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HISTORIC JAIL RENOVATIONS

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26-0000 Electrical O&M



Powering Business Worldwide



Powering Business Worldwide



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Detail Bill of Material

Project Name: New ton Co Historic Jail Renovation
General Order No:

Negotiation No: AT901113X5K2
Alternate No: 0000

Item No.	Qty	Product	Description
	1	Panelboards	Multi-Section Panel : 2 Sections, 84 Circuits, 225A, Fully Rated, 208Y/120V 3Ph 4W, Copper Bus, 22kAIC, 225A, Main Lugs Only[Top Fed], Surface Mounted
		Catalog No	PASAEDLTB42A
		Designation	LA
	Qty	List of Materials	
	2	225A, Main Lugs Only	
	1	225A, Through-Feed Lugs	
	2	30A, 2P QBHW Branch Breaker	
	16	1P Branch Provision Only	
	2	20A, 2P QBHW Branch Breaker	
	1	60A, 3P QBHW-H Branch Breaker	
	57	20A, 1P QBHW Branch Breaker	
	2	Copper Main Bus, 225 Amps	
	2	Std. Bolted Al Ground Bar (Al/Cu Cable)	
	2	Panel Nameplate - White with Black Letters	
	2	Type 1 Enclosure: EZB2048R	
	2	EZ Trim, Door in Door, Concealed Hardware: EZT2048S	

Item No.	Qty	Product	Description
	1	Panelboards	PRL1X, 42 Circuits, 225A, Fully Rated, 208Y/120V 3Ph 4W, Copper Bus, 22kAIC, 225A, Main Lugs Only[Top Fed], Surface Mounted
		Catalog No	PASAEDLTB42A
		Designation	LM
	Qty	List of Materials	
	1	225A, Main Lugs Only	
	1	40A, 2P QBHW Branch Breaker	
	2	25A, 2P QBHW Branch Breaker	
	4	60A, 2P QBHW Branch Breaker	
	2	50A, 2P QBHW Branch Breaker	
	5	20A, 1P QBHW Branch Breaker	
	1	30A, 2P QBHW Branch Breaker	
	1	60A, 3P QBHW-H Branch Breaker	
	12	1P Branch Provision Only	
	1	20A, 2P QBHW Branch Breaker	
	1	Copper Main Bus, 225 Amps	
	1	Std. Bolted Al Ground Bar (Al/Cu Cable)	
	1	Panel Nameplate - White with Black Letters	
	1	Type 1 Enclosure: EZB2042R	
	1	EZ Trim, Door in Door, Concealed Hardware: EZT2042S	

Eaton Selling Policy 25-000 applies.

If Eaton and the buyer entity listed on this purchase order have a separate executed written agreement for the products/services herein, then that agreement applies. Otherwise, Eaton's Selling Policy 25000 (<https://www.eaton.com/ca/en-gb/support/terms-conditions.html>) controls and supersedes all prior correspondence or communications between Eaton and the buyer, and any additional or different terms proposed by the buyer are rejected.

All orders must be released for manufacture within 90 days of date of order entry. If approval drawings are required, drawings must be returned approved for release within 60 days of mailing. If drawings are not returned accordingly, and/or if shipment is delayed for any reason, the price of the order will increase by 1.0% per month or fraction thereof for the time the shipment is delayed.



Detail Bill of Material

Page 2 of 2

Project Name: New ton Co Historic Jail Renovation
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Seller shall not be responsible for any failure to perform, or delay in performance of, its obligations resulting from the COVID-19 pandemic or any future epidemic, and Buyer shall not be entitled to any damages resulting thereof.



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**Main Lugs Only
225A**

1	QBHW1020	QBHW2030	2
3	QBHW1020		4
5	QBHW1020	QBHW2020	6
7	QBHW1020		8
9	QBHW1020	QBHW2020	10
11	QBHW1020		12
13	QBHW1020	QBHW1020	14
15	QBHW1020	QBHW1020	16
17	QBHW1020	QBHW1020	18
19	QBHW1020	QBHW1020	20
21	QBHW1020	QBHW1020	22
23	QBHW1020	QBHW1020	24
25	QBHW1020	QBHW1020	26
27	QBHW1020	QBHW1020	28
29	QBHW1020	QBHW1020	30
31	QBHW1020	QBHW2030	32
33	QBHW1020		34
35	QBHW1020	PROV	36
37	QBHW3060H	PROV	38
39		PROV	40
41		PROV	42

Through-Feed Lugs

**Blank Cover
4 inches**

General Information

(Section 1 of 2)

Service Voltage: 208Y/120V 3Ph 4W
Bus Rating & Type: 225A Copper
Ground Bar: Std. Bolted Aluminum, Al or Cu cable
S.C. Rating: 22k A.I.C. Fully Rated

Enclosure: Type 1
Neutral Rating: 225A

Main Device Type: Main Lugs Only - Top Cable Entry
Main Terminals: Mechanical - (1) #6-300 kcmil (Cu/Al)
Neutral Terminals: Mechanical - (1) #6-300 kcmil (Cu/Al)
Through-Feed Lugs: Mechanical - (1) #6-300 kcmil (Cu/Al)
Box Catalog No.: EZB2048R
Trim: EZ Trim, Door in Door, Concealed Hardware (EZT2048S)

Surface Mounted

Box Dimensions: 48.00" [1219.2mm]H x 20.00" [508.0mm]W x 5.75" [146.1mm]D
Min. Gutter Size: Top = 5.5" [139.7mm] Bottom = 5.5" [139.7mm]
Left = 6.0" [152.4mm] Right = 6.0" [152.4mm]

Panel ID Nameplate: (1) LA
Type: Plastic, adhesive-backed (2) 208Y/120V 3Ph 4W
Color: White with Black Letters (3)

UL ***Non-Interchangeable Main Device***

Trim Lock: Standard Lock & Key (Keyed WEM2)
Circuit Directory: Plastic Sleeve with Card
Seismic Label (IBC/CBC Seismic Qualified).
Heat Loss - Watts (Est.) = 109
Weight - lbs (Est.) = 140
Wire shall be based on the ampacity of 75°C rated conductors unless otherwise indicated.

Device Modifications:
Ref # **Description**

Branch Devices					
Qty	Poles	Trip	Frame	Amps	kAIC
2	2	30	QBHW	100	22
2	2	20	QBHW	100	22
1	3	60	QBHW	100	22
27	1	20	QBHW	100	22
4	1		PROV		

Notes:

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PREPARED BY Kyle Molnar	DATE 11/14/2025	Eaton			
APPROVED BY	DATE	JOB NAME Newton Co Historic Jail Renovation			
		DESIGNATION LA			
VERSION 1.0.0.87	TYPE PRL1X		DRAWING TYPE Customer Approval		
NEG-ALT Number AT901113X5K2-0000	REVISION 0	DWG SIZE A	G.O.	ITEM	SHEET 1 of 1

Blank Cover
8 inches

43	QBHW1020	QBHW1020	44
45	QBHW1020	QBHW1020	46
47	QBHW1020	QBHW1020	48
49	QBHW1020	QBHW1020	50
51	QBHW1020	QBHW1020	52
53	QBHW1020	QBHW1020	54
55	QBHW1020	QBHW1020	56
57	QBHW1020	QBHW1020	58
59	QBHW1020	QBHW1020	60
61	QBHW1020	QBHW1020	62
63	QBHW1020	QBHW1020	64
65	QBHW1020	QBHW1020	66
67	QBHW1020	QBHW1020	68
69	QBHW1020	QBHW1020	70
71	QBHW1020	QBHW1020	72
73	PROV	PROV	74
75	PROV	PROV	76
77	PROV	PROV	78
79	PROV	PROV	80
81	PROV	PROV	82
83	PROV	PROV	84

Main Lugs Only
225A

General Information

(Section 2 of 2)

Service Voltage: 208Y/120V 3Ph 4W
Bus Rating & Type: 225A Copper
Ground Bar: Std. Bolted Aluminum, Al or Cu cable
S.C. Rating: 22k A.I.C. Fully Rated

Enclosure: Type 1
Neutral Rating: 225A

Main Device Type: Main Lugs Only - Bottom Cable Entry
Main Terminals: Mechanical - (1) #6-300 kcmil (Cu/Al)
Neutral Terminals: Mechanical - (1) #6-300 kcmil (Cu/Al)
Box Catalog No.: EZB2048R
Trim: EZ Trim, Door in Door, Concealed Hardware (EZT2048S)

Surface Mounted

Box Dimensions: 48.00" [1219.2mm]H x 20.00" [508.0mm]W x 5.75" [146.1mm]D
Min. Gutter Size: Top = 5.5" [139.7mm] Bottom = 5.5" [139.7mm]
Left = 6.0" [152.4mm] Right = 6.0" [152.4mm]

Panel ID Nameplate: (1) LA (sec 2)
Type: Plastic, adhesive-backed (2) 208Y/120V 3Ph 4W
Color: White with Black Letters (3)

UL ***Non-Interchangeable Main Device***

Trim Lock: Standard Lock & Key (Keyed WEM2)
Circuit Directory: Plastic Sleeve with Card
Seismic Label (IBC/CBC Seismic Qualified).
Heat Loss - Watts (Est.) = 109
Weight - lbs (Est.) = 134
Wire shall be based on the ampacity of 75°C rated conductors unless otherwise indicated.

Device Modifications:

Ref #	Description
-------	-------------

Branch Devices

Qty	Poles	Trip	Frame	Amps	kAIC
30	1	20	QBHW	100	22
12	1		PROV		

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PREPARED BY

Kyle Molnar

DATE

11/14/2025

Eaton

APPROVED BY

DATE

JOB NAME

Newton Co Historic Jail Renovation

DESIGNATION

LA

VERSION

1.0.0.87

TYPE

PRL1X

DRAWING TYPE

Customer Approval

NEG-ALT Number

AT901113X5K2-0000

REVISION

0

DWG SIZE

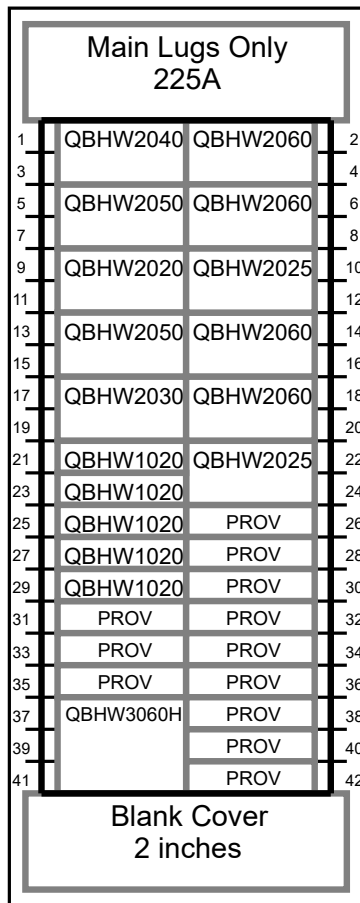
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ITEM

SHEET

1 of 1



General Information

(Section 1 of 1)

Service Voltage: 208Y/120V 3Ph 4W
Bus Rating & Type: 225A Copper
Ground Bar: Std. Bolted Aluminum, Al or Cu cable
S.C. Rating: 22k A.I.C. Fully Rated

Main Device Type: Main Lugs Only - Top Cable Entry
Main Terminals: Mechanical - (1) #6-300 kcmil (Cu/Al)
Neutral Terminals: Mechanical - (1) #6-300 kcmil (Cu/Al)
Box Catalog No.: EZB2042R
Trim: EZ Trim, Door in Door, Concealed Hardware (EZT2042S)

Surface Mounted

Box Dimensions: 42.00" [1066.8mm]H x 20.00" [508.0mm]W x 5.75" [146.1mm]D
Min. Gutter Size: Top = 5.5" [139.7mm] Bottom = 5.5" [139.7mm]
Left = 6.0" [152.4mm] Right = 6.0" [152.4mm]

Panel ID Nameplate: (1) LM
Type: Plastic, adhesive-backed (2) 208Y/120V 3Ph 4W
Color: White with Black Letters (3)

UL ***Non-Interchangeable Main Device***

Trim Lock: Standard Lock & Key (Keyed WEM2)
Circuit Directory: Plastic Sleeve with Card
Seismic Label (IBC/CBC Seismic Qualified).
Heat Loss - Watts (Est.) = 104
Weight - lbs (Est.) = 82
Wire shall be based on the ampacity of 75°C rated conductors unless otherwise indicated.

Device Modifications:

Ref # Description

Branch Devices

Qty	Poles	Trip	Frame	Amps	kAIC
1	2	40	QBHW	100	22
2	2	50	QBHW	100	22
1	2	20	QBHW	100	22
1	2	30	QBHW	100	22
1	3	60	QBHW	100	22
4	2	60	QBHW	100	22
2	2	25	QBHW	100	22
5	1	20	QBHW	100	22
12	1		PROV		

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JOB NAME

Newton Co Historic Jail Renovation

DESIGNATION

LM

VERSION

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TYPE

PRL1X

DRAWING TYPE

Customer Approval

NEG-ALT Number

AT901113X5K2-0000

REVISION

0

DWG SIZE

A

G.O.

ITEM

SHEET

1 of 1



Powering Business Worldwide

Low-voltage power distribution and control systems > Panelboards >

Pow-R-Line 1X, 2X and 3X panelboards

Contents

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Types PRL1X, 2X and 3X Modifications	22.1-35



Lighting and Distribution Panelboards Overview

- Designed for sequence phase connection of branch circuit devices
- Enables single-, two- or three-pole arrangements for a balanced electrical load on each phase
- Sturdy, rigid chassis assembly ensures accurate alignment of interior with panel front
- Assembly also prevents flexing and minimizes loosening or damage to current-carrying parts
- Four-point in-and-out adjustment of panel interior meets critical depth dimensions on flush installations
- Main lugs are approved for copper or aluminum conductors

Available Ratings

- Rated at 240 Vac, 480 Vac and 600 Vac
- Fault current available up to 200 kAIC at 240 Vac, 100 kAIC at 480 Vac and 65 kAIC at 600 Vac

Panelboard Options

- Aluminum, copper, silver-plated copper or tin-plated copper bus
- Aluminum or copper lugs
- Density-rated bus
- Ground bars
- Customer-owned meters
- Service entrance equipment construction
- Surge protective devices
- Seismically qualified panelboards

Enclosures

- Boxes are code-gauge steel, available unfinished or painted ANSI-61 light gray
- Standard panelboard cabinets are designed for indoor use
- Alternate types are available for special-purpose applications
- All enclosures meet UL® standards and include wiring gutters with proper wire bending space
- Box dimensions shown are inside dimensions—for outside dimensions, add 0.25 inch (6.4 mm)
- Standard panelboard boxes are supplied without knockouts (blank endwalls)



From left to right: Pow-R-Line 1X, Pow-R-Line 2X, Pow-R-Line 4X and Pow-R-Line 3X Panelboards



The Three-Piece Trim for Larger Power Distribution Panelboards Provides for Easy Handling and Installation

Fronts

- Made of code-gauge steel with a high-durability ANSI-61 light gray finish
- Branch circuit and small power distribution panelboards include a door and concealed hinges
- Flush-type latch and lock assembly included
- All locks are keyed alike
- Trims available in both surface- and flush-mounted designs

Power Distribution Panelboard Fronts Only

- Utilize a breaker front cover design providing each device with a dedicated bolt-on steel cover
- Individual covers form a single deadfront used with two wiring gutter covers to complete the trim
- A door is not finished but can be provided for an additional charge using a deeper-than-standard box

EZ Box™ and EZ Trim™

Provided standard for:

- Pow-R-Line 1X and Pow-R-Line 2X lighting panelboards
- Pow-R-Line 3X, Pow-R-Line 3E and Pow-R-Line 3XF mid-range panelboards



EZ Box and EZ Trim

Features

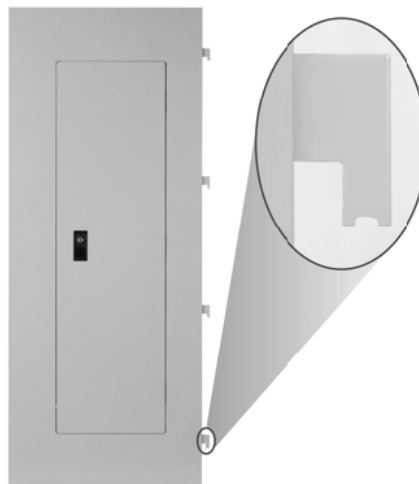
- Virtually eliminates sharp edges
- Trim installs quickly
- Door-in-door is standard
- Ability to adjust flush box to wall irregularities
- Trim installs without the need for tools
- No exposed hardware (because there is none)

EZ Box

- Flanges are bent and painted, and without sharp edges
- All steel panelboard chassis parts are painted to reduce injuries during handling and installation
- Each flange adjusts outward up to 0.75 inch (19.1 mm), enabling installer to flush the box with a wall after wall material is installed
- Flanges also provide means for attaching EZ Trim

EZ Trim

- Design installs in seconds
- Standard trim includes door-in-door construction and no exposed hardware
- No tools required for installation
- Includes hangers attached on the right side
- Bottom trim hanger with notch in base inserts into the bottom right side box flange opening, resting the notch on the flange



Standalone Trim and Bottom Flange Hanger with Notch

Enhanced Type 3R Panelboard Enclosure

Redesigned to improve safety, product longevity and appearance over time.

- Galvanized G40 steel
- Zinc coated external hardware
- Hardware on sides, not on front or top ①
- No external door hinge ①
- Folded outside edge ①

Note: Eaton recommends mounting redesigned enclosures with at least six inches of clearance between adjacent structures to provide adequate access to side bolts.

① Applicable for type LWPQ only.



Enhanced Type 3R Panelboard Enclosure

Standards and Certifications

When used with Eaton's panelboard chassis, EZ Box, EZ Trim and Type 3R enclosure meet the following applicable industry standards:

- UL 50 Listed
- NEMA® Standard PB1
- Federal specifications
- National Electrical Code® (NEC®)



The enhanced Type 3R panelboard design has been tested to perform to the following standards:

- ASTM B117-9
- ASTM D1654-08
- ASTM D714-02

Application Considerations and Definitions

Standards

All Eaton panelboards meet the following applicable industry standards, except where noted:

- UL
 - Panelboards: UL 67
 - Cabinets, boxes and trims: UL 50
- Note:** Only panelboards containing UL Listed devices can be UL labeled.
- NEC
- NEMA PB 1
- Federal Specification W-P-115c
 - Circuit breaker—Type I Class 1
 - Fusible switch—Type II Class 1

Panelboard Selection Factors

In selecting a panelboard, the following factors must be considered:

- Service (voltage and frequency)
- Interrupting capacity (fully or series rated)
- Ampere rating of main
- Ampere ratings of branches
- Installation environment
- Codes and standards mandates

Panelboard Short-Circuit Rating

- Eaton's assembled panelboards are test verified by, and listed with, UL
- Ratings are generally that of the lowest interrupting rated device in the panel
- Where branch devices have been UL tested in combination with specific main devices having a higher interrupting rating, the series short-circuit rating of the assembled panelboard will be the same as the series tested rating of the approved rated main breaker
- Series ratings apply to panels having main devices, or main-lug-only panelboards fed remotely by the device listed in the series ratings chart as the main, for which UL Listed tests were conducted

Selective Coordination

Refer to Molded Case Circuit Breakers Design Guides for information on overcurrent protective device combinations used in selectively coordinated systems.

Service Entrance Equipment

Service Entrance Equipment NEC Articles 230.62 and 230.71, and UL, require that:

- Panelboards used as service entrance equipment must be located near the point where the supply conductors enter the building
- A single service disconnect within the panelboard
- Must include service disconnect barrier, connector for bonding and grounding neutral conductor
- A service-entrance-type UL label must be factory installed
- Ground fault protection of equipment shall be provided for solidly grounded wye electrical services of more than 150V to ground, but not exceeding 600V phase-to-phase for each service disconnecting means rated 1000 A or more
- Service entrance panels must be identified as such on the order entry to the manufacturing location

Table 22.1-1. Service Entrance Main Breaker Kits

Description	Circuit Breaker Frame	Catalog Number
Service entrance barrier for PD5	PD5	PRLSEBPD5
Service entrance barrier for PD4	PD4	PRLSEBPD4
Service entrance barrier for PD3	PD3	PRLSEBPD3
Service entrance barrier for PD2	PD2	PRLSEBPD2
Service entrance barrier for GHB	GHB	PRLSEBGHB
Service entrance barrier for BAB	BAB	PRLSEBBAB

Column Type Panelboards

The same general code restrictions apply as for standard-width panels except where trough extensions are used.

Multi-Section Panelboards

- When more than 42 overcurrent protective devices are required, two or more separate enclosures may be required
- Separate fronts for each box are standard

Interconnecting Multi-Section Panelboards

- When a panelboard must be furnished in more than one section (box) for connection to one feeder, each section must be furnished with main bus and terminals of the same rating unless a main overcurrent device is provided in each section
- Sub-feed or through-feed provisions must also be added to provide connection capability to the second section

Note: Sub-feed or through-feed lugs cannot be used on any panelboard not protected by a single main overcurrent device either in the panelboard or immediately upstream, i.e., service entrance panelboards with main-lug-only using the six disconnect rule.

Sub-Feed Lugs (Figure 22.1-1)

- Sub-feed (second set of) lugs interconnect multi-section panels
- Mounted directly beside the main lugs
- Required in each section except the last panel in the lineup
- Feeder cables are brought into the wiring gutter of the first section and connected to the main lugs
- Another set of same-size cables connect to the sub-feed lugs (Section 1) and are carried over to the main lugs of the adjacent panel
- Cross connection cables are not furnished by Eaton
- Sub-feed lugs are only available on main-lug-only panels

Note: Sub-feed lugs may not be used on main-lug-only (six disconnect rule) service entrance panels.

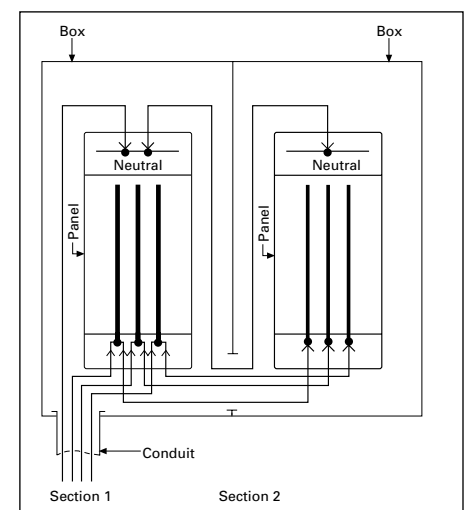


Figure 22.1-1. Sub-Feed Lugs

Through-Feed Lugs (Figure 22.1-2)

- Another method to interconnect multi-section panelboards
- Incoming feeder cables connect to main lugs or main breaker at the bottom of panel (Section 1)
- Another set of lugs (through-feed) are located at the opposite end of the main bus
- Interconnecting cables connect to the through-feed lugs in Section 1 and are carried over to the main lugs in Section 2
- Connection arrangement is reversible, with main lugs at top and through-feed lugs at bottom end of panel
- Cross connection cables are not furnished by Eaton

Note: Through-feed lugs may not be used on main-lug-only (six disconnect rule) service entrance panels.

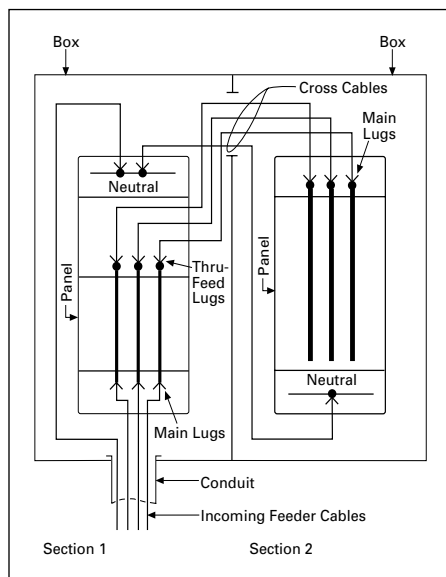
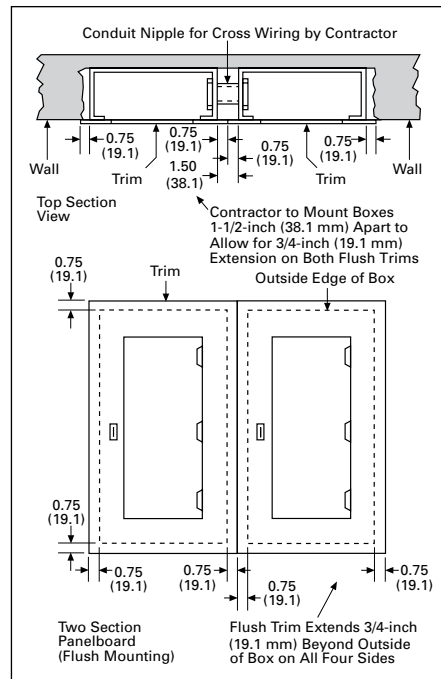


Figure 22.1-2. Through-Feed Lugs

Multiple Section Panelboard— Flush Mounted

Shown below is the standard method for flush mounting multiple section lighting and distribution panelboards using standard flush trims.



**Figure 22.1-3. Multiple Section Panelboard—
Flush Mounted—Dimensions in Inches (mm)**

Branch Circuit Loading for Lighting Panels

The size of mains and branches should be selected based on the following:

- Lighting circuits: NEC Article 210, 215, 220 and 240
- Distribution circuits, actual or continuous loads: NEC Article 384.16
- Motor circuits: NEC Article 430
- Diversity factor
- Provision for future loading

Overcurrent Protection

- NEC Article 408 states a panelboard shall be protected by an overcurrent protective device having a rating not greater than that of the panelboard
- The overcurrent protective device shall be located within, or at any point on the supply side of, the panelboard
- Exceptions to Article 408 selectively apply—refer to it for specifics

Ground Fault Protection

May be added to most panelboards using Eaton's integral molded case circuit breaker and included feeder devices on:

- Power panelboards
- Mains on all panelboards

Arcflash Reduction Maintenance System™

- Available on many molded case circuit breakers from 70 A to air power circuit breakers at 5000 A
- Enables breakers to trip quickly, significantly reducing the available arc flash potential
- Recognized by the 2011 NEC and the National Electrical Safety Code® (NFPA 70E®)

Combination AFCI Circuit Breakers

- Eaton's 125 Vac AFCI single- and two-pole, 15 A and 20 A bolt-on breakers in panelboards meet NEC Article 210.12
- See the NEC for definitions and details

Ambient Temperatures

The primary function of an overcurrent device is to protect the conductor and its insulation against overheating. In selecting the size of the devices and conductors, consideration should be given to the ambient temperature surrounding the conductors within and external to the panelboard. Cumulative heating within the panelboard may cause premature operation of overcurrent protective devices.

- UL test procedures are based, in part, on 80% loading of panelboard branch circuit devices
- NEC Article 408 limits the loading of overcurrent devices in panelboards to 80% of rating where in normal operation, the load will continue for three hours or more
- Further derating may be required, depending on ambient temperature, duty cycle, frequency or altitude
- An exception applies to assemblies and overcurrent devices approved for continuous duty at 100% of their rating and is covered in NEC 210.20 (a) — for additional information, see Molded Case Circuit Breakers Design Guides

Special Conditions

Standard panelboards, assembled with standard components, are adequate for most applications. However, special consideration should be given to those required for application under special conditions, such as:

- Excessive vibration or shock
- Frequencies above 60 cycles
- Altitudes above 6600 feet (2012 m)
- Damp environment (possible fungus growth)
- Compliance with federal, state and municipal electrical codes and standards

Seismic Qualification



Refer to Power Distribution Systems Design Guides for information on seismic qualification for this and other Eaton products.

Harmonic Currents

- Standard panelboard neutrals are rated for 100% of the panelboard current
- Because harmonic currents can cause overheated neutrals, an option is provided for neutrals to be rated at 200% (1200 A maximum neutral for 600 A main bus) of the panelboard phase current
- Panelboards with the 200% rated neutral are UL Listed as suitable for use with nonlinear loads
- Prior to specifying the 200% rated neutral, a harmonic survey of the distribution system is recommended

Surge Protective Devices (SPD)

The quality of power feeding sensitive electronic loads is critical to the reliable operation of any modern facility. The most frequent causes of microprocessor-based equipment downtime and damage are voltage transients and electrical noise.

- High-energy transients include lightning-induced surges and power company switching that can destroy components instantly
- Continual low-energy transients and high-frequency noise, which are more frequent, can cause erratic equipment performance or sudden failure of electronic circuit board components

Eaton's SPD provides protective and diagnostic systems that are integral to panelboards:

- Safeguards sensitive electronic equipment from the damaging effects of high- and low-energy transients
- Integrates into the panelboards using a "zero lead length" direct busbar connection
- Uses integral disconnect on all panelboards

For complete product description and available ratings, refer to Surge Protection (SPD) & Power Conditioning Products Design Guides.



**Eaton SPDs May be Integrated
into Most Panelboards**

Compact Panelboard Meter

Most Eaton panelboards can integrate a meter for reading the panelboard power and energy usage. Our Power Xpert™ Meter 350 offers:

- ANSI 12.20 0.5% accuracy
- A bright backlit LCD display
- Real energy pulse output
- Phase loss alarm
- Optional RS-485 communication capability

Pow-R-Line 1X



Pow-R-Line 1X

General Description

Panelboard Ratings

Voltage

- 240 Vac maximum

Main Lugs

- 100–600 A

Main Breakers

- 100–600 A

Branch Breakers

- 15–100 A
(Bolt-on or plug-on chassis)

Short-Circuit Current Ratings (Symmetrical)

- 240 Vac: 10 kA and 22 kA fully rated
- 240 Vac: 22–200 kA series rated

Service

- Three-phase, four-wire 208Y/120 V and 240/120 V delta
- Single-phase, three-wire 120/240 V
- Single-phase, two-wire 120 V
- Three-phase, three-wire 208 V and 240 V

Suitable for service entrance applications when specified.

Mains

For available mains, refer to **Table 22.1-2**.

Main breakers, 100 A, Types BAB and QBH are horizontally mounted, same as branch breakers. All other main breakers are vertically mounted.

Branch Circuits

For available branch devices, refer to **Table 22.1-3**.

Main Lugs Only

The short-circuit rating of the MLO assembled panelboard will be fully rated based upon the lowest rated branch device or may be series rated with an approved upstream device.

Main lugs only ampere ratings:
100, 225, 400 and 600.

Main Circuit Breakers

The short-circuit rating shown is that of the main breaker only. The short-circuit rating of the assembled panelboard is the rating of the lowest fully rated main or branch device or the rating of an approved series rated combination.

Series Rating Combinations

For more information on product series ratings, please refer to the Eaton website at <https://www.eaton.com/us/en-us/products/low-voltage-power-distribution-control-systems/series-rating.html> or download [Eaton Information Manual 1C96944H02](#).

Table 22.1-2. Main Circuit Breakers

Breaker Frame Amperes	Breaker Type	Interrupting Rating (kA Symmetrical) at 240 Vac
100	BAB	10
100	QBHW	22
100	PDG2xF	35
225	PDD2xF	35
225	PDD2xG	65
225	PDD2xM	100
225	PDD2xP	200
225	PDG2xG	65
225	PDG2xM	100
225	PDG2xP	200
400	PDD3xG	65
400	PDF3xG ①②	65
400	PDG3xG ①	65
400	PDF3xM ①②	100
400	PDG3xM ①	100
400	PDG3xP ①	200
400	LHH	100
600	PDD3xG	65
600	PDG3xG ①	65
600	LGS	85
600	PDG3xM ①	100
600	PDG3xP ①	200

- ① The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.
- ② 100% rated breaker. Requires copper bus. Not available in Type 12, 4 or 4X enclosure.

Table 22.1-3. Branch Circuit Breakers

Breaker Type	Ampere Rating	Number of Poles	Interrupting Rating (kA Symmetrical)		
			120 Vac	120/240 Vac	240 Vac
BAB, HQP	15–70	1	10	—	—
BAB, HQP	15–100	2	—	10	—
BAB, HQP	15–100	2, 3	—	—	10
BAB-D ③, HQP-D ③	15–60	1, 2	10	10	—
BAB-C ④, HQP-B ④	15–30	1, 2	10	10	—
BABRP ⑤	15–30	1, 2	10	10	—
BABRSP ⑤	15–30	1, 2	10	10	—
QBGF, QBGFEP, QPGF, QPGFEP, QBCAF ⑦	15–50 ⑥	1, 2	10	10	—
	15–50 ⑥	1, 2	10	10	—
	15–20	1	10	10	—
QB-GF, QB-EP	15–20	1	10	10	—
QB-AFGF ⑦	15–20	1	10	10	—
QB-CAF ⑦	15–20	1	10	10	—
QBHW	15–70	1	22	—	—
QBHW	15–100	2	—	22	—
QBHW	15–100	2, 3	—	—	22
QBHGF, QBGFEP, QPHGF, QPHGFEP, QBHCAF ⑦	15–30	1, 2	22	22	—
	15–30	1, 2	22	22	—
	15–20	1	22	22	—
QBH-GF	15–20	1	22	22	—
QBH-EP	15–20	1	22	22	—
QBH-AFGF ⑦	15–20	1	22	22	—
QBH-CAF ⑦	15–20	1	22	22	—

- ③ HID (High Intensity Discharge) rated breaker.
- ④ Switching neutral breaker. Single-pole device requires two-pole space, two-pole device requires three-pole space.
- ⑤ Solenoid operated breaker.
- ⑥ 50 A is two-pole only.
- ⑦ Arc fault breaker.

Pow-R-Line 2X



Pow-R-Line 2X

General Description

Panelboard Ratings

Voltage

- 240 Vac maximum
- 480Y/277 Vac maximum

Note: PRL2X panelboards are suitable for use on three-phase, three-wire applications when derived from a three-phase, four-wire 480Y/277 Vac service where the neutral is not brought to the panelboard. For three-phase, three-wire 480 Vac delta services, use a PRL3X panelboard.

- 250 Vdc maximum

Main Lugs

- 100–600 A

Main Breakers

- 100–600 A

Branch Breakers

- 15–100 A (bolt-on)

Short-Circuit Current Ratings (Symmetrical)

- 240 Vac: 65 kA fully rated
- 240 Vac: 100–200 kA series rated
- 480Y/277 Vac: 14 kA fully rated
- 480Y/277 Vac: 22–150 kA series rated
- 250 Vdc: 10 kA and 14 kA fully rated

Service

- Three-phase, four-wire 208Y/120 V and 240/120 V delta and 480Y/277 V
- Single-phase, three-wire 120/240 V
- Single-phase, two-wire 120 V
- Three-phase, three-wire 208 and 240 V
- Two-wire 125 Vdc
- Two-wire 250 Vdc

Suitable for service entrance applications when specified.

Mains

For available mains, refer to **Table 22.1-4**.

The GHB main breaker is horizontally mounted, same as branch breakers. All other main breakers are vertically mounted.

Branch Circuits

For available branch devices, refer to **Table 22.1-5**.

Main Lugs Only

The short-circuit rating of the MLO assembled panelboard will be fully rated based upon the lowest rated branch device or may be series rated with an approved upstream device.

Main lugs only ampere ratings: 100, 225, 400 and 600.

Main Circuit Breakers

The short-circuit rating shown is that of the main breaker only. The short-circuit rating of the assembled panelboard is the rating of the lowest fully rated main or branch device or the rating of an approved series rated combination.

Series Rating Combinations

For more information on product series ratings, please refer to the Eaton website at <https://www.eaton.com/us/en-us/products/low-voltage-power-distribution-control-systems/series-rating.html> or download [Eaton Information Manual 1C96944H02](#).

Table 22.1-4. Main Circuit Breakers

Breaker Frame (Amperes)	Breaker Type	Interrupting Rating (kA Symmetrical)		
		240 Vac	480Y/277 Vac	125/250 Vdc
100	GHB ①	65	14	14
100	PDG2xF	35	25	10
100	PDG2xG	65	35	10
100	PDG2xM	100	65	22
100	PDG2xP	200	100	22
225	PDD2xG	65	—	—
225	PDG2xG	65	35	10
225	PDG2xM	100	65	22
225	PDG2xP	200	100	22
400	PDD3xG	65	—	10
400	PDF3xG ②③	65	35	10
400	PDG3xG ②	65	35	10
400	PDF3xM ②③	100	65	22
400	PDG3xM ②	100	65	22
400	LHH	100	65	—
400	PDG3xP ②	200	100	22
600	PDD3xG	65	—	—
600	PDG3xG ②	65	35	22
600	LGS	85	50	22
600	PDG3xM ②	100	65	42
600	PDG3xP ②	200	100	42

① For use on 480Y/277 Vac systems only.

② The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

③ 100% rated breaker. Requires copper bus. Not available in Type 12, 4 or 4X enclosure.

Table 22.1-5. Branch Circuit Breakers

Breaker Type	Ampere Rating	Number of Poles	Interrupting Rating (kA Symmetrical)				
			120 Vac	240 Vac	277 Vac	480Y/277 Vac	125/250 Vdc
GHB	15–100	1	65	—	14	—	14
GHB	15–100	2, 3	—	65	—	14	14
GHQ	15–30	1, 2	65	—	14	—	—
HGHB	15–30	1	65	—	25	—	—
GHQD ④⑤	15–20	1, 2	65	65	14	14	—
GHBGFEP ④	15–60	1	—	—	14	—	—

④ For use on 480Y/277 Vac systems only.

⑤ Solenoid operated breaker.

Pow-R-Line 3X



Pow-R-Line 3X

General Description

Panelboard Ratings

Voltage

- 240 Vac maximum
- 480 Vac maximum
- 600 Vac maximum
- 250 Vdc maximum

Main Lugs

- 100–800 A

Main Breakers

- 100–600 A

Branches

- 240 Vac 15–225 A
- 480 Vac 15–225 A
- 600 Vac 15–225 A (bolt-on)

Interrupting Capacity (Symmetrical)

- 240 Vac: 10–200 kA fully rated
- 240 Vac: 22–200 kA series rated
- 480 Vac: 14–100 kA fully rated
- 480 Vac: 22–150 kA series rated
- 250 Vdc: 10–22 kA fully rated

Service

- Three-phase, four-wire 208Y/120 V, 240/120 V delta and 480Y/277 V
- Single-phase, three-wire 120/240 V
- Single-phase, two-wire 120 V
- Three-phase, three-wire 240, 480 and 600 V
- Two-wire 125 Vdc
- Two-wire 250 Vdc

Suitable for service entrance applications when specified.

Mains

For available mains, refer to **Table 22.1-6**.

Main breakers, 100, 150 and 225 A, Types PDG2xF, PDG2xG, PDG3xG, PDG2xM, HFDE and PDG2xP may be horizontally mounted, same as branch breakers. All other main breakers are vertically mounted.

Branch Circuits

For available branch devices, refer to **Table 22.1-7**.

Main Lugs Only

The short-circuit rating of the MLO assembled panelboard will be fully rated based upon the lowest rated branch device or may be series rated with an approved upstream device.

Main lugs only ampere ratings: 100, 250, 400, 600 and 800.

Main Circuit Breakers

The short-circuit rating shown is that of the main breaker only. The short-circuit rating of the assembled panelboard is the rating of the lowest fully rated main or branch device, or the rating of an approved series rated combination.

Series Rating Combinations

For more information on product series ratings, please refer to the Eaton website at <https://www.eaton.com/us/en-us/products/low-voltage-power-distribution-control-systems/series-rating.html> or download [Eaton Information Manual 1C96944H02](#).

Table 22.1-6. Main Circuit Breakers

Breaker Frame (Amperes)	Breaker Type	Interrupting Rating (kA Symmetrical)			
		240 Vac	480 Vac	600 Vac	250 Vdc
100	PDG2xF	35	25	—	10
100	PDG2xG	65	35	—	10
100	PDG2xM	100	65	—	22
100	PDG2xP	200	100	—	22
100	FCL	200	150	—	—
100	FB-P	200	200	200	①
225	PDD2xF	22	—	—	—
225	PDD2xG	65	—	—	—
225	PDD2xM	100	—	—	—
225	PDD3xP	200	—	—	—
225	PDG2xG	65	35	18	10
225	PDG2xM	100	65	25	22
225	PDG2xP	200	100	35	22
400	PDD3xG	65	—	—	—
400	PDF3xG ②③	65	35	25	10
400	PDG3xG ②	65	35	25	10
400	PDF3xM ②③	100	65	35	22
400	PDG3xM ②	100	65	35	22
400	LHH	100	65	—	—
400	PDG3xP ②	200	100	65	22
600	PDD3xG	65	—	—	—
600	PDG3xG ②	65	35	18	22
600	PDG3xM ②	100	65	35	22
600	PDG3xP ②	200	100	50	42

① 100,000 AIC based on NEMA test procedure.

② The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

③ 100% rated breaker. Requires copper bus. Not available in Type 12, 4 or 4X enclosure.

Table 22.1-7. Branch Circuit Breakers

Breaker Type	Ampere Rating	Number of Poles	Interrupting Rating (kA Symmetrical) Volts						
			120 Vac	120/240 Vac	240 Vac	480 Vac	600 Vac	125 Vdc	250 Vdc
BAB	15–70	1	10	—	—	—	—	—	—
BAB	15–100	2	—	10	—	—	—	—	—
BAB	15–100	2, 3	—	—	10	—	—	—	—
BAB-D ①	15–60	1, 2	10	10	—	—	—	—	—
BAB-C ②	15–30	1, 2	10	10	—	—	—	—	—
BABRP ③	15–30	1, 2	10	10	—	—	—	—	—
BABRSP ③	15–30	1, 2	10	10	—	—	—	—	—
BABEM ④	15–50	1, 2	10	10	—	—	—	—	—
BABEVEM	40	2	10	10	—	—	—	—	—
QBGf, QBGFEP	15–50 ⑤	1, 2	10	10	—	—	—	—	—
QBCAF ④	15–20	1	10	10	—	—	—	—	—
QB-GF	15–20	1	10	10	—	—	—	—	—
QB-EP	15–20	1	10	10	—	—	—	—	—
QB-AFGF ⑥	15–20	1	10	10	—	—	—	—	—
QB-CAF ⑥	15–20	1	10	10	—	—	—	—	—
QBHW	15–70	1	22	—	—	—	—	—	—
QBHW	15–100	2	—	22	—	—	—	—	—
QBHW	15–100	2, 3	—	—	22	—	—	—	—
QBHGf, QBHGFEP	15–50 ⑤	1, 2	22	22	—	—	—	—	—
QBHCAF ④	15–20	1	22	22	—	—	—	—	—
QBH-GF	15–20	1	22	22	—	—	—	—	—
QBH-EP	15–20	1	22	22	—	—	—	—	—
QBH-AFGF ⑥	15–20	1	22	22	—	—	—	—	—
QBH-CAF ⑥	15–20	1	22	22	—	—	—	—	—
GHB ⑦⑧	15–100	1	—	—	65	14	—	14	—
GHB ⑦	15–100	2, 3	—	—	65	14	—	—	14
GHQ ⑦⑧	15–30	1, 2	—	—	65	14	—	—	—
HGHB ⑦⑧	15–30	1	—	—	65	25	—	—	—
GHBGFEP	15–60	1	—	—	65	14	—	14	—
GHQRSP ③⑦⑧	15–20	1, 2	65	65	65	14	—	—	—
PDG2xF ⑨	15–100	1	—	—	14	14	—	10	—
PDG2xF	15–100	2, 3	—	—	18	14	—	—	10
PDG2xG ⑨	15–100	1	—	—	65	35	—	10	—
PDG2xG, PDG3xG ⑨	15–225	2, 3	—	—	65	35	18	—	10
PDG2xM ⑨	15–100	1	—	—	65	65	—	10	—
PDG2xM	15–225	2, 3	—	—	100	65	25	—	22
PDG2xP	15–225	2, 3	—	—	200	100	35	—	22
PDD2xF	100–225	2, 3	—	—	22	—	—	10	—
PDD2xG	100–225	2, 3	—	—	65	—	—	10	—
PDD2xM	100–225	2, 3	—	—	100	—	—	10	—
PDD2xP	100–225	2, 3	—	—	200	—	—	10	—

① HID (High Intensity Discharge) rated breaker.

② Switching neutral breaker. Single-pole device requires two-pole space, two-pole device requires three-pole space.

③ Solenoid operated breaker.

④ 40–50 A is two-pole only.

⑤ 50 A is two-pole only.

⑥ Arc fault breaker.

⑦ For use on 480Y/277 Vac systems only.

⑧ Single-pole breaker rated 277 Vac.

⑨ The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250.

The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

Circuit Breaker Technical Data

Table 22.1-8. Electrical Characteristics of Circuit Breakers

Circuit Breaker Ratings				UL Listed Interrupting Ratings (kA rms Symmetrical)						
Type	Ampere Rating	Number of Poles	Volts AC	AC Rating, Volts					DC Rating, Volts ①	
				120/240	240	277	480	600	125	250
BAB, HQP	15–70 15–100	1 2	120 120/240	10 10	— —	— —	— —	— —	— —	— —
BAB-H, HQP-H	15–100	2, 3	240	—	10	—	—	—	—	—
BABRP, BABRSP	15–30 15–30	1 2	120 120/240	10 10	— —	— —	— —	— —	— —	— —
BABEM	15–30	1	120	10	—	—	—	—	—	—
BABEVEM	15–50 40	2 2	120/240 120/240	10 10	— —	— —	— —	— —	— —	— —
QBGf, QPGf, QPGFEP QBGfEP	15–50 15–50	1 2	120 120/240	10 10	— —	— —	— —	— —	— —	— —
QB-Gf, QB-EP, QB-AFGf, QB-CAF	15–20	1	120	120/240	10	—	—	—	—	—
QBAf, QBAG	15–20 15–20	1 2	120 120/240	10 10	— —	— —	— —	— —	— —	— —
QBHW, QPHW	15–70 15–100	1 2	120 120/240	22 22	— —	— —	— —	— —	— —	— —
QBHW-H, QPHW-H	15–100	2, 3	240	—	22	—	—	—	—	—
QBHGf, QPHGf, QPHGfEP QBHGfEP	15–30 15–30	1 2	120 120/240	22 22	— —	— —	— —	— —	— —	— —
QBH-Gf, QBH-EP, QBH-AFGf, QBH-CAF	15–20	1	120	120/240	22	—	—	—	—	—
QBHAf, QBHAG	15–20 15–20	1 2	120 120/240	22 22	— —	— —	— —	— —	— —	— —
GHB	15–100 ② 15–100	1 2, 3	277 480Y/277	65 —	— 65	14 —	— 14 ③	— —	14 —	— 14
GHQ	15–30	1, 2	277	65	—	14	—	—	—	—
HGHB	15–30	1	277	65	—	25	—	—	—	—
GHBGfEP	15–60	1	277	—	—	14	—	—	—	—
GHQRSP	15–100 15–100	1 2	277 480Y/277	65 —	— 65	14 14	— 14 ③	— —	— —	— —
EGB	15–125 15–125	1 2, 3	277 480	35 —	35 35	18 —	— 18	— —	10 —	— 10
EGS	15–125 15–125	1 2, 3	277 480	100 —	— 100	35 —	— 35	— —	35 —	— 35
EGH	15–125 15–125	1 2, 3	277 480	200 —	— 200	65 —	— 65	— —	42 —	— 42
PDG2xF	15–100 15–100	1 2, 3	277 480	— —	— 18	14 —	— 14	— —	10 —	— 10
PDG2xG, PDG3xG ④	15–150 15–225	1 2, 3	277 600	— —	— 65	35 —	— 35	— 18	10 —	— 10
PDD2xF PDD2xG PDD3xG	100–225 100–225 250–400	2, 3 2, 3 2, 3	240 240 240	— — —	22 65 65	— — —	— — —	— — —	10 10 —	— — 10
PDG3xG ④⑤, PDF3xG ⑥ LHH ⑦ PDG3xG ④	100–400 150–400 250–600	2, 3 2, 3 3	600 480 600	— — —	65 100 65	— — —	35 65 35	25 35 18	— — —	10 42 22

① DC ratings apply to substantially non-inductive circuits.

② DC rated single-pole, 15–70 A only.

③ Rating 480Y/277 Vac maximum.

④ The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

⑤ Available with integral ground fault protection.

⑥ 100% rated breaker.

⑦ DC rating not available with PXR trip units.

Table 22.1-8. Electrical Characteristics of Circuit Breakers (Continued)

Circuit Breaker Ratings					UL Listed Interrupting Ratings (kA rms Symmetrical)							
Type	Ampere Rating	Number of Poles	Voltage		AC Rating, Volts					DC Rating, Volts ①		
			AC	DC	120/240	240	277	480	600	125	250	600
High Interrupting Capacity Circuit Breakers												
PDG2xM	15–150 15–225	1 2, 3	277 600	— —	— —	— 100	65 —	— 65	— 25	10 —	— 22	— —
PDD2xM	100–225	2, 3	240	—	—	100	—	—	—	10	—	—
PDG3xM ②③, PDF3xM ④	100–400	2, 3	600	—	—	100	—	65	35	—	22	—
Current-Limiting Circuit Breakers												
PDG2xP	15–225 100–225	2, 3 2, 3	600 240	— —	— —	200 200	— —	100 —	35 —	— 10	22 —	— —
PDG3xP ②③⑤	100–400 250–600	2, 3 2, 3	600 600	— —	— —	200 200	— —	100 100	65 50	— —	22 42	— —
Current Limit-R® Circuit Breakers												
FCL	15–100	2, 3	480	—	—	200	—	150	—	—	—	—
TRI-PAC® Current-Limiting Circuit Breakers												
FB-P	15–100	2, 3	600	—	—	200	—	200	200	—	④	—

① DC ratings apply to substantially non-inductive circuits.

② The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

③ Available with integral ground fault protection.

④ 100k based on NEMA test procedure.

⑤ DC rating not available with PXR trip units.

⑥ Non-interrupting trip type.

Terminal Wire Ranges, Pressure-Type Al/Cu Terminals Except as Noted

Where copper-aluminum terminals are supplied on designated panelboard types, best results are obtained if a suitable joint compound is applied when aluminum conductors are used.

Table 22.1-9. Standard Main Lug Terminals

Panel Type	Wire Size Ranges for Ampere Capacity						
	100 A	225 A	250 A	400 A	600 A	800 A	1200 A
Pow-R-Line 1X, 1XF, 1RX	#12–1/0	#6–300 kcmil	—	(2) #4–500 kcmil	(2) #4–500 kcmil ①	—	—
Pow-R-Line 2X, 2XF, 2RX	#12–1/0	#6–300 kcmil	—	(2) #4–500 kcmil	(2) #4–500 kcmil ①	—	—
Pow-R-Line 3X	#12–1/0	—	#6–350 kcmil	(2) #4–500 kcmil	(2) #4–500 kcmil	(3) #4–500 kcmil	—
Pow-R-Command	#12–1/0	#6–300 kcmil	—	#4–500 kcmil	—	—	—
PRCE	#12–1/0	#6–300 kcmil	—	(2) #4–500 kcmil	—	—	—
PRC100	#12–1/0	—	#6–350 kcmil	(2) #4–500 kcmil	—	—	—
PRC25	#12–1/0	#6–300 kcmil	—	(2) #4–500 kcmil	—	—	—

① Not applicable PRL 1XF, 1RX, PRL 2XF, 2RX.

Note: Optional 750 kcmil mechanical screw-type terminals are available upon request. Panelboard dimensions may be affected. Refer to Eaton.

Table 22.1-10. Standard Main Breaker and Branch Breaker Terminals

Breaker Type	Ampere Rating	Wire Size Ranges
BAB, QBHW, BABRSP	15–70	#14–#4
HQP, QPHW	90–100	#8–1/0
PDD2xF, PDD2xG	100–225	#4–4/0 or
PDD2xM, PDD2xM ②		#6–300 kcmil
EGB, EGE, EGS, EGH	15–50	#14–3/0 Al/Cu
	60–125	#6–3/0 Al/Cu
PDG2xF, PDG2xG	15–100	#14–1/0
PDG2xM, PDG2xP ②, HFDDC ③	125–225	#4–4/0
FCL	15–100	#14–1/0
GHB, HGHB, GHQ, GHQRSP	15–50	#14–1/0
	25–100	#10–1/0
HJDDC ③	70–250	#4–350 kcmil
PDD3xG	250–350	250–500 kcmil
	400	(2) 3/0–250 kcmil or
		(1) 3/0–500 kcmil
PDG3xG ④	225	(1) #3–350 kcmil
PDG3xM ④, PDG3xP ④	350	(2) 3/0–250 kcmil or
HKDDC ③, PDF3xG ②	400	(2) 3/0–250 kcmil or
PDF3xM ②		(1) 3/0–500 kcmil
LHH	150–400	#2–500 kcmil
		(2) #2–500 kcmil or
		(1) 500–750 kcmil
PDG3xG ④, PDG3xM ④,	250–400	(1) #2–500 kcmil
PDG3xM ④	500–600	(2) #2–500 kcmil

② Suitable for DC applications only.

③ LHH is 400 A maximum.

④ The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

Table 22.1-11. Fusible Switch Terminals

Ampere Rating	Wire Size Ranges
30	#14–1/0
60	#14–1/0
100	#14–1/0
200	#4–300 kcmil
400	250–750 kcmil or
	(2) 3/0–250 kcmil
600	(2) #4–600 kcmil or (4) 3/0–250 kcmil

Power Xpert Release Trip Unit for Molded Case Circuit Breakers

Description

Eaton's Power Xpert Release (PXR) trip units are programmable communicating microprocessor-based low-voltage electronic trip unit systems for Eaton molded case circuit breakers. PXR trip units are available in three models: PXR 10, PXR 20 and PXR 25.

Standards and Certifications

The PXR trip units are listed by Underwriters Laboratories (UL) and Canadian Standards Association (CSA) for use in Power Defense™ Frame 2, 3, 4, 5 and 6 molded case circuit breakers. All PXR units have also passed the IEC 60947-2 test program that includes EMC testing. All trip units meet the low-voltage and EMC directives and carry the CE mark.

Features

The PXR electronic trip units provide an enhanced and easy-to-use interface that enables end users and maintenance engineers to more easily change set points, test and configure circuit breakers, and review energy and power information. The Power Xpert Protection Manager (PXPMP) software also provides the capability of secondary injection tests and reports on-demand without the need of expensive test kits.

Advanced features include:

- Industry-first breaker health algorithms provide real-time monitoring and communication of breaker condition
- Cause of trip LED indication and trip event data storage
- Zone selective interlocking (ZSI) verification and testing indication
- Adjustable Arcflash Reduction Maintenance System settings
- LCD display with programmable settings

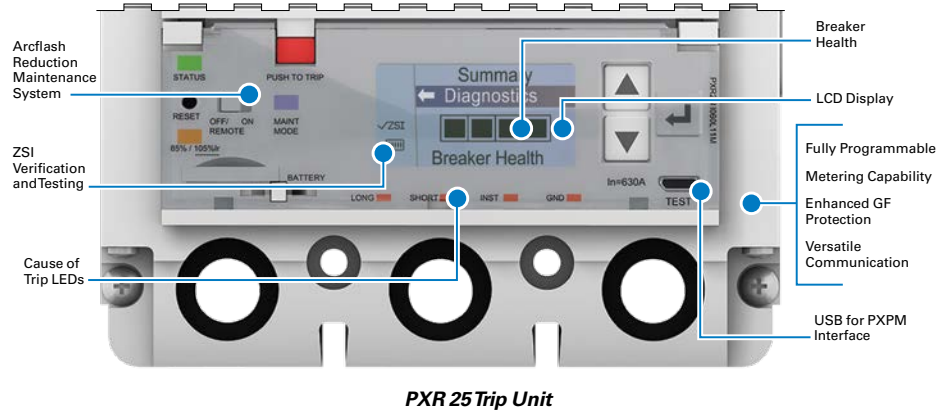


Table 22.1-12. PXR Features

Features	PXR 10	PXR 20	PXR 25
Protection types	LSI	LSI/LSIG	LSI/LSIG
Status indication	●	●	●
USB secondary injection testing	●	●	●
Programmable by USB port (PXPMP)	●	●	●
Independent instantaneous adjustment	●	●	●
Adjustable L, S, I, G pickup and time		●	●
Cause of trip indication	▲	●	●
Load alarm indication with 2 levels		●	●
Programmable load alarm levels			●
Ground fault protection and alarm		○	○
Arcflash Reduction Maintenance System™ Available PD3, PD4, PD5, PD6 to meet NEC 240.87 requirements		○	○
Zone selective interlocking (ZSI) with indication		○	○
Programmable relays		○	●
Modbus RTU communication		○	●
CAM module communication		○	○
Rotatable LCD display			●
Breaker health and diagnostic monitoring		▲	●
Current metering accuracy		2.0%	0.5%
Voltage metering accuracy			0.5%
Power and energy metering accuracy			1.0%

Legend:

● Standard

○ Optional

▲ Available through USB port (PXPMP)

Metering, Monitoring and Surge Protective Devices



Power Xpert Meter 350

Power Xpert Meter 350

The Power Xpert Meter 350 (PXM350) is a revenue grade energy meter that delivers a cost-effective solution for energy and submetering applications. This DIN rail mounted, three-phase energy meter provides high accuracy in a small form factor. The user-friendly LCD display is ideal for building energy management, energy monitoring and metering systems.

Meter features include:

- Data collection and management for energy and multi-parameters measurement
- Demand measurement and forecasting of current, active power, reactive power and apparent power
- Standard with Modbus RTU, BACnet MSTP and pulse output
- Multiple current sensors options are available—5 A/1 A, 333 mV and Rogowski coil system event logging with configurable parameter alarms
- LCD display with backlight support
- Electronic and physical sealing to prevent tampering



Power Xpert Branch Circuit Monitor

Power Xpert Branch Circuit Monitor

Eaton's Power Xpert Branch Circuit Monitor (PXBCM) provides remote access to live energy readings and facilitates data integration for data center intensive industries, facilities working to optimize server capacity and companies with a critical need to maintain uptime. By combining monitoring capabilities down to the plug level with overload alerts, which indicate when circuits are close to exceeding thresholds, the PXBCM helps minimize or prevent downtime.

- ANSI C12.20 0.5% revenue accuracy for panelboard applications
- Satisfies energy code requirements to meter energy by branch circuit and report energy consumption by load group
- Modular form factor supports either pre-mounted CTs (PXBCM-MMS) or loose CTs (PXBCM-MME) and makes it easy to scale for 18-, 30-, 42- and 84-circuit panelboard applications

For more information, visit www.eaton.com/meters.



Integrated Surge Protective Devices

Integrated Surge Protective Devices

Eaton integrates our industry-leading surge protective devices (SPD) into panelboards. Lead length is kept to a minimum to maximize SPD performance. SPD units are available with ratings up through 400k, and are UL listed and labeled to UL 1449 3rd Edition.

All panelboards with integrated SPD units are connected to a lineside overcurrent protective device for disconnecting means. When applied on the lineside of a service entrance main, the disconnecting means does not count as a service disconnect per National Electrical Code Article 230.71[A].

Refer to **Table 22.1-13** for side-by-side comparison of integrated SPD offerings.

For complete SPD product description, application and ratings, visit www.eaton.com/spd.

Metering, Monitoring and Surge Protective Devices, Continued

Table 22.1-13. Side-by-Side Comparison of the SPD Series' Available Feature Packages

Feature package comparison	Basic	Standard	Standard with Surge Counter	Power Xpert SPD
Surge protection using thermally protected MOV technology	■	■	■	■
Dual-colored protection status indicators for each phase	■	■	■	■
Dual-colored protection status indicators for the neutral-ground protection mode ①	■	■	■	
Tri-colored protection status indicators for each phase and the neutral-ground protection mode ①				■
Audible alarm with silence button		■	■	■
Form C relay contact		■	■	■
EMI/RFI filtering, providing up to 50 dB of noise attenuation from 10 kHz to 100 MHz		■	■	■
Surge counter with reset button			■	■
Percentage protection remaining status				■
RJ45 Ethernet port for LAN connection, ModbusTCP/IP or BACnet/IP				■
UI webpage and programmable settings				■
Time-and-date stamped surge log and surge categorization				■

① Neutral-ground protection mode available in applicable voltage configurations only.

Pow-R-Line Metering and Monitoring Options

					
Device	Pow-R-Line 1X	Pow-R-Line 2X	Pow-R-Line 3E	Pow-R-Line 3X	Pow-R-Line 4X / 4F
Power Defense molded case circuit breakers with Power Xpert Release trip units	■	■	■	■	■
Power Xpert Meter 350	■	■	■	■	
Veris E30 Branch Circuit Monitor	■	■	■		
Power Xpert Branch Circuit Monitor	■	■	■	■	■ (Type PRL4X only)
Power Xpert Meter 1000					■
Power Xpert Meter 2000					■
Power Xpert Meter 3000					■
Power Xpert Gateway					■
Power Distribution Monitoring and Control					■

PRL1X Layout Guide



Pow-R-Line 1X

Technical Data and Specifications

Bussing

100–400 A: Tin-plated aluminum is standard, copper is available as an option.

600 A: Only copper density is available for these applications.

Boxes

Boxes are made from code-gauge steel.

Blank ends are supplied as standard, knockouts are available upon request.

EZ Trim

Trims are made from code-gauge steel and painted ANSI 61 gray.

All panelboards have door-in-door as standard with multi-point catch and lock, and concealed mounting hardware.

Modifications

Table 22.1-14. Sub-Feed Lugs (Main Lugs Only)

Ampere Rating	Panel Height Addition
100	0 Inches (0 mm)
225	0 Inches (0 mm)

Table 22.1-15. Through-Feed Lugs

Ampere Rating	Information
100	See Table 22.1-17
225	See Table 22.1-17
400	See Table 22.1-17
600	See Table 22.1-17

Table 22.1-16. Sub-Feed Breakers (One Per Panel)

Ampere Rating	Breaker Type	Interrupting Rating (kA Symmetrical) at 240 V
225	PDD2xF	22
225	PDD2xG	65
225	PDD2xM	100
225	PDD3xP	200
225	PDG2xG	65
225	PDG2xM	100
225	PDG2xP	200
400	PDD3xG	65
400	PDG3xG ①	65
400	PDG3xM ①	100
400	PDG3xP ①	200
600	PDG3xG ①	65
600	PDG3xM ①	100
600	PDD3xP	100

① The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

Shunt Trips

Shunt trips are available on breakers. BAB, HQP, QBHW and QPHW require one additional pole space for shunt trip, i.e., single-pole is two-pole size, two-pole is three-pole size and three-pole is four-pole size.

Ground Bar

Standard bolted in box. Aluminum is standard, copper is available as an option.

Enclosures

Types 1, 12, 3R, 4 and 4X.

Surge Protective Device (SPD)

Integrated onto panelboard chassis. For complete product description and available ratings, refer to Surge Protection (SPD) and Power Conditioning Products Design Guides.

Box Sizing and Selection

Box size for all Type 1 panelboards are available from **Table 22.1-17**.

Instructions

1. Select the rating and type of mains required.
2. Count total number of branch circuit poles (including spaces) required in the panelboard. Do not count main breaker poles. Convert two- or three-pole branch breakers to single-poles, i.e., three-pole breaker, count as three poles.

Note: For horizontal mounted mains (BAB Type), use main lug table, include space in branch section for mains.

3. Using correct table, type of mains and ampere rating per Step 1, find total number of poles.

Note: Where total number of poles (Step 2) fall between number in table, use the next higher number.

4. Read box size across columns to the right.

Top and Bottom Gutters (Minimum)

5.50 inches (139.7 mm).

Side Gutters

20.00-inch (508.0 mm) wide box:
6.50 inches (165.1 mm).

Table 22.1-17. Type 1 Panelboards—Dimensions in Inches (mm)

Panelboard Types	Types and Mounting Position (H) = Horizontal / (V) = Vertical			Maximum Number of Branch Circuits Including Provisions	Box Dimensions ①②③			Catalog Number			
	Main Breaker	Sub-Feed Breaker	Dual Sub-Feed Breaker		Height	Width	Depth	YS Box	LT Trim	EZ Box	EZ Trim
100 A											
Main breaker	BAB, QBHW (H)	—	—	15	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	YS2036	LT2036S or F	EZB2036R	EZT2036S or F
		—	—	27	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		—	—	39	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		—	—	42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
Main lugs	—	—	—	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	YS2036	LT2036S or F	EZB2036R	EZT2036S or F
		—	—	30	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	YS2036	LT2036S or F	EZB2036R	EZT2036S or F
		—	—	42	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		—	—	48	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
	—	—	—	54	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		—	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	72	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
Main breaker	PDG2xF PDD3xG PDG2xM PDG2xP (V)	—	—	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	YS2036	LT2036S or F	EZB2036R	EZT2036S or F
		—	—	30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		—	—	42	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		—	—	48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	—	—	54	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
Main lugs with 100 A through-feed lugs or sub-feed breaker	—	PDG2xF	—	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		PDG2xG	—	30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		PDG3xG ⑤	—	42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		PDG2xM	—	48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	PDG2xP (V)	—	54	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
Main breaker with 100 A through-feed lugs or sub-feed breaker	PDG2xF PDG2xF PDG3xG ⑤ PDG2xM (V)	PDG2xG	—	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		PDG2x	—	30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		PDG3xG ⑤	—	42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		PDG2xM	—	48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	PDG2xP (V)	—	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
225 A											
Main lugs ①	—	—	—	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	YS2036	LT2036S or F	EZB2036R	EZT2036S or F
		—	—	30	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	YS2036	LT2036S or F	EZB2036R	EZT2036S or F
		—	—	42	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		—	—	48	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
	—	—	—	54	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		—	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	72	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
Main breaker ④	PDD2xF PDD2xG, PDD2xM PDG2xG PDG2xM PDG2xP PDG3xG ⑤ (V)	—	—	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	YS2036	LT2036S or F	EZB2036R	EZT2036S or F
		—	—	30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		—	—	42	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		—	—	48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	—	—	54	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F

① Smaller panelboard box sizes are available if required. Contact Eaton for application information.

② For applications with SPD, contact Eaton.

③ 28.00 inches (711.2 mm) optional width is available for panelboards with high circuit counts.

④ JD, JDC is same space requirement as 400 A PDD3xG, PDG3xM*, PDG3xP* (see footnote 5 for PDG3 breaker information).

⑤ The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250.

The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.



Powering Business Worldwide



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Detail Bill of Material

Project Name: New ton Co Historic Jail Renovation
General Order No:

Negotiation No: AT901113X5K2
Alternate No: 0000

Item No.	Qty	Product	Description
	2	SPD	SPD

Catalog No SPD200208Y3K
Designation SPD

Catalog No	Qty	List of Materials
SPD200208Y3K	1	Eaton SPD series200kA120/208VSTD+CntrNEM

Eaton Selling Policy 25-000 applies.

If Eaton and the buyer entity listed on this purchase order have a separate executed written agreement for the products/services herein, then that agreement applies. Otherwise, Eaton's Selling Policy 25000 (<https://www.eaton.com/ca/en-gb/support/terms-conditions.html>) controls and supersedes all prior correspondence or communications between Eaton and the buyer, and any additional or different terms proposed by the buyer are rejected.

All orders must be released for manufacture within 90 days of date of order entry. If approval drawings are required, drawings must be returned approved for release within 60 days of mailing. If drawings are not returned accordingly, and/or if shipment is delayed for any reason, the price of the order will increase by 1.0% per month or fraction thereof for the time the shipment is delayed.

Seller shall not be responsible for any failure to perform, or delay in performance of, its obligations resulting from the COVID-19 pandemic or any future epidemic, and Buyer shall not be entitled to any damages resulting thereof.



Powering Business Worldwide

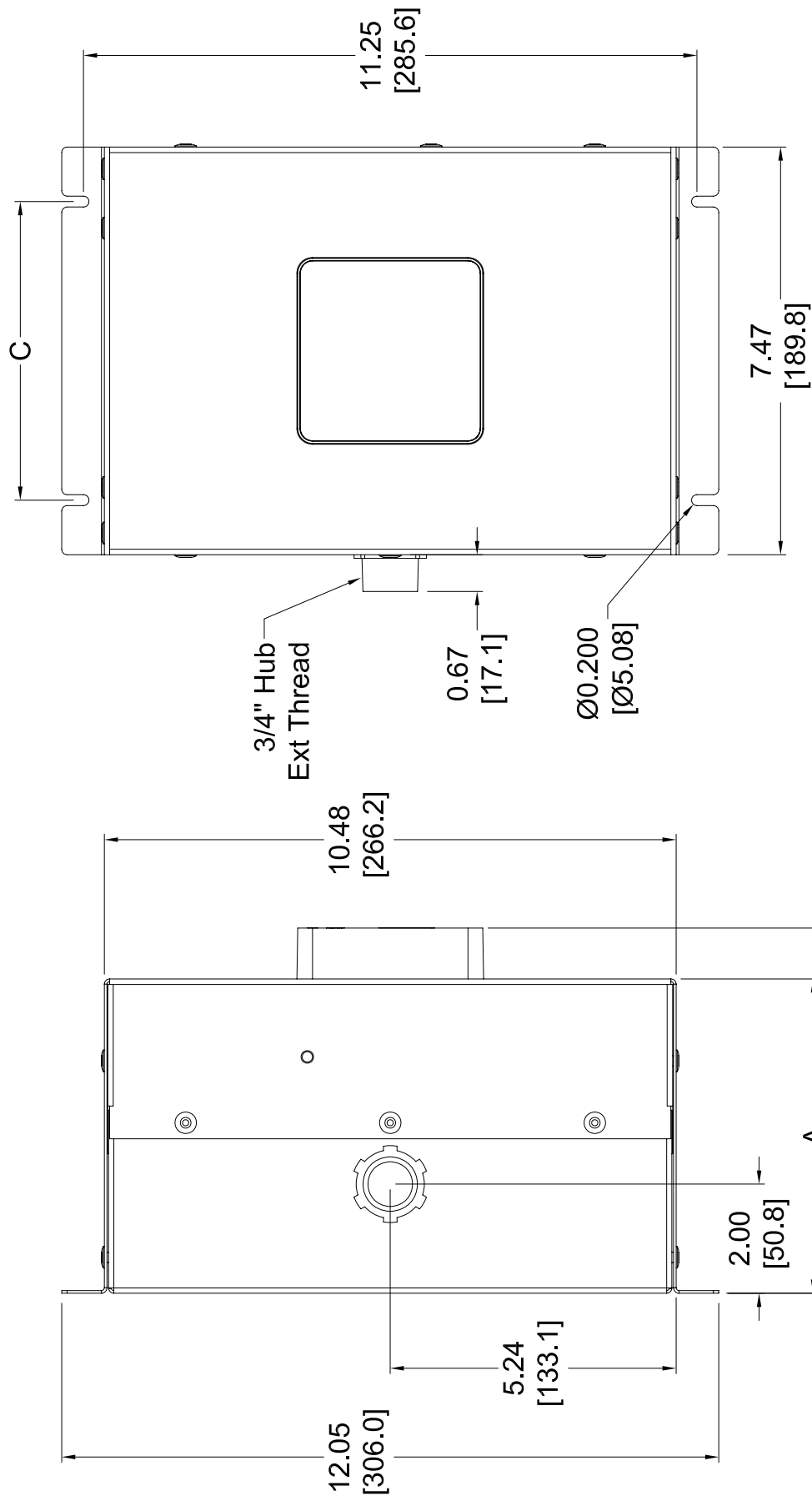
General Information: Surge Protection Device

CATALOG NUMBER:	SPD200208Y3K
DEVICE:	SPD Series
SURGE RATING:	200 kA per phase
PER MODE SURGE RATING:	100 kA
VOLTAGE:	208 VAC
WIRING:	(4W+G)
ENCLOSURE:	NEMA 1
PROTECTION MODES:	10 Modes

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	Kyle Molnar	11/14/2025			
	APPROVED BY	DATE	JOB NAME	Newton Co Historic Jail Renovation	
			DESIGNATION	SPD	
	VERSION		TYPE	DRAWING TYPE	
	1.0.0.0		Surge Protection Device	Customer Appr.	
NEG-ALT Number	REVISION	DWG SIZE	G.O.	ITEM	SHEET
AT901113X5K2-0000	0	A			1 of 1

GO/NEG-Alt-Date: AT901113X5K2-0000-11/14/2025		Job Name: Newton Co Historic Jail Renovation
Item Number:	Catalog Number: SPD200208Y3K	Designation: SPD



A B C

50-200 KA	3.48 / [88.3]	4.41 / [112.0]	5.27 / [133.9]	Weight - 6.8 lb / 3.1 kg
250-400 KA	5.76 / [146.3]	6.69 / [170.0]	5.47 / [139.0]	Weight - 13.5 lb / 6.1 kg



Powering Business Worldwide

Eaton's SPD Series for mounting external to electrical distribution equipment



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Introduction

Eaton's SPD Series surge protective devices

Eaton's SPD Series surge protective devices are the latest and most advanced UL® 1449 4th Edition certified surge protectors. Units are available integrated within Eaton electrical assemblies, including panelboards, switchboards, motor control centers, switchgear, and bus plugs. Sidemount versions of the SPD Series are also available for installation external to an electrical assembly. Application of SPD Series units throughout a facility will ensure that equipment is protected with the safest and most reliable surge protective devices available.

Applications

SPD Series units are available in all common voltages and configurations and also in a variety of surge current capacity ratings from 50 kA through 400 kA. Four feature package options are also available to choose from. The breadth of the SPD Series' features, options, and configurations ensures that the correct unit is available for all electrical applications, including service entrances, distribution switchboards, panelboards, and point-of-use applications.

Features

- Uses thermally protected metal oxide varistor (MOV) technology
- 20 kA nominal discharge current (I_n) rating (maximum rating assigned by UL)
- 50 kA through 400 kA surge current capacity ratings
- Four feature package options
- 200 kA short-circuit current rating (SCCR)
- 10-year warranty

Standards and certifications



- UL 1449 4th Edition listed device
- UL 1283 7th Edition listed device
- Canadian Standards Association® (CSA®)
- Can be used for UL 96A compliance
- Can be used for NFPA® 780 compliance ①
- Can be used for RoHS compliance
- PXSPD tested to UL 2900-1 cybersecurity standard
- Complete agency certifications can be found in **Table 42**

① Models must meet maximum allowable VPRs in NFPA Table 4.20.4.



SPD Series sidemount unit mounted externally to an Eaton panelboard

Feature package options

The SPD Series provides users with the option of selecting between four feature packages. These feature packages are the basic, standard, standard with surge counter, and Power Xpert® SPD. The proper feature package can be selected based on the requirements of the application or specification.

Table 1. Feature package comparison

Feature	Basic	Standard	Standard with surge counter	Power Xpert SPD
Surge protection using thermally protected MOV technology	■	■	■	■
Dual-colored protection status indicators for each phase and the neutral-ground protection mode ①	■	■	■	
Audible alarm with silence button		■	■	■
Form C relay contact		■	■	■
EMI/RFI filtering, providing up to 50 dB of noise attenuation from 10 kHz to 100 MHz		■	■	■
Surge counter with reset			■	■
Tri-colored protection status indicators for each phase and the neutral-ground protection mode ①				■
Percentage protection remaining status				■
RJ45 Ethernet port for LAN connection, Modbus® TCP/IP, or BACnet/IP				■
UI webpage and programmable settings				■
Time-and-date stamped surge log and surge categorization				■

① Neutral-ground protection mode available in applicable voltage configurations only.

Enclosure options, dimensions, and weights

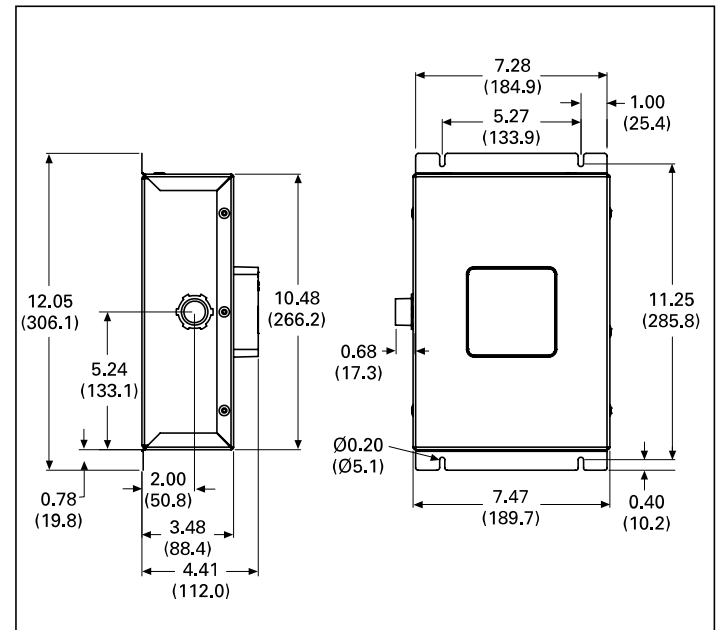


Figure 1. 50–200 kA units in a NEMA® 1 rated enclosure, weight = 6.8 lb

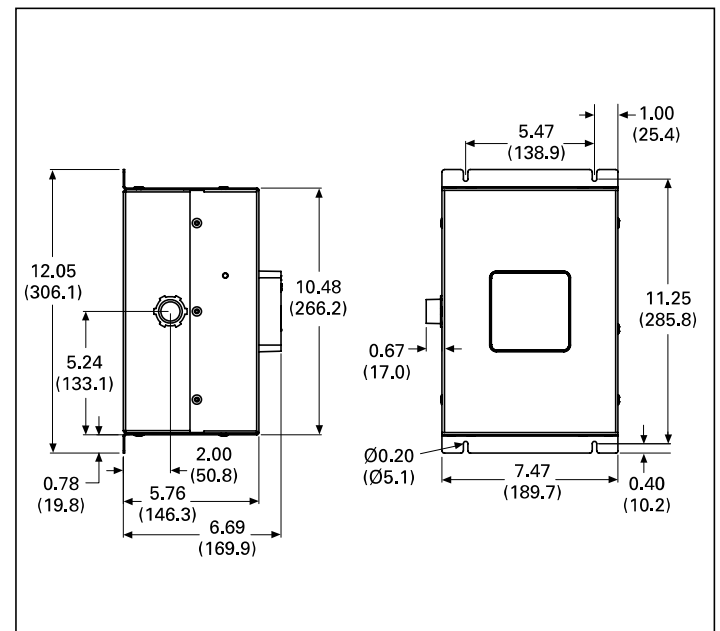


Figure 2. 250–400 kA units in a NEMA 1 rated enclosure, weight = 13.5 lb

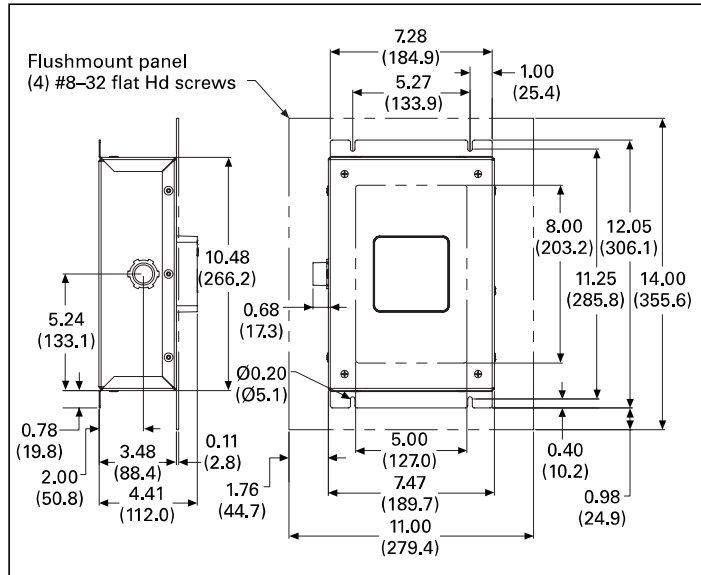


Figure 3. 50–200 kA units in a NEMA 1 rated flushmount enclosure, weight = 6.8 lb

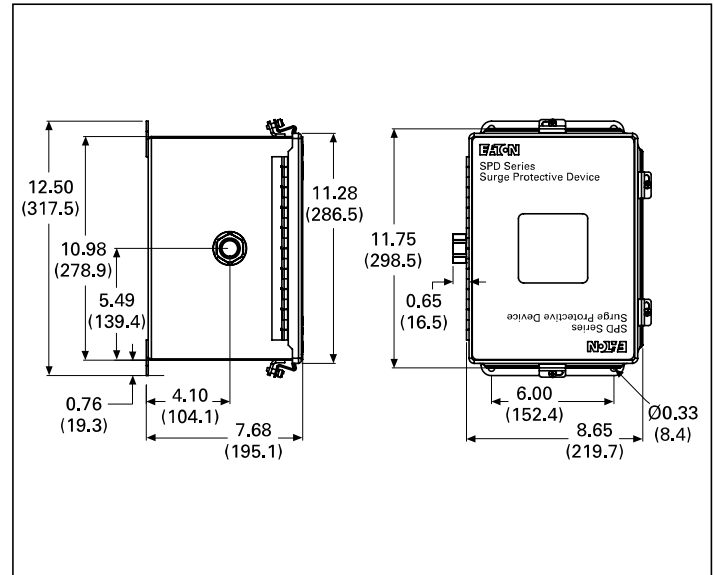


Figure 6. 250–400 kA units in a NEMA 4 or 4X rated enclosure, weight = 14.6 lb

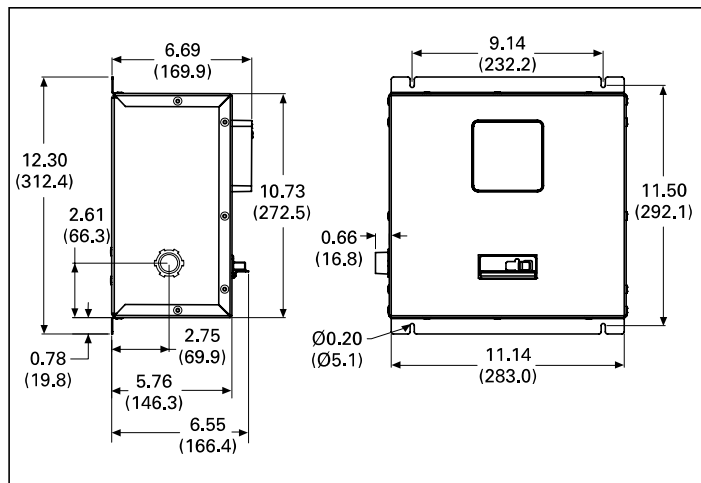


Figure 4. 50–400 kA units in a NEMA 1 rated enclosure with internal disconnect, weight = 14.7 lb

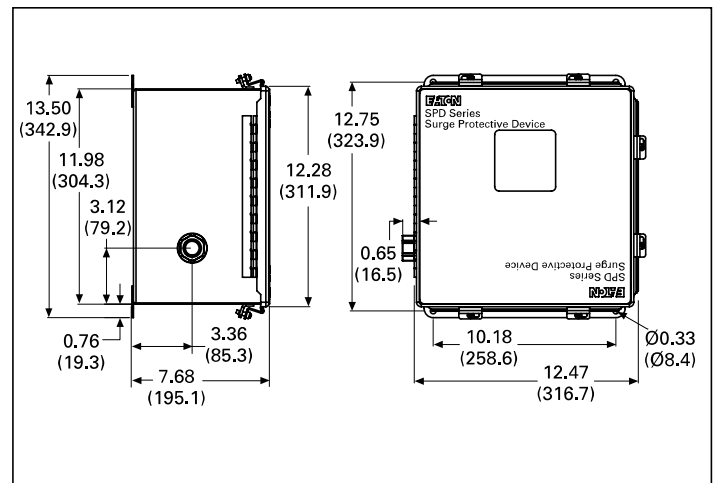


Figure 7. 50–400 kA units in a NEMA 4 or 4X rated enclosure with internal disconnect, weight = 27.5 lb

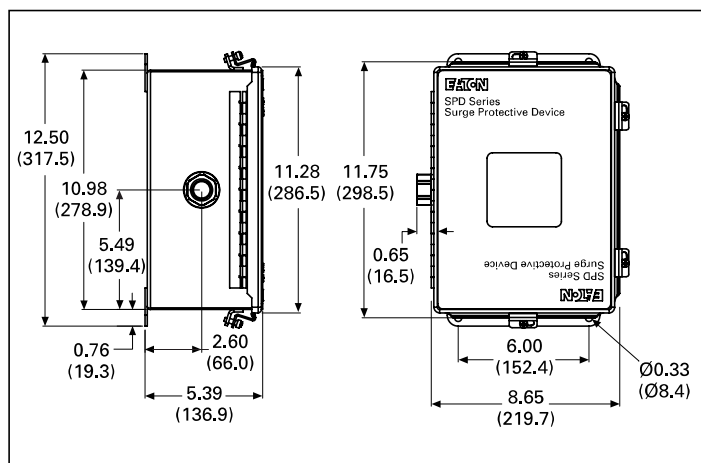


Figure 5. 50–200 kA units in a NEMA 4 or 4X rated enclosure, weight = 14.6 lb

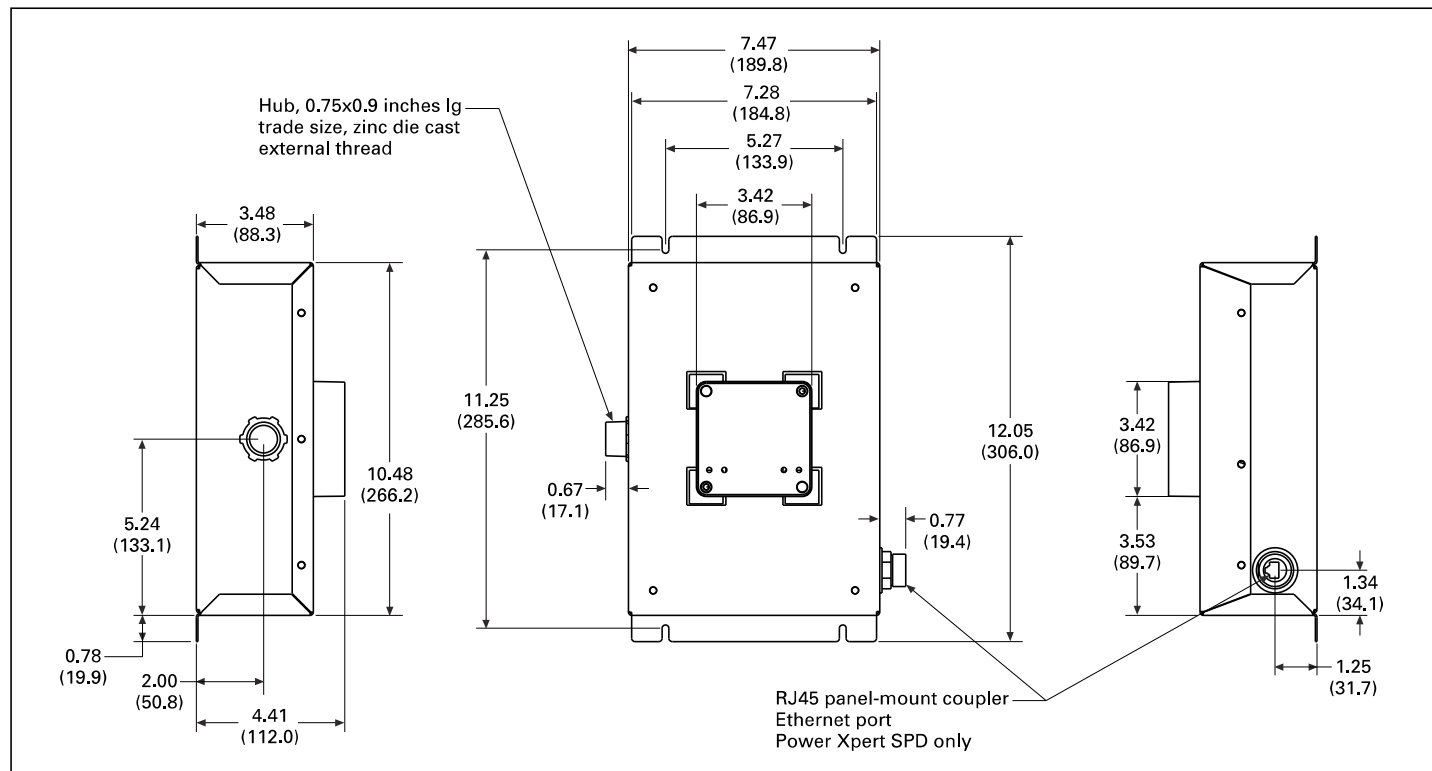


Figure 8. PXSPD 50–200 kA units in a NEMA 1 rated enclosure, weight = 6.8 lb

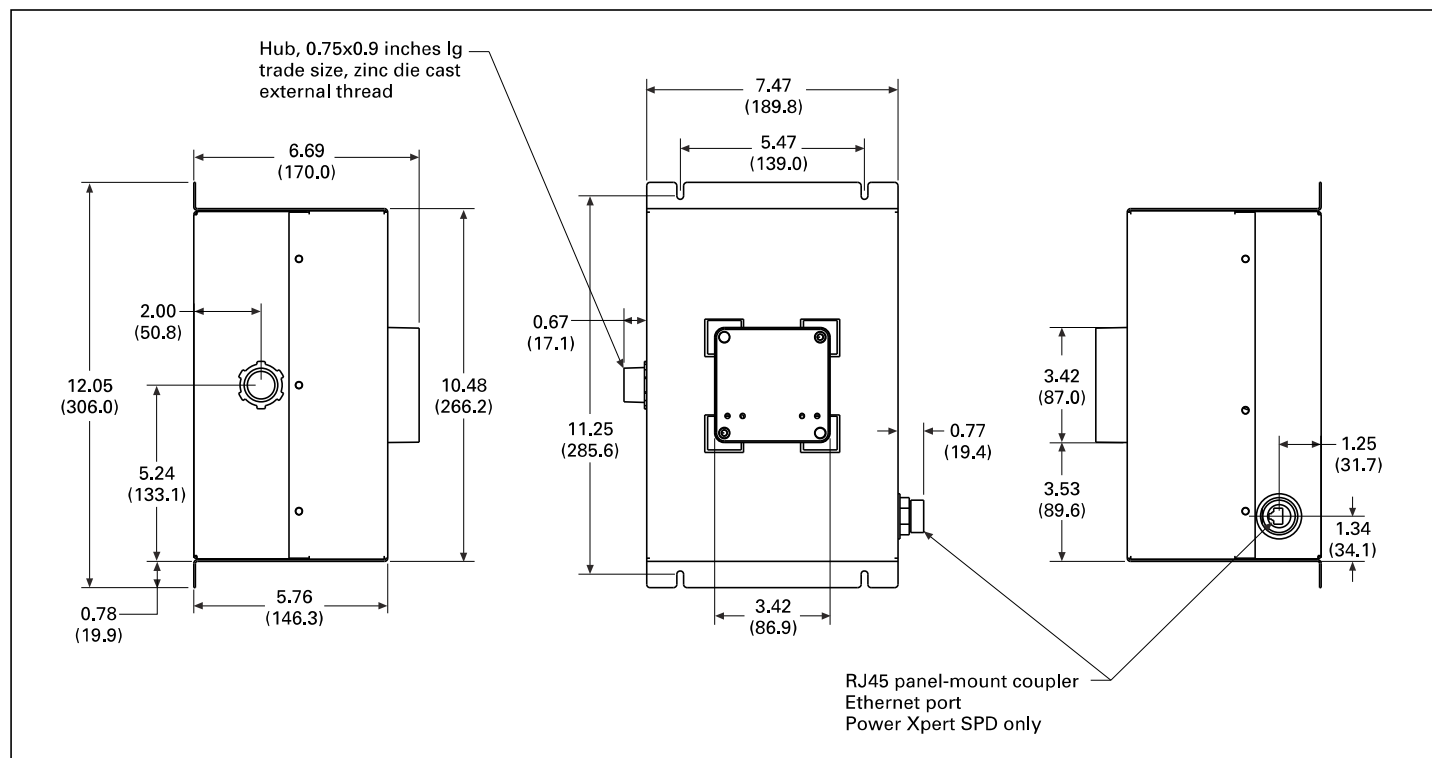


Figure 9. PXSPD 250–400 kA units in a NEMA 1 rated enclosure, weight = 13.5 lb

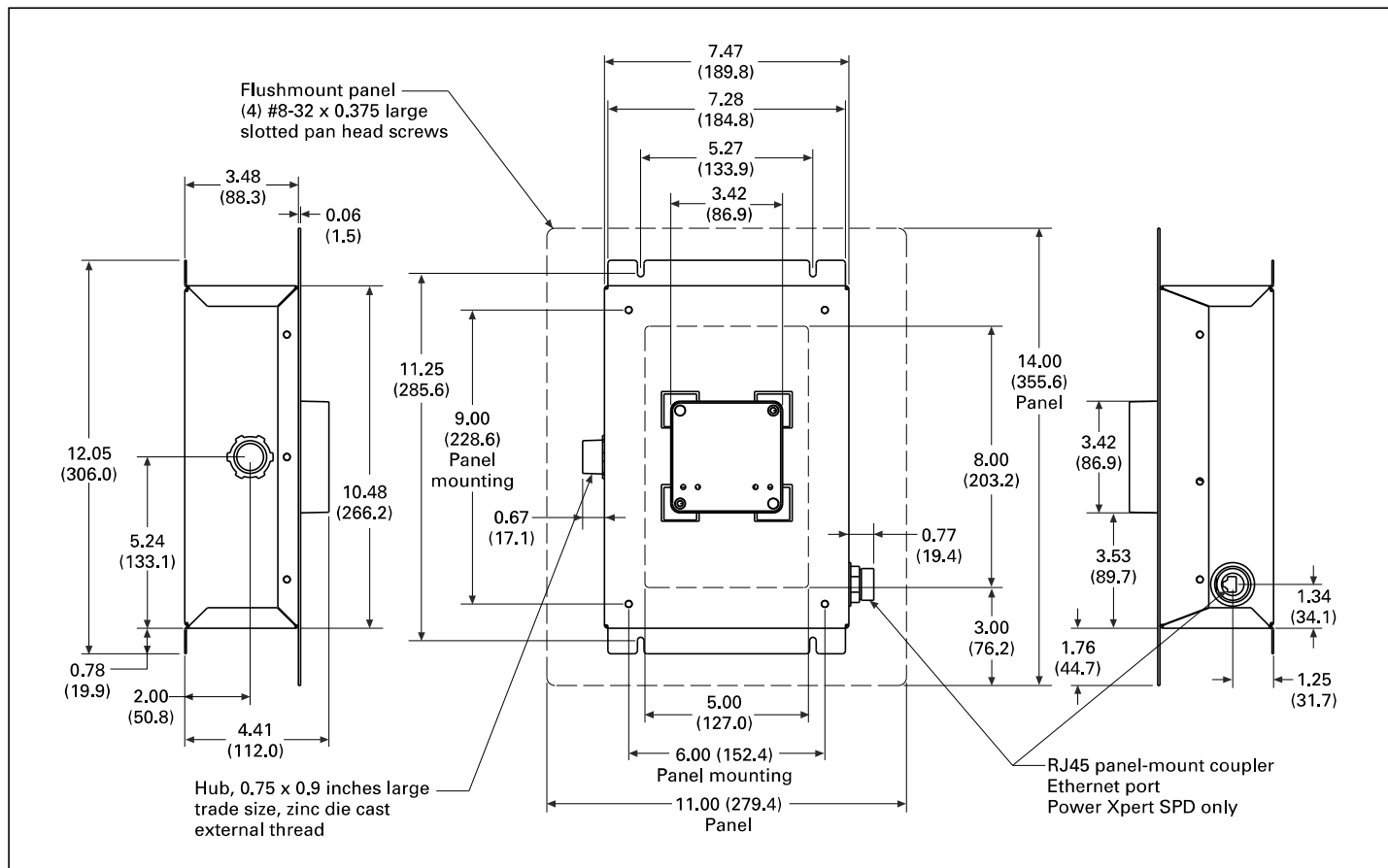


Figure 10. PXSPD 50-200 kA units in a NEMA 1 rated flushmount enclosure, weight = 6.8 lb

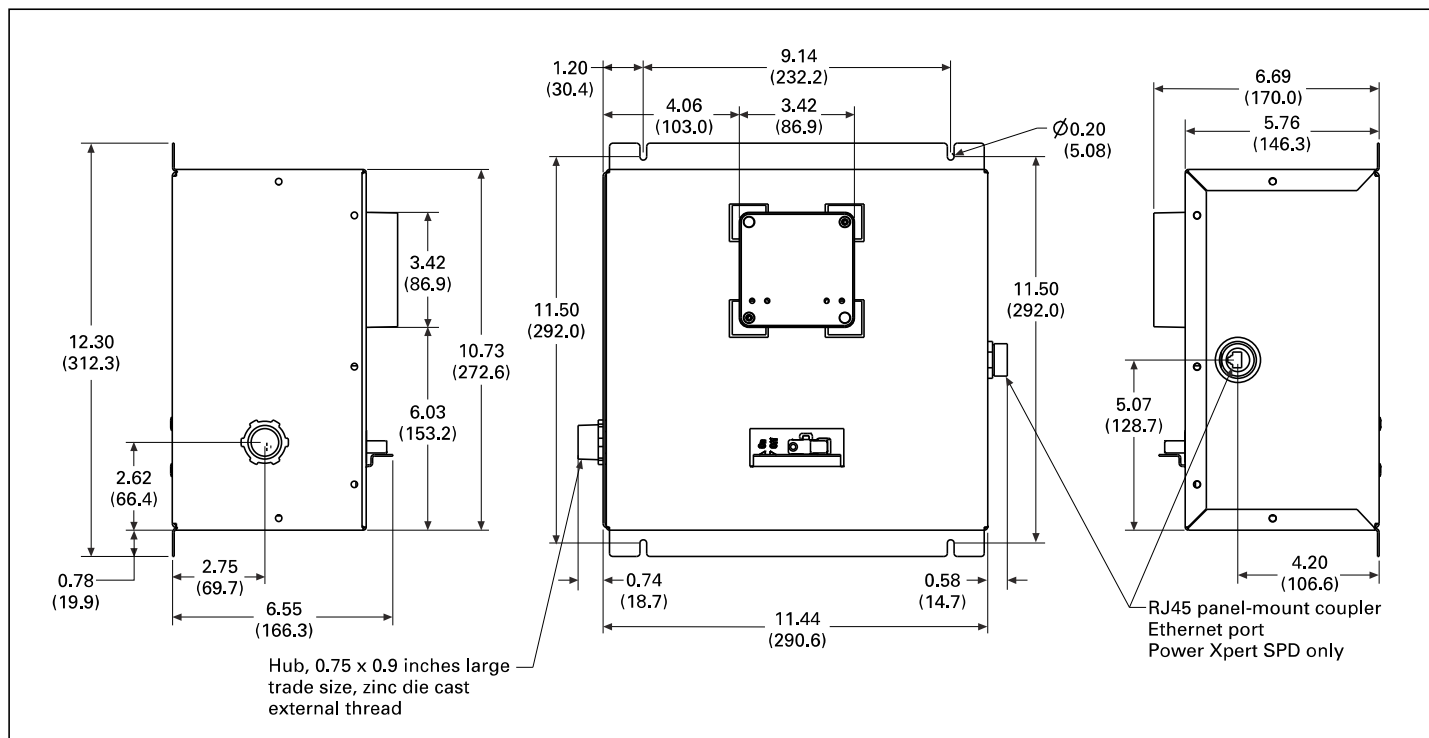


Figure 11. PXSPD 50-400 kA units in a NEMA 1 rated enclosure with internal disconnect, weight = 14.7 lb

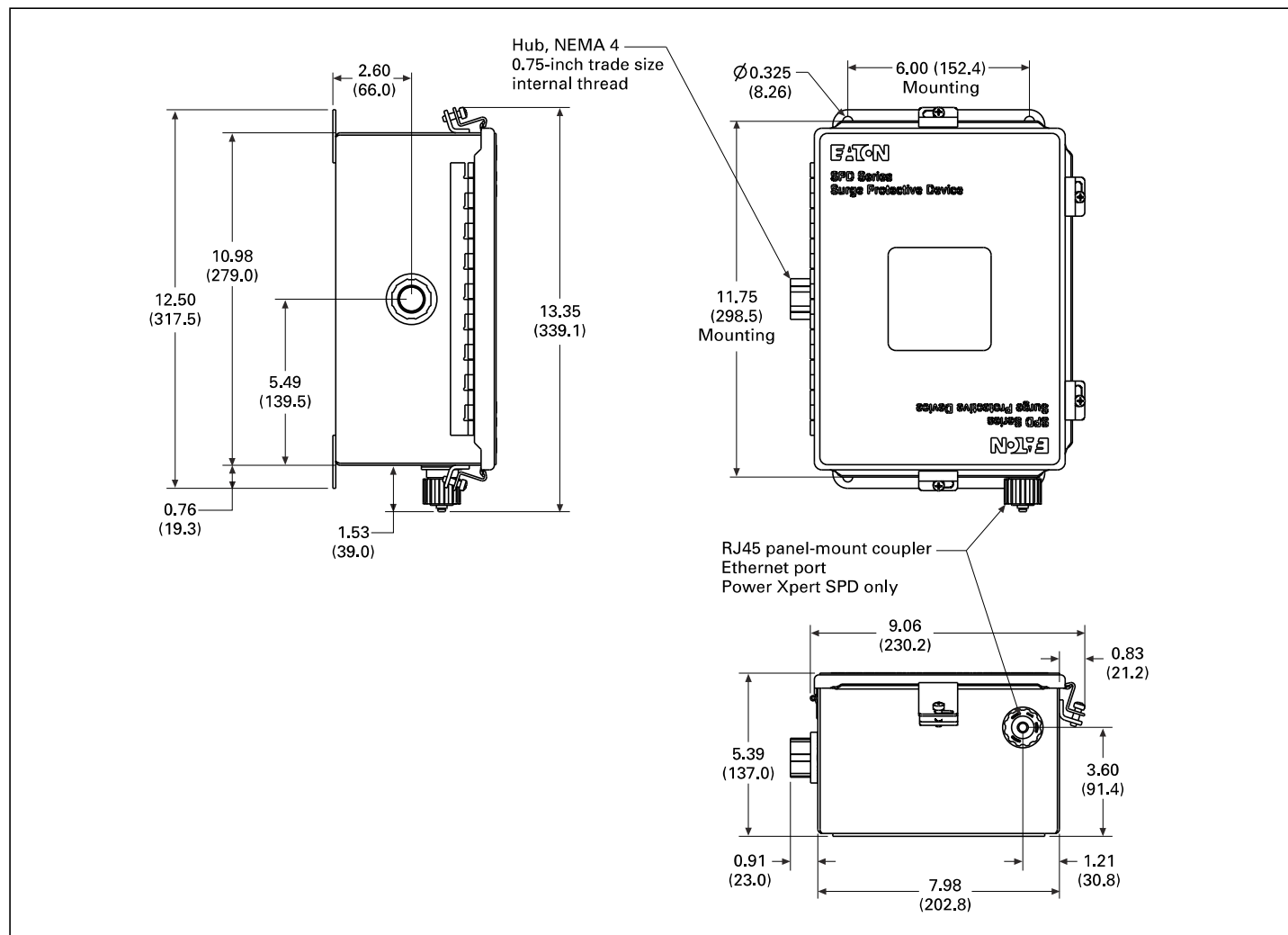


Figure 12. PXSPD 50–200 kA units in a NEMA 4 or 4X rated enclosure, weight = 14.6 lb

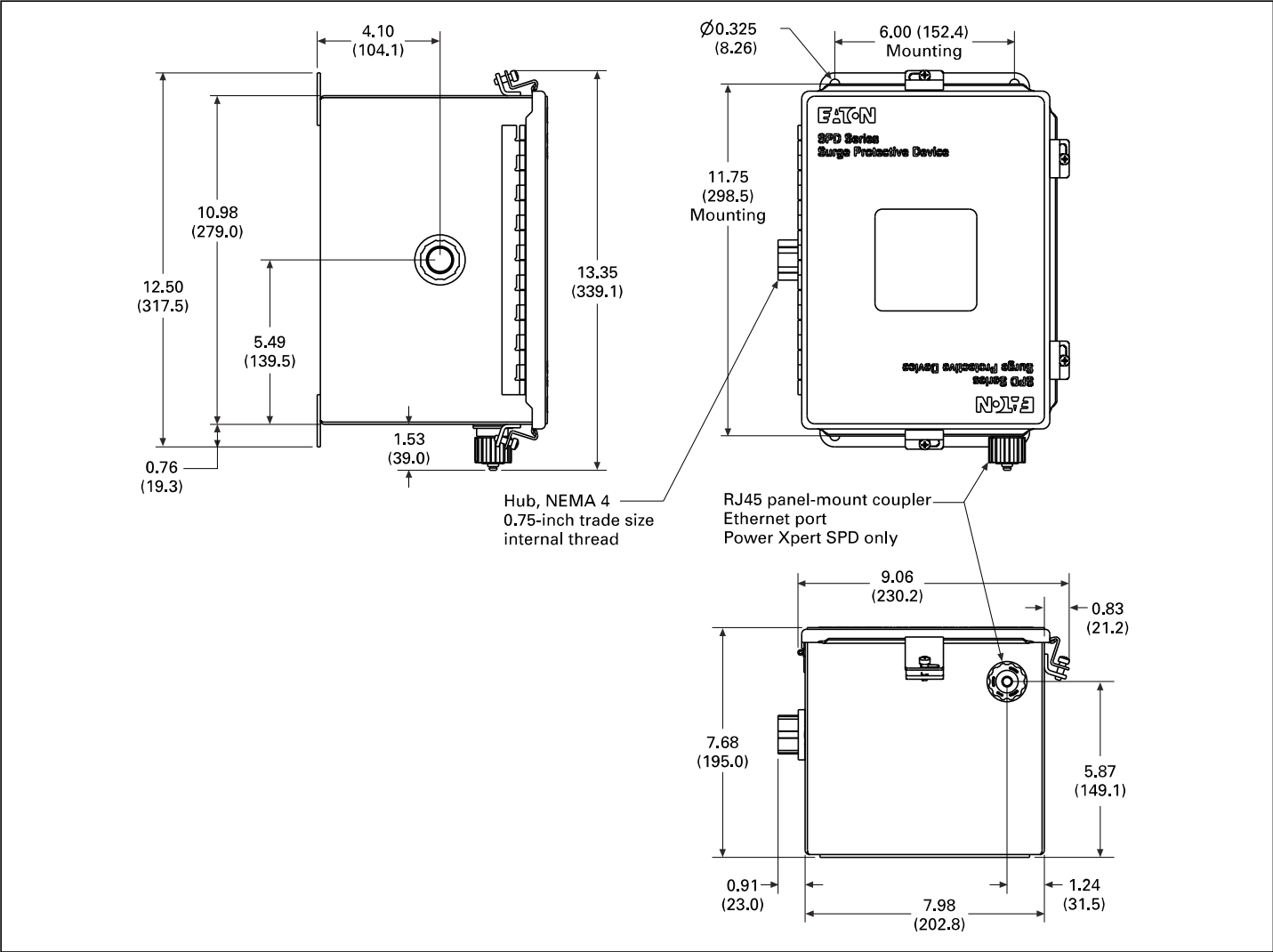


Figure 13. PXSPD 250-400 kA units in a NEMA 4 or 4X rated enclosure, weight = 21.0 lb

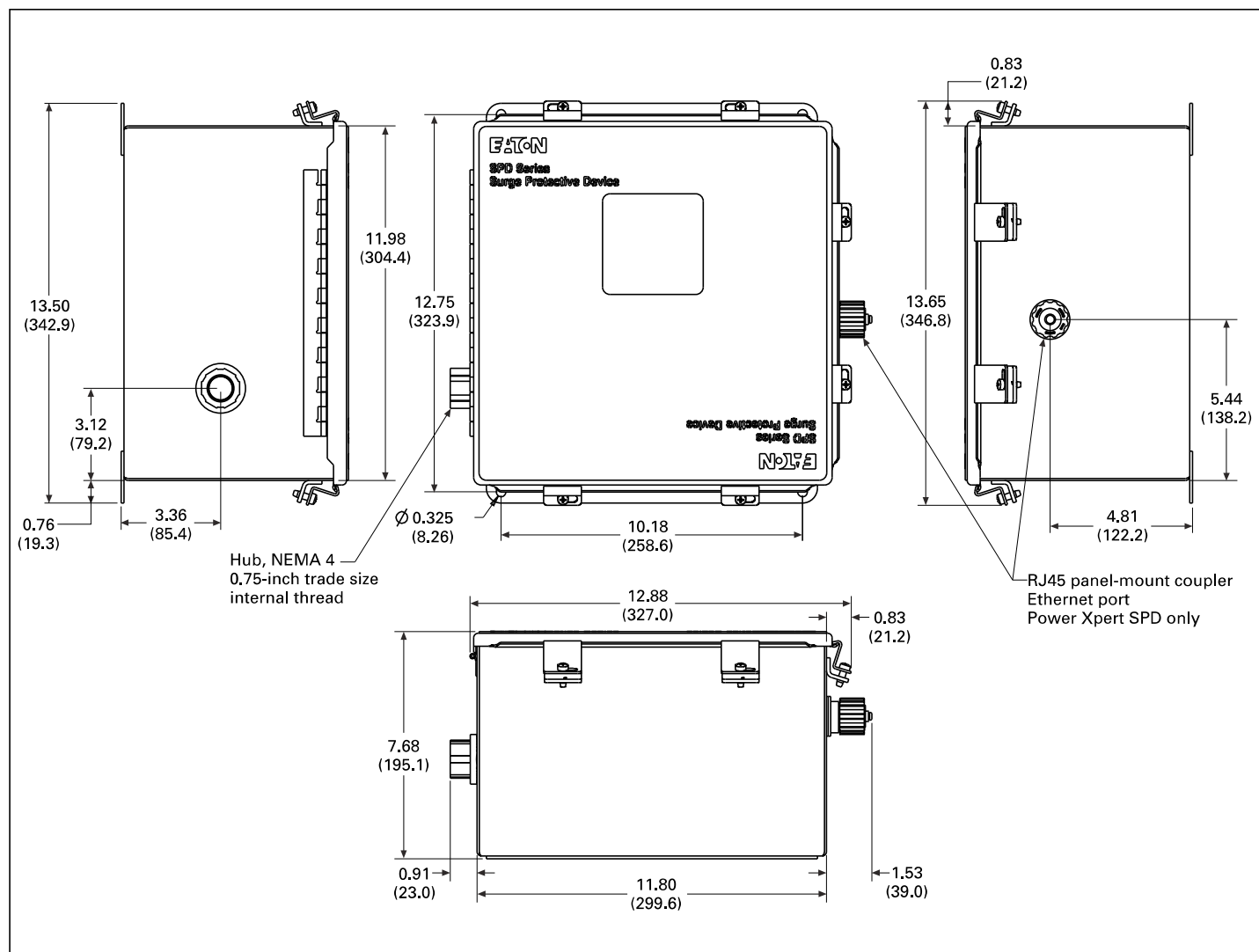


Figure 14. PXSPD 50-400 kA units in a NEMA 4 or 4X rated enclosure with internal disconnect, weight = 27.5 lb

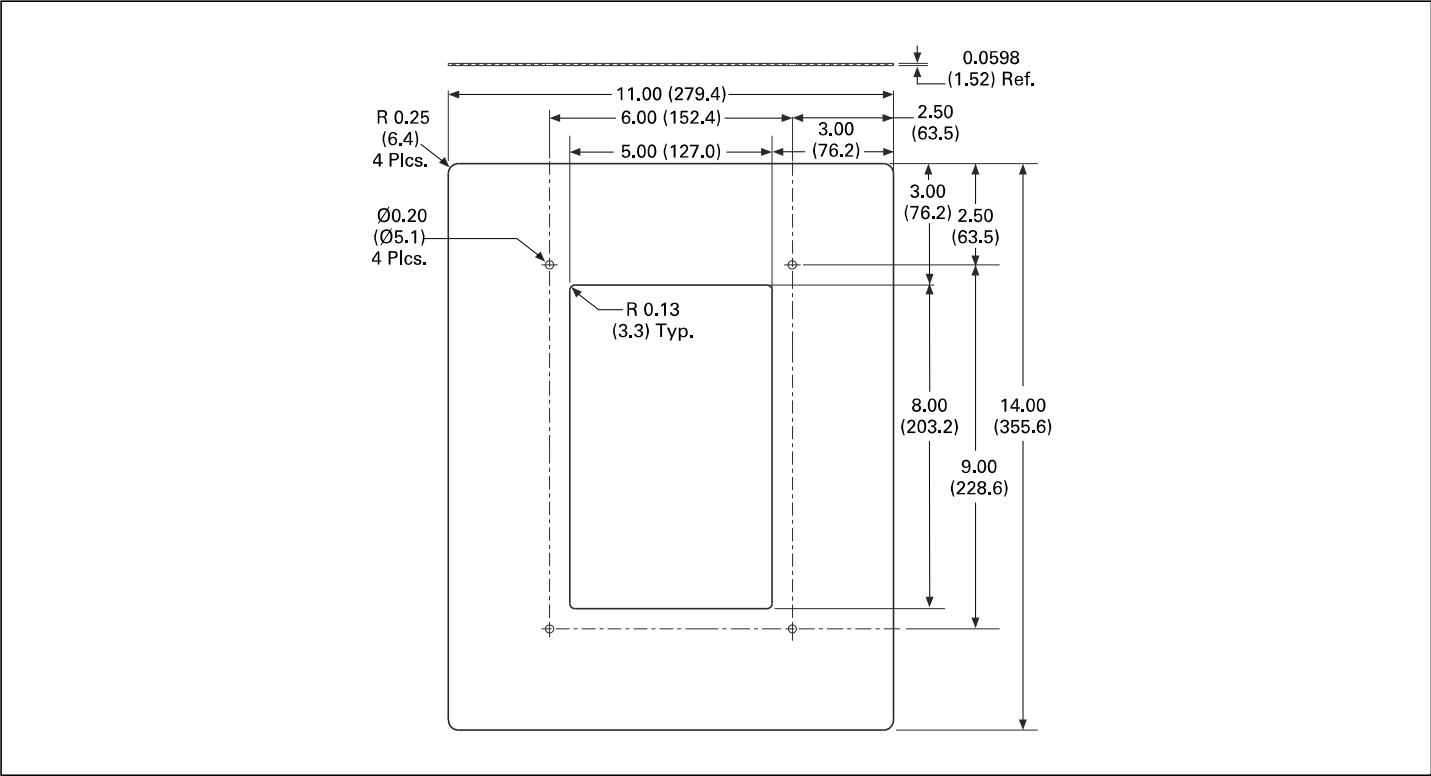


Figure 15. Flushmount plate, SPDGREYFLUSHMTKIT, for 50–200 kA units in a NEMA 1 rated enclosure

Performance data

ANSI/UL 1449 4th Edition voltage protection ratings

In the tables on the following pages, voltage protection rating (VPR) data is included for all sidemount units, but varies based upon the feature package and enclosure option. VPR values for units containing the basic feature package are found in **Table 2** through **Table 6**.

VPR data for units in a NEMA 1 enclosure without an internal disconnect (catalog number ends with K or L)

Table 2. 50 kA unit VPR (Cat. No. ends with 1K or 1L)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	2000	1200	N/A
240S	700	1200	700	1200
208Y and 220Y	700	1200	700	1200
400Y and 480Y	1200	2000	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	700	1200	700	1200

Table 5. 250–300 kA unit VPR (Cat. No. ends with 1K or 1L)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	700	700	700	1000
208Y and 220Y	700	700	700	1000
400Y and 480Y	1200	1200	1200	1800
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	700	700	700	1000

Table 3. 80–100 kA unit VPR (Cat. No. ends with 1K or 1L)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	700	700	700	1200
208Y and 220Y	700	700	700	1200
400Y and 480Y	1200	1200	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	700	700	700	1200

Table 6. 400 kA unit VPR (Cat. No. ends with 1K or 1L)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	700	700	700	1000
208Y and 220Y	700	700	700	1000
400Y and 480Y	1200	1200	1200	1800
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	700	700	700	1000

Table 4. 120–200 kA unit VPR (Cat. No. ends with 1K or 1L)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	700	700	700	1200
208Y and 220Y	700	700	700	1200
400Y and 480Y	1200	1200	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	700	700	700	1200

Table 7 through Table 11 contain VPR values for units containing the standard, standard with surge counter, or Power Xpert SPD feature package.

Table 7. 50 kA unit VPR (Cat. No. ends with 2K, 2L, 3K, 3L, 4K, 4L)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	2000	1200	N/A
240S	700	1200	700	1200
208Y and 220Y	700	1200	700	1200
400Y and 480Y	1200	2000	1200	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	3000	N/A	2500
240H	700	1200	700	1200

Table 8. 80–100 kA unit VPR (Cat. No. ends with 2K, 2L, 3K, 3L, 4K, 4L)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	700	800	700	1200
208Y and 220Y	700	800	700	1200
400Y and 480Y	1200	1200	1200	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	3000	N/A	2500
240H	700	800	700	1200

Table 9. 120–200 kA unit VPR (Cat. No. ends with 2K, 2L, 3K, 3L, 4K, 4L)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	600	800	600	1000
208Y and 220Y	600	800	600	1000
400Y and 480Y	1200	1200	1200	1800
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	2500	N/A	2500
240H	700	800	700	1200

Table 10. 250–300 kA unit VPR (Cat. No. ends with 2K, 2L, 3K, 3L, 4K, 4L)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1000	1200	1000	N/A
240S	600	800	600	1000
208Y and 220Y	600	800	600	1000
400Y and 480Y	1000	1200	1000	1800
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	600	800	600	1000

Table 11. 400 kA unit VPR (Cat. No. ends with 2K, 2L, 3K, 3L, 4K, 4L)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1000	1200	1000	N/A
240S	600	700	600	1000
208Y and 220Y	600	700	600	1000
400Y and 480Y	1000	1200	1000	1800
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	600	800	600	1000

VPR data for units in a NEMA 1 enclosure with an internal disconnect (catalog number ends with M)

VPR values for units containing the basic feature package are found in **Table 12** through **Table 16**.

Table 12. 50 kA unit VPR (Cat. No. ends with 1M)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1500	2500	1200	N/A
240S	800	1200	700	1500
208Y and 220Y	800	1200	700	1500
400Y and 480Y	1500	2500	1200	2500
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	800	1200	700	1500

Table 15. 250–300 kA unit VPR (Cat. No. ends with 1M)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	800	800	700	1500
208Y and 220Y	800	800	700	1500
400Y and 480Y	1200	1200	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	800	800	700	1500

Table 13. 80–100 kA unit VPR (Cat. No. ends with 1M)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1500	1500	1200	N/A
240S	800	800	700	1500
208Y and 220Y	800	800	700	1500
400Y and 480Y	1500	1500	1200	2500
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	800	800	700	1500

Table 16. 400 kA unit VPR (Cat. No. ends with 1M)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	800	800	700	1500
208Y and 220Y	800	800	700	1500
400Y and 480Y	1200	1200	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	800	800	700	1500

Table 14. 120–200 kA unit VPR (Cat. No. ends with 1M)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1500	1500	1200	N/A
240S	800	800	700	1500
208Y and 220Y	800	800	700	1500
400Y and 480Y	1500	1500	1200	2500
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	800	800	700	1500

Table 17 through **Table 21** contain VPR values for units containing the standard, standard with surge counter, or Power Xpert SPD feature package.

Table 17. 50 kA unit VPR (Cat. No. ends with 2M, 3M, or 4M)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	2500	1200	N/A
240S	800	1200	700	1500
208Y and 220Y	800	1200	700	1500
400Y and 480Y	1200	2000	1200	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	3000	N/A	2500
240H	800	1200	700	1500

Table 18. 80–100 kA unit VPR (Cat. No. ends with 2M, 3M, or 4M)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	800	900	700	1200
208Y and 220Y	800	900	700	1200
400Y and 480Y	1200	1200	1200	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	3000	N/A	2500
240H	800	900	700	1200

Table 19. 120–200 kA unit VPR (Cat. No. ends with 2M, 3M, or 4M)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	800	900	700	1200
208Y and 220Y	800	900	700	1200
400Y and 480Y	1200	1200	1200	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	2500	N/A	2500
240H	800	900	700	1200

Table 20. 250–300 kA unit VPR (Cat. No. ends with 2M, 3M, or 4M)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	700	900	700	1200
208Y and 220Y	700	900	700	1200
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	700	900	700	1200

Table 21. 400 kA unit VPR (Cat. No. ends with 2M, 3M, or 4M)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	700	900	700	1200
208Y and 220Y	700	900	700	1200
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	700	900	700	1200

VPR data for units in a NEMA 4 or 4X enclosure without an internal disconnect (catalog number ends with N or P)

VPR values for units containing the basic feature package are found in **Table 22** through **Table 26**.

Table 22. 50 kA unit VPR (Cat. No. ends with 1N or 1P)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	2000	1000	N/A
240S	700	1200	700	1200
208Y and 220Y	700	1200	700	1200
400Y and 480Y	1200	2000	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	700	1200	700	1200

Table 23. 80–100 kA unit VPR (Cat. No. ends with 1N or 1P)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	700	800	700	1200
208Y and 220Y	700	800	700	1200
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	700	800	700	1200

Table 24. 120–200 kA unit VPR (Cat. No. ends with 1N or 1P)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	700	800	700	1200
208Y and 220Y	700	800	700	1200
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	700	800	700	1200

Table 25. 50–300 kA unit VPR (Cat. No. ends with 1N or 1P)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	700	800	700	1200
208Y and 220Y	700	800	700	1200
400Y and 480Y	1200	1200	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	700	800	700	1200

Table 26. 400 kA unit VPR (Cat. No. ends with 1N or 1P)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	700	800	700	1200
208Y and 220Y	700	800	700	1200
400Y and 480Y	1200	1200	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	700	800	700	1200

Table 27 through **Table 31** contain VPR values for units containing the standard, standard with surge counter, or Power Xpert SPD feature package.

Table 27. 50 kA unit VPR (Cat. No. ends with 2N, 2P, 3N, 3P, or 4N)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	2500	1000	N/A
240S	900	1500	700	1500
208Y and 220Y	900	1500	700	1500
400Y and 480Y	1200	2000	1000	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	3000	N/A	2500
240H	900	1500	700	1500

Table 28. 80–100 kA unit VPR (Cat. No. ends with 2N, 2P, 3N, 3P, or 4N)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	900	900	700	1500
208Y and 220Y	900	900	700	1500
400Y and 480Y	1200	1200	1000	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	3000	N/A	2500
240H	900	900	700	1500

Table 29. 120–200 kA unit VPR (Cat. No. ends with 2N, 2P, 3N, 3P, or 4N)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	900	900	700	1500
208Y and 220Y	900	900	700	1500
400Y and 480Y	1200	1200	1000	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	2500	N/A	2500
240H	900	900	700	1500

Table 30. 250–300 kA unit VPR (Cat. No. ends with 2N, 2P, 3N, 3P, or 4N)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	800	900	700	1500
208Y and 220Y	800	900	700	1500
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2000
600D	N/A	2500	N/A	2500
240H	800	900	700	1500

Table 31. 400 kA unit VPR (Cat. No. ends with 2N, 2P, 3N, 3P, or 4N)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	800	900	700	1500
208Y and 220Y	800	900	700	1500
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2000
600D	N/A	2500	N/A	2500
240H	800	900	700	1500

VPR data for units in a NEMA 4 or 4X enclosure with an internal disconnect (catalog number ends with O or Q)

VPR values for units containing the basic feature package are found in **Table 32** through **Table 36**.

Table 32. 50 kA unit VPR (Cat. No. ends with 1O or 1Q)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	2000	1000	N/A
240S	800	1200	700	1500
208Y and 220Y	800	1200	700	1500
400Y and 480Y	1200	2000	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	800	1200	700	1500

Table 33. 80–100 kA unit VPR (Cat. No. ends with 1O or 1Q)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	800	900	700	1500
208Y and 220Y	800	900	700	1500
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	800	900	700	1500

Table 34. 120–200 kA unit VPR (Cat. No. ends with 1O or 1Q)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	800	900	700	1500
208Y and 220Y	800	900	700	1500
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	800	900	700	1500

Table 35. 250–300 kA unit VPR (Cat. No. ends with 1O or 1Q)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1500	1200	N/A
240S	800	900	700	1500
208Y and 220Y	800	900	700	1500
400Y and 480Y	1200	1500	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	800	900	700	1500

Table 36. 400 kA unit VPR (Cat. No. ends with 1O or 1Q)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1500	1200	N/A
240S	800	900	700	1500
208Y and 220Y	800	900	700	1500
400Y and 480Y	1200	1500	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	800	900	700	1500

Table 37 through **Table 41** contain VPR values for units containing the standard, standard with surge counter, or Power Xpert SPD feature package.

Table 37. 50 kA unit VPR (Cat. No. ends with 20, 2Q, 30, 3Q, or 40)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	2500	1000	N/A
240S	900	1500	700	1500
208Y and 220Y	900	1500	700	1500
400Y and 480Y	1200	2000	1000	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	2500	N/A	2500
240H	900	1500	700	1500

Table 38. 80–100 kA unit VPR (Cat. No. ends with 20, 2Q, 30, 3Q, or 40)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	900	900	700	1500
208Y and 220Y	900	900	700	1500
400Y and 480Y	1200	1200	1000	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	2500	N/A	2500
240H	900	900	700	1500

Table 39. 120–200 kA unit VPR (Cat. No. ends with 20, 2Q, 30, 3Q, or 40)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	900	900	700	1500
208Y and 220Y	900	900	700	1500
400Y and 480Y	1200	1200	1000	1800
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	2500	N/A	2500
240H	900	900	700	1500

Table 40. 250–300 kA unit VPR (Cat. No. ends with 20, 2Q, 30, 3Q, or 40)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	800	900	700	1500
208Y and 220Y	800	900	700	1500
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2000
600D	N/A	2500	N/A	2500
240H	800	900	700	1500

Table 41. 400 kA unit VPR (Cat. No. ends with 20, 2Q, 30, 3Q, or 40)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	800	900	700	1500
208Y and 220Y	800	900	700	1500
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2000
600D	N/A	2500	N/A	2500
240H	800	900	700	1500

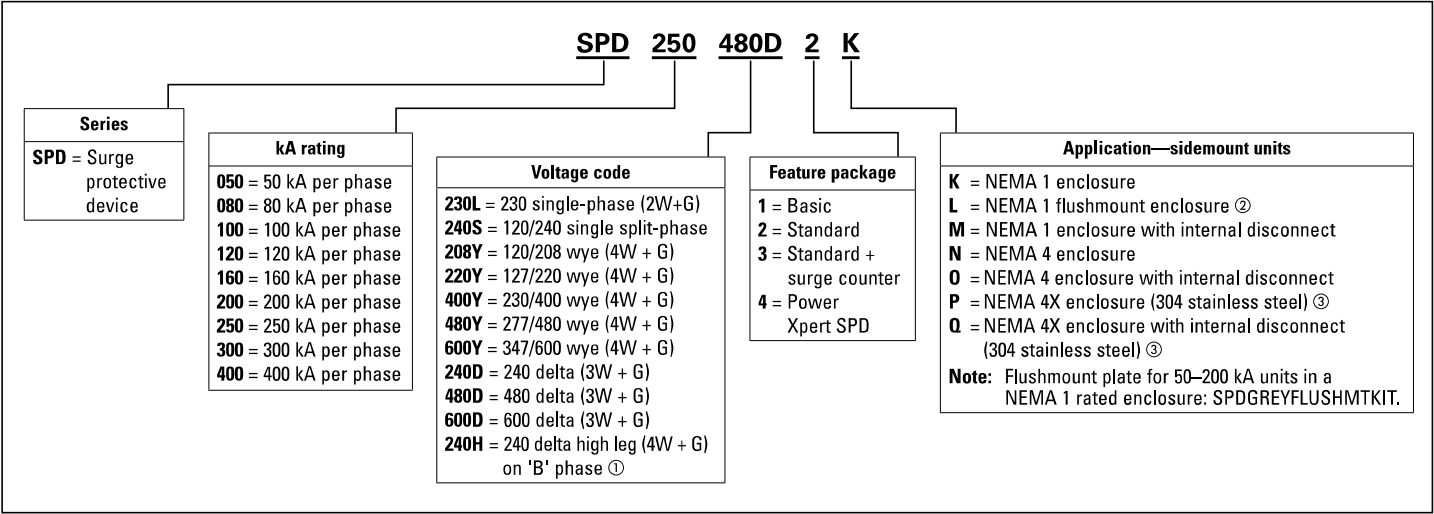
Specifications

Table 42. SPD Series specifications

Description	Specification
Surge current capacity per phase	50, 80, 100, 120, 160, 200, 250, 300, 400 kA ratings available
Nominal discharge current (I_n)	20 kA
Short-circuit current rating (SCCR)	200 kA
SPD type	Basic feature package = Type 1 (can also be used in Type 2 applications) Standard, standard with surge counter, and Power Xpert SPD feature packages = Type 2
Enclosure types	NEMA 1, NEMA 4, NEMA 4X (304 SST) (Power Xpert SPD not available in NEMA 4X)
Standard split phase voltages available	120/240
Single-phase	230
Three-phase wye system voltages available	120/208, 127/220, 230/400, 277/480, 347/600
Three-phase delta system voltages	240, 480, 600
Three-phase high-leg delta system voltages	120/240
Phase wire length	48 inches of 10 AWG extend beyond the conduit hub
Relay wire length (optional)	48 inches of 10 AWG extend beyond the conduit hub
RoHS compliant	Yes
Internal disconnect (optional)	Eaton 30 A FDC circuit breaker, type MCCB
Input power frequency	50/60 Hz, Power Xpert SPD tested to 60 Hz only
Power consumption (basic units): 208Y, 220Y, 230L, 240S, 240D, and 240H voltage codes 400Y and 480Y and 480D voltage codes 600Y and 600D voltage codes	0.5 W 1.1 W 1.3 W
Power consumption (standard and standard with surge counter units): 208Y, 220Y, 230L, 240S, 240D, and 240H voltage codes 400Y, 480Y, and 480D basic voltage codes 600Y and 600D voltage codes	0.6 W 1.7 W 2.1 W
Power consumption (Power Xpert SPD units): 208Y, 220Y, 240S, 240D, and 240H voltage codes 400Y, 480Y, and 480D basic voltage codes 600Y and 600D voltage codes	4 W 4 W 4 W
Phase protection: 208Y, 220Y, 230L, 240S, 240D, and 240H voltage codes 400Y, 480Y, and 480D voltage codes 600Y and 600D voltage codes	Single split-phase L-N, L-G, N-G, L-L Single-phase L-N, L-G, N-G Three-phase delta L-G, L-L Three-phase wye L-N, L-G, N-G, L-L Three-phase high-leg delta L-N, L-G, N-G, L-L, H-N, H-G, H-L
Maximum continuous operating voltage (MCOV): 208Y, 220Y, 240S voltage codes 230L 240H 400Y and 480Y voltage codes 600Y voltage code 240D voltage code 480D voltage code 600D voltage code	150 L-N, 300 L-G, 150 N-G, 300 L-L 320 L-N, 640 L-G, 320 N-G 150 L-N, 300 L-G, 150 N-G, 300 L-L, 320 H-N, 470 H-G, 470 H-L 320 L-N, 640 L-G, 320 N-G, 640 L-L 420 L-N, 420 L-G, 420 N-G, 840 L-L 300 L-G, 300 L-L 640 L-G, 640 L-L 840 L-G, 840 L-L
Ports	1
Operating temperature	–40 °F to +122 °F (–40 °C to +50 °C), Power Xpert SPD surge protection (–40 °C to +50 °C) Power Xpert LCD module (–20 °C through +70 °C)
Operating humidity	5% through 95%, noncondensing
Operating altitude	Up to 16,000 ft (5000 m), (Power Xpert SPD up to 6561 ft (2000 m))
Weight	Reference Figures 1 through 14, on pages 3 through 9
Form C relay contact ratings	150 Vac at 0.46 A or 30 Vdc at 1A, terminal block rated 300 V, 16 A suitable for use with 30–12 AWG solid or stranded copper wire. Torque 5–7 lb-in
Form C relay contact logic	Power on, normal state—NO contact = OPEN, NC contact = CLOSED Power off, fault state—NO contact = CLOSED, NC contact = OPEN
Real-time clock accuracy, Power Xpert SPD	Synchronized when connected to a network via an Ethernet cable, ± 2 min/month at 25 °C when not connected to a network
EMI/RFI filtering attenuation (standard and standard with surge counter and Power Xpert SPD)	Up to 50 dB from 10 kHz to 100 MHz
Ethernet port	Data rate 10/100 Mbps, wire type: equal or exceed 5 UTP category 5, use of STP (shielded twisted pair) will improve EMI performance. Connector type: RJ45 modular, ground metal shield
Agency certifications and approvals Feature packages 1, 2, and 3	UL 1449 4th Edition listed, CSA (excludes 230L voltage code), UL 1283 7th Edition (type 2 SPDs only) IEC 61643-11/EN 61643-11, Part 11: Test Class II
Agency certifications and approvals Feature package 4 (Power Xpert SPD)	cULus certified, UL 1449 4th Edition listed, UL 1283 7th Edition IEC 61643-11/EN 61643-11, Part 11: Test Class II
Warranty	10 years, 15 years if you register on www.eaton.com/spd and then click the warranty registration icon
ROHS compliant	Yes
Wire length and AWG	Factory prewired with 48 inches of #10 AWG wire

Catalog number selection

Table 43. SPD Series catalog number configuration for units mounted external to electrical distribution equipment



Example: SPD250480D2K = SPD Series, 250 kA per phase, 480D voltage, standard feature package, housed in NEMA 1 enclosure

① Please consult the factory for 240 delta high leg (4W + G) applications with high leg on 'C' phase.

② NEMA 1 flushmount units are available in 50–200 kA ratings only.

③ PXSPD, feature package 4, not available in NEMA 4X enclosures.

Note: Please be aware that the Power Xpert SPD will not work in corner grounded Delta systems. The PXSPD needs voltage on each phase in order to operate properly.

If you have any questions or need additional information, please contact the Eaton Technical Resource Center at **Eaton.com/SPD** or call **1-800-809-2772**. You may also submit inquiries via email: **SPD@eaton.com**



Powering Business Worldwide

Eaton's SPD Series

For mounting external to electrical distribution equipment



Introduction

Eaton's SPD Series sidemount surge protective devices

Eaton's sidemount versions of the SPD Series surge protective devices are the latest and most advanced UL® 1449 3rd Edition certified surge protectors. Application of SPD Series units throughout a facility will ensure that equipment is protected with the safest and most reliable surge protective devices available. Units are available in all common voltages and configurations, and also in a variety of surge current capacity ratings from 50 through 400 kA. Three feature package options are also available to choose from.

Applications

The increasing necessity for facility-wide surge protection

The ever-increasing use of microprocessors and other sensitive electronic equipment has increased the necessity for facility-wide surge protection. These sensitive electronic components are used within many pieces of equipment, including computers, programmable logic controllers, and other commonly used electrical and electronic equipment. Surges can wreak havoc on equipment, causing catastrophic failures, process interruptions and premature aging leading to failure. The application of surge protective devices (SPDs) can mitigate problems with sensitive electronic equipment, keeping the equipment and the related processes up and running reliably without disruption or damage due to surge-related events.

In addition to externally generated surge events, such as lightning and grid switching, equipment is also susceptible to damage by internally generated surges. In fact, the majority of surges are generated internally by commonly used items, such as fluorescent lighting ballasts, light dimmers, photocopiers, fax machines and variable frequency drives. This further reinforces the necessity for facility-wide surge protection applied at all stages of the electrical distribution system, from the electrical service entrance down to the single-phase loads.

Standards and certifications

- UL 1449 3rd Edition
- Canadian Standards Association (CSA®)



Features

- Utilizes thermally protected metal oxide varistor (MOV) technology
- 20 kA nominal discharge current (I_n) rating (maximum rating assigned by UL)
- 50 through 400 kA surge current capacity ratings
- Three feature package options
- Factory-sealed assembly prevents arc flash and shock hazards
- Contains no replaceable parts or items that require periodic maintenance
- Optional internal disconnect available
- 200 kA short circuit current rating (SCCR)
- 10-year warranty

The breadth of the SPD Series' features, options and configurations ensures that the correct unit is available for all electrical applications, including service entrances, distribution switchboards, panelboards and point-of-use applications.



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The SPD Series makes surge suppression safer than ever

The SPD Series employs safety and design features that make surge protection safer than ever. Unlike many surge protective devices, the SPD Series contains no user-serviceable parts or items that require periodic maintenance, such as replaceable surge modules, replaceable fuses, surge counter memory backup batteries or wire lugs that require periodic retightening. Sidemount versions of the unit are factory-sealed, meaning no potential contact with harmful voltages present within the unit is possible.

The SPD Series sidemount Series has also taken safety to the next level by using thermally protected MOVs as its core surge suppression component. These thermally protected MOVs operate in a safe manner, even when subjected to abnormal conditions, such as temporary overvoltages or high fault current conditions. When one of these conditions exists, the thermally protected MOVs are removed from the circuit quickly and safely before a potentially unsafe condition can occur, with absolutely no discharge of smoke or ionized gases. Using the latest in technology and surge protective device design, the SPD Series provides safe, reliable, worry-free surge protection.

Prewired

All SPD Series sidemount units are prewired at the factory and contain a factory-installed conduit interface, making installation very easy. Simply mount the unit, perform any required conduit runs, and land all required wires to the electrical assembly the unit is being interfaced with. No internal wiring connections or access to the inside of the unit is required.

Factory-sealed

All SPD Series sidemount units are factory-sealed. This preventive safety measure eliminates potential arc flash and shock hazards, as the user/installer has no chance of coming into contact with energized electrical components within the unit. In addition, the unit contains no user-replaceable or serviceable items, such as surge modules, fuses, backup batteries for the surge counter's memory or wire lugs that require periodic retightening. Factory-sealing all units, coupled with the lack of

replaceable items, further increases user safety, as no contact with live electrical parts is neither possible nor necessary.

Compact size

Sidemount versions of the SPD Series are compact in size, taking up less space in the electrical room. Units housed in NEMA® 1 rated enclosures in the 50 kA through 200 kA surge current capacity range are housed in a 74-square-inch enclosure that is only 3.5 inches deep. Units housed in NEMA 1 rated enclosures in the 250 kA through 400 kA surge current capacity range are also housed in a 74-square-inch enclosure that is only 6.0 inches deep.

Enhanced protection status indicators

The Eaton SPD Series has elevated the features normally found within surge protective devices to the next level. Unlike many surge protectors that may have only single-colored indicators that simply indicate whether power is applied to the surge protective device, each SPD Series unit includes dual-colored protection status light emitting diodes (LEDs) that indicate the true status of the protection. On three-phase units, if power is removed from a phase, the unit's protection status LEDs continue to indicate the status of the protection on that phase, not the status of the power applied to the phase. This new feature ensures that the user is supplied with accurate information concerning the status of the protection the SPD is supplying on the phase, not the status of the power applied to the phase.

All units that require a neutral wire connection also contain an additional set of dual-colored LEDs that report the status of the protection in the neutral-ground (N-G) protection mode. Like the phase protection status LEDs, the N-G protection status LEDs also report the true status of the protection in the N-G mode.

Although most SPDs on the market contain N-G mode protection, they do not monitor and indicate the status of the protection in that mode. Specifying the SPD Series' N-G protection mode status indication feature will ensure that users are supplied with complete and accurate information concerning the surge protective device's protection status.

20 kA nominal discharge current rating (I_n)

The entire SPD Series product offering has a nominal discharge current (I_n) of 20 kA, the highest achievable rating for this important parameter. This is a new rating for SPDs that is included as part of UL 1449 3rd Edition testing and certification. This rating provides an indication of the SPD's design robustness and ability to handle a number of large-magnitude surges over a short period of time and remain operational within tested parameters.

During I_n testing, the SPD is subjected to 15 surges of a current magnitude chosen by the SPD's manufacturer. Valid current magnitude choices for the test are 20 kA and 10 kA for Type 1 SPDs. Valid choices for Type 2 SPDs are 20 kA, 10 kA, 5 kA and 3 kA. The 15 surges are then applied at the value chosen by the manufacturer.

Prior to the start of I_n testing, a preliminary voltage protection rating (VPR) is measured. The VPR is the measured let-through voltage of the unit when a 6 kV, 3 kA surge is applied. This value is documented and saved as a reference. After all surges have been applied, the VPR is measured once again and compared to the value that was recorded prior to the 15-surge sequence. In order to pass the I_n test, the SPD must survive all 15 surges, and the measured pre- and post-VPR values must be within $\pm 10\%$ of each other.

Choosing an SPD with an I_n of 20 kA ensures that your equipment is being protected by a unit that will continue to maintain a high level of surge protection performance, even after being subjected to multiple high-magnitude surges.

Industry standards for lightning protection systems require the installed SPDs to have a nominal discharge current of 20 kA. The 2008 Edition of National Fire Protection Agency (NFPA) Standard 780, titled "Standard for the Installation of Lightning Protection Systems," states the requirement in Section 4.18.3.1.2. The 2007 Edition of Underwriters Laboratories (UL) Standard 96A, titled "Installation Requirements for Lightning Protection Systems," states the requirement in Section 13.1. Choosing an SPD with an I_n of 20 kA will ensure that compliance with these standards can be achieved.

SPD Series unit



Eaton SPD Series sidemount unit mounted externally to an Eaton panelboard.



All SPD Series sidemount units come prewired and include a factory-installed conduit interface, making installation very easy.



All SPD Series units are factory-sealed, ensuring that the user/installer has no potential of coming into contact with harmful voltages present inside the unit.

Feature package options

The SPD Series provides users with the option of selecting between three feature packages. These feature packages are the basic, standard and standard with surge counter. The proper feature package can be selected based on the requirements of the application or specification.

Basic feature package

The basic feature package is perfect for applications where basic, cost-effective, safe and reliable surge protection is required but budgets don't allow for extra, additional features. Rather than sacrifice performance or safety due to cost, SPD Series units with the basic feature package provide you with high-performing surge protection without sacrificing safety or reliability. The basic feature package provides the same level of surge protection and safety provided by the standard and standard with surge counter feature packages minus some of the features found in them. The package contains dual-colored protection status LEDs that report the true status of the protection in each phase/mode. All four-wire plus ground units also contain an additional set of dual-colored protection status LEDs that report the status of the protection in the N-G mode.

Standard feature package

The standard feature package includes all of the features found in the basic feature package, plus an audible alarm with silence button, EMI/RFI filtering, and a Form C relay contact that can be used for remote annunciation of the SPD's status. The audible alarm activates and the Form C relay contact changes state when any loss of protection is detected or a fault condition exists with the unit. Should such a condition occur, the audible alarm can be silenced by pressing the silence button. The EMI/RFI filter provides up to 50 dB of noise attenuation over the range of 10 kHz through 100 MHz.

Standard with surge counter feature package

The standard with surge counter feature package includes all of the features found in the standard feature package plus a six-digit surge counter with a reset button. The surge counter indicates the ongoing count of the number of surges the unit has been exposed to and stores them in nonvolatile memory. Should power to the SPD Series unit be completely interrupted, the surge counter will recall and display the surge count prior to the interruption when power is restored. Unlike many surge protectors, the SPD Series' surge counter memory feature does not require a back-up battery that would require periodic replacement in order to achieve its memory functionality.

Side-by-side comparison of the SPD Series' available feature packages

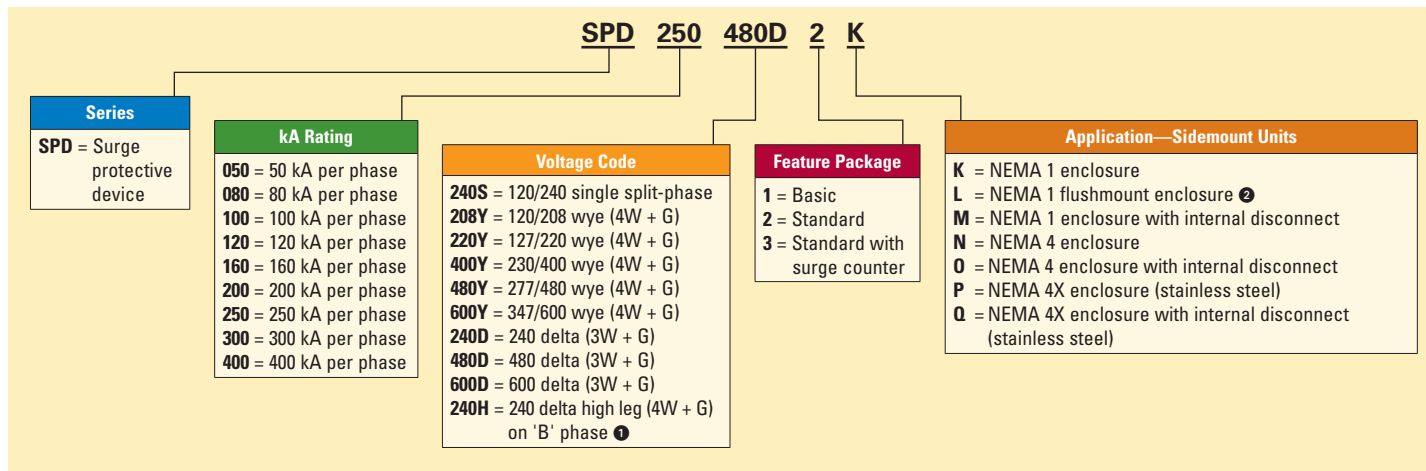
Feature Package Comparison	Basic	Standard	Standard with Surge Counter
Surge protection using thermally protected MOV technology	✓	✓	✓
Dual-colored protection status indicators for each phase	✓	✓	✓
Dual-colored protection status indicators for the N-G protection mode	✓	✓	✓
Audible alarm with silence button		✓	✓
Form C relay contact		✓	✓
EMI/RFI filtering, providing up to 50 dB of noise attenuation from 10 kHz to 100 MHz		✓	✓
Surge counter with reset button			✓



Specifications

Description	Ratings
Surge current capacity per phase	50, 80, 100, 120, 160, 200, 250, 300 and 400 kA ratings available
Nominal discharge current (I _n)	20 kA
Short circuit current rating (SCCR)	200 kA
SPD type	Basic Feature Package = Type 1 (can also be used in Type 2 applications) Standard and Standard with Surge Counter Feature Packages = Type 2
System voltages available (Vac)	
Single split-phase (three-wire plus ground)	120/240
Three-phase wye (four-wire plus ground)	120/208, 127/220, 230/400, 277/480, 347/600
Three-phase delta (three-wire plus ground)	240, 480, 600
Three-phase high leg delta (four-wire plus ground)	120/240
Input power frequency	50/60 Hz
Protection modes	
Single split-phase	L-N, L-G, L-L, N-G
Three-phase wye	L-N, L-G, L-L, N-G
Three-phase delta	L-G, L-L
Three-phase high leg delta	L-N, L-G, L-L, N-G
Operating temperature	–40°C through 50°C (–40°F through 122°F)
Operating humidity	5% through 95%, noncondensing
Agency certifications and approvals	UL 1449 3rd Edition listed device; CSA listed; UL 1283 (Type 2 SPDs only)
Warranty	10 years

SPD Series catalog number configuration for units mounted external to electrical distribution equipment



Example: SPD250480D2K = SPD Series, 250 kA per phase, 480D voltage, standard feature package, housed in NEMA 1 enclosure

① Please consult the factory for 240 delta high leg (4W + G) applications with high leg on 'C' phase.

② NEMA 1 flushmount units are available in 50–200 kA ratings only.

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Detail Bill of Material

Project Name: New ton Co Historic Jail Renovation
General Order No:

Negotiation No: AT901113X5K2
Alternate No: 0000

Item No.	Qty	Product	Description
	2	Safety Switches	SSW2

Catalog No DH325NGK
Designation 400A/3P/F/3R

Qty List of Materials

1 Heavy Duty Switch - Fusible, 3-Pole, 4-Wire, 240 VAC, 400 A, NEMA 1

Eaton Selling Policy 25-000 applies.

If Eaton and the buyer entity listed on this purchase order have a separate executed written agreement for the products/services herein, then that agreement applies. Otherwise, Eaton's Selling Policy 25000 (<https://www.eaton.com/ca/en-gb/support/terms-conditions.html>) controls and supersedes all prior correspondence or communications between Eaton and the buyer, and any additional or different terms proposed by the buyer are rejected.

All orders must be released for manufacture within 90 days of date of order entry. If approval drawings are required, drawings must be returned approved for release within 60 days of mailing. If drawings are not returned accordingly, and/or if shipment is delayed for any reason, the price of the order will increase by 1.0% per month or fraction thereof for the time the shipment is delayed.

Seller shall not be responsible for any failure to perform, or delay in performance of, its obligations resulting from the COVID-19 pandemic or any future epidemic, and Buyer shall not be entitled to any damages resulting thereof.



Powering Business Worldwide

General Information: Safety Switches

Global Specifications

System Voltage	240 VAC
Switch Type	Single Throw - Heavy Duty
Poles/Blades	3-Pole
Amperage	400
Protection	Fusible with Neutral
Enclosure Type	NEMA 1
Special Paint	ANSI-61 (Gray) Standard
Fuse Clips	H Fuse Clips
Switch Lugs	(2) 1/0-300 or (1) 1/0-750
Fungus Proof Treatment	None
Lock-On Provision	None
Trapped Key Interlock	None
Fuse Pullers	None
Control Pole	None
Ground Lugs	(2) 6-250
Stainless Mechanism	None
Mill Duty	None

Cover Controls

QUANTITY	DESCRIPTION
----------	-------------

Nameplate

Service Entrance Barrier	NEC 230.62 UL98 compliant barrier for additional safety
--------------------------	---

The information on this document is created by Eaton Corporation. It is disclosed in confidence and it is only to be used for the purpose in which it is supplied.

PREPARED BY
Kyle Molnar

DATE
11/14/2025



APPROVED BY

DATE

JOB NAME
Newton Co Historic Jail Renovation

DESIGNATION
400A/3P/F/3R

VERSION
1.0.5.0

TYPE
SSW2

DRAWING TYPE
Customer Appr.

NEG-ALT Number
AT901113X5K2-0000

REVISION
0

DWG SIZE
A

G.O.

ITEM

SHEET
1 of 1

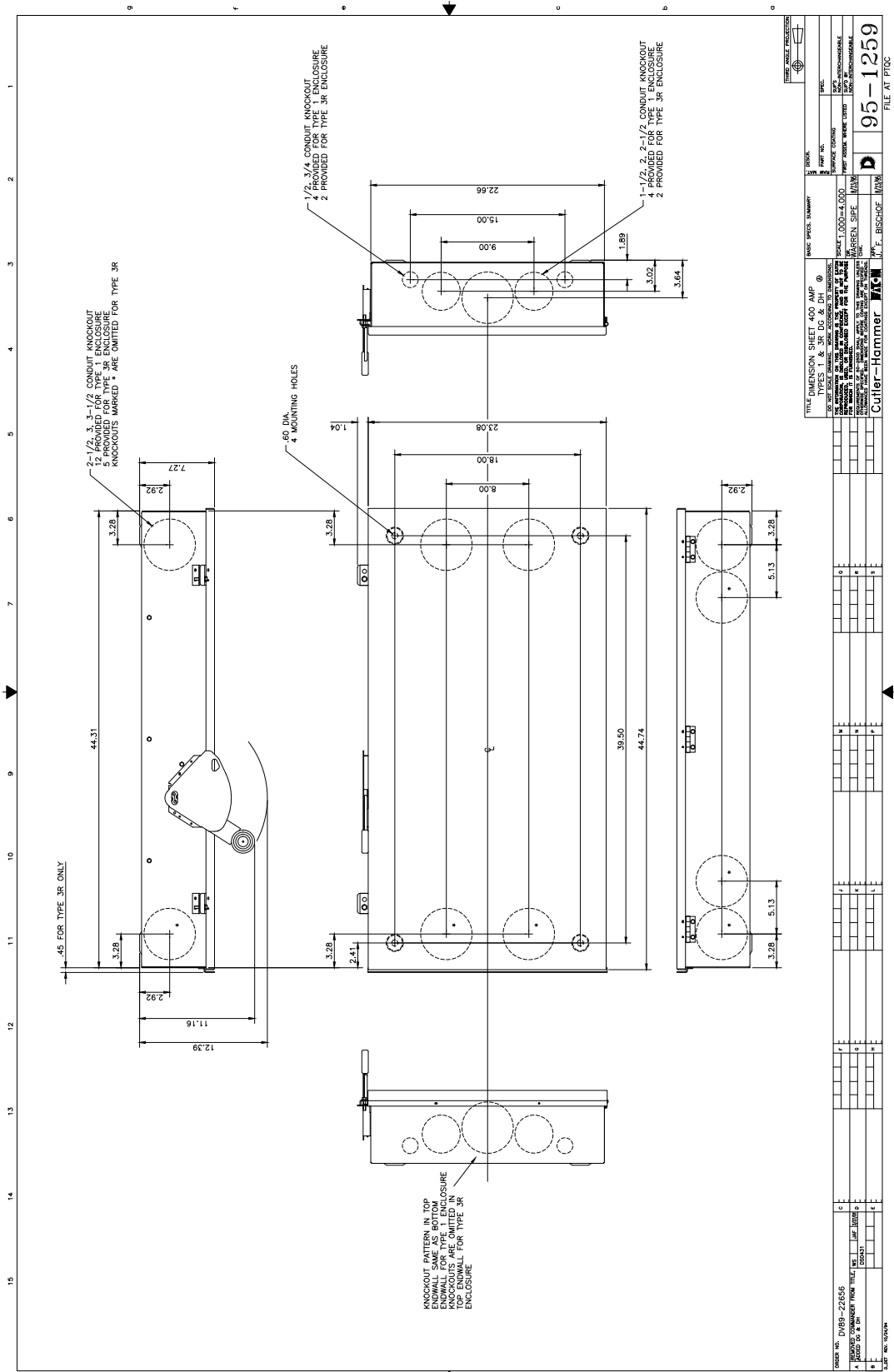
GO/NEG-Alt-Date:
AT901113X5K2-0000-11/14/2025

Item Number:

Catalog Number:
DH325NGK

Job Name:
Newton Co Historic Jail Renovation

Designation:	400A/3P/F/3R
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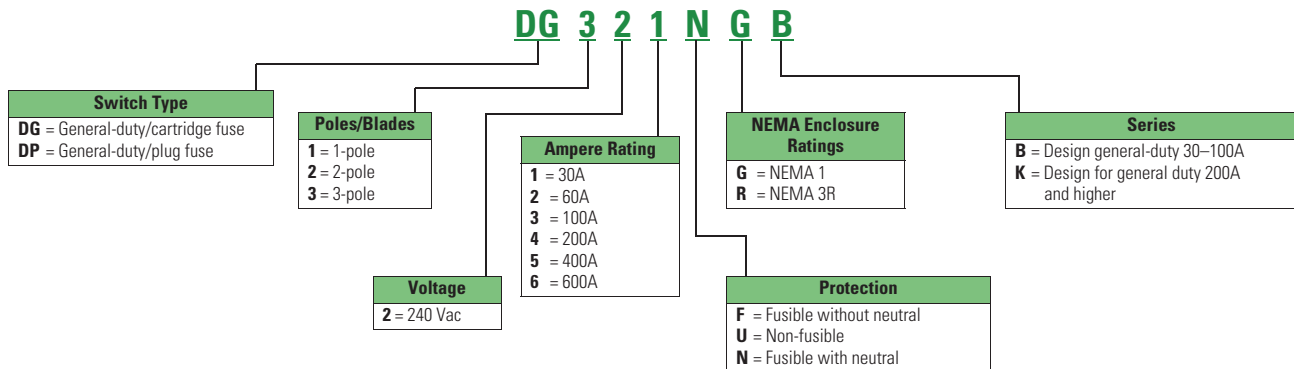




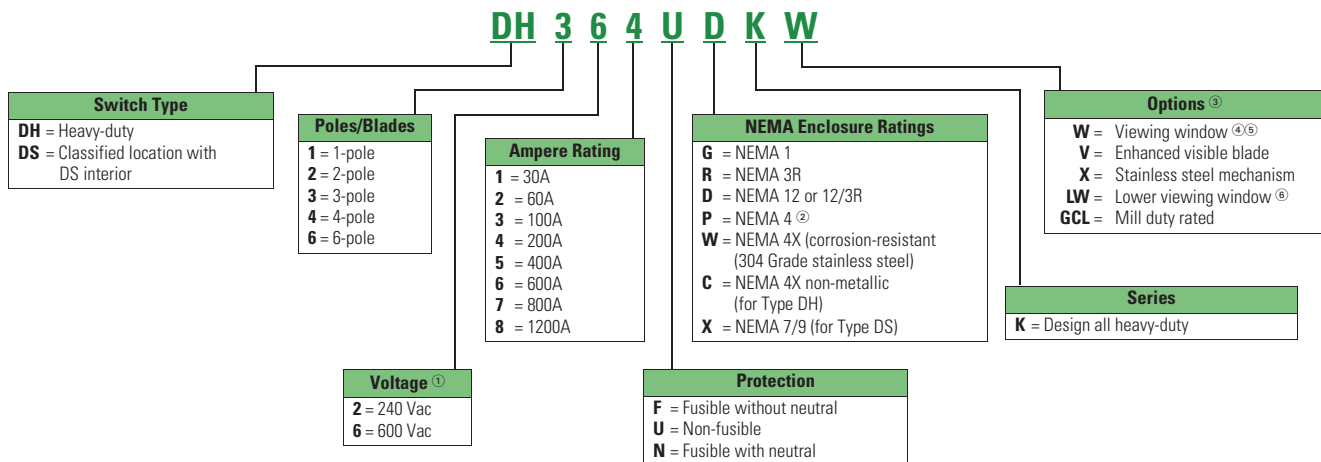
Powering Business Worldwide

Catalog Number Selection

General-Duty



Heavy-Duty



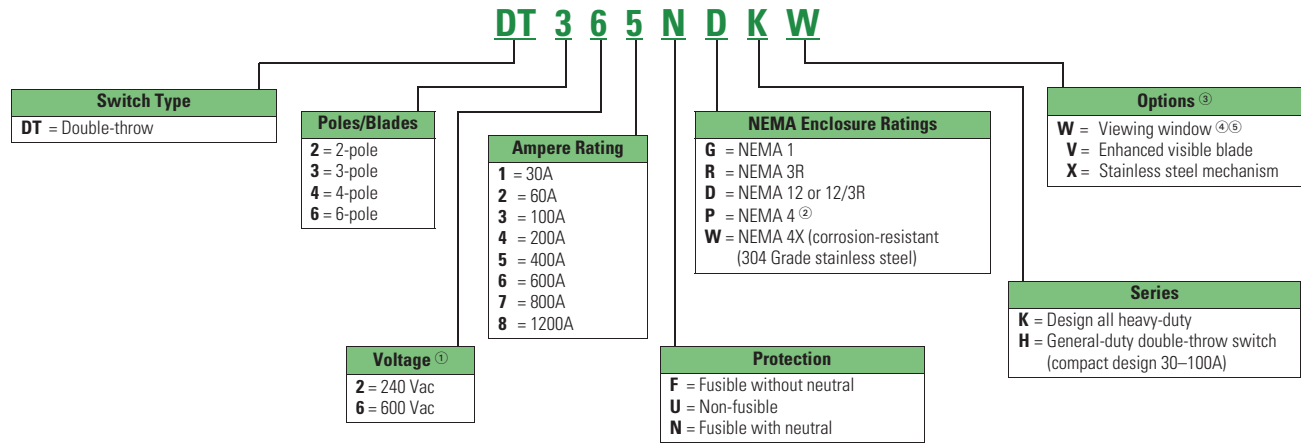
Notes

- ① For DC ratings, check individual switch ratings.
 ② Only available for 400A and higher safety switches.
 ③ See Modifications-Flex Center for additional available options.
 ④ All window switches feature enhanced visible blade design as standard.
 ⑤ Only available in NEMA 12/3R and NEMA 4X enclosures.
 ⑥ Only available in 200 to 1200A NEMA 12/3R and NEMA 4X enclosures.

These tables are intended for use in breaking down existing catalog numbers. They are not intended for building new catalog numbers.

A factory-installed ground lug is supplied in all heavy-duty safety switches.

Double-Throw

**Notes**

- ① For DC ratings, check individual switch ratings.
 ② Only available for 400A and higher safety switches.
 ③ See Modifications-Flex Center for additional available options.
 ④ All window switches feature enhanced visible blade design as standard.
 ⑤ Only available in NEMA 12/3R and NEMA 4X enclosures.

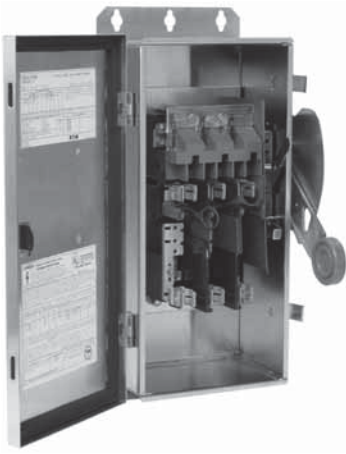
These tables are intended for use in breaking down existing catalog numbers. They are not intended for building new catalog numbers.

A factory-installed ground lug is supplied in all heavy-duty safety switches.



Powering Business Worldwide

Heavy-Duty Safety Switch



Heavy-Duty

Product Description

- 30–1200A
- 600 Vac, 600 Vdc maximum
- Horsepower rated
- Fusible and non-fusible switches are 100% load break and 100% load make rated
- The continuous load current of fusible switches is not to exceed 80% of the rating of fuses employed in other than motor circuits. Non-fusible switches are 100% fully rated
- Suitable for service entrance applications unless otherwise noted
- For factory modifications, refer to **Page V2-T1-15**

Application Description

For heavy commercial and industrial applications where reliable performance and service continuity are critical.

For the toughest heavy commercial and industrial applications, refer to **Page V2-T1-77** for catalog information on our mill-duty safety switch.

316 Grade stainless steel is often a desirable choice for wastewater treatment plants and petrochemical facilities.

Features, Benefits and Functions

- Deionizing arc chutes; arc chutes confine and suppress the arcs produced by opening contacts under load
- Mechanically interlocked cover to prevent easy access when the switch is in the ON position
- Clearly visible palm fitting red handle
- Premium 316-Grade stainless steel enclosures offer better corrosion resistance in the presence of most chemicals, salts and acids, and is more resistant to marine atmospheres
- Visible double-break quick-make, quick-break blades
- Visible ON/OFF indication
- 30–1200A NEMA 12 designs convertible to NEMA 3R by opening factory-installed drain hole
- Tri-lingual nameplates

Standards and Certifications

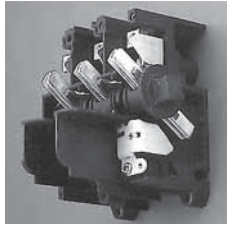
- UL listed File No. E5239
- Meets UL 98 for enclosed switches and NEMA Std. KS-1



Seismic Qualifications

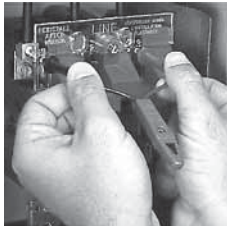
- Heavy-duty switches exceed the requirements of Uniform Building Code (UBC) and California Code Title 24 OSP-0011-10, OSP-0012-10





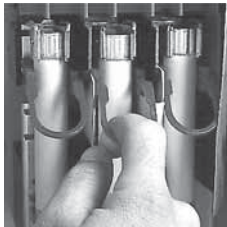
Visible Double-Break Rotary Blade Mechanism

- Two points of contact provide a positive open and close, easier operation, and also help prevent contact burning for longer contact life



Clear Line Shield

- Protects against accidental contact with energized parts. Probe holes enable the user to test if the line side is energized without removing the shield. Not typically provided on general-duty switches, but available as a field kit or factory installed



Built-In Fuse Pullers (NEMA 12 and 4X 30–200A Only)

- Provide easy removal of fuses



Clearly Visible Handle

- The position (ON or OFF) can be clearly seen from a distance and the length provides for easy operation



Triple Padlocking Capability

- Personnel safety feature because the large hasp can accommodate up to three 3/8-inch (9.5 mm) shank locks



Additional Locking Capability

- Cabinet door can be further padlocked at the top and bottom as applicable



Interlocking Mechanism

- Door cannot be opened when the handle is in the ON position. Front and side operable defeater mechanism provides for user access when necessary on single-throw switches



Tangential Knockouts

- An ample number are provided on the top, bottom and sides of both NEMA Types 1 and 3R enclosures through 200A



Bolt-On Hub Kits

- For switches in a NEMA Type 3R, 30–200A. Use a Myers type hub for all others

Technical Data and Specifications

Standard Lug Capacities

Description	Minimum Wire Size	Maximum Wire Size	Wire Type
30A DP	#14	#10	CU
	#12	#10	AL
30A DG	#14	#6	CU/AL
30A DH, DT	#14	#2	CU/AL
60A DG	#14	#1/0	CU/AL
60A DH, DT	#14	#2	CU/AL
100A DG ^①	#14	#1/0	CU/AL
100A DH, DT	#14	#1/0	CU/AL
200A DG, DT	#6	250 kcmil	CU/AL
200A DH Type 1 and 3R	#6	250 kcmil	CU/AL
200A DH Type 4X and 12	#6	300 kcmil	CU/AL
400A DG, DH, DT ^②	(2) #1/0	(2) 300 kcmil	CU/AL or ^③
	(1) #1/0	(1) 750 kcmil	CU/AL
600A DG, DH	(1) #2	(1) 600 kcmil	CU/AL and ^④
	(1) #1/0	(1) 750 kcmil	CU/AL
600A non-fusible DT	(2) 250	(2) 500 kcmil	CU/AL
800A DH	(4) #1/0	(4) 750 kcmil	CU/AL
600A fusible DT, 800A DT	(3) #250	(3) 500 kcmil	CU/AL
1200A DH, DT	(4) #1/0	(4) 750 kcmil	CU/AL
Copper-Bodied Lugs ^⑤			
30A CU	#14	#6	CU
60A CU	#14	#4	CU
100A CU	#6	#1/0	CU
200A CU	#6	250 kcmil	CU
400A CU Type 4, 4X, and 12	#1/0	500 kcmil	CU
600-800A CU Type 4, 4X and 12	(2) #1/0	(2) 500 kcmil	CU

Notes

- ^① The maximum size aluminum or copper-clad wire allowable for applications where the conductor enters or leaves the enclosure through the wall opposite its terminal is #1 gauge.
- ^② Applicable to DG/DH non-fused NEMA 1 and 3R only. The maximum size wire allowable for applications where the conductor enters or leaves the enclosure through the wall opposite its terminal is 250 kcmil.
- ^③ Single barrel lug that accepts one or two cables per phase as detailed above.
- ^④ Double barrel lug that accepts 2 cables per phase as detailed above.
- ^⑤ No Copper-Bodied Lugs are available for 1200A switches. No Copper-Bodied Lugs are available for larger than 500 kcmil cables. No Copper-Bodied Lugs are available for 400–800A NEMA 1 or NEMA 3R switches.

Although certain lug capacities are larger than required, only minimum wire bending space is provided per the requirements noted in NEC®.

A factory-installed ground lug is supplied in all heavy-duty safety switches.

Hinkley Manor House 1-Light Outdoor

SKU: 1819BK-154H

Finish: Black

UPC: 640665181913

Print Date: 06/10/2026

Collection: Manor House



PRODUCT DIMENSIONS

Weight: 3.000000

Height (Top to Bottom): 12.5

Width (Side to Side): 7

Length (Front to Back): 6.75

Backplate/Canopy Specs: 4.5"x5.75"

SHADE INFORMATION

Shade Included:

Glass: Clear

Dark Sky Compliant: No

BULB INFORMATION

Bulb Included: No

Number of Bulbs:

Bulb Type: Incandescent/LED

Bulb Base: E26

Max. Wattage per Socket:

CRI:

Color Temperature:

Delivered Lumens:

OTHER INFORMATION

Safety Rating:

UL Wet/Damp Location: Wet

Voltage: 120v

MATERIALS

Material: Aluminum

HANGING METHOD

Chain Length:

Lead Wire Length:

Included Stems/Rods:

INFORMATION

Project Name: _____

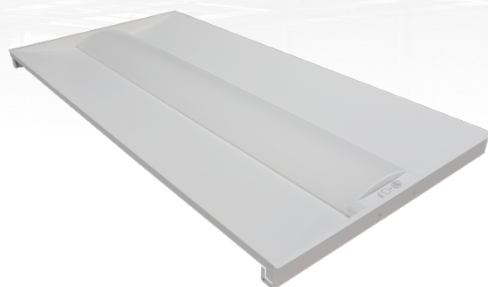
Location: _____

Type: _____

Quantity: _____

Comments: _____

Center Basket Troffer Series



This basket troffer delivers unmatched performance and energy savings with superb flowing design. Featuring selectable wattage and CCT, these fixtures adopt the latest in optical and LED technologies to provide a single pleasant volumetric soft light that fills any interior space. The center basket design gives a larger, brighter, and more productive ambiance.

Specifications

CRI	> 80	LED Lifespan	L70 > 100,000 hours
Light Source	LED	Mounting Options	T-grid or drop ceiling
		Operating Temp	-20°C to +45°C (-4°F to 113°F)
CCT	Select 3500K/4000K/5000K	Lens	Frosted PMMA
Wattage	Select 25W-45W	Dimmable	0-10V
LPW	130	Product Weight	6.22-11 lbs
Lumens*	3250-5850	Certifications	cULus, DLC, Damp Locations
Voltage	120-277V		

*Data is considered to be representative of the series. Actual production may vary between up to ±10% of initial delivered lumens.



Order Information

Basket Troffer Series Concord G5				Example: TRCBLED2x2-CHWT-MV-DM010-G5		
Series	Size	Wattage CCT	Voltage	Dimming	Generation	Accessories
TRCBLED	2x2 2' x 2'	CHWT 25W/30W/35W 35K/40K/50K	MV 120-277V	DM010 0-10v	G5	Blank No Accessories
	2x4 2' x 4'	CHWT 34W/38W/45W 35K/40K/50K				EM Emergency Backup MS Motion Sensor BMS Bluetooth Motion Sensor

Performance Chart

Item	Wattage	Lumens	Efficacy	CRI
TRCBLED2x2-CHWT-MV-DM010-G5	25W/30W/35W	3,250-4,550	130 LM/W	>80
TRCBLED2x4-CHWT-MV-DM010-G5	34W/38W/45W	4,420-5,850	130 LM/W	>80

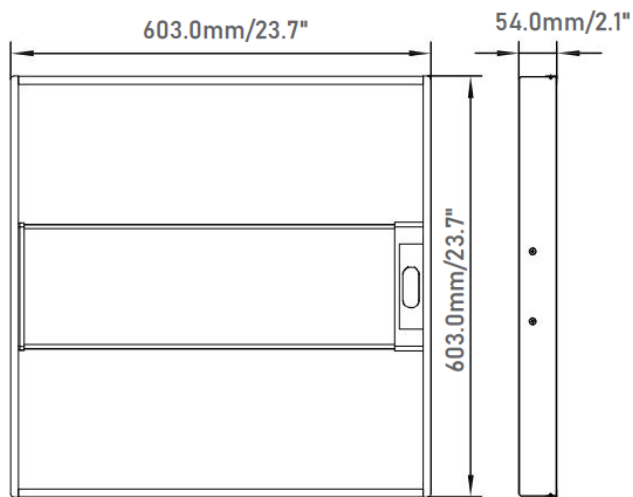
DLC Information

Item	DLC Version	DLC ID	Wattage	Lumens*
TRCBLED2x2-CHWT-MV-DM010-G5	Standard	S-R3RC4Y	35W	4,550
TRCBLED2x4-CHWT-MV-DM010-G5	Standard	S-J768DP	45W	5,850

Dimensions

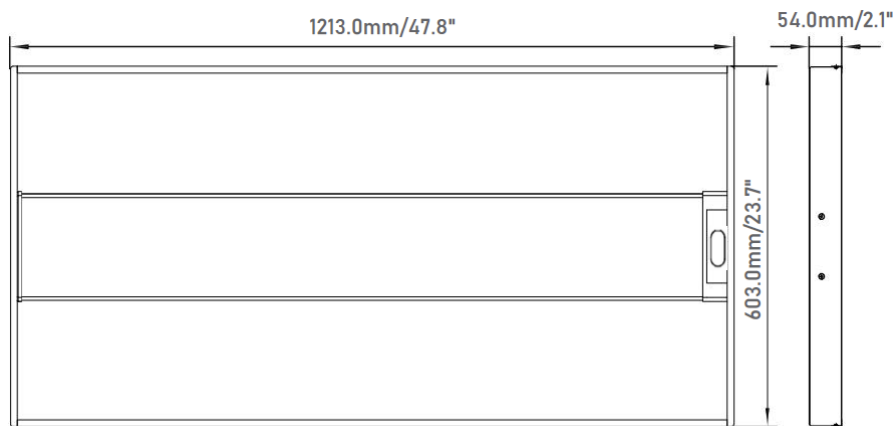
Item	Length	Width	Height	Weight
TRCBLED2x2-CHWT-MV-DM010-G5	23.7"	23.7"	2.1"	6.22 lbs
TRCBLED2x4-CHWT-MV-DM010-G5	47.8"	23.7"	2.1"	11 lbs

2x2



Product Weight : 3.10Kg/6.83lb

2x4



Product Weight : 5.19Kg/11.44lb



INDUSTRIAL AND COMMERCIAL
LIGHTING MFR SINCE 2003

PROJECT NAME **Newton Jail**
ITEM # **Type B**
FIXTURE SCHEDULE
NOTES

Commercial Downlight Series



Transform your commercial space with WareLight's Commercial LED Downlights, designed to provide superior illumination and efficiency for a variety of settings. Whether you're lighting up an office, retail space, or industrial environment, these can lights deliver consistent, high-quality lighting that enhances visibility and creates a professional atmosphere.

Specifications

CRI	>80	Dimmable	0-10V dimming
Light Source	LED Type: SMD2835	Beam Angle	80°-100°
CCT	Selectable 2700K/3000K/3500K/4000K/5000K	Operating Temperature	-20°C(-4°F) to 40°C(104°F)
Wattage	Selectable 12W-40W	Housing	Aluminum
LPW	100-120	Voltage	120-277v
Lumens	600-4,800	Finish	White
Ratings and Certifications	Type IC Rated, Wet Location, Title 24, ETL Listed	Warranty	5 Years

*Data is considered to be representative of the series. Actual production may vary between up to ±10% of initial delivered lumens.





INDUSTRIAL AND COMMERCIAL
LIGHTING MFR SINCE 2003

PROJECT NAME _____
ITEM # _____
FIXTURE SCHEDULE _____
NOTES _____

Order Information

Commercial Downlight Series			Example: WL-SCDL-6-30W-5CCT-UNV	
Series	Size	Wattage	Color Temperature	Voltage
WL-RCDL (Round) or WL-SCDL* (Square)	4 4 Inches	16W 6W/8W/10W/12W/16W Selectable	5CCT 27K/30K/35K/40K/50K Selectable	UNV AC 120-277V
	6* 6 Inches	30W 12W/16W/22W/26W/30W Selectable		
	8* 8 Inches	35W 16W/22W/26W/30W/35W Selectable		
	10 10 Inches	40W 22W/26W/30W/35W/40W Selectable		

*WL-SCDL available in 6" and 8" only.

Accessories

*Goof ring & new construction plates compatible with WL-RCDL only.



Goof Ring 4"



Goof Ring 6"



Goof Ring 8"



Goof Ring 10"



New Construction or Remodel
Plate for T-grid Ceilings



New Construction Plate
for Stud/Joint Ceilings



Emergency Battery Backup

Performance Chart

Model Number	Wattage	Lumens	Efficacy	CRI
WL-RCDL-4-16W-5CCT-UNV	6W/8W/10W/12W/16W	600-1,600	100 LM/W	>80
WL-RCDL-6-30W-5CCT-UNV	12W/16W/22W/26W/30W	1,440-3,600	120 LM/W	>80
WL-RCDL-8-35W-5CCT-UNV	16W/22W/26W/30W/35W	1,920-4,200	120 LM/W	>80
WL-RCDL-10-40W-5CCT-UNV	22W/26W/30W/35W/40W	2,640-4,800	120 LM/W	>80
WL-SCDL-6-30W-5CCT-UNV	12W/16W/22W/26W/30W	1,260-3,150	105 LM/W	>80
WL-SCDL-8-35W-5CCT-UNV	16W/22W/26W/30W/35W	1,680-3,675	105 LM/W	>80



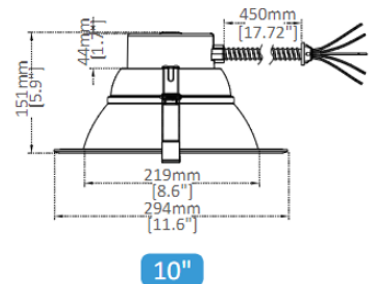
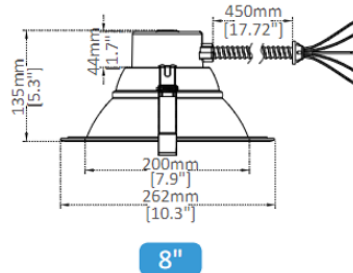
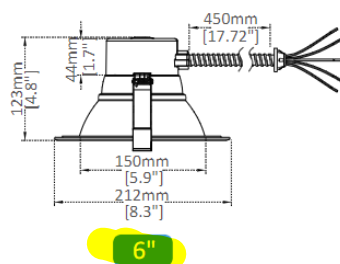
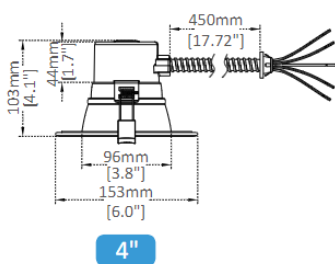
INDUSTRIAL AND COMMERCIAL
LIGHTING MFR SINCE 2003

PROJECT NAME _____
ITEM # _____
FIXTURE SCHEDULE _____
NOTES _____

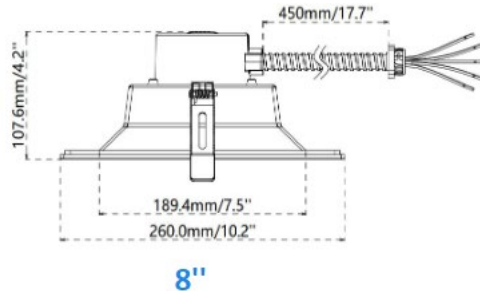
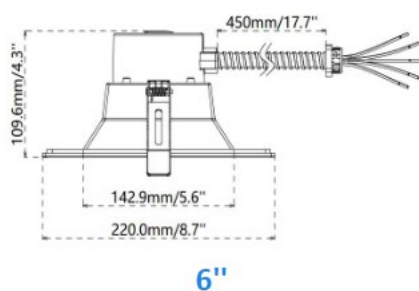
Dimensions

Item	Length	Diameter	Weight
WL-RCDL-4-16W-5CCT-UNV	4.1"	3.8"	0.84 lbs.
WL-RCDL-6-30W-5CCT-UNV	4.8"	5.9"	1.15 lbs.
WL-RCDL-8-35W-5CCT-UNV	5.3"	7.9"	1.48 lbs.
WL-RCDL-10-40W-5CCT-UNV	5.9"	8.6"	1.65 lbs.
WL-SCDL-6-30W-5CCT-UNV	4.3"	5.6"	1.94 lbs.
WL-SCDL-8-35W-5CCT-UNV	4.2"	7.5"	2.43 lbs.

WL-RCDL



WL-SCDL



Project Name

Newton Jail

Location

Prepared By

Type C and H-HD

**NUVO TH701**

10W CCT LED TRACK HD 36 DG WHT

Notes

(www) 13-06-2024 00:47:17

General

Status	Active
Type	Track Head
Wattage	10W
Finish	Matte White
Beam Angle	36
CCT (Kelvin)	2700K/3000K/3500K/4000K/5000K
Temperature	Warm White to Natural Light
Base	Integrated
ANSI Base	Integrated
Length (in.)	5
Width (in.)	2
Height (in.)	5.38
Indoor or Outdoor Fixture	Indoor

Specifications

Dimmable	Yes-Dimmable
Dimming Note	120V only

Dimensions

Extension (in.)	7.75
Weight (lb.)	0.7

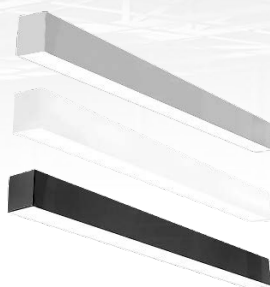
Compliance

Safety Listing	cETLus; cETLus - Listed
Location Rating	Dry
CA T20 / T24 Rationale	California T24 2016 - 2022 JA8 Listed
California Status	Lawful for sale in California
Title 20 / 24 Status	California T24 Listed
California Prop 65	Lead
RoHS Compliant	Yes
FCC Compliant	Yes

Additional Information

Warranty	3 Year Limited - Fixtures
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Beam Adjustable Series



Elevate your lighting design with WareLight's Direct/Indirect Suspended Linear Fixtures with selectable wattage and color temperature for maximum versatility. Designed for both performance and aesthetics, this fixture is ideal for offices, commercial spaces, and architectural environments seeking a balance of form and function. It is available in sleek black, white, or silver finishes to match a range of modern interiors. For added design flexibility, we also offer premium wood finish options that bring warmth and a natural touch to your space. Additionally, acoustic panel upgrades are available, helping reduce ambient noise while maintaining a clean, contemporary look—perfect for open-plan offices or collaborative workspaces.

Specifications

CRI	>80	Beam Angle	100°
Light Source	LED	Mounting Options	Suspended, Wall Mount , or Recessed
Dimmable	0-10v	Operating Temperature	-20° C to 40° C (-4° F to 104° F)
CCT	Selectable 30/35/40/50K	Linkable	*Continuous run and custom pattern up to 600W
Wattage	Selectable 15W-100W	Lens	Polycarbonate
LPW	110	Size	2FT, 4FT , 6FT & 8FT
Lumens	1,650-11,000	Finish	Black, White , Silver, Acoustic or Wood
Voltage	120-277V	Warranty	5 Years
Ratings and Certifications	cULus, DLC Premium, Damp Location		

*Acoustic and Wood Finish are not linkable.





INDUSTRIAL AND COMMERCIAL
LIGHTING MFR SINCE 2003

PROJECT NAME _____
ITEM # _____
FIXTURE SCHEDULE _____
NOTES _____

Order Information

Linear Architectural Beam G3				Ex: BEAMLED4-ADJ-DID-50W-4CT-DMV-WH-G3				
Series	Length	Selectable	Light	Wattage	CCT Select	Dimming/Voltage	Finish	Generation
BEAMLED	2 2 Foot			30W			WH white	G3
	4 4 Foot	ADJ	DID	50W	4CT	DMV	BK black	
	6 6 Foot	Adjustable	Direct/Indirect	75W	3000K	0-10v dimming	SV Silver	
	8 8 Foot	up/down light %	(up and down light)	100W	3500K 4000K 5000K	120-277v	*4' and 8' Only	

Mounting Options

Name	Part #	Description
Suspended (Included)	(blank)	10' aircraft cable kit, with color match canopy covers for drop ceiling or open ceiling applications.
Wall Mount Kit	WMK	Designed for secure horizontal mounting to vertical surfaces.
T-Bar Mount Kit	TBSMK	Easily recess linear fixtures into standard T-bar ceiling grids
Mud Flange Kit	MFK	Allows recessed installation with a clean, flangeless appearance in drywall ceilings.
Recessed Flange Kit	RFK	Provides a recessed mounting with a visible trim flange

*Acoustic & wood available with suspension mounting only.

Performance Chart

Item	Wattage	Lumens	Efficacy	CRI
BEAMLED2-ADJ-DID-30W-4CT-DMV-[BK,WH]-G3	15/20/25/30W	1,650/2,200/2,750/3,300	110	>80
BEAMLED4-ADJ-DID-50W-4CT-DMV-[BK, WH, SV]-G3	20/30/40/50W	2,200/3,300/4,400/5,500	110	>80
BEAMLED6-ADJ-DID-75W-4CT-DMV-[BK, WH]-G3	30/45/60/75W	3,300/4,950/6,600/8,250	110	>80
BEAMLED8-ADJ-DID-100W-4CT-DMV-[BK, WH, SV]-G3	40/60/80/100W	4,400/6,600/8,800/11,000	110	>80



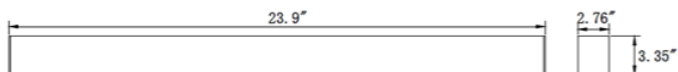
INDUSTRIAL AND COMMERCIAL
LIGHTING MFR SINCE 2003

PROJECT NAME _____
ITEM # _____
FIXTURE SCHEDULE _____
NOTES _____

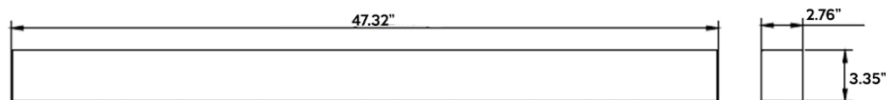
Dimensions

Item	Length	Width	Height	Weight
BEAMLED2-ADJ-DID-30W-4CT-DMV-[BK,WH]-G3	23.9"	2.76"	3.35"	4.18 lbs.
BEAMLED4-ADJ-DID-50W-4CT-DMV-[BK,WH,SV]-G3	47.4"	2.75"	3.35"	8.4 lbs.
BEAMLED6-ADJ-DID-75W-4CT-DMV-[BK,WH]-G3	70.71"	2.76"	3.35"	9.36 lbs.
BEAMLED8-ADJ-DID-100W-4CT-DMV-[BK,WH,SV]-G3	94.4"	2.75"	3.35"	14.3 lbs.

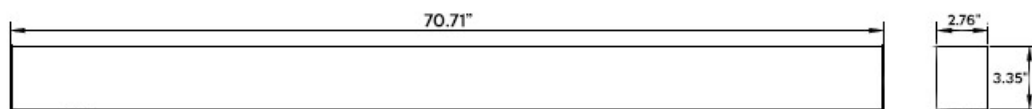
BEAMLED2



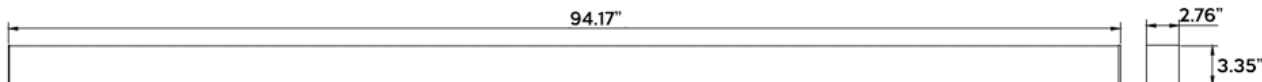
BEAMLED4



BEAMLED6



BEAMLED8





INDUSTRIAL AND COMMERCIAL
LIGHTING MFR SINCE 2003

PROJECT NAME _____
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Connector Options

L



X



Y



T



V



Our Linear Architectural Beam series fixtures are now available with innovative connector pieces that let you arrange them in a practically limitless selection of shapes, configurations, and even patterns.



Item	Joint Type	Dimensions	Weight
BEAM-4CCT-L-CNTR-[BK,WH]-G2	L	5.79" L x 5.79" W x 3.35" H	1.1 lbs
BEAM-4CCT-X-CNTR-[BK,WH]-G2	X	8.82" L x 8.82" W x 3.35" H	2.2 lbs
BEAM-4CCT-Y-CNTR-[BK,WH]-G2	Y	7.91" L x 6.85" W x 3.35" H	1.1 lbs
BEAM-4CCT-T-CNTR-[BK,WH]-G2	T	8.82" L x 5.79" W x 3.35" H	1.76 lbs
BEAM-4CCT-V-CNTR-[BK,WH]-G2	V	8.13" L x 8.13" W x 3.35" H	1.65 lbs



INDUSTRIAL AND COMMERCIAL
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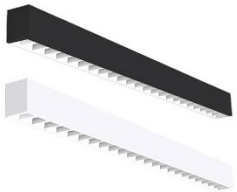
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Finish/Lens Options

Finish	Description	
Black	Tailor your fixture's appearance with our three distinct color options; Black, White, or Silver. Designed to complement a variety of aesthetics – whether you're aiming for a sleek industrial look, a clean neutral appearance or a contemporary feel.	
White		
Silver		

Acoustic Finish	Description	
[4',8'] BEAMLED-ACOUSTIC-KIT-Dark Gray	Reduce noise and enhance visual comfort with our Acoustic Panels, designed specifically for LED suspended linear fixtures. Crafted from high-density PET fiber material, these panels effectively absorb sound while adding a sleek, modern touch to your space. Available in dark gray, gray, or royal blue finishes, they integrate seamlessly with your fixture for a polished look.	
[4',8'] BEAMLED-ACOUSTIC-KIT-Gray		
[4',8'] BEAMLED-ACOUSTIC-KIT-Blue		

Wood Finish	Description	
4' BEAMLED-CLOSED-WOOD-KIT-NATURAL	Add warmth and natural elegance to your lighting design with our premium wood finish options, available in Natural (Light) and Teak (Dark). These high-quality finishes bring a sophisticated, organic aesthetic to our suspended linear fixtures, making them ideal for modern offices, retail spaces, or hospitality environments seeking a refined architectural touch.	
4' BEAMLED-CLOSED-WOOD-KIT-TEAK		

Lens	Description	
LOUV	Designed to control glare and improve visual comfort. Ideal for environments where visual clarity and reduced light spill are critical, the louver lens features a grid-like structure that directs light downward, minimizing off-angle brightness and enhancing beam control.	



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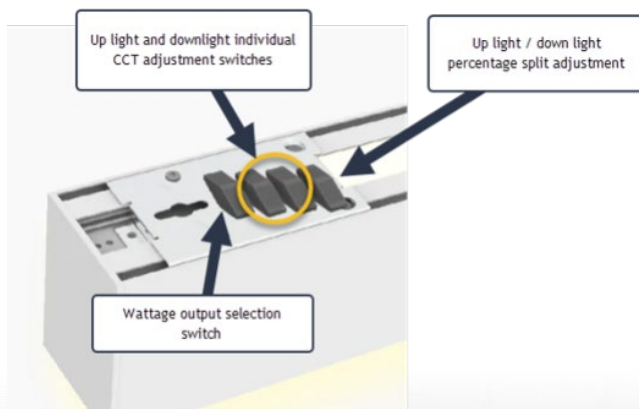
Compatible Dimmer List

Brand	Model
Lutron	DVSTV-WH Diva 8 Amp 3-way/Single-Pole 0-10V Dimmer
Eaton	Controls DF10P-C1 Decorator 0-10V Dimmer
Cooper	SF10P-W Slide 0-10V Dimmer
LuxDrive	Dimming Control - 0-10V Low Voltage Wall Mount
Lutron	DVTV-WH Diva 30mA Single Pole 0-10V Fluorescent
Leviton	DS710-10Z

Direct/Indirect Light Adjustment Options

	BEAMLEDX-ADJ-DID-XXW-4CT-DMV-G3
Up/Down Adjustments	0% Up and 100% Down
	30% Up and 70% Down
	40% Up and 60% Down
	50% Up and 50% Down
Up/Down CCT Selections**	3000K-3500K-4000K-5000K
	**Up and down can be controlled independently

X represents length and XX represents wattage.



DJV1091MBK: Small Vanity



Dimensions:

Width: 5.0"
Height: 8.0"

Extends: 5.875'

Wire: 8" (color;Black/White)

Mounting Proc.: Screw(s)

Connection: Mounted To Box

Bulbs:

1 - E26 Medium A19 60.0w Max. 120v **Not included**

Features:

- Clear bulb(s) recommended for this fixture
- Easily converts to LED with optional replacement lamps
- Fixture may be mounted in the up or down position
- Meets Title 24 energy efficiency standards
- Title 24 compliant if used with Joint Appendix (JA8) approved light bulbs listed in the California Energy Commission Appliance database.

Material List:

1 Body - Steel - Midnight Black

Safety Listing:

Safety Listed for Damp Locations

Instruction Sheets:

Trilingual (English, Spanish, and French) (920DJV1091-DJV1092-DJV1093-DJV1094)

Collection: Foster

UPC #:014817643190

Finish: **Midnight Black (MBK)**

Shade / Glass / Diffuser Details:

Part	Material	Finish	Quantity	Item Number	Length	Width	Height	Diameter	Fitter Diameter	Shade Top Length	Shade Top Width	Shade Top Diameter
Shade	Glass	Milk	1				4.75	3.5				

Backplate / Canopy Details:

Type	Height / Length	Width	Depth	Diameter	Outlet Box Up	Outlet Box Down
Back Plate	5.0	5.0	0.75		5.5	2.5

Shipping Information:

Package Type	Product #	Quantity	UPC	Length	Width	Height	Cube	Weight	Fr. Class	UPS Ship
Individual	DJV1091MBK	1	014817643190	7.5	7.2	12.0	0.38	2.3	0	Yes
Master Pack	DJV1091MBK	6	10014817643197	22.5	15.2	13.0	2.57	15.5	0	Yes



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Warehouse-Lighting.com

Phone: 888-454-4480

info@warehouse-lighting.com

Warehouse-Lighting.com

2750 South 163rd St

New Berlin, WI 53151

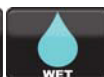
Newton Jail
Type EG



WHL-DBEL-ACEM-HL

LED DECORATIVE OUTDOOR DIE-CAST AC/EMERGENCY UNIT

STANDARD



OPTIONAL



ILLUMINATION

- Long lasting, efficient, ultra bright white LEDs.
- 12.0 watts (2 LEDs x 6.0 watt) per unit.
- Mirror-bright reflector and prismatic polycarbonate refractor.
- Can be used as a Normally-ON or Normally-OFF luminaire as well as on a switched circuit.
- Dissipates 1286 lumens in AC mode and 350 lumens in DC mode.

ELECTRICAL

- Universal 120-277 voltage.
- Charge rate/power "ON" LED indicator light and push-to-test switch for mandated code compliance testing.
- 4.8V long life, maintenance-free, rechargeable NiCd battery.
- Internal solid-state transfer switch automatically connects the internal battery to LED board for minimum 90-minute emergency illumination.
- Fully automatic solid-state, two rate charger initiates battery charging to recharge a discharged battery in 24 hours.
- Self-diagnostic feature performs monthly, bi-annual, and annual tests to ensure reliable operation and meets electrical and life safety codes.
- Photocell control sensor included as standard for use as dusk-to-dawn luminaire.
- Field-selectable wiring allows for AC operation of unit to be controlled using a wall-switch, photocell or other switching mechanism.

MOUNTING

- Universal knockout pattern on back plate for wall mount.
- Threaded opening at the top of the enclosure for conduit mount.

HOUSING

- Decorative, low profile, architectural design.
- Die-cast aluminum housing
- Durable powder-coated finishes in white, black, nickel and dark bronze finish.
- Sealed and gasketed.

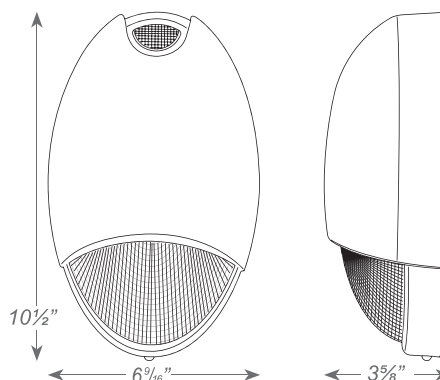
OPTIONS

- CW: Optional internal heater for extreme cold temperature applications (-30°C – 50°C).
- CEC: Certified to CEC under Title 20 Regulations.

WARRANTY / LISTING

- Five year warranty on all electronics and housing. Battery prorated for five years.
- Meets UL924, NFPA 101 Life Safety Code, NEC, OSHA, Local and State Codes.
- UL Listed for wet locations (0°C – 50°C).

DIMENSIONS



ORDERING INFORMATION

Sample Part Number: WHL-DBEL-ACEM-HL-BR-SDT-PC

MODEL	HOUSING COLOR	STANDARD FEATURE	OPTIONS	STANDARD FEATURE
DBEL-ACEM-HL	W White	SDT Self-Diagnostics	CW Cold Weather	PC Photocell Sensor
	B Black		CEC Title 20 Compliant	
	BR Dark Bronze			
	N Nickel			

WHL-RMR-16 Semi-Recessed MR-16 Emergency Unit



WAREHOUSE-LIGHTING.COM

Newton Jail
Type EM



STANDARD



OPTIONAL



ILLUMINATION

- Two fully adjustable ultra bright, round, 7.0 watt, MR-16 halogen lamp heads standard.
- High performance MR16 halogen lamps with smooth metallized reflector and glass lens for optimal light distribution

ELECTRICAL

- Dual 120/277 voltage.
- Charge rate/power "ON" LED indicator light and push-to-test switch for mandated code compliance testing.
- LVD (low voltage disconnect) prevents battery from deep discharge.
- 6V maintenance-free, rechargeable sealed lead acid battery.
- Internal solid-state transfer switch automatically connects the internal battery to lamp heads for minimum 90-minute emergency illumination.
- Fully automatic solid-state, two rate charger initiates battery charging to recharge a discharged battery in 24 hours.

MOUNTING

- Universal knockout pattern on the backplate for wall mount. Snaps into place making internal electrical connections.
- Knockout for conduit applications.

HOUSING

- Injection-molded, engineering grade, 5VA flame retardant, high-impact resistant, thermoplastic in white or black finish.

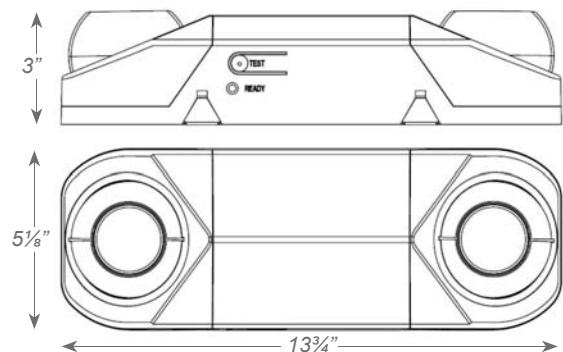
OPTIONS

- USA: Substantial transformation assembly in the U.S. complies with "Assembled in the USA" under the Buy American Act.
- LED: 3.6W high performance MR-16 base LED Lamps for increased center-to-center spacing.
- PLED: 5.0W high performance MR-16 base LED Lamps for premium center-to-center spacing.

WARRANTY / LISTING

- Five year warranty on all electronics and housing. Battery prorated for two years.
- Meets UL924, NFPA 101 Life Safety Code, NEC, OSHA, Local and State Codes.
- UL Listed for damp locations (20°C – 40°C).

DIMENSIONS



ORDERING INFORMATION

Sample Part Number: WHL-RMR-16

MODEL	HOUSING COLOR		OPTIONS	
WHL-RMR-16	(blank)	White	LED	3.6W High Lumen White LED Lamps
	B	Black	USA	Assembled in USA
			PLED	5.0W High Lumen White LED Lamps



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2750 South 163rd St
New Berlin, WI 53151

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Phone: 888-454-4480
info@warehouse-lighting.com

WHL-RMR-16 Semi-Recessed MR-16 Emergency Unit



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ELECTRICAL INFORMATION

CATALOG NUMBER	INPUT WATTS (W)		INPUT AMPS (A)	
	120V	277V	120V	277V
WHL-RMR-16	4.2	5.2	0.039	0.021



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THIN ALL LED EXIT & EMERGENCY THERMOPLASTIC COMBO



U.S. Patent No.'s:
9,990,868
D825,003



High-Lumen
Output Option

ILLUMINATION

- Long lasting, efficient ultra bright white LED lamp heads.
- One 1.1 watt white LED per lamphead.
- Unique all-inclusive lamp, reflector and lens assembly.
- Long life ultra-bright, energy efficient Red or Green LED EXIT sign illumination.

ELECTRICAL

- Dual 120/277 voltage.
- Unique bi-color LED indicator alerts occupant on battery condition (Green-normal, Red-check battery).
- Charge rate/power "ON" LED indicator light and push-to-test switch for mandated code compliance testing.
- 3.6V Long life, maintenance-free, rechargeable NiCd battery.
- Internal solid-state transfer switch automatically connects the internal battery to LED board and LED lamp heads for minimum 90-minute emergency illumination.
- Fully automatic solid-state, two rate charger initiates battery charging to recharge a discharged battery in 24 hours.

MOUNTING

- Mounting canopy included for top or end mount.
- Universal knockout pattern on back plate for wall mount.

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Phone: 888-454-4480
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STANDARD



OPTIONAL

HOUSING

- Specification-grade, low profile thin plastic design.
- Patented, field selectable universal single/double face configuration.
- Injection-molded, engineering grade, 5VA flame retardant, high-impact resistant, thermoplastic in white or black finish.
- EZ snap-out Chevron directional indicators.
- Remote capacity of up to 2.0 watts available.

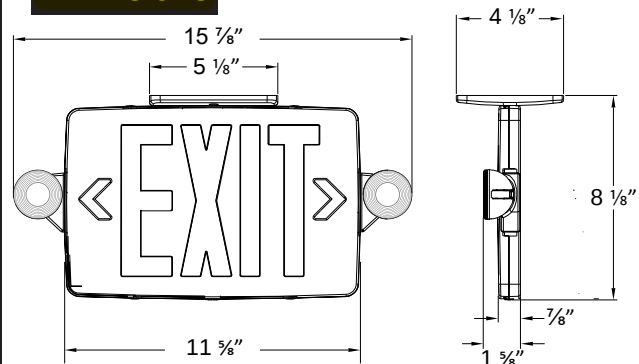
OPTIONS

- HL: Provides increased center-to-center spacing (2.0W per head).

WARRANTY / LISTING

- One year warranty on all electronics and housing. Battery prorated for one year.
- Meets UL924, NFPA 101 Life Safety Code, NEC, OSHA, Local and State Codes.
- UL Listed for damp locations (0°C – 50°C).
- Certified to CEC under Title 20 regulations.

DIMENSIONS



ORDERING INFORMATION

Sample Part Number: **WHL-CTXTEU3RW**

MODEL	No. of FACES	LETTER COLOR	HOUSING COLOR	OPTIONS	
WHL-CTXTEU	3	Universal Single/Double Face		HL	High Lumen ¹
		R Red	W White	RC	Remote Capacity ¹
		G Green	B Black		

¹ -HL and -RC cannot be ordered together.

EF1023MBK: Semi-Flush Mount



Dimensions:

Diameter: 24.0"
Width: 24.0"
Height: 6.0"
Weight: 5.2 lbs.

Wire: 8" (color;Black/White)
Mounting Proc.: Screw(s)
Connection: Mounted To Box

Bulbs:

3 - Candelabra G16-1/2 60.0w Max. 120v **Not included**

Material List:

1 Body - Steel - Midnight Black
3 Shade - Steel - Midnight Black
3 Arms - Steel - Burnished Brass

Safety Listing:

Safety Listed for Damp Locations

Instruction Sheets:

Trilingual (English, Spanish, and French) (ef1023)

Collection: Jane

Swivel shade connections provide added flexibility.

For an eco-friendly lighting design, convert to LED bulbs to offer savings and reduce energy

Install a dimmer switch for a warm glow effect and easily change the look and feel of the room

Designed for damp and dry environments allowing for occasional water moisture, such as bathrooms, covered patios or porches

1-year manufacturer warranty

UPC #:014817588606

Finish: **Midnight Black (MBK)**

Shade / Glass / Diffuser Details:

Part	Material	Finish	Quantity	Item Number	Length	Width	Height	Diameter	Fitter Diameter	Shade Top Length	Shade Top Width	Shade Top Diameter
Shade	Steel	Midnight Black	3		9.0	7.0	3.5					

Backplate / Canopy Details:

Type	Height / Length	Width	Depth	Diameter	Outlet Box Up	Outlet Box Down
Canopy	1.12			5.0		

Shipping Information:

Package Type	Product #	Quantity	UPC	Length	Width	Height	Cube	Weight	Fr. Class	UPS Ship
Individual	EF1023MBK	1	014817588606	23.75	21.25	7.75	2.26	8.6	0	Yes
Master Pack	EF1023MBK	0	10014817588603							No
NJ Pallet		30		48.0	40.0	75.0	83.33	258.0		No
NV Pallet		30		48.0	40.0	75.0	83.33	258.0		No

Full Cutoff Wall Pack Series



WareLight's LED Traditional Full Cutoff Wall Pack is a highly versatile and energy-efficient fixture. This wall pack is IP65 rated, ensuring it is suitable for outdoor environments, resistant to dust and water. The wall pack incorporates advanced options such as 0-10V dimming and can be enhanced with optional accessories like a motion sensor or emergency battery backup. It is an ideal choice for enhancing the safety and visibility in areas such as entrances, courtyards, industrial sites, and building perimeters.

Specifications

CRI	>80	Beam Angle	T2-S Degree
Light Source	LED	Mounting	Wall Mounted
Dimmable	0-10V	Operating Temperature	-40°C TO 50°C
CCT	Selectable 3000K/4000K/5000K	Housing	Extruded Aluminum
Wattage	20W-120W	Voltage	120-277v
LPW	139-148 LPW	Finish	Bronze
Lumens	2,820-17,760 Lm	Warranty	5 Years
Ratings and Certifications	DLC Premium, cULus and IP65		

**Data is considered to be representative of the series. Actual production may vary between up to ±10% of initial delivered lumens.*





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Order Information

Traditional Full Cutoff Wall Pack Series		Example: WL-TFCWP-40W-3CTS-10D-PC-BZ				
Series	Wattage	Color Temperature	Dimming	Photocell	Color	Accessories
WL-TFCWP	40W 20W/30W/40W	3CTS 3000K/4000K/5000K	10D 0-10V	PC Photocell	BZ Bronze	MS PIR Motion Sensor
	80W 40W/60W/80W					EM Emergency Battery Backup
	120W 80W/100W/120W					

*Accessories Sold Separately

PIR Motion Sensor (MS)



Emergency Battery Backup (EM)



Remote Control (HB03R)

One remote needed per project



Performance Chart

Model Number	Wattage	Lumens	Efficacy	CRI
WL-TFCWP-40W-3CTS-10D-PC-BZ	20W/30W/40W	2,820-5,640 Lm	141 LM/W	>80
WL-TFCWP-80W-3CTS-10D-PC-BZ	40W/60W/80W	5,560-11,120 Lm	139 LM/W	>80
WL-TFCWP-120W-3CTS-10D-PC-BZ	80W/100W/120W	11,840-17,760 Lm	148 LM/W	>80



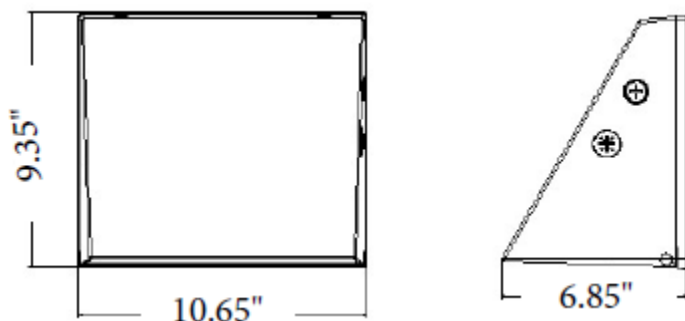
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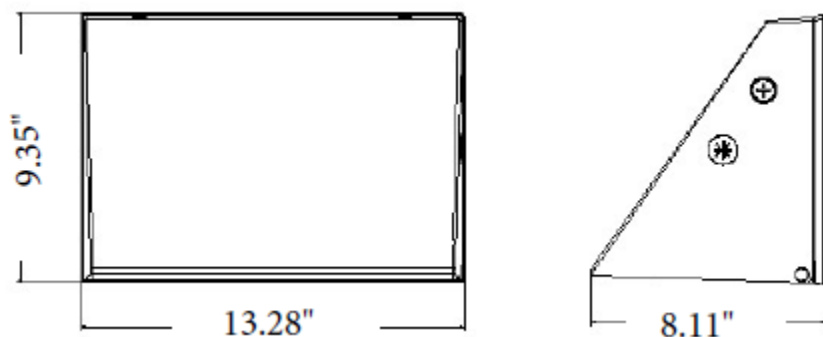
Dimensions

Item	Length	Width	Height	Weight
WL-TFCWP-40W-3CTS-10D-PC-BZ	10.65"	6.85"	9.35"	3.40 lbs.
WL-TFCWP-80W-3CTS-10D-PC-BZ	10.65"	6.85"	9.35"	3.40 lbs.
WL-TFCWP-120W-3CTS-10D-PC-BZ	13.28"	8.11"	9.35"	4.20 lbs.

WL-TFCWP-40W & 80W



WL-TFCWP-120W



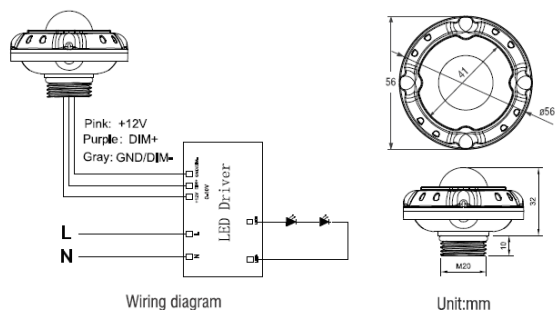


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PIR Motion Sensor

Technical Data



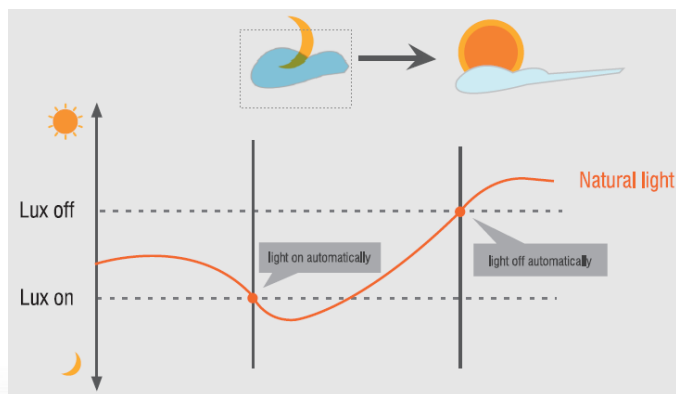
Operating voltage	12±2V DC
Operating current	30mA
Output	DIM 0-10V
Stand-by power	<0.5W
Brightness	0%-100%/Quick setting: 70%/80%/90%/100%
Hold time	10s/1min/10min/30min
Daylight threshold	10Lux/30Lux/50Lux/100Lux/Disable
Stand-by time	1min/30min/60min/+ ∞
Stand-by dimming level	10%/20%/30%/50%
Detection angle	30-120°
Control line	Pink: +12V; Purple: DIM+; Gray: GND/DIM-
Mounting height	Max.6m(ceiling mounted)
Detection range	Max.ø8m(ceiling mounted) Max.6m(wall mounted)
Operating temperature	-30°C~+60°C
IP rating	IP65

Lux On/Off

Adopted dual PD technology, the PIR sensor is able to differentiate artificial light brightness from natural light after installed inside the fixture, and automatically turn off light when ambient brightness exceeds preset lux level.

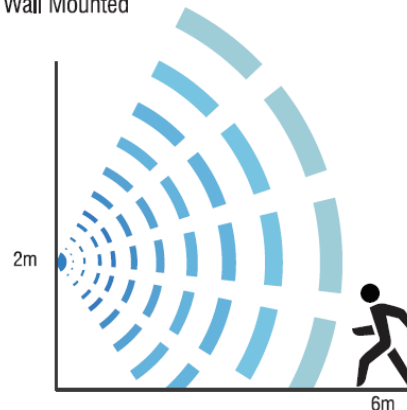
Preconditions to use the Lux-off function:

1. Stand by time is + ∞
2. Stand-by dimming level is on 10%, 20%, 30%, or 50%
3. Daylight threshold is on 10Lux, 30Lux, 50Lux, 100Lux



Detection Coverage

Wall Mounted





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LED Track Light Series



The WareLight LED Track Light offers unmatched versatility and precision for a wide range of lighting applications. Designed with a sleek black housing to complement modern interiors, this fixture allows you to choose between the adjustable beam angle to fine-tune light distribution, whether you need a focused spotlight or a broader wash of light. Compatible with H-type track systems, this track light provides smooth, flicker-free dimming for ultimate ambiance control. Perfect for retail spaces, galleries, hospitality, and residential settings, this LED track light combines functionality, efficiency, and contemporary style in one versatile fixture.

Specifications

CRI	>80	Beam Angle	15° - 55°
Light Source	LED	Mounting	H-Type Track Systems
Voltage	120V	Operating Temperature	-20°C~45°C
CCT	Selectable 27K/30K/35K/40K/50K	Housing	ADC12 Die Casting Aluminum
Wattage	Selectable 10W/15W/20W	Dimmable	Triac
LPW	90 Lm/W	Finish	Black
Lumens	900/1,350/1,800Lm	Warranty	5 Years
Ratings and Certifications	ETL		





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Order Information

WL-THLED Series		Example: WL-THLED-20W-3WS-5CCT-TRIAC-BK		
Series	Wattage	Color Temperature	Dimming	Controls
WL-THLED Track Head	20W-3WS 10/15/20W Selectable	5CCT 27K/30K/35K/40K/50K Selectable	TRIAC Triac Dimming	BK Black

Performance Chart

Model Number	Wattage	Lumens	Efficacy	CRI
WL-THLED-20W-3WS-5CCT-TRIAC-BK	10/15/20W	900/1,350/1,800Lm	90 LM/W	>80

Dimensions

Item	Height	Diameter	Weight
WL-THLED-20W-3WS-5CCT-TRIAC-BK	10.00"	3.3"	1.76 lb

