

**Pow-R-Line Drawout Molded Case Circuit Breaker Switchboards**



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### Product Description

- Drawout molded case circuit breaker switchboard
- Front accessible
- Front connected
- Through-the-door design drawout mechanism through 600A
- Insulated case UL 489 breakers up to 1200A
- Visual indication of breaker status and position
- Large grab handles for easy removal
- 600 Vac maximum
- 600A maximum, group-mounted, drawout molded case feeder breakers
- Individually mounted insulated UL 489 breakers through 1200A

### Application Description

- Drawout feeders in UL 891 distribution switchboards
- Rated as Service Entrance Equipment when appropriately equipped
- Ideal for:
  - Data centers
  - Industrial facilities
  - Process equipment manufacturing
  - Anywhere that requires quick change of feeder devices is needed

### Features, Benefits and Functions

Eaton’s Pow-R-Line Drawout switchboard design is listed and labeled to the UL 891 standard. Switchboards may be rated up to 4000A. Main breakers are available up to 4000A in both fixed-mounted and drawout configurations. Main breakers may be Magnum DS® power circuit breakers or Magnum SB insulated case circuit breakers in either drawout or fixed-mounted configurations. Both are front-accessible configurations. Fixed-mounted molded case circuit breaker mains are available up through 2500A.

Utility and customer-owned metering is available. Customer metering includes Web-enabled communicating systems.

Aluminum bus is standard with copper and silver-plated copper optional. Other common options include surge protective devices (SPDs), seismically qualified designs, density rated bus and many more.

Drawout feeder MCCBs are available in two-pole and three-pole offerings from 20A to 600A in the high-density, group-mounted design.

Drawout feeders above 600A through 1200A integrate the molded case NX drawout breaker. Drawout breakers above 1200A through 2000A use the Magnum SB insulated case circuit breaker. All are front accessible and front connected.

### Standards and Certifications

- UL 891 listed



### Instructions

On an interim basis until Bid Manager™ is updated, please use the Pow-R-Line C® switchboard Bid Manager take-off as the basis for the following:

- Utility compartments
- Service entrance or non-service entrance information
- Voltage
- Bus rating
- Bus material
- Nameplate
- Ground bus material
- Short-circuit current rating
- Top or bottom entrance
- Incoming cable location
- Customer metering
- Surge protective device
- Bus bracing

## Pow-R-Line Drawout Molded Case Circuit Breaker Switchboards

**Product Selection**

Select drawout molded case circuit breaker and UL 489 listed insulated case circuit breakers from the following pages.

- Always select front access/rear aligned
- Use the existing Pow-R-Line C switchboard take-off to select main devices
- IFS sections are permissible but will be bolt-on devices only

**Drawout Branch/Feeder Breakers****Single Branch/Feeder****Dual Branch/Feeder****Single-Mount Two-Pole and Three-Pole**

Ampere Rating	Interrupting Rating (kA Symmetrical)			Breaker Type	"X" Space
	240 Vac	480 Vac	600 Vac		
<b>Single-Mount Breakers with Thermal-Magnetic Trip Units</b>					
70–250	85	35	18	JGS	7X
70–250	100	65	25	JGH	7X
70–250	200	100	35	JGC	7X
250–600	85	35	18	LGS	9X
250–600	100	65	35	LGH	9X
250–600	200	100	50	LGC	9X
<b>Single-Mount Breakers with Electronic 310+ Trip Units (Three-Pole Only)</b>					
20–50	85	35	18	JGS	7X
20–50	100	65	25	JGH	7X
20–50	200	100	35	JGC	7X
40–100	85	35	18	JGS	7X
40–100	100	65	25	JGH	7X
40–100	200	100	35	JGC	7X
80–150	85	35	18	JGS	7X
80–150	100	65	25	JGH	7X
80–150	200	100	35	JGC	7X
100–250	85	35	18	JGS	7X
100–250	100	65	25	JGH	7X
100–250	200	100	35	JGC	7X
100–250	85	35	18	LGS	9X
100–250	100	65	35	LGH	9X
100–250	200	100	50	LGC	9X
200–400	85	35	18	LGS	9X
200–400	100	65	35	LGH	9X
200–400	200	100	50	LGC	9X
250–600	85	35	18	LGS	9X
250–600	100	65	35	LGH	9X
250–600	200	100	50	LGC	9X
<b>Provision for Future (Includes Factory-Installed Base Cassette)</b>					
20–250	Any JG family branch/feeder breaker				7X
100–600	Any LG family branch/feeder breaker				9X
<b>Individually Mounted NX Breakers</b>					
800	85	65	42	NX	½ Structure
1000	85	65	42	NX	½ Structure
1200	85	65	42	NX	½ Structure

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## Switchboards

### Pow-R-Line Drawout Molded Case Circuit Breaker Switchboards

#### Dimensions

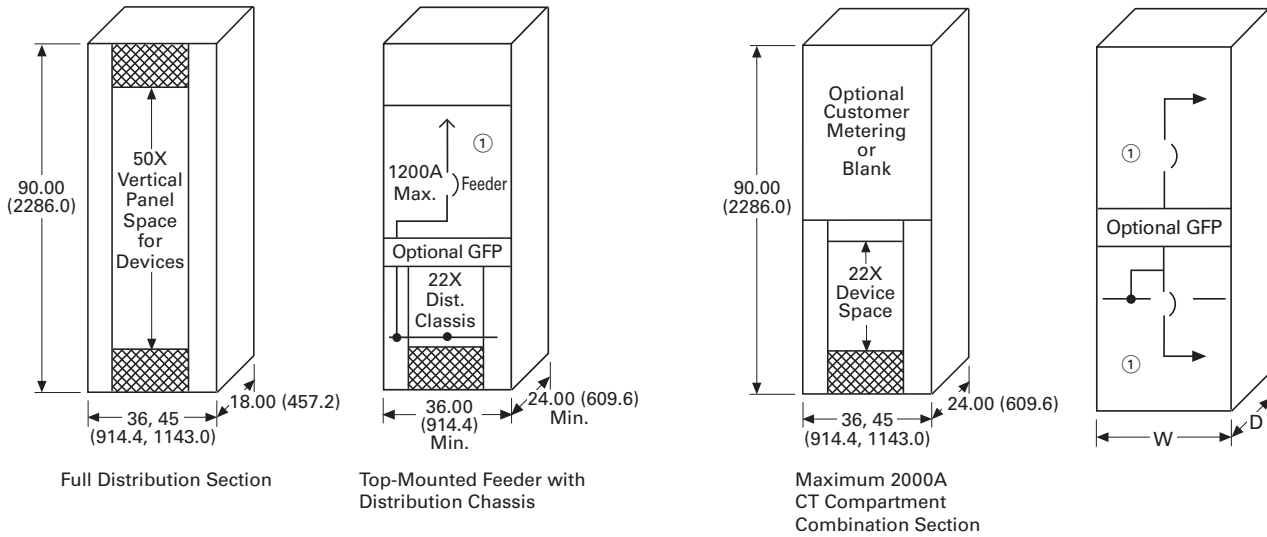
Approximate Dimensions in Inches (mm)

Select the appropriate distribution section(s) for drawout MCCB feeder devices from the sections shown below.

All breakers are front accessible and front connected.

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#### Drawout Molded Case Circuit Breaker Feeder Devices



#### Notes

All four sections widths 36-inch minimum.

See distribution layout Guides **Page V2-T4-11** for actual minimum structure width and for feeder device "X" requirements.

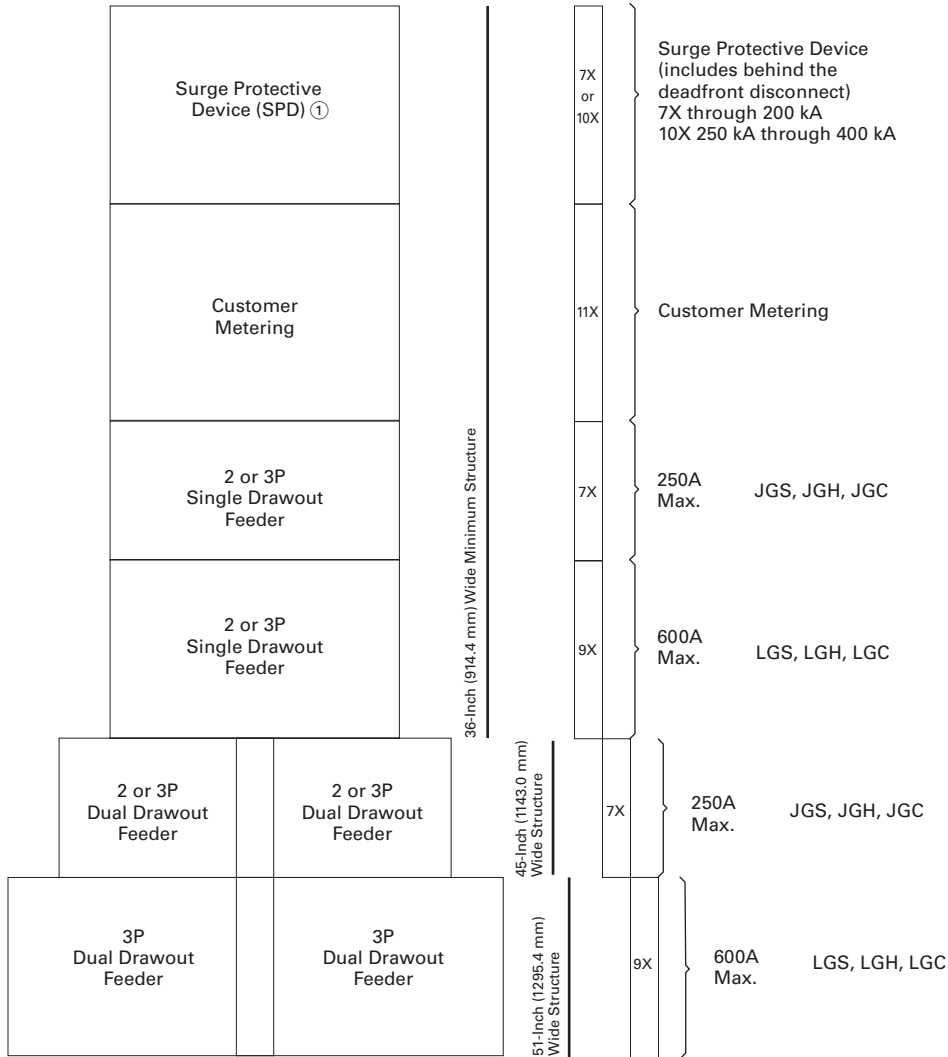
① Drawout NX Insulated Case UL 489 breaker. 1200A maximum. Select breaker from **Page V2-T4-9**.

Pow-R-Line Drawout Molded Case Circuit Breaker Switchboards

Layout for Group-Mounted Drawout Molded Case Circuit Breaker Feeder Devices

Instructions

Determine the structure width by the group-mounted drawout MCCB feeder devices below. The width of the structure is determined by the maximum structure size shown for each device.



Note

① Preferred location of SPD is mounted at the top of the first distribution section.

### Options, Accessories and Modifications

#### 1. Ambient Compensating Breakers

For ambient compensating breakers (where available) in lieu of standard breakers, add 10% to panelboard branch breaker and to main breaker list prices, when required. Panels with this option can not be UL listed.

#### 2. JG and LG Breaker Accessories—Internal (Only One Accessory Per Position)

##### Accessories

Breaker Type	Device Mounting	Internal Breaker Accessory
JG family	Drawout ①	Auxiliary switch 1A-1B
JG family	Drawout ①	Auxiliary switch 2A-2B
JG family	Drawout ①	Bell alarm
JG family	Drawout ①	High load alarm w/trip
JG family	Drawout ①	Ground fault alarm w/trip
JG family	Drawout ②	Undervoltage release
JG family	Drawout ②	Zone selective interlock
LG family	Drawout ①	Auxiliary switch 1A-1B
LG family	Drawout ①	Auxiliary switch 2A-2B
LG family	Drawout ①	Bell alarm
LG family	Drawout ①	High load alarm w/trip
LG family	Drawout ①	Ground fault alarm w/trip
LG family	Drawout ②	Undervoltage release ③
LG family	Drawout ②	Zone selective interlock

##### Notes

- ① Accessories wired to a pull-apart terminal block. Right position only.
- ② Accessories wired to a pull-apart terminal block. Left position only.
- ③ Not available when breaker is equipped with ARMS trip unit.

#### 3. Drawout NX Internal

##### Modification 3

##### Internal NX Breaker Accessories

Shunt trip (specify voltage)
Undervoltage release
Auxiliary switch
Motor operator
Trip indicator
Bell alarm
Shutters

#### 4. Compression Main Lugs

Al/Cu Burndy Range Taking Type.

##### Modification 4

Main Lug Amperes	PRL4D Lug Wire Range
800	(3) 500–750 kcmil
1200	(4) #2–600 kcmil (4) 500–750 kcmil

#### 5. Copper Lugs/Terminals

Optional copper mechanical main lugs only and includes main incoming neutral lug.

##### Modification 5

Main Lug Amperes	PRL4D Lug Wire Range
600	(2) 1/0–600 kcmil
800	(2) 1/0–600 kcmil
1200	(3) 1/0–600 kcmil

#### 6. Copper Main Busbars

Optional copper busbars are available in all ampere ratings.

##### Modification 6

Ampere Range	Bare Copper Chassis Bus	Silver-Plated Copper Bus
800		
1200		
1600		
2000		
2500		
3000		
4000		

#### 7. Density Rated Bus

Standard main bus ampere rating is determined by UL listed temperature rise testing. Density rated bus is defined at 750A per square inch for aluminum bus and 1000A per square inch for copper bus. Adder for aluminum density rated bus is in addition to the base price. Adder for copper density rated bus is in addition to the base price plus the appropriate adder for copper bus. See Modification 7.

##### Modification 7

##### Ampere Rating

##### Aluminum—750A per Square Inch

800
1200
1600
2000
2500
3000
4000

##### Copper—1000A per Square Inch

800
1200
1600
2000
2500
3000
4000

#### 8. Electronic Trip Units

Thermal-magnetic trip units are standard. For electronic trip units, select appropriate breaker from the electronic trip section of **Pages V2-T4-9** and **V2-T4-11**. See selection below for electronic trip units.

##### Modification 8

Breaker Frame Family	Trip Unit Type
Drawout Feeder JGS, JGH, JGC	Digitrip 310+ LS
	Digitrip 310+ LSI
	Digitrip 310+ LSG
	Digitrip 310+ LSI <sup>G</sup>
LGS, LGH, LGC	Digitrip 310+ LS
	Digitrip 310+ LSI
	Digitrip 310+ LSG
	Digitrip 310+ LSI <sup>G</sup>
Drawout NX	Digitrip 310+ LS with ARMS
	Digitrip 310+ LSI with ARMS
	Digitrip 310+ LSG with ARMS
	Digitrip 310+ LSI <sup>G</sup> with ARMS
	520 LI
	520 LSI
	520 LSI with ZSI
	520 LSI <sup>G</sup>
	520 LSI <sup>G</sup> with ZSI
	520M LSI
520M LSI with ZSI	
520M LSI <sup>A</sup>	
520M LSI <sup>A</sup> with ZSI	
520M LSI <sup>G</sup>	
520M LSI <sup>G</sup> with ZSI	
520M LSI with ARMS	
520M LSI with ZSI and ARMS	
520M LSI <sup>A</sup> with ARMS	
520M LSI <sup>A</sup> with ZSI and ARMS	
520M LSI <sup>G</sup> with ARMS	
520M LSI <sup>G</sup> with ZSI and ARMS	

##### Notes

- L = Adjustable long time pickup
- S = Adjustable short time pickup w/ fixed short time delay
- I = Adjustable instantaneous pickup
- G = Adjustable ground fault pickup
- A = Adjustable ground fault alarm only (no trip)
- ARMS = Arcflash Reduction Maintenance System
- ZSI = Zone selective interlocking

**9. Ground Bus**

Copper or silver-plated copper ground bus in lieu of standard aluminum.

**Modification 9**

Bus Material	Size in Inches (mm)
Copper	0.25 (6.4) x 1.50 (38.1)
	0.25 (6.4) x 2.00 (50.8)
Silver-plated copper	0.25 (6.4) x 1.50 (38.1)
	0.25 (6.4) x 2.00 (50.8)

**10. Ground Fault Protection**

Refer to Modification 8 for ground fault trip units.

**11. Infrared (IR) Viewing Windows**

Infrared viewing windows for main devices and drawout single-mounted feeder devices.

**Modification 11**

Overcurrent Device	IR Window Manufacturer
All fixed mount mains	Iriss Hawk (Fluke)
Single drawout feeder breakers ①	Iriss Hawk (Fluke)

**12. Nameplates, Engraved**

Field-attached nameplates.

**Modification 12**

Description
Mastic back, engraved, black with white lettering
Mastic back, engraved, colors other than black
Nameplates, screw attached

**13. Seismically Qualified**

For seismically qualified PRL drawout switchboard, request seismic labeling on order.

**14. Service Entrance Equipment**

Service Entrance labeling as detailed under the “Service Entrance Equipment” per UL and NEC. Only switchboards meeting these requirements may be labeled as such. The requirement or service entrance labeling must be noted on the order. Includes neutral disconnect link and labeling “Suitable Only For Use as Service Equipment” (SUSE).

**15. Surge Protective Devices (SPD)**

Package includes SPD unit and integral circuit breaker disconnect (30A) connected to the chassis bus.

**Modification 15**

Surge Current Rating	50	80	100	120	160	200	250	300	400
<b>SPD Package Options—Basic Package</b>									
LED monitor, L-N, L-G, L-L and N-G	■	■	■	■	■	■	■	■	■
<b>Standard Package</b>									
LED monitor, L-N, L-G, L-L and N-G. EMI/RFI filtering. Audible alarm with disable switch. Form C relay contact.	■	■	■	■	■	■	■	■	■
<b>Premium Package</b>									
LED monitor, L-N, L-G, L-L and N-G. EMI/RFI filtering. Audible alarm with disable switch. Form C relay contact. Six-digit LCD display. Counts surges in all modes. Nonvolatile memory (no battery backup). Reset button designed to prevent accidental resets.	■	■	■	■	■	■	■	■	■

**16. Touchup Paint**

**Modification 16**

Description
12 oz spray can. ANSI-61 light gray indoor
Case lot of 12—12 oz spray can. ANSI-61 light gray indoor

**Note**

① Available on only single-mounted drawout. Not available on dual-mounted feeder devices.