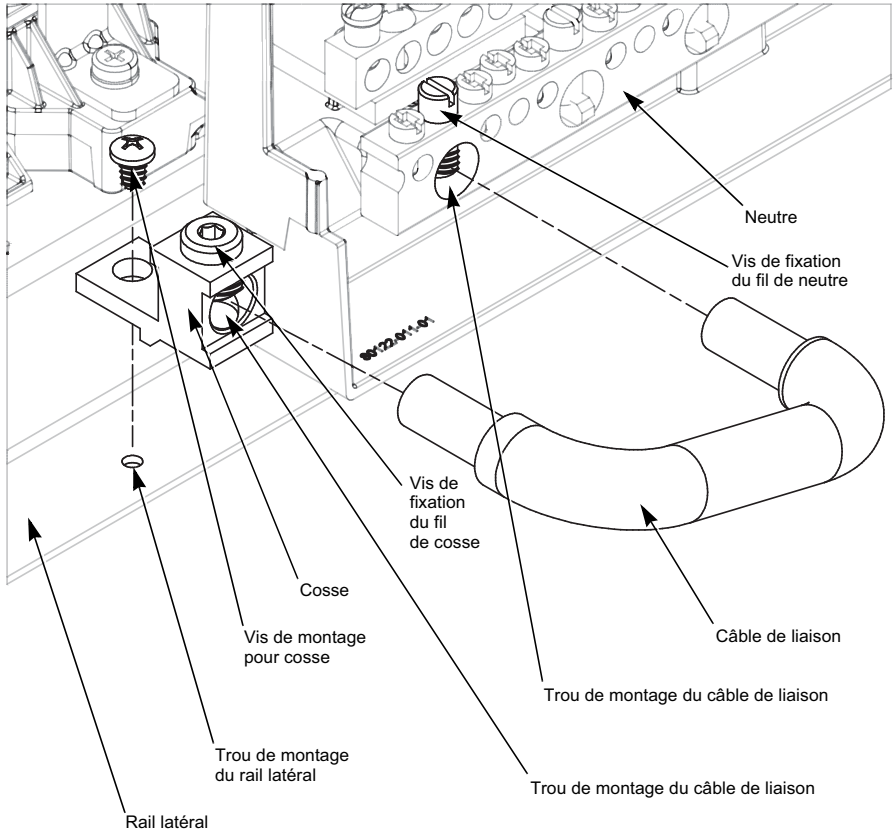


Panneaux de distribution NQ jusqu'à 400 ou 600 A et centres de charge QONQ

Pour installer un câble de liaison du neutre sur un panneau de distribution NQ jusqu'à 400 ou 600 A et un centre de charge QONQ, reportez-vous à la section Installation du câble de liaison – Panneaux de distribution NQ jusqu'à 400 ou 600 A et centres de charge QONQ, page 12 et suivez les instructions ci-dessous.

1. Alignez la cosse sur le trou de montage du rail latéral, comme illustré.
2. Serrez la vis de montage de la cosse contre le rail latéral à 10-12 lb-po. (1.1–1.4 N•m).
3. Alignez le câble de liaison, comme illustré, et insérez-le dans les trous de montage de la cosse et du neutre.
4. Serrez la vis de fixation du fil de cosse et la vis de fixation du fil neutre à 45-50 lb-po. (5.1-5.6 N•m).

Figure 3 - Installation du câble de liaison – Panneaux de distribution NQ jusqu'à 400 ou 600 A et centres de charge QONQ



Installation et dépose des disjoncteurs QO et QOB

⚠ DANGER

RISQUE D'ÉLECTROCUTION, D'EXPLOSION OU D'ÉCLAIR D'ARC

- Portez un équipement de protection individuelle (EPI) approprié et observez les méthodes de travail électrique sécuritaire. Voir NFPA 70E, NOM-029-STPS ou CSA Z462, ou un équivalent local de la norme.
- Seul un personnel qualifié doit effectuer l'installation et l'entretien de cet équipement.
- Coupez toutes les alimentations à cet équipement avant d'y travailler.
- Utilisez toujours un dispositif de détection de tension à valeur nominale appropriée pour vous assurer que l'alimentation est coupée.
- Comblez tous les espaces inutilisés à l'aide de plaques d'obturation.
- Remettez en place tous les dispositifs, les portes et les couvercles avant de mettre l'équipement sous tension.
- Utilisez uniquement les disjoncteurs et accessoires des marques Square D™ et Schneider Electric™. Cet équipement est conçu et testé par Schneider Electric selon des niveaux de performance conformes aux normes applicables.
- S'assurer que tous les raccordements sur site sont correctement serrés.
- Ne pas serrer les raccordements au-delà ou en deçà de la plage de couple spécifiée. Reportez-vous à l'étiquette d'information sur les couples de serrage apposée sur le tableau de distribution avant de serrer les raccordements.

Le fait de ne pas suivre ces instructions entrainera des blessures graves, voire mortelles.

Installation des disjoncteurs QO et QOB

Reportez-vous à la section Installation et dépose des disjoncteurs QO et QOB, page 15 pour les instructions suivantes :

1. Coupez toutes les alimentations du panneau de distribution.
2. Mettez le disjoncteur en position OFF.
3. Retirez l'ensemble de l'écran isolant.
4. Emboîtez l'extrémité de la borne de fil du disjoncteur sur le rail de montage.
5. Engagez le connecteur de dérivation.

   Pour les disjoncteurs QO : Poussez vers l'intérieur jusqu'à ce que les mâchoires enfichables s'engagent complètement dans le connecteur de dérivation.
   Pour les disjoncteurs QOB : Poussez vers l'intérieur jusqu'à ce que le connecteur du disjoncteur soit centré sur le trou de montage du connecteur de dérivation. Engagez la vis dans le trou du connecteur de dérivation et serrez au couple indiqué sur le schéma de câblage et de serrage de l'intérieur.
6. Installez le câble de charge.
7. Réinstallez l'écran isolant.
8. Installez une plaque d'obturation dans tous les espaces pour disjoncteur de dérivation non utilisés.

Dépose des disjoncteurs QO et QOB

Reportez-vous à la section Installation et dépose des disjoncteurs QO et QOB, page 15 pour les instructions suivantes :

1. Coupez toutes les alimentations du panneau de distribution.
2. Retirez l'ensemble de l'écran isolant.
3. Retirez le fil de charge.

4. Dégagez le connecteur de dérivation.

   Pour les disjoncteurs QO :

   Tirez vers l'extérieur jusqu'à ce que les mâchoires enfichables se dégagent complètement du connecteur de dérivation.

   Pour les disjoncteurs QOB :

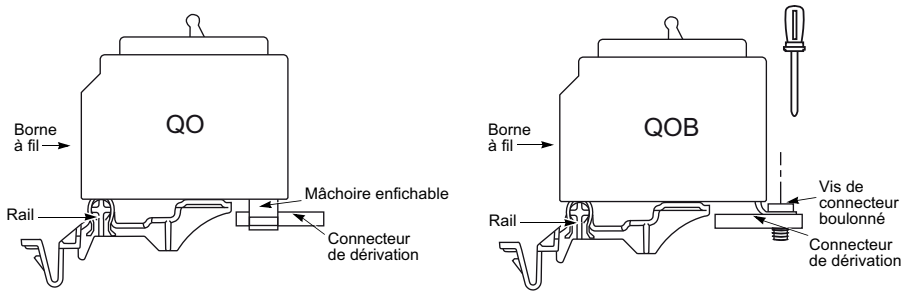
   Desserrez la vis dans le connecteur du disjoncteur et retirez le disjoncteur du connecteur de dérivation.

5. Retirez l'extrémité de la borne du câble du disjoncteur du rail de montage.

6. Réinstallez l'écran isolant.

7. Installez une plaque d'obturation dans tous les espaces pour disjoncteur de dérivation non utilisés.

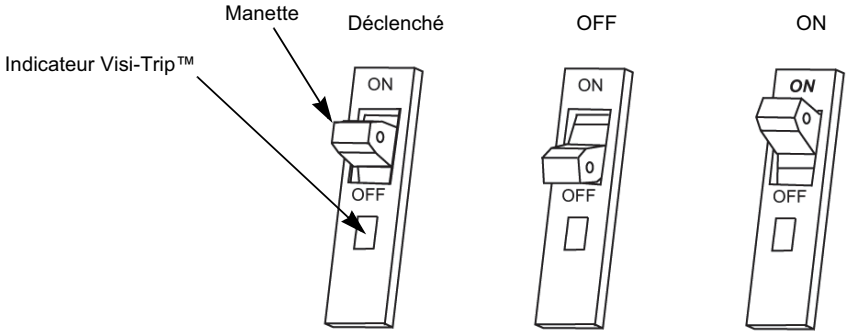
Figure 4 - Installation et dépose des disjoncteurs QO et QOB



Instructions de réarmement du disjoncteur

Si le disjoncteur est déclenché, la poignée sera en position médiane entre ON et OFF. Pour réarmer le disjoncteur, poussez la poignée en position OFF, puis en position ON.

Figure 5 - Positions de la poignée du disjoncteur



REMARQUE: Lorsque le disjoncteur s'est déclenché, la poignée prend une position centrale et l'indicateur rouge Visi-Trip apparaît dans la fenêtre du boîtier du disjoncteur. L'indicateur rouge Visi-Trip n'est visible que lorsque le disjoncteur s'est déclenché.

Préparation de l’écran isolant

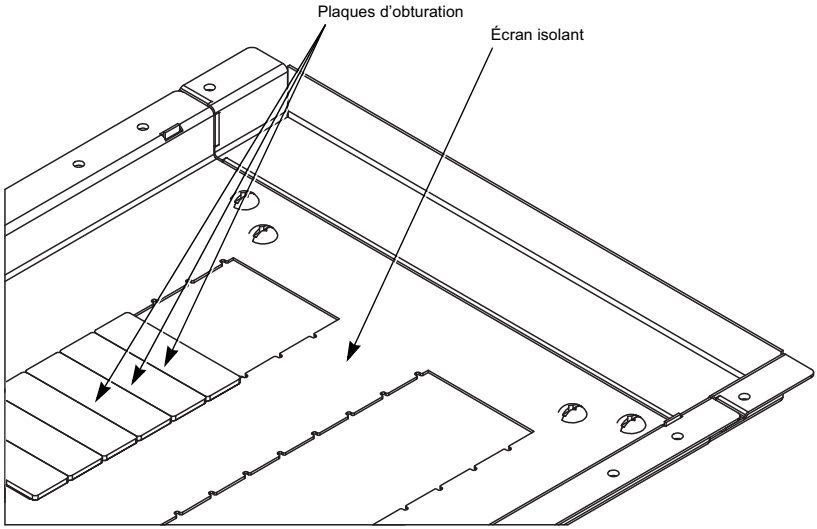
⚠ DANGER

RISQUE D’ÉLECTROCUTION, D’EXPLOSION OU D’ÉCLAIR D’ARC

- Portez un équipement de protection individuelle (EPI) approprié et observez les méthodes de travail électrique sécuritaire. Voir NFPA 70E, NOM-029-STPS ou CSA Z462, ou un équivalent local de la norme.
- Avant de mettre le panneau de distribution sous tension, comblez tous les espaces inutilisés à l’aide de plaques d’obturation.
- Remettez en place tous les dispositifs, les portes et les couvercles avant de mettre l’équipement sous tension.

Le fait de ne pas suivre ces instructions entrainera des blessures graves, voire mortelles.

Figure 6 - Diagramme de l’écran isolant



REMARQUE: Le dos de l’écran isolant indique le numéro de catalogue des plaques d’obturation compatibles correspondantes.

Annexe 1 : Spécifications

Câblage typique

Des informations supplémentaires sont fournies sur le panneau de distribution. Voir la valeur nominale du disjoncteur principal, s'il est utilisé.

Tableau 1 - Câblage typique du panneau de distribution

Tension CA	Panneaux de distribution monophasés		Tableaux de distribution triphasés	
	Phase	Fils	Phase	Fils
208Y/120	—	—	3	4
120/240	1	3	—	—
240[1]	1	2	3	4
240[2]	1	3	—	—
240/120[3]	—	—	3	4 Triangle

1. Pour ce système, le neutre n'est pas utilisé et seuls des disjoncteurs de 240 V CA minimum doivent être utilisés. N'utilisez pas de disjoncteurs de 120 V ou 120/240 V CA.
2. Pour un système de phase B mis à la terre, seuls des disjoncteurs de 240 V CA minimum doivent être utilisés. N'utilisez pas de disjoncteurs de 120 V ou 120/240 V CA.
3. Lors du câblage d'un système en triangle, la tension simple entre les phases A et C et le neutre doit être de 120 V, et la tension simple entre la phase B et le neutre doit être de 208 V. Ne connectez que des disjoncteurs d'une valeur nominale de 240 V CA minimum. N'utilisez pas de disjoncteurs de 120 V ou de 120/240 V sur la phase B.

Disjoncteur principal intégré ou secondaire

PowerPacT à châssis H, J, L et Q; LA, LH, QO(B)(VH)

Figure 7 - Schéma de cosses principales NQ/NQM 100-225 A ou de disjoncteur principal 100-250 A

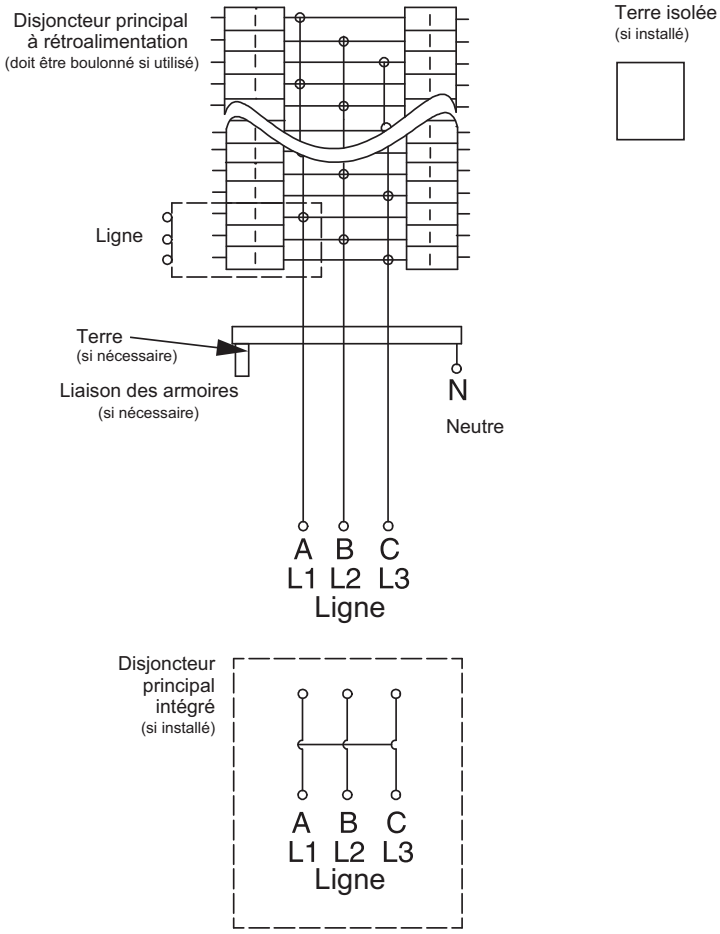


Figure 8 - Schéma de cosses principales ou disjoncteur principal (avec ou sans cosses traversantes) NF 400-600 A pour panneaux de distribution NQ ou centre de charge QONQ

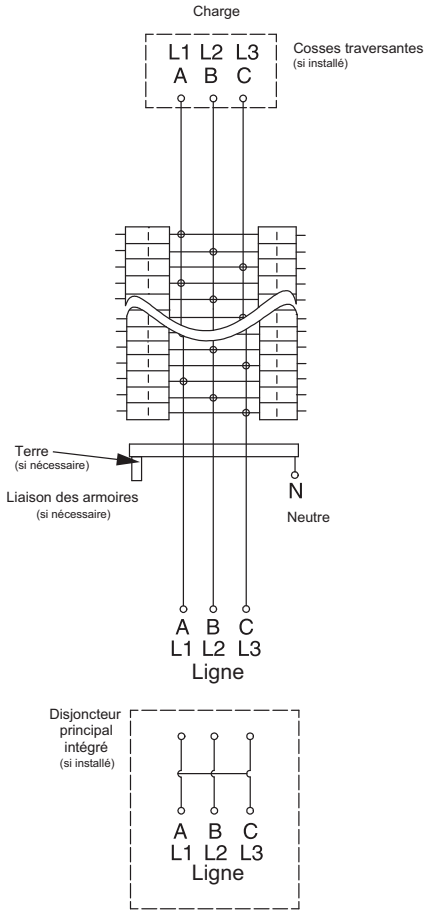


Figure 9 - Disjoncteurs principaux NF 400-600 A pour panneaux de distribution NQ ou centres de charge QONQ avec cosses traversantes ou disjoncteurs secondaires

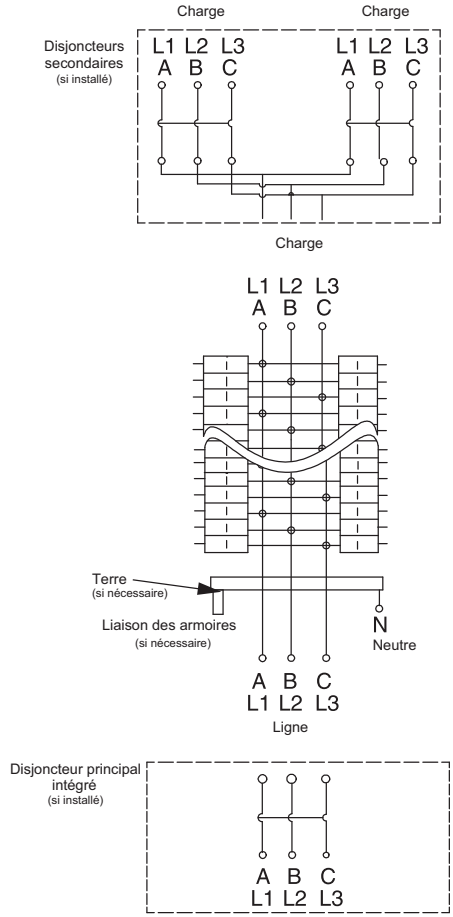
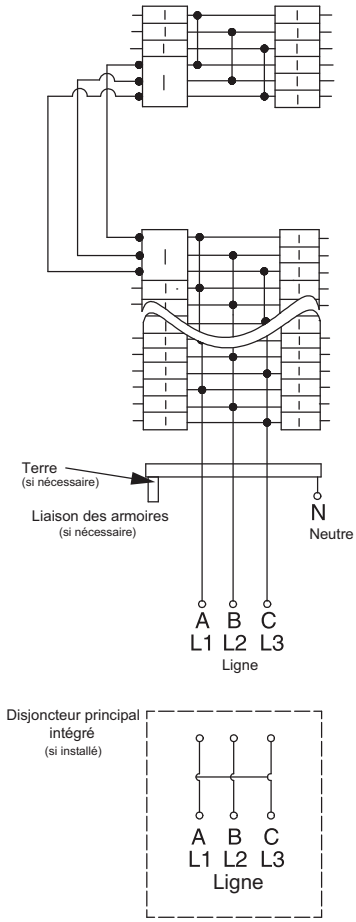


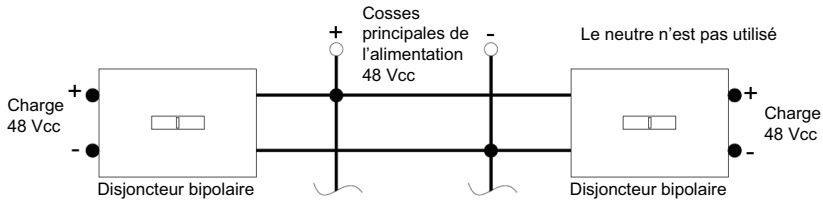
Figure 10 - Schéma typique d'un panneau de distribution NQ avec bus divisé



Convient aux systèmes de 48 Vcc maximum

Pour une utilisation avec des systèmes non mis à la terre 48 Vcc maximum uniquement. Utiliser uniquement des disjoncteurs principaux de dérivation ou à alimentation par dérivation de type QO(B), bipolaires, 10-60 A, avec le suffixe 5272, prévus pour une alimentation de 48 Vcc maximum. Le courant nominal de court-circuit est limité à 5 kA pour une utilisation dans un réseau de 48 Vcc.

Pour les disjoncteurs d'alimentation principale et secondaire montés verticalement, utiliser uniquement des disjoncteurs à châssis H, J et LA/LH. Le courant nominal de court-circuit est limité à 20 kA (châssis H, J), 10 kA (châssis LA) et 50 kA (châssis LH) pour une utilisation dans un réseau de 48 Vcc.



Valeurs nominales du panneau de distribution

Consultez les codes et normes en vigueur localement pour plus d'informations. L'étiquette pour un système qualifié pour utilisation en série se trouve dans le sachet.

Courant nominal de court-circuit pour des disjoncteurs raccordés en série (valeurs symétriques efficaces)

- Les valeurs nominales des séries indiquées pour des tensions plus élevées s'appliquent à des tensions plus basses (Exemple : 240 3P/3F couvre 208Y/120 3P/4F).
- Les essais de court-circuit sont effectués à 100-105 % de la tension nominale max. du panneau de distribution.
- « MC » désigne des disjoncteurs critiques.
- Lorsque LG est indiqué, LJ et LL peuvent être utilisés.

- Sauf indication contraire, les disjoncteurs principaux peuvent s'appliquer à l'intensité nominale max. disponible.
- Les suffixes HID, SWD et SWN peuvent également s'appliquer aux disjoncteurs de dérivation appropriés figurant ci-dessous.
- Lorsque les disjoncteurs QO(B) sont indiqués ci-dessous, les disjoncteurs QO(B)H, QO(B)VH et QH(B) peuvent également être utilisés.
- Les disjoncteur bipolaires CAFI ne peuvent pas être utilisés sur les systèmes triphasés.

Tableau 2 - Tension max. du système CA : 120/240 1P/3F, 208Y/120 3P/4F, 240/120 3P/4F

Courant nominal de court-circuit max.	Disjoncteurs principaux intégrés ou à distance et fusibles principaux à distance Square D	Désignation catalogue des disjoncteurs de dérivation Square D et plages d'intensité admissibles			
		Type	Unipolaire	Bipolaire	Tripolaire
18 000	LA/LH MC	QO(B)	15-30 A	15-30 A	—
22 000	QO(B) VH QOB-VH	QO(B)	15-70 A	15-125 A	—
		QO(B) GFI	15-30 A	15-60 A	—
		QO(B) EPD	15-30 A	15-60 A	—
		QO(B) PL	15-30 A	15-60 A	—
		QO(B) AFI	15-20 A	—	—
		QO(B) CAFI	15-20 A	15-20 A	—
		QO(B) DF	15-20 A	—	—

Tableau 2 - Tension max. du système CA : 120/240 1P/3F, 208Y/120 3P/4F, 240/120 3P/4F (Suite)

Courant nominal de court-circuit max.	Disjoncteurs principaux intégrés ou à distance et fusibles principaux à distance Square D	Désignation catalogue des disjoncteurs de dérivation Square D et plages d'intensité admissibles			
		Type	Unipolaire	Bipolaire	Tripolaire
25 000	QD	QO(B)	15-70 A	15-125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15-30 A	15-60 A	—
		QO(B) GFI	15-30 A	15-60 A	—
		QO(B) EPD	15-30 A	15-60 A	—
		QO(B) AFI	15-20 A	—	—
		QO(B) CAFI	15-20 A	15-20 A	—
		QO(B) DF	15-20 A	—	—
	ED	QO(B)	15-70 A	15-125 A	—
		QO(B) GFI	15-30 A	15-60 A	—
		QO(B) EPD	15-30 A	15-60 A	—
		QO(B) AFI	15-20 A	—	—
		QO(B) CAFI	15-20 A	15-20 A	—
		QO(B) DF	15-20 A	—	—
	BD, HD, JD, LG	QO(B)	15-70 A	15-125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15-30 A	15-60 A	—
		QO(B) GFI	15-30 A	15-60 A	—
		QO(B) EPD	15-30 A	15-60 A	—
		QO(B) AFI	15-20 A	—	—
	BD, HD, JD, LG	QO(B) CAFI	15-20 A	15-20 A	—
		QO(B) DF	15-20 A	—	—
42 000	LA, MA	QO(B)	15-30 A	15-30 A	—

Tableau 2 - Tension max. du système CA : 120/240 1P/3F, 208Y/120 3P/4F, 240/120 3P/4F (Suite)

Courant nominal de court-circuit max.	Disjoncteurs principaux intégrés ou à distance et fusibles principaux à distance Square D	Désignation catalogue des disjoncteurs de dérivation Square D et plages d'intensité admissibles			
		Type	Unipolaire	Bipolaire	Tripolaire
65 000	QG	QO(B)	15-70 A	15-125 A	—
		QO(B) VH	15-70 A	15-125 A	—
		QOB-VH	—	150 A	—
		QO(B) GFI	15-30 A	15-60 A	—
		QO(B) PL	15-30 A	15-60 A	—
		QO(B) AFI	15-20 A	—	—
		QO(B) CAFI	15-20 A	15-20 A	—
		QO(B) DF	15-20 A	—	—
	EG	QO(B)	15-70 A	15-125 A	—
	EG	QO(B) GFI	15-30 A	15-60 A	—
		QO(B) EPD	15-30 A	15-60 A	—
		QO(B) EPE	—	—	—
		QO(B) AFI	15-20 A	—	—
		QO(B) CAFI	15-20 A	15-20 A	—
		QO(B) DF	15-20 A	—	—
	BG, HG, JG, LG	QO(B)	15-70 A	15-125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15-30 A	15-60 A	—
		QO(B) GFI	15-30 A	15-60 A	—
		QO(B) EPD	15-30 A	15-60 A	—
		QO(B) AFI	15-20 A	—	—
		QO(B) CAFI	15-20 A	15-20 A	—
		QO(B) DF	15-20 A	—	—

Tableau 2 - Tension max. du système CA : 120/240 1P/3F, 208Y/120 3P/4F, 240/120 3P/4F (Suite)

Courant nominal de court-circuit max.	Disjoncteurs principaux intégrés ou à distance et fusibles principaux à distance Square D	Désignation catalogue des disjoncteurs de dérivation Square D et plages d'intensité admissibles			
		Type	Unipolaire	Bipolaire	Tripolaire
100 000	QJ	QO(B)	15-70 A	15-125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15-30 A	15-60 A	—
		QO(B) GFI	15-30 A	15-60 A	—
		QO(B) EPD	15-30 A	15-60 A	—
		QO(B) AFI	15-20 A	—	—
		QO(B) CAFI	15-20 A	15-20 A	—
		QO(B) DF	15-20 A	—	—
	EJ	QO(B)	15-70 A	15-125 A	—
		QO(B) GFI	15-30 A	15-60 A	—
	EJ	QO(B) EPD	15-30 A	15-60 A	—
		QO(B) AFI	15-20 A	—	—
		QO(B) CAFI	15-20 A	15-20 A	—
		QO(B) DF	15-20 A	—	—
	BJ, HJ, JJ	QO(B)	15-70 A	15-125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15-30 A	15-60 A	—
		QO(B) GFI	15-30 A	15-60 A	—
		QO(B) EPD	15-30 A	15-60 A	—
		QO(B) AFI	15-20 A	—	—
		QO(B) CAFI	15-20 A	15-20 A	—
		QO(B) DF	15-20 A	—	—
	LJ	QO(B)	15-70 A	15-125 A	—
		QOB-VH	—	150 A	—
		QO(B) GFI	—	15-60 A	—
		QO(B) EPD	—	15-60 A	—
		QO(B) AFI	15-20 A	—	—
		QO(B) CAFI	15-20 A	15-20 A	—
		QO(B) DF	15-20 A	—	—

Tableau 2 - Tension max. du système CA : 120/240 1P/3F, 208Y/120 3P/4F, 240/120 3P/4F (Suite)

Courant nominal de court-circuit max.	Disjoncteurs principaux intégrés ou à distance et fusibles principaux à distance Square D	Désignation catalogue des disjoncteurs de dérivation Square D et plages d'intensité admissibles			
		Type	Unipolaire	Bipolaire	Tripolaire
125 000	HL, JL	QO(B)	15-70 A	15-125 A	—
		QOB-VH	—	150 A	—
		QO(B) PL	15-30 A	15-60 A	—
		QO(B) GFI	15-30 A	15-60 A	—
		QO(B) EPD	15-30 A	15-60 A	—
		QO(B) AFI	15-20 A	—	—
		QO(B) CAFI	15-20 A	15-20 A	—
		QO(B) DF	15-20 A	—	—
200 000	HR, JR	QO(B)	15-70 A	15-125 A	—
		QO(B) GFI	15-30 A	15-60 A	—
		QO(B) EPD	15-30 A	15-60 A	—
		QO(B) AFI	15-20 A	—	—
	HR, JR	QO(B) CAFI	15-20 A	15-20 A	—
		QO(B) DF	15-20 A	—	—

Tableau 3 - Tension max. du système CA : 240 1P/2F

Courant nominal de court-circuit max.	Disjoncteurs principaux intégrés ou à distance et fusibles principaux à distance Square D	Désignation catalogue des disjoncteurs de dérivation Square D et plages d'intensité admissibles			
		Type	Unipolaire	Bipolaire	Tripolaire
25 000	QD, BD, HD, JD, LG	QO(B) H	—	15-100 A	—
42 000	LA, MA	QDL	—	70-225 A	—
65 000	QG, BG, HG, JG, LG	QO(B) H	—	15-100 A	—
100 000	BJ, HJ, JJ, LJ	QO(B) H	—	15-100 A	—
125 000	HL, JL	QO(B) H	—	15-100 A	—

Tableau 4 - Tension max. du système CA : 208Y/120 3P/4F

Courant nominal de court-circuit max.	Disjoncteurs principaux intégrés ou à distance et fusibles principaux à distance Square D	Désignation catalogue des disjoncteurs de dérivation Square D et plages d'intensité admissibles			
		Type	Unipolaire	Bipolaire	Tripolaire
18 000	LA/LH MC	QO(B)	—	—	15-30 A
22 000	QO(B) VH, QOB-VH	QO(B) GFI	—	—	15-50 A

Tableau 4 - Tension max. du système CA : 208Y/120 3P/4F (Suite)

Courant nominal de court-circuit max.	Disjoncteurs principaux intégrés ou à distance et fusibles principaux à distance Square D	Désignation catalogue des disjoncteurs de dérivation Square D et plages d'intensité admissibles			
		Type	Unipolaire	Bipolaire	Tripolaire
25 000	QD, ED, FD, BD, HD, JD	QO(B) GFI	—	—	15-50 A
	LG	QO(B) GFI	—	—	15-30 A
65 000	QG, EG, BG, HG, JG	QO(B) GFI	—	—	15-50 A
	LG	QO(B) GFI	—	—	15-30 A
100 000	QJ	QO(B)	—	—	15-30 A
		QO(B) VH	—	—	15-100 A
		QOB-VH	—	—	110-150 A
		QO(B) PL	—	—	15-30 A
		QO(B) GFI	—	—	15-50 A
		QO(B) EPD	—	—	15-50 A
		QO(B) EPE	—	—	15-50 A
	EJ, BJ, HJ, JJ	QO(B) GFI	—	—	15-50 A

Tableau 5 - Tension max. du système CA : 240/120 3P/4F, 240 3P/3F

Courant nominal de court-circuit max.	Disjoncteurs principaux intégrés ou à distance et fusibles principaux à distance Square D	Désignation catalogue des disjoncteurs de dérivation Square D et plages d'intensité admissibles			
		Type	Unipolaire	Bipolaire	Tripolaire
22 000	QOB VH QOB-VH	QO(B)	—	—	15-100 A
		QO(B) EPD	—	—	15-50 A
		QO(B) EPE	—	—	15-50 A
25 000	QD	QO(B)	—	—	15-30 A
	QD	QO(B) VH	—	—	15-100 A
		QOB-VH	—	—	110-150 A
		QO(B) PL	—	—	15-30 A
		QO(B) EPD	—	—	15-50 A
		QO(B) EPE	—	—	15-50 A
	ED	QO(B)	—	—	15-100 A
		QO(B) EPD	—	—	15-50 A
		QO(B) EPE	—	—	15-50 A
	BD, HD, JD	QO(B)	—	—	15-100 A
		QOB-VH	—	—	110-150 A
		QO(B) PL	—	—	15-30 A
		QO(B) EPD	—	—	15-50 A
		QO(B) EPE	—	—	15-50 A
	LG	QO(B)	—	—	15-30 A
		QO(B) VH	—	—	15-100 A
		QOB-VH	—	—	110-150 A
		QO(B) EPD	—	—	15-30 A
		QO(B) EPE	—	—	15-30 A
42 000	LA, MA	QDL	—	—	70-225 A
		QO(B) VH	—	—	15-30 A
	MG	QOB-VH	—	—	110-150 A

Tableau 5 - Tension max. du système CA : 240/120 3P/4F, 240 3P/3F (Suite)

Courant nominal de court-circuit max.	Disjoncteurs principaux intégrés ou à distance et fusibles principaux à distance Square D	Désignation catalogue des disjoncteurs de dérivation Square D et plages d'intensité admissibles			
		Type	Unipolaire	Bipolaire	Tripolaire
65 000	QG	QO(B)	—	—	15-30 A
		QO(B) VH	—	—	15-100 A
	QG	QOB-VH	—	—	110-150 A
		QO(B) PL	—	—	15-30 A
	EG	QO(B)	—	—	15-100 A
		QOB-VH	—	—	110-125 A
		QO(B) EPD	—	—	15-50 A
		QO(B) EPE	—	—	15-50 A
	BG, HG, JG	QO(B)	—	—	15-100 A
		QOB-VH	—	—	110-150 A
		QO(B) PL	—	—	15-30 A
		QO(B) EPD	—	—	15-50 A
		QO(B) EPE	—	—	15-50 A
	LG	QO(B)	—	—	15-30 A
		QO(B) VH	—	—	15-100 A
		QOB-VH	—	—	110-150 A
		QO(B) EPD	—	—	15-30 A
		QO(B) EPE	—	—	15-30 A
100 000	EJ	QO(B)	—	—	15-100 A
		QOB-VH	—	—	110-125 A
		QO(B) EPD	—	—	15-50 A
		QO(B) EPE	—	—	15-50 A
	BJ, HJ, JJ	QO(B)	—	—	15-100 A
		QOB-VH	—	—	110-150 A
		QO(B) PL	—	—	15-30 A
		QO(B) EPD	—	—	15-50 A
		QO(B) EPE	—	—	15-50 A
	LJ	QO(B)	—	—	15-30 A
		QO(B) VH	—	—	15-100 A
		QOB-VH	—	—	110-150 A

Tableau 5 - Tension max. du système CA : 240/120 3P/4F, 240 3P/3F (Suite)

Courant nominal de court-circuit max.	Disjoncteurs principaux intégrés ou à distance et fusibles principaux à distance Square D	Désignation catalogue des disjoncteurs de dérivation Square D et plages d'intensité admissibles			
		Type	Unipolaire	Bipolaire	Tripolaire
125 000	HL, JL	QO(B)	—	—	15-100 A
	HL, JL	QOB-VH	—	—	110-150 A
		QO(B) PL	—	—	15-30 A
		QO(B) EPD	—	—	15-50 A
		QO(B) EPE	—	—	15-50 A
200 000	HR, JR	QO(B)	—	—	15-100 A
		QOB-VH	—	—	110-150 A

Tableau 6 - Tension max. du système CA : 120/240 1P/3F, 208Y/120 3P/4F, 240/120 3P/3F

Max. nominal de court-circuit max.	Disjoncteurs principaux intégrés ou à distance et fusibles principaux à distance Square D	Désignation catalogue des disjoncteurs de dérivation Square D et plages d'intensité admissibles			
		Type	Unipolaire	Bipolaire	Tripolaire
42 000	Fusibles classe T3 400 A max.	QO(B) VH	15-70 A	15-125 A	—
65 000	Fusibles classe J 400 A max.	QO(B) VH	15-70 A	15-125 A	—
		QO(B) AFI	15-20 A	—	—
		QO(B) CAFI	15-20 A	15-20 A	—
		QO(B) DF	15-20 A	—	—
	Fusibles classe T6 400 A max.	QO(B) VH	15-70 A	15-125 A	—
		QOB-VH	—	150 A	—
		QO(B) AFI	15-20 A	—	—
		QO(B) CAFI	15-20 A	15-20 A	—
		QO(B) DF	15-20 A	—	—
100 000	Fusibles de classe T3 200 A max.	QO(B)	15-70 A	15-125 A	—
		QO(B) GFI	15-30 A	15-60 A	—
		QO(B) EPD	15-30 A	15-60 A	—
		QO(B) AFI	15-20 A	—	—
		QO(B) CAFI	15-20 A	15-20 A	—
		QO(B) DF	15-20 A	—	—

Tableau 6 - Tension max. du système CA : 120/240 1P/3F, 208Y/120 3P/4F, 240/120 3P/3F (Suite)

Max. nominal de court-circuit max.	Disjoncteurs principaux intégrés ou à distance et fusibles principaux à distance Square D	Désignation catalogue des disjoncteurs de dérivation Square D et plages d'intensité admissibles			
		Type	Unipolaire	Bipolaire	Tripolaire
200 000	Fusibles classe T6 ou J 200 A max.	QO(B)	15-70 A	15-125 A	—
		QO(B) GFI	15-30 A	15-60 A	—
		QO(B) EPD	15-30 A	15-60 A	—
	Fusibles de classe T3 400 A max.	QO(B)	15-70 A	15-125 A	—
		QO(B) GFI	15-30 A	15-60 A	—
		QO(B) EPD	15-30 A	15-60 A	—

Tableau 7 - Tension max. du système CA : 208Y/120 3P/4F

Courant nominal de court-circuit max.	Disjoncteurs principaux intégrés ou à distance et fusibles principaux à distance Square D	Désignation catalogue des disjoncteurs de dérivation Square D et plages d'intensité admissibles			
		Type	Unipolaire	Bipolaire	Tripolaire
65 000	400 A max. Classe J	QO(B) GFI	—	—	15-50 A
100 000	200 A max. Classe T3	QO(B) GFI	—	—	15-50 A
200 000	Fusibles de classe T6 ou J 200 A max.	QO(B) GFI	—	—	15-50 A
	400 A max. Fusibles classe T3	QO(B) GFI	—	—	15-50 A

Tableau 8 - Tension max. du système CA : 240/120 3P/4F, 240 3P/3F

Courant nominal de court-circuit max.	Disjoncteurs principaux intégrés ou à distance et fusibles principaux à distance Square D	Désignation catalogue des disjoncteurs de dérivation Square D et plages d'intensité admissibles			
		Type	Unipolaire	Bipolaire	Tripolaire
50 000	600 A max. Fusibles classe T3	QO(B) VH	—	—	15-30 A
65 000	400 A max. Fusibles classe J	QO(B) VH	—	—	15-100 A
	400 A max. Fusibles classe T6	QO(B) VH	—	—	15-100 A
		QOB-VH	—	—	110-150 A
100 000	200 A max. Fusibles classe T3	QO(B)	—	—	15-100 A
		QO(B) EPD	—	—	15-50 A
		QO(B) EPE	—	—	15-50 A

Tableau 8 - Tension max. du système CA : 240/120 3P/4F, 240 3P/3F (Suite)

Courant nominal de court-circuit max.	Disjoncteurs principaux intégrés ou à distance et fusibles principaux à distance Square D	Désignation catalogue des disjoncteurs de dérivation Square D et plages d'intensité admissibles			
		Type	Unipolaire	Bipolaire	Tripolaire
200 000	Fusibles classe T6 ou J 200 A max.	QO(B)	—	—	15-100 A
		QO(B) EPD	—	—	15-50 A
		QO(B) EPE	—	—	15-50 A
	Fusibles de classe T3 400 A max.	QO(B)	—	—	15-100 A
		QO(B) EPD	—	—	15-50 A
		QO(B) EPE	—	—	15-50 A

REMARQUE: Dans le tableau suivant, « Type » comprend les disjoncteurs AFI, CAFI, EPD et GFI.

Tableau 9 - Sélectivité des disjoncteurs critiques pour panneaux NQ

Courant nominal de court-circuit maximum (symétrique efficace)	Disjoncteurs principaux intégrés ou à distance	Disjoncteurs de dérivation			
		Type	Unipo-laire	Bipolaire	Tripolaire
Entièrement calibré et sélectif jusqu'à 10 kA à 208Y / 120 Vac ou à 240/120 Vac	J-W, 250 A L-W, 250 A	QOB	10 à 70	10 à 125	10 à 125
		QOB-H			
		QOB-VH			
		QH			
Convient au raccordement en série et sélectif jusqu'à 12 kA à 208Y/120 V CA ou à 240/120 V CA	J-W, 250 A	QOB	10 à 70	10 à 125	10 à 60
		QOB-H			
		QOB-VH			
		QH			
Convient au raccordement en série et sélectif jusqu'à 15 kA à 208Y/120 V CA ou à 240/120 V CA	J-W, 250 A	QOB	10 à 60	10 à 60	10-30
		QOB-H			
		QOB-VH			
		QH			

Tableau 9 - Sélectivité des disjoncteurs critiques pour panneaux NQ (Suite)

Courant nominal de court-circuit maximum (symétrique efficace)	Disjoncteurs principaux intégrés ou à distance	Disjoncteurs de dérivation			
		Type	Unipo-laire	Bipolaire	Tripolaire
Convient au raccordement en série et sélectif jusqu'à 18 kA à 208Y/120 V CA ou à 240/120 V CA	J-W, 250 A	QOB	10-30	10-30	—
		QOB-H			
		QOB-VH			
		QH			
	L-W, 250 A	QOB	10 à 60	10 à 60	10 à 60
		QOB-H			
		QOB-VH			
		QH			
Convient au raccordement en série et sélectif jusqu'à 30 kA à 208Y/120 V CA ou à 240/120 V CA	L-W, 400 A L-W, 600 A	QOB	15 à 70	15 à 150	15 à 150
		QOB-H			
		QOB-VH			
		QH			

Tableau 10 - Courant nominal de court-circuit[4] pour les intérieurs de cosses principales avec cosses d'alimentation secondaire ou traversantes

Tension de système CA maximale	Courant nominal maximal	Circuits de dérivation[5]	Application	Additionneur[6]	Courant nominal de court-circuit max.[7]
240	100	18, 30	SFL et FTL	—	10000
	225	30, 42, 54, 72, 84, 96	SFL	152,4 mm (6 po)	
		42	FTL	—	
		30, 54, 72, 84, 96		152,4 mm (6 po)	
	400	30, 42, 54, 72, 84	SFL	—	25 000
		96		—	10000
		30, 84	FTL	—	25 000
		96		—	10000
		42, 54, 72		152,4 mm (6 po)	25 000
	600	30, 42, 54, 72, 84	FTL	304,8 mm (12 po)	
		96			10000

Marquage CE

- Les intérieurs portant la marque « CE » sont conformes aux normes CEI 61439-1 et CEI 61439-2.
- L'intérieur à cosses principales portant la marque « CE » a été testé pour résister à une intensité de 10 000 A RMS symétrique pendant 30 cycles.
- Les intérieurs portant la marque « CE » ne sont autorisés que pour une utilisation avec les disjoncteurs de dérivation QOXD ou QOBXD qui portent la marque « CE ».

4. Cette classification s'applique aux intérieurs à cosses principales, équipés de cosses secondaires ou traversantes, lorsque le dispositif alimentant l'intérieur est inconnu ou n'est pas un dispositif Square D. Utilisé en amont de ces cosses, un disjoncteur principal Square D permet d'obtenir une puissance égale à celle du disjoncteur. Les essais de court-circuit sont effectués à 100-105 % de la tension nominale max. du panneau de distribution.
5. La configuration à 96 circuits avec dispositif de protection contre les surtensions (SPD) a 84 circuits de dérivation utilisables.
6. L'additionneur est la longueur supplémentaire de l'armoire.
7. Ampères symétriques efficaces, pour trois cycles.

Restrictions QO2150VH, QO2175VH et QO2200VH

AVIS

RISQUE DE DOMMAGES MATÉRIELS

- Ne pas installer les unités QO2150(VH), QO2175(VH) ou QO2200 (VH) dans des applications parasismiques.
- Ne pas installer les unités QO2150(VH), QO2175(VH) ou QO2200 (VH) dans des applications de réseau triphasé.
- Ne pas installer plus de quatre QO2175(VH) ou QO2200(VH) au total sur des armoires NEMA 1.
- Ne pas installer plus d'un QO2175(VH) ou QO2200(VH) dans des armoires étanches ventilées NEMA 3R.
- Ne pas installer les unités QO2150(VH), QO2175(VH) ou QO2200 (VH) les unes à côté des autres.
- Ne pas installer dans des armoires étanches non ventilées (3R/5/ 12, 4/4X).
- Pour les disjoncteurs QO2175(VH) et QO2200(VH), installer des façades à verrouillage en trois points.

Le fait de ne pas suivre ces instructions peut endommager l'équipement.

Laisser au moins quatre espaces vides pour plaques d'obturation vides ou disjoncteurs de 125 A ou moins avant d'installer un autre QO2150 (VH), QO2175(VH) ou QO2200(VH).

Placer les unités QO2150(VH), QO2175(VH) et QO2200(VH) à côté de l'extrémité de la ligne, à droite pour les applications à arrivée par le haut.

Placer les unités QO2150(VH), QO2175(VH) et QO2200(VH) à côté de l'extrémité de la ligne, à gauche pour les applications à arrivée par le bas.

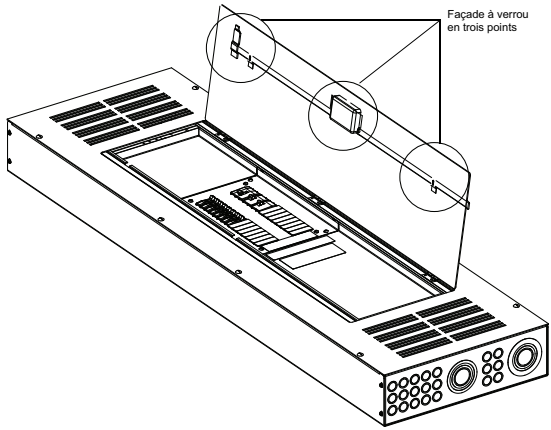
Unités QO2150(VH), QO2175(VH) et QO2200(VH) pour les applications monophasées uniquement.

Tableau 11 - Façades à verrouillage en trois points – Numéro de catalogue[8]

Type	Montage en surface	Montage encastré
Norme	NC50VS3P	NC50VF3P
	NC56VS3P	NC50VF3P
	NC62VS3P	NC62VF3P
	NC68VS3P	NC68VF3P
	NC74VS3P	NC74VF3P
	NC80VS3P	NC80VF3P
	NC86VS3P	NC86VF3P
	NC92VS3P	NC92VF3P
À charnière	NC62VS3PHR	NC62VF3PHR
	NC68VS3PHR	NC68VF3PHR
	NC74VS3PHR	NC74VF3PHR
	NC80VS3PHR	NC80VF3PHR
	NC86VS3PHR	NC86VF3PHR
	NC92VS3PHR	NC92VF3PHR

8. V=Ventilé, HR=Charnière à droite, 3P=Trois points.

Figure 11 - Façade à verrou en trois points



Annexe 2 : Kits d’accessoires

Un assortiment de kits d’accessoires à installer sur place est disponible pour les panneaux NQ :

- Kits de barres de m.à.l.t.
- Kits de cosses de neutre surdimensionnées pour panneaux de 100-600 A
- Kits de cosses secondaires pour panneaux de distribution 100-400 A
- Kit de cosses principales
  - Kits de cosses mécaniques en aluminium
  - Kits de cosses mécaniques en cuivre
  - Kits de cosses à sertir Versa-Crimp en aluminium
  - Kits de cosses à sertir Versa-Crimp en cuivre
- Kits de barrières côté ligne et de brides de fixation au neutre

Kits de barres de m.à.l.t.

Les kits de barres de m.à.l.t. de l'équipement, adaptés aux fils de cuivre ou d'aluminium, répondent aux besoins de mise à la terre des panneaux NQ et des centres de charge QONQ.

Tableau 12 - Spécifications des kits de barre de mise à la terre de l'équipement

Panneau de distribution		Utiliser le numéro de catalogue du kit de barres de m.à.l.t.	
Circuit de dérivation	Calibre Du Réseau	Aluminium[9]	Cuivre[10]
1 à 42	600 A maximum	(1) PK27GTA	(1) PK27GTACU
54 à 84		(2) PK27GTA	(2) PK27GTACU

Les emplacements de montage de la barre de m.à.l.t. sont identifiés par le symbole de terre estampé sur la paroi arrière de l'armoire.

Kits de cosses de neutre surdimensionnées pour panneaux de 100-600 A

Des kits de cosses de neutre surdimensionnés sont disponibles pour les applications où des conducteurs de terminaison 3 AWG ou plus sont nécessaires pour le neutre.

Tableau 13 - Spécifications des kits de cosses de neutre surdimensionnées pour panneaux de 100-600 A

Calibre du disjoncteur	Numéro de catalogue du kit	Calibre de câble Al/Cu (mm^2)
70 A	QO70AN	(1) #12–#2 AWG Al ([1] 3,3–33,6) (1)#14–#4 AWG Cu ([1] 2,1–21,2)
80-100 A	NQ100AN	(1) 14 – 2/0 AWG Al/Cu ([1] 2,1–67,4)
80-120 A	Q1100AN	(1) 4 – 1/0 AWG Al/Cu ([1] 21,2–53,5)

9. Barres en aluminium adaptées aux conducteurs en cuivre ou en aluminium à 60 °C ou à 75 °C.
10. Barres en cuivre adaptées aux conducteurs en cuivre à 60 °C ou à 75 °C.

Tableau 13 - Spécifications des kits de cosses de neutre surdimensionnées pour panneaux de 100-600 A (Suite)

Calibre du disjoncteur	Numéro de catalogue du kit	Calibre de câble Al/Cu (mm^2)
110-150 A	Q1150AN[11]	(1) 1 – 2/0 AWG Al/Cu ([1] 42,4–67,4)
175-200 A	NQ200AN	(1) 4 AWG – 300 kcmil Al/Cu ([1] 21,2–152)

Kits de cosses secondaires pour panneaux de distribution 100-400 A

Les cosses principales secondaires sont disponibles pour les applications 100, 225 ou 400 A.

Tableau 14 - Spécifications des kits de cosses secondaires pour panneaux de distribution 100-400 A

Courant nominal (A)	Numéro de catalogue du kit	Nombre max. de circuits
100	NQSFL1	18, 30
225	NQSFL2	30[12], 42[13], 54[12], 72[12], 84[12]
400	NQSFL4	30, 42, 54, 72, 84

Kit de cosses principales

Tableau 15 - Kits de cosses mécaniques – Aluminium

Courant nominal (A) du panneau	Numéro de catalogue du kit	Calibre de câble Al/Cu (mm^2)
100	Standard	#6 – 2/0 AWG (13,3 – 67,43 mm^2)
225	Standard	6 AWG – 350 kcmil (13,3–177,3 mm^2)

11. N'utilisez que du fil de cuivre N° 0 (26,7 mm^2) pour les applications à disjoncteur de dérivation de 150 A.
12. Avec ces panneaux, réservez un espace supplémentaire de 152,4 mm (6 po) pour le boîtier et la façade afin de pouvoir courber les fils.
13. Avec ces panneaux, réservez un espace supplémentaire de 152,4 mm (6 po) pour le boîtier et la façade afin de pouvoir courber les fils.

Tableau 15 - Kits de cosses mécaniques – Aluminium (Suite)

Courant nominal (A) du panneau	Numéro de catalogue du kit	Calibre de câble Al/Cu (mm²)
400	Standard	(1) 1/0 AWG – 750 kcmil (2) 1/0 AWG–350 kcmil ([1] 53,48 – 380 mm²) ([2] 53,48 – 177,3 mm²)
600	Standard	(2) 1/0 AWG – 750 kcmil ([2] 53,48 – 380 mm²)
	NQALM6A	(3) 6 AWG – 250 kcmil ([3] 13,3–127 mm²)

Tableau 16 - Kits de cosses mécaniques – Cuivre

Courant nominal (A) du panneau	Numéro de catalogue du kit	Calibre de câble Al/Cu (mm²)
100	NQCUM1	#6 – 2/0 AWG (13,3 – 67,43 mm²)
225	NQCUM2	6 AWG – 250 kcmil (13,3–127 mm²)
400	NQCUM4	(1) 1/0 AWG – 750 kcmil (2) 1/0 AWG – 350 kcmil ([1] 53,48 – 380 mm²) ([2] 53,48–177,3 mm²)
600	NQCUM6	

Tableau 17 - Kits de cosses à sertir Versa-Crimp™ – Aluminium

Courant nominal (A) du panneau	Numéro de catalogue du kit	Calibre de câble Al/Cu (mm²)	Outil de sertissage
100	NQALV1	8 – 1/0 AWG (8,36–53,48 mm²)	VC6 (Tous)
225	NQALV2	#4 AWG – 300 kcmil (21,15 – 152 mm²)	
400	NQALV4	(2) 2/0 AWG – 500 kcmil ([2] 67,43 – 253,4 mm²)	VC6–3, VC6–FT
600	NQALV6		

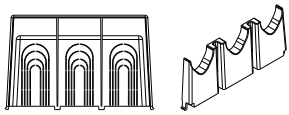
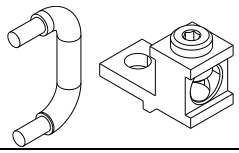
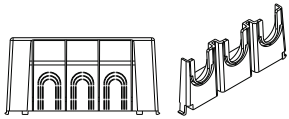
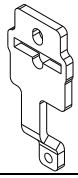
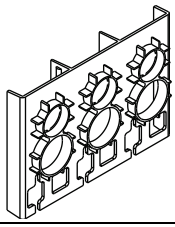
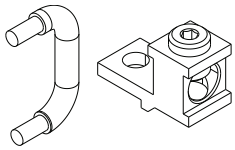
Tableau 18 - Kits de cosses à sertir™ Versa-Crimp – Cuivre

Courant nominal (A) du panneau	Numéro de catalogue du kit	Calibre de câble Al/Cu (mm²)	Outil de sertissage
100	NQCUV1	#6 – 1/0 AWG (13,30 – 53,48 mm²)	VC6 (Tous), VC7 (Tous)
225	NQCUV2	2/0 AWG – 300 kcmil (67,43–152 mm²)	VC6-3, VC7, VC6-FT, VC7–FT
400	NQCUV4	400 – 750 kcmil (202,7 – 380 mm²)	VC6-FT, VC7–FT, VC8
600	NQCUV6	(2) 250 – 500 kcmil ([2] 126,7–253,4 mm²)	VC6-3, VC7, VC6-FT, VC7–FT

Kits de barrières côté ligne et de brides de fixation au neutre

En fonction de l'application et du code d'installation adopté, une barrière côté ligne et une bride de fixation au neutre peuvent être nécessaires. Sélectionnez la barrière appropriée dans le tableau ci-dessous, en fonction du disjoncteur principal.

Tableau 19 - Kits de barrières côté ligne et de brides de fixation au neutre

N° de catalogue	Contenu		Description
	Couvercle de cosses de ligne	Bride de fixation au neutre	
NQLALLC			Couvercle de cosses de ligne NQ LA/LH, bride de fixation au neutre et cosse
NQHJQLLC			Couvercle de cosse de ligne™ NQ PowerPacT H/J/Q et bride de fixation au neutre
NQPPLLLC			Couvercle de cosses de ligne PowerPact L, bride de fixation au neutre et cosse

Lighting Associates, Inc.
3600 Swiftwater Park Drive
Suwanee GA 30024
Phone: (770) 448-9250

Date: Jan 13, 2026

Job Name
CHAMBLEE PUBLIC WORKS OFFICE RENOVATION - O&M
LAI25-264211
CHAMBLEE GA

Submittal Date
Aug 1, 2025

Architect:
Jericho Design Group, LLC
208 Pirkle Ferry Rd
CUMMING GA 30040

Engineer:
Conway & Owen Consulting Engineers
1455 Bluegrass Lakes Parkway
Alpharetta GA 30004

Transmittal

Lighting Associates, Inc.
3600 Swiftwater Park Drive
Suwanee GA 30024
Phone: (770) 448-9250
From: Claudia Popadics

Project **CHAMBLEE PUBLIC WORKS OFFICE RENOVATION - O&M**
Quote# LAI25-264211
Location CHAMBLEE GA
Contact:

ATTACHED WE ARE SENDING YOU 1 COPY OF THE FOLLOWING ITEM:

- ☐ Drawings
- ☐ Prints
- ☐ Plans
- ☐ Specifications
- ☐ Information
- ☒ Submittals

Other:

THESE ARE TRANSMITTED FOR:

- ☐ Prior Approval
- ☐ Approval
- ☐ Approval as Submitted
- ☐ Approval as Noted
- ☐ Resubmittal for Approval
- ☐ Corrections
- ☐ Your Use
- ☐ Review and Comment
- ☒ Record

Bids due on:
Other:

Qty	Type	MFG	Part
15	A	Acuity Brands Lighting	STAKS 2X4 ALO6 SWW7
5	AE	Acuity Brands Lighting	STAKS 2X4 ALO6 SWW7 IE10WCP
2	B	Acuity Brands Lighting	STAKS 2X2 ALO3 SWW7
38	C	Acuity Brands Lighting	LBR4 NCH ALO3 SWW1 AR LSS MVOLT MVOLT UGZ
10	CE	Acuity Brands Lighting	LBR4 NCH ALO3 SWW1 AR LSS MVOLT MVOLT UGZ E10WCP
8	CW	Acuity Brands Lighting	LBR4 NCH ALO3 SWW1 AR LSS MVOLT MVOLT UGZ WL
8	F	Acuity Brands Lighting	CLX L48 4000LM SEF RDL MVOLT GZ10 35K 80CRI WH + HC36
3	G	Acuity Brands Lighting	FMVCSLS 24IN MVOLT 30K35K40K 90CRI BN
1	H	Acuity Brands Lighting	TWR1 LED ALO SWW2 UVOLT PE DDBTXD
1	H	Assurance Emergency Lighting	SI-125
5	X	Acuity Brands Lighting	EDGR SERIES
1		Acuity Brands Lighting	WARRANTY

Catalog Number	
Notes	
Type	

Contractor Select™

STACK Switch

LED Center Element Lay-In

Available in 2x2 and 2x4 configurations, STACK Switch allows the end user to select from three lumen packages and three color temperatures all at an affordable price. The wide center basked and curved matte reflector allow STACK Switch to deliver a high quality of light while maintaining optimal performance.

- Contractor Select™ STACK Switch offer the most popular and readily available configurations.
- Color and lumen switching allows for maximum flexibility for contractors, distributors, and end users. High lumen settings allow for more coverage and higher mounting heights. Low lumen settings allow for lower mounting heights and increased power reduction.
- 0-10V dimming to 10%
- Long-life LEDs deliver 80% lumen maintenance at 60,000 hours

3500K 4000K 5000K

Switchable Lumens

Catalog Number	UPC	Description	Lumens	Watts	Voltage	Color Temperature	Pallet qty.
STAKS 2X2 ALO3 SWW7	194995082056	2X2 Center Element Troffer	30L/40L/50L	26W - 45W	120V - 277V	35K/40K/50K	60
STAKS 2X4 ALO6 SWW7	194995082063	2X4 Center Element Troffer	40L/50L/60L	35W - 55W	120V - 277V	35K/40K/50K	30
STAKS 2X2 ALO3 SWW7 UVOLT	196183539205	2X2 Center Element Troffer	30L/40L/50L	21W-41W	120V-347V	35K/40K/50K	60
STAKS 2X4 ALO6 SWW7 UVOLT	196183539670	2X4 Center Element Troffer	40L/50L/60L	31W-49W	120V-347V	35K/40K/50K	30

Accessories: *Order as separate catalog number.*

DGA24	Drywall grid adapter for 2x4 recessed fixture
DGA22	Drywall grid adapter for 2x2 recessed fixture
2X4 SMKSHP PAF	2X4 Surface Mount Troffer Kit
2X2 SMKSHP PAF	2X2 Surface Mount Troffer Kit
ILB CP10 A	LED emergency battery pack, 10W 50VDC (Noncompliant with CA T20)
ILBLP CP10 HE SD A	LED emergency battery pack, 10W Constant Power, Self-Diagnostic, Certified in CA Title 20 MAEDB
ELA PSRME IC	Remote enclosure for battery for insulated ceiling
RK1BDP J40	Disconnect Plug (BDP) package of 40
RK1BDP J10	Disconnect Plug (BDP) Package of 10

CS CONTRACTOR SELECT™

LITHONIA LIGHTING

PERFORMANCE DATA

SWITCHABLE TABLE

Size	Nomenclature	Lumen Package	CCT	Lumens	Wattage	Efficacy
2X2	STAKS 2X2 ALO3 SWW7	Low Lumens	35K	3561	26.92	132
			40K	3683	26.18	141
			50K	3583	27.01	133
		Medium Lumens	35K	4371	34.23	128
			40K	4563	33.13	138
			50K	4375	34.22	128
		High Lumens	35K	5035	40.92	123
			40K	5297	39.41	134
			50K	5053	40.99	123
2X4	STAKS 2X4 ALO6 SWW7	Low Lumens	35K	4325	31.5	137
			40K	4470	30.61	146
			50K	4369	31.6	138
		Medium Lumens	35K	5310	40.09	132
			40K	5517	38.71	143
			50K	5357	40.26	133
		High Lumens	35K	6170	48.51	127
			40K	6492	46.6	139
			50K	6228	48.39	129

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CS CONTRACTOR SELECT™

LITHONIA LIGHTING

Specifications

INTENDED USE:
The STACK Switch troffer delivers soft, glare-free, ambient lighting in a popular center-basket design. The slim profile of the luminaire, coupled with energy-saving LED technology make the STACK switch an ideal choice for renovation or new construction. The STACK switch troffer offers a high-quality, cost-effective LED lighting solution for schools, offices, retail, healthcare facilities and other commercial spaces.

CONSTRUCTION:
The reflector is finished with a glare reducing matte white paint for improved aesthetics and increased light diffusion. End plates contain easy-to-position integral T-bar clips for securely attaching the luminaire to the T-grid. For additional T-grid security, optional screw on T-bar clips are available. Diffusers are extruded from impact modified acrylic for increased durability. LED boards are accessible from the room-side, and drivers are accessible from the plenum.

OPTICS:
Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces – rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. High performance extruded acrylic diffusers conceal LEDs and efficiently deliver light in a volumetric distribution.

ELECTRICAL:
Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000). 0-10 volt dimming driver. Dims to 10%.

LUMEN AND COLOR SWITCHING:
Integrated lumen and color switching module is easily accessible, and mounted on the driver box on the back of the fixture. Simply adjust the toggle switch for low, medium, and high setting of both lumens and color.

INSTALLATION:
With a depth of only 1.9", the STACK Switch makes for an easy installation, especially in restrictive plenum applications. The STACK Switch fits into standard 15/16" and narrow 9/16" T-grid ceiling systems. Suitable for damp location.

LISTINGS:
CSA Certified to meet U.S. and Canadian standards. IC rated.

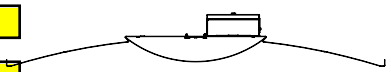
DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY:
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

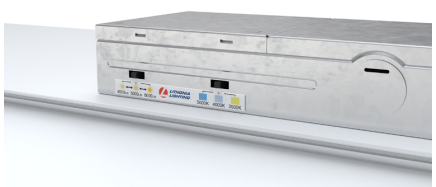
Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

Dimensions

2X4 Length: 47-3/4 (121.3)
2X2 Length: 23-3/4 (60.3)
Width: 23-3/4 (60.3)
Depth: 1.9 (4.8)



All dimensions are inches (centimeters) unless otherwise indicated.



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LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

FEATURES & SPECIFICATIONS

INTENDED USE — Available in 2X2, 2X4, and 1X4 configurations, STACK Switch provides both functionality and efficiency. Selectable lumens allows for a variety of mounting heights and switchable color temperature allow you to fine tune the look of your space. The wide center basked and curved matte reflector allow STACK Switch to deliver a high quality of light while maintaining optimal performance.

- **Lumen and color switching make the STACK switch a distributors dream! Go from stocking 108 configurations to just Twelve!**
- 0-10V dimming to 10%
- Long-life LEDs deliver 80% lumen maintenance at 60,000 hours

The STACK Switch troffer delivers glare-free, ambient lighting in a popular center-basket design. The slim profile of the luminaire, coupled with energy-saving LED technology make the STACK Switch an ideal choice for renovation or new construction. The STACK Switch troffer offers a high-quality, cost-effective LED lighting solution for schools, offices, retail, healthcare facilities and other commercial spaces.

CONSTRUCTION — The reflector is finished with a glare reducing matte white paint for improved aesthetics and increased light diffusion. End plates contain easy-to-position integral T-bar clips to securely attach the luminaire to the T-grid. Diffusers are extruded from impact modified acrylic for increased durability. LED boards are accessible from the room-side and drivers are accessible from the plenum.

INSTALLATION — With a depth of only 1.9" for standard models and XX" for CP/EM models, the STACK Switch makes for an easy installation, especially in restrictive plenum applications. The STACK Switch fits into standard 15/16" and narrow 9/16" T-grid ceiling systems. Suitable for damp location.

ELECTRICAL — Long-life LED's, coupled with high-efficiency drivers provide superior quality of light and an extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000). 0-10 volt dimming driver, dims to 10%.

Lumen and Color Switching: Integrated lumen and color switching module is easily accessible and mounted on the driver box on the back of the fixture. Simply adjust the toggle switch for low, medium, and high lumen and color settings.

OPTICS — Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces – rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. A high performance acrylic diffuser conceals LED's and efficiently delivers light in a volumetric distribution.

LISTINGS — CSA certified to meet US and Canadian standards. Damp location listed. IC rated. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

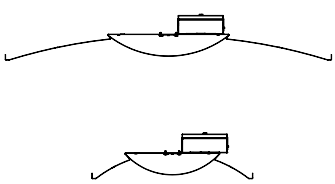
Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

LED Center Element Lay-In

STACK SWITCH

Specifications

Length 1X4: 47-3/4 (121.3)
Width 1X4: 11-3/4
Length 2X2: 23-3/4 (60.3)
Width 2X2: 23-3/4 (60.3)
Length 2X4: 47-3/4 (121.3)
Width 2X4: 23-3/4 (60.3)
Depth 1X4, 2X2, 2X4: 1.9 (4.8)
Depth 1X4, 2x2, 2x4 CP: 3-3/8 (8.57)
Depth 1X4, 2x2, 2x4 EM: 3-5/8 (9.2)



Note: Dimensions are fixture housing only. For additional information, see final page.
All dimensions are inches (centimeters) unless otherwise specified.

Switchable Lumens

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning when used with Acuity Brands controls products.
All configurations of this luminaire are calibrated and tested to meet the Acuity Brands' specifications for chromatic consistency – including color rendering, color fidelity, and color temperature tolerance around standard CIE chromaticity coordinates.

To learn more about Acuity A+ standards, specifications, and testing visit www.acuitybrands.com/aplus.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

STACK SWITCH LED Center Element Lay-In

Design Select options indicated by this color background.

Looking for Contractor Select readily available configurations? Click here to visit Contractor Select™ spec sheet or go to www.contractorselect.com

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: STAKS 2X4 ALO6 SWW7 IE10WCP

Series	Size & Lumens	Switchable	Options
STAKS STAK Switchable	1X4 ALO6 Switchable Lumens - 4000LM, 5000LM, and 6000LM	SWW7 Switchable CCT - 35K, 40K, 50K	(BLANK) No Option *
	2X2 ALO3 Switchable Lumens - 3000LM, 4000LM, and 5000LM		CP Chicago Plenum Rated *
	2X4 ALO6 Switchable Lumens - 4000LM, 5000LM, and 6000LM		IE10WCP IE10WCP 10W Emergency backup, 10W *
			UVOLT 120-347 *

* Only one option may be selected, multiple options can not be combined

ACCESSORIES

Accessories: *Order as separate catalog number.*

DGA14	Drywall grid adapter for 1x4 recessed fixture.	ELA PSRME IC	Remote enclosure for battery for insulated ceiling
DGA22	Drywall grid adapter for 2x2 recessed fixture.	*27005E RK8BDP 2P J40	Disconnect Plug (BDP) package of 40
DGA24	Drywall grid adapter for 2x4 recessed fixture.	*270055 RK8BDP 2P J10	Disconnect Plug (BDP) Package of 10
1X4SMKSHP PAF	Multi-Use Surface Mount Kit 1X4 Post-Paint	*270052 RK8BDP 2P U	Disconnect Plug (BDP) Unit Pack
2X2SMKSHP PAF	Multi-Use Surface Mount Kit 2X2 Post-Paint		
2X4SMKSHP PAF	Multi-Use Surface Mount Kit 2X4 Post-Paint		
ILB CP10 A	LED emergency battery pack, 10W 50VDC (Noncompliant with CA T20)		
ILBLP CP10 HE SD A	LED emergency battery pack, 10W Constant Power, Self-Diagnostic, Certified in CA Title 20 MAEDBS		

Stack configurations available on Contractor Select:
STAKS 2x2 ALO3 SWW7
STAKS 2x4 ALO6 SWW7
STAKS 2x2 ALO3 SWW7 UVOLT
STAKS 2x2 ALO6 SWW7 UVOLT

COMMERCIAL INDOOR: One Lithonia Way Conyers, GA 30012 Phone: 1-800-705-SERV (7378) TechSupport-Lighting@Acuitybrands.com www.acuitybrands.com

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STACK SWITCH LED Center Element Lay-In

STACK Switch
WSXA D and SPODMA D wall switches.

WSXA D

SPODMA D

PERFORMANCE DATA

SWITCHABLE TABLE *When adding an EM Battery Option, input wattage is increased by 2-4 Watts

Size	Nomenclature	Lumen Package	CCT	Lumens	Wattage	Efficacy
1X4	STAKS 1X4 ALO6 SWW7	Low Lumens	35K	4212	31.18	135
			40K	4369	30.32	144
			50K	4251	31.26	136
		Medium Lumens	35K	5205	39.92	130
			40K	5413	38.54	140
			50K	5229	39.85	131
		High Lumens	35K	6034	48.15	125
			40K	6328	46.22	137
			50K	6077	48.57	125
2X2	STAKS 2X2 ALO3 SWW7	Low Lumens	35K	3561	26.92	132
			40K	3683	26.18	141
			50K	3583	27.01	133
		Medium Lumens	35K	4371	34.23	128
			40K	4563	33.13	138
			50K	4375	34.22	128
		High Lumens	35K	5035	40.92	123
			40K	5297	39.41	134
			50K	5053	40.99	123
2X4	STAKS 2X4 ALO6 SWW7	Low Lumens	35K	4325	31.5	137
			40K	4470	30.61	146
			50K	4369	31.6	138
		Medium Lumens	35K	5310	40.09	132
			40K	5517	38.71	143
			50K	5357	40.26	133
		High Lumens	35K	6170	48.51	127
			40K	6492	46.6	139
			50K	6228	48.39	129

Emergency Battery Delivered Lumens

Total delivered lumens will differ when in emergency power, this can be calculated by using the following formula

Delivered Lumens = 1.25 x 10 x LPW

Lumens Per Watt (LPW) is calculated by Lumens / Wattage.

COMMERCIAL INDOOR: One Lithonia Way Conyers, GA 30012 Phone: 1-800-705-SERV (7378) TechSupport-Lighting@Acuitybrands.com www.acuitybrands.com

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Catalog Number	
Notes	
Type	

Contractor Select™

STACK Switch

LED Center Element Lay-In

Available in 2x2 and 2x4 configurations, STACK Switch allows the end user to select from three lumen packages and three color temperatures all at an affordable price. The wide center basked and curved matte reflector allow STACK Switch to deliver a high quality of light while maintaining optimal performance.

- Contractor Select™ STACK Switch offer the most popular and readily available configurations.
- Color and lumen switching allows for maximum flexibility for contractors, distributors, and end users. High lumen settings allow for more coverage and higher mounting heights. Low lumen settings allow for lower mounting heights and increased power reduction.
- 0-10V dimming to 10%
- Long-life LEDs deliver 80% lumen maintenance at 60,000 hours

3500K 4000K 5000K Switchable Lumens

Catalog Number	UPC	Description	Lumens	Watts	Voltage	Color Temperature	Pallet qty.
STAKS 2X2 ALO3 SWW7	194995082056	2X2 Center Element Troffer	30L/40L/50L	26W - 45W	120V - 277V	35K/40K/50K	60
STAKS 2X4 ALO6 SWW7	194995082063	2X4 Center Element Troffer	40L/50L/60L	35W - 55W	120V - 277V	35K/40K/50K	30
STAKS 2X2 ALO3 SWW7 UVOLT	196183539205	2X2 Center Element Troffer	30L/40L/50L	21W-41W	120V-347V	35K/40K/50K	60
STAKS 2X4 ALO6 SWW7 UVOLT	196183539670	2X4 Center Element Troffer	40L/50L/60L	31W-49W	120V-347V	35K/40K/50K	30

Accessories: *Order as separate catalog number.*

DGA24	Drywall grid adapter for 2x4 recessed fixture
DGA22	Drywall grid adapter for 2x2 recessed fixture
2X4 SMKSHP PAF	2X4 Surface Mount Troffer Kit
2X2 SMKSHP PAF	2X2 Surface Mount Troffer Kit
ILB CP10 A	LED emergency battery pack, 10W 50VDC (Noncompliant with CA T20)
ILBLP CP10 HE SD A	LED emergency battery pack, 10W Constant Power, Self-Diagnostic, Certified in CA Title 20 MAEDB
ELA PSRME IC	Remote enclosure for battery for insulated ceiling
RK1BDP J40	Disconnect Plug (BDP) package of 40
RK1BDP J10	Disconnect Plug (BDP) Package of 10

CS CONTRACTOR SELECT™

LITHONIA LIGHTING

PERFORMANCE DATA

SWITCHABLE TABLE

Size	Nomenclature	Lumen Package	CCT	Lumens	Wattage	Efficacy
2X2	STAKS 2X2 ALO3 SWW7	Low Lumens	35K	3561	26.92	132
			40K	3683	26.18	141
			50K	3583	27.01	133
		Medium Lumens	35K	4371	34.23	128
			40K	4563	33.13	138
			50K	4375	34.22	128
		High Lumens	35K	5035	40.92	123
			40K	5297	39.41	134
			50K	5053	40.99	123
2X4	STAKS 2X4 ALO6 SWW7	Low Lumens	35K	4325	31.5	137
			40K	4470	30.61	146
			50K	4369	31.6	138
		Medium Lumens	35K	5310	40.09	132
			40K	5517	38.71	143
			50K	5357	40.26	133
		High Lumens	35K	6170	48.51	127
			40K	6492	46.6	139
			50K	6228	48.39	129

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CS CONTRACTOR SELECT™

LITHONIA LIGHTING

Specifications

INTENDED USE:
The STACK Switch troffer delivers soft, glare-free, ambient lighting in a popular center-basket design. The slim profile of the luminaire, coupled with energy-saving LED technology make the STACK switch an ideal choice for renovation or new construction. The STACK switch troffer offers a high-quality, cost-effective LED lighting solution for schools, offices, retail, healthcare facilities and other commercial spaces.

CONSTRUCTION:
The reflector is finished with a glare reducing matte white paint for improved aesthetics and increased light diffusion. End plates contain easy-to-position integral T-bar clips for securely attaching the luminaire to the T-grid. For additional T-grid security, optional screw on T-bar clips are available. Diffusers are extruded from impact modified acrylic for increased durability. LED boards are accessible from the room-side, and drivers are accessible from the plenum.

OPTICS:
Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces – rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. High performance extruded acrylic diffusers conceal LEDs and efficiently deliver light in a volumetric distribution.

ELECTRICAL:
Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000). 0-10 volt dimming driver. Dims to 10%.

LUMEN AND COLOR SWITCHING:
Integrated lumen and color switching module is easily accessible, and mounted on the driver box on the back of the fixture. Simply adjust the toggle switch for low, medium, and high setting of both lumens and color.

INSTALLATION:
With a depth of only 1.9", the STACK Switch makes for an easy installation, especially in restrictive plenum applications. The STACK Switch fits into standard 15/16" and narrow 9/16" T-grid ceiling systems. Suitable for damp location.

LISTINGS:
CSA Certified to meet U.S. and Canadian standards. IC rated.

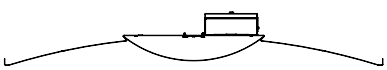
DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY:
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

Dimensions

2X4 Length: 47-3/4 (121.3)
2X2 Length: 23-3/4 (60.3)
Width: 23-3/4 (60.3)
Depth: 1.9 (4.8)



All dimensions are inches (centimeters) unless otherwise indicated.

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LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

LBR4 NCH

4" Open and Wallwash LED
New Construction Downlight

New Construction

Open Trim

Wallwash Trim

FEATURES & SPECIFICATIONS

INTENDED USE — Typical applications include corridors, lobbies, conference rooms and private offices.

CONSTRUCTION — New Construction.
Optional goof rings available for additional overlap trim coverage.
1/2"-1-1/2" ceiling thickness
25° ambient temperature
IC rated up to 1000lm

OPTICS — LEDs are binned to a 3-step MacAdam Ellipse. 55° cutoff
New construction frame approved for 8 (4 in/4 out) No. 12 AWG conductors rated for 90°C through wiring.
80CRI standard (90CRI optional)

UGR — UGR is zero for fixtures aimed at nadir with a cut-off equal to or less than 60deg, per CIE 117-1996 Discomfort Glare in Interior Lighting. UGR FAQ

ELECTRICAL — Adjustable lumen output with four module options. Fixed lumen options also available.
MVOLT 120/277V 50/60Hz driver (0-10V & 120V Phase Dimming to 10% or 1% min dimming level)
FCC CFR Title 47 Part 15 Class A for 277V. FCC CFR Title 47 Part 15 Class B for 120V

LUMEN MAINTENANCE — L80 at 60,000 hours

LISTINGS — Certified to US and Canadian safety standards. Damp location standard (Wet Location (WL) optional, requires covered ceiling). Some configurations are ENERGY STAR® certified, please visit www.energystar.gov for specific products. TAA compliant. UFC (3-530-01) specification compliant for power factor and THD. GSA P100 6.2.4 compliant for power quality at full output; compliant up to 2000lm at fully dimmed output. Drivers are ROHS compliant
Title 24 compliant (90CRI, up to 1000lm).

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

PERFORMANCE DATA

LBR4 AR LSS MWD		80CRI							
Lumen Output	Wattage	30K/80CRI		35K/80CRI		40K/80CRI		50K/80CRI	
		Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW
ALO1 (500LM)	6	570	99	584	101	597	102	616	105
ALO1 (750LM)	9	903	102	924	103	946	105	975	108
ALO1 (1000LM)	13	1268	98	1297	100	1328	102	1369	104
ALO2 (1000LM)	13	1344	108	1375	110	1408	112	1451	115
ALO2 (1500LM)	19	1961	105	2007	106	2055	108	2118	111
ALO2 (2000LM)	25	2471	99	2528	101	2588	103	2668	105
ALO3 (2000LM)	25	2542	103	2601	104	2663	106	2745	109
ALO3 (2500LM)	32	3069	98	3140	99	3214	101	3314	103
ALO3 (3000LM)	38	3485	93	3566	94	3651	96	3764	98
ALO4 (4000LM)	39	4094	106	4178	108	4262	110	4303	111
ALO4 (4500LM)	44	4519	103	4611	105	4703	107	4749	108
ALO4 (5000LM)	49	4915	100	5015	102	5115	104	5165	105

LBR4 MS MWD		80CRI							
Lumen Output	Wattage	30K/80CRI		35K/80CRI		40K/80CRI		50K/80CRI	
		Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW
ALO1 (500LM)	6	479	83	490	85	502	87	517	89
ALO1 (750LM)	9	758	85	776	87	794	89	819	92
ALO1 (1000LM)	13	1065	82	1089	84	1115	86	1150	89
ALO2 (1000LM)	13	1129	90	1155	92	1182	95	1219	98
ALO2 (1500LM)	19	1648	87	1686	89	1726	91	1779	94
ALO2 (2000LM)	25	2075	83	2124	85	2174	87	2241	90
ALO3 (2000LM)	25	2135	86	2185	88	2237	90	2306	93
ALO3 (2500LM)	32	2578	82	2638	83	2700	85	2784	88
ALO3 (3000LM)	38	2927	78	2995	79	3066	81	3162	84
ALO4 (4000LM)	39	3439	89	3510	91	3580	92	3615	93
ALO4 (4500LM)	44	3796	86	3873	88	3951	90	3989	91
ALO4 (5000LM)	49	4128	84	4213	85	4297	87	4339	88

- Tested in accordance with IESNA LM-79-08.
- Tested to current IES and NEMA standards under stabilized laboratory conditions.
- CRI: 80 typical

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

battery pack

LBR4 NCH

Design Select options indicated by this color background.

Module ordering

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: LBR4 NCH ALO2 SWW1 AR LSS MWD MVOLT UGZ 90CRI

Series / Housing Style		Lumens ‡				Color temperature ‡		Reflector Color		Reflector Flange ‡		Reflector Finish	
LBR4 NCH	4" New Construction	**Adjustable Lumen Output**		**Fixed Lumen Output**		**Switchable CCT**		AR	Clear	(blank)	Self-flanged	LSS	Semi-specular
LBR4WW NCH ‡	4" New Construction Wall Wash	ALO1	500/750/1000lm	05LM	500lm	SWW1	3000K-3500K-4000K-5000K	BR ‡	Black painted	TRW	White painted flange		
		ALO2	1000/1500/2000lm	07LM	750lm	**Fixed CCT**		MS ‡	Metallic Silver	TRBL	Black painted flange		
		ALO3	2000/2500/3000lm	10LM	1000lm	27K	2700K	WR ‡	White painted	FCPC	Custom painted flange only		
		ALO4	4000/4500/5000lm	15LM	1500lm	30K	3000K	TCPC ‡	Custom painted trim	FRALTBD	RAL painted flange only		
				20LM	2000lm	35K	3500K	TRALTBD ‡	RAL painted trim				
				25LM	2500lm	40K	4000K						
				30LM	3000lm	50K	5000K						
				40LM	4000lm								
				45LM	4500lm								
				50LM	5000lm								

Distribution		Voltage	Driver		Emergency ‡		Control Input ‡		Options	
MWD	Medium wide (1.0 s/mh)	MVOLT	UGZ	Universal dimming to 10% 0-10V; line voltage dimming (120V)	(blank)	No Emergency Needed	(blank)	No Control Input Needed	90CRI	High CRI (90+)
WD	Wide (1.2s/mh)	120	UGZ1	Universal dimming to 1% 0-10V; line voltage dimming (120V)	ELR	Batterypack (10W constant power) Non-T20 Compliant remote test switch	JOT	Wireless room control with "Just One Touch" pairing	AT ‡	Airtight
WW ‡	Wallwash	277	DALI ‡	DALI dimming to 1%	ETS	Iota Emergency Transfer System	NLIGHT	Embedded wired controls from nLight	EC1 ‡	Extended Conduit (18")
		347	D1	Minimum dimming 1% driver for use with JOT	E10WCP	Batterypack (10W constant power) T20 Compliant integral test switch	NLIGHTER	Embedded wired controls from nLight with UL924 listed emergency operation	EC6 ‡	Extended Conduit (6ft)
					E10WCPR	Batterypack (10W constant power) T20 Compliant remote test switch	NLTAIR2	nLight® Air enabled	WL ‡	Wet Location (IP55)
					E10WRSTAR	Emergency battery pack, 10W with remote test switch and Iota STAR technology	NLTAIREM2	nLight® AIR Dimming Pack Wireless Controls. UL924 Emergency Operation, via power interrupt detection.	QDS ‡	Quick disconnect plugs
									CP ‡	Chicago Plenum

NOTE: ‡ indicates option value has ordering restrictions. Please reference the Option Value Ordering Restrictions chart below.

‡ Option Value Ordering Restrictions

Options	Restriction
Adjustable Lumens/CCT	Adjustable Lumen Output and Switchable CCT must be specified together (for example: ALO1 SWW1)
Fixed Lumens/CCT	Fixed Lumen Output and Fixed CCT must be specified together (for example: 10LM 30K)
WW	Not available with WL, EL, E10WCP.
MS, WR, BR	Not available with LSS reflector finish
WR	Not available with TRW
BR	Not available with TRBL
TRALTBD, FRALTBD	RALTBD for pricing only. Replace with applicable RAL number and finish when ready to order. See the RAL BROCHURE for available color options. Not available with TCPC or FCPC.
TCPC, FCPC	CPC options for pricing only. Custom color chip needs to be sent in to your Customer Resolution specialist before order can be processed. Click HERE for more details. Not available with TRAL or FRAL.
TRW, TRBL	Available with MS and AR reflectors only.
LSS	Not available with BR or WR or MS
347V	Not available with CP, QDS, ELR, E10WCP, E10WCPR, NLIGHT, NLIGHTER, NLTAIR2, or NLTAIREM2
DALI	Not available with fixed lumens or CCT. Max 4500 lumens.
E10WCPR	Not available EC1, EC6, QDS, CP, 347V, NPS80EZ ER, NLTAIRER2, NLTAIREM2, ALO3 & ALO4 w/DALI, OR 2000-4500 lumens w/JOT.
E10WCP	Not available with WW, EC1, EC6, AT, QDS, CP, 347V, NLIGHTER, NLTAIREM2, WL, ALO3 & ALO4 w/DALI, OR 2000-4500 lumens w/JOT.
E10WSTAR	Not available with wet location, EC1, EC6, QDS, CP, 347V, NLIGHTER, NLTAIREM2, ALO3 & ALO4 w/DALI, OR 2000-4500 lumens w/JOT. Top access installation or 17.5" plenum clearance required for roomside installation. Not available with integral test switch
ELR	Not available EC1, EC6, QDS, CP, 347V, NLIGHTER, NLTAIREM2, ALO3 & ALO4 w/DALI, OR 2000-4500 lumens w/JOT.
ETS	Not available with, QDS, ELR, E10WCP, E10WCPR, 347V, JOT, NLIGHT, NLIGHTER, NLTAIR2, NLTAIREM2, DALI, or D1 driver
JOT	Only available with D1 driver. Not availabe with CP, NLIGHT, NLIGHTER, NLTAIR2, NLTAIREM2, UGZ, or DALI drivers. Max 4500 lumens. Fixed lumens and CCT only. Not available with 2000-4500lm in conjunction with emergency batterypacks.
NLIGHT	Must specify UGZ1. Not available with CP, QDS, JOT, ETS, UGZ, DALI, or D1 drivers. Not available with 347V.
NLIGHTER	Must specify UGZ1. Not available with CP, QDS, ELR, E10WCP, E10WCPR, DALI, or D1 drivers. Not available with 347V.
NLTAIR2	Must specify UGZ1. Not available with CP, QDS, JOT, ETS, UGZ, DALI, or D1 drivers. See UL 924 Sequence of Operation table. Non-emergency luminaires with this option can be used as a normal power sensing device for nLight AIR devices and luminaires with EM emergency options.
NLTAIREM2	Must specify UGZ1. Not available with CP, QDS, JOT, ETS, ELR, E10WCP, E10WCPR, DALI, D1 drivers. See UL 924 Sequence of Operation table.
WL	Not available with WW, All CP is wet location, except WW (Damp). IP55 rated. Not available with E10WCP
QDS	Must be specified for use with LBR_PFWQDS. Not Available with CP, emergency options, or 347V.
EC1, EC6	Not Available with CP,QDS, ELR, E10WCP, or E10WCPR.
AT	Standard for CP and IP55, not availabe with WW. Not available with E10WCP
CP	Not available with, QDS, EC1, EC6, ELR, E10WCPR, 347V, JOT, NLTAIR2, NLTAIREM2, D1 drivers. For new construction applications, must be specified with LBR_PFWCP.

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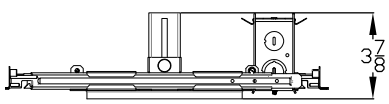
LBR4 NCH

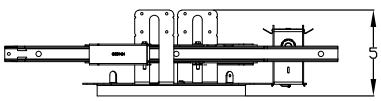
PLENUM DEPTH TABLE				
Aperture Size/Output	Plenum Depth*	IC	Non-IC	Non-IC Marked Spacing
LBR4 500-1000 Lumen	3.44	X		
LBR4 1000-2000 Lumen	3.44		X	
LBR4 2000-3000 Lumen	-			24x24x9
LBR4 4000-5000 Lumen	-			24x24x9

*Above unfinished 1/2" ceiling plane

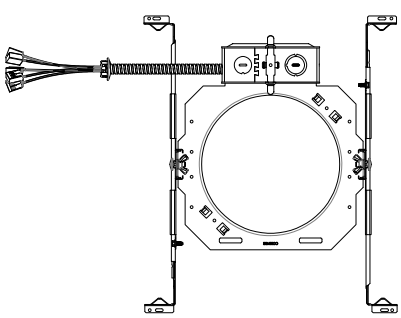
CEILING COVERAGE TABLE								
Series		Aperture	Trim Flange OD	Min ceiling opening	Ceiling Thickness	Max ceiling opening	Max Ceiling Opening with Goof Ring	Overall Goof Ring OD
LBR4	ROUND	4-1/4"	5-7/16"	4-1/2"	1/2"	5-1/8"	5-1/8"	7-1/4"
LBR4					1-1/2"		5-3/4"	

* All dimensions are inches (millimeters) unless otherwise noted.

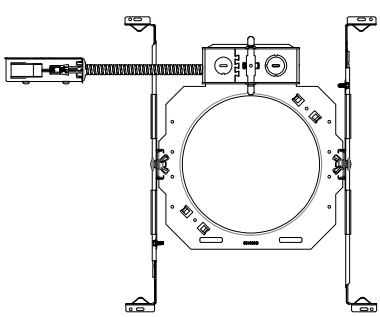




Aperture Size	Ceiling Cutout
4 In	5-1/8"



4" New Construction Frame, 18" conduit



4" New Construction Frame, QDS

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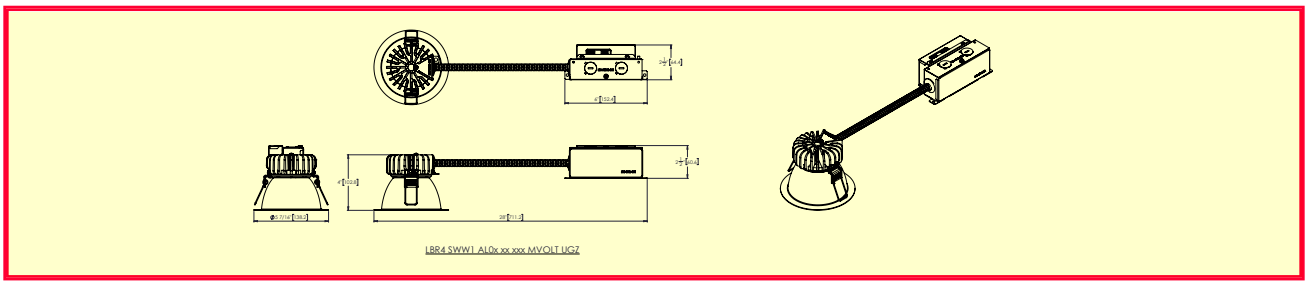
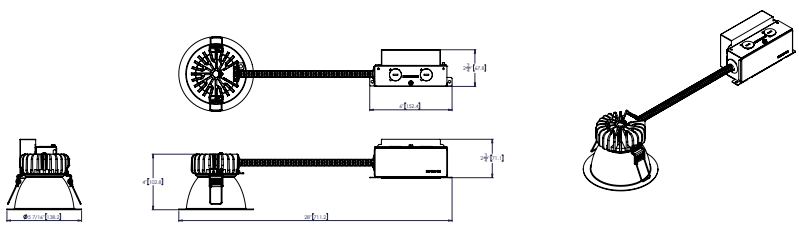
LBR4 NCH

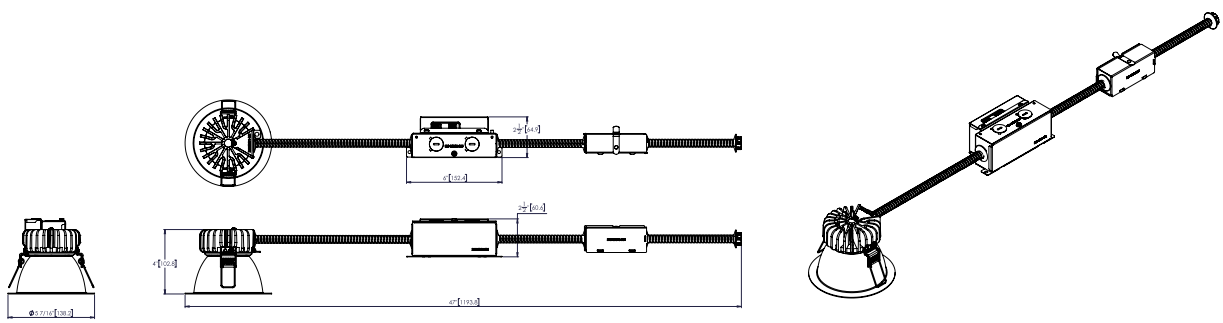
* All dimensions are inches (millimeters) unless otherwise noted.



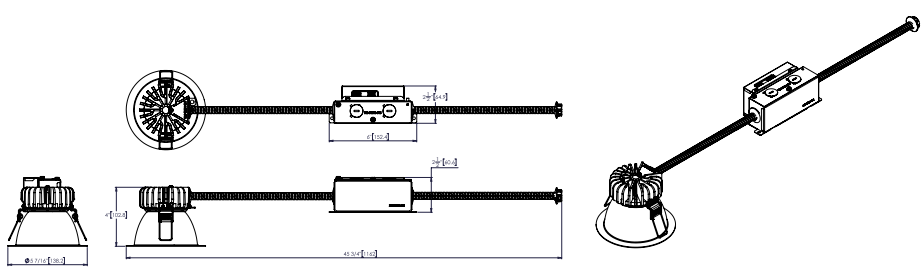
LBR4 SWW1 AL0x xx xxx MVOLT UGZ



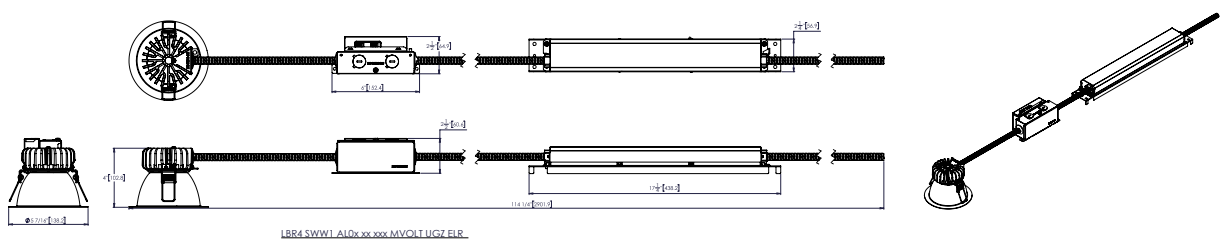
LBR4 SWW1 AL01/2 xx xxx MVOLT DALI



LBR4 SWW1 AL0x xx xxx MVOLT UGZ QDS



LBR4 SWW1 AL0x xx xxx MVOLT UGZ EC1



LBR4 SWW1 AL0x xx xxx MVOLT UGZ ELR

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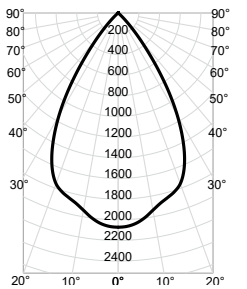
LBR4 NCH

PHOTOMETRY

Distribution Curve | **Distribution Data** | **Output Data** | **Illuminance Data at 30" Above Floor for a Single Luminaire**

LBR4 SWW1 ALO2 AR LSS MWD MVOLT UGZ, Input Watts: 18.1, Delivered Lumens: 1929, LPW: 106.6, S/MH: 0.98, Test No: 20-518-01



CP Summary

0°	
0°	2,072
5°	2,040
15°	1,849
25°	1,519
35°	694
45°	99
55°	4
65°	2
75°	1
85°	0
90°	0

Zonal Lumen Summary

Zone	Lumens	% Fixture
0° - 30°	1,396	72%
0° - 40°	1,828	95%
0° - 60°	1,926	100%
0° - 90°	1,929	100%
90° - 180°	0	0%
0° - 180°	1,929	100%

Cone of Light

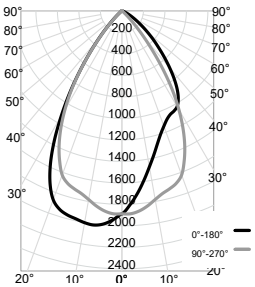
Mounting Height	Initial FC Center Beam	Beam Diameter
6.0	57.6	7.3
8.0	32.4	9.7
10.0	20.7	12.1
12.0	14.4	14.6
14.0	10.6	17.0

Beam Angle: 62.5°
Field Angle: 84.3°

Luminance (cd/sq.m)

Average Luminance	
0°	231,856
45°	15,711
55°	858
65°	529
75°	346
85°	257

LBR4WW SWW1 ALO2 AR LSS WW MVOLT UGZ, Input Watts: 18.1, Delivered Lumens: 1922, LPW: 106.2, S/MH: 0.73, Test No: 20-518-02



CP Summary

0°	90°
0°	1,888	1,888
5°	1,698	1,868
15°	1,279	1,714
25°	1,064	1,383
35°	899	673
45°	483	101
55°	189	8
65°	50	5
75°	10	2
85°	1	0
90°	0	0

Zonal Lumen Summary

Zone	Lumens	% Fixture
0° - 30°	1,242	65%
0° - 40°	1,686	88%
0° - 60°	1,900	99%
0° - 90°	1,922	100%
90° - 180°	0	0%
0° - 180°	1,922	100%

Luminance (cd/sq.m)

Average Luminance	
0°	211,270
45°	76,388
55°	36,885
65°	13,210
75°	4,496
85°	1,284

LUMEN OUTPUT MULTIPLIERS - CCT			
3000K	3500K	4000K	5000K
0.98	1.0	1.01	1.03

LUMEN OUTPUT MULTIPLIERS - FINISH	
Clear Semi-spec (AR LSS)	1.0
Metallic Silver (MS)	0.84
White Painted (WR)	1.03
Black Painted (BR)	0.60

LUMEN OUTPUT MULTIPLIERS - CRI	
80	1.0
90	0.874

HOW TO ESTIMATE DELIVERED LUMENS IN EMERGENCY MODE

Use the formula below to estimate the delivered lumens in emergency mode

Delivered Lumens = 1.25 x P x LPW

P = Ouput power of emergency driver. P = 10W for PS1055CP

LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet.
The LPW rating is also available at Designlight Consortium.

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LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

LBR4 NCH

4" Open and Wallwash LED
New Construction Downlight

New Construction

Open Trim

Wallwash Trim

FEATURES & SPECIFICATIONS

INTENDED USE — Typical applications include corridors, lobbies, conference rooms and private offices.

CONSTRUCTION — New Construction.
Optional goof rings available for additional overlap trim coverage.
1/2"-1-1/2" ceiling thickness
25° ambient temperature
IC rated up to 1000lm

OPTICS — LEDs are binned to a 3-step MacAdam Ellipse. 55° cutoff
New construction frame approved for 8 (4 in/4 out) No. 12 AWG conductors rated for 90°C through wiring.
80CRI standard (90CRI optional)

UGR — UGR is zero for fixtures aimed at nadir with a cut-off equal to or less than 60deg, per CIE 117-1996 Discomfort Glare in Interior Lighting. UGR FAQ

ELECTRICAL — Adjustable lumen output with four module options. Fixed lumen options also available.
MVOLT 120/277V 50/60Hz driver (0-10V & 120V Phase Dimming to 10% or 1% min dimming level)
FCC CFR Title 47 Part 15 Class A for 277V. FCC CFR Title 47 Part 15 Class B for 120V

LUMEN MAINTENANCE — L80 at 60,000 hours

LISTINGS — Certified to US and Canadian safety standards. Damp location standard (Wet Location (WL) optional, requires covered ceiling). Some configurations are ENERGY STAR® certified, please visit www.energystar.gov for specific products. TAA compliant. UFC (3-530-01) specification compliant for power factor and THD. GSA P100 6.2.4 compliant for power quality at full output; compliant up to 2000lm at fully dimmed output. Drivers are ROHS compliant
Title 24 compliant (90CRI, up to 1000lm).

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

PERFORMANCE DATA

LBR4 AR LSS MWD		80CRI							
Lumen Output	Wattage	30K/80CRI		35K/80CRI		40K/80CRI		50K/80CRI	
		Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW
ALO1 (500LM)	6	570	99	584	101	597	102	616	105
ALO1 (750LM)	9	903	102	924	103	946	105	975	108
ALO1 (1000LM)	13	1268	98	1297	100	1328	102	1369	104
ALO2 (1000LM)	13	1344	108	1375	110	1408	112	1451	115
ALO2 (1500LM)	19	1961	105	2007	106	2055	108	2118	111
ALO2 (2000LM)	25	2471	99	2528	101	2588	103	2668	105
ALO3 (2000LM)	25	2542	103	2601	104	2663	106	2745	109
ALO3 (2500LM)	32	3069	98	3140	99	3214	101	3314	103
ALO3 (3000LM)	38	3485	93	3566	94	3651	96	3764	98
ALO4 (4000LM)	39	4094	106	4178	108	4262	110	4303	111
ALO4 (4500LM)	44	4519	103	4611	105	4703	107	4749	108
ALO4 (5000LM)	49	4915	100	5015	102	5115	104	5165	105

LBR4 MS MWD		80CRI							
Lumen Output	Wattage	30K/80CRI		35K/80CRI		40K/80CRI		50K/80CRI	
		Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW
ALO1 (500LM)	6	479	83	490	85	502	87	517	89
ALO1 (750LM)	9	758	85	776	87	794	89	819	92
ALO1 (1000LM)	13	1065	82	1089	84	1115	86	1150	89
ALO2 (1000LM)	13	1129	90	1155	92	1182	95	1219	98
ALO2 (1500LM)	19	1648	87	1686	89	1726	91	1779	94
ALO2 (2000LM)	25	2075	83	2124	85	2174	87	2241	90
ALO3 (2000LM)	25	2135	86	2185	88	2237	90	2306	93
ALO3 (2500LM)	32	2578	82	2638	83	2700	85	2784	88
ALO3 (3000LM)	38	2927	78	2995	79	3066	81	3162	84
ALO4 (4000LM)	39	3439	89	3510	91	3580	92	3615	93
ALO4 (4500LM)	44	3796	86	3873	88	3951	90	3989	91
ALO4 (5000LM)	49	4128	84	4213	85	4297	87	4339	88

- Tested in accordance with IESNA LM-79-08.
- Tested to current IES and NEMA standards under stabilized laboratory conditions.
- CRI: 80 typical

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

battery pack

LBR4 NCH

Design Select options indicated by this color background.

Module ordering

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: LBR4 NCH ALO2 SWW1 AR LSS MWD MVOLT UGZ 90CRI

Series / Housing Style		Lumens ‡				Color temperature ‡		Reflector Color		Reflector Flange ‡		Reflector Finish	
LBR4 NCH	4" New Construction	**Adjustable Lumen Output**		**Fixed Lumen Output**		**Switchable CCT**		AR	Clear	(blank)	Self-flanged	LSS	Semi-specular
LBR4WW NCH ‡	4" New Construction Wall Wash	ALO1	500/750/1000lm	05LM	500lm	SWW1	3000K-3500K-4000K-5000K	BR ‡	Black painted	TRW	White painted flange		
		ALO2	1000/1500/2000lm	07LM	750lm	**Fixed CCT**		MS ‡	Metallic Silver	TRBL	Black painted flange		
		ALO3	2000/2500/3000lm	10LM	1000lm	27K	2700K	WR ‡	White painted	FCPC	Custom painted flange only		
		ALO4	4000/4500/5000lm	15LM	1500lm	30K	3000K	TCPC ‡	Custom painted trim	FRALTBD	RAL painted flange only		
				20LM	2000lm	35K	3500K	TRALTBD ‡	RAL painted trim				
				25LM	2500lm	40K	4000K						
				30LM	3000lm	50K	5000K						
				40LM	4000lm								
				45LM	4500lm								
				50LM	5000lm								

Distribution		Voltage	Driver		Emergency ‡		Control Input ‡		Options	
MWD	Medium wide (1.0 s/mh)	MVOLT	UGZ	Universal dimming to 10% 0-10V; line voltage dimming (120V)	(blank)	No Emergency Needed	(blank)	No Control Input Needed	90CRI	High CRI (90+)
WD	Wide (1.2s/mh)	120	UGZ1	Universal dimming to 1% 0-10V; line voltage dimming (120V)	ELR	Batterypack (10W constant power) Non-T20 Compliant remote test switch	JOT	Wireless room control with "Just One Touch" pairing	AT ‡	Airtight
WW ‡	Wallwash	277	DALI ‡	DALI dimming to 1%	ETS	Iota Emergency Transfer System	NLIGHT	Embedded wired controls from nLight	EC1 ‡	Extended Conduit (18")
		347	D1	Minimum dimming 1% driver for use with JOT	E10WCP	Batterypack (10W constant power) T20 Compliant integral test switch	NLIGHTER	Embedded wired controls from nLight with UL924 listed emergency operation	EC6 ‡	Extended Conduit (6ft)
					E10WCPR	Batterypack (10W constant power) T20 Compliant remote test switch	NLTAIR2	nLight® Air enabled	WL ‡	Wet Location (IP55)
					E10WRSTAR	Emergency battery pack, 10W with remote test switch and Iota STAR technology	NLTAIREM2	nLight® AIR Dimming Pack Wireless Controls. UL924 Emergency Operation, via power interrupt detection.	QDS ‡	Quick disconnect plugs
									CP ‡	Chicago Plenum

NOTE: ‡ indicates option value has ordering restrictions. Please reference the Option Value Ordering Restrictions chart below.

‡ Option Value Ordering Restrictions

Options	Restriction
Adjustable Lumens/CCT	Adjustable Lumen Output and Switchable CCT must be specified together (for example: ALO1 SWW1)
Fixed Lumens/CCT	Fixed Lumen Output and Fixed CCT must be specified together (for example: 10LM 30K)
WW	Not available with WL, EL, E10WCP.
MS, WR, BR	Not available with LSS reflector finish
WR	Not available with TRW
BR	Not available with TRBL
TRALTBD, FRALTBD	RALTBD for pricing only. Replace with applicable RAL number and finish when ready to order. See the RAL BROCHURE for available color options. Not available with TCPC or FCPC.
TCPC, FCPC	CPC options for pricing only. Custom color chip needs to be sent in to your Customer Resolution specialist before order can be processed. Click HERE for more details. Not available with TRAL or FRAL.
TRW, TRBL	Available with MS and AR reflectors only.
LSS	Not available with BR or WR or MS
347V	Not available with CP, QDS, ELR, E10WCP, E10WCPR, NLIGHT, NLIGHTER, NLTAIR2, or NLTAIREM2
DALI	Not available with fixed lumens or CCT. Max 4500 lumens.
E10WCPR	Not available EC1, EC6, QDS, CP, 347V, NPS80EZ ER, NLTAIRER2, NLTAIREM2, ALO3 & ALO4 w/DALI, OR 2000-4500 lumens w/JOT.
E10WCP	Not available with WW, EC1, EC6, AT, QDS, CP, 347V, NLIGHTER, NLTAIREM2, WL, ALO3 & ALO4 w/DALI, OR 2000-4500 lumens w/JOT.
E10WSTAR	Not available with wet location, EC1, EC6, QDS, CP, 347V, NLIGHTER, NLTAIREM2, ALO3 & ALO4 w/DALI, OR 2000-4500 lumens w/JOT. Top access installation or 17.5" plenum clearance required for roomside installation. Not available with integral test switch
ELR	Not available EC1, EC6, QDS, CP, 347V, NLIGHTER, NLTAIREM2, ALO3 & ALO4 w/DALI, OR 2000-4500 lumens w/JOT.
ETS	Not available with, QDS, ELR, E10WCP, E10WCPR, 347V, JOT, NLIGHT, NLIGHTER, NLTAIR2, NLTAIREM2, DALI, or D1 driver
JOT	Only available with D1 driver. Not availabe with CP, NLIGHT, NLIGHTER, NLTAIR2, NLTAIREM2, UGZ, or DALI drivers. Max 4500 lumens. Fixed lumens and CCT only. Not available with 2000-4500lm in conjunction with emergency batterypacks.
NLIGHT	Must specify UGZ1. Not available with CP, QDS, JOT, ETS, UGZ, DALI, or D1 drivers. Not available with 347V.
NLIGHTER	Must specify UGZ1. Not available with CP, QDS, ELR, E10WCP, E10WCPR, DALI, or D1 drivers. Not available with 347V.
NLTAIR2	Must specify UGZ1. Not available with CP, QDS, JOT, ETS, UGZ, DALI, or D1 drivers. See UL 924 Sequence of Operation table. Non-emergency luminaires with this option can be used as a normal power sensing device for nLight AIR devices and luminaires with EM emergency options.
NLTAIREM2	Must specify UGZ1. Not available with CP, QDS, JOT, ETS, ELR, E10WCP, E10WCPR, DALI, D1 drivers. See UL 924 Sequence of Operation table.
WL	Not available with WW, All CP is wet location, except WW (Damp). IP55 rated. Not available with E10WCP
QDS	Must be specified for use with LBR_PFWQDS. Not Available with CP, emergency options, or 347V.
EC1, EC6	Not Available with CP,QDS, ELR, E10WCP, or E10WCPR.
AT	Standard for CP and IP55, not availabe with WW. Not available with E10WCP
CP	Not available with, QDS, EC1, EC6, ELR, E10WCPR, 347V, JOT, NLTAIR2, NLTAIREM2, D1 drivers. For new construction applications, must be specified with LBR_PFWCP.

DOWNLIGHTING: One Lithonia Way Conyers, GA 30012 Phone: 1-800-705-SERV (7378) TechSupport-Lighting@Acuitybrands.com www.lithonia.com

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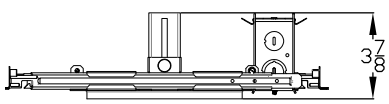
LBR4 NCH

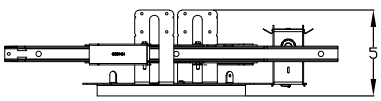
PLENUM DEPTH TABLE				
Aperture Size/Output	Plenum Depth*	IC	Non-IC	Non-IC Marked Spacing
LBR4 500-1000 Lumen	3.44	X		
LBR4 1000-2000 Lumen	3.44		X	
LBR4 2000-3000 Lumen	-			24x24x9
LBR4 4000-5000 Lumen	-			24x24x9

*Above unfinished 1/2" ceiling plane

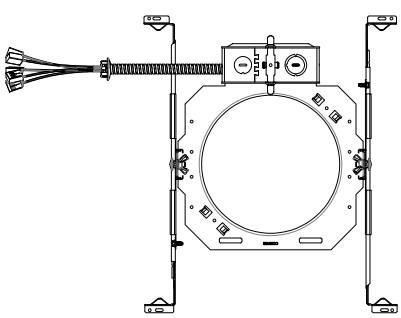
CEILING COVERAGE TABLE								
Series		Aperture	Trim Flange OD	Min ceiling opening	Ceiling Thickness	Max ceiling opening	Max Ceiling Opening with Goof Ring	Overall Goof Ring OD
LBR4	ROUND	4-1/4"	5-7/16"	4-1/2"	1/2"	5-1/8"	5-1/8"	7-1/4"
LBR4					1-1/2"		5-3/4"	

* All dimensions are inches (millimeters) unless otherwise noted.

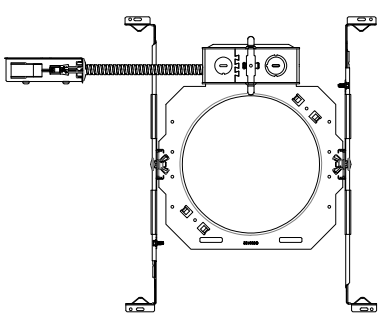




Aperture Size	Ceiling Cutout
4 In	5-1/8"



4" New Construction Frame, 18" conduit



4" New Construction Frame, QDS

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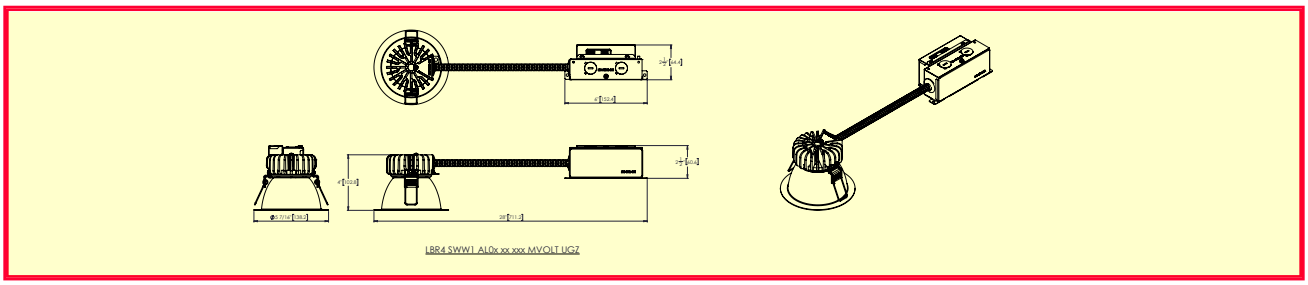
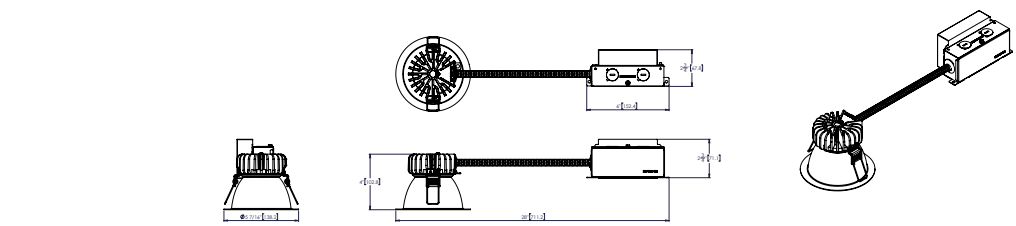
LBR4 NCH

* All dimensions are inches (millimeters) unless otherwise noted.



LBR4 SWW1 AL0x xx xxx MVOLT UGZ



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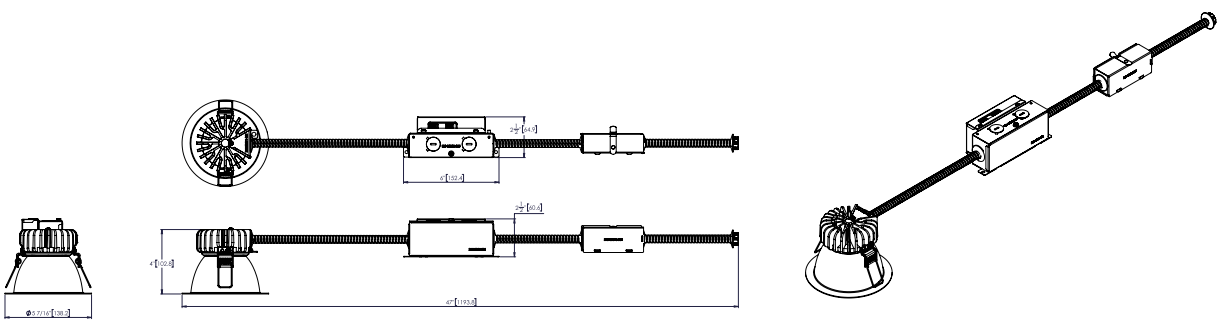
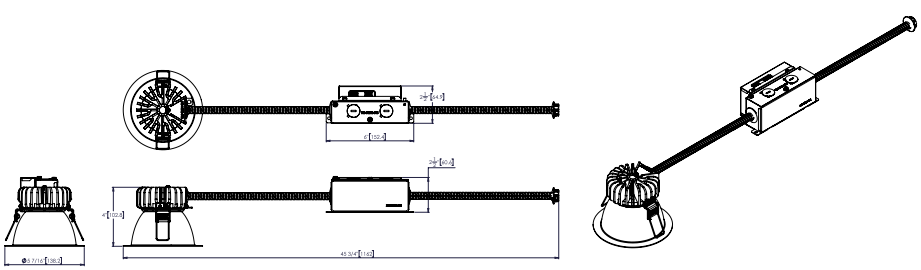
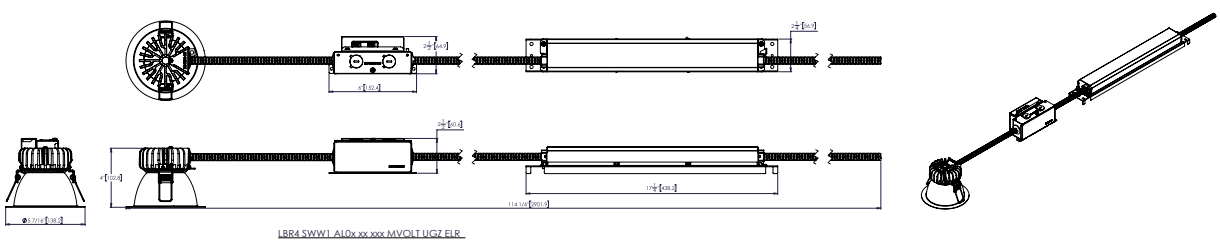


LBR4 SWW1 AL0x xx xxx MVOLT UGZ QDS



LBR4 SWW1 AL0x xx xxx MVOLT UGZ EC1



LBR4 SWW1 AL0x xx xxx MVOLT UGZ ELR

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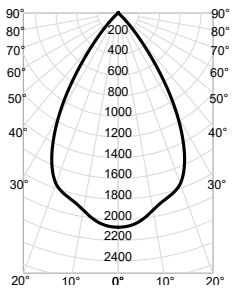
LBR4 NCH

PHOTOMETRY

Distribution Curve | **Distribution Data** | **Output Data** | **Illuminance Data at 30" Above Floor for a Single Luminaire**

LBR4 SWW1 ALO2 AR LSS MWD MVOLT UGZ, Input Watts: 18.1, Delivered Lumens: 1929, LPW: 106.6, S/MH: 0.98, Test No: 20-518-01



CP Summary

0°	
0°	2,072
5°	2,040
15°	1,849
25°	1,519
35°	694
45°	99
55°	4
65°	2
75°	1
85°	0
90°	0

Zonal Lumen Summary

Zone	Lumens	% Fixture
0° - 30°	1,396	72%
0° - 40°	1,828	95%
0° - 60°	1,926	100%
0° - 90°	1,929	100%
90° - 180°	0	0%
0° - 180°	1,929	100%

Cone of Light

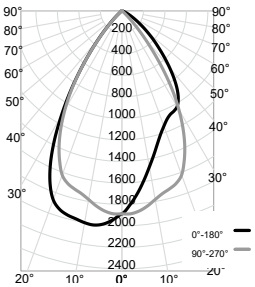
Mounting Height	Initial FC Center Beam	Beam Diameter
6.0	57.6	7.3
8.0	32.4	9.7
10.0	20.7	12.1
12.0	14.4	14.6
14.0	10.6	17.0

Beam Angle: 62.5°
Field Angle: 84.3°

Luminance (cd/sq.m)

Average Luminance	
0°	231,856
45°	15,711
55°	858
65°	529
75°	346
85°	257

LBR4WW SWW1 ALO2 AR LSS WW MVOLT UGZ, Input Watts: 18.1, Delivered Lumens: 1922, LPW: 106.2, S/MH: 0.73, Test No: 20-518-02



CP Summary

0°	90°
0°	1,888	1,888
5°	1,698	1,868
15°	1,279	1,714
25°	1,064	1,383
35°	899	673
45°	483	101
55°	189	8
65°	50	5
75°	10	2
85°	1	0
90°	0	0

Zonal Lumen Summary

Zone	Lumens	% Fixture
0° - 30°	1,242	65%
0° - 40°	1,686	88%
0° - 60°	1,900	99%
0° - 90°	1,922	100%
90° - 180°	0	0%
0° - 180°	1,922	100%

Luminance (cd/sq.m)

Average Luminance	
0°	211,270
45°	76,388
55°	36,885
65°	13,210
75°	4,496
85°	1,284

LUMEN OUTPUT MULTIPLIERS - CCT			
3000K	3500K	4000K	5000K
0.98	1.0	1.01	1.03

LUMEN OUTPUT MULTIPLIERS - FINISH	
Clear Semi-spec (AR LSS)	1.0
Metallic Silver (MS)	0.84
White Painted (WR)	1.03
Black Painted (BR)	0.60

LUMEN OUTPUT MULTIPLIERS - CRI	
80	1.0
90	0.874

HOW TO ESTIMATE DELIVERED LUMENS IN EMERGENCY MODE

Use the formula below to estimate the delivered lumens in emergency mode

Delivered Lumens = 1.25 x P x LPW

P = Ouput power of emergency driver. P = 10W for PS1055CP

LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet.
The LPW rating is also available at Designlight Consortium.

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LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

LBR4 NCH

4" Open and Wallwash LED
New Construction Downlight

New Construction

Open Trim

Wallwash Trim

FEATURES & SPECIFICATIONS

INTENDED USE — Typical applications include corridors, lobbies, conference rooms and private offices.

CONSTRUCTION — New Construction.
Optional goof rings available for additional overlap trim coverage.
1/2"-1-1/2" ceiling thickness
25° ambient temperature
IC rated up to 1000lm

OPTICS — LEDs are binned to a 3-step MacAdam Ellipse. 55° cutoff
New construction frame approved for 8 (4 in/4 out) No. 12 AWG conductors rated for 90°C through wiring.
80CRI standard (90CRI optional)

UGR — UGR is zero for fixtures aimed at nadir with a cut-off equal to or less than 60deg, per CIE 117-1996 Discomfort Glare in Interior Lighting. UGR FAQ

ELECTRICAL — Adjustable lumen output with four module options. Fixed lumen options also available.
MVOLT 120/277V 50/60Hz driver (0-10V & 120V Phase Dimming to 10% or 1% min dimming level)
FCC CFR Title 47 Part 15 Class A for 277V. FCC CFR Title 47 Part 15 Class B for 120V

LUMEN MAINTENANCE — L80 at 60,000 hours

LISTINGS — Certified to US and Canadian safety standards. Damp location standard (Wet Location (WL) optional, requires covered ceiling). Some configurations are ENERGY STAR® certified, please visit www.energystar.gov for specific products. TAA compliant. UFC (3-530-01) specification compliant for power factor and THD. GSA P100 6.2.4 compliant for power quality at full output; compliant up to 2000lm at fully dimmed output. Drivers are ROHS compliant
Title 24 compliant (90CRI, up to 1000lm).

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

PERFORMANCE DATA

LBR4 AR LSS MWD		80CRI							
Lumen Output	Wattage	30K/80CRI		35K/80CRI		40K/80CRI		50K/80CRI	
		Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW
ALO1 (500LM)	6	570	99	584	101	597	102	616	105
ALO1 (750LM)	9	903	102	924	103	946	105	975	108
ALO1 (1000LM)	13	1268	98	1297	100	1328	102	1369	104
ALO2 (1000LM)	13	1344	108	1375	110	1408	112	1451	115
ALO2 (1500LM)	19	1961	105	2007	106	2055	108	2118	111
ALO2 (2000LM)	25	2471	99	2528	101	2588	103	2668	105
ALO3 (2000LM)	25	2542	103	2601	104	2663	106	2745	109
ALO3 (2500LM)	32	3069	98	3140	99	3214	101	3314	103
ALO3 (3000LM)	38	3485	93	3566	94	3651	96	3764	98
ALO4 (4000LM)	39	4094	106	4178	108	4262	110	4303	111
ALO4 (4500LM)	44	4519	103	4611	105	4703	107	4749	108
ALO4 (5000LM)	49	4915	100	5015	102	5115	104	5165	105

LBR4 MS MWD		80CRI							
Lumen Output	Wattage	30K/80CRI		35K/80CRI		40K/80CRI		50K/80CRI	
		Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW
ALO1 (500LM)	6	479	83	490	85	502	87	517	89
ALO1 (750LM)	9	758	85	776	87	794	89	819	92
ALO1 (1000LM)	13	1065	82	1089	84	1115	86	1150	89
ALO2 (1000LM)	13	1129	90	1155	92	1182	95	1219	98
ALO2 (1500LM)	19	1648	87	1686	89	1726	91	1779	94
ALO2 (2000LM)	25	2075	83	2124	85	2174	87	2241	90
ALO3 (2000LM)	25	2135	86	2185	88	2237	90	2306	93
ALO3 (2500LM)	32	2578	82	2638	83	2700	85	2784	88
ALO3 (3000LM)	38	2927	78	2995	79	3066	81	3162	84
ALO4 (4000LM)	39	3439	89	3510	91	3580	92	3615	93
ALO4 (4500LM)	44	3796	86	3873	88	3951	90	3989	91
ALO4 (5000LM)	49	4128	84	4213	85	4297	87	4339	88

- Tested in accordance with IESNA LM-79-08.
- Tested to current IES and NEMA standards under stabilized laboratory conditions.
- CRI: 80 typical

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

battery pack

LBR4 NCH

Design Select options indicated by this color background.

Module ordering

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: LBR4 NCH ALO2 SWW1 AR LSS MWD MVOLT UGZ 90CRI

Series / Housing Style

LBR4 NCH	4" New Construction
LBR4WW NCH ‡	4" New Construction Wall Wash

Lumens ‡

Adjustable Lumen Output

ALO1	500/750/1000lm
ALO2	1000/1500/2000lm
ALO3	2000/2500/3000lm
ALO4	4000/4500/5000lm

Fixed Lumen Output

05LM	500lm
07LM	750lm
10LM	1000lm
15LM	1500lm
20LM	2000lm
25LM	2500lm
30LM	3000lm
40LM	4000lm
45LM	4500lm
50LM	5000lm

Color temperature ‡

Switchable CCT

SWW1	3000K-3500K-4000K-5000K

Fixed CCT

27K	2700K
30K	3000K
35K	3500K
40K	4000K
50K	5000K

Reflector Color

AR	Clear
BR ‡	Black painted
MS ‡	Metallic Silver
WR ‡	White painted
TCPC ‡	Custom painted trim
TRALTBD ‡	RAL painted trim

Reflector Flange ‡

(blank)	Self-flanged
TRW	White painted flange
TRBL	Black painted flange
FCPC	Custom painted flange only
FRALTBD	RAL painted flange only

Reflector Finish

LSS	Semi-specular

Distribution

MWD	Medium wide (1.0 s/mh)
WD	Wide (1.2s/mh)
WW ‡	Wallwash

Voltage

MVOLT
120
277
347

Driver

UGZ	Universal dimming to 10% 0-10V; line voltage dimming (120V)
UGZ1	Universal dimming to 1% 0-10V; line voltage dimming (120V)
DALI ‡	DALI dimming to 1%
D1	Minimum dimming 1% driver for use with JOT

Emergency ‡

(blank)	No Emergency Needed
ELR	Batterypack (10W constant power) Non-T20 Compliant remote test switch
ETS	Iota Emergency Transfer System
E10WCP	Batterypack (10W constant power) T20 Compliant integral test switch
E10WCPR	Batterypack (10W constant power) T20 Compliant remote test switch
E10WRSTAR	Emergency battery pack, 10W with remote test switch and Iota STAR technology

Control Input ‡

(blank)	No Control Input Needed
JOT	Wireless room control with "Just One Touch" pairing
NLIGHT	Embedded wired controls from nLight
NLIGHTER	Embedded wired controls from nLight with UL924 listed emergency operation
NLTAIR2	nLight® Air enabled
NLTAIREM2	nLight® AIR Dimming Pack Wireless Controls. UL924 Emergency Operation, via power interrupt detection.

Options

90CRI	High CRI (90+)
AT ‡	Airtight
EC1 ‡	Extended Conduit (18")
EC6 ‡	Extended Conduit (6ft)
WL ‡	Wet Location (IP55)
QDS ‡	Quick disconnect plugs
CP ‡	Chicago Plenum

NOTE: ‡ indicates option value has ordering restrictions. Please reference the Option Value Ordering Restrictions chart below.

‡ Option Value Ordering Restrictions

Options	Restriction
Adjustable Lumens/CCT	Adjustable Lumen Output and Switchable CCT must be specified together (for example: ALO1 SWW1)
Fixed Lumens/CCT	Fixed Lumen Output and Fixed CCT must be specified together (for example: 10LM 30K)
WW	Not available with WL, EL, E10WCP.
MS, WR, BR	Not available with LSS reflector finish
WR	Not available with TRW
BR	Not available with TRBL
TRALTBD, FRALTBD	RALTBD for pricing only. Replace with applicable RAL number and finish when ready to order. See the RAL BROCHURE for available color options. Not available with TCPC or FCPC.
TCPC, FCPC	CPC options for pricing only. Custom color chip needs to be sent in to your Customer Resolution specialist before order can be processed. Click HERE for more details. Not available with TRAL or FRAL.
TRW, TRBL	Available with MS and AR reflectors only.
LSS	Not available with BR or WR or MS
347V	Not available with CP, QDS, ELR, E10WCP, E10WCPR, NLIGHT, NLIGHTER, NLTAIR2, or NLTAIREM2
DALI	Not available with fixed lumens or CCT. Max 4500 lumens.
E10WCPR	Not available EC1, EC6, QDS, CP, 347V, NPS80EZ ER, NLTAIRER2, NLTAIREM2, ALO3 & ALO4 w/DALI, OR 2000-4500 lumens w/JOT.
E10WCP	Not available with WW, EC1, EC6, AT, QDS, CP, 347V, NLIGHTER, NLTAIREM2, WL, ALO3 & ALO4 w/DALI, OR 2000-4500 lumens w/JOT.
E10WSTAR	Not available with wet location, EC1, EC6, QDS, CP, 347V, NLIGHTER, NLTAIREM2, ALO3 & ALO4 w/DALI, OR 2000-4500 lumens w/JOT. Top access installation or 17.5" plenum clearance required for roomside installation. Not available with integral test switch
ELR	Not available EC1, EC6, QDS, CP, 347V, NLIGHTER, NLTAIREM2, ALO3 & ALO4 w/DALI, OR 2000-4500 lumens w/JOT.
ETS	Not available with, QDS, ELR, E10WCP, E10WCPR, 347V, JOT, NLIGHT, NLIGHTER, NLTAIR2, NLTAIREM2, DALI, or D1 driver
JOT	Only available with D1 driver. Not availabe with CP, NLIGHT, NLIGHTER, NLTAIR2, NLTAIREM2, UGZ, or DALI drivers. Max 4500 lumens. Fixed lumens and CCT only. Not available with 2000-4500lm in conjunction with emergency batterypacks.
NLIGHT	Must specify UGZ1. Not available with CP, QDS, JOT, ETS, UGZ, DALI, or D1 drivers. Not available with 347V.
NLIGHTER	Must specify UGZ1. Not available with CP, QDS, ELR, E10WCP, E10WCPR, DALI, or D1 drivers. Not available with 347V.
NLTAIR2	Must specify UGZ1. Not available with CP, QDS, JOT, ETS, UGZ, DALI, or D1 drivers. See UL 924 Sequence of Operation table. Non-emergency luminaires with this option can be used as a normal power sensing device for nLight AIR devices and luminaires with EM emergency options.
NLTAIREM2	Must specify UGZ1. Not available with CP, QDS, JOT, ETS, ELR, E10WCP, E10WCPR, DALI, D1 drivers. See UL 924 Sequence of Operation table.
WL	Not available with WW, All CP is wet location, except WW (Damp). IP55 rated. Not available with E10WCP
QDS	Must be specified for use with LBR_PFWQDS. Not Available with CP, emergency options, or 347V.
EC1, EC6	Not Available with CP,QDS, ELR, E10WCP, or E10WCPR.
AT	Standard for CP and IP55, not availabe with WW. Not available with E10WCP
CP	Not available with, QDS, EC1, EC6, ELR, E10WCPR, 347V, JOT, NLTAIR2, NLTAIREM2, D1 drivers. For new construction applications, must be specified with LBR_PFWCP.

DOWNLIGHTING: One Lithonia Way Conyers, GA 30012 Phone: 1-800-705-SERV (7378) TechSupport-Lighting@Acuitybrands.com www.lithonia.com

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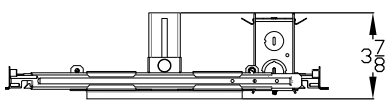
LBR4 NCH

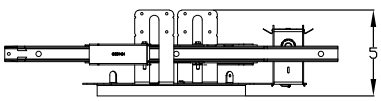
PLENUM DEPTH TABLE				
Aperture Size/Output	Plenum Depth*	IC	Non-IC	Non-IC Marked Spacing
LBR4 500-1000 Lumen	3.44	X		
LBR4 1000-2000 Lumen	3.44		X	
LBR4 2000-3000 Lumen	-			24x24x9
LBR4 4000-5000 Lumen	-			24x24x9

*Above unfinished 1/2" ceiling plane

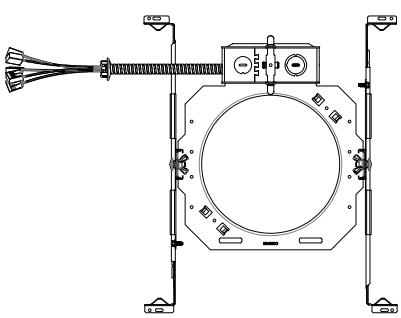
CEILING COVERAGE TABLE								
Series		Aperture	Trim Flange OD	Min ceiling opening	Ceiling Thickness	Max ceiling opening	Max Ceiling Opening with Goof Ring	Overall Goof Ring OD
LBR4	ROUND	4-1/4"	5-7/16"	4-1/2"	1/2"	5-1/8"	5-1/8"	7-1/4"
LBR4					1-1/2"		5-3/4"	

* All dimensions are inches (millimeters) unless otherwise noted.

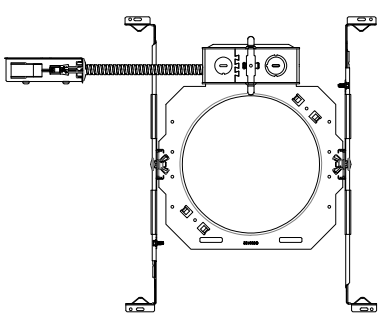




Aperture Size	Ceiling Cutout
4 In	5-1/8"



4" New Construction Frame, 18" conduit



4" New Construction Frame, QDS

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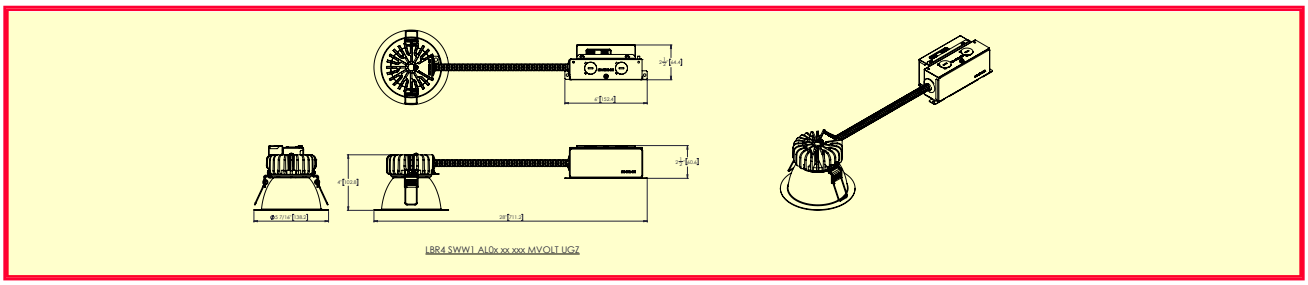
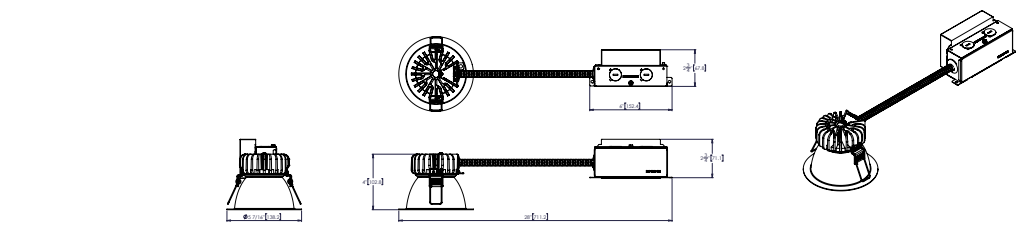
LBR4 NCH

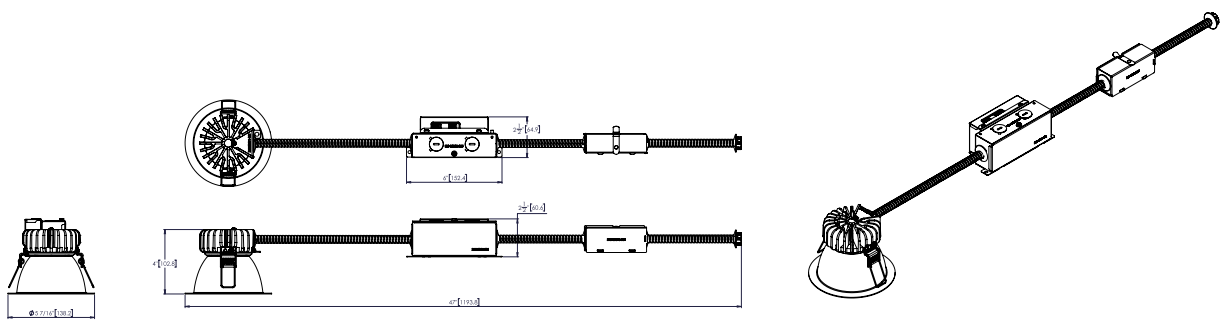
* All dimensions are inches (millimeters) unless otherwise noted.



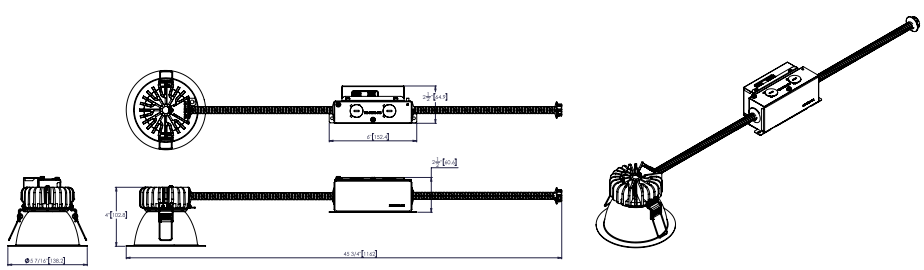
LBR4 SWW1 AL0x xx xxx MVOLT UGZ



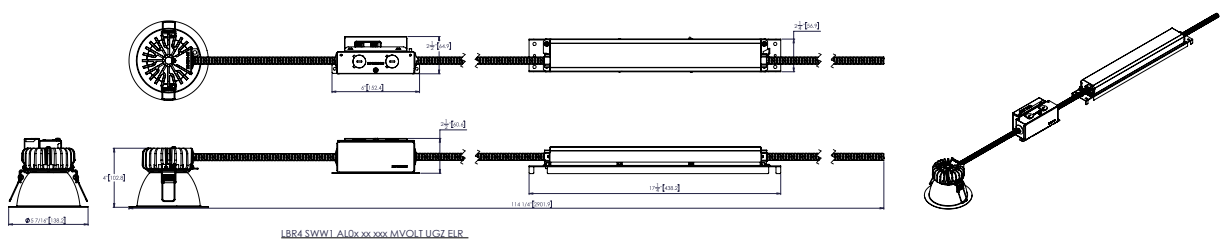
LBR4 SWW1 AL01/2 xx xxx MVOLT DALI



LBR4 SWW1 AL0x xx xxx MVOLT UGZ QDS



LBR4 SWW1 AL0x xx xxx MVOLT UGZ EC1



LBR4 SWW1 AL0x xx xxx MVOLT UGZ ELR

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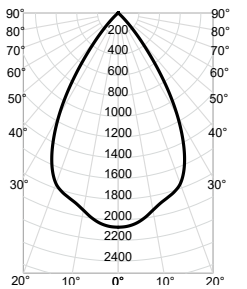
LBR4 NCH

PHOTOMETRY

Distribution Curve | **Distribution Data** | **Output Data** | **Illuminance Data at 30" Above Floor for a Single Luminaire**

LBR4 SWW1 ALO2 AR LSS MWD MVOLT UGZ, Input Watts: 18.1, Delivered Lumens: 1929, LPW: 106.6, S/MH: 0.98, Test No: 20-518-01



CP Summary

0°	
0°	2,072
5°	2,040
15°	1,849
25°	1,519
35°	694
45°	99
55°	4
65°	2
75°	1
85°	0
90°	0

Zonal Lumen Summary

Zone	Lumens	% Fixture
0° - 30°	1,396	72%
0° - 40°	1,828	95%
0° - 60°	1,926	100%
0° - 90°	1,929	100%
90° - 180°	0	0%
0° - 180°	1,929	100%

Cone of Light

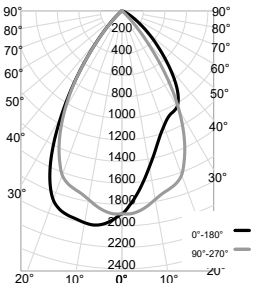
Mounting Height	Initial FC Center Beam	Beam Diameter
6.0	57.6	7.3
8.0	32.4	9.7
10.0	20.7	12.1
12.0	14.4	14.6
14.0	10.6	17.0

Beam Angle: 62.5°
Field Angle: 84.3°

Luminance (cd/sq.m)

	Average Luminance
0°	231,856
45°	15,711
55°	858
65°	529
75°	346
85°	257

LBR4WW SWW1 ALO2 AR LSS WW MVOLT UGZ, Input Watts: 18.1, Delivered Lumens: 1922, LPW: 106.2, S/MH: 0.73, Test No: 20-518-02



CP Summary

0°	90°
0°	1,888	1,888
5°	1,698	1,868
15°	1,279	1,714
25°	1,064	1,383
35°	899	673
45°	483	101
55°	189	8
65°	50	5
75°	10	2
85°	1	0
90°	0	0

Zonal Lumen Summary

Zone	Lumens	% Fixture
0° - 30°	1,242	65%
0° - 40°	1,686	88%
0° - 60°	1,900	99%
0° - 90°	1,922	100%
90° - 180°	0	0%
0° - 180°	1,922	100%

Luminance (cd/sq.m)

	Average Luminance
0°	211,270
45°	76,388
55°	36,885
65°	13,210
75°	4,496
85°	1,284

LUMEN OUTPUT MULTIPLIERS - CCT			
3000K	3500K	4000K	5000K
0.98	1.0	1.01	1.03

LUMEN OUTPUT MULTIPLIERS - FINISH	
Clear Semi-spec (AR LSS)	1.0
Metallic Silver (MS)	0.84
White Painted (WR)	1.03
Black Painted (BR)	0.60

LUMEN OUTPUT MULTIPLIERS - CRI	
80	1.0
90	0.874

HOW TO ESTIMATE DELIVERED LUMENS IN EMERGENCY MODE

Use the formula below to estimate the delivered lumens in emergency mode

Delivered Lumens = 1.25 x P x LPW

P = Ouput power of emergency driver. P = 10W for PS1055CP

LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet.
The LPW rating is also available at Designlight Consortium.

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LITHONIA LIGHTING®

FEATURES & SPECIFICATIONS

INTENDED USE — The CLX is a linear lighting solution that is available in multiple lengths, lumen packages and distributions. Designed for versatility, the CLX can address virtually any indoor lighting need. The CLX is also offered in standard and high efficacy configurations and capable of being continuous row mounted or installed as a stand-alone fixture. Ideal for uplight and downlight in commercial, retail, manufacturing, warehouse, and display applications. **Certain airborne contaminants can diminish the integrity of acrylic and/or polycarbonate.** **Click here for Acrylic-Polycarbonate Compatibility table for suitable uses.**

CONSTRUCTION — Channel and cover are formed from code-gauge cold-rolled steel. Housing and lens endcaps are injection molded plastic to provide a more architectural look and feel. The endcaps come standard with a 7/8" knock out for continuous mounting but can be ordered without.

Finish: Paint options include high-gloss, baked white polyester (WH), galvanized (GALV), matte black (MB) and smoke gray (SKGY). Five-stage iron phosphate pre-treatment ensures superior paint adhesion and rust resistance.

OPTICS — Offered with acrylic lens and less lens configurations. Provides a choice of optical distributions including, wide, narrow, and aisle.

Models with wide diffuse lens provide up to 12% uplight. Please check the IES file for specific uplight value.

ELECTRICAL — Utilizes high-output LEDs integrated on a two-layer circuit board, ensuring cool-running operation. Optional internal pluggable wiring harness for reduced labor cost in row mounting applications. (See PLR_ ordering information on page 9.) Electronic LED driver is multi-volt input and 0-10V dimming standard (see Operational Data on page 6 for actual wattage consumption). This fixture is designed to withstand a maximum line surge of 2.5kV at 0.75kA combination wave for indoor locations, for applications requiring higher level of protection additional surge protection must be provided. Color Variation within 3-step MacAdam ellipse (3SDCM).

L70>100,000 hours at 25˚C.

LEDs provide nominal 80 CRI or 90 CRI at 3000 K, 3500 K,4000 K, or 5000 K.

Lumen output up to 2,500 lumens per foot.

INSTALLATION — Fixture may be ceiling or wall mounted (with or without THCLX hanger or angle mounted with CLXANGBKT), pendant or stem mounted with appropriate mounting options.

WARNING — Removing the lens and opening the fixture during installation exposes the LEDs, putting them at risk for damage.

If you plan to surface mount the fixture, we recommend using the THCLX. This eliminates the need to open the fixture.

If you plan to continuous row mount, we recommend using the PLR wiring harness option. This eliminates the need to open the fixture.

Damage to the LEDs caused during installation will not be covered under the warranty.

LISTINGS — CSA certified to US and Canadian safety standards. For use in damp locations between -4°F (-20°C) and 104°F (40°C). Optional High Ambient (HA) ranging to 122°F(50°C) available on certain lumen packages (See ambient temperature chart for additional information).
DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

GOVERNMENT PROCUREMENT — BAA – Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

Stock configurations are offered for shorter lead times:

Stock Part Number	UPC
CLX L48 3000LM SEF FDL MVOLT GZ10 40K 80CRI WH	00191723525816
CLX L48 3000LM SEF FDL MVOLT GZ10 50K 80CRI WH	00191723525885
CLX L48 5000LM SEF FDL MVOLT GZ10 40K 80CRI WH	00191723525939
CLX L48 5000LM SEF FDL MVOLT GZ10 50K 80CRI WH	00191723525908
CLX L96 6000LM SEF FDL MVOLT GZ10 40K 80CRI WH	00191723525861
CLX L96 6000LM SEF FDL MVOLT GZ10 50K 80CRI WH	00191723525915
CLX L96 10000LM SEF FDL MVOLT GZ10 40K 80CRI WH	00191723525922
CLX L96 10000LM SEF FDL MVOLT GZ10 50K 80CRI WH	00191723525830
CLX L48 3000LM SEF RDL MVOLT GZ10 40K 80CRI WH	00191723525960
CLX L48 3000LM SEF RDL MVOLT GZ10 50K 80CRI WH	00191723525892
CLX L48 5000LM SEF RDL MVOLT GZ10 40K 80CRI WH	00191723525854
CLX L48 5000LM SEF RDL MVOLT GZ10 50K 80CRI WH	00191723525946
CLX L96 6000LM SEF RDL MVOLT GZ10 40K 80CRI WH	00191723525878
CLX L96 6000LM SEF RDL MVOLT GZ10 50K 80CRI WH	00191723525823
CLX L96 10000LM SEF RDL MVOLT GZ10 40K 80CRI WH	00191723525953
CLX L96 10000LM SEF RDL MVOLT GZ10 50K 80CRI WH	00191723525847

Catalog Number	
Notes	
Type	

LED Linear

CLX

24", 36", 48" and 96" Lengths

Flat Diffuse Lens

Round Diffuse Lens

Wide Diffuse Lens

CLX with Reflector

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning when used with Acuity Brands controls products.
All configurations of this luminaire are calibrated and tested to meet the Acuity Brands' specifications for chromatic consistency – including color rendering, color fidelity, and color temperature tolerance around standard CIE chromaticity coordinates.

To learn more about Acuity A+ standards, specifications, and testing visit www.acuitybrands.com/aplus.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

CLX LED Linear

Design Select options indicated by this color background.

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: CLX L48 5000LM SEF WDL MVOLT GZ10 40K 80CRI WH

Series	Length	Nominal lumens	Performance package	Louver	Lens
CLX LED linear	L24 24"	1500LM 1,500 lumens	SEF Standard efficiency ‡	(Blank) Less louver	L/Lens Less lens
		2000LM 2,000 lumens	HEF Premium efficiency ‡	SBLW Straight blade louver, white ‡	FDL Flat diffuse ‡
		2500LM 2,500 lumens		SBLMB Straight blade louver, matte black ‡	RDL Round diffuse ‡
		3500LM 3,500 lumens		SBLGV Straight blade louver, galvanized ‡	WDL Wide diffuse ‡
		4500LM 4,500 lumens		SBLSKGY Straight blade louver, smoke gray ‡	
		5000LM 5,000 lumens			
	L36 36"	2250LM 2,250 lumens			
		3000LM 3,000 lumens			
		3750LM 3,750 lumens			
		5250LM 5,250 lumens			
		6750LM 6,750 lumens			
		7500LM 7,500 lumens			
	L48 48"	3000LM 3,000 lumens			
		4000LM 4,000 lumens			
		5000LM 5,000 lumens			
		7000LM 7,000 lumens			
		9000LM 9,000 lumens			
		10000LM 10,000 lumens			
	L96 96"	6000LM 6,000 lumens			
		8000LM 8,000 lumens			
		10000LM 10,000 lumens			
		14000LM 14,000 lumens			
		18000LM 18,000 lumens			
		20000LM 20,000 lumens			

Distribution	Voltage		Driver ‡	Glare Reflector	Color temperature	Coloring rendering index
(Blank) General	MVOLT 120-277V ‡	277 277V	GZ1 Generic 0-10V, dims to 1% ‡	(blank) No reflectors	30K 3000 K	80CRI 80 CRI
ND Narrow ‡	120 120V	347 347V ‡	GZ10 Generic 0-10V, dims to 10% ‡	LUGR Reflectors for additional glare reduction ‡	35K 3500 K	90CRI 90 CRI
WD Wide ‡	208 208V ‡	480 480V ‡	EZ1 eldoLED 0-10V, dims to 1% ‡		40K 4000 K	
AD2 Aisle, 24° off center ‡	240 240V ‡				50K 5000 K	

Options

E10W	Emergency battery pack, 10W Linear Constant Power, Certified in CA Title 20 MAEDBS ‡
E10WSTAR	Emergency battery pack, Enabled with STAR ‡
BGTD	Generator transfer device, not available with E10W ‡
OCS	5', 18/3 Reloc selectable One Pass cable (fixture will bear dry location label) ‡
HA	High ambient, for use in ambient temperatures up to 50°C ‡
EPNKO	Decorative endplate, no knock out ‡
OUTCTR	Wiring leads pulled through back center of fixture ‡
OUTEND	Wiring leads pulled through end of fixture ‡
Cord Sets: ‡	
CS1W	6' Staight blade plug, 120V ‡
CS3W	NEMA twist-lock plug, 120V ‡
CS7W	Staight blade plug, 277V ‡
CS11W	NEMA twist-lock plug, 277V ‡
CS25W	NEMA twist-lock plug, 347V ‡
CS97W	NEMA twist-lock plug, 480V ‡
CS93W	600V SEOOW white cord, no plug (no voltage required)
CS6WG16ST0WD5D	6' white cord, 16/5, no plug, includes low voltage dimming wires (no voltage required) ‡
PLR__	Plug-in wiring, see page 9 for ordering information
PLR1G	Plug-in wiring, single circuit, Ground
PLR1LVG	Plug-in wiring, single circuit, low-voltage dimming, Ground ‡
RRL__	RELOC®-ready luminaire. See page 14 for ordering information
SPD	Surge protection device, provides up to 6kV protection ‡
BAA	Buy America(n) Act and/or Build America Buy America Qualified
nLight® Wireless:	
NLTAIR2 RES7	nLight AIR Generation 2 enabled PIR integral occupancy sensor with automatic dimming photocell ‡
NLTAIR2 RES7EM	nLight AIR Generation 2 enabled PIR integral occupancy sensor with automatic dimming photocell and UL924 Emergency operation, via power interrupt detection ‡
NLTAIR2 RES7PDT	nLight AIR Generation 2 enabled dual technology integral occupancy sensor with automatic dimming photocell ‡
NLTAIR2 RES7PDTEM	nLight AIR Generation 2 enabled dual technology integral occupancy sensor with automatic dimming photocell and UL924 Emergency operation, via power interrupt detection ‡
NLTAIR2 RIO	No sensor control ‡
NLTAIR2 RIOEM	No sensor, Control Input function only and UL924 Emergency operation, via power interrupt detection ‡
nLight® Wired:	
N100	nLight® without lumen management
N100EMG	nLight® without lumen management For use with generator supply EM power ‡
NES7	nLight® nES 7 PIR integral occupancy sensor ‡
NESPDT7	nLight® nES PDT 7 dual technology integral occupancy control ‡
NES7ADCX	nLight® nES 7 ADCX PIR integral occupancy sensor with automatic dimming photocell ‡
NESPDT7ADCX	nLight® nES PDT 7 dual technology integral occupancy sensor with automatic dimming photocell ‡
Individual controls: ‡	
MSD7	PIR integral occupancy sensor
MSDPDT7	PDT 7 dual technology integral occupancy control
MSD7ADC	PIR integral occupancy sensor with automatic dimming control photocell
MSDPDT7ADC	PDT integral occupancy sensor with automatic dimming control photocell

Finish

WH	White
GALVW	Galvanized with white lens end caps
GALVB	Galvanized with black lens end caps
MB	Matte black
SKGYW	Smoke gray with white lens end caps
SKGYB	Smoke gray with black lens end caps

See Accessories and footnotes on next page

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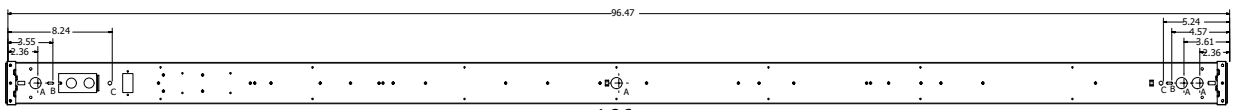
CLX LED Linear

DIMENSIONS

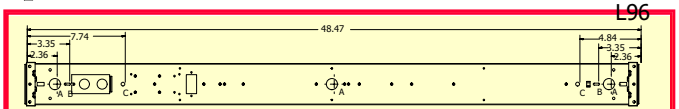
All dimensions are in inches (centimeters) unless otherwise indicated.
Dimensions may vary with options or accessories.

INTEGRATED SENSOR ADDS 2.0 INCHES TO STANDALONE FIXTURE LENGTH
HOUSING END CAP ADDS 0.236 INCHES TO FIXTURE LENGTH PER SIDE. DIMENSIONS BELOW INCLUDE ENDCAPS.

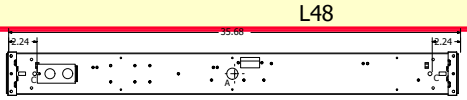
A - 7/8" KNOCK OUT
B - 0.5" by 0.16" SLOT
C - 0.3" DIA HOLE



L96



L48



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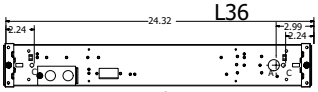
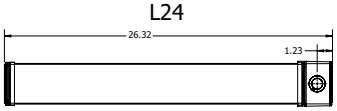


L24

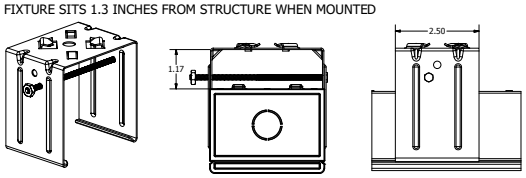


L24 WITH SENSOR

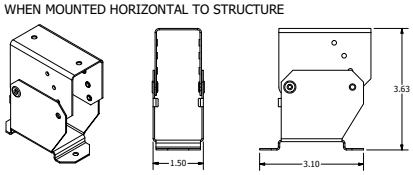
PALLET DIMENSIONS

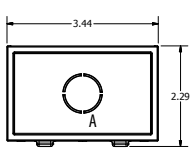
Length	Approx Weight	Fixtures per pallet	Pallet Dims (L X W X H)
L24	4 lb	100	54x46x37
L36	5 lb	80	54x46x37
L48	7.5 lb	64	54x46x37
L96	14 lb	64	98x46x37

THCLX - SHIPS TWO PER ORDER,
UTILIZES A #8 HEX HEAD SCREW AND NUT
FIXTURE SITS 1.3 INCHES FROM STRUCTURE WHEN MOUNTED

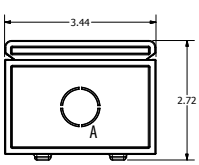


CLXANGBKT - SHIPS TWO PER ORDER
HOLES TO MOUNTING STRUCTURE ARE 0.175" DIA, 2.5" APART
FIXTURE SITS APPROXIMATELY 3.5" FROM STRUCTURE
WHEN MOUNTED HORIZONTAL TO STRUCTURE

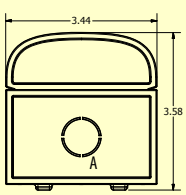




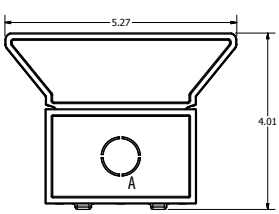
L/LENS



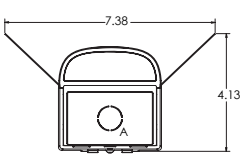
FDL



RDL



WDL



LUGR Reflector Option
- applies to all lens types

PHOTOMETRICS

See www.lithonia.com.

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CLX LED Linear

CLX CHARACTERISTICS

Nominal Lumen Package	Length	Wattage								Length	Width	Depth	Comparable Light Source
		Standard Efficiency				High Efficiency							
		120V	277V	347V	480V	120V	277V	347V	480V	Dimensions are shown in inches			
2500LM	24"	18.4	18.4	24.0	24.0	17.4	17.4	23.1	23.1	24	3.5	3.75	1-lamp 32W T8, 1-lamp 54W T5HO, 50W HID
5000LM	24"	41.5	41.5	47.4	47.4	38.1	38.1	44.1	44.1	24	3.5	3.75	2-lamp 32W T8, 1-lamp 54W T5HO, 70W HID
3750LM	36"	26.5	26.5	32.1	32.1	25.1	25.1	30.7	30.7	36	3.5	3.75	1-lamp 32W T8, 1-lamp 54W T5HO, 50W HID
7500LM	36"	62.6	62.6	68.6	68.6	54.0	54.0	59.7	59.7	36	3.5	3.75	2-lamp 32W T8, 1-lamp 54W T5HO, 70W HID
5000LM	48"	31.8	31.8	37.2	37.2	30.3	30.3	35.8	35.8	48	3.5	3.75	2-lamp 32W T8, 1-lamp 54W T5HO, 70W HID
10000LM	48"	70.7	70.7	76.2	76.2	65.3	65.3	70.8	70.8	48	3.5	3.75	3-lamp 32W T8, 2-lamp 54W T5HO, 100W HID
10000LM	96"	63.7	63.7	69.0	69.0	60.6	60.6	66.1	66.1	96	3.5	3.75	3-lamp 32W T8, 2-lamp 54W T5HO, 100W HID
20000LM	96"	141.3	141.3	146.8	146.8	130.5	130.5	136.1	136.1	96	3.5	3.75	6-lamp 32W T8, 4-lamp 54W T5HO, 200W HID

Note: For wattage by configuration, please reference the CLX Operational Data Document.

Lumen Package	UGR Values of CLX L24 @ 80CRI and 3500K UGR (70% 50% 20% reflectance using a 4H x 8H room size)													
	FDL		RDL		WDL		FDL LUGR		RDL LUGR		WDL LUGR		L/LENS	
	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise
1500LM SEF	21.2	23.8	19.4	25.2	17.4	21.1	16.8	14	17.8	16.6	18.1	17.9	24.9	25.1
2000LM SEF	22.3	24.9	20.5	26.3	18.6	22.3	17.9	15.1	18.8	17.6	19.2	18.9	26.1	26.2
2500LM SEF	23.1	25.7	21.3	27.1	19.4	23.1	18.6	15.8	19.6	18.4	19.9	19.7	26.9	27
3500LM SEF	24.1	26.7	22.3	28.1	20.4	24.1	19.7	16.9	20.7	19.5	21	20.8	27.9	28.1
4500LM SEF	25.4	28	23.6	29.4	21.7	25.4	20.7	17.9	21.7	20.5	22	21.8	29.2	29.3
5000LM SEF	25.6	28.2	23.3	29.1	21.4	25.1	21	18.3	21.5	20.3	21.8	21.5	29.4	29.5
1500LM HEF	21.1	23.7	19.3	25.1	21.8	25.5	16.5	13.7	17.6	16.3	17.8	17.6	24.9	25
2000LM HEF	22.2	24.8	20.4	26.2	17.4	21.1	17.6	14.8	18.6	17.4	18.8	18.6	26	26.2
2500LM HEF	23	25.7	21.3	27	18.5	22.2	18.4	15.6	19.4	18.2	19.7	19.4	26.8	27
3500LM HEF	24.1	26.7	22.3	28.1	19.3	23	19.8	17	20.9	19.7	21.1	20.9	27.9	28
4500LM HEF	25.3	27.9	23.5	29.3	20.4	24.1	20.8	18	21.8	20.6	22.1	21.8	29.1	29.3
5000LM HEF	25.5	28.1	23.7	29.5	21.6	25.3	21.1	18.3	22.1	20.9	22.3	22.1	29.3	29.5

UGR varies based on luminaire options and is affected by application dependent parameters. Numbers depicted here are considered "Luminaire-UGR and/or "Point-UGR" values. To determine a more precise maximum UGR value ("Application-UGR"), a full lighting design layout should be completed with the selected luminaire configuration for each application

Lumen Package	UGR Values of CLX L36 @ 80CRI and 3500K UGR (70% 50% 20% reflectance using a 4H x 8H room size)							
	FDL		RDL		WDL		L/LENS	
	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise
2250LM SEF	21.4	24.1	19.7	25.6	17.7	21.6	25.2	25.4
3000LM SEF	22.3	25	20.6	26.5	18.6	22.5	26.2	26.3
3750LM SEF	23.2	25.9	21.4	27.3	19.5	23.4	27	27.2
5250LM SEF	24.2	26.9	22.5	28.4	20.5	24.4	28	28.2
6750LM SEF	25.1	27.8	23.3	29.2	21.4	25.3	28.9	29
7500LM SEF	25.4	28.1	23.6	29.5	21.7	25.6	29.2	29.4
2250LM HEF	25	27.7	20.5	26.4	18.6	22.5	25.2	25.3
3000LM HEF	25.3	28	21.4	27.3	19.4	23.3	26.1	26.2
3750LM HEF	21.4	24.1	22.4	28.3	20.5	24.4	27	27.1
5250LM HEF	22.3	25	23.2	29.2	21.3	25.2	28	28.1
6750LM HEF	23.1	25.8	23.6	29.5	21.6	25.5	28.8	29
7500LM HEF	24.2	26.8	19.6	25.5	17.7	21.6	29.1	29.3

UGR varies based on luminaire options and is affected by application dependent parameters. Numbers depicted here are considered "Luminaire-UGR and/or "Point-UGR" values.
To determine a more precise maximum UGR value ("Application-UGR"), a full lighting design layout should be completed with the selected luminaire configuration for each application

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CONTRACTOR SELECT™

LITHONIA LIGHTING

Catalog Number	
Notes	
Type	

Contractor Select™

FMVCSLS Vanity LED

Contemporary Switchable Square Vanity

Provides an LED lighting platform to deliver general or task lighting for residential and light commercial applications. Light engine delivers long life and excellent color to ensure a quality, low-maintenance light installation. Ideal for use in bathrooms, lavatories, hallways, corridors, stairways, utility areas and more.

FEATURES:

- Available in 24" and 48"
- 24in produces 1550 lumens, standard input = 27 watts.
- 48in produces 2960 lumens, standard input = 36 watts.
- Fixture is rated to deliver L70 performance at 50,000 hours and operates at 120-277 volts.

Catalog Number	UPC	Description	Lumens	Input Watts	Voltage	Color Temperature	Pallet qty.
FMVCSLS 24IN MVOLT 30K35K40K 90CRI BN M6	191848792117	2' LED Vanity	1550	27W	MVOLT	3000K, 3500K, 4000K	108
FMVCSLS 48IN MVOLT 30K35K40K 90CRI BN M4	191848792179	4' LED Vanity	2960	36W	MVOLT	3000K, 3500K, 4000K	48

CS CONTRACTOR SELECT™

LITHONIA LIGHTING

Specifications

INTENDED USE:
Provides an LED lighting platform to deliver general or task lighting for residential and light commercial applications. Light engine delivers long life and excellent color to ensure a quality, low-maintenance light installation. Ideal for use in bathrooms, lavatories, hallways, corridors, stairways, utility areas and more.

CONSTRUCTION:
The Contemporary Square Vanity is constructed of an acrylic diffuser with housings available in a brushed nickel finish. The included canopy/junction box cover is removable for a more low-profile look (2'-4' lengths only). The white acrylic diffuser provides even illumination and softens the appearance of the LEDs for improved aesthetics.

OPTICS:
The FMVCSLS Contemporary Square Vanity has an integrated switch to select 3000K, 3500K or 4000K color temperature at the time of installation.

2' delivers 1550 lumens, and 4' delivers 2960 lumens at 3000K CCT with 50,000 hours of life.

See table to the right for delivered lumens at the different CCT color switch settings.

Extruded acrylic diffuser is of highly transmissive material to minimize LED image and provides high angle brightness control.

ELECTRICAL:
Long-life LEDs, coupled with a multivolt and dual dimmable capable driver, provide extended service life. Standard input = 27 watts, (2'); 36 watts, (4'). Fixture is rated to deliver L70 performance at 50,000 hours and operates at 120-277 volts.

This fixture is dimmable by either triac or 0-10V dimming. Use with approved triac or 0-10v dimmer only.

LISTINGS:
UL Listed to US and Canadian safety standards. Listed for damp locations. ENERGY STAR® certified.

Complies with 2019 Title 24, Part 6, JA8 High Efficacy LED light source requirements.

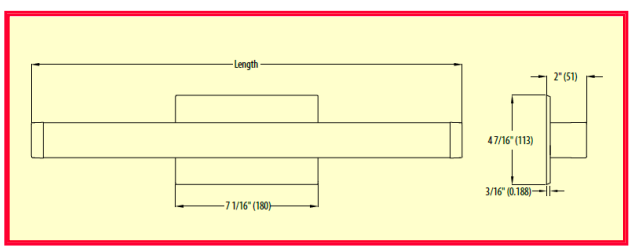
WARRANTY:
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

Dimensions

SPECIFICATIONS	2FT	4FT
Length:	21-7/16 (545)	45-1/16 (1145)
Weight:	2.15 (.98)	3.15 (1.43)
3000K Lumens (LPW)	1550 (87)	2960 (84)
3500K Lumens (LPW)	1725 (99)	3240 (94)
4000K Lumens (LPW)	1740 (96)	3200 (89)

All dimensions are inches (millimeters) unless otherwise indicated. Weights are pounds (kilograms).



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Catalog Number	
Notes	
Type	

Contractor Select™

TWR LED

LED Wall Pack
Adjustable+Switchable+Photocell

The Lithonia Lighting® TWR wall packs combine the power of the latest generation of LEDs in a popular and classic day-form to provide exceptional energy savings. These wall packs give ultimate versatility to both the distributor and contractor by offering 18 configurations in one product with their standard Adjustable Lumen Output (ALO), Switchable color temperature (SWW2), and adjustable photocell (PE) features.

Adjustable Lumen Output ALO | Switchable CCT SWW2 | Dusk-to-Dawn Operation PE

DLC LISTED PREMIUM | DLC LISTED | 5 YEAR warranty | 65 IP RATED | UL CERTIFIED | WET LOCATION™ | LED

FEATURES:

- Two sizes deliver from 2,300 lumens up to 16,100 lumens, replacing 70W to 400W HID luminaires
- Energy savings of up to 86% when replacing HID wall packs with less than two year paybacks
- Three power levels of adjustable lumen output. Switchable CCT(3000K/4000K/5000K) offers warm, cool and daylight in a single fixture
- Standard photocell can be turned on or off
- IP65 rated, Die-cast aluminum housing and borosilicate glass lens
- Up to 155 LPW

Catalog Number	Adjustable Lumen Output ALO			Switchable CCT SWW2	Dusk-to-Dawn Operation PE	Input Voltage	CRI
TWR1 LED ALO SWW2 UVOLT PE DDBTXD	2,300 Lumens	5,300 Lumens	8,500 Lumens*	Switchable 3000K, 4000K*, 5000K	Included Standard, Selectable On*/Off	120-347V	80CRI
TWR2 LED ALO SWW2 UVOLT PE DDBTXD	8,200 Lumens	12,100 Lumens	16,100 Lumens*				

* - Default out of the box settings

Made To Order Options

Ci Code	Input Voltage	Catalog Number	UPC	Number of fixtures per pallet	Traditional Replacement
*280GX1	120-277V	TWR1 LED ALO SWW2 MVOLT PE E7WC DDBTXD	00196183389954	60	70W - 250W HID
*2822T3	480V	TWR2 LED ALO SWW2 480 DDBTXD	00196183765819	32	250W - 400W HID

* Note: Made to order options are available with normal lead time

TWR LED Stock Configuations

Catalog Number	UPC	Ci Code	Number of fixtures per pallet	Traditional Replacement
TWR1 LED ALO SWW2 UVOLT PE DDBTXD	00196183389947	*280GWW	50	70W - 250W HID
TWR2 LED ALO SWW2 UVOLT PE DDBTXD	00196183390028	*280GX5	40	250W - 400W HID

CS CONTRACTOR SELECT™

LITHONIA LIGHTING

Specifications

INTENDED USE:
The TWR LED combines traditional wall pack design with latest generation LEDs to provide an energy-efficient, low maintenance LED wall pack suitable for replacing up to 400W Metal Halide fixtures. The traditional shape helps maintain building aesthetics when replacing only a portion of your building's wall packs. TWR LED is ideal for outdoor applications such as carports, loading areas, self storage and parking areas.

CONSTRUCTION:
Rugged cast-aluminum housing with bronze polyester powder paint for lasting durability. Door is hinged on the side and can be detached for easy installation and service. Castings are sealed with a one-piece gasket to inhibit the entrance of external contaminants. Rated for outdoor installations, -40°C minimum ambient.

ELECTRICAL:
Light engine consists of long-life, high-efficacy LEDs mounted on an internal aluminum heat sink to maximize heat dissipation and promote long life. LEDs maintain 90% of light output at 50,000 hours of service. (LED lifespan based on IESNA LM-80-08 results and calculated per IESNA TM-21-11 methodology. The UVOLT driver operates on any line voltage from 120-347V (50/60Hz). All luminaires have 6kV surge protection. There are no user serviceable parts. The fixture is supplied with a 0-10V driver and is dimmable by 0-10V controls.

BATTERY SPECS:
Emergency battery backup E7WC is a 7 Watt back up battery that delivers up to 1,000 lumens in emergency mode. The lowest operating temperature is -20°C and is compatible with the MVOLT model TWR1.

INSTALLATION
Designed for wall mounting above four feet from ground. Housing is configured for mounting directly over a standard 4" outlet box (by others) or for surface wiring via any of four convenient 1/2" threaded conduit entry hubs.

LISTINGS:
UL Listed to U.S. and Canadian safety standards for wet locations. Tested in accordance with IESNA LM-79 and LM-80 standards.

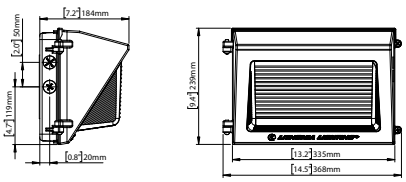
DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY:
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

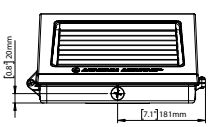
Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

Dimensions

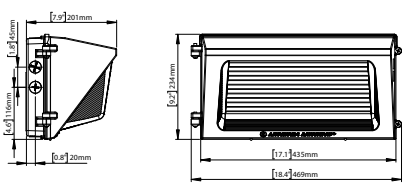
TWR1:
Width: 13.2" / 33.5cm
Height: 9.4" / 23.9cm
Depth: 7.2" / 18.4cm
Weight: 7.5lbs (3.4kg)



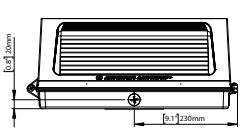
TWR1 E7WC:
Width: 15.25" / 38.74cm
Height: 10.75" / 27.31cm
Depth: 8.75" / 22.23cm
Weight: 9.66lbs (4.38kg)



TWR2:
Width: 17.1" / 43.5cm
Height: 9.2" / 23.4cm
Depth: 7.9" / 20.1cm
Weight: 12.1lbs (5.5kg)



All dimensions are inches (centimeters) unless otherwise indicated.



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CS CONTRACTOR SELECT™

LITHONIA LIGHTING

LUMEN OUTPUT:

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of configurations shown within the tolerances described within LM-79.

Size	Lumen Output	Input Wattage	CCT/80CRI	Delivered Lumens	Lumens Per Watt @ 4000K, 80CRI
TWR1	2,300	16W	3000K	2,295	145
			4000K	2,292	
			5000K	2,359	
	5,300	36W	3000K	5,277	151
			4000K	5,347	
			5000K	5,390	
	8,500	59W	3000K	8,400	148
			4000K	8,581	
			5000K	8,523	

Size	Lumen Output	Input Wattage	CCT/80CRI	Delivered Lumens	Lumens Per Watt @ 4000K, 80CRI
TWR2	8,200	55W	3000K	8,132	155
			4000K	8,427	
			5000K	8,290	
	12,100	82W	3000K	11,875	152
			4000K	12,449	
			5000K	12,037	
	16,100	112W	3000K	15,794	147
			4000K	16,270	
			5000K	16,262	

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Si-125

125 Watt Pure Sine Wave Self Testing Emergency Lighting Inverter with Optional Power Share Technology PST

Assurance Emergency Lighting

Compatible with LED loads

Specifiers reference:

Project: _____

Type: _____

Model #: _____

Comments: _____

Product Summary

Approvals . . . . . UL Listed to UL924
NEMA 410 load tested up to 375W

Input Voltage . . . . . Field Select-able 120 or 277 Vac input/Output

Input Current . . . . . 1.45A (120 Vac), 0.65 A (277Vac)

Input Frequency . . . . . 60 Hz

Output Voltage . . . . . 120-277 Vac, 60 Hz

Output Current . . . . . 1.05 A (120 Vac), 0.5A (277 Vac)

Output Power . . . . . 125 W

Output voltage regulation in emergency +/- 5%

Output . . . . . Dimmed, Switched, Normally On, & Normally Off
All models have 3 switchable command zones and 1 normally ON circuit.

Operating Time . . . . . 90 Minutes @ 25℃

Self-Testing & Self-Diagnostic
Monthly reported via visual user interface panel

Load Power Factor . . . . . 0.5 leading to 0.5 lagging

Transfer Time . . . . . 50 msec

Recharge Time . . . . . 24 Hours

Battery over voltage and under voltage protection

Sealed long-life, valve-regulated, lead calcium batteries

Dimensions . . . . . 12.0"H x 15.4" W x 4.25"D

Weight . . . . . 33 lbs.

Operating Temperature . . . . . 68°F to 86° F (20°C to 30° C

Storage Temperature . . . . . -4° F to 158 °F (-20°C to 70°C)

Warranty . . . . . 2 years full on electronics,
4 years pro-rata on batteries,
See website for warranty details

Options

PST

- PST 3 Independent Adjustable (20-100%) Dimming Zones, 0-10Vdc, Dali, & Fire Alarm Interface (Max. Normal Power Load of 375W when using Power Share Technology PST)

Examples: Si-125 & Si-125-PST

Description

The Assurance Emergency Lighting Si-125 is a sine wave output self-test/self diagnostic inverter designed for designated emergency lighting fixtures. In the event of a power failure, the inverter will automatically supply up to 125 watts of emergency power to LED, fluorescent and incandescent luminaires for ninety (90) minutes. It will operate with multiple switched, non-switched and emergency only luminaires. It has optional features such as Power Share Technology (PST) for auto dimming in emergency, audible alarm and Seismic Restraints.

Specifications

Emergency lighting shall be provided by the Assurance Si-125 inverter unit equipment designed to operate designated LED and fluorescent fixtures on emergency power either at rated power or reduced luminaire power using the optional Power Share Technology during the 90 minute emergency discharge regardless of the wall switch position. The inverter shall allow for connected emergency fixtures to be normally on, normally off dimmed/switched without affecting lamp operation during a power failure. The unit shall include a self-contained inverter circuitry with an automatic, variable-rate battery charger, low voltage battery disconnect, short circuit, brown out protection and 10X crest factor for high in rush currents. The unit shall utilize a valve regulated sealed lead calcium battery with a 10 year design life expectancy. The inverter shall be self testing and self diagnostic and perform monthly self diagnostic test and report failures via user interface panel. The Si-125 shall have the option of Power Share Technology- which dims the (normal load 375W max.) load in emergency via the 0-10 vdc luminaire inputs to pre-selected values (20, 40, 60, 80 & 100%) for 3 independent zones. The inverter shall be UL Listed. It shall meet or exceed the requirements of UL924, NFPA 101 Life Safety Code, NFPA 70 National Electrical Code, OSHA, State and Local Codes. Warranty: Two (2) years full on electronics and four (4) years pro rata on batteries. Per the California Energy Commission, Regulatory Advisory dated Oct. 31, 2018, Backup Battery Charger Systems, the Si-125 is applicable and accepted for use in California.

Contact Customer Service for details regarding extended run time applications.

UL LISTED

All Specifications subject to change without prior notification.

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

EDG (surface mount)

EDGR (recessed mount)

QUANTUM®

LED Edge-Lit Exits

EDG
EDGR

FEATURES & SPECIFICATIONS

INTENDED USE — Suitable for applications requiring attractive edge-lit exit signage, universal installation and low energy consumption.

CONSTRUCTION — Extruded brushed aluminum finish.

Clear acrylic panels- letters measure 6" high with 3/4" stroke, with 100 ft viewing distance rating, based upon UL 924 standard.

For single-face clear panels, EXIT is seen as a reversed image from the back.

OPTICS — LEDs mounted on printed circuit board. The typical life of the exit LED lamp is 5 years, based on 24/7 operation.

The LED operating frequency is 120Hz.

ELECTRICAL — Dual voltage input capacity (120/277V).

Battery: (EL Option) – Sealed, maintenance free nickel-cadmium battery delivers 90 minutes capacity to emergency lamps. Test switch provides manual activation of 30-second diagnostic testing for on-demand visual inspection.

Self-diagnostic testing (EL Option Only) for 30 seconds every 30 days and 90 minutes annually. Diagnostic evaluation of LED light source, AC to DC transfer, charging and battery condition.

INSTALLATION — EDG – Universal mounting canopy for top or end mount. Back mount standard for single face only. Canopy provided.

EDGR – Recessed mounting. Bar hanger and brackets provided for both new or restricted ceiling access installation applications. Available for use in drop ceiling applications. Back wall mount (WM) option.

Universal directional indicators. Field selected and attached.

LISTINGS — UL damp location listed 32°-122°F (0°-50°C) standard. Meets UL924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards. Meets all applicable FCC Title 47, Part 15, Subpart B requirements.

BUY AMERICAN ACT — BAA – Buy America(n) Act: Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations.
Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty (Battery is prorated). This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

† Exit Signs Certified in the CA Title 20 Appliance Efficiency Database.

Specifications

EDG (End Mount)	**EDG (Top Mount)**
Length: 13 (33.0)	Length: 13-5/8 (34.6)
Depth: 5-1/2(14.0)	Depth: 4-5/16 (11.0)
Height: 11-1/8 (28.3)	Height: 11-3/4 (29.8)
Shipping Weight : 4 lbs (1.8 kgs)	Shipping Weight: 4 lbs (1.8 kgs)
EDG (Back Mount)	**EDGR**
Length: 13 (33.0)	Length: 13 (33.0)
Depth: 3 (7.6)	Depth: 1-3/4 (4.4)
Height: 11-1/8 (28.3)	Height: 8 (20.3)
Shipping Weight: 4 lbs (1.8 kgs)	Shipping Weight: 6.8 lbs (3.1 kgs)
	Shipping Weight (WM option): 8.1 lbs (3.7 kgs)

All dimensions are inches (centimeters) unless otherwise noted.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.

*See ordering tree for details

Design Select options indicated by this color background.

ORDERING INFORMATION For shortest lead times, configure products using **bolded options**.

****SPECIFY OPTIONS BELOW****

Example: EDG 1 R EL

Family	Housing color	Number of faces	Letter color		Operations	Options
EDG Surface mount LED edge-lit exit	**(blank)** Brushed aluminum	**1** Single face	**R** Red on clear (single face only)[1]	RMR Red on mirror[2]	**(blank)** AC only	**(blank)** None
EDGR Recessed LED edge-lit exit	W White	**2** Double face	**G** Green on clear (single face only)[1]	GMR Green on mirror[2]	**EL** Nickel-cadmium battery	WM Recessed wall mount[7]
				RW Red on white[3]	X2 Lamp wired on two separate AC circuits (specify 120V or 277V)[4,5]	BAA Buy America(n) Act Compliant
				GW Green on white[3]	SD Self-diagnostics[6]	

Accessories: Order as separate item.

ELA US12	12" stem kit with brushed aluminum canopy[8]
ELA W US12	12" stem kit with white canopy[8]
ELA WG1	Wireguard (13 3/4"H x 15 1/4"W x 6" D, back mount only)

Notes
1 For single-face clear panels, EXIT is seen as a reversed image from the back.
2 Available with single and double face.
3 White panel standard for double and single face.
4 Both circuits can be energized at the same time.
5 Not available with EL and SD options.
6 Available with EL option only.
7 Available on EDGR single face only
8 See spec sheet ELA-StemKits. Only available for EDG.

EDG-EDGR LED, Quantum® Surface and Recessed Mount Edge-Lit Exits

SPECIFICATIONS

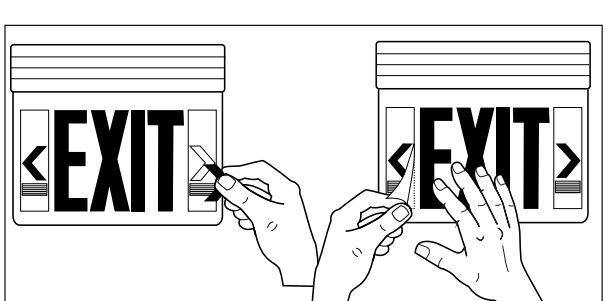
ELECTRICAL						
Primary Circuit						
Type	**Typical LED life[1]**	**Supply voltage**	**EDG**		**EDGR**	
			Input Watts	**Max amps.**	**Input Watts**	**Max amps.**
Red LED AC only	>5 years	120	2.5	0.020	3.8	0.030
		277	2.8	0.010	4.5	0.014
Green LED AC only	>5 years	120	2.2	0.020	3.8	0.030
		277	2.2	0.010	4.5	0.020
Red LED emergency	>5 years	120	3.0	0.030	3.8	0.031
		277	3.1	0.010	4.5	0.015
Green LED emergency	>5 years	120	2.6	0.020	3.8	0.031
		277	2.8	0.010	4.5	0.020

BATTERY (EL option)			
Sealed Nickel-Cadmium			
Shelf life[2]	Typical life[2]	Maintenance[3]	Temperature range[4]
3 years	6-8 years	none	32-122°F (0-50°C)

Notes

1. Based on 24/7 operation. The typical life of the exit LED lamp is 5 years.
2. At 77°F (25°C).
3. All life safety equipment, including emergency lighting for path of egress must be maintained, serviced, and tested in accordance with all National Fire Protection Association (NFPA) and local codes. Failure to perform the required maintenance, service, or testing could jeopardize the safety of occupants and will void all warranties.
4. Temperature range where unit will provide capacity for 90 minutes. Higher and lower temperatures affect life and capacity.

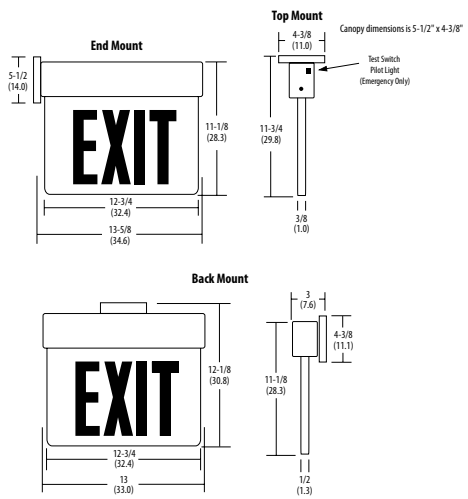
KEY FEATURES



Universal chevron indicators for field selection/installation.

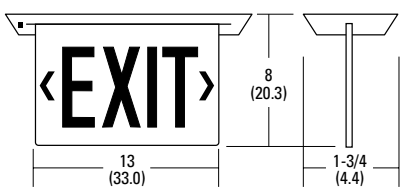
MOUNTING

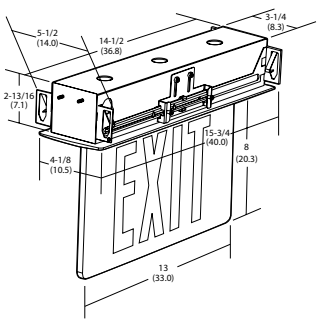
EDG



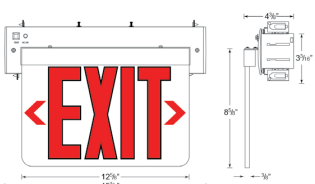
EDGR

Note: For drop ceiling applications refer to the standard installation section of the instruction sheet. Not applicable for "bracket mount" installation.





EDGR WM option



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STATEMENT OF LIMITED WARRANTY FOR ACUITY BRANDS LIGHTING, INC LED/OLED COMMERCIAL PRODUCTS 09.01.2022

Subject to the exclusions set forth below, Acuity Brands Lighting, Inc. (“Acuity”) warrants its commercial LED/OLED fixtures, including the LED arrays and the drivers and integral control devices (“Product(s)”) to be free from defect in material and workmanship for a period of five (5) years from the date of shipment from Acuity’s facilities (the “General Warranty”). For Products with embedded ultraviolet (UV) based devices that are not separable from the fixture(s), this Limited Warranty shall apply to both the UV based devices and the Products, but the Warranty Period shall be reduced to two (2) years from the date of shipment from Acuity’s facilities. Acuity further warrants that, for one (1) year, the functionality of the firmware embedded in the Product(s) (“Product Firmware”) will conform in all material respects to the Product documentation available at the start of the warranty period. The LED arrays in the Product(s) will be considered defective in material or workmanship only if a total of 10% or more of the individual light emitting diodes in the Product(s) fail to illuminate.

For installed Rough Service Product(s), Acuity warrants that, for the lifetime of the Product(s), the polycarbonate lens and/or polycarbonate housing will withstand breakage resulting from occasional physical abuse and rough handling (the “Rough Service Warranty”), notwithstanding the vandalism exclusion set forth below.

This Limited Warranty only covers Product function and does not cover existing building systems and/or network performance of any Product(s) or re-programming or field adjustments of any Product(s) done by anyone that has not been authorized or certified in writing by Acuity. Acuity does not warrant the security of any Product(s). Product(s)that are identified by Acuity as requiring on-site commissioning will only be covered by this Limited Warranty if commissioned by Acuity authorized personnel. Warranty coverage shall notapply to any equipment or integration services of another manufacturer used in conjunction with Acuity Product(s) or where Acuity-authorized cables are not used. This Limited Warranty only applies to the Product(s) when sold for commercial purposes and does not apply to residential product(s) provided by Acuity, all of which are governed by separate limited warranty terms.

Except as otherwise set forth herein, ballasts, lamps, emergency batteries/invertors, vandal resistant product, poles, replaceable consumables (such as batteries), computer hardware, mobile computing devices, third party gear, commissioning systems, and components specified by others are excluded from this Limited Warranty. Ultraviolet (UV) based devices that are separable from the Product (s) are warranted separately; and the terms of such warranties are located at https://www.acuitybrands.com/support/warranty/terms-and-conditions. Manufacturers of third-party ballasts, lamps, emergency batteries/invertors and poles incorporated into the Product(s) are solely responsible for any costs or expenses related to any claims, repairs, or replacements associated with any such component(s). Applicable manufacturers shall be solely responsible for the costs related to any claims associated with any such third-party devices. Assistance with warranty claims for any such component(s), and/or copies of each applicable manufacturer’s warranty, if available, may be obtained from an authorized Acuity post-sales or customer service representative. Distech Controls® and eldoLED® products are warranted separately and are not covered by this Limited Warranty.

Additionally, software (other than firmware), mobile apps, commissioning services, installation services, remote programming, and other professional services are excluded from this Limited Warranty. Services provided by Acuity are warranted separately; and the terms of such warranties are located at https://www.acuitybrands.com/support/warranty/terms-and-conditions. Applicable third-party service providers are solely responsible for the costs related to any claims associated with any such third-party services. Access to software and mobile apps associated with the Product(s) may be subject to the terms of an End-User License Agreement or Terms and Conditions of Use (“EULA”) and, if applicable, warranty terms applicable for such software and mobile apps are set forth in the applicable EULA.

This Limited Warranty applies only when the Product(s) are installed in applications in which ambient temperatures are within the range of specified operating temperatures. Acuity will not be responsible under this Limited Warranty for any failure of the Product(s) that results from external causes such as: acts of nature, including but not limited to harmonic oscillation/winds, ice, or other related storm activity; physical damage; exposure to adverse or hazardous chemical or other substances; use of reactive cleaning agents and/or harsh chemicals to clean the Product(s);external site conditions, including but not limited to: accumulation of debris (natural or otherwise), heavy tree cover, cellular, satellite or radio interference; environmental conditions, including but not limited to: exposure to harsh, corrosive, non-condensing humidity conditions, marine or humidity conditions; vandalism; terroristic acts; fire; power failure, overheating, improper power supply, power surges or dips, and/or excessive switching; induced vibration; harmonic oscillation, or resonance associated with movement of air currents around Product(s); animal or insect activity; fault or negligence of purchaser, any end-user of the Product(s) and/or any third party not engaged by Acuity; improper or unauthorized access, use, installation, handling, storage, alteration, removal of components, testing, troubleshooting, maintenance or service; removal or interference with the tamper proof label indicating unauthorized opening of the unit; any housing, arm or gasket pierced for any reason ; failure to abide by any product classifications or certifications; failure to comply with any applicable standards, codes, recommendations, product specification sheets, or instructions of Acuity; failure of the end-user to provide full and complete requested data; use of the Product(s) with products,

STATEMENT OF LIMITED WARRANTY FOR ACUITY BRANDS LIGHTING, INC LED/OLED COMMERCIAL PRODUCTS 09.01.2021

processes or materials supplied by any end-user or third party; or any other occurrences beyond Acuity's reasonable control. Acuity also will not be responsible under this Limited Warranty for any substantial deterioration in the Product finish that is caused by failure to clean, inspect, or maintain the finish of the Product(s). If the Product(s) are used on existing foundations, roofs, buildings, anchorages or structures, the end-user is solely responsible for the structural integrity of such existing foundations, roofs, buildings, anchorages or structures and all consequences arising from their use. Adequate records of operating history, maintenance, and/or testing (as applicable) must be kept by the end-user and provided to Acuity upon request to substantiate that the Product(s) have failed to comply with the terms of this Limited Warranty. Neither polycarbonate nor acrylic material used in the Products is warranted against yellowing or cracking, as yellowing and/or cracking may naturally occur over time due to normal aging. The Product(s) are not warranted against: cosmetic problems or defects that result from normal wear and tear under ordinary use and that do not affect the performance or use of the Product(s); nor are the Products warranted against costs that may be incurred in connection with changes or modifications to the Product(s) required to accommodate site conditions and/or faulty building construction or design; or failures of Acuity Product(s) resulting from installation or use of aftermarket third party supplied products, components, materials, software, services, telecommunications equipment, networks or the Internet. Acuity does not warrant that the Product(s) meet the applicable project requirements for performance, legality, safety, security, suitability, or effectiveness for use in a particular application. In no event will Acuity be responsible for any loss resulting from anyapplication in which the Product(s) are used including any fines or penalties resulting from illegal use. Modifications/upgrades to Product Firmware that may be required to address changes in laws or regulations are outside the scope of this Limited Warranty. Product Firmware modifications/upgrades that result in changes to functionality to the Product are also outside the scope of this Limited Warranty.

The determination of whether any Product(s) fail to comply with the terms of this Limited Warranty shall be made by Acuity in its sole discretion, with consideration given to the overall performance of the Product(s) as compared to the expected performance per the applicable spec sheet. If the Product(s) are within the Warranty Period, Acuity has received payment in full for the Product(s), and Acuity determines to its satisfaction that the Product(s) fail to comply with the terms of this Limited Warranty, Acuity, at its option, will (a) with respect to defects in material and workmanship service, repair or replace the Product(s) with the same or a functionally equivalent Product(s) or component part(s), which may differ in appearance from the original or (b) with respect to non-conformances of the Product Firmware, will make available for installation a patch to be installed by the end-user within a commercially reasonable time frame to remedy the non-conformance. If the patch is not installed within a commercially reasonable time frame, the Limited Warranty will no longer apply with respect to such non-conformances. Acuity reserves the right to utilize new, reconditioned, refurbished, repaired, or remanufactured Product(s) or parts in the warranty repair or replacement process. For purposes of clarity,this Limited Warranty does not include any removal, commissioning, programming, or reinstallation costs or expenses, including without limitationany labor costs, equipment or other expenses required to remove and/or reinstall original or replacement Product(s) and/or parts. This Limited Warranty extends only to the Product(s) as delivered to, and is for the sole and exclusive benefit of, the original end -user of the Product(s) at the original location. This Warranty may not be transferred or assigned by the original end-user.

The repair or replacement of any Product(s) or component part within the Product(s) is the sole and exclusive remedy for failure of the Product(s)to comply with the terms of this Limited Warranty and does not extend the Warranty Period. Warranty claims regarding the Product(s) must be submitted in writing within thirty (30) days of discovery of the defect or failure to an authorized Acuity post-sales or customer service representative. Product(s) or component part(s) may be required to be returned for inspection and verification of non-conformance by Acuity, but no Product(s) or component part(s) will be accepted for inspection, verification or return unless accompanied by a "return authorization number" which can be obtained only from an authorized Acuity post-sales or customer service representative. Acuity is not responsible for any costs, expenses, or damages that may occur in connection with shipment of Product(s) to Acuity, but Acuity shall bear all cost and expense incurred in connection with shipment of replacement Product(s) to the end-user so long as Acuity has sole control over all aspects of shipment, including but not limited to Acuity shipping directly to the end-user. In no event will Acuity accept any other charges related to shipment by any other party. Replacement Product(s) and/or parts provided under the terms of this Limited Warranty are warranted for the remainder of the Warran ty Period as if such Product(s) and/or parts were the original components.

THE FOREGOING WARRANTY TERMS ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, AND ACUITY EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, RELATING DIRECTLY OR INDIRECTLY TO THE PRODUCT(S), WHETHER ORAL, WRITTEN, OR ARISING BY COURSE OF DEALING OR USAGE OF TRADE, INCLUDING ,WITHOUT LIMITATION, ANYWARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO AGENT, DISTRIBUTOR OR OTHER SUPPLIER OF ACUITYPRODUCTS HAS THE AUTHORITY TO MODIFY OR AMEND THIS WARRANTY WITHOUT EXPRESS WRITTEN AUTHORIZATION FROM ACUITY.

The total liability of Acuity on any and all claims of any kind, whether in contract, warranty, tort (including negligence), strict liability or otherwise, arising out of or in connection with, or resulting from, Acuity's performance or breach of this Limited

STATEMENT OF LIMITED WARRANTY FOR ACUITY BRANDS LIGHTING, INC LED/OLED COMMERCIAL PRODUCTS 09.01.2021

Warranty, or from Acuity's sale, delivery, resale, repair, or replacement of any Product(s) or the furnishing of any services, shall in no event exceed the purchase price allocable to the Product(s) that give rise to the claim, and any and all such liability shall terminate upon the expiration of the Warranty Period specified above. Acuity shall not be liable for damages caused by any delays involving warranty services.

IN NO EVENT SHALL ACUITY BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY OR PUNITIVE DAMAGES, ARISING OUT OF THE SALE OR PERFORMANCE OF ANY PRODUCTS OR SERVICES, OR ANY BREACH OF WARRANTY OR OBLIGATIONS UNDER WARRANTY EVEN IF INFORMED OF THE POSSIBILITY OF SUCH DAMAGES, WHETHER AS THE RESULT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, OR ANY OTHER THEORY, INCLUDING WITHOUT LIMITATION LABOR OR EQUIPMENT REQUIRED TO REMOVE AND/OR REINSTALL ORIGINAL OR REPLACEMENT PARTS, LOSS OF TIME, PROFITS OR REVENUES,

LACK OR LOSS OF PRODUCTIVITY, INTEREST CHARGES OR COST OF CAPITAL, COST OF SUBSTITUTE EQUIPMENT, SYSTEMS, SERVICES OR DOWNTIME COSTS, LOSS OR CORRUPTION OF DATA, DAMAGE TO OR LOSS OF USE OF PROPERTY OR EQUIPMENT OR ANY INCONVENIENCE ARISING OUT OF ANYBREACH OF THE FOREGOING WARRANTY OR OBLIGATIONS UNDER SUCH WARRANTY.

Acuity reserves the right to modify or discontinue this Limited Warranty without notice, provided that any such modification or discontinuance will only be effective with respect to any Product(s) purchased after such modification or discontinuance. If there is any conflict or inconsistency between the English language version of this Limited Warranty and any version translated into any other language, the English language version shall prevail. Trademarks referenced are trademarks of Acuity Brands Lighting, Inc. and if marked with the ® symbol are registered in the U.S. and may be registered in other countries.

This Limited Warranty shall be construed and enforced in the accordance with the laws of the State of Georgia and the applicable laws of the United States.

NOTE: This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

NOTE: Acuity Brands is not a lighting specifier, and product recommendations for any lighting design project are for informational purposes only, without any warranty as to accuracy, completeness, legality for use in a particular application, or otherwise.

NOTE: The Product(s) must be returned within ten (10) days after receiving the return authorization number and the shipping box must be clearlymarked with the return authorization number. Failure to follow this procedure will delay any potential warranty resolution. Product(s) returned without a valid return authorization number will either be refused or returned to sender at sender's expense. NO PRODUCT RETURNS WILL BEACCEPTED BY ACUITY IF NOT ACCOMPANIED BY A VALID RETURN AUTHORIZATION NUMBER.

MAYER

To: MOSELEY ELECTRIC

Date:

Attention:

Job / Project Reference: MATERIAL SUBMITTALS

Material Reference:

Sending the following items:

Copies	Dated	Number or Reference	Description
			MATERIAL SUBMITTALS

	For approval
Remarks:	

Copy to:

From:

Phone:

Email:

Intermediate Metal Conduit (IMC) and Kwik-Couple® IMC

allied TUBE & CONDUIT®
A PART OF atkore INTERNATIONAL

NEC recognizes Allied IMC for same uses as RIGID

IMC Conduit

- Light-weight ductile steel conduit for long life and easy bending
- Weighs 1/3 less than rigid conduit
- Saves up to 30% in cost over GRC
- Hot galvanized exterior to increase corrosion resistance and protect against white rust
- Interior coating creates a smooth, continuous raceway for fast wire-pulling
- UL 1242 listed and manufactured in accordance with ANSI C80.6
- True Color IMC special orders available
- Available in trade sizes 1/2(16) thru 4(103)

Kwik-Release End Cap No Tools Needed!

Kwik-Couple® IMC Steel Conduit

- Factory-installed Kwik-Couple couplings are available on IMC rigid conduits
- No separate couplings to purchase, store, carry or install
  Just line up the ends, spin the coupling forward onto the next piece and wrench tighten. It's that easy!
- Kwik-Release End Cap · Requires no tools
- All the benefits of IMC Conduit
- True Color IMC special orders available
- Patented
- Trade Sizes 2-1/2(63) thru 4(103)

IMC (Intermediate Metal Conduit) Weights and Dimensions

Trade Size	Metric Designator	Average Outside Diameter[1]		Average Wall Thickness[2]		Approximate Weight Per 100 Ft. (30.5M)		Quantity in Master Bundle	
		in.	mm.	in.	mm.	lb.	kg.	ft.	m.
1/2	16	0.815	20.70	0.070	1.79	62	28.1	3500	1067.5
3/4	21	1.029	26.13	0.075	1.90	84	38.1	2500	762.5
1	27	1.290	32.76	0.085	2.16	119	54.0	1700	518.5
1-1/4	35	1.638	41.60	0.085	2.16	158	71.7	1350	411.8
1-1/2	41	1.883	47.82	0.090	2.29	194	88.0	1100	335.5
2	53	2.360	59.94	0.095	2.41	256	116.1	800	244.0
2-1/2	63	2.857	72.56	0.140	3.56	441	200.0	370	112.9
3	78	3.476	88.29	0.140	3.56	543	246.3	300	91.5
3-1/2	91	3.971	100.86	0.140	3.56	629	285.3	240	73.2
4	103	4.466	113.43	0.140	3.56	700	317.5	240	73.2

[1]Outside diameter tolerances:
+/- .005 in. (.13mm) for trade sizes 1/2 (16mm) through 1 (25mm)
+/- .0075 in. (.19mm) for trade sizes 1-1/4 (36mm) through 2 (53mm)
+/- 0.10 in. (.25mm) for trade sizes 2-1/2 (63mm) through 4 (103mm).

[2]Wall thickness tolerances:
+ 0.15 in. (.38mm) and - .000 for trade sizes 1/2 (13mm) through 2 (53mm)
+ 0.20 in. (.51mm) and - .000 for trade sizes 2-1/2 (63mm) through 4 (103mm).
NOTE: Length = 10 ft. (3.05m) with a tolerance of +/- .25 in. (6.35mm).
NEMA Standard

Project Information

Company Name: _____
Address: _____
City: _____
State & Zip: _____
Phone: _____
Project Name: _____
City: _____
State: _____

Intermediate Metal Conduit (IMC) and Kwik-Couple® IMC

FEATURES & SPECIFICATIONS

Allied IMC is precision manufactured for economical protection and long lasting value for the electrical raceway system. Manufactured from premium, work hardened steel combining electrical and mechanical performance with ductility. Allied IMC is resistant to impact and is easy to cut, bend and join for smooth, continuous raceways. Allied IMC is as strong, lighter in weight, and less expensive than Rigid. In fact, it can save you as much as 30% in overall costs. Intermediate Metal Conduit, covered by Article 342 in the National Electrical Code® (NEC®), is recognized as an equipment grounding conductor in Article 250 of the NEC and also provides excellent shielding from electromagnetic fields.

Kwik-Couple IMC Conduit

Innovation from the conduit leaders at Allied

Allied's patented Kwik-Couple IMC reduces threaded conduit installation time and cost significantly. Kwik-Couple has an integrated coupling on the conduit exactly where you need it.

The Allied Advantage

Allied IMC has a larger internal diameter than RIGID conduit to allow for easier fishing and wire-pulling. Allied IMC is also more "rigid" than RIGID to provide superior wiring protection in many applications.

The National Electrical Code recognizes Allied IMC for the same uses as RIGID, including all hazardous location (classified) applications.

Allied IMC uses the same threaded couplings and fittings as RIGID conduit, and the 3/4" NPT threads (ANSI B1.20.1) are also full cut and galvanized after cutting. Color-coded end-cap thread protectors keep the threads clean and sharp, and also help to provide instant trade size recognition. Even sizes are color-coded orange, 1/2 trade sizes are yellow, and 1/4 trade sizes are green.

Coatings

Allied's IMC is hot galvanized using Allied's patented inline Flo-Coat® process. This process combines zinc, a conversion coating, and a clear organic polymer topcoat to form a triple layer of protection against corrosion and abrasion. The interior of Allied IMC is coated with a highly corrosion-resistant lubricating finish for easier wire-pulling. No need to worry about damage to the conduit system even when pulling through multiple 90° bends.

EMI Shielding

Allied IMC is very effective in reducing the effects of electromagnetic fields on encased power distribution circuits, shielding computers and other sensitive electronic equipment from the effects of electromagnetic interference.

Visit www.alliedeg.com to obtain the **GEMI** (**G**rounding and **E**lectromagnetic **I**nterference) software analysis program.

Codes & Standards Compliance

IMC is covered by Article 342 of the National Electric Code (NEC). It can be installed in all occupancies and locations, including Class I, Division I hazardous locations. Allied IMC is listed to Underwriters Laboratories Safety Standard UL 1242 and meets ANSI C80.6. These standards have been adopted as Federal Specifications in lieu of WWC-581-Type 2. IMC is recognized as an equipment grounding conductor by NEC Section 250-118.

Installation of IMC conduit and elbows shall be in accordance with the National Electrical Code and the UL listing information. Allied IMC is listed in UL category DYBY. Master bundles conform to NEMA standard RN2.

Specification Data

Intermediate Metal Conduit (IMC) conduit and elbows shall be equal to that manufactured by Allied Tube & Conduit Corporation. IMC shall be hot galvanized steel O.D. with an organic corrosion resistant I.D. coating and shall be Listed to UL Safety Standard 1242 and manufactured in accordance with ANSI C80.6. It shall be listed by a nationally recognized testing laboratory with follow-up service. Threads shall be hot galvanized after cutting.

Kwik-Couple IMC is Listed to UL Safety Standard 1242 and UL 514-B. Kwik-Couple IMC is Listed for CONCRETE-TIGHT applications.

It is noted that these U.L. standards have been adopted by the federal government and separate military specifications no longer exist.

Kwik-Couple IMC Conduit Weights and Dimensions

Trade Size	Metric Designator	Average Outside Diameter[1]		Average Wall Thickness[2]		Approximate Weight Per 100 Ft. (30.5M)		Quantity In Master Bundle	
		in.	mm.	in.	mm.	lb.	kg.	ft.	m.
2-1/2	63	2.857	72.56	0.140	3.56	441	200.0	400	122.0
3	78	3.476	88.29	0.140	3.56	543	246.3	300	91.5
3-1/2	91	3.971	100.86	0.140	3.56	629	285.3	250	76.3
4	103	4.466	113.4	0.140	3.56	700	317.5	200	61.0

[1]Outside diameter tolerances: +/- .010 in. (.25mm)
[2]Wall thickness tolerances: + .020 in. (.51mm) and -.000

NOTE: Length (w/coupling) = 10 ft. (3.05m) with a tolerance of +/- .25in. (6.35mm).

NOTE: Special orders are non-cancelable, non-returnable and non-refundable

16100 S. Lathrop Ave., Harvey, IL 60426
Phone / 708.339.1610 • Toll-Free / 800.882.5543
www.alliedeg.com

Galvanized Rigid Conduit (GRC) and Kwik-Couple® GRC

allied TUBE & CONDUIT®
A PART OF atkore INTERNATIONAL

Galvanized Rigid Conduit (GRC)

- Hot-dip galvanized for excellent corrosion resistance
- High strength ductile steel for long life and easy bending
- Smooth, continuous raceways for fast wire pulling
- Kwik-Release End Cap to protect threads
- True Color™ GRC special orders available
- Listed to Safety Standard UL 6
- Manufactured in accordance with ANSI C80.1
- Available in sizes 1/2 (16) - 6 (155)

Quality, Long Lasting Heavy Duty Steel Conduit

Kwik-Couple Galvanized Rigid Conduit (GRC)

- All the benefits of GRC Conduit
- Factory installed Kwik-Couple™ couplings are available on GRC conduit

  Just line up the ends, spin the coupling forward onto the next piece and wrench tighten. It's that easy!
- No separate couplings to purchase, inventory or install
- Kwik-Release End Cap to protect threads
- True Color™ Kwik-Couple® GRC special orders available
- Manufactured in accordance with ANSI C80.1
- Available in sizes 2 1/2 (63) - 5 (129)

Chart on the following page

For Faster Installations Use the Kwik-Couple GRC Connection

* U.S. Patent Numbers 7,404,582 and 7,726,001.

Kwik-Couple Rigid Elbows

- Also available with pre-installed Kwik-Couple Couplings
- Made to order, contact us for lead times

Galvanized Rigid Conduit (GRC)

Listed to UL 6, manufactured in accordance with ANSI C80.1

Trade Size	Metric Designator	Outside Diameter[1]		Nominal Wall Thickness[2]		Approximate Weight Per 100 Ft. (30.5M)		Quantity in Master Bundle*	
		in	mm	in	mm	lb	kg	ft	m
1/2	16	0.840	21.34	0.104	2.64	82	37.2	2500	762.5
3/4	21	1.050	26.67	0.107	2.72	109	49.4	2000	610.0
1	27	1.315	33.40	0.126	3.20	161	73.0	1250	381.3
1 1/4	35	1.660	42.16	0.133	3.38	218	98.9	900	274.5
1 1/2	41	1.900	48.26	0.138	3.51	263	119.3	800	244.0
2	53	2.375	60.33	0.146	3.71	350	158.8	600	183.0
2 1/2	63	2.875	73.03	0.193	4.90	559	253.6	370	112.9
3	78	3.500	88.90	0.205	5.21	727	329.8	300	91.5
3 1/2	91	4.000	101.60	0.215	5.46	880	399.2	250	76.3
4	103	4.500	114.30	0.225	5.72	1030	467.2	200	61.0
5	129	5.563	141.30	0.245	6.22	1520	689.5	150	45.8
6	155	6.625	168.28	0.266	6.76	1785	809.7	100	30.5

[1] Tolerances: Trade Size 1/2 to 1-1/2: ±0.015" (0.38mm); Trade Size 2-6: ±1% Length equals 10 ft. (3.05m) with a tolerance of +/- .25 in. (6.35mm)
[2] For information only. Not a requirement of the UL standard.
* NEMA RN-3 Standard

NOTE: Special orders are non-cancelable, non-returnable and non-refundable

Project Information

Company Name: _____
Address: _____
City: _____
State & Zip: _____
Phone: _____
Project Name: _____
City: _____
State: _____

Galvanized Rigid Conduit (GRC) and Kwik-Couple® GRC

FEATURES & SPECIFICATIONS

Full Electrical System Protection

Manufactured from mild steel, Allied's Rigid Conduit is highly resistant to damage from impact yet ductile to facilitate bending.

The 3/4" taper NPT threads (ANSI B1.20.1) are full cut and hot galvanized after cutting. Color-coded end cap thread protectors keep the threads clean, sharp and also provide instant trade size recognition. Even sizes are color-coded blue, 1/2 sizes black, and 1/4 sizes red.

Coatings

Hot-dip galvanized inside and out to provide galvanic corrosion protection. Also topcoated with a compatible organic layer to protect against white rust. The inside surface is evenly coated for wire-pulling ease, even through multiple 90° bends.

EMI Shielding

Allied RIGID is very effective in reducing the effects of electromagnetic field levels for encased power distribution circuits, shielding computers and other sensitive electronic equipment from the effects of electromagnetic interference.

Visit www.alliedeg.com to obtain the **GEMI** (**G**rounding and **E**lectro-**M**agnetic **I**nterference) software analysis program.

Codes & Standards Compliance

Allied Rigid Steel Conduit is precision manufactured for dependable, long-lasting value and ultimate protection for electrical conductors. Covered by article 344 of the National Electrical Code® (NEC), rigid steel conduit is highly resistant to damage from impact. It can be installed in all occupancies and locations, including Class I Division 1 hazardous locations. Rigid steel conduit is recognized as an equipment grounding conductor in Section 250.118 of the NEC. It is listed to Underwriters Laboratories Safety Standard UL 6. and is manufactured to ANSI C80.1, both of which have been adopted as Federal Specifications in lieu of WWC 581.

Installation of Rigid Metal Conduit shall be in accordance with the National Electrical Code and UL General Information card #DYIX. Master bundles conform to NEMA standard RN2.

Specification Data

Rigid Steel Conduit shall be hot-dip galvanized and manufactured by Allied Tube & Conduit. Threads shall be hot galvanized after cutting. Rigid steel conduit shall be listed to UL Safety Standard 6 by a nationally-recognized testing laboratory with follow up service. It shall be manufactured in accordance with ANSI C80.1.

Kwik-Couple Rigid steel conduit shall be listed to UL 6 and UL 514B and manufactured in accordance with ANSI C80.1.

Note: Federal specification WW-C-581, Class 1, Type A has been superseded by UL Standard 6, which has been adopted by the federal government.

KWIK-COUPLE AVAILABLE
Trade Size 2-1/2 to 5

Kwik-Couple (GRC)

UL Safety Standard 6
Manufactured in accordance with ANSI C80.1

Trade Size	Metric Designator	Outside Diameter[1]		Nominal Wall Thickness[2]		Approximate Weight Per 100 Ft. (30.5M)		Bundle Quantity	
		in	mm	in	mm	lb	kg	ft	m
2 1/2	63	2.875	73.03	0.193	4.90	559	253.6	400	121.9
3	78	3.500	88.90	0.205	5.21	727	329.8	300	91.4
3 1/2	91	4.000	101.60	0.215	5.46	880	399.2	250	76.2
4	103	4.500	114.30	0.225	5.72	1030	467.2	200	61.0
5	129	5.563	141.30	0.245	6.22	1400	635.0	150	45.7

[1] Tolerances: Trade Size 2-1/2 to 5: ± 1%
[2] For information only. Not a requirement of the UL standard.

NOTE: Special orders are non-cancelable, non-returnable and non-refundable

16100 S. Lathrop Ave., Harvey, IL 60426
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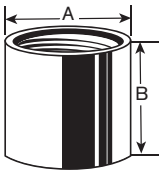
www.alliedeg.com

Galvanized Rigid Conduit (GRC) Couplings & Elbows

allied TUBE & CONDUIT®
A PART OF atkore INTERNATIONAL

Galvanized Rigid Conduit (GRC) Couplings

Manufactured to Underwriters Laboratory Safety Standards UL 6
Manufactured in accordance with ANSI C80.1

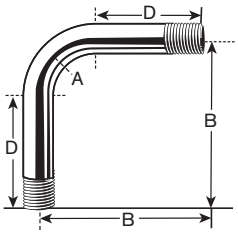


Trade Size	Metric Designator	Nominal O.D. (A)[2]		Length (B)[1]		Threads Per Inch[1]	Approximate Weight Per 100 Pieces		Standard Package
		in	mm	in	mm		lb	kg	
1/2	16	1.01	25.7	1 5/8	41.3	14	12	5.4	100
3/4	21	1.25	31.8	1 41/64	41.7	14	18	8.2	50
1	27	1.53	38.7	1 31/32	50.0	11 1/2	30	13.6	30
1 1/4	35	1.87	47.5	2 1/32	51.6	11 1/2	37	16.8	25
1 1/2	41	2.16	54.7	2 1/16	52.4	11 1/2	52	23.6	25
2	53	2.65	67.3	2 1/8	54.0	11 1/2	72	32.7	20
2 1/2	63	3.25	82.6	3 3/16	81.0	8	170	77.1	1
3	78	3.87	98.3	3 5/16	84.1	8	210	95.3	1
3 1/2	91	4.50	114.3	3 13/32	86.5	8	340	154.2	1
4	103	4.88	123.8	3 33/64	89.3	8	300	136.1	1
5	129	6.00	152.4	3 61/64	100.4	8	475	215.5	1
6	155	7.20	182.9	4 1/4	108.0	8	765	347.0	1

[1]Mimimum requirement as per UL Standard

Galvanized Rigid Conduit (GRC) 90 Degree Elbows

Listed to UL Safety Standard 6
Manufactured in accordance with ANSI C80.1



Trade Size	Metric Designator	Radius (A)[1]		Offset (B)[2]		Straight (D)[1]		Approximate Weight Per 100 Pieces		Standard Package
		in	mm	in	mm	in	mm	lb	kg	
1/2	16	4	102	5 7/8	149	1 1/2	38	68	30.8	50
3/4	21	4 1/2	114	7	178	1 1/2	38	109	49.4	50
1	27	5 3/4	146	8 3/4	222	1 7/8	48	201	91.2	25
1 1/4	35	7 1/4	184	10 3/4	273	2	51	336	152.4	20
1 1/2	41	8 1/4	210	12 1/4	311	2	51	460	208.7	15
2	53	9 1/2	241	14 1/2	368	2	51	729	330.7	10
2 1/2	63	10 1/2	267	17	432	3	76	1374	623.2	1
3	78	13	330	19 5/8	498	3 1/8	79	2045	927.6	1
3 1/2	91	15	381	22 3/4	578	3 1/4	83	2860	1297.3	1
4	103	16	406	23 7/8	606	3 3/8	86	3519	1596.2	1
5	129	24	610	34 7/8	886	3 5/8	92	6942	3148.9	1
6	155	30	762	45 1/2	1156	3 3/4	95	11960	5425.1	1

[1]Mimimum requirement as per UL Standard
[2]For information only, not a requirement as per UL Standard
Sizes 2 1/2 (63) and larger shipped in palletized cartons or bulk.
Also available in the following Degrees (60°, 45°, 30°, 22-1/2°, 15° & 11-1/4°)

KWIK-COUPLE ELBOWS AVAILABLE
by special order in Trade Size 2-1/2 to 5

NOTE: Special orders are non-cancelable, non-returnable and non-refundable

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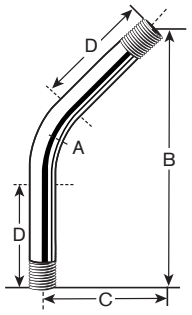
Galvanized Rigid Conduit (GRC) Elbows

Galvanized Rigid Conduit (GRC) 45 Degree Elbows

Listed to UL Safety Standard 6
Manufactured in accordance with ANSI C80.1

Trade Size	Metric Designator	Radius (A)[1]		Offset (B)[2]		Offset (C)[2]		Straight (D)[1]		Approximate Weight Per 100 Pieces		Standard Package
		in	mm	in	mm	in	mm	in	mm	lb	kg	
1/2	16	4	102	7	178	2 7/8	73	1 1/2	38	55	24.9	50
3/4	21	4 1/2	114	7 7/8	200	3 1/4	83	1 1/2	38	82	37.2	50
1	27	5 3/4	146	9 5/8	244	4	102	1 7/8	48	148	67.1	25
1 1/4	35	7 1/4	184	11 1/8	283	4 5/8	117	2	51	232	105.2	20
1 1/2	41	8 1/4	210	13 1/8	333	5 3/8	137	2	51	329	149.2	15
2	53	9 1/2	241	15 3/4	400	6 1/2	165	2	51	525	238.1	10
2 1/2	63	10 1/2	267	17 1/2	445	7 1/4	184	3	76	932	422.8	1
3	78	13	330	21 7/8	556	9	229	3 1/8	79	1515	687.2	1
3 1/2	91	15	381	26 1/8	664	10 7/8	276	3 1/4	83	2200	997.9	1
4	103	16	406	26 1/4	667	10 7/8	276	3 3/8	86	2575	1168.0	1
5	129	24	610	35 7/8	911	14 7/8	378	3 5/8	92	4783	2169.6	1
6	155	30	762	43 3/8	1102	18	457	3 3/4	95	7590	3442.8	1

[1]Mimimum requirement as per UL Standard
[2]For information only, not a requirement as per UL Standard
Sizes 2 1/2 (63) and larger shipped in palletized cartons or bulk.
Also available in the following Degrees (60°, 45°, 30°, 22-1/2°, 15° & 11-1/4°)



KWIK-COUPLE ELBOWS AVAILABLE
by special order in Trade Size 2-1/2 to 5

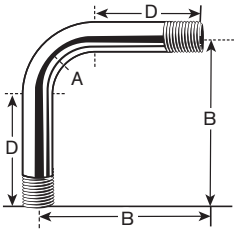
Galvanized Rigid Conduit (GRC) Large Radius 90 Degree Elbows

Listed to UL Safety Standard 6
Manufactured in accordance with ANSI C80.1

Trade Size	Metric Designator	Radius (A)		Offset (B)[2]		Straight (D)[2]		Approximate Weight Per 100 Pieces	
		in	mm	in	mm	in	mm	lb	kg
1	27	12	305	20 5/8	524	8 5/8	219	483	219.1
1	27	15	381	24 1/4	616	9 1/4	235	564	255.8
1	27	18	457	27 7/8	708	9 7/8	251	644	292.1
1	27	24	610	34 5/8	879	10 5/8	270	792	359.3
1	27	30	762	41	1041	11	279	926	420.0
1	27	36	914	46 3/4	1187	10 3/4	273	1047	474.9
1	27	42	1067	54	1372	12	305	1208	547.9
1	27	48	1219	61 1/4	1556	13 1/4	337	1369	621.0
1 1/4	35	12	305	20 5/8	524	8 5/8	219	654	296.7
1 1/4	35	15	381	24 1/4	616	9 1/4	235	763	346.1
1 1/4	35	18	457	27 7/8	708	9 7/8	251	872	395.5
1 1/4	35	24	610	34 5/8	879	10 5/8	270	1072	486.3
1 1/4	35	30	762	41	1041	11	279	1254	568.8
1 1/4	35	36	914	46 3/4	1187	10 3/4	273	1417	642.8
1 1/4	35	42	1067	54	1372	12	305	1635	741.6
1 1/4	35	48	1219	61 1/4	1556	13 1/4	337	1853	840.5

[2]For information only, not a requirement as per UL Standard
Shipped in palletized cartons or bulk.
Also available in the following Degrees (90°, 60°, 30°, 22-1/2°, 15° & 11-1/4°)

Chart continued on the next page



NOTE: Special orders are non-cancelable, non-returnable and non-refundable

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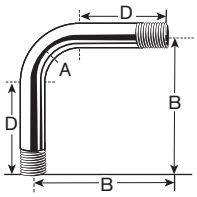
Galvanized Rigid Conduit (GRC) Elbows

Galvanized Rigid Conduit (GRC) Large Radius 90 Degree Elbows (continued)

Listed UL Safety Standard 6
Manufactured in accordance with ANSI C80.1



Trade Size	Metric Designator	Radius (A)		Offset (B)[2]		Straight (D)[2]		Approximate Weight Per 100 Pieces	
		in	mm	in	mm	in	mm	lb	kg
1 1/2	41	12	305	20 5/8	524	8 5/8	219	789	357.9
1 1/2	41	15	381	24 1/4	616	9 1/4	235	921	417.8
1 1/2	41	18	457	27 7/8	708	9 7/8	251	1052	477.2
1 1/2	41	24	610	34 5/8	879	10 5/8	270	1293	586.5
1 1/2	41	30	762	41	1041	11	279	1512	685.8
1 1/2	41	36	914	46 3/4	1187	10 3/4	273	1710	775.7
1 1/2	41	42	1067	54	1372	12	305	1973	895.0
1 1/2	41	48	1219	61 1/4	1556	13 1/4	337	2236	1014.2
2	53	15	381	24 1/4	616	9 1/4	235	1225	555.7
2	53	18	457	27 7/8	708	9 7/8	251	1400	635.0
2	53	24	610	30 3/8	772	6 3/8	162	1473	668.2
2	53	30	762	41	1041	11	279	2013	913.1
2	53	36	914	46 3/4	1187	10 3/4	273	2275	1031.9
2	53	42	1067	54	1372	12	305	2625	1190.7
2	53	48	1219	61 1/4	1556	13 1/4	337	2975	1349.5
2 1/2	63	18	457	24 3/8	619	6 3/8	162	1910	866.4
2 1/2	63	24	610	31 1/8	791	7 1/8	181	2422	1098.6
2 1/2	63	30	762	37 1/2	953	7 1/2	191	2888	1310.0
2 1/2	63	36	914	44 3/4	1137	8 3/4	222	3447	1563.6
2 1/2	63	42	1067	54	1372	12	305	4193	1901.9
2 1/2	63	48	1219	61 1/4	1556	13 1/4	337	4752	2155.5
3	78	15	381	24 1/4	616	9 1/4	235	2545	1154.4
3	78	18	457	24 3/8	619	6 3/8	162	2484	1126.7
3	78	24	610	33 1/8	841	9 1/8	232	3393	1539.1
3	78	30	762	38 5/8	981	8 5/8	219	3892	1765.4
3	78	36	914	46 7/8	1191	10 7/8	276	4741	2150.5
3	78	42	1067	54	1372	12	305	5453	2473.5
3	78	48	1219	60 1/4	1530	12 1/4	311	6058	2747.9
3	78	60	1524	75 7/8	1927	15 7/8	403	7634	3462.8
3 1/2	91	18	457	26 3/8	670	8 3/8	213	3300	1496.9
3 1/2	91	24	610	35 1/8	892	11 1/8	283	4400	1995.8
3 1/2	91	30	762	38 1/2	978	8 1/2	216	4693	2128.7
3 1/2	91	36	914	47	1194	11	279	5757	2611.4
3 1/2	91	42	1067	54	1372	12	305	6600	2993.8
3 1/2	91	48	1219	60 1/4	1530	12 1/4	311	7333	3326.2
4	103	18	457	27 3/8	695	9 3/8	238	4034	1829.8
4	103	24	610	35 1/8	892	11 1/8	283	5150	2336.0
4	103	30	762	39 3/8	1000	9 3/8	238	5644	2560.1
4	103	36	914	47	1194	11	279	6738	3056.4
4	103	42	1067	54	1372	12	305	7725	3504.1
4	103	48	1219	60 1/4	1530	12 1/4	311	8583	3893.2
4	103	60	1524	75 7/8	1927	15 7/8	403	10815	4905.7

[2]For information only, not a requirement as per UL Standard
Shipped in palletized cartons or bulk.
Also available in the following Degrees (60°, 45°, 30°, 22-1/2°, 15° & 11-1/4°)

Chart continued on the next page

KWIK-COUPLE AVAILABLE
Trade Size 2-1/2 to 5 by special order

NOTE: Special orders are non-cancelable, non-returnable and non-refundable

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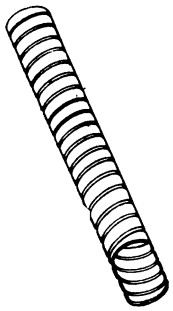
Flexible Steel Conduit

LIGHTWEIGHT



Catalog Number	Item No	Description	Approx. Lbs. Per 1000 Ft.	Feet Per Coil	Size (In.)	Per 100 Ft.			
						Average Market Price	Coil to 999 Ft.	1000 Ft. & Over	
3/8	02101	--	180	100	3/8	14.94	65.74	59.76	+
1/2	02102	--	280	100	1/2	16.99	74.73	67.94	+
3/4	02103	--	330	100	3/4	23.12	101.72	92.47	+
1	02104	--	520	50	1	42.12	185.34	168.49	+
1-1/4	02105	--	650	50	1-1/4	54.34	239.09	217.35	+
1-1/2	02106	--	800	25	1-1/2	88.72	390.35	354.86	+
2	02107	--	1000	25	2	108.45	477.19	433.81	+
2-1/2	02108	--	1500	25	2-1/2	353.34	580.12	527.38	+
3	02109	--	1900	25	3	612.66	1005.86	914.42	+
3-1/2	02110	--	2200	25	3-1/2	693.54	1138.64	1035.13	+
4	02111	--	2700	25	4	789.47	1296.15	1178.32	+

Flexible Aluminum Conduit

REDUCED WALL

Catalog Number	Item No	Description	Approx. Lbs. Per 1000 Ft.	Feet Per Coil	Size (In.)	Per 100 Ft.			
						Average Market Price	Coil to 999 Ft.	1000 Ft. & Over	
3/8	02201	--	180	100	3/8	39.68	65.14	59.22	+
1/2	02202	--	280	100	1/2	45.96	75.46	68.60	+
3/4	02203	--	330	100	3/4	63.20	103.76	94.33	+
1	02204	--	520	50	1	119.10	195.54	177.76	+
1-1/4	02205	--	650	50	1-1/4	165.71	272.06	247.33	+
1-1/2	02206	--	800	25	1-1/2	237.32	389.63	354.21	+
2	02207	--	1000	25	2	302.79	497.11	451.92	+
2-1/2	02208	--	1500	25	2-1/2	389.52	639.51	581.37	+
3	02209	--	1900	25	3	636.69	1045.32	950.29	+
3-1/2	02210	--	2200	25	3-1/2	734.90	1206.55	1096.86	+
4	02211	--	2700	25	4	818.34	1343.54	1221.40	+

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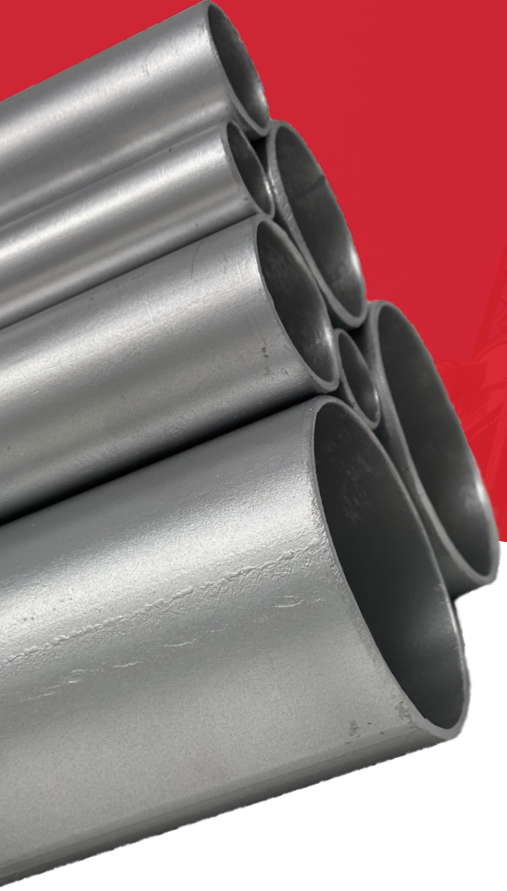

EMT
ELECTRICAL METALLIC TUBING

RYMCO Electrical Metallic Tubing (EMT) is manufactured from high-grade mild steel and offers an increase in durability and long-lasting life. EMT is manufactured with uniform wall thickness and continuously welded seams that are inspected and tested for interior defects. RYMCO EMT is available in trade sizes from 1/2 - 4 inch in standard lengths of 10 feet (3.05 meters). RYMCO uses color-coded tape for small bundles to easily identify different sizes in an order.

Coatings:

RYMCO Electrical Metallic Tubing's exterior is hot-dipped galvanized with a coating of special high-grade zinc. C Coat is provided for extra protection against corrosion. Furthering the galvanizing process, the interior of the conduit has a FreedomCoat® layer for rust prevention for easier wire pulling and pushing. Providing our customers with peace of mind and the highest level of confidence in the RYMCO conduit.

Application:

RYMCO EMT complies with NEC Article 358 and can be installed indoors or outdoors, including wet and dry locations, exposed or concealed in a variety of atmospheric conditions. EMT may also be used in hazardous locations in accordance with NEC Article 502, 503 and 504 provided it will not be subject to severe physical damage during and after installation. EMT is recognized in the NEC Section 358.60 as an acceptable equipment grounding conductor and offers shielding against electromagnetic fields generated during normal operation of electrical installations.

Codes & Standards Compliance:

- UL 797, File# E172409
- CSA C22.2 No. 83
- ANSI C80.3
- NEC Article 358
- WW-C-563 Federal Specification (superseded by UL-797)

RYMCOUSA

www.rymcousa.com
1-833-RYMCO-US

Looking for Steel Pipe?

Think of RYMCO. We Con-du-it.

Electrical Metallic Tubing
Weights & Specifications (10' Lengths)

Trade Size	Metric Designator	Nominal OD	Nominal ID	Nominal Wall Thickness	Nominal Weight per foot	Feet in Master Bundle	Qty. in Master Bundle	Feet in Sub-Bundle	Nom Weight per Master Bundle	Banding Tape Color
	mm	in	in	in	lbs	ft	qty	ft	lbs	
½	16	0.706	0.622	0.042	0.30	7000	700	100	2100	Black
¾	21	0.922	0.824	0.049	0.46	5000	500	100	2300	Red
1	27	1.163	1.049	0.057	0.49	3000	300	100	2010	Blue
1¼	35	1.511	1.38	0.065	1.01	2000	200	50	2020	Red
1½	41	1.740	1.61	0.065	1.16	1500	150	50	1740	Black
2	53	2.197	2.067	0.065	1.48	1200	120	30	1776	Blue
2½	63	2.875	2.731	0.072	2.16	610	61	-	1318	Black
3	78	3.500	3.356	0.072	2.63	510	51	-	1341	Blue
3½	91	4.000	3.834	0.083	3.49	370	37	-	1291	Black
4	103	4.500	4.334	0.083	3.93	300	30	-	1179	Blue

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NAED ASSOCIATE MEMBER

NEMRA

BBB ACCREDITED BUSINESS

1335 Boyles St, Suite A, Houston, TX 77020
Toll Free: 1-833-RYMCO-US
www.rymcousa.com

Electrical Metallic Tubing (EMT) and True Color™ EMT

allied TUBE & CONDUIT®
A PART OF atkore INTERNATIONAL

E-Z Pull® EMT

- Hot galvanized steel using patented inline Flo-Coat® process for long lasting exterior protection
- E-Z Pull interior coating provides a smooth raceway for fast, easier wire-pulling
- Excellent mechanical protection for conductors
- Ductility for faster and easier bending
- Optimal EMI shielding characteristics
- Listed to Underwriters Laboratories Safety Standard UL 797
- Manufactured in accordance with ANSI C80.3
- Available in sizes 1/2 (16) - 4 (103)

Quality Electrical Metallic Tubing

True Color™ EMT

- All the benefits of E-Z Pull EMT
- Instant identification of multiple circuits
- Fire Alarm® Red EMT
- Healthcare Green EMT
- Data Com Blue EMT
- Available in 8 colors
- Available in sizes 1/2 (16) - 4 (103)

Identify Important Circuits Instantly!

True Color™ Applications

Black EMT
- Blends in dark colored areas

Fire Alarm® EMT
- Emergency circuits
- Fire alarm and Security systems

Orange EMT
- Construction/research areas
- Fiber optic systems
- Auto repair/maintenance

Yellow EMT
- High voltage wiring
- Caution areas
- Special equipment

Green EMT
- Hospital and healthcare areas
- Nurse call stations
- Critical circuits

Blue EMT
- Low voltage wiring
- Data com/video
- Network security

Purple EMT
- Specialty wiring systems
- Security systems

White EMT
- Blends in light colored areas

Silver EMT
- Standard Use
- Contemporary architecture

Project Information

Company Name: _____
Address: _____
City: _____
State & Zip: _____
Phone: _____
Project Name: _____
City: _____
State: _____

www.alliedeg.com

Electrical Metallic Tubing (EMT) and True Color™ EMT

FEATURES & SPECIFICATIONS

Manufactured for Long Life

Allied Tube & Conduit® EMT is precision manufactured from high grade mild strip steel for exceptional durability and long-lasting life. Allied EMT is hot galvanized using a patented inline Flo-Coat® process. This process combines zinc, a conversion coating, and a clear organic polymer topcoat to form a triple layer of protection against corrosion and abrasion.

E-Z Pull® EMT combines strength with ductility, providing easy bending, cutting and joining while resisting flattening, kinking and splitting. Available in sizes 1/2 (16) - 4 (103).

Coatings

Allied's EMT (Electrical Metallic Tubing) has a special low friction ID coating called E-Z Pull that greatly improves the slip properties between conduit and wire. With E-Z Pull EMT, wire pulls through the EMT smoothly and easily, making installation easier and faster.

EMI Shielding

Allied EMT is very effective in reducing electromagnetic field levels for encased power distribution circuits, shielding computers and other sensitive electronic equipment from the effects of electromagnetic interference.
For more information on EMT shielding, visit www.alliedeg.com to obtain the **GEMI** (**G**rounding and **E**lectro-**M**agnetic **I**nterference) software analysis program.

Codes & Standards Compliance

Allied EMT is listed to Underwriters Laboratories Safety Standard UL 797 and meets ANSI C80.3. These standards have been adopted as federal specifications in lieu of WWC 563. EMT is recognized as an equipment grounding conductor by NEC Section 250-118. Documentation for compliance with NEC Article 250 is also available in the **GEMI** (**G**rounding and **E**lectro-**M**agnetic **I**nterference) analysis software and related research studies found at the www.alliedeg.com website.

Installation of EMT shall be in accordance with the National Electrical Code and the UL listing information. Allied EMT is listed in category FJMX. Master bundles conform to NEMA Standard RN2.

Specification Data

To specify Allied EMT, include the following: Electrical Metallic Tubing shall be equal to that manufactured by Allied Tube & Conduit Corporation. EMT shall be hot galvanized steel O.D. with an organic corrosion resistant I.D. coating, and shall be listed to UL Safety Standard 797 and manufactured in accordance with ANSI C80.3.

Electrical Metallic Tubing (EMT) and True Color™ EMT

Listed to Underwriters Laboratories Safety Standard UL 797
Manufactured in accordance with ANSI C80.3

Trade Size	Metric Designator	Outside Diameter[1]		Nominal Wall Thickness[2]		Approximate Weight Per 100 Ft. (30.5M)		Red and Galvanized Master Bundle Quantity		True Color** Bundle Qty.	
		in	mm	in	mm	lb	kg	ft	m	ft	m
1/2	16	0.706	17.93	0.042	1.07	30	13.6	7000	2135	3500	1066.8
3/4	21	0.922	23.42	0.049	1.24	46	20.9	5000	1525	2500	762.0
1	27	1.163	29.54	0.057	1.45	67	30.4	3000	915	1500*	457.2
1-1/4	35	1.510	38.35	0.065	1.65	101	45.8	2000	610	2000	609.6
1-1/2	41	1.740	44.20	0.065	1.65	116	52.6	1500	457.5	1500	457.2
2	53	2.197	55.80	0.065	1.65	148	67.1	1200	366.0	1200	365.7
2-1/2	63	2.875	73.03	0.072	1.83	216	98.0	610	186.1	610	185.9
3	78	3.500	88.90	0.072	1.83	263	119.3	510	155.6	510	155.4
3-1/2	91	4.000	101.60	0.083	2.11	349	158.3	370	112.9	370	112.7
4	103	4.500	114.30	0.083	2.11	393	178.3	300	91.5	300	91.5

[1]Outside diameter tolerances: +/- .005 in. (.13mm) for trade sizes 1/2 (16mm) through 2 (53mm);
+/- .010 in. (.25mm) for trade sizes 2-1/2 (63mm);
+/- .015 in. (.38mm) for trade size 3 (78mm);
+/- .020 in. (.51mm) for trade sizes 3-1/2 (91mm) and 4 (103mm).

*Blue trade size 1 master bundle size: 3000 ft / 915 m
** Other Color Trade Sizes 2 - 4 are available thru special order
NOTE: Length = 10 ft. (3.05m) with a tolerance of +/- .25 in. (6.35 mm)

NOTE: Special orders are non-cancelable, non-returnable and non-refundable

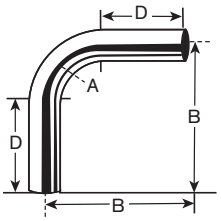
16100 S. Lathrop Ave., Harvey, IL 60426
Phone / 708.339.1610 • Toll-Free / 800.882.5543
www.alliedeg.com

Electrical Metallic Tubing (EMT) Elbows

EMT 90° Elbows

Listed to Underwriters Laboratories Safety Standard UL 797
Manufactured in accordance with ANSI C80.3

Trade Size	Metric Designator	Radius (A)[1]		Offset (B)[2]		Straight (D)[1]		Approximate Weight Per 100 Pieces		Standard Package
		in	mm	in	mm	in	mm	lb	kg	
1/2	16	4	102	5 7/8	149	1 1/2	38	25	11.3	25
3/4	21	4 1/2	114	7	178	1 1/2	38	46	20.9	50
1	27	5 3/4	146	8 3/4	222	1 7/8	48	84	38.1	25
1 1/4	35	7 1/4	184	10 1/8	257	2	51	144	65.3	20
1 1/2	41	8 1/4	210	11 3/4	298	2	51	193	87.5	15
2	53	9 1/2	241	14	356	2	51	296	134.3	10
2 1/2	63	10 1/2	267	16 1/4	413	3	76	504	228.6	1
3	78	13	330	18 3/4	476	3 1/8	79	701	318.0	1
3 1/2	91	15	381	21 1/4	540	3 1/4	83	1047	474.9	1
4	103	16	406	23 3/8	594	3 3/8	86	1310	594.2	1

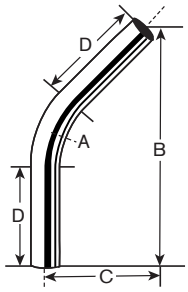


[1]Minimum requirement as per UL Standard
[2]Dimensions and weights are approximate
Sizes 2-1/2 (63) and larger shipped in palletized cartons or bulk.
Also available in the following Degrees (60°, 45°, 30°, 22-1/2°, 15° & 11-1/4°)

EMT 45° Elbows

Listed to Underwriters Laboratories Safety Standard UL 797
Manufactured in accordance with ANSI C80.3

Trade Size	Metric Designator	Radius (A)[1]		Offset (B)[2]		Offset (C)[2]		Straight (D)[1]		Approximate Weight Per 100 Pieces		Standard Package
		in	mm	in	mm	in	mm	in	mm	lb	kg	
1/2	16	4	102	6 1/8	156	2 1/2	64	1 1/2	38	18	8.2	25
3/4	21	4 1/2	114	7 3/8	187	3 1/8	79	1 1/2	38	33	15.0	50
1	27	5 3/4	146	8 3/4	222	3 5/8	92	1 7/8	48	56	25.4	25
1 1/4	35	7 1/4	184	10 1/8	257	4 1/8	105	2	51	97	44.0	20
1 1/2	41	8 1/4	210	13 1/8	333	5 3/8	137	2	51	145	65.8	15
2	53	9 1/2	241	13 1/8	333	5 1/2	140	2	51	185	83.9	10
2 1/2	63	10 1/2	267	17 1/2	445	7 1/4	184	3	76	360	163.3	1
3	78	13	330	17 1/2	445	7 1/4	184	3 1/8	79	438	198.7	1
3 1/2	91	15	381	26 1/8	664	10 7/8	276	3 1/4	83	873	396.0	1
4	103	16	406	26 1/4	667	10 7/8	276	3 3/8	86	983	445.9	1



[1]Minimum requirement as per UL Standard
[2]Dimensions and weights are approximate
Sizes 2-1/2 (63) and larger shipped in palletized cartons or bulk.
Also available in the following Degrees (90°, 60°, 30°, 22-1/2°, 15° & 11-1/4°)

NOTE: Special orders are non-cancelable, non-returnable and non-refundable

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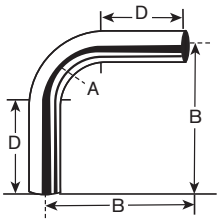
Electrical Metallic Tubing (EMT) Elbows

EMT Large Radius 90° Elbows

Listed to Underwriters Laboratories Safety Standard UL 797
Manufactured in accordance with ANSI C80.3



Trade Size	Metric Designator	Radius (A)		Offset (B)[2]		Straight (D)[2]		Approximate Weight Per 100 Pieces	
		in	mm	in	mm	in	mm	lb	kg
1	27	12	305	20 5/8	524	8 5/8	219	201	91.2
1	27	15	381	24 1/4	616	9 1/4	235	235	106.6
1	27	18	457	27 7/8	708	9 7/8	251	268	121.6
1	27	24	610	34 5/8	879	10 5/8	270	329	149.2
1	27	30	762	41	1041	11	279	385	174.6
1	27	36	914	46 3/4	1187	10 3/4	273	436	197.8
1	27	42	1067	54	1372	12	305	503	228.2
1	27	48	1219	60 1/4	1530	12 1/4	311	558	253.1
1 1/4	35	12	305	20 5/8	524	8 5/8	219	303	137.4
1 1/4	35	15	381	24 1/4	616	9 1/4	235	354	160.6
1 1/4	35	18	457	27 7/8	708	9 7/8	251	404	183.3
1 1/4	35	24	610	34 5/8	879	10 5/8	270	497	225.4
1 1/4	35	30	762	41	1041	11	279	581	263.5
1 1/4	35	36	914	46 3/4	1187	10 3/4	273	657	298.0
1 1/4	35	42	1067	54	1372	12	305	758	343.8
1 1/4	35	48	1219	60 1/4	1530	12 1/4	311	842	381.9
1 1/2	41	15	381	24 1/4	616	9 1/4	235	406	184.2
1 1/2	41	18	457	27 7/8	708	9 7/8	251	464	210.5
1 1/2	41	24	610	34 5/8	879	10 5/8	270	570	258.6
1 1/2	41	30	762	41	1041	11	279	667	302.6
1 1/2	41	36	914	46 3/4	1187	10 3/4	273	754	342.0
1 1/2	41	42	1067	54	1372	12	305	870	394.6
1 1/2	41	48	1219	60 1/4	1530	12 1/4	311	967	438.6
2	53	15	381	24 1/4	616	9 1/4	235	518	235.0
2	53	18	457	27 7/8	708	9 7/8	251	592	268.5
2	53	24	610	34 5/8	879	10 5/8	270	728	330.2
2	53	30	762	41	1041	11	279	851	386.0
2	53	36	914	46 3/4	1187	10 3/4	273	962	436.4
2	53	42	1067	54	1372	12	305	1110	503.5
2	53	48	1219	60 1/4	1530	12 1/4	311	1233	559.3
2 1/2	63	18	457	27 7/8	708	9 7/8	251	864	391.9
2 1/2	63	24	610	34 5/8	879	10 5/8	270	1062	481.7
2 1/2	63	30	762	41	1041	11	279	1242	563.4
2 1/2	63	36	914	46 3/4	1187	10 3/4	273	1404	636.9
2 1/2	63	42	1067	54	1372	12	305	1620	734.8
2 1/2	63	48	1219	60 1/4	1530	12 1/4	311	1800	816.5

[2]For information only, not a requirement as per UL Standard

Chart continued on the next page

Sizes 2-1/2 (63) and larger shipped in palletized cartons or bulk.
Also available in the following Degrees (60°, 45°, 30°, 22-1/2°, 15° & 11-1/4°)

NOTE: Special orders are non-cancelable, non-returnable and non-refundable

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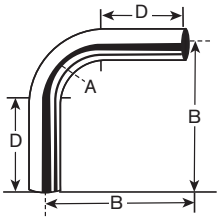
Electrical Metallic Tubing (EMT) Elbows

EMT Large Radius 90° Elbows (continued)

Listed to Underwriters Laboratories Safety Standard UL 797
Manufactured in accordance with ANSI C80.3



Trade Size	Metric Designator	Radius (A)		Offset (B)[2]		Straight (D) [2]		Approximate Weight Per 100 Pieces	
		in	mm	in	mm	in	mm	lb	kg
3	78	15	381	24 1/4	616	9 1/4	235	921	417.8
3	78	18	457	27 7/8	708	9 7/8	251	1052	477.2
3	78	24	610	34 5/8	879	10 5/8	270	1293	586.5
3	78	30	762	41	1041	11	279	1512	685.8
3	78	36	914	46 3/4	1187	10 3/4	273	1710	775.7
3	78	42	1067	54	1372	12	305	1973	895.0
3	78	48	1219	60 1/4	1530	12 1/4	311	2192	994.3
3 1/2	91	18	457	27 7/8	708	9 7/8	251	1396	633.2
3 1/2	91	24	610	34 5/8	879	10 5/8	270	1716	778.4
3 1/2	91	30	762	41	1041	11	279	2007	910.4
3 1/2	91	36	914	46 3/4	1187	10 3/4	273	2269	1029.2
3 1/2	91	42	1067	54	1372	12	305	2618	1187.5
3 1/2	91	48	1219	60 1/4	1530	12 1/4	311	2908	1319.1
4	103	24	610	34 5/8	879	10 5/8	270	1932	876.4
4	103	30	762	41	1041	11	279	2260	1025.1
4	103	36	914	46 3/4	1187	10 3/4	273	2555	1158.9
4	103	42	1067	54	1372	12	305	2948	1337.2
4	103	48	1219	60 1/4	1530	12 1/4	311	3275	1485.5

[2]For information only, not a requirement as per UL Standard
Sizes 2-1/2 (63) and larger shipped in palletized cartons or bulk.
Also available in the following Degrees (60°, 45°, 30°, 22-1/2°, 15° & 11-1/4°)

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www.alliedeg.com

ETP™ 7000S Series Steel EMT Compression Connectors

NEC/CEC:
Listed for Ordinary Locations

Application

- To ground and secure EMT raceways to boxes and enclosures.

Features

- Male hub threads — NPS.
- Available with insulated throat.
- Concretetight.
- Insulated throat connector rated +90 °C (+194 °F).

Materials/Finish

- Body and nut: steel
- Steel/zinc plated

NEC/CEC Certifications and Compliances

- UL Standard: 514B
- UL Listed: E14815, E-14814
- cUL Listed: E14815
- CSA Standard: C22.2 No. 18.3
- NEMA: FB-1

7050S –7400St

Dimensions in Millimeters (Inches)						
Trade Size (Inches)	**Body Length**	**Maximum Diameter**	**Thread Length**	**Weight per 100 kg (lb)**	**Catalog Number**	**Insulated Throat Catalog Number**
1/2	28.7 (1.13)	26.9 (1.06)	9.7 (0.38)	6.80 (15.00)	**7050S**	**7050ST**
3/4	26.2 (1.03)	31.8 (1.25)	11.2 (0.44)	9.53 (21.00)	**7075S**	**7075ST**
1	31.8 (1.25)	39.6 (1.56)	11.2 (0.44)	14.51 (32.00)	**7100S**	**7100ST**
1-1/4	46.0 (1.81)	50.8 (2.00)	14.2 (0.56)	32.66 (72.00)	**7125S**	**7125ST**
1-1/2	50.8 (2.00)	55.6 (2.19)	14.2 (0.56)	38.56 (85.00)	**7150S**	**7150ST**
2	57.2 (2.25)	68.3 (2.69)	17.5 (0.69)	56.25 (124.00)	**7200S**	**7200ST**
2 - 1/2 ①	89.4 (3.52)	74.4 (2.93)	16.5 (0.65	72.57 (160.00)	**7250S**	**7250ST**
3 ①	89.4 (3.52)	90.4 (3.56)	16.5 (0.65	120.20 (265.00)	**7300S**	**7300ST**
3 - 1/2 ①	93.7 (3.69)	103.1 (4.06)	18.3 (0.72)	192.78 (425.00)	**7350S**	**7350ST**
4 ①	93.7 (3.69)	115.8 (4.56)	18.3 (0.72)	272.16 (600.00)	**7400S**	**7400ST**

① *Rated for steel EMT. aluminum and steel RMC, and steel IMC.*

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EMERSON

ETP™ 6000S Steel EMT Compression Couplings

NEC/CEC:
Listed for Ordinary Locations

Application

- To ground and secure EMT raceway sections together.

Features

- Concretetight.
- Raintight (wet locations) Canada.

Material/Finish

- Body and nut: steel.
- Steel/zinc plated

NEC/CEC Certifications and Compliances

- UL Standard: 514B
- UL Listed: E-14895
- cUL Listed: E-14895, E14815
- CSA Certified: 009795
- NEMA: FB-1

6050S – 6400S

Dimensions in Millimeters (Inches)				
Trade Size (Inches)	**Body Length**	**Maximum Diameter**	**Weight per 100 kg (lb)**	**Catalog Number**
1/2	35.1 (1.38)	21.3 (0.84)	8.6 (19.00)	**6050S**
3/4	38.1 (1.50)	35.1 (1.38)	11.3 (25.00)	**6075S**
1	42.2 (1.66)	33.3 (1.31)	17.7 (39.00)	**6100S**
1-1/4	63.5 (2.50)	42.9 (1.69)	39.9 (88.00)	**6125S**
1-1/2	63.5 (2.50)	49.3 (1.94)	47.2 (104.00)	**6150S**
2	63.5 (2.50)	60.5 (2.38)	67.6 (149.00)	**6200S**
2 - 1/2	94.0 (3.70)	74.4 (2.93)	108.9 (240.00)	**6250S**
3	110.7 (4.36)	90.4 (3.56)	158.8 (350.00)	**6300S**
3 - 1/2	124.2 (4.89)	103.1 (4.06)	215.5 (475.00)	**6350S**
4	130.8 (5.15)	115.8 (4.56)	272.2 (600.00)	**6400S**

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LIQUIDTIGHT FLEXIBLE CONDUIT

METALLIC & NON-METALLIC
Vendor No. 980050
P/L Date 09/15/2008

STEEL TYPES UA SEALTITE OR LA LIQUATITE (U.L. APPROVED) - BLACK

Catalog Number	Item No	Description	Size (In.)	Feet Per Std. Ctn.	Per 100 Feet		
					Average Market Price	Less Than 1000 Ft.	
1	02367	--	1	100	207.57	561.00	
1-¼	02374	--	1-¼	50	161.49	769.00	
1-½	02384	--	1-½	50	330.41	893.00	
2	02394	--	2	50	233.73	1113.00	
2-½	02404	--	2-½	25	400.05	1905.00	
3	02414	--	3	25	552.72	2632.00	
4	02424	--	4	25	836.64	3984.00	

STEEL TYPES UA SEALTITE OR LA LIQUATITE (U.L. APPROVED) - GRAY

Catalog Number	Item No	Description	Size (In.)	Feet Per Std. Ctn.	Per 100 Feet		
					Average Market Price	Less Than 1000 Ft.	
⅜	02301	--	⅜	100	53.90	245.00	
½	02321	--	½	100	66.25	265.00	
¾	02341	--	¾	100	93.00	372.00	
1	02361	--	1	100	162.69	561.00	
1-¼	02371	--	1-¼	50	215.32	769.00	
1-½	02381	--	1-½	50	232.18	893.00	
2	02391	--	2	50	267.12	1113.00	
2-½	02401	--	2-½	25	457.20	1905.00	
3	02411	--	3	25	552.72	2632.00	
4	02421	--	4	25	876.48	3984.00	

STEEL TYPES OR SEALTITE OR LOR LIQUATITE (JIC CONSTRUCTED - NON U.L.) - BLACK
Oil Resistant

Catalog Number	Item No	Description	Size (In.)	Feet Per Std. Ctn.	Per 100 Feet		
					Average Market Price	Less Than 1000 Ft.	
⅜	02657	--	⅜	100	59.43	283.00	+
½	02677	--	½	100	67.20	320.00	+
¾	02697	--	¾	100	101.85	485.00	+
1	02717	--	1	100	138.60	660.00	+
1-¼	02724	--	1-¼	50	182.07	867.00	+
1-½	02734	--	1-½	50	255.99	1219.00	+
2	02744	--	2	50	319.62	1522.00	+
2-½	02754	--	2-½	25	725.76	3456.00	+
3	02764	--	3	25	975.87	4647.00	+
4	02774	--	4	25	1308.30	6230.00	+

STEEL TYPES OR SEALTITE OR LOR LIQUATITE (JIC CONSTRUCTED - NON U.L.) - GRAY
Oil Resistant

Catalog Number	Item No	Description	Size (In.)	Feet Per Std. Ctn.	Per 100 Feet		
					Average Market Price	Less Than 1000 Ft.	
⅜	02651	--	⅜	100	59.43	283.00	+
½	02671	--	½	100	67.20	320.00	+
¾	02691	--	¾	100	101.85	485.00	+
1	02711	--	1	100	138.60	660.00	+

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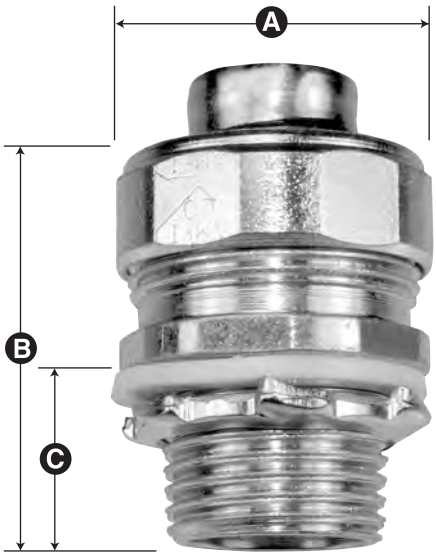
Liquid Tight Connectors

Reusable Fittings

- Industrial specification grade, screw machined steel, zinc plated
- UL Rated Liquid Tight
- Includes sealing washer
- Bonds conduit to box or enclosure
- Corrosion resistant protection from moisture & oils
- Designed to protect against excessive vibration



E93605 LR61799

UL rated suitable for hazardous locations
Class I, Div. 2; Class II, Div. 1 and 2;
Class III, Div 1 and 2; NEC 501-4(b), 502-4(a) (2), 503-3(a)

Straight Connectors with Insulated Throat

Cat. #	Size	Unit Ctn	Std Pkg	WT/ 100
STR38B	3/8"	20	200	10
STR50B	1/2"	20	200	13
STR75B	3/4"	20	100	18
STR100B	1"	5	50	32
STR125B	1-1/4"	5	25	44
STR150B	1-1/2"	5	25	66
STR200B	2"	5	25	85
STR250B**	2-1/2"	-	5	260
STR300B**	3"	-	4	360
STR350B**	3-1/2"	-	4	445
STR400B**	4"	-	2	520
STR500B**	5"	-	1	1150

6" connectors available upon request *** Malleable Iron*

Dimensional Table

Cat. #	A Diameter	B Overall Length	C Length of Thread
STR38/B	1.09	1.19	.63
STR50/B	1.19	1.34	.63
STR75/B	1.43	1.43	.63
STR100/B	1.75	1.63	.66
STR125/B	2.16	1.84	.67
STR150/B	2.38	2.00	.72
STR200/B	2.88	2.13	.72
STR250/B	4.00	3.25	1.50
STR300/B	4.63	3.88	1.50
STR350/B	5.50	4.00	1.50
STR400/B	5.82	4.00	1.63
STR500/B	7.00	5.00	1.63

Straight Connectors

Cat. #	Size	Unit Ctn	Std Pkg	WT/ 100
STR38	3/8"	20	200	10
STR50	1/2"	20	200	13
STR75	3/4"	20	100	18
STR100	1"	5	50	32
STR125	1-1/4"	5	25	44
STR150	1-1/2"	5	25	66
STR200	2"	5	25	85
STR250**	2-1/2"	-	5	260
STR300**	3"	-	4	360
STR350**	3-1/2"	-	4	445
STR400**	4"	-	2	520
STR500**	5"	-	1	1150

6" connectors available upon request *** Malleable Iron*

www.americanfittingscorp.com t: 800-221-5268 e: info@americanfittingscorp.com

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legrand®

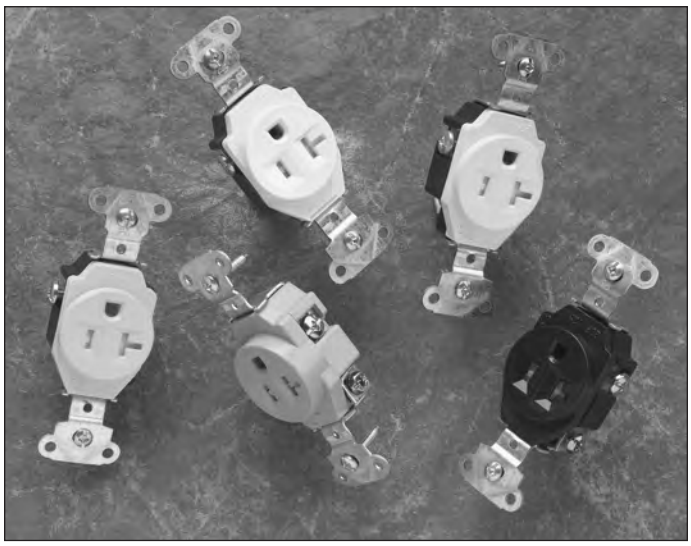
Pass & Seymour

Straight Blade Receptacles
Construction Grade Single
Tamper-Resistant 15 & 20A, 125V

TR5251, TR5351

Rugged construction plus tamper-resistance equals one safe receptacle

Tamper-resistant child safety outlets that conform to 2008 NEC© Article 406.11 are now available as a specification grade single receptacle. The sturdy mechanical shutter system helps prevent children from inserting foreign objects into the receptacle. Corrosion-resistant plated steel straps, rugged nylon faces and triple-wipe power contacts combine with tamper-resistant shutters to deliver safe and reliable long-term performance. Tri-drive mounting and backed out terminal screws combine to save installation time.



Features & Benefits

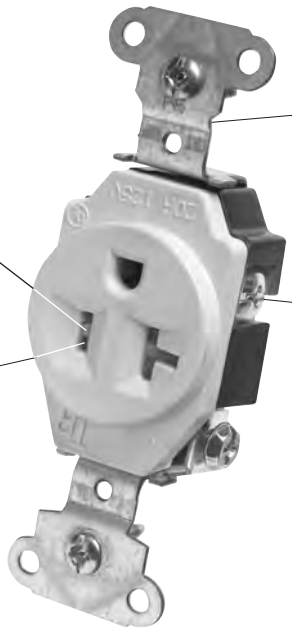
Dual mechanical shutter system to help prevent insertion of foreign objects.

Heavy-duty, corrosion-resistant zinc-plated steel strap for added strength.

Backed-out tri-drive steel terminal screws. Internal screw-pressure-plate back and side wire capability. Two back wire holes for increased wiring flexibility.

One-piece brass triple-wipe power contacts for lasting retention.

Two drive screws anchor steel strap to back body and face where abrupt removal torque is greatest.



TR5351-LA

Field Uses/Vertical Markets

- Retail
- Office
- Hospitality/Lodging
- Multiple Dwelling

PASS & SEYMOUR®
Commercial Specification Grade Receptacles
Tamper-Resistant 15 & 20A, 125V

TR5252, TR5352

Safety- & code-driven solutions brought to you by Legrand®.

Corrosion-resistant plated-steel mounting strap, durable nylon faces, and triple-wipe power contacts combine with tamper-resistant shutters to deliver safe and reliable performance. Tamper-resistant feature helps you comply with 2014 NEC® Article 406.12 and get the job done right. Screw-pressure-plate back wiring ensures easy installation and excellent electrical connections. These UL listed receptacles are ideal for residential, multi-dwelling, commercial office, and hospitality applications.

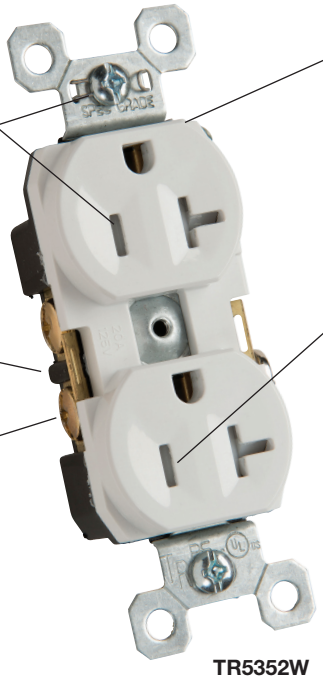
FEATURES & BENEFITS

Dual mechanical shutter system to help prevent insertion of foreign objects.

Auto-ground clip assures positive ground.

Easily accessed break-off, line-contact connecting tab for fast, easy split-circuit wiring.

Backed-out tri-drive steel terminal screws for faster installation.



TR5352W

Corrosion-resistant, plated steel strap.

.032 inch thick brass triple-wipe power contacts for lasting retention.

Impact-resistant nylon face for durability.

Internal screw-pressure-plate back and side wire capability. Two back wire holes for more wiring flexibility.

FIELD USES/VERTICAL MARKETS

- Residential
- Hospitality/Lodging
- Retail
- Multiple Dwelling
- Office

Pass and Seymour

20A 125V Heavy Duty Spec-Grade Tamper-Resistant Isolated Ground Duplex Receptacle, Orange

Part No. TRIG5362

Tamper-Resistant Isolated Ground Heavy-Duty Spec Grade Duplex Receptacle, Back and Side Wire, 20A, 125V. For detailed Tamper-Resistant receptacle information, visit our Tamper-Resistant Receptacles page.

Features & Benefits

Dual mechanical shutter system to help prevent insertion of foreign objects.

Backed-out tri-drive brass terminal screws for faster installation.

Two back wire holes for additional wiring flexibility.

Two drive screws anchor steel strap to back body and face where abrupt removal torque is greatest.

Temperature Rise: Maximum 30°C temperature rise at full-rated current after 50 cycles of overload at 150% of rated current with direct current. Operating Temperature: Maximum continuous +60°C, minimum -40°C without impact

Easily accessed break-off line-contact connecting tab for fast and easy split-circuit wiring.

Internal screw-pressure-plate back and side wire capability.

.032 inch thick brass triple-wipe power contacts.

For covering patents, see www.legrand.us/patents.

Specifications

General Info

Product Line	Pass & Seymour	Color	Orange
Finish	Matte	UPC Number	785007012057
Country Of Origin	Mexico	Number of Receptacles	2
Outlet Type	Tamper-Resistant	Application Sector	Commercial
Standard	cULus UL498, FEDSPEC	Type	Outlet

Dimensions

legrand®

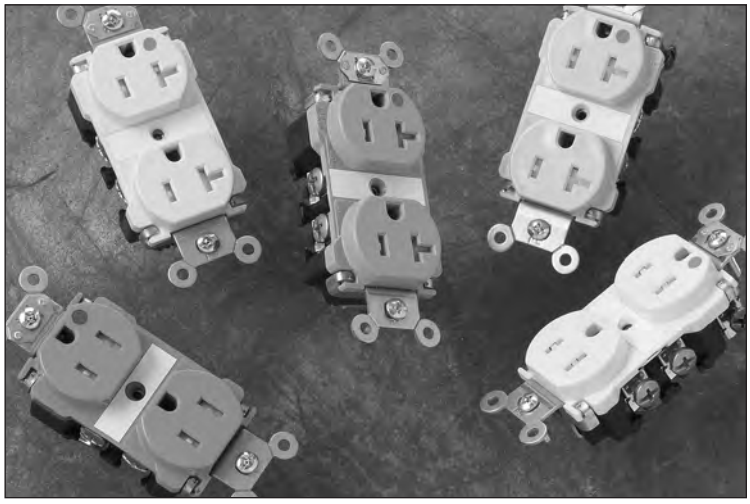
Pass & Seymour

Hospital Grade Devices
Extra Heavy-Duty Receptacles
Tamper-Resistant 15 & 20A, 125V

TR62-H, TR63-H

Extremely durable receptacles for pediatric locations.

The heavy-gauge brass straps lock into the 100 percent nylon faces and back bodies — ensuring long-term durability. And a sturdy mechanical shutter system helps prevent children from sticking objects into the receptacle. Installation is quick and easy, thanks to screw-pressure-plate back wiring (side wiring is supported too). There is even a back wire clamp on the ground terminal.



Features & Benefits

Auto-ground eliminates the necessity to terminate grounding conductor to device.

Dual mechanical shutter system to help prevent insertion of foreign objects.

Two drive screws anchor strap to back body and face where abrupt removal torque is strongest.

Exclusive patented feature, circuit label on face of device allows permanent and positive circuit identification.

Extra heavy-duty brass, one-piece mounting strap with integral ground for superior structural integrity and long-term performance.

TR63-HI

Strap tabs wrap around and lock down on face to prevent strap from separating from face and back body.

Exclusive patented feature, external screw-pressure-plate back wire clamp on ground terminal for faster, easier installation.

Easily accessed break-off, line-contact connecting tab for fast, easy split-circuit wiring.

External screw-pressure-plate back wire clamps with #10 brass terminal screws for visual assurance of a good connection.

One-piece, nickel-plated triple-wipe power contacts for reliable plug retention.

Field Uses/Vertical Markets

- Health Care
- Education
- Institutional

Spec-Grade 20A Self-Test Duplex GFCI, White

2097W

Conducts an automatic test every three seconds, ensuring it's always ready to protect. If the device fails the test, the indicator light flashes to signal that the GFCI should be replaced. It also has our proven SafeLock™ Protection feature: if critical components are damaged and protection is lost, power to the receptacle is disconnected.

features & benefits

- Conducts an automatic test every three seconds, ensuring it's always ready to protect. If the device fails the test, the indicator light flashes to signal that the GFCI should be replaced. It also has our proven SafeLock protection feature: if critical components are damaged and protection is lost, power to the receptacle is disconnected.
- Thinner than competitors' GFCI Receptacles: leaves more room for wires in the box.
- Auto-Ground clip assures a positive ground to metal box.
- Meets 2015 UL requirements.
- Feed-thru wiring configuration allows GFCI to protect downstream receptacles.
- Prevents line-load reversal miswire: no power to the face or downstream receptacles if wired incorrectly.
- Exceeds UL 943 voltage surge requirements; survives 100x the required UL 3kA/6kV voltage surge test cycles.
- FSUL Listed (Federal Specification WC596).
- Trip indicator light (red LED)
- Side or internal screw-pressure-plate back wire with #10-#14 AWG solid or stranded copper wire.
- Two back-wire holes per terminal.
- Ground screw has back-wire clamp for easy installation.
- 10kA short circuit rating.
- Mounting screws are shipped captive in the device and wall plate for easier installation.
- High-impact-resistant thermoplastic construction.
- Extra-long strap.
- Button colors match the device face.
- Dual-direction test and reset buttons.
- Class A rated GFCI.
- Supplied with matching TP wall plate.

legrand®

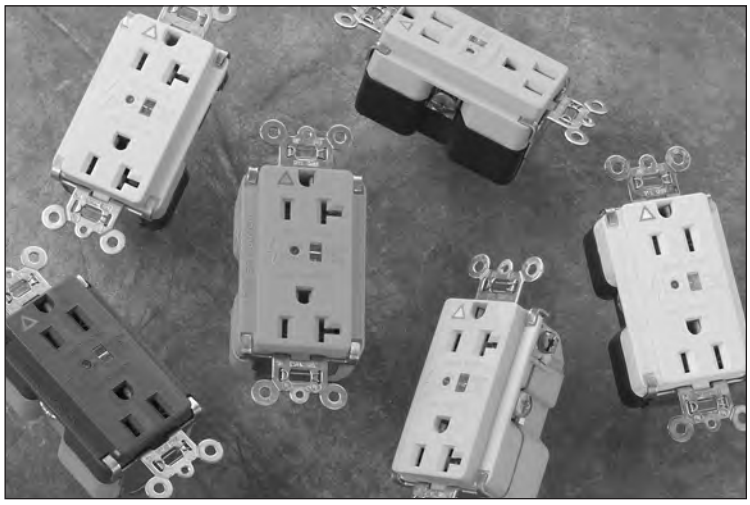
Pass & Seymour

TVSS & Isolated Ground Devices
Heavy-Duty IG/TVSS
15 & 20A, 125VAC

IG5262-SP, IG5362-SP

Construction you can count on.

In addition to providing superior protection, these isolated ground TVSS receptacles have "sturdy" written all over them. You can easily see it: heavy-gauge steel straps that lock around the tough thermoplastic bodies. But like our other commercial receptacles, they are remarkably easy to install. That is due to auto-ground clips plus patented screw-pressure-plate back wiring on all terminals — no need to loop wires to get extra-solid, trouble-free connections.



Features & Benefits

Solid-state LED monitor has 25-year minimum life expectancy. A high visibility, wide-angle lens indicates protection is in place.

Impact-resistant thermoplastic exterior resists impacts and scrapes.

Triple-wipe, copper-alloy contacts for superior, more dependable connection.

Audible alarm alert of MOV damage. Alarm able to be turned On/Off.

IG5362-LASP

Wrap-around steel strap for structural integrity. Auto-ground is standard, for easier installation.

External screw-pressure-plate back and side wire terminals including ground with external back wire clamps (exclusive) accept #14 – #10 AWG copper or copper-clad, solid or stranded conductors. External pressure plate feature allows two conductors to be terminated by a single screw.

Wave-soldered circuit board encapsulated in epoxy provides superior electrical, mechanical and thermal stability.

Thermal protection in 3 modes. 3 18mm dual pack MOVs absorb up to 210 Joules of excess energy in each leg (L-N, L-G, N-G) with 13,000 amp current handling capability for full, equal and symmetrical protection. With 150V rating, each MOV is less susceptible to common spikes that degrade 130V varistors. Protection response time in less than one nanosecond.

Field Uses/Vertical Markets

- Education
- Institutional
- Hospitality/Lodging
- Retail
- Multiple Dwelling
- Office

legrand®
Pass & Seymour

TVSS & Isolated Ground Devices
Heavy-Duty IG/TVSS
15 & 20A, 125VAC

Ordering Information

Catalog Number	Rating A.	VAC	NEMA Config. No.	Color
Duplex Receptacles Back & Side Wire				
IG5262-ISP	15	125	5-15R	Ivory
IG5262-WSP	15	125	5-15R	White
IG5262-GRYSP	15	125	5-15R	Gray
IG5262-BLSP	15	125	5-15R	Blue
IG5262-OSP	15	125	5-15R	Orange
IG5362-ISP	20	125	5-20R	Ivory
IG5362-WSP	20	125	5-20R	White
IG5362-GRYSP	20	125	5-20R	Gray
IG5362-LASP	20	125	5-20R	Light Almond
IG5362-BLSP	20	125	5-20R	Blue
IG5362-OSP	20	125	5-20R	Orange

NEMA 5-15R

NEMA 5-20R

For more information on these and other P&S products refer to our Product Guide or visit our web site.

PASS & SEYMOUR®

Turnlok® Locking Devices
Heavy-Duty Receptacles
15, 20 & 30A; 125 & 250V, 277VAC

Quality construction for maximum durability.

4710, 4700, 4792, 4560, 4550, 4760, 4750, L520, CRL520, L620, L720, L530, CRL530, L630, L730

Choose from a broad range of capacities in both single and duplex receptacle designs. They feature high-quality, brass contacts for rock-solid electrical connections and long service life. Single-piece, solid brass or steel straps and impact-resistant nylon face and body help them shrug off hard use.

Features & Benefits

Compact, impact-resistant nylon face and body are ultrasonically welded together for unrivaled strength.

Clearly marked NEMA configuration, rating and third party listing on each unit's face.

One-piece, high-grade brass contacts offer excellent conductivity and heat-rise resistance.

Side and external screw-pressure-plate back wire capability. Accepts #14 — #10 AWG.

Single-piece, solid brass mounting strap is free of easily loosened rivets found on other brands. 15 Amp mounting strap is steel.

L620-R

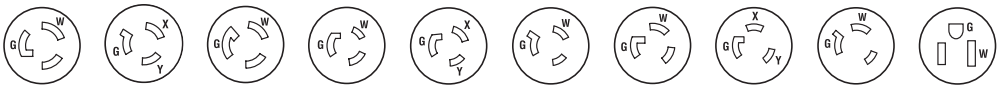
3rd Party Compliance

UL Listed, File Number E146159, Standard UL498, Attachment Plugs and Receptacles. Federal Specification WC596.
CSA Certified, File Number LR1765, Standard CSA-C22.2 No. 42, General Use Receptacles and Attachment Plugs.
Conforms to NEMA WD-1.

Ordering Information

Catalog Number	Ratings A	Ratings V	Description/Color	NEMA Config.
Receptacles Back & Side Wire				
4710	15	125	Single Receptacle	L5-15R
4700	15	125	Duplex Receptacle	L5-15R
4792	15	125	Combination Straight Blade and Locking	5-15R and L5-15R
4560	15	250	Single Receptacle	L6-15R
4550†	15	250	Duplex Receptacle	L6-15R
4760	15	277*	Single Receptacle	L7-15R
4750	15	277*	Duplex Receptacle	L7-15R
4750	15	277*	Duplex Receptacle	L7-15R
L520R	20	125	Single Receptacle	L5-20R
CRL520R	20	125	Single Receptacle, Corrosion-Resistant	L5-20R
620R	20	250	Single Receptacle	L6-20R
L720R	20	277*	Single Receptacle	L7-20R
L530R	30	125	Single Receptacle	L5-30R
CRL530R	30	125	Single Receptacle, Corrosion-Resistant	L5-30R
L630R	30	250	Single Receptacle	L6-30R
L730R	30	277*	Single Receptacle	L7-30R

*AC only.
†Not designed for split circuits.

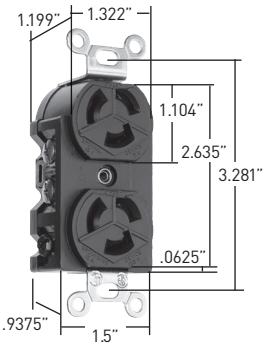


NEMA L5-15R **NEMA L6-15R** **NEMA L7-15R** **NEMA L5-20R** **NEMA L6-20R** **NEMA L7-20R** **NEMA L5-30R** **NEMA L6-30R** **NEMA L7-30R** **NEMA 5-15R**

For more information on these and other P&S products refer to our Product Guide or visit our website.

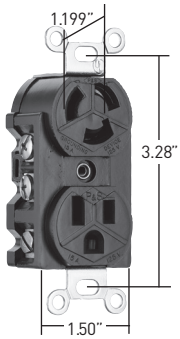
Technical Specifications

Performance	
Electrical	
Dielectric Withstand Voltage	2000V minimum
Maximum Working Voltage	600VAC
Current Interrupting	Certified for current interrupting at full-rated current
Temperature Rise	30°C max. after 50 cycles at 150% rated current
Mechanical	
Terminal Accommodation	#14 AWG min. – #10 AWG max.
Product Identification	Amperage, Voltage, NEMA Configuration molded into face
Environmental	
Flammability	UL94 V2
Operating Temperature	Maximum continuous +75°C, minimum -40°C without impact



Dimensions for 4700

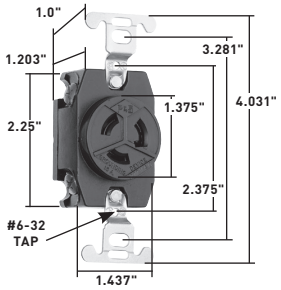
Materials	Standard	Corrosion-Resistant
Front Body	Nylon	Nylon
Back Body	Nylon	Nylon
Mounting Strap	15A = Steel, 20 & 30A = Brass	Nickel-Plated Brass
Pressure Plate	Brass	Nickel-Plated Brass
Contacts	Brass	Nickel-Plated Brass
Terminal Clamps	Brass	Nickel-Plated Brass
Terminal Screws	Brass	Brass
Mounting Screws	Zinc-Plated Steel	Stainless Steel



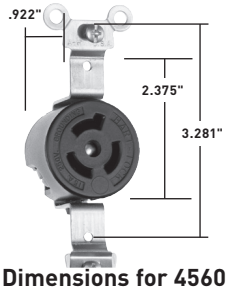
Dimensions for 4792

Warranty

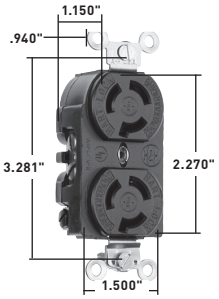
1 Year



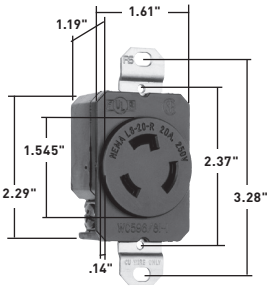
Dimensions for 4760



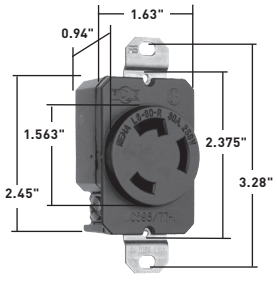
Dimensions for 4560



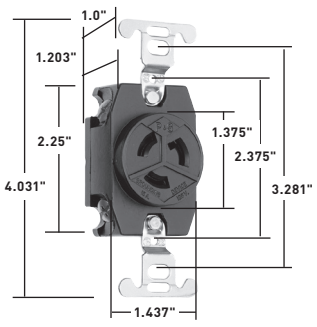
Dimensions for 4550



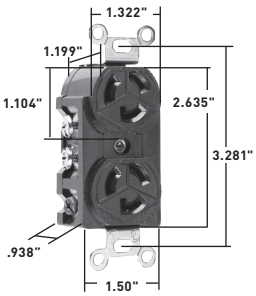
Dimensions for 20 Amp Receptacle



Dimensions for 30 Amp Receptacle



Dimensions for 4710



Dimensions for 4750

Also available

- **Light Almond Devices**
- **Decorator Devices**
- **Hospital Grade Devices**
- **PlugTail™ Devices**
- **Switches**
- **Straight Blade Receptacles**
- **GFCIs**
- **Weatherproof Boxes & Covers**
- **IEC 309 Industrial Products**
- **Flexcor® Wire Mesh Grips**
- **Configurable Solutions**

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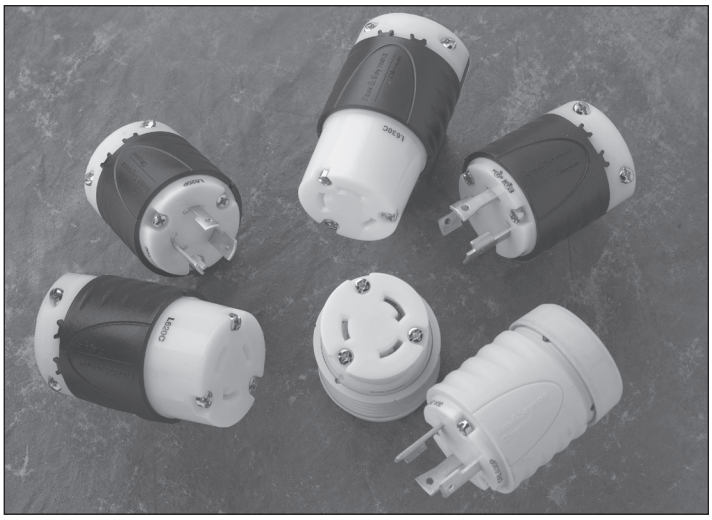
PASS & SEYMOUR®

Industrial Spec Grade Turnlok® Locking Devices
3 Wire 15, 20 & 30A; 125 & 250V, 277VAC

PSL515, CRL515, PSL615, PSL715, L520, CRL520, L620, CRL620, L720, L530, CRL530, L630, CRL630, L730

Tough enough for industrial environments.

Every component of these durable Turnlok locking plugs and connectors are built to offer the lowest installed cost with maximum durability. Quick-thread assembly screws install four times faster than competitive product and backed-out screws come ready-to-wire. The rugged easy-to-grip nylon housing, clear thermoplastic terminal chambers as well as high-strength brass alloy blades and contacts combine to give Legrand the premium selection of P&S Turnlok plugs and connectors.



FEATURES & BENEFITS

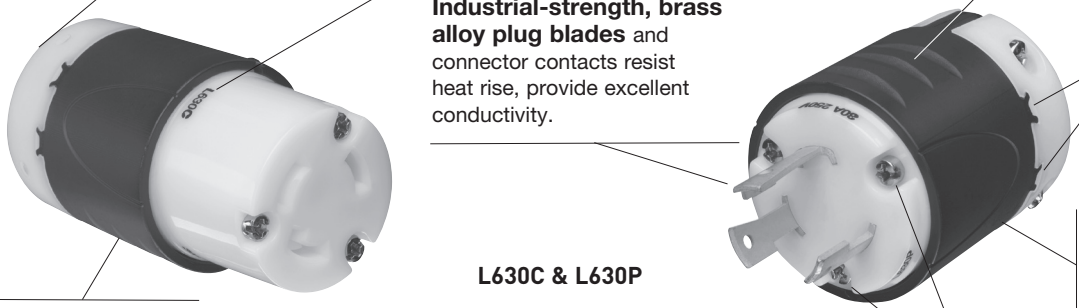
Rounded back contour reduces snags and hang-ups on the job site.

Visible stamped NEMA configuration and device rating.

Raised ribs provide non-slip gripping profile for turning to lock and unlock.

Industrial-strength, brass alloy plug blades and connector contacts resist heat rise, provide excellent conductivity.

Double dovetail design provides superior protection against cord pull-out forces.

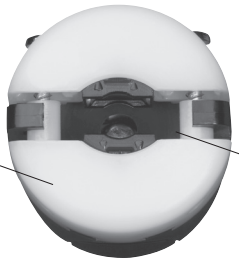


L630C & L630P

Scallop shell design provides non-slip gripping surface for insertion and withdrawal.

Impact- and corrosion-resistant durable nylon 6/6 shell material.

Quick-thread assembly screws and cord-grip screws come backed-out, ready-to-wire. Installs four times faster.



New-design external cord grips provide visible assurance of safe and proper cord retention.

Integral flexible rubber cord grommet conforms to and seals around SO cord to provide protection from oils, water, or chips entering wiring chamber.

FIELD USES/VERTICAL MARKETS

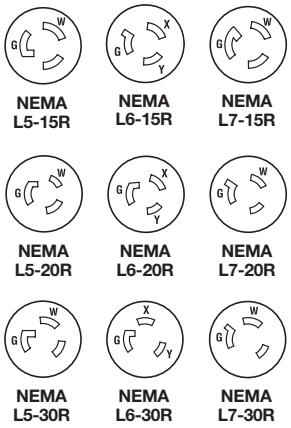
- Industrial
- Health Care
- Education
- Institutional
- Retail
- Office
- Hospitality/Lodging

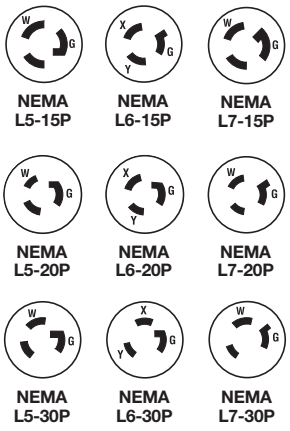
PASS & SEYMOUR®

Industrial Spec Grade Turnlok® Locking Devices
3 Wire 15, 20 & 30A; 125 & 250V, 277VAC

ORDERING INFORMATION

Catalog Number	Rating A.	V.	Description/Color	Cord Diameter	NEMA Config. No.
Connectors IP20 Suitability					
PSL515-C	15	125	Black Back, White Front Body	.230"-.720"	L5-15R
CRL515-C	15	125	Corrosion-Resistant Yellow Back, White Front Body	.230"-.720"	L5-15R
PSL615-C	15	250	Black Back, White Front Body	.230"-.720"	L6-15R
PSL715-C	15	277*	Black Back, White Front Body	.230"-.720"	L7-15R
L520-C	20	125	Black Back, White Front Body	.750"-1.150"	L5-20R
L520-CBK	20	125	Black Back, Black Front Body	.750"-1.150"	L5-20R
CRL520-C	20	125	Corrosion-Resistant, Yellow Back, White Front Body	.750"-1.150"	L5-20R
L620-C	20	250	Black Back, White Front Body	.750"-1.150"	L6-20R
CRL620-C	20	250	Corrosion-Resistant, Yellow Back, White Front Body	.750"-1.150"	L6-20R
L720-C	20	277*	Black Back, White Front Body	.750"-1.150"	L7-20R
L530-C	30	125	Black Back, White Front Body	.750"-1.150"	L5-30R
L530-CBK	30	125	Black Back, Black Front Body	.750"-1.150"	L5-30R
CRL530-C	30	125	Corrosion-Resistant, Yellow Back, White Front Body	.750"-1.150"	L5-30R
L630-C	30	250	Black Back, White Front Body	.750"-1.150"	L6-30R
CRL630-C	30	250	Corrosion-Resistant, Yellow Back, White Front Body	.750"-1.150"	L6-30R
L730-C	30	277*	Black Back, White Front Body	.750"-1.150"	L7-30R
Plugs IP20 Suitability					
PSL515-P	15	125	Black Back, White Front Body	.230"-.720"	L5-15P
CRL515-P	15	125	Corrosion-Resistant, Yellow Back, White Front Body	.230"-.720"	L5-15P
PSL615-P	15	250	Black Back, White Front Body	.230"-.720"	L6-15P
PSL715-P	15	277*	Black Back, White Front Body	.230"-.720"	L7-15P
L520-P	20	125	Black Back, White Front Body	.225"-1.150"	L5-20P
L520-PBK	20	125	Black Back, Black Front Body	.225"-1.150"	L5-20P
CRL520-P	20	125	Corrosion-Resistant, Yellow Back, White Front Body	.225"-1.150"	L5-20P
L620-P	20	250	Black Back, White Front Body	.225"-1.150"	L6-20P
CRL620-P	20	250	Corrosion-Resistant, Yellow Back, White Front Body	.225"-1.150"	L6-20P
L720-P	20	277*	Black Back, White Front Body	.225"-1.150"	L7-20P
L530-P	30	125	Black Back, White Front Body	.225"-1.150"	L5-30P
L530-PBK	30	125	Black Back, Black Front Body	.225"-1.150"	L5-30P
CRL530-P	30	125	Corrosion-Resistant, Yellow Back, White Front Body	.225"-1.150"	L5-30P
L630-P	30	250	Black Back, White Front Body	.225"-1.150"	L6-30P
CRL630-P	30	250	Corrosion-Resistant, Yellow Back, White Front Body	.225"-1.150"	L6-30P
L730-P	30	277*	Black Back, White Front Body	.225"-1.150"	L7-30P





*AC only.

For more information on these and other P&S products refer to our Catalog or visit our web site.

PASS & SEYMOUR®

Industrial Spec Grade Turnlok® Locking Devices
3 Wire 15, 20 & 30A; 125 & 250V, 277VAC

legrand®

TECHNICAL SPECIFICATIONS

3rd Party Compliance

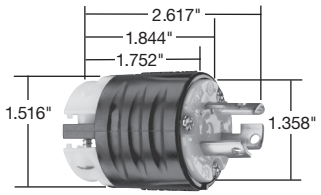
UL Listed, File Number E146159, Standard UL498, Attachment Plugs and Receptacles.
Federal Specification WC596.
CSA Certified, File Number LR1765, Standard CSA-C22.2 No. 42, General Use Receptacles and Attachment Plugs.
Conforms to NEMA WD-1.

Performance

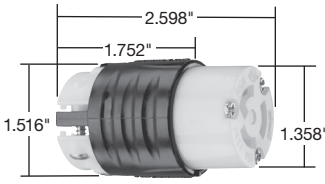
Electrical	
Dielectric Withstand Voltage	15A = 1600V minimum, 20 & 30A = 2200V minimum
Maximum Working Voltage	15A = 277VAC, 20 & 30A = 600VAC
Current Interrupting	Certified for current interrupting at full-rated current
Temperature Rise	30°C maximum after 50 cycles at 150% rated current
Mechanical	
Cord Accommodations	Round portable service cords of diameters in accordance with the device rating as defined in UL62
Cord Grip Accommodations	15A = .230"-.720" diameter, 20 & 30A = .225"-1.150" diameter
Terminal Identification	15A = Green = Ground, White = Neutral, Brass = Hot 20 & 30A = "GR" and Green color = Ground, "WH" and White color = Neutral, "X", "Y", "Z" = Hot
Terminal Accommodation	15A = #18 AWG min. – #10 AWG max. 20A = #18 AWG min. – #8 AWG max. 30A = #18 AWG min. – #6 AWG max.
Product Identification	Amperage, Voltage, 3rd Party Compliance, NEMA Configuration hot stamped onto device
Environmental	
Flammability	UL94 V2
Operating Temperature	Maximum continuous +75°C, minimum -40°C without impact

Materials

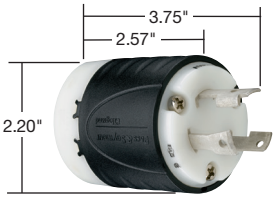
	Standard	Corrosion-Resistant
Back Body	Nylon	Nylon
Front Body	Nylon	Nylon
Terminal Chamber	Polycarbonate	Polycarbonate
Cord Clamp	Nylon	Nylon
* Dust Cover	Kraton	Kraton
Plug Blades	15 & 20A = Brass 30A = Tin-Plated Brass	15 & 20A = Nickel-Plated Brass 30A = Tin-Plated Brass
Connector Contacts	15 & 20A = Brass 30A = Tin-Plated Brass	15 & 20A = Nickel-Plated Brass 30A = Tin-Plated Brass
Terminal Clamp	15A = Zinc-Plated Steel 20A = Nickel-Plated Steel 30A = Brass	15A = Nickel-Plated Steel 20A = Nickel-Plated Steel 30A = Nickel-Plated Brass
Terminal Screws	15A = Nickel- or Brass-Plated Steel 20 & 30A = Brass	15A = Nickel-Plated Steel 20 & 30A = Nickel-Plated Brass
Ground Screws	15A = Nickel-Plated Steel 20 & 30A = Brass	15A = Nickel-Plated Steel 20 & 30A = Nickel-Plated Brass
Cord Clamp Screws	Nickel-Plated Steel	Nickel-Plated Steel
Assembly Screws	Nickel-Plated Steel	Nickel-Plated Steel



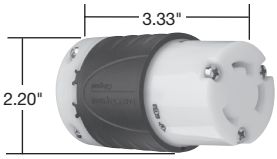
Dimensions for 15 Amp Plug



Dimensions for 15 Amp Connector



Dimensions for 20 & 30 Amp Plug



Dimensions for 20 & 30 Amp Connector

*Dust Cover available only in 20 & 30 Amp Plugs & Connectors.

Warranty

1 Year

PEP ecopassport®

Download this product's PEP ecopasport® environmental product declaration at www.legrand.us/resources-and-downloads. This declaration conforms with ISO 14025 and 14040 and is in alignment with EN 15804.

NOTES

ALSO AVAILABLE...

- USB Charging Devices
- Hospital Grade Devices
- PlugTail™ Devices
- Switches
- Straight Blade Receptacles
- Lighting & Fan Controls
- Weatherproof Boxes & Covers
- Wall Plates
- Flexcor® Wire Mesh Grips
- Configurable Solutions
- GFCIs

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Phone: 1.800.776.4035
www.legrand.us/passandseymour

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Vaughan, Ontario L4K 4B4
Phone:905.738.9195
www.legrand.ca

SF1702R4 – Updated January 2016 – For latest specs visit www.legrand.us/passandseymour

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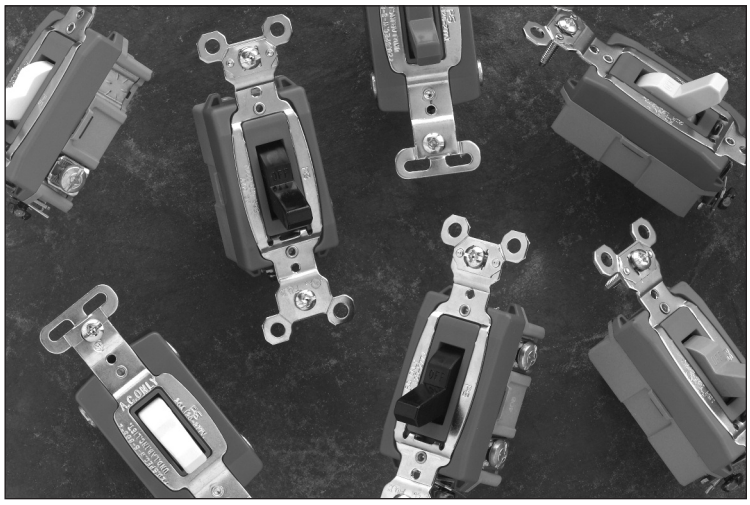
Pass & Seymour

Switches
Extra Heavy-Duty
15, 20 & 30A, 120/277VAC

PS15AC1, PS15AC2, PS15AC3, PS15AC4, PS20AC1, PS20AC2, PS20AC3, PS20AC4, PS30AC1, PS30AC2, PS30AC3

Extra heavy-duty switches with quiet operation and a smooth feel.

Designed to withstand abuse and constant use in demanding applications, these durable switches virtually eliminate contact bounce and arcing. Featuring auto-ground and external, screw-pressure-plate back wiring on all terminals for fast, easy installation and excellent electrical connection. Oversize silver alloy contacts help ensure long life and better heat dissipation.



Features & Benefits

One-piece nickel-plated brass strap for superior corrosion-resistance.

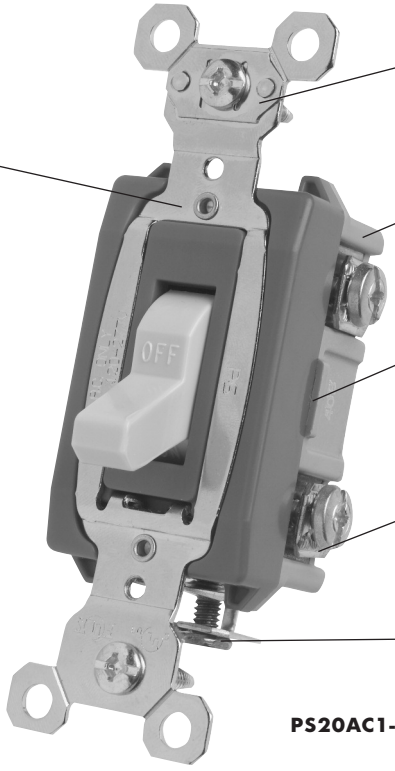
Cam control and spring actuator for positive "makes and breaks" with a minimum of arcing.

Heavy-duty bumpers for quiet, smooth operation.

Oversized silver-alloy contacts for long life and better heat dissipation.

Heavy-duty, brass alloy, one-piece contact arm virtually eliminates contact bounce.

Shallow design for easier installation.



PS20AC1-I

Auto-ground clip assures positive ground.

Glass-reinforced nylon back body for durability and strength.

Locking support provides resistance to face and back body separation.

Side and external screw-pressure-plate back wire with #14 – #10 AWG copper or copper-clad wire.

Grounding terminal is standard with screw-pressure-plate back wire.

Field Uses/Vertical Markets

- Industrial
- Health Care
- Education
- Institutional

legrand®
Pass & Seymour

Switches
Extra Heavy-Duty
15, 20 & 30A, 120/277VAC

Ordering Information

Catalog Number				Rating		
Single Pole	Double Pole	Three-Way	Four-Way	A.	VAC	Color
Toggle Switches Back & Side Wire						
PS15AC1-I	PS15AC2-I	PS15AC3-I	PS15AC4-I	15	120/277	Ivory
PS15AC1-W	PS15AC2-W	PS15AC3-W	PS15AC4-W	15	120/277	White
PS15AC1	PS15AC2	PS15AC3	PS15AC4	15	120/277	Brown
PS15AC1-GRY	PS15AC2-GRY	PS15AC3-GRY	PS15AC4-GRY	15	120/277	Gray
PS15AC1-LA	PS15AC2-LA	PS15AC3-LA	PS15AC4-LA	15	120/277	Light Almond
PS20AC1-I	PS20AC2-I	PS20AC3-I		20	120/277	Ivory
PS20AC1-W	PS20AC2-W	PS20AC3-W	PS20AC4-W	20	120/277	White
PS20AC1	PS20AC2	PS20AC3	PS20AC4	20	120/277	Brown
PS20AC1-GRY	PS20AC2-GRY	PS20AC3-GRY	PS20AC4-GRY	20	120/277	Gray
PS20AC1-BK	PS20AC2-BK	PS20AC3-BK	PS20AC4-BK	20	120/277	Black
PS20AC1-RED	PS20AC2-RED	PS20AC3-RED	PS20AC4-RED	20	120/277	Red
PS20AC1-LA	PS20AC2-LA	PS20AC3-LA	PS20AC4-LA	20	120/277	Light Almond
PS30AC1-I	PS30AC2-I	PS30AC3-I		30	120/277	Ivory
	PS30AC2-W			30	120/277	White
PS30AC1	PS30AC2	PS30AC3		30	120/277	Brown

For more information on these and other P&S products refer to our Catalog or visit our web site.

Switches
Extra Heavy-Duty
15, 20 & 30A, 120/277VAC

legrand®
Pass & Seymour

Technical Specifications

3rd Party Compliance

UL Listed, File Number E140597, Standard UL20, General Use Snap Switches.
Federal Specification WS896.
cULus Listed, File Number LR17446, Standard CSA-C22.2 No. 111, General Use Snap Switches.
Conforms to NEMA WD-1 and WD-6.

Performance

Electrical	
Dielectric Withstand Voltage	1500V Minimum
Maximum Working Voltage	277VAC
Overload	Minimum 4.8 times rated current for 100 cycles
Temperature Rise	30°C maximum at rated current
Maximum Continuous Current	15, 20 and 30 Amps
Endurance	50,000 cycles minimum, resistive, inductive, tungsten filament lamp load (Fed Spec)
Mechanical	
Terminal Accommodations	#14 AWG – #10 AWG
Environmental	
Flammability	UL94 V2
Operating Temperature	Maximum continuous +115°C, minimum -40°C

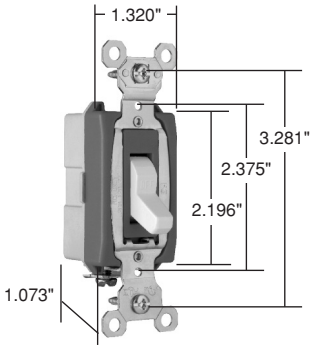
Materials

Back Body	Glass-Reinforced Nylon	Contacts	Silver Cadmium Oxide
Front Body	Nylon	Spring Arm	Brass
Toggle	Thermoplastic Polycarbonate	Bumper	Rubber
Terminals	Brass	Spring	Zinc-Plated Steel
Terminal Screws	Tri-Drive Brass	Ground Terminal	Brass
Strap	Nickel-Plated Brass	Ground Screw	Tri-Drive Zinc-Plated Steel
Pressure Plate	Brass	Auto-Ground Clip	Nickel-Plated Brass

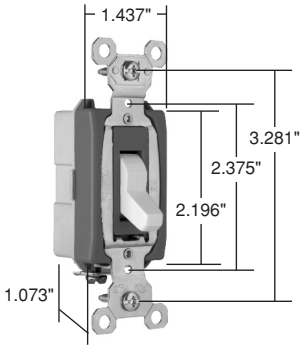
15 Amp Cover	Blue
20 Amp Cover	Red
30 Amp Cover	Green

Warranty

1 Year

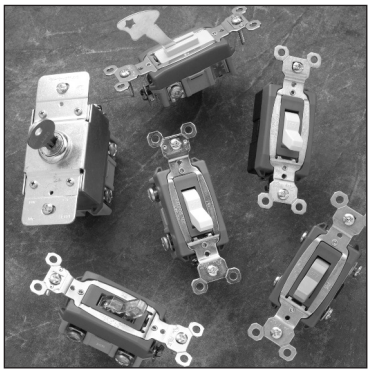


Dimensions for 15 & 20 Amp



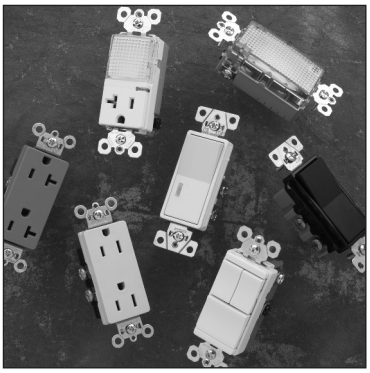
Dimensions for 30 Amp

Complimentary Devices & Accessories



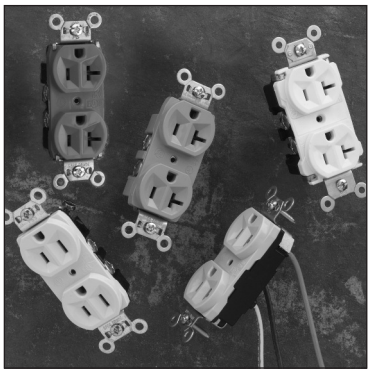
SWITCHES

- Heavy-Duty Lighted Toggle
- Heavy-Duty Security
- Heavy-Duty Locking
- Construction Grade Toggle
- Commercial Grade Toggle



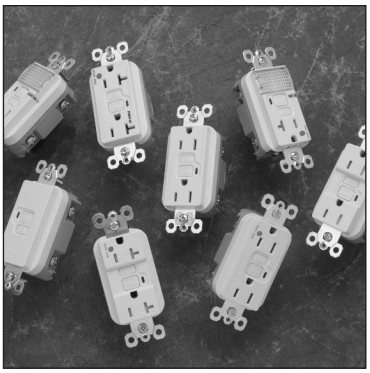
DECORATOR DEVICES

- Construction Grade Switches
- Specification Grade Combo Switches
- Construction Grade Receptacles
- Commercial Grade Receptacles
- Specification Grade Hallway Lights



STRAIGHT BLADE RECEPTACLES

- Extra Heavy-Duty
- Heavy-Duty
- Hard Use
- Construction Grade
- Construction Grade Leaded
- Commercial Grade



GFCIs

- Specification Grade
- Hospital Grade
- Dead Front

WALL PLATES

- TradeMaster® Thermoplastic Nylon
- Screwless Polycarbonate
- Stainless Steel
- Brass
- Aluminum
- Dustproof Stainless Steel Covers

Also available...

- Light Almond Devices
- Hospital Grade Devices
- PlugTail™ Devices
- TVSS & Isolated Ground Devices
- Ground Continuity Monitoring (GCM)
- Straight Blade Plugs & Connectors
- Turnlok® Locking Devices
- Weatherproof Boxes & Covers
- IEC 309 Industrial Products
- Flexcor® Wire Mesh Grips
- Configurable Solutions

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SF101R2 — Updated April 2006 — For latest specs visit www.legrand.us/passandseymour

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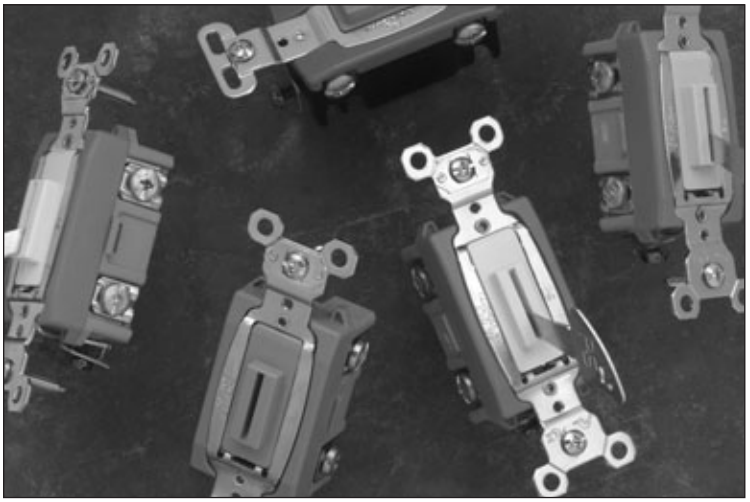
Pass & Seymour

Switches
Extra Heavy-Duty Locking
15 & 20A, 120/277VAC

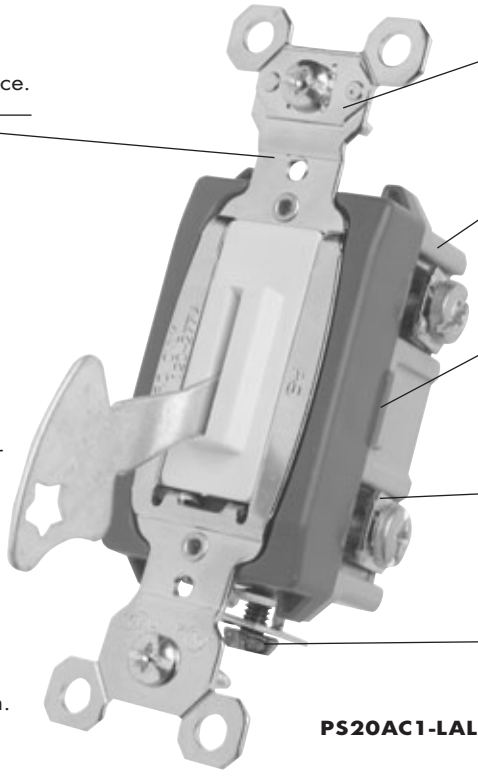
PS15AC1-L, PS15AC3-L, PS20AC1-L, PS20AC2-L, PS20AC3-L, PS20AC4-L

Keyed design prevents unauthorized or accidental use.



These rugged switches provide an easy, economical solution for restricting use. They use a sturdy, single-design key as a toggle, with the key removable in either the ON or OFF position. Extra-rugged construction makes these lock switches a dependable choice for any high-use application.

Features & Benefits



One-piece nickel-plated brass strap for superior corrosion-resistance.

Cam control and spring actuator for positive "makes and breaks" with a minimum of arcing.

Heavy-duty bumpers for quiet, smooth operation.

Oversized silver-alloy contacts for long life and better heat dissipation.

Heavy-duty, brass alloy, one-piece contact arm virtually eliminates contact bounce.

Shallow design for easier installation.

Auto-ground clip assures positive ground.

Glass-reinforced nylon back body for durability and strength.

Locking support provides resistance to face and back body separation.

Side and external screw-pressure-plate back wire with #14 – #10 AWG copper or copper-clad wire.

Grounding terminal is standard with screw-pressure-plate back wire.

PS20AC1-LAL

Field Uses/Vertical Markets

- Health Care
- Office
- Education
- Hospitality/Lodging
- Institutional
- Multiple Dwelling
- Retail

legrand®
Pass & Seymour

Switches
Extra Heavy-Duty Locking
15 & 20A, 120/277VAC

Ordering Information

Catalog Number				Rating		
Single Pole	Double Pole	Three-Way	Four-Way	A.	VAC	Color
Lock Switches (Key can be removed in both positions) Back & Side Wire						
PS15AC1-L		PS15AC3-L		15	120/277	Gray
PS20AC1-L	PS20AC2-L	PS20AC3-L	PS20AC4-L	20	120/277	Gray
PS20AC1-IL		PS20AC3-IL		20	120/277	Ivory
PS20AC1-WL		PS20AC3-WL		20	120/277	White
PS20AC1-LAL		PS20AC3-LAL		20	120/277	Light Almond

Lock Switch Keys (One key furnished with each switch)	
500K	Fits new Switches
1498	Fits Switches manufactured before 1976
1498-NT	Fits Switches manufactured 1976-1982

For more information on these and other P&S products refer to our Catalog or visit our web site.

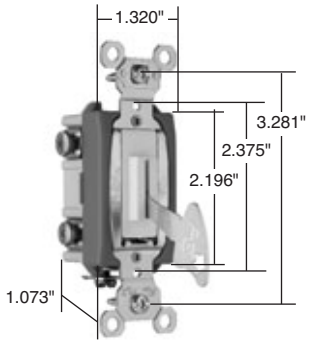
Switches
Extra Heavy-Duty Locking
15 & 20A, 120/277VAC

legrand®
Pass & Seymour

Technical Specifications

3rd Party Compliance

UL Listed, File Number E140597, Standard UL20, General Use Snap Switches.
Federal Specification WS896.
cULus Listed, File Number LR17446, Standard CSA-C22.2 No. 111, General Use Snap Switches.
Conforms to NEMA WD-1 and WD-6.



Dimensions for 15 & 20 Amp Locking

Performance

Electrical	
Dielectric Withstand Voltage	1500V Minimum
Maximum Working Voltage	277VAC
Overload	Minimum 4.8 times rated current for 100 cycles
Temperature Rise	30°C maximum at rated current
Maximum Continuous Current	277VAC
Endurance	50,000 cycles minimum, resistive, inductive, tungsten filament lamp load (Fed Spec)
Mechanical	
Terminal Accommodations	#14 AWG – #10 AWG
Environmental	
Flammability	UL94 V2
Operating Temperature	Maximum continuous +115°C, minimum -40°C

Materials

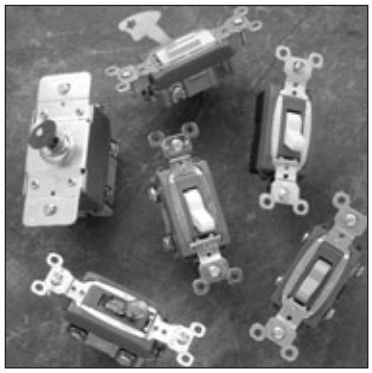
Back Body	Glass-Reinforced Nylon	Contacts	Silver Cadmium Oxide
Front Body	Nylon	Spring Arm	Brass
Key Slot	Thermoplastic Polycarbonate	Bumper	Rubber
Terminals	Brass	Spring	Zinc-Plated Steel
Terminal Screws	Tri-Drive Brass	Ground Terminal	Brass
Strap	Nickel-Plated Brass	Ground Screw	Tri-Drive Zinc-Plated Steel
Pressure Plate	Brass	Auto-Ground Clip	Nickel-Plated Brass

15 Amp Cover	Blue
20 Amp Cover	Red

Warranty

1 Year

Complimentary Devices & Accessories

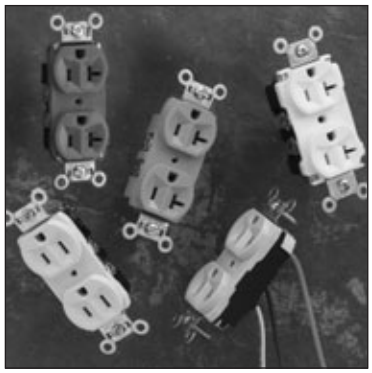


SWITCHES

- Heavy-Duty Toggle
- Heavy-Duty Lighted Toggle
- Heavy-Duty Security
- Construction Grade Toggle
- Commercial Grade Toggle

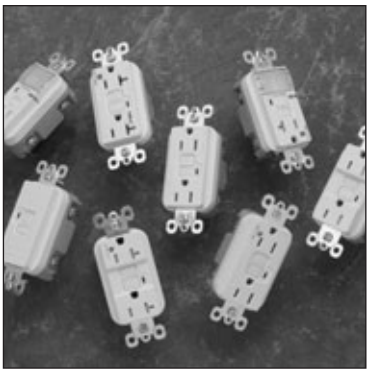
DECORATOR DEVICES

- Construction Grade Switches
- Specification Grade Combo Switches
- Construction Grade Receptacles
- Commercial Grade Receptacles
- Specification Grade Hallway Lights



STRAIGHT BLADE RECEPTACLES

- Extra Heavy-Duty
- Heavy-Duty
- Hard Use
- Construction Grade
- Construction Grade Leaded
- Commercial Grade



GFCIs

- Specification Grade
- Hospital Grade
- Dead Front

WALL PLATES

- TradeMaster® Thermoplastic Nylon
- Screwless Polycarbonate
- Stainless Steel
- Brass
- Aluminum
- Dustproof Stainless Steel Covers

Also available...

- Light Almond Devices
- Hospital Grade Devices
- PlugTail™ Devices
- TVSS & Isolated Ground Devices
- Ground Continuity Monitoring (GCM)
- Straight Blade Plugs & Connectors
- Turnlok® Locking Devices
- Weatherproof Boxes & Covers
- IEC 309 Industrial Products
- Flexcor® Wire Mesh Grips
- Configurable Solutions

legrand®

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SF106R2 — Updated April 2006 — For latest specs visit www.legrand.us/passandseymour

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PASS & SEYMOUR®

Extra Heavy-Duty Lighted Switches 15, 20 & 30A; 120, 277 & 120/277VAC

Commercial quality with added convenience and safety.

PS15AC1-SL, PS15AC3-SL, PS20AC1-SL, PS20AC3-SL, PS15AC1-PL, PS15AC3-PL,PS20AC1-PL, PS20AC2-PL, PS20AC3-PL, PS30AC1-PL, PS30AC2-PL, PS30AC3-PL

These extra-rugged switches offer all the solid construction, excellent operating feel, and easy installation features of our Extra Heavy-Duty Switches. They add a choice of two light options. Lighted toggle switches are illuminated when off for easy location in the dark. Pilot lighted switches are illuminated when on for easy monitoring.

Features & Benefits

One-piece nickel-plated brass strap for superior corrosion-resistance.

Lighted when OFF for Lighted version. Lighted when ON for Pilot Lighted version.

Cam control and spring actuator for positive "makes and breaks" with a minimum of arcing.

Oversized silver-alloy contacts for long life and better heat dissipation

Heavy-duty, brass alloy, one-piece contact arm virtually eliminates contact bounce.

Shallow design for easier installation.

PS20AC1LA

Auto-ground clip assures positive ground.

Glass-reinforced nylon back body for durability and strength.

Locking support provides resistance to face and back body separation.

Side and external screw-pressureplate back wire with #14 – #10 AWG copper or copper-clad wire.

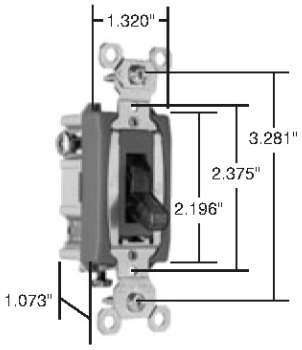
Grounding terminal is standard with screw-pressure-plate back wire.

3rd Party Compliance

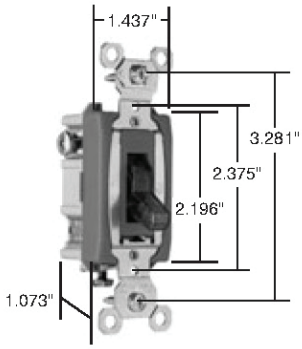
UL Listed, File Number E140597, Standard UL20, General Use Snap Switches.
Federal Specification WS896.
cULus Listed, File Number LR17446, Standard CSA-C22.2 No. 111, General Use Snap Switches.
Conforms to NEMA WD-1 and WD-6.

Ordering Information

Performance	
Electrical	
Dielectric Withstand Voltage	1500V Minimum
Maximum Working Voltage	277VAC
Overload	Minimum 4.8 times rated current for 100 cycles
Temperature Rise	30°C maximum at rated current
Maximum Continuous Current	277VAC
Endurance	50,000 cycles minimum, resistive, inductive, tungsten filament lamp load (Fed Spec)
Mechanical	
Terminal Accommodation	#14 AWG – #10 AWG
Environmental	
Flammability	UL94 V2
Operating Temperature	Maximum continuous +115°C, minimum -40°C



Dimensions for
15 & 20 Amp Lighted
and Pilot Lighted



Dimensions for
30 Amp Lighted
and Pilot Lighted

Materials	
Back Body	Glass-Reinforced Nylon
Front Body	Nylon
Toggle	Thermoplastic Polycarbonate
Terminals	Brass
Terminal Screws	Tri-Drive Brass
Strap	Nickel-Plated Brass
Pressure Plate	Brass
Contacts	Silver Cadmium Oxide
Spring Arm	Brass
Bumper	Rubber
Spring	Zinc-Plated Steel
Ground Terminal	Brass
Ground Screw	Tri-Drive Zinc-Plated Steel
Auto-Ground Clip	Nickel-Plated Brass
Illuminating Lamp	Neon

15 Amp Cover Blue
20 Amp Cover Red
30 Amp Cover Green

Warranty
1 Year

Ordering Information

Catalog Number			Rating		
Single Pole	Double Pole	Three-Way	A	V	Color
Lighted Toggle Switches (Lighted when OFF) Back & Side Wire					
PS15AC1-CSL		PS15AC3-CSL	15A	120/277	Clear
PS15AC1-ISL		PS15AC3-ISL	15A	120/277	Ivory
PS15AC1-WSL		PS15AC3-WSL	15A	120/277	White
PS20AC1-CSL		PS20AC3-CSL	20A	120/277	Clear
PS20AC1-ISL		PS20AC3-ISL	20A	120/277	Ivory
PS20AC1-WSL		PS20AC3-WSL	20A	120/277	White
PS20AC1-LASL		PS20AC3-LASL	20A	120/277	Light Almond
Pilot Lighted Switches (Lighted when ON) Back & Side Wire					
PS15AC1-CPL		PS15AC3-CPL			Clear
PS15AC1-RPL		PS15AC3-RPL			Red
PS20AC1-CPL					Clear
PS20AC1-CPL7		PS20AC3-CPL7			Clear
PS20AC1-RPL		PS20AC3-RPL			Red
PS20AC1-RPL7		PS20AC3-RPL7			Red
	PS20AC2-CPL				Clear
	PS20AC2-RPL				Red
PS30AC1-RPL		PS30AC3-RPL			Red
	PS30AC2-RPL				Red

Pilot lighted device is not intended for use as a LOTO Energy Isolating Device.

Vertical Markets

- **Healthcare**
- **Education**
- **Institutional**
- **Industrial**

Also available

- **Light Almond Devices**
- **Hospital Grade Devices**
- **PlugTail™ Devices**
- **TVSS & Isolated Ground Devices**
- **Ground Continuity Monitoring (GCM)**
- **Straight Blade Plugs & Connectors**
- **Turnlok® Locking Devices**
- **Weatherproof Boxes & Covers**
- **IEC 309 Industrial Products**
- **Flexcor® Wire Mesh Grips**
- **Configurable Solutions**

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Pass and Seymour
Locking 20A Single Pole, Double Throw
Part No. 1251L

Manual Controller, Single-Pole, Double-Throw Manual Control Switch, 20A, 120/277V, Locking.

Features & Benefits

Oversize silver alloy contacts for long life and better heat dissipation.

Side wired terminals accept #14 - #10 AWG copper or copper-clad conductors.

Fiber terminal insulation barriers standard.

Can be mounted in standard device boxes or in NEMA 1 sheet steel enclosures.

Bodies, covers, and toggles molded of durable nylon.

Single Pole-Double Throw and Double Pole-Double Throw.

Locking Switches supplied with one 1498-NT key.

Normally open.

For covering patents, see www.legrand.us/patents.

For compatible wall plate options, from our TradeMaster unbreakable plates to our radiant screwless plates to our metal wall plates, click here.

Specifications

General Info

Product Line	Pass & Seymour	Color	Gray
Finish	Matte	UPC Number	785007125122
Country Of Origin	Mexico	Application Sector	Commercial, Residential
Standard	UL listed	Type	Manual Controller

Dimensions

Product Width US	1.5 in	Product Depth US	1.469 in
Product Height US	3.281 in		

Listing Agencies / 3rd Party Agencies

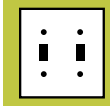
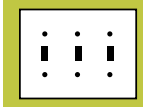
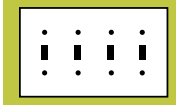
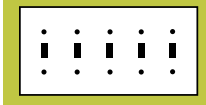
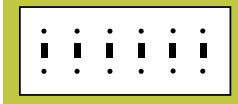
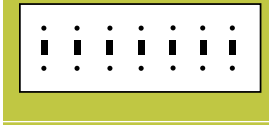
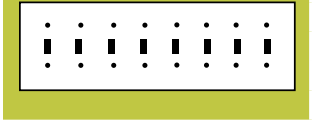
CSA Listed	Yes	cULus Listed	Yes
CSA File Number	17949		

Technical Information

Amperage	20 A	Number of Poles	Single Pole
Wire Size	#14 - #10 AWG		

WALL PLATES

Toggle Switch Openings Standard Size Plastic & Metal

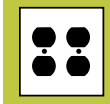
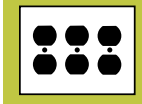
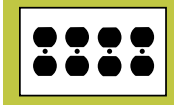
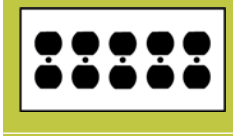
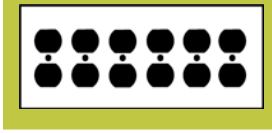
DESCRIPTION	COLOR	NYLON TRADEMASTER® PLATES	THERMOSET SMOOTH	METAL MATERIAL	METAL SMOOTH
TOGGLE SWITCH OPENINGS					
One Gang	Ivory	TP1I	SP1I	Aluminum	SA1
	White	TP1W	SP1W		SS1D ●
	Brown	TP1	SP1	Polished Brass	SB1PB
	Gray	TP1GRY		430S/S	SL1
	Black	TP1BK		302/304 S/S	SS1 ●
	Red	TP1RED		Brushed Bronze	
	Light Almond	TP1LA	SP1LA	Chrome	SB1CH ●
Two Gang 	Ivory	TP2I	SP2I	Aluminum	SA2 ●
	White	TP2W	SP2W		
	Brown	TP2	SP2	Polished Brass	SB2PB ●
	Gray	TP2GRY	SP2GRY	430S/S	SL2
	Black	TP2BK		302/304 S/S	SS2 ●
	Red	TP2RED		Brushed Bronze	
	Light Almond	TP2LA	SP2LA	Chrome	
Three Gang 	Ivory	TP3I	SP3I	Aluminum	
	White	TP3W	SP3W		
	Brown	TP3		Polished Brass	
	Gray	TP3GRY	SP3GRY	430S/S	SL3
	Black	TP3BK		302/304 S/S	SS3 ●
	Red	TP3RED		Brushed Bronze	
	Light Almond	TP3LA	SP3LA	Chrome	SB3CH
Four Gang 	Ivory	TP4I	SP4I	Aluminum	
	White	TP4W	SP4W		
	Brown	TP4	SP4	Polished Brass	SB4PB ●
	Gray	TP4GRY	SP4GRY	430S/S	SL4
	Black	TP4BK		302/304 S/S	SS4 ●
	Red	TP4RED			
	Light Almond	TP4LA	SP4LA		
Five Gang 	Ivory	TP5I	SP5I		
	White	TP5W	SP5W		
	Brown	TP5	SP5	Polished Brass	
	Gray	TP5GRY	SP5GRY		
	Black	TP5BK		302/304 S/S	SS5 ●
	Light Almond	TP5LA	SP5LA		
Six Gang 	Ivory	TP6I	SP6I		
	White	TP6W	SP6W	Polished Brass	
	Brown	TP6			
	Gray	TP6GRY	SP6GRY	302/304 S/S	SS6 ●
	Black	TP6BK			
	Light Almond	TP6LA	SP6LA		
Seven Gang 				302/304 S/S	SS601 ●
				302/304 S/S Painted Ivory	SS601I ●
				302/304 S/S Painted White	SS601W ●
Eight Gang 				302/304 S/S	SS602 ●
				302/304 S/S Painted Ivory	SS602I ●
				302/304 S/S Painted White	SS602W ●

● These products are CSA listed.

These products listed to UL514, Cover Plates for Flush-Mounted Wiring Devices, CSA Certified.

WALL PLATES

Duplex Receptacle Openings Standard Size Plastic & Metal

DESCRIPTION	COLOR	NYLON TRADEMASTER® PLATES	THERMOSET SMOOTH	METAL MATERIAL	METAL SMOOTH
DUPLEX RECEPTACLE OPENINGS					
One Gang	Ivory	TP8I	SP8I		
	White	TP8W	SP8W	Aluminum	SA8
	Brown	TP8	SP8		
	Gray	TP8GRY	SP8GRY	Polished Brass	SB8PB ●
	Black	TP8BK		430S/S	SL8
	Red	TP8RED		302/304 S/S	SS8 ●
	Light Almond	TP8LA	SP8LA	Brushed Bronze	
	Blue	TP8BL		Chrome	SB8CH ●
	Orange	TP8OR			
Two Gang 	Ivory	TP82I	SP82I		
	White	TP82W	SP82W	Aluminum	SA82
	Brown	TP82	SP82		
	Gray	TP82GRY	SP82GRY	Polished Brass	
	Black	TP82BK		430S/S	SL82
	Red	TP82RED		302/304 S/S	SS82 ●
	Light Almond	TP82LA	SP82LA	Brushed Bronze	
	Orange	TP82OR		Chrome	SB82CH ●
Three Gang 	Ivory		SP83I		
	White		SP83W		
	Brown		SP83	Polished Brass	
	Gray				
	Light Almond		SP83LA	302/304 S/S	SS83 ●
Four Gang 	Ivory		SP84I		
	White		SP84W	Polished Brass	
	Brown		SP84		
	Gray		SP84GRY	302/304 S/S	SS84 ●
Five Gang 				302/304 S/S	SS85 ●
Six Gang 				302/304 S/S	SS86 ●

● These products are CSA listed.

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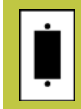
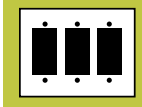
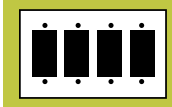
WALL PLATES

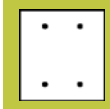
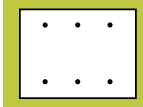
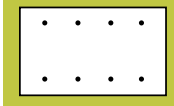
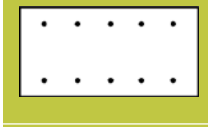
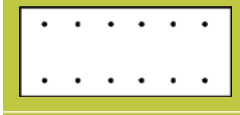
Decorator-Style Openings Standard Size Plastic & Metal

DESCRIPTION	COLOR	NYLON TRADEMASTER® PLATES	THERMOSET SMOOTH	METAL MATERIAL	METAL SMOOTH
DECORATOR-STYLE OPENINGS					
One Gang 	Ivory	TP26I	SP26I		
	White	TP26W	SP26W	Aluminum	SA26
	Brown	TP26	SP26		
	Gray	TP26GRY	SP26GRY	Polished Brass	SB26PB
	Black	TP26BK	SP26BK	430S/S	SL26
	Red	TP26RED		302/304 S/S	SS26 ●
	Light Almond	TP26LA	SP26LA	Brushed Bronze	
	Blue	TP26BL		Chrome	SB26CH ●
	Orange	TP26OR			
	White	TP262W	SP262W	Aluminum	SA262
	Brown	TP262	SP262		
	Gray	TP262GRY	SP262GRY	Polished Brass	SB262PB ●
	Black	TP262BK	SP262BK	430S/S	SL262
	Red	TP262RED		302/304 S/S	SS262 ●
	Light Almond	TP262LA	SP262LA		
	Blue	TP262BL			
	Orange	TP262OR			
Three Gang 	Ivory	TP263I	SP263I		
	White	TP263W	SP263W		
	Brown	TP263		Polished Brass	SB263PB ●
	Gray	TP263GRY	SP263GRY		
	Black	TP263BK	SP263BK	302/304 S/S	SS263 ●
	Red	TP263RED			
	Light Almond	TP263LA	SP263LA		
Four Gang 	Ivory	TP264I	SP264I		
	White	TP264W	SP264W		
	Brown	TP264	SP264	Polished Brass	
	Gray	TP264GRY	SP264GRY		
	Black	TP264BK		302/304 S/S	SS264 ●
	Red	TP264RED			
	Light Almond	TP264LA	SP264LA		
Five Gang	Ivory	TP265I	SP265I		
	White	TP265W	SP265W		
	Brown	TP265		302/304 S/S	SS265 ●
	Gray	TP265GRY	SP265GRY		
	Black	TP265BK	SP265BK		
	Red		SP265RED		
	Light Almond	TP265LA	SP265LA		
Six Gang	Ivory	TP266I	SP266I		
	White	TP266W	SP266W		
	Brown	TP266	SP266	302/304 S/S	SS266 ●
	Gray	TP266GRY	SP266GRY		
	Black	TP266BK	SP266BK		
	Light Almond	TP266LA	SP266LA		
Seven Gang				302/304 S/S	SS267 ●
				302/304 S/S Painted Ivory	SS267I ●
				302/304 S/S Painted White	SS267W ●
Eight Gang				302/304 S/S	SS268 ●
				302/304 S/S Painted Ivory	SS268I ●
				302/304 S/S Painted White	SS268W ●

● These products are CSA listed.These products listed to UL514, Cover Plates for Flush-Mounted Wiring Devices, CSA Certified.

WALL PLATES

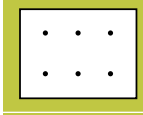
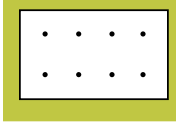
Blank Plates – Box Mounted Standard Size Plastic & Metal

DESCRIPTION	COLOR	NYLON TRADEMASTER® PLATES	THERMOSET SMOOTH	METAL MATERIAL	METAL SMOOTH
BLANK PLATES – BOX MOUNTED					
One Gang Blank – Box Mtd.	Ivory	TP13I	SP13I	Aluminum	SA13
	White	TP13W	SP13W		
	Brown	TP13	SP13	Polished Brass	SB13PB
	Gray	TP13GRY	SP13GRY	430S/S	SL13
	Black	TP13BK		302/304 S/S	SS13 ●
	Red	TP13RED		302/304 S/S (1/2" Screws)	SS13.5 ●
	Light Almond	TP13LA	SP13LA	Brushed Bronze	
				Chrome	SB13CH ●
Two Gang Blank – Box Mtd. 	Ivory	TP23I	SP23I	Aluminum	SA23
	White	TP23W	SP23W		
	Brown	TP23	SP23	Polished Brass	
	Gray	TP23GRY	SP23GRY	430S/S	SL23
	Black	TP23BK		302/304 S/S	SS23 ●
	Light Almond	TP23LA	SP23LA	302/304 S/S (1/2" Screws)	SS23.5 ●
				Brushed Bronze	
				Chrome	SB23CH ●
Three Gang Blank – Box Mtd. 	Ivory		SP33I	Polished Brass	
	White		SP33W		
	Brown		SP33	302/304 S/S	SS33 ●
	Gray		SP33GRY	302/304 S/S (1/2" Screws)	SS33.5 ●
	Light Almond		SP33LA		
Four Gang Blank – Box Mtd. 	Ivory		SP43I		
	White		SP43W		
	Brown		SP43	302/304 S/S	SS43 ●
	Gray		SP43GRY		
Five Gang Blank – Box Mtd. 				302/304 S/S	SS53 ●
Six Gang Blank – Box Mtd. 				302/304 S/S	SS63 ●
Seven Gang Blank – Box Mtd.				302/304 S/S	SS6013 ●
Eight Gang Blank – Box Mtd.				302/304 S/S	SS6023 ●

● These products are CSA listed.These products listed to UL514, Cover Plates for Flush-Mounted Wiring Devices, CSA Certified.

WALL PLATES

Blank Plates – Strap Mounted Standard Size Plastic & Metal

DESCRIPTION	COLOR	NYLON TRADEMASTER® PLATES	THERMOSET SMOOTH	METAL MATERIAL	METAL SMOOTH
BLANK PLATES - STRAP MOUNTED WITH ADJUSTMENT YOKE					
One Gang Blank – Strap Mtd.	Ivory	TP14I	SP14I		
	White	TP14W	SP14W	Aluminum	
	Brown	TP14	SP14		
	Gray	TP14GRY	SP14GRY	430S/S	SL14
	Black	TP14BK	SP14BK	302/304 S/S	SS14 ●
	Red		SP14RED	302/304 S/S (1/2" Screws)	SS14.5 ●
	Light Almond	TP14LA	SP14LA		
Two Gang Blank – Strap Mtd.	Ivory	TP24I	SP24I		
	White	TP24W	SP24W	Aluminum	
	Brown	TP24	SP24		
	Gray	TP24GRY	SP24GRY	430S/S	SL24 ●
	Black	TP24BK	SP24BK	302/304 S/S	SS24 ●
	Red		SP24RED	302/304 S/S (1/2" Screws)	
	Light Almond	TP24LA	SP24LA		
Three Gang Blank – Strap Mtd. 	Ivory		SP34I		
	White		SP34W		
	Brown		SS34	302/304 S/S	SS34 ●
	Gray		SP34GRY		
Four Gang Blank – Strap Mtd. 	Ivory		SP44I		
	White		SP44W		
	Brown		SP44	302/304 S/S	SS44 ●
	Gray		SP44GRY		

● These products are CSA listed.

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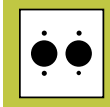
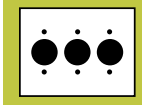
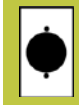
WALL PLATES

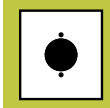
Single Receptacle & Power Outlet Openings Standard Size Plastic & Metal

DESCRIPTION	COLOR	NYLON TRADEMASTER® PLATES	THERMOSET SMOOTH	METAL MATERIAL	METAL SMOOTH
SINGLE RECEPTACLE OPENINGS					
One Gang	Ivory	TP7I	SP7I		
	White	TP7W	SP7W	Aluminum	
	Brown	TP7	SP7		
	Gray	TP7GRY	SP7GRY	Polished Brass	SB7PB ●
	Black	TP7BK		430S/S	SL7 ●
	Red	TP7RED		302/304 S/S	SS7 ●
	Light Almond	TP7LA	SP7LA		
Two Gang 	Ivory		SP72I		
	White		SP72W		
	Brown		SP72	302/304 S/S	SS72 ●
Three Gang 				302/304 S/S	SS73 ●
POWER OUTLET RECEPTACLE OPENINGS - ONE GANG					
1.5938" hole for 1.5625" dia. device – 2 mtg. holes	Ivory	TP720I	SP720I		
	White	TP720W	SP720W		
	Brown	TP720	SP720	302/304 S/S	SS720 ●
	Gray	TP720GRY	SP720GRY		
	Black	TP720BK			
	Red	TP720RED			
	Blue	TP720BL			
	Light Amond	TP720LA	SP720LA		
1.625" hole for 1.5938" dia. device – 2 mtg. holes				302/304 S/S	SS721 ●
1.75" hole for 1.7186" dia. device-2 mtg. holes				302/304 S/S	SS725 ●
2.125" hole for 2.094" dia. device – 2 mtg. holes				302/304 S/S	SS723 ●
 2.156" hole for 2.125" dia. device – 2 mtg. holes	Ivory	TP724I	384I		
	White	TP724W			
	Brown	TP724	384	Chrome	S384C
	Gray	TP724GRY		302/304 S/S	SS724 ●
	Black	TP724BK			
	Light Almond	TP724LA			

● These products are CSA listed.These products listed to UL514, Cover Plates for Flush-Mounted Wiring Devices, CSA Certified.

WALL PLATES

Power Outlet Receptacle Openings Standard Size Plastic & Metal

DESCRIPTION	COLOR	NYLON TRADEMASTER® PLATES	THERMOSET SMOOTH	METAL MATERIAL	METAL SMOOTH
POWER OUTLET RECEPTACLE OPENINGS - TWO GANG					
2.4688" hole for 2.375" dia. device – 4 mtg. holes				Chrome 302/304 S/S	S3863C SS701
 2.1563" hole for 2.125" dia. device – 2 mtg. holes				302/304 S/S	SS702 ●
2.1563" hole for 2.125" dia. device – 4 mtg. holes	Ivory Ivory White Brown Brown Gray Black Light Almond	TP703I TP703W TP703 TP703GRY TP703BK TP703LA	SP703I 3862I SP703W SP703 3862	Chrome 302/304 S/S	S3862C SS703 ●
2.2813" hole for 2.125" dia. device – 4 mtg. holes				Aluminum 302/304 S/S	 SS716 ●
2.1563" hole for 2.125" dia. device – 4 mtg. holes				302/304 S/S	SS705 ●
1.5938" hole for 1.5625" dia. device – 2 mtg. holes				302/304 S/S	SS710 ●

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WALL PLATES

Combination Openings Standard Size Plastic & Metal

DESCRIPTION	COLOR	NYLON TRADEMASTER® PLATES	THERMOSET SMOOTH	METAL MATERIAL	METAL SMOOTH
TOGGLE SWITCH & DUPLEX RECEPTACLE OPENINGS					
Two Gang 1 Toggle, 1 Duplex	Ivory	TP18I	SP18I		
	White	TP18W	SP18W		
	Brown	TP18	SP18	Polished Brass	SB18PB
	Gray	TP18GRY	SP18GRY		
	Black	TP18BK		302/304 S/S	SS18 ●
	Red	TP18RED			
	Light Almond	TP18LA	SP18LA		
Three Gang 2 Toggles, 1 Duplex	Ivory	TP28I	SP28I		
	White	TP28W	SP28W		
	Brown	TP28	SP28	Polished Brass	
	Gray	TP28GRY	SP28GRY		
	Black	TP28BK		302/304 S/S	SS28 ●
	Red	TP28RED			
	Light Almond	TP28LA	SP28LA		
Four Gang 3 Toggles, 1 Duplex	Ivory		SP38I	Polished Brass	
	White		SP38W		
	Brown		SP38	302/304 S/S	SS38 ●
	Gray		SP38GRY		
	Light Almond		SP38LA		
Five Gang 4 Toggles, 1 Duplex				302/304 S/S	SS48 ●
				302/304 S/S Painted Ivory	SS48I ●
				302/304 S/S Painted White	SS48W ●
TOGGLE SWITCH & DECORATOR-STYLE OPENINGS					
Two Gang 1 Toggle, 1 Decorator-Style	Ivory	TP126I	SP126I		
	White	TP126W	SP126W	Aluminum	SA126
	Brown	TP126	SP126		
	Gray	TP126GRY	SP126GRY	Polished Brass	
	Black	TP126BK	SP126BK		
	Light Almond	TP126LA	SP126LA	302/304 S/S	SS126 ●
Three Gang 2 Toggles, 1 Decorator-Style	Ivory	TP226I	SP226I		
	White	TP226W	SP226W		
	Brown	TP226	SP226	302/304 S/S	SS226 ●
	Gray	TP226GRY	SP226GRY		
	Light Almond	TP226LA	SP226LA		
	Black	TP226BK			
Three Gang 1 Toggle, 2 Decorator-Style	Ivory		SP1262I		
	White		SP1262W		
	Brown		SP1262	302/304 S/S	SS1262 ●
	Gray		SP1262GRY		
	Black		SP1262BK		
	Light Almond		SP1262LA		
Four Gang 3 Toggles, 1 Decorator-Style	Ivory		SP326I		
	White		SP326W		
	Brown		SP326	302/304 S/S	SS326 ●
	Gray		SP326GRY		
	Light Almond		SP326LA		

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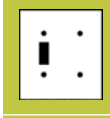
WALL PLATES

Combination Openings Standard Size Plastic & Metal

DESCRIPTION	COLOR	NYLON TRADEMASTER® PLATES	THERMOSET SMOOTH	METAL MATERIAL	METAL SMOOTH
TOGGLE SWITCH & DECORATOR-STYLE OPENINGS (CONT.)					
Four Gang 2 Toggles, 2 Decorator-Style 	Ivory White Brown Light Almond		SP2262I SP2262W SP2262 SP2262LA		
TOGGLE SWITCH & BLANK STRAP MOUNTED OPENINGS					
Two Gang 1 Toggle, 1 Blank 				302/304 S/S	SS114 ●
Three Gang 2 Toggles, 1 Blank 				302/304 S/S	SS214 ●
Four Gang 3 Toggles, 1 Blank 				302/304 S/S	SS314 ●

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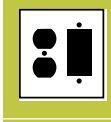
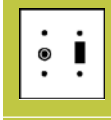
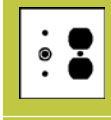
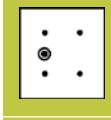
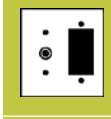
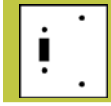
WALL PLATES

Combination Openings Standard Size Plastic & Metal

DESCRIPTION	COLOR	NYLON TRADEMASTER® PLATES	THERMOSET SMOOTH	METAL MATERIAL	METAL SMOOTH
TWO GANG COMBINATION OPENINGS					
Two Gang 1 Toggle, 1 Single	Ivory White Brown Gray		SP17I SP17W SP17 SP17GRY	302/304 S/S	SS17 ●
Two Gang Single/Duplex	Ivory White Brown Gray		SP78I SP78W SP78 SP78GRY	Aluminum 302/304 S/S	SS78 ●
Two Gang Duplex/Decorator-Style 	Ivory White Brown Gray Black Red Light Almond	TP826I TP826W TP826 TP826GRY TP826BK TP826RED TP826LA	SP826I SP826W SP826 SP826GRY SP826LA	Polished Brass 302/304 S/S	SS826 ●
Two Gang Telephone/Toggle 	Ivory White Brown		SP112I SP112W SP112		
Two Gang Telephone/Duplex 	Ivory White Brown Gray		SP128I SP128W SP128 SP128GRY	302/304 S/S	SS128 ●
Two Gang Telephone/Blank (Strap Mtd) 	Ivory White		SP1214I SP1214W	302/304 S/S	
Three Gang Telephone/Decorator-Style 	White Brown		SP1226W SP1226	302/304 S/S	SS1226 ●
Four Gang Blank (Box Mtd)/Duplex	Ivory White Brown Gray Black Red Light Almond	TP138I TP138W TP138 TP138BK TP138RED TP138LA	SP138I SP138W SP138 SP138GRY	302/304 S/S	SS138 ●
Four Gang Toggle/Blank (Box Mtd) 	Ivory White Brown Gray Black Light Almond	TP113I TP113W TP113 TP113GRY TP113BK TP113LA		302/304 S/S	SS113 ●

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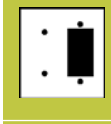
WALL PLATES

Combination Openings Standard Size Plastic & Metal

DESCRIPTION	COLOR	NYLON TRADEMASTER® PLATES	THERMOSET SMOOTH	METAL MATERIAL	METAL SMOOTH
TWO GANG COMBINATION OPENINGS (CONT.)					
Two Gang Blank (Strap Mtd) Duplex	Ivory White Brown Gray		SP148I SP148W SP148 SP148GRY	302/304 S/S	SS148 ●
Two Gang Blank (Strap Mtd)/Single	Ivory White		SP147I SP147W	302/304 S/S	SS147 ●
Two Gang Blank (Strap Mtd)/Decorator-Style 	Ivory White Brown Gray Light Almond		SP1426I SP1426W SP1426 SP1426GRY SP1426LA	302/304 S/S	SS1426 ●
THREE & FOUR GANG COMBINATION OPENINGS					
Three Gang Toggle/Duplex/Duplex	Ivory White Brown Gray Light Almond		SP182I SP182W SP182 SP182GRY SP182LA	Polished Brass 302/304 S/S	SS182 ●
Three Gang Blank (Strap Mtd)/Toggle/ Blank (Strap Mtd)				302/304 S/S	SS8148 ●
Two Gang Blank (Strap Mtd)/Toggle/ Blank (Strap Mtd)				302/304 S/S	SS14114 ●
Three Gang Telephone/Decorator-Style				302/304 S/S	SS14814 ●
Four Gang Blank (Box Mtd)/Duplex				302/304 S/S	SS282 ●

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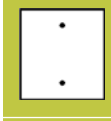
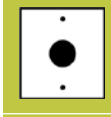
WALL PLATES

Two Gang with Center Opening Standard Size Metal

DESCRIPTION	COLOR	NYLON TRADEMASTER® PLATES	THERMOSET SMOOTH	METAL MATERIAL	METAL SMOOTH
ONE HORIZONTAL OPENING PER GANG					
Toggle Switch				302/304 S/S	SS740 ●
Blank-Box Mount 				302/304 S/S	SS743 ●
Decorator-Style				302/304 S/S	SS746 ●
Single Receptacle 				302/304 S/S	SS747 ●
Duplex Receptacle				302/304 S/S	SS748 ●

● These products are CSA listed.

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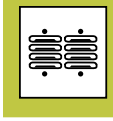
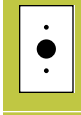
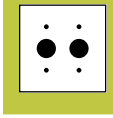
WALL PLATES

Louver & Biplex/Triplex Openings Standard Size Metal

DESCRIPTION	COLOR	NYLON TRADEMASTER® PLATES	THERMOSET SMOOTH	METAL MATERIAL	METAL SMOOTH
LOUVER PLATES					
One Gang Horizontal				302/304 S/S 302/304 S/S Painted Ivory 302/304 S/S Painted White 302/304 S/S Painted Light Almond	SS760 ● SS760I SS760W SS760LA
One Gang Vertical				302/304 S/S 302/304 S/S Painted Ivory 302/304 S/S Painted White 302/304 S/S Painted Brown 302/304 S/S Painted Gray 302/304 S/S Painted Light Almond	SS771 ● SS771I SS771W SS771X SS771GRY ● SS771LA
Two Gang Vertical 				302/304 S/S	SS772

DESCRIPTION	COLOR	NYLON TRADEMASTER® PLATES	THERMOSET SMOOTH	METAL MATERIAL	METAL SMOOTH
KL SERIES LOCKING SWITCH PLATES					
One Gang  .906 diameter Reference page 19 for device				302/304 S/S	SS717 ●
Two Gang  .906 diameter Reference page 19 for device				302/304 S/S	SS727 ●

● These products are CSA listed.

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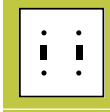
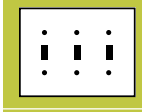
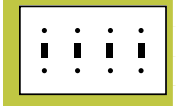
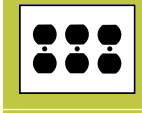
WALL PLATES

Toggle Switch, Duplex & Single Receptacle Openings Junior-Jumbo & Jumbo Plastic & Metal

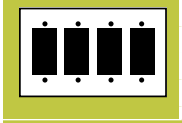
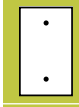
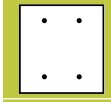
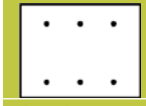
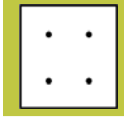
		NYLON	THERMOSET		METAL		
		TRADEMASTER®	JUNIOR-JUMBO	JUMBO		JUNIOR-JUMBO	JUMBO
DESCRIPTION	COLOR	JUMBO	SMOOTH	SMOOTH	MATERIAL	SMOOTH	SMOOTH
TOGGLE SWITCH OPENINGS							
One Gang	Ivory	TPJ1I	SPJ1I	SPO1I	302/304 S/S	SSJ1 ●	SSO1 ●
	White	TPJ1W	SPJ1W	SPO1W			
	Brown	TPJ1	SPJ1	SPO1			
	Gray	TPJ1GRY					
	Light Almond	TPJ1LA	SPJ1LA				
Two Gang 	Ivory	TPJ2I	SPJ2I	SPO2I	302/304 S/S	SSJ2 ●	SSO2 ●
	White	TPJ2W	SPJ2W	SPO2W			
	Brown	TPJ2	SPJ2	SPO2			
	Gray	TPJ2GRY					
	Light Almond	TPJ2LA	SPJ2LA				
Three Gang 	Ivory	TPJ3I	SPJ3I		302/304 S/S	SSJ3	SSO3
	White	TPJ3W	SPJ3W				
	Brown	TPJ3	SPJ3				
	Gray	TPJ3GRY					
	Light Almond	TPJ3LA	SPJ3LA				
Four Gang 	Ivory	TPJ4I	SPJ4I		302/304 S/S		SSO4 ●
	White	TPJ4W	SPJ4W				
	Brown	TPJ4	SPJ4				
	Gray	TPJ4GRY					
	Light Almond	TPJ4LA	SPJ4LA				
DUPLEX RECEPTACLE OPENINGS							
One Gang	Ivory	TPJ8I	SPJ8I	SPO8I	302/304 S/S	SSJ8 ●	SSO8 ●
	White	TPJ8W	SPJ8W	SPO8W			
	Brown	TPJ8	SPJ8	SPO8			
	Gray	TPJ8GRY					
	Light Almond	TPJ8LA	SPJ8LA	SPO8LA			
Two Gang	Ivory	TPJ82I	SPJ82I	SPO82I	302/304 S/S	SSJ82 ●	SSO82 ●
	White	TPJ82W	SPJ82W	SPO82W			
	Brown	TPJ82	SPJ82	SPO82			
	Gray	TPJ82GRY	SPJ82GRY				
	Light Almond	TPJ82LA	SPJ82LA				
Three Gang 					302/304 S/S		SSO83 ●
SINGLE RECEPTACLE OPENINGS							
One Gang	Ivory	TPJ7I	SPJ7I		302/304 S/S	SSJ7 ●	SSO7 ●
	White	TPJ7W	SPJ7W				
	Brown	TPJ7					
	Gray	TPJ7GRY					
	Light Almond	TPJ7LA	SPJ7LA				

● These products are CSA listed.

These products listed to UL514, Cover Plates for Flush-Mounted Wiring Devices, CSA Certified.

WALL PLATES

Decorator-Style Openings & Blank Plates Junior-Jumbo & Jumbo Plastic & Metal

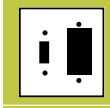
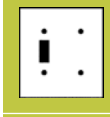
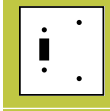
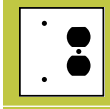
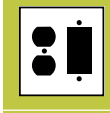
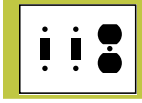
		NYLON	THERMOSET		METAL		
		TRADEMASTER®	JUNIOR-JUMBO	JUMBO		JUNIOR-JUMBO	JUMBO
DESCRIPTION	COLOR	JUMBO	SMOOTH	SMOOTH	MATERIAL	SMOOTH	SMOOTH
DECORATOR-STYLE OPENINGS							
One Gang	Ivory	TPJ26I	SPJ26I	SPO26I			
	White	TPJ26W	SPJ26W	SPO26W			
	Brown	TPJ26	SPJ26	SPO26	302/304 S/S	SSJ26 ●	SSO26 ●
	Gray	TPJ26GRY					
	Red	TPJ26RED					
	Light Almond	TPJ26LA	SPJ26LA	SPO26LA			
Two Gang	Ivory	TPJ262I	SPJ262I	SPO262I			
	White	TPJ262W	SPJ262W	SPO262W	302/304 S/S	SSJ262 ●	SSO262 ●
	Brown	TPJ262	SPJ262	SPO262			
	Gray	TPJ262GRY					
	Light Almond	TPJ262LA	SPJ262LA				
Three Gang	Ivory	TPJ263I	SPJ263				
	White	TPJ263W	SPJ263W		302/304 S/S	SSJ263 ●	
	Brown	TPJ263	SPJ263				
	Gray	TPJ263GRY					
	Light Almond	TPJ263LA	SPJ263LA				
Four Gang 	Ivory	TPJ264I	SPJ264I				
	White	TPJ264W	SPJ264W				
	Brown	TPJ264	SPJ264				
	Gray	TPJ264GRY					
	Light Almond	TPJ264LA	SPJ264LA				
BLANK PLATES – BOX & STRAP MOUNTED							
One Gang Blank Box Mtd. 	Ivory	TPJ13I	SPJ13I	SPO13I			
	White	TPJ13W	SPJ13W	SPO13W	302/304 S/S	SSJ13 ●	SSO13 ●
	Brown	TPJ13	SPJ13	SPO13			
	Gray	TPJ13GRY					
	Light Almond	TPJ13LA	SPJ13LA				
Two Gang Blank Box Mtd. 	Ivory			SPO23I			
	White			SPO23W	302/304 S/S		SSO23 ●
	Brown			SPO23			
Three Gang Blank Box Mtd. 					302/304 S/S		SSO33 ●
One Gang Strap Mtd.					302/304 S/S		SSO14 ●
Two Gang Blank Strap Mtd. 					302/304 S/S		SSO24 ●

● These products are CSA listed.

These products listed to UL514, Cover Plates for Flush-Mounted Wiring Devices, CSA Certified.

WALL PLATES

Combination Openings Junior-Jumbo & Jumbo Plastic & Metal

DESCRIPTION	COLOR	NYLON TRADEMASTER® JUMBO	THERMOSET JUNIOR-JUMBO SMOOTH	THERMOSET JUMBO SMOOTH	METAL MATERIAL	METAL JUNIOR-JUMBO SMOOTH	METAL JUMBO SMOOTH
TWO GANG COMBINATION OPENINGS							
Two Gang Toggle/Duplex	Ivory	TPJ18I	SPJ18I	SPO18I	302/304 S/S	SSJ18 ●	SSO18 ●
	White	TPJ18W	SPJ18W	SPO18W			
	Brown	TPJ18					
	Gray	TPJ18GRY					
	Light Almond	TPJ18LA	SPJ18LA				
Two Gang Toggle/Decorator-Style 	Ivory	TPJ126I	SPJ126I		302/304 S/S	SSJ126 ●	SSO126 ●
	White	TPJ126W	SPJ126W				
	Brown	TPJ126	SPJ126				
	Gray	TPJ126GRY					
	Light Almond	TPJ126LA	SPJ126LA				
Two Gang Toggle/Blank (Strap Mtd) Supplied with 340 Yoke 					302/304 S/S		SSO114 ●
Two Gang Toggle/Blank (Box Mtd.) 	Ivory	TPJ113I	SPJ113I	SPO113I			
	White	TPJ113W	SPJ113W				
	Brown		SPJ113	SPO113			
	Gray	TPJ113GRY					
	Light Almond	TPJ113LA					
Two Gang Blank (Box Mtd)/Duplex 	Ivory		SPJ138I	SPO138I			
	White		SPJ138W		302/304 S/S		SSO138 ●
	Brown		SPJ138	SPO138			
Two Gang Duplex/Decorator-Style 	Ivory	TPJ826I	SPJ826I				
	White	TPJ826W	SPJ826W				
	Brown	TPJ826					
	Gray	TPJ826GRY					
	Light Almond	TPJ826LA	SPJ826LA				
Two Gang Blank/Decorator-Style	Ivory		SPJ1426I**	SPO1326I*			
	White		SPJ1426W**	SPO1326W*			
	Brown		SPJ1426**	SPO1326*			
Three Gang 2 Toggles/Duplex 					302/304 S/S		SSO28 ●

*Box mounted
**Strap mounted

● These products are CSA listed.

These products listed to UL514, Cover Plates for Flush-Mounted Wiring Devices, CSA Certified.

Armorlite®
Type MC

14 AWG through 2 AWG THHN/THWN Insulated Singles. Green Insulated Ground. UL Listed. 600 Volts. Rated VW-1. Lightweight Aluminum Interlocked Armor.

APPLICATIONS

Southwire Armorlite® Type MC Cable is suitable for use as follows:

- Branch, feeder and service power distribution in commercial, industrial, institutional, and multi-residential buildings.
- Fished or embedded in plaster.
- Concealed or exposed installations.
- Environmental air-handling spaces per NEC 300.22 (C).
- Places of Assembly per NEC 518.4 and theaters per NEC 520.5.
- Installation in cable tray and approved raceways.
- Under raised floors for information technology equipment conductors and cables per NEC 645.5(D) & 645.5(D)(2).
- Class I Div. 2, Class II Div 2, & Class III Div. 1 Hazardous Locations.

STANDARDS & REFERENCES

Southwire Armorlite® Type MC Cable meets or exceeds the requirements of the following:

- UL 83
- UL 1569
- UL 1685
- UL Online Product Guide Info - Metal-Clad Cable (PJAZ) (www.ul.com)
- Federal Specification A-A59544 (formerly J-C-30B)
- FT4/IEEE 1202 (70,000 Btu/hr) Vertical Cable Tray Flame Test
- NFPA 70 (National Electrical Code), Article 330
- Listed for use in UL 1, 2 and 3 Hour Through Penetration Firestop Systems
- REACH/RoHS-2 (Chemical Limit) Compliant

CONSTRUCTION

Southwire Armorlite® Type MC Cable is constructed with soft-drawn copper, Type THHN/THWN conductors rated 90°C dry available in sizes 14 AWG through 2 AWG, and a green insulated grounding conductor. The conductors are cabled together and a binder tape bearing the print legend is wrapped around the assembly. Aluminum interlocking armor is applied over the assembly.

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CONDUCTOR SIZE AND COLORS	GROUNDING SIZE AND COLOR	STOCK NUMBER		WEIGHT (LBS/1000')	OVERALL DIAMETER (INCHES)
		COIL (250')	REEL (1000')		
SOLID CONDUCTOR COLORS 120/208V					
14-2 SOLID (BLACK/WHITE)	14 SOLID (GREEN)	68-57-92-01	68-57-92-02	77	.439
14-3 SOLID (BLACK/WHITE/RED)	14 SOLID (GREEN)	68-58-26-01	68-58-26-02	94	.464
14-4 SOLID (BLACK/WHITE/RED/BLUE)	14 SOLID (GREEN)	68-71-86-01	68-71-86-02	112	.494
12-2 SOLID (BLACK/WHITE)	12 SOLID (GREEN)	68-58-00-01	68-58-00-02	105	.475
12-2 SOLID (RED/WHITE)	12 SOLID (GREEN)	68-95-21-01	68-95-21-02	105	.475
12-2 SOLID (BLUE/WHITE)	12 SOLID (GREEN)	68-94-89-01	68-94-89-02	105	.475
12-3 SOLID (BLACK/WHITE/RED)	12 SOLID (GREEN)	68-58-34-01	68-58-34-02	129	.505
12-3 SOLID (BLACK/WHITE/BLUE)	12 SOLID (GREEN)	61-09-73-01	61-09-73-02	129	.505
12-3 SOLID (RED/WHITE/BLUE)	12 SOLID (GREEN)	61-09-71-01	61-09-71-02	129	.505
12-4 SOLID (BLACK/WHITE/RED/BLUE)	12 SOLID (GREEN)	68-71-94-01	68-71-94-03	155	.539
10-2 SOLID (BLACK/WHITE)	10 SOLID (GREEN)	68-58-18-01	68-58-18-03	150	.542
10-2 SOLID (RED/WHITE)	10 SOLID (GREEN)	61-05-21-01	61-05-21-02	150	.542
10-2 SOLID (BLUE/WHITE)	10 SOLID (GREEN)	61-05-18-01	61-05-18-02	150	.542
10-3 SOLID (BLACK/WHITE/RED)	10 SOLID (GREEN)	68-58-42-01	68-58-42-03	189	.58
10-4 SOLID (BLACK/WHITE/RED/BLUE)	10 SOLID (GREEN)	68-72-02-01	68-72-02-03	229	.623
STRANDED CONDUCTOR COLORS 120/208V					
12-2 STRANDED (BLACK/WHITE)	12 STRANDED (GREEN)	69-11-47-01	69-11-47-02	110	.494
12-3 STRANDED (BLACK/WHITE/RED)	12 STRANDED (GREEN)	69-11-54-01	69-11-54-02	134	.537
12-4 STRANDED (BLACK/WHITE/RED/BLUE)	12 STRANDED (GREEN)	69-11-62-01	69-11-62-02	164	.564
10-2 STRANDED (BLACK/WHITE)	10 STRANDED (GREEN)	69-11-70-01	69-11-70-02	159	.566
10-3 STRANDED (BLACK/WHITE/RED)	10 STRANDED (GREEN)	69-11-88-01	69-11-88-02	201	.607
10-4 STRANDED (BLACK/WHITE/RED/BLUE)	10 STRANDED (GREEN)	69-11-96-01	69-11-96-02	242	.653
SOLID CONDUCTOR COLORS 277/480V					
12-2 SOLID (YELLOW/GRAY)	12 SOLID (GREEN)	68-93-23-01	68-93-23-02	105	.475
12-2 SOLID (BROWN/GRAY)	12 SOLID (GREEN)	68-93-64-01	68-93-64-02	105	.475
12-2 SOLID (ORANGE/GRAY)	12 SOLID (GREEN)	68-94-06-01	68-94-03-02	105	.475
12-2 SOLID (PURPLE/GRAY)	12 SOLID (GREEN)	68-94-48-01	68-94-48-02	105	.475

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12-3 SOLID (BROWN/YELLOW/GRAY)	12 SOLID (GREEN)	61-05-23-01	61-05-23-02	129	.539
12-3 SOLID (BROWN/ORANG/GRAY)	12 SOLID (GREEN)	68-95-62-01	68-95-62-02	129	.539
12-3 SOLID (ORANGE/YELLOW/GRAY)	12 SOLID (GREEN)	61-12-70-01	61-12-70-02	129	.539
12-4 SOLID (BROWN/ORANGE/YELLOW/GRAY)	12 SOLID (GREEN)	68-95-70-01	68-95-70-02	155	.539
10-2 SOLID (ORANGE/GRAY)	10 SOLID (GREEN)	55-11-67-01	55-11-67-02	150	.542
10-2 SOLID (YELLOW/GRAY)	10 SOLID (GREEN)	61-05-22-01	61-05-22-02	150	.542
10-2 SOLID (BROWN/GRAY)	10 SOLID (GREEN)	68-96-04-01	68-96-04-02	150	.542
10-3 SOLID (BROWN/ORANGE/GRAY)	10 SOLID (GREEN)	68-95-39-01	68-95-39-02	189	.58
10-3 SOLID (BROWN/YELLOW/GRAY)	10 SOLID (GREEN)	61-05-50-01	61-05-50-02	189	.58
10-4 SOLID (BROWN/ORANGE/YELLOW/GRAY)	10 SOLID (GREEN)	68-94-14-01	68-94-14-02	229	.623
STRANDED CONDUCTOR COLORS 277/480V					
12-2 STRANDED (YELLOW/GRAY)	12 STRANDED (GREEN)	55-11-08-01	55-11-08-02	110	.494
12-2 STRANDED (BROWN/GRAY)	12 STRANDED (GREEN)	55-11-10-01	55-11-10-02	110	.494
12-2 STRANDED (ORANGE/GRAY)	12 STRANDED (GREEN)	55-11-12-01	55-11-12-02	110	.494
12-3 STRANDED (BROWN/YELLOW/GRAY)	12 STRANDED (GREEN)	55-11-60-01	55-11-60-02	134	.537
12-3 STRANDED (BROWN/ORANGE/GRAY)	12 STRANDED (GREEN)	55-11-14-01	55-11-14-02	134	.537
12-4 STRANDED (BROWN/ORANGE/YELLOW/GRAY)	12 STRANDED (GREEN)	55-11-22-01	55-11-22-02	164	.564
10-2 STRANDED (BROWN/GRAY)	10 STRANDED (GREEN)	55-12-76-01	55-12-76-02	159	.566
10-3 STRANDED (BROWN/ORANGE/GRAY)	10 STRANDED (GREEN)	55-11-21-01	55-11-21-02	201	.607
10-4 STRANDED (BROWN/ORANGE/YELLOW/GRAY)	10 STRANDED (GREEN)	55-12-78-01	55-12-78-02	242	.653
INTERMEDIATE CONDUCTOR COLORS 120/208V					
8-2 STRANDED (BLACK/WHITE)	10 STRANDED (GREEN)	68-70-95-01 (200')	68-70-95-02 (500')	231	.644
8-2 STRANDED (RED/WHITE)	10 STRANDED (GREEN)	55-11-75-01 (200')		231	.644
8-2 STRANDED (BLUE/WHITE)	10 STRANDED (GREEN)	55-11-77-01 (200')		231	.644
8-3 STRANDED (BLACK/WHITE/RED)	10 STRANDED (GREEN)	68-71-37-01 (200')	68-71-37-02 (500')	299	.678
8-3 STRANDED (RED/BLUE/WHITE)	10 STRANDED (GREEN)	55-11-80-01 (200')		299	.678
8-4 STRANDED (BLACK/WHITE/RED/BLUE)	10 STRANDED (GREEN)	68-72-10-04 (200')	68-72-10-02 (500')	378	.793
6-2 STRANDED (BLACK/WHITE)	8 STRANDED (GREEN)	68-71-03-01 (125')	68-71-03-02 (500')	312	.716
6-3 STRANDED (BLACK/WHITE/RED)	8 STRANDED (GREEN)	68-71-45-01 (125')	68-71-45-02 (500')	442	.819
6-4 STRANDED (BLACK/WHITE/RED/BLUE)	8 STRANDED (GREEN)	68-72-51-01 (100')	68-72-51-02 (500')	546	.890
4-3 STRANDED (BLACK/WHITE/RED)	8 STRANDED (GREEN)	68-71-52-01 (100')	68-71-52.02 (500')	635	.986

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4-4 STRANDED (BLACK/WHITE/RED/BLUE)	8 STRANDED (GREEN)	68-72-28-01 (100')	68-72-28-02 (500')	797	1.077
3-3 STRANDED (BLACK/WHITE/RED)	6 STRANDED (GREEN)	68-71-60-01 (100')	68-71-60-02 (500')	785	1.053
3-4 STRANDED (BLACK/WHITE/RED/BLUE)	6 STRANDED (GREEN)	68-72-36-01 (100')	68-72-36-02 (500')	985	1.152
2-3 STRANDED (BLACK/WHITE/RED)	6 STRANDED (GREEN)	68-71-78-01 (100')	68-71-78-02 (500')	936	1.130
2-4 STRANDED (BLACK/WHITE/RED/BLUE)	6 STRANDED (GREEN)	68-72-44-01 (100')	68-72-44-02 (500')	1195	1.239
INTERMEDIATE CONDUCTOR COLORS 277/480V					
8-2 STRANDED (BROWN/GRAY)	10 STRANDED (GREEN)	55-11-72-01 (200')	55-11-72-02 (1000')	231	.644
8-2 STRANDED (YELLOW/GRAY)	10 STRANDED (GREEN)		55-11-74-99	231	.644
8-2 STRANDED (ORANGE/GRAY)	10 STRANDED (GREEN)	55-11-73-01 (200')		231	.644
8-3 STRANDED (BROWN/ORANGE/GRAY)	10 STRANDED (GREEN)	55-11-78-03 (500')	55-11-78-02 (1000')	299	.678
8-3 STRANDED (BROWN/YELLOW/GRAY)	10 STRANDED (GREEN)	55-11-79-01 (200')		299	.678
6-2 STRANDED (BROWN/GRAY)	8 STRANDED (GREEN)	55-03-75-01 (1000')	55-03-75-99	333	.716
6-2 STRANDED (YELLOW/GRAY)	8 STRANDED (GREEN)	56-12-35-01 (1000')		333	.716
6-3 STRANDED (BROWN/ORANGE/GRAY)	8 STRANDED (GREEN)	55-35-41-02 (500')	55-35-41-03 (1000')	441	.819
6-3 STRANDED (BROWN/ORANGE/YELLOW)	8 STRANDED (GREEN)	55-60-46-03 (1000')	55-60-46-99	441	.819
6-4 STRANDED (BROWN/ORANGE/YELLOW/GRAY)	8 STRANDED (GREEN)	55-25-78-02 (500')	55-25-78-01 (1000')	545	.89
4-3 STRANDED (BROWN/ORANGE/YELLOW)	8 STRANDED (GREEN)	55-64-78-03 (1000')	55-64-78-99	635	.985
4-4 STRANDED (BROWN/ORANGE/YELLOW/GRAY)	8 STRANDED (GREEN)	55-45-80-99		800	1.076
2-3 STRANDED (BROWN/ORANGE/YELLOW)	6 STRANDED (GREEN)	55-43-87-99		921	1.034
2-4 STRANDED (BROWN/ORANGE/YELLOW/GRAY)	6 STRANDED (GREEN)	58-07-40-99		1181	1.238
For allowable ampacities, refer to NEC 310.15. Available in sizes up to 750 kcmil.					

FEATURES

- Reduces installation costs up to 50% over pipe and wire.
- Lightweight aluminum armor--as much as 45% lighter than steel MC Cable.
- Better grounding performance than Type AC
- Also available in barrels, boxes, or prefab assemblies
- UL Classified 1, 2, and 3 hour Through Penetration Firestop Systems: W-J-3037, W-L-3110, W-L-3113, W-L-3117, W-L-3120, W-L-3121, W-L-3160, C-AJ-3115, C-AJ-3140, C-AJ-3142, C-AJ-3145, C-AJ-3173, C-AJ-3202, C-AJ-4065, C-AJ-4066, F-C-3038.
- Cable reverse wound on reel for ease of pulling and installation. When pulling from coils, pull from inside to ensure ease of installation.
- Anti-short bushings are not required for use with MC cable per the NEC and UL

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One Southwire Drive, Carrollton, GA 30119, USA

NEC TABLE 310.15(B)(16)- ALLOWABLE AMPACITY FOR 600V CONDUCTORS

	TEMPERATURE RATING OF CONDUCTOR		
	60°C (140°F)	75°C (167°F)	90°C (194°F)
SIZE AWG OR KCMIL	Types: TW, UF	Types: RHW, THHW, THW, THWN, XHHW, USE, ZW	Types: TBS, SA, SIS, RHH, RHW-2, THHN, THHW, THW-2, THWN-2, USE-2, XHH, XHHW, XHHW-2, ZW-2
	COPPER		
18	-	-	14
16	-	-	18
14	15	20	25
12	20	25	30
10	30	35	40
8	40	50	55
6	55	65	75
4	70	85	95
3	85	100	115
2	95	115	130
1	110	130	145
1/0	125	150	170
2/0	145	175	195
3/0	165	200	225
4/0	195	230	260
250	215	255	290
300	240	285	320
350	260	310	350
400	280	335	380
500	320	380	430
600	350	420	475
700	385	460	520
750	400	475	535
800	410	490	555
900	435	520	585
1000	455	545	615
1250	495	590	665
1500	525	625	705
1750	545	650	735
2000	555	665	750
Per NEC 310.15(B)(5), the ampacity of 4/C cables shall be reduced by a factor of 0.80 when the neutral is considered a current-carrying conductor.			

Table is reprinted from NFPA 70-2014, the National Electric Code, © 2013 National Fire Protection Association, Quincy, Massachusetts 02269. This reprinted material is not the complete and official position of the National Fire Protection Association on the referenced subject, which is represented only by the standard in its entirety.

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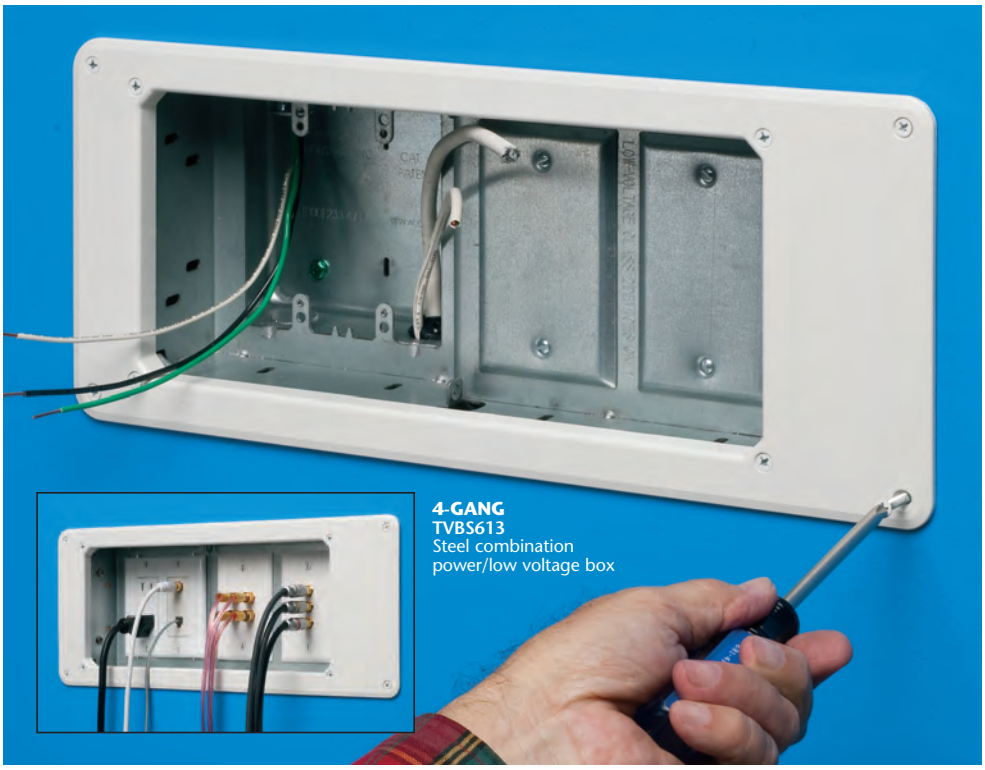
Recessed Steel TV Box™

NEW! more on reverse

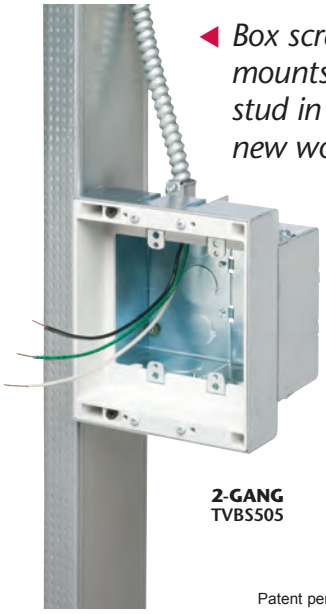
For flush-to-wall placement of TVs, furniture, appliances



Plugs/connections stay inside recessed box in new or old work

In old work mounting wings secure box in wall

Box screw-mounts to stud in new work



2-GANG
TVBS505

Patent pending

Arlington's recessed STEEL combination power and low voltage TV BOX™ is the best way to mount flat screen TVs flush against a wall. It's also great for hotel and other settings where furniture and/or appliances need to be pushed close to the wall.

Plugs and connectors stay inside the box, without extending past the wall.

Designed for use in commercial construction where metal raceway is used, Steel TV BOX provides power and/or low voltage in one or more of the openings. TV BOX is available in 2-, 3- and 4-gang styles. We have a box for almost any new or old work application!

- Steel box with non-metallic paintable white or black trim plate
- Easy to install, secure installation
- Mounting wings on two- and three-gang styles hold boxes securely against the wall in retrofit projects
- Boxes screw-mount to stud in new construction
- Optional covers for unused boxes
- UL Listed

Scan QR code for more info.

Arlington

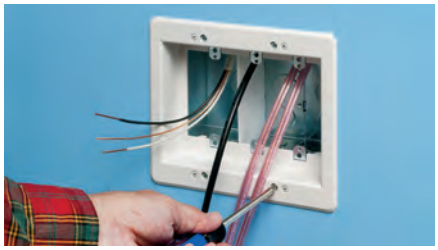
1 Stauffer Industrial Park
Scranton, PA 18517
800/233.4717
Fax 570/562.0646
www.aifittings.com

Recessed Steel TV Box™

Power/low voltage combination box for use with steel raceway

OLD WORK - Three-gang TVBS507 shown

1 Cut hole using enclosure, without trim plate, as a template. (Mounting wings hold box in wall.)

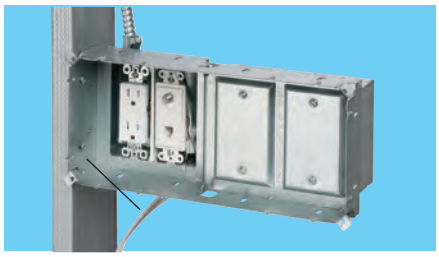


2 Pull cable. Insert box in hole. Tighten mounting wing screws to hold box securely against wall.

3 Install voltage separator for power and low voltage.

4 Install devices, then the wall plates.

NEW CONSTRUCTION - Four-gang TVBS613 shown



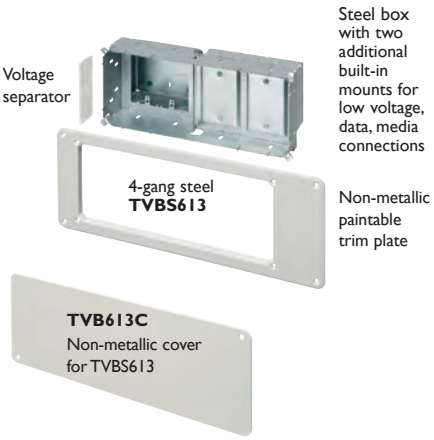
1 Attach box to steel stud using #6 screws. Pull wires.

2 Or attach to a wood stud using #6 screws. Pull wires.

3 After drywall is installed, add trim plate, then install enclosure assembly to the wall with outer screws.

4 Install voltage separator.

5 Install devices and plates.



CATALOG NUMBER	UPC/DCI/NAED MFG #01 8997	DESCRIPTION Recessed Steel TV BOX	UNIT PKG	STD PKG
TVBS505	37955	Two-gang steel box w/ white non-metallic trim plate	1	1
TVBS507	37956	Three-gang steel box w/ white non-metallic trim plate	1	1
TVBS613	09633	Four-gang steel box with white non-metallic trim plate	1	1
TVBS613BL	09660	Four-gang steel box with black non-metallic trim plate	1	1
TVB613C	09631	Non-metallic, blank cover for TVBS613	1	1

NEW

3-gang
TVBS507

NEW

2-gang
TVBS505

Voltage separator

Scan QR code for more info.

Arlington

1 Stauffer Industrial Park
Scranton, PA 18517
800/233.4717
Fax 570/562.0646
www.aifittings.com

Patent pending
Steel TV BOX 0511/25M

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