Innovative, intelligent NEC and IEC solutions safely and efficiently control power and protect circuits in explosive, wet, and corrosive environments worldwide.

New Products in the Apparatus Product Line
- SynergEX Panelboards
- EID Disconnect Assembly (Fused)
- XDT Explosionproof Dry-Type Transformers

Notable changes to the Apparatus section of this catalog
- Surge Protection Devices (previously section 4A) has been removed. For information on surge protection, please visit Eaton’s Crouse-Hinds MTL Instruments at www.mtl-inst.com
- New Section 4A for transformers

Section
- 1A
- 2A
- 4A
Section A of the Eaton’s Crouse-Hinds catalog contains the following product groupings:

**Section 1A**
**Panelboards**
(for use in hazardous and non-hazardous areas)
For central control and protection of a large number of feeder or branch circuits and for housing of circuit breakers.
- D2L
- D2PB
- D2D
- EPL
- LP
- SPB

**Section 2A**
**Switches**
(for use in hazardous and non-hazardous areas)
Switches and enclosures for disconnecting motor, lighting and other circuits.
- EDS, EDSC
- EFD, EFDC
- FLS
- EID
- EBM

**Section 3A**
**Instrument Housings**
(for use in hazardous areas)
Housings for a variety of types and makes of meters and instruments, thermostats, heaters and clocks.
- HRC
- TCH
- EXH
- XC

**Section 4A**
**Transformers**
Provide safe and efficient electric power distribution in the most extreme harsh and hazardous locations.
- XDT
## Panelboards
### Hazardous and Non-hazardous

<table>
<thead>
<tr>
<th>Description</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Information</td>
<td>see page 626</td>
</tr>
<tr>
<td>Application/Selection</td>
<td>see page 627</td>
</tr>
<tr>
<td>Wiring Diagrams</td>
<td>see page 628</td>
</tr>
<tr>
<td><strong>Hazardous Location Panelboards</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Division 1 and 2</strong></td>
<td></td>
</tr>
<tr>
<td>PowerPlus™ EXD</td>
<td>see page 641</td>
</tr>
<tr>
<td>PowerPlus™ EPL</td>
<td>see page 634</td>
</tr>
<tr>
<td>SynergEX SPB</td>
<td>see pages 650–653</td>
</tr>
<tr>
<td>Exactra™ LP</td>
<td>see page 630</td>
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<tr>
<td>GUSC</td>
<td>see pages 667–668</td>
</tr>
<tr>
<td><strong>Division 2</strong></td>
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<tr>
<td>PowerPlus™ D2D</td>
<td>see page 641</td>
</tr>
<tr>
<td>PowerPlus™ D2L</td>
<td>see page 634</td>
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<tr>
<td>Exactra™ LP</td>
<td>see page 630</td>
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<td>D2PB</td>
<td>see page 663</td>
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<td>N2PB</td>
<td>see pages 669–671</td>
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<tr>
<td>GUSC</td>
<td>see pages 667–668</td>
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<tr>
<td>D2Z</td>
<td>see page 654</td>
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<tr>
<td><strong>Ordinary Location</strong></td>
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<tr>
<td>XLPB</td>
<td>see page 672</td>
</tr>
<tr>
<td>NLP Series</td>
<td>see page 675</td>
</tr>
</tbody>
</table>
1A Circuit Breaker Panelboards

General Information

Applications:
Circuit breaker panelboards are used in hazardous and non-hazardous areas (as shown in the individual listings):
- To provide, in one compact unit, a centrally controlled switching system for a large number of feeder or branch circuits
- For controlling lighting, heating, appliance, heat tracing, motor and similar circuits
- In locations where rough usage, moisture, dust, dirt and corrosion are a problem
- To house thermal-magnetic circuit breakers that provide disconnect means, short circuit protection and thermal time delay overload protection

Features:
Panelboards:
- All main and branch circuit wire lugs are solderless and readily accessible for fast, easy installation
- Are factory wired from main terminal blocks or main bus to line side of branch circuit breakers
- With circuit breakers in factory sealed housings (LP1, EXD and EPL), are also factory wired from the load side of branch circuit breakers to readily accessible terminal blocks
- With circuit breakers grouped in one enclosure (LP2, D2D, D2L, D2Z and D2PB factory sealed), branch circuit wires are attached directly to circuit breaker load terminals

Circuit breakers (thermal magnetic):
- Are trip-free of the handles and cannot be held closed under short circuit or overload conditions
- Four breaker types are used in panelboards manufactured by Eaton’s Crouse-Hinds. They are as follows:
  - Quicklag® – used in LP, D2PB, EPL and D2L panelboards; 10,000 ampere symmetrical interrupting capacity

Ratings

| Single and two-pole, 120 / 240 VAC W-C-375a, Class 1a |
| Two and three-pole, 240 VAC W-C-375a, Class 1b |
| EHD/FDB frame – used in EXD and D2D panelboards; 14,000 ampere symmetrical interrupting capacity - 480 VAC |

Standard Materials, Finishes, Options and Compliances:
- See individual listing pages

Wiring Systems:
- See pages 628 and 629 for wiring diagrams. These are the standard systems used for single and three-phase panelboards having single, two and three-pole circuit breakers
- Standard panelboards are listed with all circuit breakers having the same number of poles and wired for one of these systems
- To meet the requirements of a specific installation, panelboards can be assembled with a combination of single, two and three-pole breakers. To accomplish this, the three individual wiring systems must have the same main service as, for example, 3-phase, 4-wire, solid neutral.

Panelboard Type

| Applicable Wiring Systems |
| D2PB | 3, 4, 5, 8, 11, 12 |

- Diagrams show only four, six or eight circuits; are intended to show only the phase connections of each circuit breaker and do not necessarily show their physical location in a panelboard. Panelboards are available with the number of circuits indicated in the listings.

Quicklag is a registered trademark of Cutler-Hammer Inc.
## Quick Selector Chart

<table>
<thead>
<tr>
<th>Panelboard</th>
<th>NEC &amp; NEMA Certifications and Compliances</th>
<th>Factory Sealed</th>
<th>Number of Circuits Max.</th>
<th>Breaker Frame Size</th>
<th>Multi-Pole Voltage Max.</th>
<th>Trip Rating Amps Max.</th>
<th>Circuit Interrupting Amps Max.</th>
<th>Step Down Transformer Available</th>
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</thead>
<tbody>
<tr>
<td>D2D</td>
<td>Cl. I, Div. 2, Groups B, C, D, NEMA: 3, 4, 7BCD, 12</td>
<td>Yes</td>
<td>42</td>
<td>Various</td>
<td>600VAC 250VDC</td>
<td>100</td>
<td>10,000</td>
<td>Yes</td>
</tr>
<tr>
<td>D2L</td>
<td>Cl. I, Div. 2, Groups B, C, D, NEMA: 3, 4, 7BCD, 12</td>
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<td>42</td>
<td>Quicklag®</td>
<td>240VAC 125VDC</td>
<td>100</td>
<td>10,000</td>
<td>Yes</td>
</tr>
<tr>
<td>D2PB</td>
<td>Cl. I, Div. 2, Groups C, D, NEMA: 3, 7CD (Div. 2), 12</td>
<td>Yes</td>
<td>24</td>
<td>Quicklag®</td>
<td>240VAC</td>
<td>30</td>
<td>10,000</td>
<td>Yes</td>
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<tr>
<td>D2Z</td>
<td>Cl. I, Zone 1, Div. 2, Groups A, B, C, D, NEMA: 3, 4X, 7ABCD (Div. 2), 12 Corrosion Resistant, Non-Metallic</td>
<td>Yes</td>
<td>54</td>
<td>CEAG</td>
<td>480VAC</td>
<td>180</td>
<td>10,000</td>
<td>No</td>
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<tr>
<td>EPL</td>
<td>Cl. I, Div. 1 &amp; 2, Groups B, C, D, Cl. II, Div. 1, Groups E, F, G, Cl. II, Div. 2, Groups F, G, Cl. III, NEMA: 3, 4, 7BCD, 9EFG, 12</td>
<td>Yes</td>
<td>42</td>
<td>Quicklag®</td>
<td>240VAC 125VDC</td>
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<td>10,000</td>
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<tr>
<td>EXD</td>
<td>Cl. I, Div. 1 &amp; 2, Groups B, C, D, Cl. II, Div. 1, Groups E, F, G, Cl. II, Div. 2, Groups F, G, Cl. III, NEMA: 3, 4, 7BCD, 9EFG, 12</td>
<td>Yes</td>
<td>42</td>
<td>Various</td>
<td>600VAC 250VDC</td>
<td>100</td>
<td>10,000</td>
<td>No</td>
</tr>
<tr>
<td>GUSC</td>
<td>Cl. I, Div. 1 &amp; 2, Groups C, D, Cl. II, Div. 1, Groups E, F, G, Cl. II, Div. 2, Groups F, G, Cl. III, NEMA: 3, 7CD, 9EFG, 12</td>
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<td>36</td>
<td>Quicklag®</td>
<td>240VAC</td>
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<td>10,000</td>
<td>Yes</td>
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<tr>
<td>N2PB</td>
<td>Cl. I, Div. 2, Groups C, D, Cl. II, Div. 2, Groups F, G, NEMA: 3, 7CD, (Div. 2), 12 Corrosion Resistant, Non-Metallic</td>
<td>Yes</td>
<td>24</td>
<td>Quicklag®</td>
<td>240VAC</td>
<td>30</td>
<td>10,000</td>
<td>No</td>
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<tr>
<td>NLP</td>
<td>NEMA 3, 12</td>
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<td>30</td>
<td>QO/Qwik-Guard®</td>
<td>240VAC</td>
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<td>10,000</td>
<td>No</td>
</tr>
<tr>
<td>SPB</td>
<td>Class I, Zone 1, Cl. I, Div. 2, Groups A, B, C, D, Cl. II, Div. 1, Groups E, F, G</td>
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<td>Various</td>
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<td>10,000</td>
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<tr>
<td>XLPB</td>
<td>NEMA 1, 3, 3R, 4, 4X, 12</td>
<td>No</td>
<td>42</td>
<td>Various</td>
<td>600VAC</td>
<td>100</td>
<td>10,000</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Quicklag is a registered trademark of Cutler-Hammer Inc. QO/Qwik-Guard is a registered trademark of Square D.
1A Circuit Breaker Panelboards

Wiring Diagrams

D2PB Panelboards

System 1
Mains—2-Wire
Branches—2-Wire
Breakers—2-Pole

System 3
Mains—3-Wire
Branches—3-Wire
Breakers—2-Pole
Solid Neutral

System 4
Mains—3-Wire
Branches—2-Wire
Breakers—Single-Pole
Solid Neutral

System 5
Mains—4-Wire, 3-Phase
Branches—2-Wire, 1-Phase
Breakers—Single-Pole
Solid Neutral

System 7
Mains—2-Wire
Branches—2-Wire
Breakers—Single-Pole
Solid Neutral

System 8
Mains—4-Wire, 3-Phase
Branches—3-Wire, 1-Phase
Breakers—2-Pole
Solid Neutral

System 13
Mains—4-Wire, 3-Phase
Branches—2-Wire, 1-Phase
Breakers—2-Pole

System 15
Mains—4-Wire, 3-Phase
Branches—3-Wire, 1-Phase
Breakers—Single-Pole
Solid Neutral

System 24
Mains—4-Wire, 3-Phase
Branches—3-Wire, 1-Phase
Breakers—2-Pole
Solid Neutral

System 25
Mains—4-Wire, 3-Phase
Branches—2-Wire, 1-Phase
Breakers—Single-Pole
Solid Neutral

System 28
Mains—4-Wire, 3-Phase
Branches—3-Wire, 1-Phase
Breakers—2-Pole
Solid Neutral

System 29
Mains—3-Wire, 3-Phase
Branches—2-Wire, 1-Phase
Breakers—2-Pole
PowerPlus™ Lighting Panelboards

Wiring Diagrams

PowerPlus™ Power Panelboards

![Single Phase Circuit](image1)

![Three Phase Circuit](image2)

PowerPlus™ Lighting Panelboards

![Single Phase Circuit](image3)

![Three Phase Circuit](image4)
Exactra™ Factory-Sealed Lighting Panelboards provide flexibility and labor savings when installed, and for future changes in the field. Panels are prewired to maximum circuit capacity and ratings.

Applications:
Exactra™ Factory-Sealed Lighting Panelboards are ideal:
• In areas made hazardous by the presence of flammable gases and vapors, and combustible dusts
• In areas subject to weather, dampness, and corrosion
• For branch power distribution and circuit protection for motors, valves, pumps, lighting, heat tracing, receptacles, etc.
• For indoor and outdoor applications in petroleum refineries, chemical and petrochemical plants, and other process industry facilities where similar hazards exist
• In areas where flammable vapors or gases or highly combustible dusts may be present due to accidental or abnormal conditions
• To accommodate up to 35 amp branch loads

Features and Benefits:
• Factory sealed, no external seals required for branch circuits. External seals are required for Class I, Div. 1 applications
• Fully wired for circuit breaker housing to pre-numbered terminals in wiring compartment
• External flange design allows wide unobstructed cover opening for easy wiring access
• External circuit breaker handles can be padlocked “ON” or “OFF”
• Furnished with two 3” and ten 1 1/2” conduit openings
• Breather and drains available for each enclosure
• Available with or without main circuit breaker up to 100 amps
• Isolated neutral and ground bar provided
• Available with up to 6 GFI and/or EPD branch breakers per panel. GFI and EPD branch breakers available within the same panel
• Available with ambient compensated breakers throughout panelboard
• Stainless steel hinges allow the cover to swing wide open or be removed
• Stainless steel hex head bolts captive design prevents lost bolts
• Cast copper-free (less than 0.4%) aluminum construction for excellent corrosion resistance
• Neoprene cover gasket meets NEMA 4 / CSA Enc. 4 / IP65 requirements, provides watertight seal for superior water and corrosion protection
• Copper bus bar system

Certifications and Compliances:
LP1 Panelboards
• Class I, Groups B, C, D
• Class I, Zone 1 & 2, IIB + H
• Class II, Groups E, F, G
• Class III
• NEMA 3, 4*, 4X§, 7B+CD, 9E†FG, 12
• CSA Enc. 3, 4*, 5
• IP65* Enclosure
• UL Classified (Standard 1203)
• cUL Classified (Certified by UL to CSA C22.2 No. 30)

LP2 Panelboards
• Class I, Division 2, Groups B†, C, D
• Class I, Zone 1 & 2, IIB + H
• Class II, Division 2, Groups F, G
• Class III
• NEMA 3, 4*, 4X§, 7BCD (Div 2), 9EFG, 12
• CSA Enc. 3, 4*, 5
• IP65* Enclosure
• UL Classified (Standard 1203)
• cUL Classified (Certified by UL to CSA C22.2 No. 30)

Standard Materials:
• Body and cover – cast copper-free aluminum
• Gasket – neoprene
• Operating handles – extruded aluminum (copper-free)
• Operating shafts, cover bolts, washers, GFI/EPD plungers and hinges – stainless steel
• Circuit breaker operator forks –
  - for 1 pole standard breakers - die-cast aluminum (copper-free)
  - for 1 and 2 pole GFI / EPD breakers - die-cast aluminum (copper-free)
  - for 2 and 3 pole standard breakers - stainless steel
• Lifting bracket – cold rolled steel
• Bus bar – copper

Standard Finishes:
• Aluminum – natural
• Stainless steel – natural
• Cold rolled steel – electrogalvanized

* NEMA 4/CSA Enc. 4/IP65, hostight with breather and drain openings plugged.
† With suffix -GB.
‡ External seals required for Class I, Div. 1.
§ NEMA 4X when ordered with suffix S752 with breather and drain openings plugged.
**Exactra™ Panelboards**

**Lighting and Heat Tracing**

**LP1 Series**

**LP2 Series (Div. 2)**

**Electrical Ratings:**

**Branch Breaker (120 / 240 VAC Quicklag® Bolt On) Trip Ratings**
- 1, 2, 3 pole
- 10, 15, 20, 25, 30, 35 amp
- GFI type 1, 2-pole (5 mA sensitivity)
- 15, 20, 25, 30 amp
- EPD type 1, 2-pole (30 mA sensitivity)
- 15, 20, 25, 30 amp

**Main Breaker Trip Ratings:**
- Size B & C
  - 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 70, 80, 90, 100 amp
- 2, 3-pole

**Main Lugs**
- Size B & C
  - 100 amp

**Weight**
- 150 lbs.

**Options:**

**Description**
- Alternate feed: incoming power into terminal enclosure from bottom
- Group B and E suitability (10A not avail.)
- Lamicoid nameplate with customer-specified panel identification
- Stainless steel nameplate with customer-specified panel identification
- 125W@120 VAC, 250W@240 VAC internal space heater in circuit breaker enclosure
- External epoxy powder coat finish
- Internal and external epoxy powder coat finish
- One breather and two drains per enclosure
- All conduit entries plugged with PLG recessed head plugs
- All conduit entries plugged with square headed plugs
- To order an inverted panelboard with all conduit openings for power and branch circuits on the bottom (inverted)

**Suffix**
- A
- GB
- LID
- S752
- S753
- S756V
- S822
- S872
- I

**Breaker Options:**

**Description**
- EPD branch breaker (up to 6 EPD and/or GFI per panel)
- GFI branch breaker (up to 6 EPD and/or GFI per panel)
- Ambient compensated (50°C) breakers throughout panelboard
- HID branch breaker for lighting loads

**Suffix**
- E
- G
- V
- H

**Lighting Panelboard Accessories:**

**Description**
- Extra circuit breaker operator assemblies 1-pole (qty. 3)
- Replacement cover plugs for unused circuit breaker positions (qty. 6)
- Extra circuit breaker operator assemblies for 1 pole and 2 pole GFI/EPD breakers
- GFI/EPD "push to test" plungers (qty. 6)
- GFI/EPD entry plugs (qty. 6)
- Replacement mounting feet (qty. 2)
- Extra circuit breaker operator assemblies for 2 pole standard and GFI/EPD breakers
- Extra circuit breaker operator assemblies for 3 pole breakers

**Cat. #**
- LP K1
- LP K2
- LP K3
- LP K4
- LP K5
- LP K6
- LP K7
- LP K8

**Dimensions**

In Inches:

**Panel Capacity:**

<table>
<thead>
<tr>
<th>Panel Size</th>
<th>Max. No. of Branch Spaces</th>
<th>Available w/GFI, EPD Branch Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>24</td>
<td>Yes</td>
</tr>
<tr>
<td>C</td>
<td>36</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Panel Dimensions:**

- NEMA 4 in CSA Enc. 4/IP65 husetight with breather and drain openings plugged.
- With suffix -GB.
- External seals required for Class I, Div 1.
- NEMA 4X when ordered with suffix S752 with breather and drain openings plugged.
- Quicklag® is a registered trademark of Cutler-Hammer Inc.
### Ordering Information

**LP1 & LP2 Factory Sealed 120 / 240 Volt Lighting Panelboards**

<table>
<thead>
<tr>
<th>Branch Spaces Needed</th>
<th>Division 1</th>
<th>Division 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 Phase</td>
<td>3 Phase</td>
</tr>
<tr>
<td></td>
<td>3 Wire</td>
<td>4 Wire</td>
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<tr>
<td></td>
<td>1 Phase</td>
<td>3 Phase</td>
</tr>
<tr>
<td></td>
<td>3 Wire</td>
<td>4 Wire</td>
</tr>
<tr>
<td>6</td>
<td>LP1B106</td>
<td>LP2B106</td>
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<tr>
<td>8</td>
<td>LP1B108</td>
<td>LP2B108</td>
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<tr>
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<td>LP2B124†</td>
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<td>LP2C134</td>
</tr>
<tr>
<td>36†</td>
<td>LP1C136†</td>
<td>LP2C136†</td>
</tr>
</tbody>
</table>

**Breaker Ready** | LPB100 | LPB100 | LPB100 | LPB100 | LPB100 | LPB100|
| (Empty)            |        |        |        |        |        |        |

† Items are not available with main circuit breaker.
§ Provided for main lug only; main breaker must be specified with amperage.

### Catalog Number Example:

Lighting Panelboards can be furnished with an assortment of breaker ratings and pole configurations. Assortments may be ordered by adding the number of poles and amp rating designations to the catalog number.

**Example:**

A three-phase, Class I, Div. 2, Groups C, D lighting panelboard with:
- 5 three-pole breakers – with 15 amp rating
- 6 single-pole breakers – with 20 amp GFI personnel protection
- Three-pole main breaker – with 100 amp rating
- Alternate feed option
- Breather and drain option

### Select Panelboard Catalog Number from Listing:

1. **Determine phase**: (available with single-phase or three-phase wiring).
2. **Determine a total even number of breaker spaces needed to complete your desired lighting panelboard.**
   - 3 breaker spaces = Three-pole breaker
   - 2 breaker spaces = Two-pole breaker
   - 2 breaker spaces = Two-pole GFI (or EPD) breaker
   - 1 breaker space = Single-pole breaker
   - 1 breaker space = Single-pole GFI (or EPD) breaker
3. **Review Panel Capacity Table** see page 631
   - If GFI or EPD breakers are to be included insert "G", "E" or "EG" after base catalog number (e.g., LP2B316G).
   - Maximum number of GFI and/or EPD breaker spaces is 6 per panel (e.g. 6 single-pole or 3 two-pole).
   - For more, consult factory.
4. **If ambient compensated breakers are required, insert "V"** (e.g. LP2B318GV).

### Using Three-Pole Branch Breakers First, Select Circuit Breakers for Lighting Panelboard Application:

1. **Place an asterisk (*) before each quantity of circuit breakers**
2. **First insert the quantity of breakers needed.**
3. **Second insert the quantity of poles (start with three-pole breakers).**
4. **Third insert the ampere rating needed (start with highest ampere rating).**
5. **Insert "G" for GFI or "E" for EPD type breakers, if desired.**

### To Add a Main Breaker, Insert a Space, the Number of Poles (2 or 3), an "M" to Indicate Main Breaker, Then Indicate the Amp Rating (See "Ratings" for Trip Ratings Available). If no main breaker is specified, the panelboard will have main lugs. No suffix needed in catalog number for main lug only.

### Future Spaces, to Provide for Operating Mechanism without Breaker Write 00 (e.g. One three-pole mechanism without breaker: 01300).

Unused breaker positions without designations will be blanked and plugged. Complete panel will be provided for future breaker installations.

---

* NEMA 4/CSA Enc. 4/IP65 hostight without suffix S756V.
‡ External seals required for Class I, Div. 1.
§ NEMA 4X when ordered with suffix S752 without suffix S756V.
† With suffix -GB.
**Exactra™ Panelboards**

**Lighting and Heat Tracing**

**LP1 Series**

**LP2 Series (Div. 2)**

**Wiring Diagrams:**

- Cl. I, Div. 1 & 2, Groups B†, C, D
- Cl. II, Div. 1, Groups E†, F, G
- Cl. II, Div. 2, Groups F, G
- Cl. III
- NEMA 3, 4*, 4X§, 7B†CD, 9EFG, 12
- CSA Enc. 3, 4*, 5
- Explosionproof
- Dust-Ignitionproof
- Factory Sealed‡
- Wet Locations
- Watertight

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* NEMA 4/CSA Enc. 4/II/5 hotsertight without suffix S756V.
* External seals required for Class I, Div. 1.
§ NEMA 4X when ordered with suffix S752 without suffix S756V.
†With suffix -GB.
PowerPlus™ Panelboards

Lighting and Heat Tracing

EPL Series (Div. 1 & 2)
D2L Series (Div. 2)

PowerPlus™ Series Panelboards provide both premium factory-sealed and value non-factory-sealed solutions for the protection and distribution of lighting, power, and heat tracing circuits. This panel solution is designed, engineered, and manufactured to be the industry’s safest and most dependable panelboard for hazardous area locations.

PowerPlus Premium and Value Solutions

• **Premium Solution:** PowerPlus factory-sealed panelboards are premium panelboards that provide maximum circuit flexibility with labor savings during installation, operation, and maintenance, and are accommodating for future changes in the field (order with either “S” or “A” in base part number). Panels are pre-wired to maximum circuit capacity, allowing for easy and safe replacement or installation of components in the field, while maintaining factory-sealed integrity.

• **Value Solution:** PowerPlus non-factory-sealed panelboards are value panelboards that offer maximum circuit flexibility and many of the same features and benefits of the PowerPlus premium line. This value solution is provided without terminal housing and factory wiring of circuits (order with “N” in base part number). The non-factory-sealed solution reduces initial panelboard material costs and requires field wiring to circuit breakers and external seals to be field-installed during installation.

Applications:

EPL and D2L PowerPlus™ panelboards are used:

- In areas made hazardous by the continuous or abnormal presence of flammable gases, vapors, and combustible dusts
- In areas subject to weather, dampness, and corrosion
- For branch power distribution and circuit protection to motors, valves, pumps, lighting, heat tracing, receptacles, etc.
- For indoor and outdoor applications in petroleum refineries, chemical and petrochemical plants, and other process industry facilities where similar hazards exist
- To accommodate up to 100 amp branch loads (only 3 circuits), balance is up to 50 amps

Certifications and Compliances:

EPL Series:
- NEC/CEC: Class I, Division 1 & 2, Groups B†, C, D
  - Class I, Zone 1 & 2, IIB + H†
  - Class II, Division 1, Groups E, F, G
  - Class II, Division 2, Groups F, G
  - Class III
  - NEMA/EEMAC: 3, 4, 4X†, 7B†CD, 9EFG, 12
  - UL Standard: 67, 1203
  - cUL (to CSA Standard C22.2 Nos. 29 & 30)
  - IP65

D2L Series (Division 2):
- NEC/CEC: Class I, Division 2, Groups B†, C, D
  - Class I, Zone 2, IIB + H†
  - Class II, Division 2, Groups F, G
  - Class III
  - NEMA/EEMAC: 3, 4, 4X†, 7B†CD, 12
  - CSA Enc. 3, 4, 5
  - UL Standard: 67, 1203
  - cUL (to CSA Standard C22.2 Nos. 29 & 30)
  - IP65

Standard Materials and Finishes:

- Circuit breaker enclosure body and cover – copper-free aluminum
- Terminal housing – type 316L stainless steel (“S”) or copper-free aluminum (“A”)
- Gasket – neoprene (cast aluminum enclosure); foam-in-place (stainless steel enclosure)
- Operating handles – copper-free aluminum
- Operating shafts and bushings, cover bolts, washers, hinges, breather/drain, retractile springs – stainless steel
- Circuit breaker operators – non-metallic
- Lifting bracket – electrogalvanized cold-rolled steel
- Chassis – silver-plated copper
- Breather cap – Delrin® non-metallic material
- Neutral and ground bar – tin-plated aluminum

† Group B and IIB + H is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers.
To order with brackets installed at factory, add suffix -GB. For field installable kit, order EPL-GB-KIT separately.
‡ NEMA 4X rating is available when ordered with suffix S752 or S753.
Delrin® is a registered trademark of DuPont.
**PowerPlus™ Panelboards**

**Lighting and Heat Tracing**

**EPL Series (Div. 1 & 2)**

**D2L Series (Div. 2)**

EPL Series:
- Cl. I, Div. 1 & 2, Groups B†, C, D
- Cl. I, Zone 1 & 2, IIB + H†
- Cl. II, Div. 1, Groups E, F, G
- Cl. II, Div. 2, Groups F, G
- Cl. III
- NEMA/EEMAC 3, 4, 4X†, 7B†CD, 9EGF, 12

D2L Series:
- Cl. I, Div. 2, Groups B†, C, D
- Cl. I, Zone 2, IIB + H†
- Cl. II, Div. 2, Groups F, G
- Cl. III
- NEMA/EEMAC 3, 4, 4X†, 7B†CD, 12

This corrosion-resistant Type 4X breather and drain comes standard with all PowerPlus panelboards. This permits all models to maintain their Type 4 (Type 4X with suffix S752) rating while utilizing a breather/drain solution to drain internal condensation while protecting against ingress of rain and hose water.

PowerPlus panels come standard with a high-quality silver-plated copper buss system. This provides high-efficiency current flow between the main feed and branch breakers.

Each branch and main breaker handle is provided with lockout/tagout capability, which complies with OSHA lockout/tagout requirements for safety. This allows for locking in the ON or OFF position for standard maintenance checks.

Spring-loaded, quick-release, captive stainless steel cover bolts come standard. This design prevents to the flat joint flame path when opening and closing the cover while providing visual identification of bolt engagement.

PowerPlus panels are available with an optional hinged stainless steel ice/dust shield. This ice shield solution prevents ice and snow build-up on breaker handles to allow for proper handle function in cold/wet climate applications.

Stainless steel hinges are engineered to provide maximum stability and allow the cover to swing fully open. This avoids misalignment of cover to the body of the enclosure and prevents the cover from obstructing interior access.

† Group B and IIB + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers.

‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

*Note: D2L / EXD panels are not available with GFI or EPD circuit breakers or electrical test circuit as standard. Please contact factory if required.
PowerPlus™ Panelboards

Lighting and Heat Tracing
EPL Series (Div. 1 & 2)
D2L Series (Div. 2)

EPL Series:
- Cl. I, Div. 1 & 2, Groups B†, C, D
- Cl. I, Zone 1 & 2, IIB + H₂†
- Cl. II, Div. 1, Groups E, F, G
- Cl. II, Div. 2, Groups F, G
- Cl. III
- NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EG, 12

D2L Series:
- Cl. I, Div. 2, Groups B†, C, D
- Cl. I, Zone 2, IIB + H₂†
- Cl. II, Div. 2, Groups F, G
- Cl. III
- NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12

† Group B and IIB + H₂ is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers.
‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

Integrated steel lifting eye is mounted on the top side of each PowerPlus panel. This provides a stable lifting position to ensure ease of mounting during the installation process.

PowerPlus cast enclosures are manufactured with an external flange design. This design allows for a wide unobstructed cover opening and provides a completely accessible interior for ease of maintenance and wiring.

Superior self-aligning breaker operators are designed for both field and factory installation. This patent-pending design guarantees proper handle alignment when closing the cover.*

All panels with terminal housings are factory-sealed†† and fully wired for maximum available circuits. This allows PowerPlus models to have additional breakers field-installed while maintaining their factory seal.

All terminal blocks come fully wired with each contact numbered for easy connecting of branch entries.

Heavy gauge 316L stainless steel terminal housings are supplied with three removable gland plates to be used with Myers® Hubs. This design allows for the flexibility of factory- or field-drilled openings for hubs.

PowerPlus panelboards offer an industrial grade 316L stainless steel terminal housing as standard. This design offers an increased internal volume with a removable front cover for easy access during field installation and maintenance. A cast aluminum terminal housing is standard on EPL and EXD panels and available on D2L and D2D panels.

Stainless steel terminal housings offer a high-integrity gasket, providing a watertight seal to meet enclosure Type 4/CSA ENC, 4/IP65 requirements. This provides superior protection of enclosed wiring against water and corrosion. Cast aluminum enclosures are also gasketed, providing a NEMA 4 watertight seal.

* Not available in Size F offering. Spring aligning forks are standard on Size F panels.
†† EPL/A and EXD/A conduit entries 2" or larger in Class I, Division 1 must be sealed within 18" of enclosure. All alternate feed entries to breaker housing (suffix A) must have an external seal within 18" of enclosure.
PowerPlus™ Panelboards

**Lighting and Heat Tracing**

**EPL Series (Div. 1 & 2)**

**D2L Series (Div. 2)**

### Electrical Ratings:

- **Branch Breakers (120/240VAC Quicklag® Bolt-On)**
  - Trip Ratings:
    - 1-, 2-, and 3-pole
    - 10, 15, 20, 25, 30, 35, 40, 45, 50 amp (available in all breaker spaces in panel), 55, 60, 70, 80, 90, 100 amp (only 3 breaker spaces available for 55 to 100 amp branch breakers)
    - GFI type, 1- and 2-pole (5mA sensitivity) 15, 20, 25, 30, 40 (50 amp - available 2-pole only)
    - EPD type, 1- and 2-pole (30mA sensitivity) 15, 20, 25, 30, 40 (50 amp - available 2-pole only)
    - HID type, 1- and 2-pole, 15, 20, 25, 30, 40, 50, 60
    - Available with GFI, EPD, or a combination of both in one panel with a 21-position electrical test circuit
    - Ambient compensated breakers available to +50°C

- **Main Breaker Trip Ratings:**
  - 2- or 3-pole
  - Size B: 10 to 100 amps
  - Size C and D: 10 to 225 amps

- **Main Lugs:**
  - Size B, C, and F: 225 amps
  - Size D: not available; main breaker only

### Options:

To add the following features to the panelboard, add a dash and then
the suffix to the Cat. No. When multiple suffixes are needed, add
them to the Cat. No. in alpha-numeric order.

- **Space heater** ................. R22
- **Square head plugs on all conduit openings** .......... SP
- **Epoxy powder coat finish, external** .................. S752
- **Epoxy powder coat finish, internal and external** ....... S753
- **Recess head plugs on all conduit openings** ........... RP
- **Stainless steel breaker operator cover (ice shield)** ... HP
- **Group B kit factory installed** ......................... GB
- **GFI breakers** .................................................. G
- **EPD breakers** ................................................ E
- **HID breakers** ............................................. H
- **Ambient compensated breakers (50°C)** .............. V
- **Lamacoid Nameplate** ...................................... LID

A standard panelboard has conduit openings for power and branch circuits on top.

To order a panelboard with main power feed from the bottom of breaker housing, and branch entries on top (alternate) ........... -A**

To order an inverted panelboard with all conduit openings for power and branch circuits on the bottom (inverted) ..................... -I

To order an inverted panelboard with main power feed on top and bottom (alternate inverted) ............................................ -A-I**

### Accessories:

- **Gland Plates**
  - Field installable gland plates with factory-provided aluminum
  - Myers® Hubs for the D2L stainless steel terminal housing (one 3-inch hub and 12 branch entry hubs - size dependent upon suffix, each include 3 gland plates, 1 for the top or bottom and 1 for each side):

  - **Part Number**
  - D2L HUB2 KIT
  - D2L HUB3 KIT
  - D2L HUB5 KIT
  - D2L HUB0 KIT

- **Circuit Breaker Operator Assemblies**
  - **Operator Assemblies**
    - D2L/EPL 1-pole or 3-pole breakers
    - D2L/EPL 2-pole breakers
  - **Part Number**
    - EPL HDL13
    - EPL HDL2

- **Replacement Cover Plugs**
  - For unused circuit breaker positions (qty. 5):
    - **Plug Kits**
      - D2L/EPL Sizes B, C, D
      - Part Number
        - EPL OP PLG

- **Kit for Group B**
  - Standard panels less -GB suffix are applicable for Group B, but it is required to install brackets on breakers.
  - To order brackets factory installed
    - For field installable kit
      - **Part Number**
        - add suffix -GB
        - EPL GB KIT

- **D2L/EPL Stainless Steel Breaker Operator Cover**
  - To protect operators from ice build-up for all D2L/EPL PowerPlus panels:
    - **Part Number**
      - D2L/EPL HG24-KIT
      - EPL HG42-KIT

- **Space Heater Kit**
  - D2L/EPL PowerPlus Panels
  - **Part Number**
    - EPL R22 KIT

- **Terminal Housing Mounting Plate Kit**
  - To adapt depth of terminal housing to same
  - **Part Number**
    - Terminal Housing
      - Aluminum
        - D2L/EPL MTG-KIT
    - Stainless
      - D2LS-MTG-KIT

### Notes:

† Group B and III + H is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers.

To order with brackets installed at factory, add suffix -GB. For field installable kit, order EPL-GB-KIT separately.

‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

§ To order brackets factory installed
  - For field installable kit
    - add suffix -GB
    - EPL GB KIT

**Crouse-Hinds**

by E.T.N


637
1A PowerPlus™ Panelboards

Lighting and Heat Tracing

EPL Series (Div. 1 & 2)

D2L Series (Div. 2)

EPL Series:
- Cl. I, Div. 1 & 2, Groups B†, C, D
- Cl. I, Zone 1 & 2, IIB + H2†
- Cl. II, Div. 1, Groups E, F, G
- Cl. II, Div. 2, Groups F, G
- Cl. III
- NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EFG, 12

D2L Series:
- Cl. I, Div. 2, Groups B†, C, D
- Cl. I, Zone 2, IIB + H2†
- Cl. II, Div. 2, Groups F, G
- Cl. III
- NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12

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Table A – Panel Capacity

Maximum Number of Breaker Spaces:

<table>
<thead>
<tr>
<th>Panel Size</th>
<th>Max. No. of Branch Circuit Breaker Spaces</th>
<th>Available Main Breaker Ampacity</th>
<th>Available With GFI, EPD Branch Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With Main Lug Only</td>
<td>2-pole</td>
<td>3-pole</td>
</tr>
<tr>
<td>B</td>
<td>24</td>
<td>22</td>
<td>21</td>
</tr>
<tr>
<td>C§</td>
<td>42</td>
<td>40</td>
<td>39</td>
</tr>
<tr>
<td>D</td>
<td>42</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>■</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table B – To Size Panels with GFI or EPD Branch Breakers

Maximum Number of GFI or EPD Breakers

<table>
<thead>
<tr>
<th>Panel Size</th>
<th>Single-Pole Single-GFI (or EPD) breaker</th>
<th>Two-Pole Two-pole GFI (or EPD) breaker</th>
<th>Three-pole Three-pole GFI (or EPD) breaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>21</td>
<td>12 (10 with 3-pole MCB, 11 with 2-pole MCB)</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>21</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>EPLDN only - can go up to 42 GFI or EPD circuits.</td>
<td>EPLDN will accommodate up to 225 amp main breaker.</td>
<td></td>
</tr>
</tbody>
</table>

Each factory-sealed panel is equipped with 42 load wires for GFI/EPD breakers and any combination with standard branch breakers. Determine the total number of load wires required to complete your panel. You may not exceed 42 load wires.

- Single-pole breaker: 1
- Single-pole GFI (or EPD) breaker: 2
- Two-pole breaker: 2
- Three-pole GFI (or EPD) breaker: 3
- Maximum Total: 42 load wires (factory sealed)

- EPLDN Panels: 84 load wires (non-factory sealed)

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† Group B and IIB + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EPL-GB-KIT separately.

‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

§ All size B and size C panels with main breaker rated up to 100 amps use a back-fed branch breaker. All size D and size C panels with main breaker rated from 110 amps to 225 amps have a dedicated location for main breaker. Size C ordered with suffix 2M00 or 3M00 are provided with 36 branch circuits for maximum breaker ampacity.

■ Main breakers are mounted external to chassis.

□ Main breakers are chassis mounted and back-fed.
**PowerPlus™ Panelboards**

**Lighting and Heat Tracing**

**EPL Series (Div. 1 & 2)**

**D2L Series (Div. 2)**

| EPL Series: |
| Cl. I, Div. 1 & 2, Groups B†, C, D |
| Cl. I, Zone 1 & 2, II B + H † |
| Cl. II, Div. 1, Groups E, F, G |
| Cl. II, Div. 2, Groups F, G |
| Cl. III NEMA/EEMAC 3, 4, 4X †, 7B †, CD, 9EFG, 12 |

| D2L Series: |
| Cl. I, Div. 2, Groups B†, C, D |
| Cl. I, Zone 2, II B + H † |
| Cl. II, Div. 2, Groups F, G |
| Cl. III NEMA/EEMAC 3, 4, 4X †, 7B †, CD, 12 |

**Lighting Panelboard Catalog Number Example**

Example:
Class I, Division 2 / Zone 2, Group B panel with:
- 240VAC lighting panelboard
- (28) single-pole 20 amp branch breakers
- (1) single-pole 15 amp branch GFI breaker
- 225 amp 3-pole main circuit breaker

Example would be ordered as:

1. Select panel type
   - D2L = Div. 2 / Zone 2 Panelboard
   - EPL = Div. 1 & 2 / Zone 1 & 2 Panelboard

2. Select size of enclosure
   - B = 24 circuit panel
   - C = 42 circuit panel (36 circuit panel with main breaker greater than 100 amps)
   - D = 42 circuit panel

3. Select terminal enclosure material type
   - **Premium Solution**
     - S = stainless steel terminal housing (Div. 2 / Zone 2 panels only)
     - A = cast aluminum terminal housing
   - **Value Solution**
     - N = no terminal housing (non-factory-sealed - Div. 1 & 2 / Zone 1 & 2)

4. Select panel phase
   - 1 = single-phase electrical system
   - 3 = three-phase electrical system

5. Select breaker spaces
   - 1-pole breaker = 1 breaker space
   - 2-pole breaker = 2 breaker spaces
   - 3-pole breaker = 3 breaker spaces

   Example:
   - (28) 1-pole 20 amp breakers = 28 spaces
   - (1) 1-pole 15 amp GFI breaker = 1 space
   - Total breaker spaces = 29
   - If odd, round up to even = 30

   Note: GFI and EPD each require 1 additional load wire per breaker.
   Factory sealed PowerPlus panels offer a maximum of 42 load wires.
   For requirements greater than 42, consider non-factory sealed PowerPlus panels.

6. Insert asterisk (*) before each branch breaker series

7. Quantity of alike branch breakers

8. Branch breaker pole rating
   - 1 = single-pole breaker
   - 2 = 2-pole breaker
   - 3 = 3-pole breaker

9. Branch breaker ampere rating (numerical value represents ampere rating)
   - 20 = 20 amps

10. Insert asterisk (*) before each branch breaker series

11. Quantity of alike branch breakers

12. Branch breaker pole rating (see #8 above)

13. Branch breaker ampere rating
   - 15 = 15 amps
   - G = GFI breakers
   - 15G = GFI with 15 amps

14. Dash indicates that main breaker follows

15. Main breaker number of poles

† Group B and III B + H is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EPL-GB-KIT separately.

‡ NEMA 4X rating is available when ordered with suffix S752 or S753.
1A PowerPlus™ Panelboards

Lighting and Heat Tracing

EPL Series (Div. 1 & 2)
D2L Series (Div. 2)

EPL Series:
- Cl. I, Div. 1 & 2, Groups B†, C, D
- Cl. I, Zone 1 & 2, IIIB + H2†
- Cl. II, Div. 1, Groups E, F, G
- Cl. II, Div. 2, Groups F, G
- Cl. III

NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EFG, 12

D2L Series:
- Cl. I, Div. 2, Groups B†, C, D
- Cl. I, Zone 2, IIIB + H2†
- Cl. II, Div. 2, Groups F, G
- Cl. III

NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12

† Group B and IIIB + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers.

‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

*Stainless steel and cast aluminum terminal housing for Sizes B, C, and D are the same. Note: Value series non-factory-sealed EPL*N panel dimensions are the breaker housing only and use standard entries shown on cast terminal housing.

Dimensions
Size B Panel* (With Stainless Steel Terminal Housing)

Size C and D Panel* (With Cast Terminal Housing)
PowerPlus™ Panelboards

Power
EXD Series (Div. 1 & 2)
D2D Series (Div. 2)

PowerPlus™ Series Panelboards provide both premium factory-sealed and value non-factory-sealed solutions for the protection and distribution of lighting, power, and heat tracing circuits. This panel solution is designed, engineered, and manufactured to be the industry’s safest and most dependable panelboard for hazardous area locations.

PowerPlus Premium and Value Solutions

- **Premium Solution:** PowerPlus factory-sealed panelboards are premium panelboards that provide maximum circuit flexibility with labor savings during installation, operation, and maintenance, and are accommodating for future changes in the field (order with either “S” or “A" in base part number). Panels are pre-wired to maximum circuit capacity, allowing for easy and safe replacement or installation of components in the field, while maintaining factory-sealed integrity.

- **Value Solution:** PowerPlus non-factory-sealed panelboards are value panelboards that offer maximum circuit flexibility and many of the same features and benefits of the PowerPlus premium line. This value solution is provided without terminal housing and factory wiring of circuits (order with “N" in base part number). The non-factory-sealed solution reduces initial panelboard material costs and requires field wiring to circuit breakers and external seals to be field-installed during installation.

Applications:

EXD and D2D PowerPlus™ panelboards are used:

- In areas made hazardous by the continuous or abnormal presence of flammable gases, vapors, and combustible dusts
- In areas subject to weather, dampness, and corrosion
- For branch power distribution and circuit protection to motors, valves, pumps, lighting, heat tracing, receptacles, etc.
- For indoor and outdoor applications in petroleum refineries, chemical and petrochemical plants, and other process industry facilities where similar hazards exist
- To accommodate up to 100 amp branch loads (only 3 circuits), balance is up to 50 amps

Certifications and Compliances:

**EXD Series:**

- NEC/CEC:
  - Class I, Division 1 & 2, Groups B†, C, D
  - Class I, Zone 1 & 2, IIB + H‡
  - Class II, Division 1, Groups E, F, G
  - Class II, Division 2, Groups F, G
  - Class III
- NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 9EFG, 12
- CSA Enc. 3, 4, 5
- UL Standard: 67, 1203
- cUL (to CSA Standard C22.2 Nos. 29 & 30)
- IP65

**D2D Series (Division 2):**

- NEC/CEC:
  - Class I, Division 2, Groups B†, C, D
  - Class I, Zone 2, IIB + H‡
  - Class II, Division 2, Groups F, G
- Class III
- NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12
- CSA Enc. 3, 4, 5
- UL Standard: 67, 1203
- cUL (to CSA Standard C22.2 Nos. 29 & 30)
- IP65

Standard Materials and Finishes:

- Circuit breaker enclosure body and cover – copper-free aluminum
- Terminal housing – type 316L stainless steel ("S") or copper-free aluminum ("A")
- Gasket – neoprene (cast aluminum enclosure); foam-in-place (stainless steel enclosure)
- Operating handles – copper-free aluminum
- Operating shafts and bushings, cover bolts, washers, hinges, breather/drain, retractile springs – stainless steel
- Circuit breaker operators – EXD/D2D Size F: copper-free aluminum; all other types: non-metallic
- Lifting bracket – electrogalvanized cold rolled steel
- Chassis – silver-plated copper
- Breather cap – Delrin® non-metallic material
- Neutral and ground bar – tin-plated aluminum

†Group B and IIB + H is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers.

‡To order with brackets installed at factory, add suffix -GB. For field installable kit, order EXD-GB-KIT for Sizes B, C, and D separately.

Delrin® is a registered trademark of DuPont.

Crouse-Hinds

by F.T.N

1A PowerPlus™ Panelboards

Power

EXD Series (Div. 1 & 2)
D2D Series (Div. 2)

This corrosion-resistant Type 4X breather and drain comes standard with all PowerPlus panelboards. This permits all models to maintain their Type 4 (Type 4X with suffix S752) rating while utilizing a breather/drain solution to drain internal condensation while protecting against ingress of rain and hose water.

PowerPlus panels come standard with a high-quality silver-plated copper buss system. This provides high-efficiency current flow between the main feed and branch breakers.

Each branch and main breaker handle is provided with lockout/tagout capability, which complies with OSHA lockout/tagout requirements for safety. This allows for locking in the ON or OFF position for standard maintenance checks.

Spring-loaded, quick-release, captive stainless steel cover bolts come standard. This design prevents damage to the flat joint flame path when opening and closing the cover while providing visual identification of bolt engagement.

Stainless steel hinges are engineered to provide maximum stability and allow the cover to swing fully open. This avoids misalignment of cover to the body of the enclosure and prevents the cover from obstructing interior access.

EXD Series:
- Cl. I, Div. 1 & 2, Groups B, C, D
- Cl. I, Zone 1 & 2, IIB + H2†
- Cl. II, Div. 1, Groups E, F, G
- Cl. II, Div. 2, Groups F, G
- Cl. III

D2D Series:
- Cl. I, Div. 2, Groups B, C, D
- Cl. I, Zone 2, IIB + H2†
- Cl. II, Div. 2, Groups F, G
- Cl. III

NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 9EFG, 12

† Group B and IIB + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EXD-GB-KIT for sizes B, C and D separately.

‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

PowerPlus D2L and EPL panels are available with GFI and/or EPD breakers. This 21-position electrical test circuit allows for testing of GFI, EPD, or a combination of both in one panel. EPLDN panels are available with up to 42 GFI or EPD circuits with 225 amp main breaker.

EPLCN or EXDCN*

*Note: D2D / EXD panels are not available with GFI or EPD circuit breakers or electrical test circuit as standard. Please contact factory if required.
**PowerPlus™ Panelboards**

**Power**

**EXD Series (Div. 1 & 2)**

**D2D Series (Div. 2)**

**EXD Series:**
- Cl. I, Div. 1 & 2, Groups B†, C, D
- Cl. I, Zone 1 & 2, IIB + H2†
- Cl. II, Div. 1, Groups E, F, G
- Cl. II, Div. 2, Groups F, G
- Cl. III
- NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EFG, 12

**D2D Series:**
- Cl. I, Div. 2, Groups B†, C, D
- Cl. I, Zone 2, IIB + H2†
- Cl. II, Div. 2, Groups F, G
- Cl. III
- NEMA/EEMAC: 3, 4, 4X, 7B†CD, 12

---

Integrated steel lifting eye is mounted on the top side of each PowerPlus panel. This provides a stable lifting position to ensure ease of mounting during the installation process.

PowerPlus cast enclosures are manufactured with an external flange design. This design allows for a wide unobstructed cover opening and provides a completely accessible interior for ease of maintenance and wiring.

Superior self-aligning breaker operators are designed for both field and factory installation. This patent-pending design guarantees proper handle alignment when closing the cover.*

All panels with terminal housings are factory-sealed†† and fully wired for maximum available circuits. This allows PowerPlus models the ability to have additional breakers field-installed while maintaining their factory seal.

All terminal blocks come fully wired with each contact numbered for easy connecting of branch entries.

Heavy gauge 316L stainless steel terminal housings are supplied with three removable gland plates to be used with Myers® Hubs. This design allows for the flexibility of factory- or field-drilled openings for hubs.

PowerPlus panelboards offer an industrial grade 316L stainless steel terminal housing as standard. This design offers an increased internal volume with a removable front cover for easy access during field installation and maintenance. A cast aluminum terminal housing is standard on EPL and EXD panels and available on D2L and D2D panels.

---

*D Not available in Size F offering. Spring aligning forks are standard on Size F panels.

††EPL-A and EXD'A conduit entries 2" or larger in Class I, Division 1 must be sealed within 18° of enclosure. All alternate feed entries to breaker housing (suffix A) must have an external seal within 18° of enclosure.

† Group B and IIB + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EXD-GB-KIT for sizes B, C and D separately.

‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

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Crouse-Hinds

by Eaton

# 1A PowerPlus™ Panelboards

**Power**

**EXD Series (Div. 1 & 2)**

**D2D Series (Div. 2)**

---

## Electrical Ratings:

### Branch Breakers Trip Ratings:

<table>
<thead>
<tr>
<th>Panel Size</th>
<th>Voltage</th>
<th>Phase / Wire</th>
<th>Main Breaker Amperage</th>
<th>Branch Breaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>480Y/277</td>
<td>3P 4W</td>
<td>Up to 100</td>
<td>G-frame</td>
</tr>
<tr>
<td></td>
<td>480</td>
<td>3P 3W</td>
<td>Up to 100</td>
<td>G-frame</td>
</tr>
<tr>
<td>C</td>
<td>480Y/277</td>
<td>3P 4W</td>
<td>Up to 100</td>
<td>G-frame</td>
</tr>
<tr>
<td></td>
<td>480</td>
<td>3P 3W</td>
<td>Up to 225</td>
<td>G-frame</td>
</tr>
<tr>
<td>D</td>
<td>480Y/277</td>
<td>3P 4W</td>
<td>Up to 100</td>
<td>G-frame</td>
</tr>
<tr>
<td></td>
<td>480</td>
<td>3P 3W</td>
<td>Up to 225</td>
<td>G-frame</td>
</tr>
<tr>
<td>F</td>
<td>480Y/277, 480Δ, or 600Δ††</td>
<td>3P 3W or 3P 4W</td>
<td>Up to 225</td>
<td>F-frame</td>
</tr>
</tbody>
</table>

### Panel Sizes B, C, and D (G-Frame Cutler-Hammer™):

- 1-, 2-, and 3-pole: GHB 480/277Y (standard offering)
- 2- and 3-pole: GDB 480 (requires suffix -GDB)
- 1-, 2-, and 3-pole GBH 600Y/347 (requires suffix -GBH; contact factory)
- 15, 20, 25, 30, 35, 40, 45, 50 amp (available in all breaker spaces in panel), 60, 70, 80, 90, 100 amp (only 3 breaker spaces available)
- Ambient compensated breakers are optional to +50°C (suffix V)

### Panel Size F (F-frame breaker: EHD Cutler-Hammer™ standard):

- 15, 20, 25, 30, 35, 40, 45, 50, 60, 70 amp (available in all breaker spaces in panel), 80, 90, 100 amp (only 3 breaker spaces available)
- Breaker types available†††
  - FDB: 2-, and 3-pole 600V
  - FD: 1-, 2-, (277V), and 3-pole (600V)
  - HFD: 1-, 2-, (277V), and 3-pole (600V)
  - EHD: 1-, 2-, (277V), and 3-pole (480V)

### Main Breaker Trip Ratings:

- 2- and 3-pole (contact factory for single phase sizes B, C, D)
- Size B: C: 15 to 100 amps
- Size D: F: 15 to 225 amps

### Main Lugs:

- Size B, C, and F: 225 amps
- Size D: not available; main breaker only

### Ampere Interrupting Capacity:

- All size panels are certified to 10kAIC
- Breaker AIC Ratings:
  - GHB Breaker: 14kAIC at 480Y/277
  - EHD Breaker: 14kAIC at 480V
- Breaker types optional with Size B, C, and D panel only: GDB Breaker: 14kAIC at 480V
- Breaker types optional with Size F panel only: HFD Breaker: 18kAIC at 600V and 35kAIC at 480V & 277V
- HFD Breaker: 25kAIC at 600V and 65kAIC at 480V & 277V

---

## Options:

To add the following features to the panelboard, add a dash and then the suffix to the Cat. No. When multiple suffixes are needed, add them to the Cat. No. in alpha-numeric order.

<table>
<thead>
<tr>
<th>Description</th>
<th>Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Space heater</td>
<td>R44</td>
</tr>
<tr>
<td>Square head plug on all conduit openings*</td>
<td>SP</td>
</tr>
<tr>
<td>Epoxy powder coat finish, external</td>
<td>S752</td>
</tr>
<tr>
<td>Epoxy powder coat finish, internal and external</td>
<td>S753</td>
</tr>
<tr>
<td>Recess head plugs on all conduit openings*</td>
<td>RP</td>
</tr>
<tr>
<td>Stainless steel breaker operator cover (ice shield)</td>
<td>HG</td>
</tr>
<tr>
<td>Group B kit factory installed</td>
<td>GB</td>
</tr>
<tr>
<td>GFI breakers</td>
<td>G</td>
</tr>
<tr>
<td>EPD breakers</td>
<td>E</td>
</tr>
<tr>
<td>HID breakers</td>
<td>H</td>
</tr>
<tr>
<td>Ambient compensated breakers (50°C)</td>
<td>V</td>
</tr>
<tr>
<td>GDB 480 3P 3W system</td>
<td>GDB</td>
</tr>
<tr>
<td>FDB 600V breakers*</td>
<td>FDB600</td>
</tr>
<tr>
<td>FD 600V breakers*</td>
<td>FD600</td>
</tr>
<tr>
<td>HFD 600V breakers*</td>
<td>HFD600</td>
</tr>
<tr>
<td>Lamacoit Nameplate</td>
<td>LID</td>
</tr>
</tbody>
</table>

A standard panelboard has conduit openings for power and branch circuits on top.

To order a panelboard with main power feed from the bottom of the breaker housing, and branch entries on top (alternate) ........................................ -A**

To order an inverted panelboard with all conduit openings for power and branch circuits on the bottom (inverted) ....................................... -I

To order an inverted panelboard with main power feed on top and bottom (alternate inverted) .................................................. -A-I**

---

†Group B and IB + H is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installed kits, order EXD-GB-ITT for Sizes B, C, and D separately.

††NEMA 4X rating is available when ordered with suffix S752 or S753.

††For 480 3P 3W system or for 600VAC, a suffix is required. Note: for single-pole 480V, GHB breakers will be furnished for Sizes B, C, and D.

†††Two-pole GDB breakers are only available up to 50 amps.

††‡Frame breakers are only available in Size F panel with up to a maximum of 30 circuit spaces.

*Please contact factory. Single pole 480V EPD available. For all others, please contact factory. Two breaker positions for single pole EPD: odds start at position 1; evens start at position 4.

**Available in D2D and EXD Sizes B, C, and D only.

*Aavailable with D2D and EXD Size F panels only.

**D2D/EXD Sizes C and D are only available with up to 36 circuits.

Not available on stainless terminal housings.

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Crouse-Hinds

by Eaton
PowerPlus™ Panelboards

Power
EXD Series (Div. 1 & 2)
D2D Series (Div. 2)

Accessories:
Gland Plates
Field installable gland plates with factory-provided aluminum Myers™ Hubs for the D2D stainless steel terminal housing (one 3-inch hub and 12 branch entry hubs - size dependent upon suffix, each kit includes 3 gland plates, 1 for the top or bottom and 1 for each side):

- 3/4" branch entry hub
  - Part Number: D2D HUB2 KIT
- 1" branch entry hub
  - Part Number: D2D HUB3 KIT
- 1 1/4" branch entry hub
  - Part Number: D2D HUB5 KIT
- Replacement gland plate (no hubs)
  - Part Number: D2D HUB0 KIT

Circuit Breaker Operator Assemblies:
Operator Assemblies
- Part Number
  - D2D/EXD All breakers panel Sizes B, C, D: EXD HDL123
  - D2D/EXD All breakers panel Sizes F: EXD K1

Replacement Cover Plugs:
For unused circuit breaker positions (qty. 5):
Plug Kits
- Part Number
  - D2D/EXD Sizes B, C, D: EXD OP PLG
  - D2D/EXD Size F: EXD K2

Kit for Group B
Standard panels less -GB suffix are applicable for Group B, but it is required to install brackets on breakers.

To order brackets factory installed
  - Part Number: add suffix -GB
    - EXD GB KIT

For field installable kit (Sizes B, C, D)
  - Contact Factory

D2D/EXD Stainless Steel Breaker Operator Cover
To protect operators from ice build-up for all D2D/EXD PowerPlus panels:

- Part Number: D2D/EXD PowerPlus panels
  - Contact Factory

Space Heater Kit
D2D/EXD PowerPlus panels
  - Part Number: EXD R44 KIT

Terminal Housing Mounting Plate Kit:
To adapt depth of terminal housing to same depth as breaker enclosure ***

<table>
<thead>
<tr>
<th>Panel Types / Sizes</th>
<th>Part Number</th>
<th>Terminal Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>D2D/EXD Sizes B, C, D</td>
<td>EXDA-MTG-KIT</td>
<td>Aluminum</td>
</tr>
<tr>
<td>D2D Sizes B, C, D</td>
<td>D2DS-MTG-KIT</td>
<td>Stainless</td>
</tr>
</tbody>
</table>

*** The weight of the panel is sufficiently supported by mounting of breaker enclosure.

†Group B and IIB + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers.
To order with brackets installed at factory, add suffix -GB. For field installable kit, order EXD-GB-KIT for Sizes B, C, and D separately.

‡NEMA 4X rating is available when ordered with suffix S752 or S753.

PowerPlus™ Panelboards

EXD Series:
- Cl. I, Div. 1 & 2, Groups B†, C, D
- Cl. I, Zone 1 & 2, IIB + H†
- Cl. II, Div. 1, Groups E, F, G
- Cl. II, Div. 2, Groups F, G
- Cl. III
  - NEMA/EEMAC: 3, 4, 4X†, 7B†CD, 9EFG, 12

D2D Series:
- Cl. I, Div. 2, Groups B†, C, D
- Cl. I, Zone 2, IIB + H†
- Cl. II, Div. 2, Groups F, G
- Cl. III
  - NEMA/EEMAC: 3, 4, 4X†, 7B†CD, 12
**PowerPlus™ Panelboards**

**Power**

**EXD Series (Div. 1 & 2)**
**D2D Series (Div. 2)**

---

### Table A – Panel Capacity

<table>
<thead>
<tr>
<th>Panel Size</th>
<th>Max. No. of Branch Circuit Breaker Spaces</th>
<th>Available Main Breaker</th>
<th>Available With GFI, EPD Branch Protection***</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With Main Lug Only</td>
<td>2-pole*</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>24</td>
<td>22</td>
<td>Up to 100</td>
</tr>
<tr>
<td>C</td>
<td>42</td>
<td>40</td>
<td>Up to 100</td>
</tr>
<tr>
<td>D</td>
<td>N/A</td>
<td>42</td>
<td>Up to 225</td>
</tr>
<tr>
<td>F</td>
<td>30</td>
<td>30</td>
<td>Up to 225</td>
</tr>
</tbody>
</table>

---

### Table B – To Size Panels with GFI or EPD Branch Breakers

<table>
<thead>
<tr>
<th>Panel Size with Main Lug or Main Breaker</th>
<th>Single-Pole</th>
<th>Two-Pole</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>21</td>
<td>12</td>
</tr>
<tr>
<td>C</td>
<td>21</td>
<td>(10 with 3-pole MCB, 11 with 2-pole MCB)</td>
</tr>
<tr>
<td>D EPLDN only - can go up to 42 GFI or EPD circuits. EPLDN will accommodate up to 225 amp main breaker.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

† Group B and IIB + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EXD-GB-KIT for Sizes B, C and D separately.

‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

* Contact factory for single phase size B, C, or D.

** Contact factory for single phase size B, C, or D.

Main breakers are mounted external to chassis.

Main breakers are chassis mounted and back-fed.

*** GFI, EPD for D2D/EXD are not standard options. If required, please contact factory. Single pole 480V EPD available. For all others, please contact factory. Two breaker positions for single pole EPD: odds start at position 1; evens start at position 4.
Power Panelboard Catalog Number Example

Example:
Class I, Division 2 / Zone 2, Group B panel with:
- 480\(\Delta\)VAC power panelboard with 3-phase, 3-wire
- (42) single-pole 20 amp branch breakers
- 225 amp 3-pole main circuit breaker

Example would be ordered as:

1. Select panel type
   - D2D - Division 2 / Zone 2 Panel
   - EXD - Division 1 / Zone 1 Panel
2. Select size of enclosure (refer to Electrical Ratings Chart)
   - B = max. 24 circuit panel
   - C = max. 42 circuit panel (when ordered, main circuit breaker is chassis mounted)
   - D = max. 42 circuit panel w/ main breaker (main circuit breaker is non-chassis mounted)
   - F = max. 30 circuit panel
3. Select terminal enclosure material type
   - Premium Solution
     - S = stainless steel terminal housing (Sizes B, C, D only)
     - A = cast aluminum terminal housing
     - Value Solution
     - N = no terminal housing included (non-factory-sealed)
4. Select panel phase
   - 1 = single-phase electrical system (consult factory for sizes B, C, D)
   - 3 = three-phase electrical system
5. Select breaker spaces (combined # of circuits required)†
   - Example:
     - Single-pole breaker = 1 circuit
     - 2-pole breaker = 2 circuits
     - 3-pole breaker = 3 circuits
6. Select breaker options
   - V = ambient compensated
7. Asterisk (*) denotes breaker characteristics follow
8. Quantity of alike branch breakers
9. Branch breaker pole rating
   - 1 = single-pole breaker
   - 2 = 2-pole breaker
   - 3 = 3-pole breaker
10. Branch breaker ampere rating (numerical value represents ampere rating)
    - 15 = 15 Amps
    - 20 = 20 Amps
    - 25 = 25 Amps
    - 30 = 30 Amps
    - 35 = 35 Amps
11. Dash indicates that main breaker follows
12. Main breaker number of poles
13. M indicates main breaker
14. Indicates main breaker amperage rating
    - Size B, C: 15 to 100 amps
    - Size D, F: 15 to 225 amps
15. Options
    - GB = Group B Kit factory-installed
    - GDB = GDB frame breakers with 480\(\Delta\) 3P 3W System

†Even number of breaker spaces is required. For odd number of spaces, round up to next even number.

† Group B and III + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers.
To order with brackets installed at factory, add suffix -GB. For field installable kit, order EXD-GB-KIT for sizes B, C and D separately.
‡ NEMA 4X rating is available when ordered with suffix S752 or S753.
1A PowerPlus™ Panelboards

Power

EXD Series (Div. 1 & 2)
D2D Series (Div. 2)

EXD Series:
- Cl. I, Div. 1 & 2, Groups B†, C, D
- Cl. I, Zone 1 & 2, IIB + H2†
- Cl. II, Div. 1, Groups E, F, G
- Cl. II, Div. 2, Groups F, G
- Cl. III
  - NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EFG, 12

D2D Series:
- Cl. I, Div. 2, Groups B†, C, D
- Cl. I, Zone 2, IIB + H2†
- Cl. II, Div. 2, Groups F, G
- Cl. III
  - NEMA/EEMAC: 3, 4, 4†

Dimensions

Size B Panel*
(With Stainless Steel Terminal Housing)

Size C and D Panel*
(With Cast Aluminum Terminal Housing)

† Group B and IIB + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers.

To order with brackets installed at factory, add suffix -GB. For field installable kit, order EXD-GB-KIT for sizes B, C and D separately.

‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

*Stainless steel and cast aluminum terminal housing for sizes B, C, and D panels have same dimensions.

Note: Value series non-factory-sealed EXD*N panel dimensions are the breaker housing only and use standard entries shown on cast terminal housing.
## PowerPlus™ Panelboards

### Power

**EXD Series (Div. 1 & 2)**

- **EXD Series:**
  - Cl. I, Div. 1 & 2, Groups B†, C, D
  - Cl. I, Zone 1 & 2, IIb + H2†
  - Cl. II, Div. 1, Groups E, F, G
  - Cl. II, Div. 2, Groups F, G
  - Cl. III
  - NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 9EFG, 12

**D2D Series (Div. 2)**

- **D2D Series:**
  - Cl. I, Div. 2, Groups B†, C, D
  - Cl. I, Zone 2, IIb + H2†
  - Cl. II, Div. 2, Groups F, G
  - Cl. III
  - NEMA/EEMAC: 3, 4, 4X†, 7B†CD, 12

---

### Size F Panel

![Diagram](185x331 to 420x645)

† Group B and IIb + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers.

‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

*Stainless steel and cast aluminum terminal housing for sizes B, C, and D panels have same dimensions.

Note: Value series non-factory-sealed EXD*N panel dimensions are the breaker housing only and use standard entries shown on cast terminal housing.

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**Crouse-Hinds**

by E.T. N

Synergy EX Panelboards

Power, lighting, and heat tracing panels for Class I, Division 2 applications

Synergy EX Panelboards offer superior solutions utilizing individually encapsulated circuit breakers to provide maximum safety in the most extreme environments. The finger safe design provides ultimate flexibility and speed during installation, normal operations and maintenance activities in the field. This advanced design is approved for all hazardous gases, which allows for operation in multiple locations and hazardous situations.

Applications:
Synergy EX Panelboards provide overcurrent and short circuit protection for low voltage power, lighting, and heat tracing applications in indoor and outdoor hazardous areas, such as:
- Refineries
- Chemical and petrochemical plants
- Mining
- Corrosive process facilities
- Food processing facilities
- Indoor and outdoor industrial applications

Features:
- Lightweight design for reduced labor and equipment installation
- Dead-front design allows for operating breakers without hot permit
- Finger safe design eliminates safety risk for personnel
- Patented friction welded encapsulated molded-case circuit breakers
- Robust design providing operations in all gas groups and extreme hot/cold environments
- Front viewing window for easy visual indication of breaker status
- Quick snap encapsulated circuit breakers (no bolts or screws)
- Removable gland plates for easy addition of entries
- Gangable for main breaker housing

Certifications and Compliances:
NEC/CEC:
- Class I, Zone 1, Aex de IIC T4
- Ex de IIC T4
- Class I, Division 2, Groups A, B, C, D
- Class II, Division 1, Groups E, F, G, Extb IIIC T100°C Db
- Type 4X, IP66

Electrical Ratings:
Synergy EX Panelboard:
- Max. 225A / Phase (3 phase max.)
- Max. 480VAC
- Max. 225A main breaker (external enclosure)
- 10kA short circuit current

Encapsulated Circuit Breakers:
- 480/277VAC
  - 1-, 2- and 3-pole
  - 10, 15, 20, 25, 30, 35, 40 amps
  - Auxiliary and signal contact
- 240/120VAC
  - 1-, 2- and 3-pole
  - 10, 15, 20, 25, 30, 35, 40 amps
  - 1-pole GFI and EPD
  - Auxiliary and signal contact

Standard Materials:
- Enclosure – 316L stainless steel or painted steel
- Observation window – laminated safety glass
- External parts (hinges, screws, washers, ¼ turn locks, gland plates) – 316L stainless steel
- Internal parts (screws, washers, back plate, fasteners) – 304 stainless steel
- Gasket – silicone
- Dead-front panel – flame rated fiberboard (V-1)
- Bus bars – nickel-plated copper
- Filler plates – flame rated nylon (V-0)
- Bonding/grounding assembly – brass
- Encapsulated circuit breakers – flame rated nylon (V-2)

Options:

<table>
<thead>
<tr>
<th>Description</th>
<th>Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breather and Drain</td>
<td>BD</td>
</tr>
<tr>
<td>Main Breaker (100A, 150A, 225A)</td>
<td>See Catalog</td>
</tr>
<tr>
<td>Heater (-40°C)</td>
<td>HTR</td>
</tr>
<tr>
<td>Bottom Feed Inverted Panelboard</td>
<td>I</td>
</tr>
<tr>
<td>Gland Plates (see locations below)</td>
<td>GP1-GP8</td>
</tr>
</tbody>
</table>

null
SynergEX Panelboards

Power, lighting, and heat tracing panels for Class I, Division 2 applications

Cl. I, Zone 1, Aex de IIC T4
Ex de IIC T4
Cl. I, Div. 2, Groups A, B, C, D
Cl. II, Div. 1, Groups E, F, G, Extb IIIC
T100°C Db

Type 4X, IP66

A) Extreme temperature durability - This panelboard is designed to withstand temperatures ranging from -40°C to +55°C, offering operational durability in the most extreme environments.

B) Efficient breaker operation - Dead front design allows for breakers to be easily and quickly reset.

C) Certified for all hazardous gases - The individually encapsulated breakers are certified for all hazardous gases (ABCD, IIC), allowing an end-user to install the product in a variety of hazardous locations.

D) Finger safe configuration - Enhanced finger safe design prevents contact with live parts, ensuring personnel safety.

E) Quick snap, screwless breaker replacement - Our circuit breakers are individually encapsulated without any bolts or screws, greatly reducing installation time and cost.
# SynergEX Panelboards

**Power, lighting, and heat tracing panels for Class I, Division 2 applications**

- Cl. I, Zone 1, Aex de IIC T4
- Ex de IIC T4
- Cl. I, Div. 2, Groups A, B, C, D
- Cl. II, Div. 1, Groups E, F, G, Extb IIC
- T100°C Db

## Catalog Numbering System:

<table>
<thead>
<tr>
<th>SERIES</th>
<th>SIZE</th>
<th>MATERIAL</th>
<th>PANEL PHASE</th>
<th>PANEL VOLTAGE RATING</th>
<th>BREAKER SPACES</th>
<th>ASTERISK</th>
<th>QUANTITY OF ALIKE BRANCH BREAKERS</th>
<th>BRANCH BREAKER POLE RATING</th>
<th>BRANCH BREAKER AMPERE RATING</th>
<th>DASH</th>
<th>MAIN BREAKER</th>
<th>DASH</th>
<th>OPTIONS</th>
<th>GLAND PLATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPB</td>
<td>A</td>
<td>S</td>
<td>1</td>
<td>1</td>
<td>12</td>
<td>*</td>
<td>12</td>
<td>1</td>
<td>10</td>
<td>-</td>
<td>3M100</td>
<td>-</td>
<td>HTR</td>
<td>GP1GP2GP3</td>
</tr>
</tbody>
</table>

### Series

- **SPB**

### Enclosure Size

- **A** = 12 CCT
- **B** = 24 CCT
- **C** = 42 CCT
- **D** = 60 CCT

### Enclosure Material Type

- **S** = 316L Stainless Steel (Type 4X)
- **P** = 304 Painted Steel (Type 4X)

### Panel Phase

- **1** = Single Phase
- **3** = Three Phase

### Panel Voltage Rating

- **1** = 120/240V (1 Phase, 3 Wire)
- **2** = 208/120V (3 Phase, 4 Wire)
- **4** = 480/277V (3 Phase, 4 Wire)

### Breaker Spaces

- 1P Breaker = 1 Space
- 2P Breaker = 2 Spaces
- 3P Breaker = 3 Spaces

Insert Asterisk (*) Before Each Branch Breaker Series.

### Quantity of Alike Branch Breakers

### Branch Breaker Pole Rating

- **1** = 1P Breaker
- **1AX** = 1P Breaker + Auxiliary
- **1SC** = 1P Breaker + Signal Contact
- **2** = 2P Breaker
- **2AX** = 2P Breaker + Auxiliary
- **2SC** = 2P Breaker + Signal Contact
- **3** = 3P Breaker
- **3AX** = 3P Breaker + Auxiliary
- **3SC** = 3P Breaker + Signal Contact

### Branch Breaker Ampere Rating

- Example: 20 = 20A
  - Numerical Value Represents Ampere Rating

### Dash Indicates Main Breaker to Follow

**Main Breaker**

- 2- or 3-pole, 15 to 225A (Example: 3M100 - 3-pole main breaker, 100A)
  - **Note:** Breakers above 40A to be housed in separate enclosure

### Dash Indicates Options to Follow

### Option Suffixes (see page 4 for available options)

### Gland Plates

- Gland plates at locations 1, 2 and 3 are standard
SynergEX Panelboards

Power, lighting, and heat tracing panels for Class I, Division 2 applications

Dimensions:

12 Circuits

24 Circuits

42 Circuits

60 Circuits

Cl. I, Zone 1, Aex de IIC T4
Ex de IIC T4
Cl. I, Div. 2, Groups A, B, C, D
Cl. II, Div. 1, Groups E, F, G, Extb IIIC
T100°C Db

Type 4X, IP66

Cl. I, Zone 1, Aex de IIC T4
Ex de IIC T4
Cl. I, Div. 2, Groups A, B, C, D
Cl. II, Div. 1, Groups E, F, G, Extb IIIC
T100°C Db

Type 4X, IP66

Crouse-Hinds

by F.T-N
1A D2Z Panelboards
Zone 1, Division 2
Non-metallic or Stainless Steel

Applications:
D2Z panelboards are designed specifically for use in:
• Class I, Zone 1, Division 2, Groups A, B, C, D hazardous area locations.
• In damp, wet or corrosive locations.
• Indoors or outdoors in Zone 1, Division 2 areas of petroleum refineries, chemical and petrochemical plants, and other process industry facilities.

Features:
• cCSAus, PTB* certified for Class I, Zone 1, Division 2 hazardous areas.
• Fiberglass-reinforced polyester enclosures:
  Non-metallic, corrosion-free
  Increased safety Ex-e protection
  Impact resistant
  NEMA 4X, IP65
  Enclosure meets UL 94-VO
  UV listed
• 316L stainless steel enclosures (suffix S860):
  Corrosion resistant
  Industrial grade thickness
  NEMA 4X, IP65
• Unique design allows for panels with more than 42 circuits.
• Main disconnect switches 40, 80, 125, 180A.
• Optional flameproof Ex-d fusing of main disconnect.
• Flameproof Ex-d encapsulated UL 489 branch circuit breakers:
  Thermal-magnetic protection up to 40A with 240 VAC circuit breakers.
  Thermal-magnetic protection up to 25A with 480 VAC circuit breakers.
  Auxiliary contacts (mechanical or electrical).**
  Lockout on components.
  Prewired to increase Safety terminal blocks.
  GFI branch breakers (EPDs).**
• Clear, NEMA 4X / IP65 window, hinged for actuation or breakers.
• Double lockout on windows and breakers.
• Brass plates for hub or cable gland entries.
• Enclosures are to be vertically mounted on switchrack frames or walls.
• Completely pre-wired ready for connection to terminal blocks.

Certifications and Compliances*:
Certifications cCSAus
Degree of Protection NEMA 4X
IP65 to IEC 60529
ISO 4892
UV Resistance Glass-reinforced polyester
Temperature Ratings -55°C to 40°C***
Rated Voltage 480 VAC
Rated Current Max. 180A
• NEC:
  Class I, Division 2, Groups A, B, C, D
  Class I, Zone 1, Group IIC
• CEC:
  Class I, Division 2, Groups A, B, C, D
  Class I, Zone 1, Group IIC
  Class II, Division 1, Groups E, F, G
• UL Standards:
  UL60079-0
  UL60079-1
  UL60079-7
  UL60079-18
• CSA Standards:
  C22.2 E60079-0-02
  C22.2 E60079-1-02
  C22.2 E80079-7-2003
  C22.2 E60079-18-95

Options:
The following special options are available from the factory by adding the suffix to the Cat. #:
Description Suffix
D2Z Series panelboards are now available with 316L stainless steel enclosures. This material is ideal for wash down and corrosive areas requiring product endurance in adverse locations. S860

*Available with ATEX certification, please consult factory.
**Available with only UL 1077 supplemental protectors.
***For ambients -20°C or less, optional heater is required.

D2Z Panelboards
Zone 1, Division 2

Non-metallic or Stainless Steel

Technical Data

- Large windows permit easy viewing and quick access to breakers without opening the enclosures.
- Lockouts standard for both windows and breakers.
- Up to 6 single-pole breakers can be installed under one window.
- NEMA 4X, IP65 protection.
- Window locks with ¥½” (8mm) Allen Key.

Branch Circuit Breakers

1-pole, 2-pole, 3-pole, 4-pole; with EPD protection 1-pole + Neutral, 2-pole; 2, 6, 10, 16, 20, 25, 32 and 40 Amps

Explosion Protection
Ex de IIC
AEx de IIC
Class I, Zone 1, Div. 2, Groups A, B, C, D
Class II, Div. 1, Groups E, F, G
cCSAus

Certifications

Rated Operating Voltage
Up to max. 480 VAC

Rated Current
Up to 40A

Rated Switching Capacity
10k AIC

Circuit Breaker Characteristics
UL489 Circuit Breakers

Tripping Characteristics
“Z” or “K”*

Tripping Current for EPDs
30mA (up to 300mA on request)

Circuit Breaker Enclosure Materials
Fiberglass-reinforced epoxy

Optional Auxiliary/Signal Contacts**

Rated Voltage
250 VAC

Rated Current
5A

Main Disconnect Switch

40, 80, 125, 180A, 4-pole

Explosion Protection
Ex de IIC T6
AEx de IIC T6
Class I, Zone 1, Div. 2, Groups A, B, C, D
Class II, Div. 1, Groups E, F, G

Rated Operating Voltage
Up to 690 VAC

Motor Switching Capacity AC3***

<table>
<thead>
<tr>
<th>Type</th>
<th>230V</th>
<th>400V</th>
<th>500V</th>
<th>690V</th>
</tr>
</thead>
<tbody>
<tr>
<td>40A</td>
<td>40A</td>
<td>40A</td>
<td>40A</td>
<td>32A</td>
</tr>
<tr>
<td>80A</td>
<td>80A</td>
<td>80A</td>
<td>80A</td>
<td>63A</td>
</tr>
<tr>
<td>125A</td>
<td>125A</td>
<td>125A</td>
<td>125A</td>
<td>110A</td>
</tr>
<tr>
<td>180A</td>
<td>180A</td>
<td>180A</td>
<td>150A</td>
<td>125A</td>
</tr>
</tbody>
</table>

Main Switch

- 40A main switch, 4-pole, optional fusing in enclosure with window(s).
- 80, 125 and 180A main switch, 4-pole, optional fusing in enclosure.

Optional Auxiliary/Signal Contacts**

Rated Voltage
250 VAC

Rated Current
5A

Main Disconnect Switch

40, 80, 125, 180A, 4-pole

Explosion Protection
Ex de IIC T6
AEx de IIC T6
Class I, Zone 1, Div. 2, Groups A, B, C, D
Class II, Div. 1, Groups E, F, G

Rated Operating Voltage
Up to 690 VAC

Motor Switching Capacity AC3***

<table>
<thead>
<tr>
<th>Type</th>
<th>230V</th>
<th>400V</th>
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</tr>
</thead>
<tbody>
<tr>
<td>40A</td>
<td>40A</td>
<td>40A</td>
<td>40A</td>
<td>32A</td>
</tr>
<tr>
<td>80A</td>
<td>80A</td>
<td>80A</td>
<td>80A</td>
<td>63A</td>
</tr>
<tr>
<td>125A</td>
<td>125A</td>
<td>125A</td>
<td>125A</td>
<td>110A</td>
</tr>
<tr>
<td>180A</td>
<td>180A</td>
<td>180A</td>
<td>150A</td>
<td>125A</td>
</tr>
</tbody>
</table>

***See IEC 60947-3.
** “Z” Branch breakers are used for all general applications such as lighting and heat tracing.
Type “K” breakers are used for MOVs and portable power. Contact factory for other application.
** Aux contacts indicate mechanical or electrical tripping
Signal contacts indicate only electrical tripping and are used primarily on heat-tracing circuits.
Branch breakers with signal contacts require next larger breaker enclosure.
### D2Z Panelboards

**Zone 1, Division 2**

*Non-metallic or Stainless Steel*

<table>
<thead>
<tr>
<th>Main Fuse, 3-pole</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explosion Protection</strong></td>
</tr>
<tr>
<td>AEx de IIC</td>
</tr>
<tr>
<td><strong>Class I, Zone 1, Div. 2, Groups A, B, C, D</strong></td>
</tr>
<tr>
<td><strong>Rated Operating Voltage</strong></td>
</tr>
<tr>
<td><strong>Current</strong></td>
</tr>
<tr>
<td>25A</td>
</tr>
<tr>
<td>35A</td>
</tr>
<tr>
<td>50A</td>
</tr>
<tr>
<td>63A</td>
</tr>
<tr>
<td>80A</td>
</tr>
<tr>
<td>100A</td>
</tr>
<tr>
<td>125A</td>
</tr>
</tbody>
</table>

**Recommended manufacturer:** Eaton’s Bussmann type NH00G fuses for general use or N00M for motor applications.

**Specify Amperage** (Fuses not provided)

<table>
<thead>
<tr>
<th>Standard Entries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brass gland plate</strong></td>
</tr>
<tr>
<td>with Zone 1 Myers adapter hubs: (STM series)</td>
</tr>
<tr>
<td><strong>Metric Entries</strong></td>
</tr>
<tr>
<td>(remove hubs)</td>
</tr>
<tr>
<td><strong>Main supply Branches</strong></td>
</tr>
<tr>
<td>(1) 2” + (3) 1”</td>
</tr>
<tr>
<td>(9) 1/4”</td>
</tr>
<tr>
<td>(1) M63 + (3) M32</td>
</tr>
<tr>
<td>(9) M25</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Universal Wiring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone 1 Myers™ adapter hubs for conduit or Terminator™ cable glands.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stainless Steel Hubs</th>
</tr>
</thead>
<tbody>
<tr>
<td>– available upon request.</td>
</tr>
</tbody>
</table>

**Cl. I, Div. 2, Groups A, B, C, D**

**Cl. I, Zone 1, Group IIC**

**Cl. II, Div. 1, Groups E, F, G**

**AEx de IIC T4, T6**

**Ex de IIC T4, T6**

**NEMA 4X, IP65**
**D2Z Panelboards**

**Zone 1, Division 2**

Non-metallic or Stainless Steel

---

**SpecOne™ D2Z Panelboard Construction Layout**

Example of D2Z distribution panel with built-in components under the window. (available mounting width = 213mm)

1. Mounting Space – 190mm
2. Mounting Space – 190mm
3. Mounting Space – 190mm
4. (2) 4 pole breakers – width 106mm each (available mounting width – 213mm)
5. (3) 3 pole breakers – width 70mm each (available mounting width – 213mm)
6. (4) 2 pole breakers – width 53mm each (available mounting width – 213mm)
7. (6) 1 pole breakers – width 35mm each (available mounting width – 213mm)
8. 40A main switch, 4-pole. 1 mounting space required
9. Main fuse. 1 mounting space required in place of 1 window
10. Window
1A D2Z Panelboards
Zone 1, Division 2
Non-metallic or Stainless Steel

Ordering Procedure
Step 1: Window

Determine the number of windows required from the following chart based on the number of branch breakers. Multiply breaker space by number of breakers. Round the sum total to the next highest whole number to determine required windows. i.e. For (8) 1-pole and (2) 2-pole breakers: (8 x 0.16) + (2 x 0.25) = 1.78 = 2 windows required.

<table>
<thead>
<tr>
<th>Max. No. Per Window</th>
<th>Branch Circuit Breakers (max 40A)</th>
<th>Space Required For Each Breaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>1-pole</td>
<td>.16</td>
</tr>
<tr>
<td></td>
<td>2-pole or 1-pole with EPD or 1-pole with signal contact</td>
<td>.25</td>
</tr>
<tr>
<td>3</td>
<td>3-pole or 1-pole + Neutral with signal contact or 2-pole with signal contact</td>
<td>.33</td>
</tr>
<tr>
<td>2</td>
<td>4-pole or 2-pole with EPD or 3-pole with signal contact</td>
<td>.50</td>
</tr>
</tbody>
</table>

Step 2: Disconnect Switch

If a disconnect switch is required, select suffix from table.

Main Switch Disconnect

<table>
<thead>
<tr>
<th>3-phase</th>
<th>Single Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 –3S* 40</td>
<td>–25* 40</td>
</tr>
<tr>
<td>80 –3S* 80</td>
<td>–25* 80</td>
</tr>
<tr>
<td>125 –3S* 125</td>
<td>–25* 125</td>
</tr>
<tr>
<td>180 –3S 180</td>
<td>–</td>
</tr>
</tbody>
</table>

*Add F if fuses required. Fuses supplied by others. See page 656
D2Z Panelboards
Zone 1, Division 2
Non-metallic or Stainless Steel

Step 3: Panel Size
Determine Panel Size Based on Windows Required

<table>
<thead>
<tr>
<th>Number of Windows Required</th>
<th>Type Required</th>
<th>Disconnect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2</td>
<td>A mini panel</td>
<td>40A disconnect – Integral</td>
</tr>
<tr>
<td>3</td>
<td>B panel</td>
<td>Optional – Adjacent</td>
</tr>
<tr>
<td>4 – 6</td>
<td>C panel</td>
<td>Optional – Adjacent</td>
</tr>
<tr>
<td>7 – 9</td>
<td>D panel</td>
<td>Optional – Adjacent</td>
</tr>
</tbody>
</table>

Type A Mini Panels with Main Switch

Type B, C, and D

Panels

Crouse-Hinds
by F.T.N

Step 4: Conduit/Cable Entries

Determine if additional entries are required on sides B and C. All panels are supplied with bottom entries (Side A), 1 main supply and remainder as branches.

Example: Size D panels with disconnect switch have 1 main supply and 3 branch plates as standard.

<table>
<thead>
<tr>
<th>Main Entries</th>
<th>Entries</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Supply</td>
<td>(1) 2&quot; + (3) 1&quot;</td>
<td>A (Standard)</td>
</tr>
<tr>
<td>Branches</td>
<td>(9) 3/4&quot; (B panel)</td>
<td>A (Standard)</td>
</tr>
<tr>
<td></td>
<td>(18) 3/4&quot; (C panel)</td>
<td>A (Standard)</td>
</tr>
<tr>
<td></td>
<td>(27) 3/4&quot; (D panel)</td>
<td>A (Standard)</td>
</tr>
<tr>
<td>Branches</td>
<td>(9) 3/4&quot;</td>
<td>B (Optional) left side</td>
</tr>
<tr>
<td></td>
<td>(9) 3/4&quot;</td>
<td>C (Optional) left side</td>
</tr>
</tbody>
</table>

Terminal Wiring

<table>
<thead>
<tr>
<th>Supply Circuits</th>
<th>mm²</th>
<th>AWG</th>
<th>Branch Circuits</th>
<th>mm²</th>
<th>AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amperage</td>
<td></td>
<td></td>
<td>Amperage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>16</td>
<td>6-18</td>
<td>10</td>
<td>4</td>
<td>12-22</td>
</tr>
<tr>
<td>80</td>
<td>35</td>
<td>2-6</td>
<td>15</td>
<td>4</td>
<td>12-22</td>
</tr>
<tr>
<td>125</td>
<td>70</td>
<td>8-2/0</td>
<td>20</td>
<td>10</td>
<td>6-14</td>
</tr>
<tr>
<td>180</td>
<td>95</td>
<td>6-3/0</td>
<td>40</td>
<td>16</td>
<td>6-18</td>
</tr>
</tbody>
</table>
D2Z Panelboards  
**Zone 1, Division 2**

Non-metallic or Stainless Steel

### How to Build a Catalog Number‡

<table>
<thead>
<tr>
<th>Panel Family</th>
<th>Quality Branch Panels</th>
<th>Phase</th>
<th>Circuits</th>
<th>Quantity poles/amps*</th>
<th>Main</th>
<th>Branch Entries</th>
</tr>
</thead>
<tbody>
<tr>
<td>D2Z</td>
<td>C</td>
<td>3</td>
<td>40EAX</td>
<td>*06340</td>
<td>-3SF125</td>
<td>-S848-BC</td>
</tr>
</tbody>
</table>

- Class I, Div. 2, Groups A, B, C, D; Zone 1, AEx & Ex de IIC panelboards
- Panel Type – see step 3 (No. of enclosures) (A, B, C, or D)
- 1 – single-phase 3 – 3-phase

**Circuit Breaker Total:** (see Step 1 details)
- (12) single-pole = 12 circuits
- (6) three-pole = 18 circuits
- (2) single-pole EPD = 4 circuits
- (5) single-pole = 5 circuits

- w/ Aux contacts 39 circuits → 40 circuits

If an odd number, round up to an even number.

**Add suffix if included:** E for EPD, AX for auxiliary contacts, SC for signal contacts, K for MOVs and portable power

**Note:** Maximum number of devices per window: (5) 1-pole devices; (4) 2-pole devices; (3) 3-pole devices or combinations of each, where a 3-pole device = (3) 1-pole devices, and a 2-pole device = (2) 1-pole devices

Choose Circuit Breakers (2, 6, 10, 16, 20, 25, 32 or 40 Amp)†
- (3-pole first – Options, then 2-pole then single-pole)
  - a. Insert Asterisk*
  - b. Quantity is 6: 06
    - (if less than 10, insert 0 before quantity)
  - c. Three-pole: 3
  - d. Ampere Rating: 40 (if less than 10, insert 0 before amperage)
    - (max 40 amperes for 240VAC; max 25 amperes for 480VAC)

**Options “E” for EPD**
- “AX” for auxiliary contacts
- “SC” for signal contacts
- “K” for MOVs and portable power, 480 VAC only

**Select disconnect switch** (see Step 2 details) if required
- (3-phase, 4-pole Main Switch, Fused, 125 A)

480 VAC, 10 kAIC Circuit Breakers – S848

**Branch Entries**
- (Side A [bottom] standard)
- B – Side B left side
- C – Side C right side

**Example Order Number:** D2Z C 3 40EAX * 06340 * 12120 * 02120E * 05110AX-3SF125-BC

- (6) 3-pole/40A = *06340
- (12) single-pole/20A = *12120
- (2) single-pole/20A EPD = *02120E
- (5) single-pole/10A = *05110AX
  - w/ Aux contacts

For other panels or options, consult factory
- ‡ For a D2Z panelboard with 316 stainless steel enclosure, add suffix “S860” to catalog number
- † Max of 25 amperes for 480VAC UL489 branch circuit breakers
**Spare Component Information**

**Lighting Circuits Order Code**
10k AIC, max. 480 VAC

1-pole 6/window SIA 001
2-pole 4/window SIA 002
3-pole 3/window SIA 003
4-pole 2/window SIA 004

Please state rated current on order:
2, 6, 10, 16, 20, 25, 32 or 40A.*

Optional:
Auxiliary contact – SAH 001
Signal contact – SAS 001 (in the case of branch breakers with signal contacts, the next largest component size is used)

Example:
SIA 001-20 – SAH001
Single Pole, 20A with auxiliary contacts

**Heat-Tracing Order Code**
EPD with 10k AIC, 30mA leakage, max. 480 VAC

1-pole + N 4/window FSS 002
2-pole 2/window FSS 004

Please state rated current on order:
6, 10, 16, 20, 25, 32 or 40A.

Optional:
With auxiliary contact – FSH 001
With signal contact in Size 4 component – FSS001

Example:
FSS 004 - 30 – FSS001
EPD, 30A, 30mA with signal contact

*25 ampere max. for 480VAC breakers.

**Dimensions**

Used only for fuses on 80, 125 or 180A disconnect switches

Dimensions in mm X = mounting dimensions

Used for:
- 40A switch with fuses and 1 window or
- 40A switch and 2 windows, or
- 3 windows of branch breakers.
**Applications:**
D2PB panelboards are designed specifically for use:
- In Class I, Division 2, Groups C, D hazardous areas where flammable vapors or gases may be present due to accident or abnormal locations
- In damp, wet or corrosive locations
- Indoors or outdoors in Division 2 areas of petroleum refineries, chemical and petrochemical plants, and other process industry facilities

For general application, circuit breaker and wiring system information, see pages 626-629.

**Features:**
- Enclosures are of external flange design, which makes the interior completely accessible when the cover is removed
- Provided with concealed mounting, which is made possible by having four clearance holes for lag screws or mounting bolts in the back of the enclosure, one in each corner
- The interior sub-assembly, consisting of a mounting plate, main terminal blocks, and circuit breakers, is removable as a complete unit
- Ample gutter space is provided for ease of field wiring
- Circuit breakers are contained in compact, individual factory sealed enclosures suitable for Class I, Division 2, Groups C, D hazardous areas. The individual enclosures are easily removed and replaced, therefore changing or adding individual circuit breakers will not present a problem
- The main cover, which is gasketed to exclude dirt and moisture, is attached to the body with hex head bolts and is removed only when installing the panelboard or making wiring changes. In the center of the main cover is a gasketed hinged door, which provides access only to the circuit breaker operating handles, and is held closed by two quick release catches. The door can be locked by as many as 3 padlocks to prevent unauthorized operation
- Tapped conduit openings are provided for main conduit and branch circuits, as shown in the dimensional information. Standard openings can be reduced or plugged to meet most installation requirements
- Circuit breakers are arranged in two vertical rows and have the circuit numbers marked on the handles. The left row is numbered 1, 3, 5, 7, etc. and the right row 2, 4, 6, 8, etc. Identifying information may be typed on the circuit directory card attached to the inside of the hinged door

**Certifications and Compliances:**
- NEC: Class I, Division 2, Groups C, D
- NEMA: 3, 7CD (Division 2), 12
- UL Standard: 67, 877

**Standard Materials:**
- Bodies, covers and hinged doors – copper-free aluminum
- Breaker operating handles – type 6 / 6 nylon
- Interior parts – sheet steel

**Standard Finishes:**
- Copper-free aluminum – natural
- Type 6 / 6 nylon – natural (black)
- Sheet steel – electrogalvanized with chromate finish

**Options:**
- Panelboard provided with operating handle lockouts for lockout in ON or OFF positions. Stainless steel lockout frame integral to panel faceplate. D2PB Size 1............................. L12
  D2PB Size 2............................. L24
- Branch conduit entries furnished with Eaton’s Crouse-Hinds type PLG plugs........................................ S822
  Square head plugs in all openings.... S872
- Branch circuit conduit openings located at bottom instead of at top.. INV
- Drilled and tapped conduit openings other than standard – available on special order – specify.. I
- Breather and drain............................ DV
- Circuit breaker operating handle lockout - order D2PB02
- Assortment of single-pole and two-pole circuit breakers and trip ratings – see listings.

**Size Ranges:**

<table>
<thead>
<tr>
<th>Panel Size</th>
<th>Max. No. of Breakers</th>
<th>Single-Pole</th>
<th>Two-Pole</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>24</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

**Electrical Rating Ranges:**
- Circuit breakers
  - Single-pole – 120/240VAC max.
  - Two-pole – 120/240VAC max.
  - Trip ratings – 15, 20 and 30 amp

**Dimensions In Inches:**

Dimensions are approximate, not for construction purposes.
**1A D2PB Division 2 Circuit Breaker Panelboards**

Factory Sealed, Single & Two-Pole Circuit Breakers

Cl. I, Div. 2, Groups C, D
NEMA 3, 7CD (Div. 2), 12
Dust-tight
Raintight

**Wet Locations**

**Ordering Information:**
Panelboards are available with single-pole and two-pole, 15, 20, or 30 ampere circuit breakers. To order a panelboard with all breakers of the same rating, add the desired rating as a suffix to the Cat. No. For example, the 12 circuit D2PB1512 panelboard with all the circuit breakers rated at 20 amperes would be ordered as D2PB1512-20.

Panelboards shown below can also be furnished with an assortment of single-pole and two-pole breakers and breaker ampere ratings. To order, the quantities of breakers and ampere ratings are added as a suffix to the Cat. No. The total number of poles will determine the panel size (24 poles maximum), and the wiring systems must be compatible when combining single- and two-pole circuit breakers. For example, a typical D2PB panelboard with a combination of 3 single-pole 15 ampere, 3 single-pole 20 ampere, 2 single-pole 30 ampere, 4 two-pole 20 ampere, and 4 two-pole 30 ampere circuit breakers would be ordered as D2PB2508-315-320-230-808-420-430. The total number of poles is 24 and wiring systems 5 and 8 are compatible 4 wire, 3 phase.

The D2PB with a main breaker is available up to 100 amps. To order D2PB with main breaker, add the appropriate suffix. Example: D2PB1512-15 with three-pole, 100 amp main circuit breaker would be ordered as D2PB1512-15-3M100. If two-pole main is required, change the number 3 to 2. If a lower trip rating than 100 is required, the suffix will change accordingly.

**Replacement Circuit Breaker Assemblies**
Where D2PB (and N2PB) panelboards have been ordered with less than the maximum number of circuit breakers, breakers can easily be added in the field. Circuit breaker assemblies for field addition or replacement are listed below; they consist of the breaker itself in its factory sealed Class I, Division 2, Groups C, D enclosure, and necessary mounting hardware. These assemblies are not suitable for use as individually mounted units.

### Circuit Breaker Assemblies

<table>
<thead>
<tr>
<th>Ampere Rating</th>
<th>Single-Pole Cat. #</th>
<th>Two-Pole Cat. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>D2CB11 15</td>
<td>D2CB12 15</td>
</tr>
<tr>
<td>20</td>
<td>D2CB11 20</td>
<td>D2CB12 20</td>
</tr>
<tr>
<td>30</td>
<td>D2CB11 30</td>
<td>D2CB12 30</td>
</tr>
</tbody>
</table>

**Max. No. of Breakers**

<table>
<thead>
<tr>
<th>Single Pole</th>
<th>Two Pole</th>
<th>Panel Size</th>
<th>Main Lug Size‡</th>
<th>Single-Pole Circuit Breakers</th>
<th>Two-Pole Circuit Breakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>8 4</td>
<td>1 1/0</td>
<td>D2PB1406</td>
<td>D2PB1304</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>5 6</td>
<td></td>
<td>D2PB1410</td>
<td>D2PB1305</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>6 6</td>
<td></td>
<td>D2PB1412</td>
<td>D2PB1306</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>7 6</td>
<td></td>
<td>D2PB2412</td>
<td>D2PB2306</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>8 6</td>
<td></td>
<td>D2PB2414</td>
<td>D2PB2307</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>9 2 4/0</td>
<td></td>
<td>D2PB2416</td>
<td>D2PB2308</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>10</td>
<td></td>
<td>D2PB2418</td>
<td>D2PB2309</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>11</td>
<td></td>
<td>D2PB2422</td>
<td>D2PB2310</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>12</td>
<td></td>
<td>D2PB2424</td>
<td>D2PB2311</td>
<td></td>
</tr>
</tbody>
</table>

**Dimensions**

<table>
<thead>
<tr>
<th>Overall and Mounting Dimensions (In.)</th>
<th>Conduit Openings Spacing (In.)</th>
<th>Size (In.)</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>a b c</td>
<td>f g h j</td>
<td>k m nO p</td>
<td>Main Branches</td>
</tr>
<tr>
<td>Panel Size Without Main C.B.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 20 1/4 8 16</td>
<td>7/8 3/4 2</td>
<td>3 1/2</td>
<td>2 8</td>
</tr>
<tr>
<td>2 28 1/4 11 23 21/2</td>
<td>11/8 3/4 11/8 1 1/8 1/4 3</td>
<td>1/2 1/2</td>
<td>2 12</td>
</tr>
<tr>
<td>Panel Size With Main C.B.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 20 1/4 8 16</td>
<td>7/8 5 11/8 1 1/2</td>
<td>1/2 1/2</td>
<td>2 8</td>
</tr>
<tr>
<td>2 28 1/4 11 23 21/2</td>
<td>11/8 5 11/8 1 1/2</td>
<td>1/2 1/2</td>
<td>2 12</td>
</tr>
</tbody>
</table>

**Add amperes rating. See ordering information.**

**1/0 lug, rated 125 amps. takes wire sizes #6 to #4; 4/0 lug, rated 225 amps. takes wires sizes #4 to #1.**

*For description of these standard wiring systems, see page 628.

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**D2CB12-20**

**Crouse-Hinds by EATON**

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Applications:
D2PB, D2L, D2D circuit breaker panelboard assemblies with transformers are for use:
- In Class I, Division 2, Group C, D hazardous areas where, due to accident or abnormal operations, flammable vapors or gases may be present, and which are subject to weather, dampness and corrosion.
- Indoors or outdoors in Division 2 areas such as petroleum refineries, chemical and petrochemical plants, and other process industry facilities.
- Where high voltage supply must be stepped down to the lower voltage necessary to serve lighting, heating, appliance, heat tracing, motor and similar circuits.

For general information on panelboard applications, circuit breakers and wiring systems, see pages 626–629.

Features:
- The factory assembled panelboard and transformer are on one compact frame, suitable for either wall or pole mounting. Wiring between the transformer secondary and main lugs of the panelboard is accomplished at the factory.
- Easy to install and wire. The main feed is connected to the transformer primary and the branch circuits are wired to the panelboard terminal blocks.
- The assembly can be installed in the load area to reduce the length of runs of low voltage branch circuits.
- Panelboards used are standard D2PB, D2L, or D2D units with circuit breakers listed in this section.
- Transformers are compound filled or epoxy filled to completely seal out moisture and dirt.

Certifications and Compliances:
- NEC/CEC:
  - Class I, Division 2, Group B†, C, D
  - NEMA/EEMAC: 3, 4‡, 7B†CD (Division 2), 12
  - UL Standard: 67, 1604
  - CSA Standard: C22.2 No. 213

† D2L, D2D with GB suffix and breather and drain holes plugged.
‡ NEMA 4 hosetight with breather and drain openings plugged.
1A D2PB, D2L, D2D Circuit Breaker Panelboard Assemblies

with Transformer

Cl. I, Div. 2, Groups B†, C, D
NEMA 3, 4‡, 7B†CD (Div. 2), 12
Wet Locations
Watertight‡

Typical Assembly*
24 Circuit D2PB panelboard with single-phase transformer

Ordering Check List
1. Select the D2PB, D2L, D2D panelboard required, together with any applicable options or special features. See individual listing pages.
   Cat. No. __________________________

2. Provide the following information, necessary for selection of the correct transformer:
   Primary voltage ________________________
   Secondary voltage ________________________
   kVA rating ______________________________
   Taps – number and percent __________________
   Frequency (60 cycle unless otherwise specified) __________________
   Single or three-phase _____________________
   Other requirements ________________________

*Dimensions are approximate, not for construction purposes.

† D2L, D2D with GB suffix and breather and drain holes plugged.
‡ NEMA 4 watertight with breather and drain openings plugged.
Applications:
GUSC circuit breaker load centers are used in:
- Areas which are hazardous due to the presence of flammable vapors, gases or highly combustible dusts, and which are subject to weather, dampness and corrosion
- Indoors or outdoors at petroleum refineries, chemical and petrochemical plants and other process industry facilities where similar hazards exist
For general application and circuit breaker information, see pages 626–627.

Features:
- Compact rectangular enclosures with round threaded covers
- External operating handles can be padlocked in either "ON" or "OFF" positions
- Not furnished with internal wiring as field wiring connections are made directly to circuit breaker line and load terminals. To meet varying grounding requirements, an insulated neutral terminal block is provided and is equipped with a removable grounding jumper
- Bodies have 1" vertical throughfeed hubs

Certifications and Compliances:
- NEC: Class I, Div. 1 & 2, Groups B†, C, D
  Class II, Div. 1, Groups E, F, G
  Class II, Div. 2, Groups F, G
  Class III
- NEMA: 3, 7BCD, 9EFG, 12
- UL Standard: 1203

Standard Materials:
- Bodies – Feraloy® iron alloy
- Covers and operating handles – copper-free aluminum
- Operating shafts – stainless steel
- Interior parts – sheet steel

Standard Finishes:
- Feraloy iron alloy – electrogalvanized and aluminum acrylic paint
- Copper-free aluminum – natural
- Stainless steel – natural
- Sheet steel – electrogalvanized with chromate finish

Size Ranges:
Max. No. of Breakers
Single-pole Two-pole
2 1

Electrical Rating Ranges:
- Quicklag circuit breakers: single-pole, 240VAC max.; two-pole, 240VAC max.
- Trip ratings: 10, 15, 20, 30 and 40 amp.

Options:
The following special options are available from factory by adding suffix to Cat. No.:
Description Suffix
- Breather and drain (Class I and Class II)................................................................. S198V
- Breather and drain (Class I and Class II, Groups F, G)............................................ S454V
- Assortment of single and two-pole circuit breakers and trip ratings................................ Specify

†See listings for catalog numbers which are suitable for use in Group B hazardous locations. Seals must be installed within 1 1/2" of all conduit openings.
Quicklag is a registered trademark of Cutler-Hammer Inc.

Crouse-Hinds
by

## Circuit Breaker Information

<table>
<thead>
<tr>
<th>No. of Breakers</th>
<th>Poles</th>
<th>Ampere Rating</th>
<th>Hub Size</th>
<th>Standard Units Cat. #</th>
<th>Group B Units Cat. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>10</td>
<td>1</td>
<td>GUSC3110 10</td>
<td>GUSC3110 10 GB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
<td>1</td>
<td>GUSC3110 15</td>
<td>GUSC3110 15 GB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>1</td>
<td>GUSC3110 20</td>
<td>GUSC3110 20 GB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30</td>
<td>1</td>
<td>GUSC3110 30</td>
<td>GUSC3110 30 GB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40</td>
<td>1</td>
<td>GUSC3110 40</td>
<td>GUSC3110 40 GB</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>10</td>
<td>1</td>
<td>GUSC3210 10</td>
<td>GUSC3210 10 GB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
<td>1</td>
<td>GUSC3210 15</td>
<td>GUSC3210 15 GB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>1</td>
<td>GUSC3210 20</td>
<td>GUSC3210 20 GB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30</td>
<td>1</td>
<td>GUSC3210 30</td>
<td>GUSC3210 30 GB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40</td>
<td>1</td>
<td>GUSC3210 40</td>
<td>GUSC3210 40 GB</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>10</td>
<td>1</td>
<td>GUSC3120 10</td>
<td>GUSC3120 10 GB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
<td>1</td>
<td>GUSC3120 15</td>
<td>GUSC3120 15 GB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>1</td>
<td>GUSC3120 20</td>
<td>GUSC3120 20 GB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30</td>
<td>1</td>
<td>GUSC3120 30</td>
<td>GUSC3120 30 GB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40</td>
<td>1</td>
<td>GUSC3120 40</td>
<td>GUSC3120 40 GB</td>
</tr>
</tbody>
</table>

## Load Center With Circuit Breaker

### Dimensions

**In Inches:**

![GUSC single gang dimensions diagram](image)

Dimensions are approximate, not for construction purposes.

†See listings for catalog numbers which are suitable for use in Group B hazardous locations. Seals must be installed within 1/2" of all conduit openings. Quicklag is a registered trademark of Cutler-Hammer Inc.
N2PB Circuit Breaker Panelboards

Factory Sealed Single & Two-Pole Breakers

Applications:
- N2PB panelboards are for use in central control and protection of a large number of feeder or branch circuits and for housing circuit breakers in Class I, Division 2, Groups C & D hazardous areas.

Features:
- Enclosures are made of Krydon®, Eaton’s Crouse-Hinds’ high impact strength fiberglass-reinforced polyester material with excellent corrosion resistance and stability to heat
- Enclosure access door provided with stainless steel thumb screws for easy access; access door may be padlocked to prevent unauthorized access
- Circuit breakers are contained in compact, individual factory sealed enclosures suitable for Class I, Division 2, Groups C, D hazardous areas

Certifications and Compliances:
- NEMA 3, 7CD (Div. 2), 9FG (Div. 2), 12
- NEC:
  - Class I, Division 2, Groups C, D
  - Class II, Division 2, Groups F, G

Options:

<table>
<thead>
<tr>
<th>Description</th>
<th>Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panelboard provided with (12) operating handle lockouts for lockout in ON or OFF positions (any circuit). Stainless steel lockout frame integral to panel faceplate.</td>
<td></td>
</tr>
<tr>
<td>N2PB Size 14 x 26</td>
<td>L12</td>
</tr>
<tr>
<td>N2PB Size 24 x 26</td>
<td>L24</td>
</tr>
<tr>
<td>Circuit breaker operating handle lockout - order D2PB02</td>
<td></td>
</tr>
<tr>
<td>Assortment of single-pole and two-pole circuit breakers and trip ratings – see listings</td>
<td></td>
</tr>
<tr>
<td>Grounding plate or bushing – see page 677</td>
<td></td>
</tr>
<tr>
<td>Replacement circuit breaker assemblies – see page 627</td>
<td></td>
</tr>
</tbody>
</table>

Electrical Rating Ranges:
- Circuit breakers
  - Single-pole – 120/240VAC max.
  - Two-pole – 120/240VAC max.
  - Trip ratings – 15, 20 and 30 amp.

Size Ranges:

<table>
<thead>
<tr>
<th>Panel Designation</th>
<th>Max. No. of Breakers Single-Pole</th>
<th>Two-Pole</th>
</tr>
</thead>
<tbody>
<tr>
<td>N2PB1426</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>N2PB2426</td>
<td>24</td>
<td>12</td>
</tr>
</tbody>
</table>

† Watertight, weatherproof with door closed.
### Ordering Information

Panelboards are available with 15, 20 or 30 ampere circuit breakers. To order a panelboard with all breakers of the same rating, add the desired rating as a suffix to the Cat. No. For example, the 12 circuit N2PB2426-2512 panelboard with all the circuit breakers rated 20 amperes would be ordered as N2PB2426-2512-20.

Panelboards listed below can also be furnished with an assortment of single-pole and two-pole breakers and breaker ratings. To order, the quantities of breakers and ampere ratings are added as suffixes to the Cat. No. The total number of poles will determine the panel size (24 poles max.), and the wiring systems must be compatible when combining single- and two-pole circuit breakers.

For example, a typical N2PB panelboard with a combination of 5 single-pole 20 ampere, 3 single-pole 30 ampere, and 4 two-pole 30 ampere breakers would be ordered as N2PB2426-2508-30-20-30-3-2. The total number of poles is 16 and wiring systems 25 and 8 are compatible 4 wire, 3 phase. The N2PB with a main breaker is available up to 100 amps. N2PB with main breaker, add appropriate suffix.

#### Enclosures with Single-Pole Circuit Breakers

<table>
<thead>
<tr>
<th>Wiring System 24 Mains: 3-Wire</th>
<th>Wiring System 25 Mains: 4-Wire, 3-Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Branches: 2-Wire</td>
<td>Branches: 2-Wire, 1-Phase</td>
</tr>
<tr>
<td>Solid Neutral</td>
<td>Solid Neutral</td>
</tr>
<tr>
<td>Cat. #*</td>
<td>Cat. #‡</td>
</tr>
<tr>
<td><strong>Max. No. of Breakers</strong></td>
<td><strong>Panel Size</strong></td>
</tr>
<tr>
<td>6 4</td>
<td>14 x 26 x 8½</td>
</tr>
<tr>
<td>N2PB1426</td>
<td>1 / 0</td>
</tr>
<tr>
<td>8 5</td>
<td>24 x 26 x 8½</td>
</tr>
<tr>
<td>N2PB2426</td>
<td>4 / 0</td>
</tr>
</tbody>
</table>

#### Enclosures with Two-Pole Circuit Breakers

<table>
<thead>
<tr>
<th>Wiring System 3 Mains: 3-Wire</th>
<th>Wiring System 8 Mains: 4-Wire, 3-Phase</th>
<th>Wiring System 25 Mains: 4-Wire, 3-Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Branches: 3-Wire</td>
<td>Branches: 3-Wire, 1-Phase</td>
<td></td>
</tr>
<tr>
<td>Solid Neutral</td>
<td>Solid Neutral</td>
<td></td>
</tr>
<tr>
<td>Cat. #‡</td>
<td>Cat. #‡</td>
<td></td>
</tr>
<tr>
<td><strong>Max. No. of Breakers</strong></td>
<td><strong>Panel Size</strong></td>
<td><strong>Panel Size</strong></td>
</tr>
<tr>
<td>6 5</td>
<td>24 x 26 x 8½</td>
<td></td>
</tr>
<tr>
<td>N2PB1426</td>
<td>1 / 0</td>
<td></td>
</tr>
<tr>
<td>8 6</td>
<td>24 x 26 x 8½</td>
<td></td>
</tr>
<tr>
<td>N2PB2426</td>
<td>4 / 0</td>
<td></td>
</tr>
</tbody>
</table>

**Note on Hubs:** Hubs must be ordered separately. See page 677 for listing.

---

† Watertight, weatherproof with door closed.
‡ See page 677 for wiring diagrams.
# Accommodates D2CB breakers. Includes complete interiors, wiring system must be specified. Example: N2PB2426 with wiring system 25 would be ordered as N2PB2426-25.

---

© Add amperage rating. See ordering information above.
### N2PB Circuit Breaker Panelboards

**Factory Sealed Single & Two-Pole Breakers**

**Dimensions**

In Inches:

![Diagram of N2PB Panelboard]

<table>
<thead>
<tr>
<th>Cat. #</th>
<th>Nominal Inside Dimensions</th>
<th>Door Opening Dimensions</th>
<th>Mounting Dimensions</th>
<th>Alternate Mounting Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nw</td>
<td>nl</td>
<td>nd</td>
<td>dw</td>
</tr>
<tr>
<td>N2PB1426</td>
<td>14</td>
<td>26</td>
<td>8 1/2</td>
<td>9 9/16</td>
</tr>
<tr>
<td>N2PB2426</td>
<td>24</td>
<td>26</td>
<td>8 1/2</td>
<td>19 9/16</td>
</tr>
</tbody>
</table>

Not to be used for construction purposes unless approved.

† Watertight, weatherproof with door closed.
XLPB Industrial Panelboards

NEMA 1, 3, 3R, 4, 4X, 12
NEMA PB1
UL/cUL Listed

Applications:
XLPB Industrial Panelboards are used / installed:
- In areas made corrosive due to the presence of chemicals, salt water, and/or moisture
- In locations where rough usage, moisture, dust, dirt, and corrosion are a problem
- In areas subject to weather, dampness, or wash down requirements
- To provide, in one compact unit, a centrally controlled switching system for a large number of feeder or branch circuits
- For branch power distribution and circuit protection of motors, valves, pumps, lighting, heat tracing, receptacles, etc.
- In indoor and outdoor installations
- To house thermal-magnetic circuit breakers that provide disconnect means, short circuit protection, and thermal time delay overload protection

Features and Benefits:
- Heavy-duty welded mounting feet provide ease of installation (customer can easily support the panel with bottom mounting feet, while fastening the top feet)
- High quality foam-in-place gasket prevents ingress of water and corrosive agents, reducing panel failure due to moisture/corrosion
- An integral drainage channel allows for opening the panel door without moisture or dust seeping into panel from the top side of the enclosure
- An internal/external ground stud assembly enables rapid and reliable protective ground connection
- Industrial grade NEMA 4X panel designed for harsh environments provides long product life

Certifications and Compliances:
- NEMA 1, 3, 3R, 4, 4X, 12
- NEMA PB1
- UL508A Listed / cUL Certified (CAN/CSA C22.2, No. 14) (UL File E246968)
- UL67 components
- UL489/CAN/CSA C22.2, No. 5 circuit breakers

Standard Materials & Finishes:
- 316L stainless steel or painted sheet steel
- Eaton Pow-R-Line™ chassis
- Eaton Cutler-Hammer® circuit breakers
- Stainless steel hardware
- High integrity foam-in-place gasket
- Industrial laminate insulated live-front cover
- SS316 quarter-turn screw driver entry standard

Electrical Ratings:
- 120/208, 240, 277/480, 480, and 347/600, 600 voltage panels
- 100 and 225 amp rated chassis
- Isolated neutral and ground bars
- Main breakers up to 225 amps
- 12, 18, 24, and 42 circuit panels
- 10kAIC

Panel Capacity:

<table>
<thead>
<tr>
<th>Panel Size</th>
<th>With Main Lug</th>
<th>2-Pole</th>
<th>3-Pole Main Capacity</th>
<th>Main Capacity</th>
<th>Available w/GFI/EPD Branch Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 12</td>
<td>10</td>
<td>9</td>
<td>Up to 100 Amp</td>
<td>Up to 225 Amp</td>
<td>Up to 240V*</td>
</tr>
<tr>
<td>B 18</td>
<td>16</td>
<td>15</td>
<td>Up to 100 Amp</td>
<td>Up to 225 Amp</td>
<td>Up to 240V*</td>
</tr>
<tr>
<td>C 24</td>
<td>22</td>
<td>21</td>
<td>Up to 100 Amp</td>
<td>Up to 225 Amp</td>
<td>Up to 240V*</td>
</tr>
<tr>
<td>D 42</td>
<td>40</td>
<td>39</td>
<td>Up to 100 Amp</td>
<td>Up to 225 Amp</td>
<td>Up to 240V*</td>
</tr>
</tbody>
</table>

*277V EPD Branch Protection potentially available - single phase only (requires 2 breaker spaces)
# Ordering Information:

Example would be ordered as:

<table>
<thead>
<tr>
<th>Panel Type</th>
<th>Size Enclosure</th>
<th>Enclosure Material Type</th>
<th>Voltage</th>
<th>Phase</th>
<th>Total Number of Branch Circuits</th>
<th>Branch Breaker Series</th>
<th>Main Breaker</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>XLPB</td>
<td>A</td>
<td>S</td>
<td>2</td>
<td>1</td>
<td>08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*08120</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-3M100</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Example:**

- NEMA 4X stainless steel
- 120/208 VAC 3-phase
- (8) 1-pole, 20 amp circuit breakers
- 3-pole, 100 amp main
- Bottom entry (inverted)

**Remarks:**

- 50°C ambient compensated breakers: add suffix V after total number of branch circuits.
- GFI and EPD circuit breakers: add suffix G or E after total number of branch circuits.
- Main breaker: 2 or 3 pole, 15 to 225A
- Options: Breathers and drains, gland plates, bottom entry inverted panelboard, enclosure access handles, key entry door access, external operators, lighting contactor.

---

**Additional Information:**

- UL/cUL Listed
- NEMA 1, 3, 3R, 4, 4X, 12
- NEMA PB1
- Eaton's Crouse-Hinds Business
1A XLPB Industrial Panelboards

NEMA 1, 3, 3R, 4, 4X, 12
NEMA PB1
UL/cUL Listed

Options:

<table>
<thead>
<tr>
<th>Description</th>
<th>Suffix</th>
<th>Where Added</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient compensated breakers for 50°C</td>
<td>V</td>
<td>After Total Number of Branch Circuits</td>
</tr>
<tr>
<td>GFI - 5mA ground fault protection</td>
<td>G</td>
<td>After Total Number of Branch Circuits and after specific Branch Breaker Series</td>
</tr>
<tr>
<td>EPD - 30mA equipment protection</td>
<td>E</td>
<td>After Total Number of Branch Circuits and after specific Branch Breaker Series</td>
</tr>
<tr>
<td>Breathers and drains to reduce moisture and corrosion</td>
<td>S756V</td>
<td>End of Catalog Number</td>
</tr>
<tr>
<td>Gland plates for ease of installation</td>
<td>GP</td>
<td>End of Catalog Number</td>
</tr>
<tr>
<td>Bottom feed inverted panelboard</td>
<td>I</td>
<td>End of Catalog Number</td>
</tr>
<tr>
<td>Enclosure access handles</td>
<td>HLD</td>
<td>End of Catalog Number</td>
</tr>
<tr>
<td>Key entry door access</td>
<td>KED</td>
<td>End of Catalog Number</td>
</tr>
<tr>
<td>External operators</td>
<td>Contact Factory</td>
<td></td>
</tr>
<tr>
<td>Lighting contactor</td>
<td>Contact Factory</td>
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</tbody>
</table>

Dimensions:

**MOUNTING PLATE**

<table>
<thead>
<tr>
<th>MOUNTING PLATE</th>
<th>DIMENSIONS (IN INCHES)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 X 20</td>
<td>22&quot; 18&quot; 20&quot; 30&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32 X 20</td>
<td>30&quot; 18&quot; 28&quot; 30&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38 X 20</td>
<td>36&quot; 18&quot; 34&quot; 30&quot;</td>
<td></td>
<td></td>
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<tr>
<td>44 X 20</td>
<td>42&quot; 18&quot; 40&quot; 30&quot;</td>
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</tbody>
</table>

**ENCLOSURE SIZE**

<table>
<thead>
<tr>
<th>ENCLOSURE SIZE</th>
<th>DIMENSIONS (IN INCHES)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 X 20 X 0.07</td>
<td>24&quot; 22&quot; 18&quot; 20&quot; 30&quot;</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>32 X 20 X 0.07</td>
<td>32&quot; 30&quot; 18&quot; 28&quot; 30&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38 X 20 X 0.07</td>
<td>38&quot; 36&quot; 18&quot; 34&quot; 30&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44 X 20 X 0.07</td>
<td>44&quot; 42&quot; 18&quot; 40&quot; 30&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**7/16" HOLE**
Applications:
- NLP panelboards are for use in central control and protection of a large number of feeder or branch circuits and for housing circuit breakers.

Features:
- Enclosures are made of Krydon® high impact strength fiberglass-reinforced polyester material with excellent corrosion resistance and stability to heat
- Enclosure access door provided with stainless steel thumb screws for easy access
- Access door may be padlocked to prevent unauthorized access
- Standard with plug-on circuit breakers

Certifications and Compliances:
- NEMA 3 and 12
- UL Standard: 67

Options:
- Assortment of circuit breaker trip ratings – specify
- Assortment of single, two and three-pole circuit breakers – specify
- Wiring system other than those listed – specify
- Ground fault interrupter – circuit breakers with built-in ground fault circuit interrupters can be provided. These interrupters cause the breaker to open when a ground fault occurs. Suffix "GFI" should be added after each circuit breaker rating to be supplied with ground fault interrupters

Main Lug Only
3 Wire Branches (200A MLO)

<table>
<thead>
<tr>
<th>Mains Rating</th>
<th>Max. No. of Branch Circuit Breakers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-Pole 2-Pole 3-Pole 3w 4w 3w 4w 3w 4w</td>
</tr>
<tr>
<td>NLPQ1426 200A</td>
<td>24 30 12 14 10</td>
</tr>
</tbody>
</table>

Electrical Rating Ranges:
- QO® circuit breakers, single or two-pole 120/240VAC; three-pole 240VAC
- Trip ratings:
  - 10 to 70 amps, single-pole
  - 10 to 70 amps, two-pole
  - 10 to 60 amps, three-pole
- Qwik-Gard® GFI circuit breakers:
  - Single-pole – 120 VAC 15 to 30 amps;
  - Two-pole – 120/240VAC 15 to 50 amps

Ordering Information:
Panelboards are available with 10, 15, 25, 30, 35, 40, 45, 50, 60 or 70 ampere circuit breakers. To order a panelboard with all breakers of the same rating, add the desired rating as a suffix to the Cat. No. For example, the 12 circuit NLPQ1426-2512 with all circuit breakers rated 20 amperes would be ordered as NLPQ1426-2512-20.
Panelboards can be furnished with an assortment of breaker ratings. Where all circuit breakers have the same number of poles, assortments may be ordered by adding the quantities and ampere ratings as suffixes to the Cat. No. For example, the 12 circuit NLPQ1426-2512 with six 15 ampere, four 40 ampere and two 50 ampere single-pole circuit breakers would be ordered as NLPQ1426-2512-615-440-250.

Example: An NLPQ panelboard using wiring system 24 with four 15 ampere breakers, two 40 ampere and four 50 ampere breakers and two 15 ampere breakers, one 25 ampere breaker, and one 30 ampere breaker with GFI – Catalog No. NLPQ1426-2414-415-440-450-215GFI-125GFI-130GFI

Size Ranges:

<table>
<thead>
<tr>
<th>No of Circuits</th>
<th>Enclosure</th>
<th>Main Lug Amps</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>NLPQ1426 1</td>
<td>200</td>
</tr>
<tr>
<td>6</td>
<td>NLPQ1426 1</td>
<td>200</td>
</tr>
<tr>
<td>8</td>
<td>NLPQ1426 1</td>
<td>200</td>
</tr>
<tr>
<td>10</td>
<td>NLPQ1426 1</td>
<td>200</td>
</tr>
<tr>
<td>12</td>
<td>NLPQ1426 1</td>
<td>200</td>
</tr>
<tr>
<td>14</td>
<td>NLPQ1426 1</td>
<td>200</td>
</tr>
<tr>
<td>16</td>
<td>NLPQ1426 1</td>
<td>200</td>
</tr>
<tr>
<td>18</td>
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<td>200</td>
</tr>
<tr>
<td>20</td>
<td>NLPQ1426 1</td>
<td>200</td>
</tr>
<tr>
<td>22</td>
<td>NLPQ1426 1</td>
<td>200</td>
</tr>
<tr>
<td>24</td>
<td>NLPQ1426 1</td>
<td>200</td>
</tr>
</tbody>
</table>

Enclosures with QON Interiors and QO® Branch Circuit Breakers

<table>
<thead>
<tr>
<th>1-Pole Branch Circuit Breakers</th>
<th>2-Pole Branch Circuit Breakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLPQ1426 2404†</td>
<td>NLPQ1426 0304†</td>
</tr>
<tr>
<td>NLPQ1426 2406†</td>
<td>NLPQ1426 0306†</td>
</tr>
<tr>
<td>NLPQ1426 2408†</td>
<td>NLPQ1426 0308†</td>
</tr>
<tr>
<td>NLPQ1426 2410†</td>
<td>NLPQ1426 0310†</td>
</tr>
<tr>
<td>NLPQ1426 2412†</td>
<td>NLPQ1426 0312†</td>
</tr>
<tr>
<td>NLPQ1426 2414†</td>
<td>NLPQ1426 2416†</td>
</tr>
<tr>
<td>NLPQ1426 2418†</td>
<td>NLPQ1426 2420†</td>
</tr>
<tr>
<td>NLPQ1426 2422†</td>
<td>NLPQ1426 2424†</td>
</tr>
</tbody>
</table>
NLP Circuit Breaker Panelboards
With QO® Breakers

Corrosion-Resistant
Dust-tight
Watertight*
Weatherproof
NEMA 3, 12

4 Wire Branches (200A MLO)

<table>
<thead>
<tr>
<th>No of Circuits</th>
<th>Enclosure Only</th>
<th>Main Lug† Amps</th>
<th>1-Pole Branch Circuit Breakers</th>
<th>2-Pole Branch Circuit Breakers</th>
<th>3-Pole Branch Circuit Breakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>NLPQ1426 3</td>
<td>200</td>
<td>NLPQ1426 2504 ‡</td>
<td>NLPQ1426 2804 ‡</td>
<td>NLPQ1426 1104 ‡</td>
</tr>
<tr>
<td>6</td>
<td>NLPQ1426 3</td>
<td>200</td>
<td>NLPQ1426 2506 ‡</td>
<td>NLPQ1426 2806 ‡</td>
<td>NLPQ1426 1106 ‡</td>
</tr>
<tr>
<td>8</td>
<td>NLPQ1426 3</td>
<td>200</td>
<td>NLPQ1426 2508 ‡</td>
<td>NLPQ1426 2808 ‡</td>
<td>NLPQ1426 1108 ‡</td>
</tr>
<tr>
<td>10</td>
<td>NLPQ1426 3</td>
<td>200</td>
<td>NLPQ1426 2510 ‡</td>
<td>NLPQ1426 2810 ‡</td>
<td>NLPQ1426 1110 ‡</td>
</tr>
<tr>
<td>12</td>
<td>NLPQ1426 3</td>
<td>200</td>
<td>NLPQ1426 2512 ‡</td>
<td>NLPQ1426 2812 ‡</td>
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<tr>
<td>14</td>
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<td>200</td>
<td>NLPQ1426 2514 ‡</td>
<td>NLPQ1426 2814 ‡</td>
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<tr>
<td>16</td>
<td>NLPQ1426 3</td>
<td>200</td>
<td>NLPQ1426 2516 ‡</td>
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</tr>
<tr>
<td>18</td>
<td>NLPQ1426 3</td>
<td>200</td>
<td>NLPQ1426 2518 ‡</td>
<td>—</td>
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<tr>
<td>20</td>
<td>NLPQ1426 3</td>
<td>200</td>
<td>NLPQ1426 2520 ‡</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>22</td>
<td>NLPQ1426 3</td>
<td>200</td>
<td>NLPQ1426 2522 ‡</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>24</td>
<td>NLPQ1426 3</td>
<td>200</td>
<td>NLPQ1426 2524 ‡</td>
<td>—</td>
<td>—</td>
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<tr>
<td>26</td>
<td>NLPQ1426 3</td>
<td>200</td>
<td>NLPQ1426 2526 ‡</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>28</td>
<td>NLPQ1426 3</td>
<td>200</td>
<td>NLPQ1426 2528 ‡</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>30</td>
<td>NLPQ1426 3</td>
<td>200</td>
<td>NLPQ1426 2530 ‡</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

The NLP and NLPQ panelboards accommodate Square D NQOD and QON interiors as follows.

<table>
<thead>
<tr>
<th>Enclosure</th>
<th>3 Wire Branches</th>
<th>4 Wire Branches</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLPQ1426</td>
<td>QON124L200†</td>
<td>QON330L200†</td>
</tr>
</tbody>
</table>

Note: When ordering enclosures only, interiors and circuit breakers are not included and must be ordered separately from Square D.

Dimensions

In Inches:

Not to be used for construction purposes unless approved.

* Watertight, weatherproof with door closed.
† Insert branch circuit breaker rating desired, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60 or 70 amp.
‡ 200A QON main lugs are #4/0 Cu/Al.
†† See page 677 for wiring diagrams.

Note: Hubs, grounding plates and bushings must be ordered separately. See page 677 for listing.
Krydon® material hubs for conduit entrances, in sizes 1/2" through 3" are available for factory or field installation in all enclosures made of Krydon material.  

For factory installation, send drawing showing sizes and locations of hubs. Furnished with and gaskets to assure.

### Standard Materials:
- Up to 1 1/2" – Krydon material with steel interiors
- 2", 2 1/2" and 3" – Krydon material with Feraloy® iron alloy interiors

### Standard Finishes:
- Krydon material – natural
- Steel – electrogalvanized and bleached chromate
- Feraloy iron alloy – electrogalvanized

### Grounding Plates and Grounding Bushings
Grounding Plates (1/2" through 1") and insulated bushings (1/2" through 3") permit use of the conduit as the grounding circuit. Both types have set screws and ground-wire terminals.

### Standard Materials:
- Grounding plates – steel
- Grounding bushings – steel with thermoplastic insulating throat

### Standard Finishes:
- Steel – electrogalvanized

### Wiring Diagrams for Circuit Breaker Panelboards

**System 3**
- Mains—3-Wire
- Branches—3-Wire
- Breakers—2-Pole
- Solid Neutral

**System 8**
- Mains—4-Wire, 3-Phase
- Branches—3-Wire, 1-Phase
- Breakers—2-Pole
- Solid Neutral

**System 11**
- Mains—4-Wire, 3-Phase
- Branches—4-Wire, 3-Phase
- Breakers—3-Pole
- Solid Neutral

**System 24**
- Mains—3-Wire
- Branches—2-Wire
- Breakers—Single-Pole
- Solid Neutral

**System 25**
- Mains—4-Wire, 3-Phase
- Branches—2-Wire
- Breakers—Single-Pole
- Solid Neutral

**System 28**
- Mains—4-Wire, 3-Phase
- Branches—3-Wire, 1-Phase
- Breakers—2-Pole
- Solid Neutral
## Switches

### Hazardous and Non-hazardous

<table>
<thead>
<tr>
<th>Description</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Application/Selection</strong></td>
<td>see page 680</td>
</tr>
<tr>
<td><strong>Enclosed Switches</strong></td>
<td></td>
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<tr>
<td><strong>Heavy Duty</strong></td>
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<tr>
<td>FLS</td>
<td>see page 685</td>
</tr>
<tr>
<td>N2RS</td>
<td>see page 690</td>
</tr>
<tr>
<td>WST/W2ST</td>
<td>see page 696</td>
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<tr>
<td><strong>General Use Snap Switches</strong></td>
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<tr>
<td>EFD, EFDC, EDS, EDSC</td>
<td>see pages 694–695</td>
</tr>
<tr>
<td>FSPC</td>
<td>see page 692</td>
</tr>
<tr>
<td>GUSC</td>
<td>see page 691</td>
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<tr>
<td>Manual Contactors</td>
<td>see page 700</td>
</tr>
<tr>
<td><strong>Disconnect Switches</strong></td>
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<tr>
<td>EID (Non-fused)</td>
<td>see page 681</td>
</tr>
<tr>
<td>EID (Fused)</td>
<td>see page 682</td>
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<tr>
<td>EBM</td>
<td>see page 683</td>
</tr>
<tr>
<td>NRS</td>
<td>see pages 696–699</td>
</tr>
<tr>
<td>NST</td>
<td>see pages 701–702</td>
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<tr>
<td>GHG</td>
<td>see pages 686–689</td>
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<tr>
<td><strong>Light Switch</strong></td>
<td></td>
</tr>
<tr>
<td>GHG273</td>
<td>see page 693</td>
</tr>
</tbody>
</table>
Applications:
- Switches and enclosures are used in hazardous and non-hazardous areas to disconnect motor, lighting and other circuits and prevent arcing of the enclosed switch from igniting hazardous atmospheres.

Considerations for Selection:
- **Enclosure Location:**
  - NEC/CEC and NEMA/EEMAC compliances for hazardous areas and/or wet and dirty locations
  - Cl. I, Div. 1 & 2, Groups B, C, D; Cl. II, Div. 1, Groups E, F, G; Cl. III, NEMA/EEMAC: 3, 7BCD, 9EFG, 12
- **Electrical:**
  - Consistency with the functions to be performed
- **Application:**
  - Selection of appropriate switch and operating mechanism

Options:
- Optional material and finishes available for highly corrosive atmospheres
- Various hub sizes are available to suit particular applications

Quick Selector Chart

<table>
<thead>
<tr>
<th>Switch Enclosure</th>
<th>NEC/CEC &amp; NEMA/EEMAC Compliances</th>
<th>Max. Amps</th>
<th>Max. Volts</th>
<th>Max. HP</th>
<th>Switch Type</th>
<th>Fused or Unfused</th>
</tr>
</thead>
<tbody>
<tr>
<td>WST</td>
<td>NEMA/EEMAC: 3R, 4, 12</td>
<td>100</td>
<td>600VAC</td>
<td>75</td>
<td>Visible blade Heavy duty</td>
<td>Fused &amp; unfused</td>
</tr>
<tr>
<td>EDS, EDSC, EFD, EFDC</td>
<td>Cl. I, Div. 1 &amp; 2, Groups B, C, D; Cl. II, Div. 1, Groups E, F, G; Cl. II, Div. 2, Groups F, G; Cl. III, NEMA/EEMAC: 3, 7BCD, 9EFG, 12</td>
<td>30</td>
<td>277VAC</td>
<td>2</td>
<td>General use snap</td>
<td>Unfused</td>
</tr>
<tr>
<td>FSPC</td>
<td>Cl. I, Div. 1 &amp; 2, Groups A, B, C, D; Cl. II, Div. 1, Groups E, F, G; Cl. II, Div. 2, Groups F, G; Cl. III, NEMA/EEMAC: 3, 7CD, 9EFG, 12</td>
<td>20</td>
<td>277VAC</td>
<td>2</td>
<td>General use snap</td>
<td>Unfused</td>
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<tr>
<td>GUSC</td>
<td>Cl. I, Div. 1 &amp; 2, Groups C, D; Cl. II, Div. 1, Groups E, F, G; Cl. II, Div. 2, Groups F, G; Cl. III, NEMA/EEMAC: 3, 7CD, 9EFG, 12</td>
<td>30</td>
<td>600VAC</td>
<td>2</td>
<td>General use snap</td>
<td>Unfused</td>
</tr>
<tr>
<td>FLS</td>
<td>Cl. I, Div. 1 &amp; 2, Groups C, D; Cl. II, Div. 1, Groups E, F, G; Cl. II, Div. 2, Groups F, G; Cl. III, NEMA/EEMAC: 3, 7CD, 9EFG, 12</td>
<td>100</td>
<td>600VAC</td>
<td>50</td>
<td>Visible blade Disconnect</td>
<td>Unfused</td>
</tr>
<tr>
<td>EBM</td>
<td>Cl. I, Div. 1 &amp; 2, Groups B, C, D; Cl. II, Div. 1, Groups E, F, G; Cl. II, Div. 2, Groups F, G; Cl. III, NEMA/EEMAC: 3, 4, 7BCD, 9EFG, 12</td>
<td>100</td>
<td>600VAC</td>
<td>75</td>
<td>Visible blade Disconnect</td>
<td>Fused &amp; unfused</td>
</tr>
<tr>
<td>NRS</td>
<td>NEMA/EEMAC: 3, 4X, 12</td>
<td>100</td>
<td>600VAC</td>
<td>75</td>
<td>Rotary - Disconnect</td>
<td>Fused &amp; unfused</td>
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<tr>
<td>N2RS</td>
<td>Cl. I, Div. 2, Groups B, C, D; NEMA: 3, 4X, 12</td>
<td>100</td>
<td>600VAC</td>
<td>60</td>
<td>Rotary - Disconnect</td>
<td>Unfused</td>
</tr>
<tr>
<td>NST</td>
<td>NEMA: 3, 4X, 12</td>
<td>200</td>
<td>600VAC</td>
<td>125</td>
<td>Rotary - Disconnect</td>
<td>Fused &amp; unfused</td>
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<tr>
<td>Manual Contactors</td>
<td>NEMA/EEMAC: 3R</td>
<td>30</td>
<td>600VAC</td>
<td>15</td>
<td>Contacts, snap</td>
<td>Unfused</td>
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<tr>
<td>GHG</td>
<td>Cl. I, Div. 1 &amp; 2, Groups A, B, C, D; Cl. II, Div. 1, Groups E, F, G; Cl. I, Zones 1 &amp; 2, Ex de IIB+H, Ex de IIC</td>
<td>180</td>
<td>600VAC</td>
<td>150</td>
<td>Rotary, snap</td>
<td>Unfused</td>
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<tr>
<td>ElD</td>
<td>Cl. I, Div. 1 &amp; 2, Groups B, C, D; Cl. I, Zones 1 &amp; 2; Cl. II, Div. 1, Groups E, F, G; Cl. III</td>
<td>400</td>
<td>600VAC</td>
<td>350</td>
<td>Rotary - Disconnect</td>
<td>Fused &amp; unfused</td>
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</tbody>
</table>
EID Disconnect Assembly

Applications:
- Provides an explosionproof disconnect switch assembly for hazardous area electrical systems
- Incorporates Eaton’s Crouse-Hinds’ high integrity manufacturing standards for reliability and safety in a compact, space-efficient NEMA 4 enclosure

Features and Benefits:
- Can be ordered as enclosure only, allowing for field installation of switch while maintaining product certification
- NEMA 4X breather and drain** provides a moisture control solution in hose-down applications
- Small, compact footprint - less mounting space required
- Large red painted aluminum rotary handle operator mounted on cover assembly provides rugged, reliable performance in the field and allows for the position of the switch to be easily identified from a distance
- Neoprene cover gasket provides UL Type 4 (hosetight) environmental rating
- Detachable/adjustable mounting feet provide flexible mounting alternatives for ease of installation; no need to replace the entire enclosure if a mounting foot is broken
- Stainless steel hinges provide easy access to inside of enclosure for wiring and maintenance
- (2) Conduit entries, one on top and one on bottom (EIDA—1" NPT entries, EIDB—1 1/2" NPT entries) for easy top or bottom feed of conductors
- (2) 1/2" NPT conduit entries, one on top and one on bottom, for field addition of breather and/or drain or for use with auxiliary contacts; †holes come plugged with Eaton’s Crouse-Hinds PLG explosionproof as standard
- Provides lockout/tagout capability which complies with OSHA requirements, allowing for locking in the ON or OFF position for standard maintenance checks
- Complies with NEC Article 312 wire bending requirements for max gauge wire, allowing for easy and safe installation, and reliable operation of product

Certifications and Compliances:
- Class I, Divisions 1 & 2, Groups B, C, D
- Class I, Zones 1 & 2
- Class II, Division 1, Groups E, F, G
- Class III
- Enclosure Type 3, 3R, 4 or 4X*, 7BCD, 9EFG
- UL Standard 1203
- cUL to CSA C22.2 No. 30

Standard Materials:
- Body and Cover—Copper-free Aluminum
- Gasket—Neoprene
- Cover Bolts—Steel
- Hinges—Stainless Steel
- Mounting Plate Sheet—Aluminum
- Rotary Actuating Handle—Aluminum

Standard Finishes:
- Copper-free Aluminum—Natural
- Steel—Electro-galvanized

Electrical Ratings:
Non-fused HP Rating at:

<table>
<thead>
<tr>
<th>Amps</th>
<th>200V</th>
<th>208V</th>
<th>240V</th>
<th>480V</th>
<th>600V</th>
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<td>-</td>
<td>125</td>
<td>250</td>
<td>350</td>
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Ordering Information:

<table>
<thead>
<tr>
<th>Switch Rating (Amps)</th>
<th>Enclosure Only</th>
<th>Enclosure with Switch</th>
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<tbody>
<tr>
<td>30</td>
<td>EIDA</td>
<td>EIDA3030</td>
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<tr>
<td>60</td>
<td>EIDA</td>
<td>EIDA3060</td>
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<tr>
<td>100</td>
<td>EIDB</td>
<td>EIDB3100</td>
</tr>
<tr>
<td>200</td>
<td>-</td>
<td>EIDC3200‡</td>
</tr>
<tr>
<td>400</td>
<td>-</td>
<td>EIDD3400‡</td>
</tr>
</tbody>
</table>

Dimensions:

Weights:
- EIDA 36 lbs 16 kg
- EIDB 62 lbs 28 kg

Options:
- Auxiliary Contact (single block) S784
- Auxiliary Contacts (two blocks) S785
- Breather and Drain S756V
- Epoxy Powder Coat Finish (internal and external) S753
- External Ground Lug S214

*When ordered with S752 or S753 suffix.
**When ordered with S756V suffix.
†For both drains and auxiliary contacts, please contact factory.
‡Contact Customer Service for additional specifications.
**Applications:**
- Provides an explosionproof disconnect switch assembly for hazardous area electrical systems
- Incorporates Eaton’s Crouse-Hinds’ high integrity manufacturing standards for reliability and safety in a compact, space-efficient NEMA 4 enclosure

**Features and Benefits:**
- NEMA 4X breather and drain** provides a moisture control solution in hose-down applications
- Small, compact footprint - less mounting space required
- Large red painted aluminum rotary handle operator mounted on cover assembly provides rugged, reliable performance in the field and allows for the position of the switch to be easily identified from a distance
- Neoprene cover gasket provides UL Type 4 (hosetight) environmental rating
- Detachable/adjustable mounting feet provide flexible mounting alternatives for ease of installation; no need to replace the entire enclosure if a mounting foot is broken
- Stainless steel hinges provide easy access to inside of enclosure for wiring and maintenance
- (2) Conduit entries, one on top and one on bottom for easy top or bottom feed of conductors
- (2) NPT conduit entries, one on top and one on bottom, for field addition of breather and/or drain or for use with auxiliary contacts; †holes come plugged with Eaton’s Crouse-Hinds PLG explosionproof as standard
- Provides lockout/tagout capability which complies with OSHA requirements, allowing for locking in the ON or OFF position for standard maintenance checks

**Certifications and Compliances:**
- Class I, Divisions 1 & 2, Groups B, C, D
- Class I, Zones 1 & 2
- Class II, Division 1, Groups E, F, G
- Class III
- Enclosure Type 3, 3R, 4 or 4X*, 7BCD, 9EFG
- UL Standard 1203
- cUL to CSA C22.2 No. 30

**Standard Materials:**
- Body and Cover—Copper-free Aluminum
- Gasket—Neoprene
- Cover Bolts—Steel
- Hinges—Stainless Steel
- Mounting Plate Sheet—Aluminum
- Rotary Actuating Handle—Aluminum

**Standard Finishes:**
- Copper-free Aluminum—Natural
- Steel—Electro-galvanized

**Electrical Ratings:**

<table>
<thead>
<tr>
<th>Switch Rating (Amps)</th>
<th>240V</th>
<th>480V</th>
<th>600V</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>15</td>
<td>20</td>
<td></td>
</tr>
<tr>
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<td>200</td>
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<td>150</td>
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<tr>
<td>400</td>
<td>125</td>
<td>250</td>
<td>350</td>
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</tbody>
</table>

*When ordered with S752 or S753 suffix.
**When ordered with S756V suffix.
†For both drains and auxiliary contacts, please contact factory.

**Ordering Information:**

<table>
<thead>
<tr>
<th>Switch Rating (Amps)</th>
<th>Enclosure with Switch</th>
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</thead>
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<tr>
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<td>EIDAF3030</td>
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<td>60</td>
<td>EIDAF3060</td>
</tr>
<tr>
<td>100</td>
<td>EIDBF3100</td>
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<tr>
<td>200</td>
<td>EIDCF3200</td>
</tr>
<tr>
<td>400</td>
<td>EIDDF3400</td>
</tr>
</tbody>
</table>

**Options:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auxiliary Contact (single block)</td>
<td>S784</td>
</tr>
<tr>
<td>Auxiliary Contacts (two blocks)</td>
<td>S785</td>
</tr>
<tr>
<td>Breather and Drain</td>
<td>S756V</td>
</tr>
<tr>
<td>Epoxy Powder Coat Finish (external only)</td>
<td>S752</td>
</tr>
<tr>
<td>Epoxy Powder Coat Finish (internal and external)</td>
<td>S753</td>
</tr>
<tr>
<td>External Ground Lug.</td>
<td>S214</td>
</tr>
</tbody>
</table>

Note: Fuses are not included (Type J recommended).
Note: Contact Customer Service for additional specifications.
EBM Disconnect Switches and Enclosures

600 VAC Heavy Duty

Applications:
EBM series hinged cover disconnect switches are used:
- To disconnect motor, lighting and other circuits.
- In locations made hazardous by the presence of flammable gases or vapors or ignitable dusts.
- Indoors or outdoors in damp, wet and dirty locations, or in areas where frequent washdowns, heavy rain or water spray is prevalent.
- To provide disconnect means and short circuit protection (fusible version).
- On switch racks or other assemblies where it is desired that motor control be centrally located.

Features:
- Rugged corrosion resistant cast copper-free aluminum construction (less than 0.4 of 1%).
- Switch operating handle is located through the right side wall of the body, permits visual confirmation of correct alignment and operation.
- Total compliance to the wiring end room requirements of the National Electrical Code.
- Semi-clamshell enclosure design, with an external flanged ground joint between body and cover makes interior components more accessible.
- Minimum enclosure-to-enclosure spacing with little interference between the opened cover and an adjacent enclosure.
- Stainless steel hinges allow the cover to swing well out of the way.
- Stainless steel quick release captive hexhead cover bolts. Stainless steel springs provide clear indication that cover bolts are fully retracted from the body.
- Switch operating handle can be padlocked in either the "ON" or "OFF" position.
- Neoprene cover gasket permanently attached to the cover seals out moisture.
- Bodies have top and bottom drilled and tapped conduit entrances for power and conduits. Removable reducers are supplied as standard, to accommodate smaller size conduits. All conduit entrances are plugged.
- Tap on mounting feet.

Certifications and Compliances:
- NEC/CEC:
  - Class I, Division 1 & 2, Groups B, C, D
  - Class II, Division 1, Groups E, F, G
  - Class II, Division 2, Groups F, G
  - Class III
- UL Standards: UL1203
- High A.I.C. Rating (Interrupting Capacity)
  - For Class I, Div. 1, Groups C & D only

Standard Materials:
- Body and cover – copper-free aluminum
- Operating handle – copper-free aluminum
- Operating shaft and bushing – stainless steel
- Interior parts – sheet steel, electrogalvanized
- Cover bolts, washers and retractile springs – stainless steel
- Hinges – stainless steel

Electrical Rating Ranges:
- 600 VAC
- 30, 60 and 100 Amp

Ordering Information:
To order an enclosure complete with the disconnect switch, select the catalog number (based on the necessary rating of the switch), from the listing below. Enclosures only, without the disconnect switch, can be ordered. Select the catalog number for the required enclosure from the listing below.

Max. HP Rating | DC using 2 poles only | Enclosure
--- | --- | ---
Non-Fusible
- 30 | 10 | 20 | 25 | 7½ | EBMBB FD
- 60 | 20 | 40 | 60 | 15 | EBMBB FD
- 100 | 30 | 75 | 75 | 25 | EBMBB FD

Fusible
- 30 | — | 5 | 7½ | 5 | EBMBB FD
- 60 | — | 15 | 15 | 10 | EBMBB FD
- 100 | 15 | 25 | 30 | 20 | EBMBB FD

Options:
- For available options, see pages 494–495.

〈Enclosure not suitable for NEMA 4 or 4X with cover mounted operators.
††With S752 or S753.〉
EBM Disconnect Switches and Enclosures

600 VAC Heavy Duty

2A

Dimensions
In Inches:

Dimensions are approximate, not for construction purposes.

*1" D & T conduit entry for control conductors supplied with PLG plug top and bottom.

**Conduit entrance(s) for power conductors (top and bottom). (All conduit entrance(s) supplied with RE reducer and PLG plug.)

<table>
<thead>
<tr>
<th>Enclosure Only Cat. #</th>
<th>Enclosure Size Symbol</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>D&amp;T† w/RE</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 and 60 Amp Frame</td>
<td>EBMBB B</td>
<td>25.75</td>
<td>24.75</td>
<td>26.90</td>
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<td>14.46</td>
<td>10.25</td>
<td>2&quot;</td>
<td>1.5&quot;</td>
<td>3.25</td>
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</tr>
<tr>
<td>100 Amp Frame</td>
<td>EBMBD D</td>
<td>28.25</td>
<td>27.25</td>
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<td>14.46</td>
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<td>2.5&quot;</td>
<td>3.25</td>
<td>3.13</td>
<td>10.25</td>
</tr>
</tbody>
</table>

†Enclosure not suitable for NEMA 4 or 4X with cover mounted operators.

††With S752 or S753.

†Drilled & Tapped.
FLS Enclosed Switches

Heavy Duty

Applications:
FLS heavy duty enclosed switches are used:
- In a rigid metallic conduit system for surface mounting adjacent to or remote from equipment being controlled
- As disconnect switches for main feed or individual motor control
- To prevent arcing of the enclosed switch from causing ignition of a specific hazardous atmosphere, or atmospheres, external to the enclosure
- In industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, grain elevators, grain processing industries, coal processing or handling areas and metal handling or finishing areas where atmosphere may contain hazardous gases and/or dust
- In non-hazardous area where sturdy, durable enclosures are required

Features:
- Enclosed devices are unfused, visible blade motor circuit switches
- Rugged cast metal enclosures with mounting lugs and taper tapped hubs with integral bushings, in through feed arrangement
- Interior of the enclosures is readily accessible through threaded cover openings at each end, set at an angle to facilitate wiring
- Threaded covers and a threaded type operating shaft and bushing provide quick assembly and easy maintenance
- A padlock can be used to lock the operating handle in an "ON" or "OFF" position
- Body and cover threads treated with lubricant at factory to provide raintightness

Certifications and Compliances:
- NEC:
  Class I, Divisions 1 & 2, Groups C, D
  Class II, Division 1, Groups E, F, G
  Class II, Division 2, Groups F, G
  Class III
  NEMA 3, 4, 7CD, 9EFG, 12
- UL Standard: 1203

Standard Materials:
- Body – copper-free aluminum
- Cover – copper-free aluminum
- Shaft – stainless steel
- Shaft bushings – stainless steel

Standard Finishes:
- Copper-free aluminum – natural
- Stainless steel – natural

Options:
- Ground/neutral wire stud provided: S168
- Breather and Drain: S198V
- Auxiliary switch: 1A, 1B: S784
- Auxiliary switch: 2A, 2B: S785

Size Ranges:
- Hub size – 1 1/2" through feed with top entry having a PLG5 plug

Ordering Information:
Furnished with Non-Fusible, Visible Blade Motor Circuit Switch

<table>
<thead>
<tr>
<th>Amperes</th>
<th>Maximum HP – 3 Phase Volts AC Through Feed Hub Size</th>
<th>Enclosure With 3-Pole Switch Cat. #</th>
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</thead>
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<td>5 10 20 25 7.5 1 1/2&quot;</td>
<td>FLS30364 1 33</td>
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<td>60</td>
<td>10 20 40 60 15 1 1/4&quot;</td>
<td>FLS60364 1 44</td>
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<tr>
<td>100</td>
<td>15 30 75 75 25 1 1/4&quot;</td>
<td>FLS10364 1 55</td>
</tr>
</tbody>
</table>

Dimensions
In Inches:

Dimensions are approximate, not for construction purposes.
2A Explosion Protected Disconnect Switches
10, 20, 40, 80, 125 and 180 Amp
600VAC Non-metallic Enclosure

cCSAus Certified
Cl. I, Div. 2, Groups A, B, C, D
Cl. I, Zones 1 and 2, AEx de IIC, T6
Cl. II, Div. 1, Groups E, F, G (CSA)
Cl. II, Div. 2, Groups F, G
ATEX Approved
Ex de IIC, T6, Zones 1 and 2, IP66

Applications:
Explosion Protected Disconnect Switches are used in a metallic conduit or cable system for surface mounting to control motor, lighting, and other circuits and:
• For individual motor control
• Are used to prevent arcing internal to the enclosed switch from causing ignition of a specific hazardous atmosphere or atmospheres
• Are designed for industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, and finishing areas where sturdy, durable enclosures are required

Features:
• Explosion protected factory sealed motor circuit switches.
• Innovative break-line in cover allows full wiring access, making installation quick and easy.
• High-impact enclosure is designed for excellent corrosion resistance and will not warp from hot or cold water.
• Tongue-in-groove seal guarantees IP66 rating and eliminates possibility of accidental opening or leakage.
• Lockable handle meets OSHA lockout/tagout requirements.
• Molded-in-place mounting feet provide a water channel between wall and enclosure.
• Large rotary handle provides easy gripping with gloved hands.
• Captive cover screws prevent water exposure and possible corrosion.

Certifications and Compliances:
• cCSAus Certified
• Class I, Division 2, Groups A, B, C, D
• Class I, Zones 1 and 2, AEx de IIC, T6
• Class II, Division 1, Groups E, F, G (CSA)
• Class II, Division 2, Groups F, G
• ATEX Approved – PTB
• Ex de IIC, T6, Zones 1 and 2A, IP66
• GOST-R and GOST-K
• CSA Standard: C22.2 No.14
• NEMA 4X
• IP66

Standard Materials:
• Enclosure
  10A: Impact-resistance thermoplastic
  20A – 180A: Fiberglass-reinforced polyester
Non-metallic, corrosion resistance
Increased safety Ex-e protection
Impact Resistance
NEMA 4X, IP66 Protection
Enclosure meets UL 94-V0
UV Rated
• Enclosure Gasket – Silicon
• Handle – Impact-resistant thermoplastic
• Cover Screws – Stainless steel
• Conduit Entries: Zinc Myers ™ Hubs

Electrical Rating Ranges:

<table>
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<th>Switches:</th>
<th>Horsepower Ratings:</th>
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<td></td>
<td>240 VAC</td>
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<tr>
<td>GHG 261</td>
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<td>260A</td>
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<th>10 AMP</th>
<th>20 AMP</th>
<th>40 AMP</th>
<th>80 AMP</th>
<th>125 AMP</th>
<th>180 AMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pole</td>
<td>3 Pole</td>
<td>3 Pole</td>
<td>6 Pole</td>
<td>3 Pole</td>
<td>6 Pole</td>
<td></td>
</tr>
<tr>
<td>Rated Voltage</td>
<td>500 V</td>
<td>690 V</td>
<td>690 V</td>
<td>690 V</td>
<td>690 V</td>
<td></td>
</tr>
<tr>
<td>Auxiliary Contact</td>
<td>1 NO, making – lagging breaking – leading</td>
<td>1 NO, making – lagging breaking – leading</td>
<td>1 NC</td>
<td>1 NO, making – lagging breaking – leading</td>
<td>1 NC</td>
<td></td>
</tr>
<tr>
<td>Auxiliary Connection</td>
<td>14 AWG 2 x 2.5 mm²</td>
<td>12 AWG 2 x 4 mm²</td>
<td>12 AWG 2 x 4 mm²</td>
<td>12 AWG 2 x 16 mm²</td>
<td>12 AWG 2 x 16 mm²</td>
<td></td>
</tr>
<tr>
<td>Connection Terminals</td>
<td>14 AWG</td>
<td>12 AWG</td>
<td>12 AWG</td>
<td>6 AWG</td>
<td>6 AWG</td>
<td></td>
</tr>
<tr>
<td>Conduit Entries</td>
<td>1 x (\frac{3}{4})“</td>
<td>2 x (\frac{3}{4})“</td>
<td>2 x (\frac{3}{4})“</td>
<td>2 x (\frac{3}{4})“</td>
<td>2 x 1“</td>
<td></td>
</tr>
<tr>
<td>Cat. #</td>
<td>GHG 261 0005 L0002</td>
<td>GHG 262 2301 L0003</td>
<td>GHG 262 2601 L0002</td>
<td>GHG 263 2301 L0002</td>
<td>GHG 263 0050 L0002</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>0.55 kg</td>
<td>1.2 lbs.</td>
<td>1.5 kg</td>
<td>3.3 lbs.</td>
<td>2.3 kg</td>
<td>5.1 lbs.</td>
</tr>
<tr>
<td>Dimensions</td>
<td>See Figure 1</td>
<td>See Figure 2</td>
<td>See Figure 3</td>
<td>See Figure 4</td>
<td>See Figure 5</td>
<td></td>
</tr>
<tr>
<td>Wall Mounting Plate</td>
<td>GHG6101953R0101</td>
<td>GHG 610 1953 R0104</td>
<td>GHG 610 1953 R0118</td>
<td>GHG 610 1953 R0118</td>
<td>not required</td>
<td></td>
</tr>
</tbody>
</table>

## For Variable Speed, Three Phase Drives

<table>
<thead>
<tr>
<th>Pole</th>
<th>20 AMP</th>
<th>40 AMP</th>
<th>80 AMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pole</td>
<td>3 Pole</td>
<td>3 Pole</td>
<td>3 Pole</td>
</tr>
<tr>
<td>Rated Voltage</td>
<td>690 V</td>
<td>690 V</td>
<td>690 V</td>
</tr>
<tr>
<td>Auxiliary Contact</td>
<td>1 NO, making – lagging breaking – leading</td>
<td>1 NO, making – lagging breaking – leading</td>
<td>1 NO, making – lagging breaking – leading</td>
</tr>
<tr>
<td>Auxiliary Connection</td>
<td>12 AWG 2 x 50 mm²</td>
<td>12 AWG 2 x 50 mm²</td>
<td>12 AWG 1 x 70 mm²</td>
</tr>
<tr>
<td>Connection Terminals</td>
<td>2 AWG</td>
<td>2 AWG</td>
<td>2 / 0 AWG</td>
</tr>
<tr>
<td>Conduit Entries</td>
<td>2 x (\frac{3}{4})“</td>
<td>2 x (\frac{3}{4})“</td>
<td>2 x (\frac{3}{4})“</td>
</tr>
<tr>
<td>Cat. #</td>
<td>GHG 264 0020 L0017</td>
<td>GHG 264 0021 L0002</td>
<td>GHG 265 0010 L0003</td>
</tr>
<tr>
<td>Weight</td>
<td>6.5 kg</td>
<td>14.3 lbs.</td>
<td>9.0 kg</td>
</tr>
<tr>
<td>Dimensions</td>
<td>See Figure 6</td>
<td>See Figure 7</td>
<td>See Figure 8</td>
</tr>
<tr>
<td>Wall Mounting Plate</td>
<td>not required</td>
<td>not required</td>
<td>not required</td>
</tr>
</tbody>
</table>

Switches can be mounted directly onto a wall. The optional wall mounting plate offers a more convenient method of mounting.
2A Explosion Protected Disconnect Switches

10, 20, 40, 80, 125 and 180 Amp
600VAC Non-metallic Enclosure

cCSAus Certified
Cl. I, Div. 2, Groups A, B, C, D
Cl. I, Zones 1 and 2, AEx de IIIC, T6
Cl. II, Div. 1, Groups E, F, G (CSA)
Cl. II, Div. 2, Groups F, G
ATEX Approved
Ex de IIIC, T6, Zones 1 and 2, IP66

Dimensions
In Inches:

Figure 1 - 10 Amp, 3 Pole

Figure 2 - 20 Amp, 3 Pole

Figure 3 - 20 Amp, 6 Pole

Figure 4 - 40 Amp, 3 Pole

Figure 5 - 40 Amp, 6 Pole

Figure 6 - 80 Amp, 3 Pole

Figure 7 - 80 Amp, 6 Pole
Explosion Protected Disconnect
Switches

10, 20, 40, 80, 125 and 180 Amp
600VAC Non-metallic Enclosure

cCSAus Certified
Cl. I, Div. 2, Groups A, B, C, D
Cl. I, Zones 1 and 2, AEx de IIC, T6
Cl. II, Div. 1, Groups E, F, G (CSA)
Cl. II, Div. 2, Groups F, G
ATEX Approved
Ex de IIC, T6, Zones 1 and 2, IP66

Dimensions
In Inches:

Figure 8 - 125 Amp, 3 Pole
Figure 9 - 20 Amp, 3 Phase Variable Speed
Figure 10 - 40 Amp, 6 Phase Variable Speed
Figure 11 - 80 Amp, 3 Phase Variable Speed
2A N2RS Enclosed Switches

Heavy-Duty

Applications:
N2RS heavy-duty enclosed switches are used:
• In a rigid metallic conduit or cable system for surface mounting adjacent to or remote from equipment being controlled.
• For individual motor control.
• To prevent arcing internal to the enclosed switch from causing ignition of a specific hazardous atmosphere, or atmospheres.
• In industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, and finishing areas where atmospheres may contain hazardous gases.
• In non-hazardous areas where sturdy, durable enclosures are required.
• When controlling motor, lighting and other circuits.

Features:
• Enclosed devices are unfused, factory sealed motor circuit switches.
• Exceeds NEC® wiring end room requirements for ease of installation.
• RSWP factory sealed industrial control switch, no external seals are required.
• Enclosure is made of Krydon® high-impact strength fiberglass-reinforced polyester material having excellent corrosion resistance and stability to heat.
• Krydon material hubs with integral bushings, for dead-end or through-feed arrangements are supplied.
• Krydon material mounting feet supplied.
• Suitable for wash down and corrosive areas (Type 4X).
• A padlock can be used to lock the operating handle in the “OFF” position.
• Rotary actuator with snap action.
• Unitized, strong and durable construction provides longer service life for equipment.
• Factory sealed 10A, 600 VAC auxiliary contact switch provided.

Certifications and Compliances:
• NEC:
  Class I, Division 2, Groups B, C, D
• NEMA: 3, 4X, 7 (B, C, D Div. 2), 12
• UL Standard: 508, 1604
• cUL to CSA Standard C22.2 No.213
• IP65

Standard Materials:
• Enclosure – Krydon material
• External Hardware – Stainless Steel
• Operating Handle – Nylon

Size Ranges:
• Hub size:
  (2) 1½” (30, 60 amps)
  (2) 2½” (100 amps)
Krydon material hubs included (not mounted)

Ordering Information
Furnished with Non-Fusible, Factory Sealed Motor Circuit Switch

Switch Ratings
<table>
<thead>
<tr>
<th>Amperes</th>
<th>Maximum HP – 3 Phase Volts AC</th>
<th>Hub Size</th>
<th>Cat. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>10 20 25</td>
<td>1½”</td>
<td>N2RS303</td>
</tr>
<tr>
<td>60</td>
<td>15 30 40</td>
<td>1½”</td>
<td>N2RS603</td>
</tr>
<tr>
<td>100</td>
<td>20 40 60</td>
<td>2½”</td>
<td>N2RS1003</td>
</tr>
</tbody>
</table>

Dimensions
In Inches:

Certifications and Compliances:
• NEC:
  Class I, Division 2, Groups B, C, D
• NEMA: 3, 4X, 7 (B, C, D Div. 2), 12
• UL Standard: 508, 1604
• cUL to CSA Standard C22.2 No.213
• IP65

Crouse-Hinds by EATON

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GUSC Enclosures with General Use Snap Switches

Applications:
GUSC snap switches are used:
- In a rigid metallic conduit system for surface mounting adjacent to or remote from the equipment being controlled
- To prevent arcing of the enclosed switches from causing ignition of a specific hazardous atmosphere, or atmospheres, external to the enclosure
- In industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, grain elevators, grain processing industries, coal processing or handling areas, or metal handling or finishing areas where the atmosphere may contain hazardous gases and/or dust
- In non-hazardous areas where sturdy, durable enclosures are required

Features:
- Enclosures are of rugged metal construction with mounting lugs and taper tapped hubs with integral bushings, in a through feed or bottom feed arrangement, for connection to the rigid metallic conduit
- Cover is threaded, which provides for fast and proper assembly
- Provided with a threaded operating shaft and bushing
- Provision is made to use a padlock with 1/4" hasp, to lock the operating lever in an "ON" or "OFF" position
- Body and cover threads treated with lubricant at factory to provide raintightness

Certifications and Compliances:
- NEC/CEC:
  - Class I, Div. 1 & 2, Groups C, D
  - Class II, Div. 1, Groups E, F, G
  - Class II, Div. 2, Groups F, G
  - Class III
- NEMA/EEMAC: 3, 7CD, 9EFG, 12
- UL Standard: 1203
- CSA Standard: C22.2, No. 30

Standard Materials:
- Body – Feraloy® iron alloy
- Cover – copper-free aluminum
- Shaft – stainless steel
- Shaft bushing – stainless steel

Standard Finishes:
- Feraloy iron alloy – electrogalvanized and aluminum acrylic paint
- Copper-free aluminum – natural
- Stainless steel – natural

Ordering Information:
<table>
<thead>
<tr>
<th>Cat. #</th>
<th>Style</th>
<th>Rating</th>
<th>Horsepower</th>
<th>Hub Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUSC2052 AH</td>
<td>2-Pole</td>
<td>30A 20A</td>
<td>2 HP</td>
<td>3/4&quot;</td>
</tr>
<tr>
<td>GUSC2013 AH</td>
<td>3-Pole</td>
<td>30A 20A</td>
<td>2 HP</td>
<td>3/4&quot;</td>
</tr>
</tbody>
</table>

Dimensions In Inches:

<table>
<thead>
<tr>
<th>Type</th>
<th>Size</th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e</th>
<th>f</th>
<th>g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Through Feed Hubs – Fig. 1</td>
<td>2, 3-Pole</td>
<td>6'/16&quot;</td>
<td>6'/16&quot;</td>
<td>4'/4&quot;</td>
<td>4'/4&quot;</td>
<td>5'/8&quot;</td>
<td>3/4&quot;</td>
<td></td>
</tr>
<tr>
<td>Two Hubs at Bottom – Fig. 2</td>
<td>2, 3-Pole</td>
<td>5'/16&quot;</td>
<td>6'/16&quot;</td>
<td>4'/4&quot;</td>
<td>4'/4&quot;</td>
<td>5'/8&quot;</td>
<td>3/4&quot;</td>
<td>2'/4&quot;</td>
</tr>
</tbody>
</table>

Dimensions are approximate, not for construction purposes.
Applications:
FSPC snap switches are installed in a rigid metallic conduit system for surface mounting adjacent to or remote from equipment being controlled and are used:
- To prevent arcing of enclosed switch from causing ignition of a specific hazardous atmosphere or atmospheres external to the enclosure
- In industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, grain elevators, grain processing industries, coal processing or handling areas, or metal handling or finishing areas where atmosphere may contain hazardous gases and/or dust
- In non-hazardous areas where sturdy, durable enclosures are required

Features:
- Rugged cast metal enclosure with mounting lugs and taper tapped hubs with integral bushings, in a through feed arrangement.
- Threaded cover to provide fast, proper assembly and easier maintenance.
- Journalled type operating shaft – close tolerance fit for flametightness.
- Body and cover threads treated with lubricant at factory to provide raintightness.

Certifications and Compliances:
- NEC:
  FSPC 21 series –
  Class I, Divisions 1 & 2, Groups C, D
  Class II, Division 1, Groups E, F, G
  Class II, Division 2, Groups F, G
  Class III
- NEMA: 3, 7CD, 9EFG, 12
- NEC:
  FSPC 216 series –
  Class I, Divisions 1 & 2, Groups A, B, C, D
  Class II, Division 1, Groups E, F, G
  Class II, Division 2, Groups F, G
  Class III
- NEMA: 3, 7ABCD, 9EFG, 12
- UL Standard: 1203
- CEC:
  FSPC 216 series –
  Class I, Divisions 1 & 2, Groups C, D
  Class II, Division 1, Groups E, F, G
  Class II, Division 2, Groups F, G
  Class III
- Encl. 3, 5
- CSA Standard C22.2, No. 30

Standard Materials:
- Body – Feraloy® iron alloy
- Cover – copper-free aluminum
- Shaft – stainless steel
- Bushing – stainless steel

Standard Finishes:
- Feraloy iron alloy – electrogalvanized and aluminum acrylic paint
- Copper-free aluminum – natural
- Stainless steel – natural

Ordering Information:

<table>
<thead>
<tr>
<th>Switch Information</th>
<th>Enclosure with Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>120VAC</td>
<td>277VAC</td>
</tr>
<tr>
<td>Hub Size</td>
<td>Style</td>
</tr>
<tr>
<td>1/2”</td>
<td>1-pole</td>
</tr>
<tr>
<td>1/2”</td>
<td>2-pole</td>
</tr>
<tr>
<td>5/8”</td>
<td>3-pole</td>
</tr>
<tr>
<td>5/8”</td>
<td>3-way</td>
</tr>
</tbody>
</table>

Dimensions

Dimensions are approximate, not for construction purposes.

†Suitable for Groups A & B usage.
‡30A, 250 VAC; 20A, 600 VAC.
§See pages 694–695 for AC-rated switch information.
Light Switch

Applications:
GHG273 series of switches are used:
- To prevent arcing of enclosed switch from causing ignition of a specific hazardous atmosphere external to the enclosure
- In Division 2, Zone 1 and Zone 2 industrial areas such as: chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, grain elevators and processing industries, coal processing or handling areas, or finishing areas where atmosphere may contain hazardous gases and/or dust
- In non-hazardous areas where sturdy, durable enclosures are required for both indoor and outdoor installations of light switches

Features:
- Small and compact in design.
- Large grounding plate.
- Captive cover screws.
- Protective collar for inadvertent operation.
- Large actuator surface allows for operation while wearing work gloves.
- Labyrinth seal to guarantee the degree of protection IP66.
- The toggle has a luminescent label to locate switch in dark areas.
- Cable entry from the top is made possible by turning the base.

Certifications and Compliances:
- cCSAus Listed
- Class I, Division 2, Groups A, B, C, D
- Class II, Division 1, Groups E, F, G
- Class II, Division 1, Groups F, G
- Class I, Zone 1 & 2, EEx de IIC T6
- Class I, Zone 1 & 2, AEx de IIC T6
- Class I, Zone 1 & 2, Ex de IIC T6
- PTB Certificate of Conformity Ex-91.C.1017
- IP66

Standard Materials:
- Body and cover – low temperature, impact-resistant thermoplastic
- Shaft and screws – stainless steel
- Grounding plate – brass

Standard Finishes:
- Thermoplastic – natural
- Stainless steel – natural
- Brass – nickel plate

Electrical Ratings:
- Voltage 250VAC 50 / 60 Hz
- Current 16 Amps

Ordering Information

<table>
<thead>
<tr>
<th>Cat. #</th>
<th>Contact Arrangement</th>
<th>Description</th>
<th>Entry Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHG 273 2000 L0005</td>
<td>2-pole</td>
<td>1 x ½&quot; NPT</td>
<td></td>
</tr>
<tr>
<td>GHG 273 2000 L0006</td>
<td>2-pole</td>
<td>1 x ¾&quot; NPT</td>
<td></td>
</tr>
<tr>
<td>GHG 273 6000 L0001</td>
<td>3-way</td>
<td>1 x ½&quot; NPT</td>
<td></td>
</tr>
<tr>
<td>GHG 273 6000 L0002</td>
<td>3-way</td>
<td>1 x ¾&quot; NPT</td>
<td></td>
</tr>
</tbody>
</table>

Dimensions

In Inches:

Dimensions are approximate, not for construction purposes.
2A EDS and EFD Enclosures
with General Use Snap Switches
Front Operated

Applications:
EDS and EFD enclosures are installed in a rigid metallic conduit system for surface mounting adjacent to or remote from equipment being controlled and are used:
- To prevent arcing of enclosed switch from causing ignition of a specific hazardous atmosphere or atmospheres external to the enclosure
- In industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, grain elevators, grain processing industries, coal processing or handling areas, or metal handling or finishing areas where atmosphere may contain hazardous gases and/or dust
- In non-hazardous areas where sturdy, durable enclosures are required

Features:
- Small and compact in design.
- Used with snap switches.
- Mounting lugs and taper tapped hubs with integral bushings.
- Large machine screws for fastening covers to bodies.
- Lockout hole for padlock having 1/4” hasp is provided.
- Threaded type shafts and bushings are used to insure flame tightness.

Certifications and Compliances:
- NEC/CEC:
  - Class I, Divisions 1 & 2, Groups B*, C, D
  - Class II, Division 1, Groups E, F, G
  - Class II, Division 2, Groups F, G
  - Class III
- NEMA/EEMAC: 3, 7B*CD, 9EFG, 12
- UL Standard: 1203
- CSA Standard: C22.2 No. 30

Standard Materials:
- Bodies and covers – Feraloy® iron alloy
- Shafts – stainless steel
- Shaft bushings – stainless steel

Standard Finishes:
- Feraloy iron alloy – electrogalvanized and aluminum acrylic paint
- Stainless steel – natural

Options:
- Suffix
  - Two or three gang bodies can be supplied with combinations of devices listed for one gang enclosures – Refer to modular listing, section 4C
  - Class I Group B, NEMA 7B – see listing pages ........... GB
  - Bodies and Covers: copper-free aluminum ............... SA
  - Flush wall mounting cover with 1/2” overhang – single gang only – dull black instrument finish ..................... S173

Electrical Ratings
Complies with U.L. snap switch test requirements as follows:

<table>
<thead>
<tr>
<th>Type of Test</th>
<th>AC-Rated (only) Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overload</td>
<td>Rated Amp. +380%</td>
</tr>
<tr>
<td>Power Factor</td>
<td>.40 – .50</td>
</tr>
<tr>
<td>100 cycles</td>
<td>6 – 10 cycles per minute</td>
</tr>
<tr>
<td>Non-Inductive</td>
<td>10,000 cycles, 18 – 24 cycles per minute at rated current – .98 min. P.F.</td>
</tr>
<tr>
<td>Inductive Endurance</td>
<td>10,000 cycles, 18 – 24 cycles per minute – .75 – .80 P.F.</td>
</tr>
<tr>
<td>Temperature Rise</td>
<td>Not to exceed 30°C</td>
</tr>
<tr>
<td>Dielectric Withstand</td>
<td>1500 volts</td>
</tr>
</tbody>
</table>

Dimensions
In Inches:

<table>
<thead>
<tr>
<th>Hub Size</th>
<th>Dim. “h”</th>
<th>Dim. “l”</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4</td>
<td>1/4</td>
<td>1/4</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Dimensions are approximate, not for construction purposes.

*Class I, Group B:
All units listed on this page can be modified for Class I, Group B usage. Add suffix GB to the catalog number. Example: EDS2129-GB. Seals must be installed within 11/2” of each conduit opening in Division 1.
# EDS and EFD Enclosures

with General Use Snap Switches
Front Operated

---

## Ordering Information:

### Single Gang

<table>
<thead>
<tr>
<th>Hub Size</th>
<th>Style</th>
<th>120VAC</th>
<th>277VAC</th>
<th>Dead End Cat. #</th>
<th>Through Feed Cat. #</th>
<th>Replacement Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>⅛</td>
<td>1-pole</td>
<td>20</td>
<td>20</td>
<td>EDS2129</td>
<td>EDSC2129†</td>
<td>SW5</td>
</tr>
<tr>
<td>⅛</td>
<td>2-pole</td>
<td>20</td>
<td>20</td>
<td>EDS218</td>
<td>EDSC218†</td>
<td>SW6</td>
</tr>
<tr>
<td>⅛</td>
<td>3-pole</td>
<td>20</td>
<td>20</td>
<td>EDS2123</td>
<td>EDSC2123</td>
<td>0206500</td>
</tr>
<tr>
<td>⅛</td>
<td>4-way</td>
<td>20</td>
<td>20</td>
<td>EDS2140</td>
<td>EDSC2140</td>
<td>SW7</td>
</tr>
<tr>
<td>1</td>
<td>1-pole</td>
<td>20</td>
<td>20</td>
<td>EDS3129</td>
<td>EDSC3129†</td>
<td>SW5</td>
</tr>
<tr>
<td>1</td>
<td>2-pole</td>
<td>20</td>
<td>20</td>
<td>EDS318</td>
<td>EDSC318†</td>
<td>SW6</td>
</tr>
<tr>
<td>1</td>
<td>3-pole</td>
<td>20</td>
<td>20</td>
<td>EDS3123</td>
<td>EDSC3123</td>
<td>0206500</td>
</tr>
<tr>
<td>1</td>
<td>3-way</td>
<td>20</td>
<td>20</td>
<td>EDS3130</td>
<td>EDSC3130</td>
<td>SW7</td>
</tr>
<tr>
<td>1</td>
<td>4-way</td>
<td>20</td>
<td>20</td>
<td>EDS3140</td>
<td>EDSC3140</td>
<td>SW8</td>
</tr>
<tr>
<td>1</td>
<td>1-pole</td>
<td>30</td>
<td>30</td>
<td>EFDS3591</td>
<td>EFDC3591†</td>
<td>AH3991*</td>
</tr>
<tr>
<td>1</td>
<td>2-pole</td>
<td>30</td>
<td>30</td>
<td>EFDS3593</td>
<td>EFDC3593†</td>
<td>AH3992*</td>
</tr>
<tr>
<td>1</td>
<td>3-way</td>
<td>30</td>
<td>30</td>
<td>EFDS3594</td>
<td>EFDC3594</td>
<td>AH3993*</td>
</tr>
</tbody>
</table>

### Two Gang

<table>
<thead>
<tr>
<th>Hub Size</th>
<th>Style</th>
<th>120VAC</th>
<th>277VAC</th>
<th>Dead End Cat. #</th>
<th>Through Feed Cat. #</th>
<th>Replacement Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>⅛</td>
<td>1-pole</td>
<td>20</td>
<td>20</td>
<td>EDS2229</td>
<td>EDSC2229†</td>
<td>EFD3591†</td>
</tr>
<tr>
<td>⅛</td>
<td>2-pole</td>
<td>20</td>
<td>20</td>
<td>EDS2218</td>
<td>EDSC2218†</td>
<td>EFD3593†</td>
</tr>
<tr>
<td>⅛</td>
<td>3-pole</td>
<td>20</td>
<td>20</td>
<td>EDS2223</td>
<td>EDSC2223</td>
<td>EFD3594†</td>
</tr>
<tr>
<td>⅛</td>
<td>4-way</td>
<td>20</td>
<td>20</td>
<td>EDS2240</td>
<td>EDSC2240</td>
<td>EFD3691†</td>
</tr>
</tbody>
</table>

---

*Class I, Group B:
All units listed on this page can be modified for Class I, Group B usage. Add suffix GB to the catalog number. Example: EDS2129-GB.
Seals must be installed within 1½" of each conduit opening in Division 1.

†ON-OFF standard marking for 1-pole and 2-pole units
‡15A, 125 VAC; 10A, 250 VAC
§See table on pages 694–695 for AC-rated switch information.
■Combinations of switches can be furnished.
*Purchase from Eaton’s Wiring Devices.
✪Not factory sealed.
Applications:
WST heavy duty enclosed switches are used in conduit systems:
• As a means of disconnecting motors, lighting and power circuits. A fusible type switch, when used, also provides for short circuit protection
• Indoors or outdoors in industrial areas, subways, railroad facilities or any other area that is subjected to dust, dirt, chemical vapors or moisture (rain or hosing)
• Either pole-mounted or on flat surfaces

Features:
• Enclosure, handle and other exterior parts are lightweight and corrosion resistant.
• Insulated – groundable type terminal block for grounded or ungrounded neutral supplied.
• Mounting lugs may be rotated 90 degrees or moved to the vertical centerline position for pole-mounting.
• Side hinged cover is retained in a closed position by compression spring draw-pull catches, which permits the opening or closing of the cover without having to use any tools. Lower cover latch is equipped for padlocking.
• The cover is interlocked with the body and operating mechanism to prevent the opening of the enclosure, except when the switch is in the "OFF" position.
• The operating handle may be padlocked in the "ON" or "OFF" position, thereby preventing unauthorized operation of the switch and/or opening of the enclosure. Up to three padlocks may be used.
• Switches are NEMA type HD heavy duty with visible blades, a quick make-and-break mechanism with reinforced, positive pressure-type blade and jaw construction. Fusible types have fuse clips with steel reinforcing springs of positive pressure type. Pressure connectors are used for wire connection.

Certifications and Compliances:
• NEMA: 3R, 4, 12
• UL Standard: 98
• CSA Standard: C22.2 Nos. 4 & 14

Standard Materials:
• Enclosure – copper-free aluminum
• Operating handle – copper-free aluminum
• Other exterior parts – stainless steel

Standard Finishes:
• Copper-free aluminum – natural
• Stainless steel – natural

Options:
The following special options are available by adding suffix Cat. No.:
Description Suffix
• Auxiliary switch, 600VAC-DC heavy duty pushbutton station rating, can be supplied, and its contacts will close after switch contacts close and open before switch opens.......................... S483

Size Ranges:
• Conduit openings for 1” – 1½” inclusive are arranged for through feed. Removal of the threaded bushings permits use of the next larger conduit size.
• Other sizes and arrangements are available. Detailed information on request.

Electrical Rating Ranges:
• 2 and 3-pole; fusible or non-fusible; 240VAC, 600VAC and 250VDC
• 30, 60 and 100 amperes
• 3 to 75 hp

Ordering Information:

<table>
<thead>
<tr>
<th>Amps</th>
<th>2-Pole No Fuse</th>
<th>3-Pole No Fuse</th>
<th>2-Pole Fusible†</th>
<th>3-Pole Fusible†</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>7½</td>
</tr>
<tr>
<td>60</td>
<td>1½</td>
<td>10</td>
<td>1½</td>
<td>15</td>
</tr>
<tr>
<td>100</td>
<td>1½</td>
<td>15</td>
<td>1½</td>
<td>30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>240V</th>
<th>240VAC</th>
<th>250VDC</th>
<th>600VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>5</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>20</td>
<td>20</td>
<td>75</td>
<td>75</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat. #</th>
<th>WST30254</th>
<th>WST60254</th>
<th>WST10354</th>
</tr>
</thead>
</table>

Dimensions

<table>
<thead>
<tr>
<th>Approximate Dimensions</th>
<th>Conduit Opening</th>
<th>240VAC</th>
<th>250VDC</th>
<th>600VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>60</td>
<td>1½</td>
<td>10</td>
<td>10</td>
<td>25</td>
</tr>
<tr>
<td>100</td>
<td>1½</td>
<td>15</td>
<td>20</td>
<td>75</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electrical Rating Ranges</th>
<th>2 and 3-pole; fusible or non-fusible; 240VAC, 600VAC and 250VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>30, 60 and 100 amperes</td>
<td>3 to 75 hp</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Options</th>
<th>Description Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Pole No Fuse</td>
<td>1</td>
</tr>
<tr>
<td>3-Pole No Fuse</td>
<td>3</td>
</tr>
<tr>
<td>2-Pole Fusible†</td>
<td>1</td>
</tr>
<tr>
<td>3-Pole Fusible†</td>
<td>1½</td>
</tr>
</tbody>
</table>

†Cartridge fuses are not included.
‡Arranged for NEC Class H fuses. May be field converted to NEC Class J fuses.
W2ST Enclosed Switches

Heavy Duty
30, 60, 100 Amp

Applications:
W2ST Factory Sealed Industrial Control Switches are used:
- In hazardous areas rated Class I, Division 2, Groups B, C and D
- In a rigid metallic conduit or cable system
- For surface or flush mounting adjacent to or remote from equipment being controlled
- In industrial applications such as chemical plants, wastewater treatment plants, oil and gas refineries, steel mills or any other areas where atmospheres may contain hazardous gases
- When controlling motors, pumps, valves, lighting and other circuits

Features:
- Enclosed devices are unfused, factory sealed motor circuit switches
- Exceeds NEC® wiring end room requirements for ease of wiring
- RSWP factory sealed industrial control switch, no external seals are required
- The cover is interlocked with the body and operating mechanism to prevent the opening of the enclosure, except when the switch is in the “OFF” position
- Mounting lugs may be rotated 90° or moved to the vertical centerline portion for pole mounting
- Side hinged covers are retained in a closed position by compression spring draw-pull catches, which permit the opening or closing of the cover without tools
- The switch operating handle may be padlocked in the “ON” or “OFF” position with up to three padlocks

Certifications and Compliances:
- NEC/CEC: Class I, Division 2, Groups B, C and D
- Type: 3 and 12
- UL Standard 698
- cUL to CSA Standard C22.2 No. 14

Standard Materials:
- Enclosure and operating handle – copper-free aluminum
- Exterior hardware – stainless steel

Options:
- Description
  - Auxiliary switch, factory sealed
  - 10A, 600 VAC
  - Suffix: S483

Electrical Rating Ranges:
- 3-Pole Switch, No Fuse
  - 30, 60 and 100 amperes
  - 3 to 60 HP
  - 600 VAC

Ordering Information:

<table>
<thead>
<tr>
<th>Amp</th>
<th>Switch</th>
<th>Cat. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>3-pole, No Fuse</td>
<td>W2ST30354</td>
</tr>
<tr>
<td>60</td>
<td>3-pole, No Fuse</td>
<td>W2ST60354</td>
</tr>
<tr>
<td>100</td>
<td>3-pole, No Fuse</td>
<td>W2ST10354</td>
</tr>
</tbody>
</table>

Horsepower Ratings:

<table>
<thead>
<tr>
<th>W2ST</th>
<th>120V</th>
<th>240V</th>
<th>480V</th>
<th>600V</th>
<th>120V</th>
<th>240V</th>
<th>480V</th>
<th>600V</th>
</tr>
</thead>
<tbody>
<tr>
<td>30A</td>
<td>3</td>
<td>7.5</td>
<td>20</td>
<td>25</td>
<td>7.5</td>
<td>15</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td>60A</td>
<td>3</td>
<td>7.5</td>
<td>20</td>
<td>25</td>
<td>7.5</td>
<td>15</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td>100A</td>
<td>5</td>
<td>10</td>
<td>25</td>
<td>30</td>
<td>10</td>
<td>20</td>
<td>40</td>
<td>60</td>
</tr>
</tbody>
</table>

Certifications and Compliances:
- NEC/CEC: Class I, Division 2, Groups B, C and D
- Type: 3 and 12
- UL Standard 698
- cUL to CSA Standard C22.2 No. 14
2A Industrial Disconnect Switches
30, 40, 60, and 100 Amp
600VAC
Non-metallic Enclosure
NEMA Type 3, 4X, 12
Corrosion Resistant
Watertight

Applications:
- Used in manual "ON" and "OFF" control of single-phase or three-phase AC motors where overload protection is not required or is provided separately.
- Meet NEC Article 430 requirements for a separate disconnect means within sight of all motor loads.
- Offers the ability to lock directly wired motor loads in the "OFF" position to comply with OSHA lockout/tagout requirements.
- Meets stringent hosedown requirements.

Features:
- Enclosures are constructed from high impact thermoplastic, providing superior durability and corrosion resistance.
- Enclosure designed with tapered edges to keep liquids away from cover opening.
- Large pistol-grip handle provides easy gripping even with gloved hands.
- Lockable handle meets OSHA lockout/tagout requirements. Handles can be locked in the "OFF" position.
- Hidden hinge cover opens to 145°, making installation and maintenance quick and easy.
- Formed-in-place continuous gasket ensures NEMA 4X full perimeter sealing.
- Captive cover mounting screws.
- Brass enclosure assembly cover screw inserts allow for higher torque and prevent stripping.

Certifications and Compliances:
All units
- cUL
- NEMA Type 3, 4X, 12
Non-fused Units
- UL 508 – 40 & 60 amp
- UL 98 – 100 amp
Fused Units
- UL 98 – Enclosed Switch

Standard Materials:
- Enclosure – VALOX® thermoplastic
- Enclosure Gasket – Neoprene
- Handle – Impact-resistant Thermoplastic
- Cover Screws – Stainless Steel
- Screw Assembly Inserts – Brass
- Conduit Entries – See Table 1*

Ordering Information
<table>
<thead>
<tr>
<th>Cat. #</th>
<th>Description</th>
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<tbody>
<tr>
<td>NRS30</td>
<td>40A, 600V, no auxiliary contacts</td>
</tr>
<tr>
<td>NRS30AX</td>
<td>40A, 600V, with auxiliary contacts</td>
</tr>
<tr>
<td>NRS30 FS</td>
<td>30A, 600V, with fusible switch for short circuit protection</td>
</tr>
<tr>
<td>NRS30AX FS</td>
<td>30A, 600V, with auxiliary contacts and fusible switch for short circuit protection</td>
</tr>
<tr>
<td>NRS60</td>
<td>60A, 600V, no auxiliary contacts</td>
</tr>
<tr>
<td>NRS60AX</td>
<td>60A, 600V, with auxiliary contacts</td>
</tr>
<tr>
<td>NRS60FS</td>
<td>60A, 600V, with fusible switch for short circuit protection</td>
</tr>
<tr>
<td>NRS60AX FS</td>
<td>60A, 600V, with auxiliary contacts and fusible switch for short circuit protection</td>
</tr>
<tr>
<td>NRS100</td>
<td>100A, 600V, no auxiliary contacts</td>
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<tr>
<td>NRS100AX</td>
<td>100A, 600V, with auxiliary contacts</td>
</tr>
<tr>
<td>NRS100 FS</td>
<td>100A, 600V, with fusible switch for short circuit protection</td>
</tr>
<tr>
<td>NRS100AX FS</td>
<td>100A, 600V, with auxiliary contacts and fusible switch for short circuit protection</td>
</tr>
<tr>
<td>NRS K1</td>
<td>40A - 100A nonfused auxiliary contact kit</td>
</tr>
<tr>
<td>NRS K2</td>
<td>60A - 100A fused auxiliary contact kit</td>
</tr>
<tr>
<td>NRS K3</td>
<td>30A fused auxiliary contact kit</td>
</tr>
</tbody>
</table>

Options:
- Auxiliary contacts for use with pilot light of PLC. 10A 600VAC 1 NO. & 1 N.C. Consult Factory.

*Hubs must be ordered separately. See Table 1.
VALOX® is a registered trademark of General Electric Co.
Industrial Disconnect Switches  

30, 40, 60, and 100 Amp  
600VAC  
Non-metallic Enclosure

Electrical Rating Ranges:

<table>
<thead>
<tr>
<th>Switches</th>
<th>Single Phase</th>
<th>Three Phase</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>120V</td>
<td>240V</td>
</tr>
<tr>
<td>40A Nonfused</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>60A Nonfused</td>
<td>2</td>
<td>7.5</td>
</tr>
<tr>
<td>100A Nonfused</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>30A Fused</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>60A Fused</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>100A Fused</td>
<td>–</td>
<td>–</td>
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</tbody>
</table>

Dimensions
In Inches:

<table>
<thead>
<tr>
<th>Enclosure Type</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 Amp Nonfused</td>
<td>6.0</td>
<td>6.0</td>
<td>5.9</td>
<td>8.1</td>
<td>6.75</td>
<td>4.0</td>
</tr>
<tr>
<td>60 Amp Nonfused</td>
<td>8.0</td>
<td>6.0</td>
<td>5.9</td>
<td>8.1</td>
<td>8.75</td>
<td>4.0</td>
</tr>
<tr>
<td>100 Amp Nonfused</td>
<td>10.0</td>
<td>8.0</td>
<td>7.9</td>
<td>10.1</td>
<td>10.75</td>
<td>6.0</td>
</tr>
<tr>
<td>30 Amp Fused</td>
<td>10.0</td>
<td>8.0</td>
<td>7.9</td>
<td>10.1</td>
<td>10.75</td>
<td>6.0</td>
</tr>
<tr>
<td>60 Amp Fused</td>
<td>14.0</td>
<td>12.0</td>
<td>7.9</td>
<td>10.1</td>
<td>14.75</td>
<td>8.0</td>
</tr>
<tr>
<td>100 Amp Fused</td>
<td>14.0</td>
<td>12.0</td>
<td>7.9</td>
<td>10.1</td>
<td>14.75</td>
<td>8.0</td>
</tr>
</tbody>
</table>

Table 1 - Conduit Entries

<table>
<thead>
<tr>
<th>Krydon® Cat. #</th>
<th>Size</th>
<th>Myers® Zinc Cat. #</th>
<th>Size</th>
<th>Myers® Stainless Steel Cat. #</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHUB1</td>
<td>1/4&quot;</td>
<td>STG 1</td>
<td>1/4&quot;</td>
<td>SSTG 1</td>
<td>1/4&quot;</td>
</tr>
<tr>
<td>NHUB2</td>
<td>3/8&quot;</td>
<td>STG 2</td>
<td>3/8&quot;</td>
<td>SSTG 2</td>
<td>3/8&quot;</td>
</tr>
<tr>
<td>NHUB3</td>
<td>1&quot;</td>
<td>STG 3</td>
<td>1&quot;</td>
<td>SSTG 3</td>
<td>1&quot;</td>
</tr>
<tr>
<td>NHUB4</td>
<td>1 1/4&quot;</td>
<td>STG 4</td>
<td>1 1/4&quot;</td>
<td>SSTG 4</td>
<td>1 1/4&quot;</td>
</tr>
<tr>
<td>NHUB5</td>
<td>1 1/2&quot;</td>
<td>STG 5</td>
<td>1 1/2&quot;</td>
<td>SSTG 5</td>
<td>1 1/2&quot;</td>
</tr>
</tbody>
</table>
Applications:
Manual Contactors are used:
• For manual starting of motors up to 30 HP
• In damp or wet locations

Features:
• Compact enclosure meets NEMA 3R requirements
• Can be padlocked to help conform to OSHA lockout requirements
• Grounding terminal provides ground for box and cover
• Enclosed switch body does not expose contacts
• Double break butt-type silver alloy contacts provide long life
• Two ⅛", ⅝", 1" knockouts on bottom

Certifications and Compliances:
• UL 508
• CSA Standard: C22.2 No. 14
• NEMA 3R

Standard Materials:
• .060" thick steel enclosure

Standard Finishes:
6810 / 7810 Series:
• Gray baked enamel finish
MC Series:
• Polyester urethane

Electrical Rating Ranges:
• 30A/40A/60A 600VAC, two pole, single phase
• 30A/40A/60A 600VAC, three pole, polyphase

Ordering Information:

<table>
<thead>
<tr>
<th>Description</th>
<th>600V</th>
<th>120V</th>
<th>240V</th>
<th>480/600V</th>
<th>Switch Cat. #</th>
<th>Enclosure Cat. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 pole with screw terminals</td>
<td>30</td>
<td>2</td>
<td>5</td>
<td>7.5</td>
<td>6810U</td>
<td>6810W</td>
</tr>
<tr>
<td>3 pole with screw terminals</td>
<td>30</td>
<td>3</td>
<td>7.5</td>
<td>15</td>
<td>7810UD</td>
<td>7810WD</td>
</tr>
<tr>
<td>2 pole with screw &amp; clamp terminals</td>
<td>40</td>
<td>3</td>
<td>5</td>
<td>15</td>
<td>MC240C</td>
<td>MC240C-3</td>
</tr>
<tr>
<td>2 pole with box lug terminals</td>
<td>40</td>
<td>3</td>
<td>5</td>
<td>15</td>
<td>MC240L</td>
<td>MC240L-3</td>
</tr>
<tr>
<td>2 pole with box lug terminals</td>
<td>60</td>
<td>3</td>
<td>5</td>
<td>15</td>
<td>MC260L</td>
<td>MC260L-3</td>
</tr>
<tr>
<td>3 pole with screw &amp; clamp terminals</td>
<td>40</td>
<td>3</td>
<td>7.5</td>
<td>15 / 20</td>
<td>MC340C</td>
<td>MC340C-3</td>
</tr>
<tr>
<td>3 pole with box lug terminals</td>
<td>40</td>
<td>3</td>
<td>7.5</td>
<td>15 / 20</td>
<td>MC340L</td>
<td>MC340L-3</td>
</tr>
<tr>
<td>3 pole with box lug terminals</td>
<td>60</td>
<td>3</td>
<td>7.5</td>
<td>25 / 30</td>
<td>MC360L</td>
<td>MC360L-3</td>
</tr>
</tbody>
</table>

Dimensions in Inches:

2A Manual Contactors
AC Only, Full Voltage
30A/40A/60A 600VAC
Without Overload Protection

Features:
• Compact enclosure meets NEMA 3R requirements
• Can be padlocked to help conform to OSHA lockout requirements
• Grounding terminal provides ground for box and cover
• Enclosed switch body does not expose contacts
• Double break butt-type silver alloy contacts provide long life
• Two ⅛", ⅝", 1" knockouts on bottom

Certifications and Compliances:
• UL 508
• CSA Standard: C22.2 No. 14
• NEMA 3R

Standard Materials:
• .060" thick steel enclosure

Standard Finishes:
6810 / 7810 Series:
• Gray baked enamel finish
MC Series:
• Polyester urethane

Electrical Rating Ranges:
• 30A/40A/60A 600VAC, two pole, single phase
• 30A/40A/60A 600VAC, three pole, polyphase

Ordering Information:

<table>
<thead>
<tr>
<th>Description</th>
<th>600V</th>
<th>120V</th>
<th>240V</th>
<th>480/600V</th>
<th>Switch Cat. #</th>
<th>Enclosure Cat. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 pole with screw terminals</td>
<td>30</td>
<td>2</td>
<td>5</td>
<td>7.5</td>
<td>6810U</td>
<td>6810W</td>
</tr>
<tr>
<td>3 pole with screw terminals</td>
<td>30</td>
<td>3</td>
<td>7.5</td>
<td>15</td>
<td>7810UD</td>
<td>7810WD</td>
</tr>
<tr>
<td>2 pole with screw &amp; clamp terminals</td>
<td>40</td>
<td>3</td>
<td>5</td>
<td>15</td>
<td>MC240C</td>
<td>MC240C-3</td>
</tr>
<tr>
<td>2 pole with box lug terminals</td>
<td>40</td>
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<td>5</td>
<td>15</td>
<td>MC240L</td>
<td>MC240L-3</td>
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<tr>
<td>2 pole with box lug terminals</td>
<td>60</td>
<td>3</td>
<td>5</td>
<td>15</td>
<td>MC260L</td>
<td>MC260L-3</td>
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<tr>
<td>3 pole with screw &amp; clamp terminals</td>
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<td>7.5</td>
<td>15 / 20</td>
<td>MC340C</td>
<td>MC340C-3</td>
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<td>15 / 20</td>
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<tr>
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<td>25 / 30</td>
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<td>MC360L-3</td>
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Dimensions in Inches:
NST Disconnect Switches and Enclosures

600VAC/250VDC Heavy Duty

**Applications:**
- NST disconnect switches are for use in disconnecting motor, lighting and other circuits.

**Features:**
- Enclosures are made of Krydon®, Eaton’s Crouse-Hinds’ high impact strength fiberglass-reinforced polyester material having excellent corrosion resistance and stability to heat.
- Unitized, strong and durable enclosure construction provides longer service life for equipment.
- Enclosure has hinged access door which opens 160° for easy wiring and maintenance. Three screws for door frame are hidden behind access door.
- Access door may be padlocked to prevent unauthorized access.

**Certifications and Compliances:**
- NEMA: 3, 4X and 12
- UL Standard: 98
- CSA Standard: C22.2 No. 4

**Electrical Rating Ranges:**
- 240 VAC/250 VDC & 600 VAC
- 30, 60, 100 and 200 amp

**Options:**
- Auxilary switch, 600 VAC-DC heavy duty pushbutton station rating, can be supplied. Its contacts will close after switch contacts close and open before switch opens. Suffix: S483*
- Hubs (see “Note on Hubs”) – see page 677
- Grounding plate or bushing – see page 677

**Ordering Information:**
To order an enclosure complete with disconnect switch, insert the manufacturer’s symbol in the designated positions of the catalog number. Symbols are shown in the footnotes. Enclosures only can be ordered. Select from the listings below.

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<td>DC using 2 poles only</td>
<td>With Switch 240VAC/250VDC</td>
<td>With Switch 600VAC</td>
<td>Without Switch</td>
<td></td>
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<tr>
<td>Non-Fusible</td>
<td></td>
<td>Cat. #</td>
<td>Cat. #</td>
<td>Cat. #</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>7 1/2</td>
<td>15</td>
<td>20</td>
<td>5</td>
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<td>50</td>
<td>125</td>
<td>100</td>
<td>40</td>
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<td>Fusible‡</td>
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<td>7 1/2</td>
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<td>30</td>
<td>50</td>
<td>50</td>
<td>20</td>
<td>NST1426F2 020321†</td>
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Disconnection Switches:
- General Electric G Type QMW
- Square D D Class 9422
- Cutler-Hammer W Type DS

**Corrosion-Resistant**
**Dust-tight**
**Watertight**
**Weatherproof**
**NEMA 3, 4X, 12**

---

*For Square D switches only.
†For General Electric switches only. Accommodates Class J fuses only. Not available with Cutler-Hammer “W” switch.
‡Fuse clips are arranged for Class H fuses and field modifiable for Class J fuses. For Class R fuses, consult Eaton’s Crouse-Hinds.

Crouse-Hinds

by F.T.N

### NST Disconnect Switches and Enclosures

600VAC/250VDC Heavy Duty

**Corrosion-Resistant**

**Dust-tight**

**Watertight**

**Weatherproof**

**NEMA 3, 4X, 12**

---

**Dimensions***

In Inches:

<table>
<thead>
<tr>
<th>Cat. #</th>
<th>Outside Dimensions</th>
<th>Mounting Dimensions</th>
<th>Door Opening Dimensions</th>
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<tr>
<td></td>
<td>l</td>
<td>w</td>
<td>d</td>
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<tr>
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<td>19%3/32</td>
<td>11%3/32</td>
<td>8%3/32</td>
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*Dimensions are approximate, not to be used for construction purposes.*
## Hazardous

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<th>Page No.</th>
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<tr>
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<tr>
<td>Telephones</td>
<td>ETW</td>
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<tr>
<td></td>
<td>see page 712</td>
</tr>
<tr>
<td></td>
<td>Ex-ResistTel, FernTel IP</td>
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<td></td>
<td>see page 713</td>
</tr>
<tr>
<td>Thermostats</td>
<td>HRC</td>
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<tr>
<td></td>
<td>see page 709</td>
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<tr>
<td>Heaters</td>
<td>EXH</td>
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<td>see pages 704–705</td>
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<td></td>
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</tr>
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<td></td>
<td>see pages 707–708</td>
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**EXH Series Explosionproof Electric Air Heaters**

**Applications:**
EXH explosionproof electric heaters are used:
- In areas made hazardous by the presence of flammable gases and vapors, and combustible dusts
- For rugged locations including: oil refineries, petrochemical plants, rigs, pumping stations, turbine compressors, pulp and paper mills, coal mines, grain elevators, etc.
- In areas where flammable vapors or gases or highly combustible dusts may be present due to accidental or abnormal conditions
- For standby heat to prevent process heat loss, or for personnel comfort during maintenance/repair operations

**Features:**
- Split fan guard for easy access to fan
- Compact design makes handling during installation easy
- Evacuated cores heat up quickly with even heat distribution
- Larger models offer greater kilowatt range providing more economical means to heat large areas
- Permanently sealed cores improve reliability and make field servicing easier
- Control box provides easy access for installation and maintenance

**Certifications and Compliances:**
- Class I, Division 1 & 2, Groups C, D
- Class II, Division 1, Groups E, F, G
- Class II, Division 2, Groups F, G
- NEMA: 7CD, 9EFG
- UL Standard: 823
- CSA Standard: C22.2 Nos. 25, 30, 46

**Standard Materials and Finishes:**
- Fan – Aluminum blade; steel spider and hub with ¼ in. (15.875 mm.) bore
- Core – Steel with integral aluminum fins, vacuum charged and hermetically sealed
- Heating Elements – Three long life, low watt-density, high grade metal sheathed elements
- Heat Transfer Fluid – Long life formulated ethylene glycol and water, freeze protected to –49°F (~45°C)
- Cabinet Material – 14 gauge (0.075 in.) (1.90 mm) steel; epoxy coated with 5 stage pre-treatment including iron phosphate
- Conduit Material – Heavy walled, 0.122 in (3.1 mm.) steel cadmium plated

**Options:**
The following special options are available:

<table>
<thead>
<tr>
<th>Description</th>
<th>Suffix</th>
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<tbody>
<tr>
<td>Built-in disconnect switch</td>
<td>D</td>
</tr>
<tr>
<td>Built-in pilot light</td>
<td>P</td>
</tr>
<tr>
<td>Built-in thermostat</td>
<td>T</td>
</tr>
<tr>
<td>Built-in HRC1 explosionproof thermostat</td>
<td>HRC</td>
</tr>
</tbody>
</table>

**Accessories:**
- Basic mounting kit – suitable for applications where the support arm can be bolted or welded directly to structural steel or concrete.
  Cat. # BMK-EXH5 (insert fan size: 12, 16 or 20)
- Wall mounting kit – suitable for mounting on Z sections.
  Cat. # WMK-EXH5 (insert fan size: 12, 16 or 20)
- Hanging mounting kit – simple and economical if adequate overhead structure exists.
  Requires ½" pipe, cut and threaded – not supplied.
  Cat. # HMK-EXH5
- Swivel hanging mount kit – swivels 360°. Requires ½" pipe, cut and threaded – not supplied.
  Cat. # SHMK-EXH5 (insert fan size: 12, 16 or 20)
- Pipe mounting kit – useful in buildings with insufficient strength to use other types of mounts. requires 3" pipe.
  Cat. # PMK-EXH5 (insert fan size: 12, 16 or 20)
## EXH Series Explosionproof Electric Air Heaters

### Specifications:

<table>
<thead>
<tr>
<th>Nominal kW</th>
<th>EXH512</th>
<th>EXH516</th>
<th>EXH520</th>
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<tbody>
<tr>
<td>3</td>
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<tr>
<td>5</td>
<td>12,000</td>
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<tr>
<td>10</td>
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<td>7,000</td>
<td>1,234</td>
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<tr>
<td>20</td>
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<td>3,048</td>
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<tr>
<td>30</td>
<td>2,134</td>
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</tr>
<tr>
<td>35</td>
<td>3,048</td>
<td>2,134</td>
<td>3,048</td>
</tr>
</tbody>
</table>

- **Maximum Altitude (ft., m.):**
  - EXH512: 12,000 ft. (3,658 m), 8,000 ft. (2,438 m), 10,000 ft. (3,048 m), 7,000 ft. (2,134 m), 10,000 ft. (3,048 m), 7,000 ft. (2,134 m), 6,000 ft. (1,829 m)

- **Air Delivery @70°F @ 21°C (CFM, m³/hr):**
  - EXH512: 500 CFM (850 m³/hr), 500 CFM (850 m³/hr), 850 CFM (1444 m³/hr), 850 CFM (1444 m³/hr)
  - EXH516: 1750 CFM (2973 m³/hr), 1750 CFM (2973 m³/hr), 2973 CFM (5116 m³/hr), 2973 CFM (5116 m³/hr)
  - EXH520: 3600 CFM (6116 m³/hr), 3600 CFM (6116 m³/hr), 6116 CFM (10,000 m³/hr), 6116 CFM (10,000 m³/hr)

- **Horizontal Throw (ft., m.):**
  - EXH512: 40 ft. (12.2 m), 40 ft. (12.2 m), 70 ft. (21.3 m), 70 ft. (21.3 m)
  - EXH516: 40 ft. (12.2 m), 40 ft. (12.2 m), 70 ft. (21.3 m), 70 ft. (21.3 m)

- **Max. Mounting Height (ft., m.):**
  - EXH512: 10 ft. (3.0 m), 10 ft. (3.0 m), 20 ft. (6.1 m), 20 ft. (6.1 m)

- **Motor Power (HP, kW):**
  - EXH512: 0.187 HP (0.135 kW), 0.187 HP (0.135 kW), 0.187 HP (0.135 kW), 0.187 HP (0.135 kW)

- **Fan Diameter (in., mm.):**
  - EXH512: 12 in. (305 mm), 12 in. (305 mm), 12 in. (305 mm), 12 in. (305 mm)

- **Net Weight (lbs., kg.):**
  - EXH512: 140 lbs. (63.5 kg), 140 lbs. (63.5 kg), 140 lbs. (63.5 kg), 140 lbs. (63.5 kg)

- **Shipping Weight (lbs., kg.):**
  - EXH512: 194 lbs. (88 kg), 194 lbs. (88 kg), 194 lbs. (88 kg), 194 lbs. (88 kg)

### Motor Type
- Explosionproof. Thermally protected. Permanently lubricated ball bearings. 1725 RPM.

### Fan Guard
- Split design with close wiring spacing. 1/4 in. (6.3mm.) probe will not enter.

### Heating Elements
- Three long-life, low watt-density, high grade metal-sheathed elements.

### Temperature High-Limit
- Automatic reset type, snap-action bimetal, open on temperature rise. Rated 100,000 cycles at 10 amps, handles 0.128 amps.

### Control Circuit
- 120 Volts, 0.128 amps, 15 VA.

### Control Transformer
- Multi-tap primary, 120V secondary, 50 VA.

### Contactor
- 60 or 100 amp. rated 1,000,000 cycles at maximum capacity, operating at not more than 84% full load. 120V, 15 VA fuse protected coil.

### Overpressure Protection
- Fusible alloy plug 170 psi (1.17 MPa).

### Temperature Code Rating
- T3B 165°C (329°F) Class I & II.

### Temperature Limitations
- Operational; –49°F to 176°F (–45°C to 80°C), short term to 248°F (120°C).

## Dimensions In Inches:

![Dimensions Diagram]

Dimensional tolerances ±1/8” (3.2mm) unless otherwise specified.
### EXH Series Explosionproof Electric Air Heaters

#### Cl. I, Div. 1 & 2, Groups C, D
- Explosionproof
- Dust-Ignitionproof
- Cl. II, Div. 1, Groups E, F, G
- Cl. II, Div. 2, Groups F, G
- NEMA 7CD, 9EFG

#### Ordering Information:

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<thead>
<tr>
<th>Nominal Wattage (kW)</th>
<th>Voltage</th>
<th>Phase</th>
<th>Cat. #</th>
<th>Maximum Total Current (Amperes)</th>
<th>Temperature Rise °F</th>
<th>Heat Output BTU/Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
<td>208</td>
<td>1</td>
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<td>14.4</td>
<td>11.2</td>
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<td>3</td>
<td>EXH5-480360-250</td>
<td>30.1</td>
<td>45.2</td>
<td>85,400</td>
</tr>
<tr>
<td>25.0</td>
<td>600</td>
<td>3</td>
<td>EXH5-600360-250</td>
<td>24.1</td>
<td>45.2</td>
<td>85,400</td>
</tr>
<tr>
<td>30.0</td>
<td>480</td>
<td>3</td>
<td>EXH5-480360-300</td>
<td>36.1</td>
<td>26.4</td>
<td>102,360</td>
</tr>
<tr>
<td>30.0</td>
<td>600</td>
<td>3</td>
<td>EXH5-600360-300</td>
<td>28.9</td>
<td>26.4</td>
<td>102,360</td>
</tr>
<tr>
<td>35.0</td>
<td>480</td>
<td>3</td>
<td>EXH5-480360-350</td>
<td>42.1</td>
<td>30.7</td>
<td>119,450</td>
</tr>
<tr>
<td>35.0</td>
<td>600</td>
<td>3</td>
<td>EXH5-600360-350</td>
<td>33.7</td>
<td>30.7</td>
<td>119,450</td>
</tr>
</tbody>
</table>

#### Catalog Number Example:

<table>
<thead>
<tr>
<th>EXH5</th>
<th>480</th>
<th>3</th>
<th>60</th>
<th>350</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODEL SERIES</td>
<td>HEATER VOLTAGE</td>
<td>PHASE</td>
<td>HERTZ</td>
<td>HEATER KILOWATTS</td>
</tr>
<tr>
<td>208V</td>
<td>240V</td>
<td>480V</td>
<td>600V</td>
<td>030 - 3 Kw</td>
</tr>
<tr>
<td>050 - 5 Kw</td>
<td>075 - 7.5 Kw</td>
<td>100 - 10 Kw</td>
<td>150 - 15 Kw</td>
<td>200 - 20 Kw</td>
</tr>
<tr>
<td>250 - 25 Kw</td>
<td>300 - 30 Kw</td>
<td>350 - 35 Kw</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Not available with built-in disconnect switch (option D).

*Options*
- D - Built-in disconnect switch
- P - Built-in pilot light
- S - 3-way switch
- T - Built-in thermostat
- HRC - Built-in HRC1 explosionproof thermostat
Applications:
Single phase XC explosionproof electric heaters are used:
- In areas where flammable liquids, gases or vapors are present
- For rugged locations including:
  - Petroleum refineries, gasoline storage and dispensing areas
  - Wastewater treatment plants
  - Areas that use flammable liquids for cleaning parts in dip tanks
  - Petrochemical plants
  - Paint spraying areas
  - Aircraft hangars and fuel servicing areas
  - Hydrogen fuel cell and battery storage facilities
  - Natural gas plants
- In areas where flammable vapors or gases may be present due to accidental or abnormal conditions
- For standby heat to prevent process heat loss or for personnel comfort during maintenance/repair operations

Standard Features:
- Sloped-top cabinet prevents objects that restrict airflow from being set on top
- Corrosion-resistant design with no exposed copper or brass – suitable for H2S environments
- High-velocity airflow heats up area faster with better heat distribution
- 14-gauge steel cabinet for rugged reliability
- Short cabinet lengths take up less wall and floor space
- Optional built-in thermostat (Class I, Division 1, Groups C & D, and Zone 1, Group IIB models) reduces field installation costs
- Incoloy® 840 heating elements have longer life expectancy
- Radial-embossed aluminum plate fins warp less for better heat transfer
- Galvanized steel mounting brackets for quick installation

Certifications and Compliances:
- NEC: Cl. I, Div. 1 & 2, Groups B*, C, D
- IEC: Cl. I, Zones 1 & 2, Group IIB & H2*
- NEMA: 7B+CD
- UL Standard: 823
- CSA Standard: C22.2 Nos. 25, 30, 46
- Temperature Code: T2A – 280°C (536°F)

Standard Materials and Finishes:
- Heating elements – resistance wire embedded in a magnesium oxide refractory and sheathed in an Incoloy® 840 tube
- Finned tube assembly – aluminum tube with radial-embossed aluminum plate fins
- Cabinet – 14-gauge (0.075”/1.90 mm) steel, green-gray epoxy powder-coated front and side panels, galvanized steel back panel

Accessories and Options:
- Built-in thermostat for 120-, 208-, 240-, 277- or 480-volt applications (see ordering information on next page)
- Remotely mounted HRC85 explosionproof thermostat using Honeywell® control for 45°F–85°F heating range (order separately)

Specifications:
<table>
<thead>
<tr>
<th>Nominal kW</th>
<th>1.2</th>
<th>1.8</th>
<th>3.6</th>
<th>4.8</th>
<th>7.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping Weight (lbs.)</td>
<td>61.3</td>
<td>61.3</td>
<td>61.3</td>
<td>88.4</td>
<td>104.3</td>
</tr>
<tr>
<td>NEMA Type 7. For dry indoor use only. Do not immerse in water. Do not store or use in areas exposed to rain or snow.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting Brackets</td>
<td>Two 14-gauge galvanized steel brackets.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heating Elements</td>
<td>Two Incoloy® 840-sheathed elements.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optional Built-In Thermostat</td>
<td>Explosionproof room thermostat with 10 settings.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cabinet Material</td>
<td>14-gauge (0.075”/1.90 mm) steel. Rear panel is galvanized. Front and side panels are baked green-gray epoxy powder coated with five-stage pre-treatment, including iron phosphate.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature Code Rating</td>
<td>T2A – 280°C (536°F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature Limitations</td>
<td>45°C to 40°C (49°F to 104°F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>-45°C to 80°C (49°F to 176°F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Hydrogen applications only apply to heaters without built-in thermostats.
3A XC Series
Explosionproof Electric Heaters

Ordering Information:
Without built-in room thermostat –
Class I, Div. 1 & 2, Groups B, C & D;
Zones 1 & 2, Group IIB + H2

With built-in room thermostat –
Class I, Div. 1 & 2, Groups C & D;
Zones 1 & 2, Group IIB

<table>
<thead>
<tr>
<th>Cat. #</th>
<th>Unit Wattage (kW)</th>
<th>Unit Output (BTU/Hr)</th>
<th>Unit Voltage (Volts)</th>
<th>Unit Current (Amps)</th>
<th>Maximum Circuit Fuse (Amps)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>XC A1 N0</td>
<td>1.2</td>
<td>4097</td>
<td>120</td>
<td>10.0</td>
<td>15</td>
</tr>
<tr>
<td>XC A2 N0</td>
<td>1.2</td>
<td>4097</td>
<td>208</td>
<td>5.8</td>
<td>15</td>
</tr>
<tr>
<td>XC A3 N0</td>
<td>1.2</td>
<td>4097</td>
<td>240</td>
<td>5.0</td>
<td>15</td>
</tr>
<tr>
<td>XC A4 N0</td>
<td>1.2</td>
<td>4097</td>
<td>480</td>
<td>2.5</td>
<td>15</td>
</tr>
<tr>
<td>XC A5 N0</td>
<td>1.2</td>
<td>4097</td>
<td>600</td>
<td>2.0</td>
<td>15</td>
</tr>
<tr>
<td>XC A6 N0</td>
<td>1.2</td>
<td>4097</td>
<td>277</td>
<td>4.3</td>
<td>15</td>
</tr>
<tr>
<td>XC B1 N0</td>
<td>1.8</td>
<td>6146</td>
<td>120</td>
<td>15.0</td>
<td>20</td>
</tr>
<tr>
<td>XC B2 N0</td>
<td>1.8</td>
<td>6146</td>
<td>208</td>
<td>8.7</td>
<td>15</td>
</tr>
<tr>
<td>XC B3 N0</td>
<td>1.8</td>
<td>6146</td>
<td>240</td>
<td>7.5</td>
<td>15</td>
</tr>
<tr>
<td>XC B4 N0</td>
<td>1.8</td>
<td>6146</td>
<td>480</td>
<td>3.8</td>
<td>15</td>
</tr>
<tr>
<td>XC B5 N0</td>
<td>1.8</td>
<td>6146</td>
<td>600</td>
<td>3.0</td>
<td>15</td>
</tr>
<tr>
<td>XC B6 N0</td>
<td>1.8</td>
<td>6146</td>
<td>277</td>
<td>6.5</td>
<td>15</td>
</tr>
<tr>
<td>XC C2 N0</td>
<td>3.6</td>
<td>12292</td>
<td>208</td>
<td>17.3</td>
<td>20</td>
</tr>
<tr>
<td>XC C3 N0</td>
<td>3.6</td>
<td>12292</td>
<td>240</td>
<td>15.0</td>
<td>20</td>
</tr>
<tr>
<td>XC C4 N0</td>
<td>3.6</td>
<td>12292</td>
<td>480</td>
<td>7.5</td>
<td>15</td>
</tr>
<tr>
<td>XC C5 N0</td>
<td>3.6</td>
<td>12292</td>
<td>600</td>
<td>6.0</td>
<td>15</td>
</tr>
<tr>
<td>XC C6 N0</td>
<td>3.6</td>
<td>12292</td>
<td>277</td>
<td>13.0</td>
<td>15</td>
</tr>
<tr>
<td>XC D2 N0</td>
<td>4.8</td>
<td>16389</td>
<td>208</td>
<td>23.1</td>
<td>25</td>
</tr>
<tr>
<td>XC D3 N0</td>
<td>4.8</td>
<td>16389</td>
<td>240</td>
<td>20.0</td>
<td>25</td>
</tr>
<tr>
<td>XC D4 N0</td>
<td>4.8</td>
<td>16389</td>
<td>480</td>
<td>10.0</td>
<td>15</td>
</tr>
<tr>
<td>XC D5 N0</td>
<td>4.8</td>
<td>16389</td>
<td>600</td>
<td>8.0</td>
<td>15</td>
</tr>
<tr>
<td>XC D6 N0</td>
<td>4.8</td>
<td>16389</td>
<td>277</td>
<td>17.3</td>
<td>20</td>
</tr>
<tr>
<td>XC E2 N0</td>
<td>7.6</td>
<td>25950</td>
<td>208</td>
<td>36.5</td>
<td>40</td>
</tr>
<tr>
<td>XC E3 N0</td>
<td>7.6</td>
<td>25950</td>
<td>240</td>
<td>31.7</td>
<td>35</td>
</tr>
<tr>
<td>XC E4 N0</td>
<td>7.6</td>
<td>25950</td>
<td>480</td>
<td>15.8</td>
<td>20</td>
</tr>
<tr>
<td>XC E5 N0</td>
<td>7.6</td>
<td>25950</td>
<td>600</td>
<td>12.7</td>
<td>15</td>
</tr>
<tr>
<td>XC E6 N0</td>
<td>7.6</td>
<td>25950</td>
<td>277</td>
<td>17.3</td>
<td>20</td>
</tr>
</tbody>
</table>

*Or equivalent breaker as per National Electrical Code and Canadian Electrical Code

1. Remote-mounted explosionproof room thermostats are not suitable for Group B & IIC applications. Remote contactors are also required on all 600-volt heaters and heaters with a current draw greater than 22 amps (supplied and installed by others).
2. Remote mounted explosionproof room thermostats suitable for Group B, IIB + H2 applications are a special-order item.
3. Operation at lower than rated voltages will result in reduced kW output and amp draw. Actual Output (kW) = [(Supply Voltage)² ÷ (Rated Voltage)²] x Rated Unit Wattage (kW)

Dimensions
In Inches:

Heater kW Rating A Dimensions B Dimensions
1.2 - 3.6 37.0" (940mm) 31.34" (796mm)
4.8 55.125" (1400mm) 49.45" (1256mm)
7.6 65.125" (1654mm) 59.49" (1511mm)

*Hydrogen applications only apply to heaters without built-in thermostats.
HRC Thermostats with Honeywell Control

3A

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

Applications:
HRC thermostats with Honeywell control are used:
• For heavy duty line voltage thermostats to control fan coils, fans, motor starters, valves, contactors, and circulator motors in heating and/or cooling systems. If larger motors than listed are to be controlled, relays or magnetic motor starters must be interconnected between motors and thermostats
• In specific hazardous atmospheres such as encountered in oil refineries, chemical plants, paint and varnish manufacturing plants, certain hazardous metal finishing areas, coal processing locations, granaries and grain processing plants

Features:
• A heavy duty snap switch is mounted in the enclosure; the temperature sensitive element is mounted on the external surface of the cover and actuates the switch through a shaft and bearing mechanism
• An external knob permits temperature setting within calibrated range; the knob is removable to prevent unauthorized adjustment; room ambient is indicated on thermometer at front

Certifications and Compliances:
• NEC/CEC:
  Class I, Division 1 & 2, Groups C, D
  Class II, Division 1, Groups E, F, G
  Class II, Division 2, Groups F, G
  Class III
  NEMA/EEMAC: 7CD, 9EFG, 12
• UL Standard: 1203
• CSA Standard: C22.2 No. 30

Standard Materials:
• Feraloy® iron alloy

Standard Finishes:
• Electrogalvanized and aluminum acrylic paint

Size Ranges:
• Hubs – ½" through-feed

Electrical Rating Ranges:
• 120 / 240 VAC
• 50 / 60 hertz
• Full load current in amperes:

<table>
<thead>
<tr>
<th></th>
<th>120 VAC</th>
<th>240 VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating</td>
<td>10.2</td>
<td>6.5</td>
</tr>
<tr>
<td>Cooling</td>
<td>7.4</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Ordering Information:
Temperature Range Non-Adjustable Operating Differential (approx.) Cat. #†
45 – 85°F 1° F HRC85
†Furnished with thermostat and thermometer.

Dimensions*
In Inches:

*Dimensions are approximate, not for construction purposes.
**Applications:**
HRC Bimetal Thermostats are used:
- To control heating only, cooling only or ventilation systems in demanding industrial environments
- In specific hazardous atmospheres such as encountered in oil refineries, chemical plants, paint and varnish manufacturing plants, coal processing locations, waste storage facilities, pulp and paper mills, granaries and grain processing plants or any other location where specific explosive gases or dusts are present

**Features:**
- Bimetal sensing element that is fast acting, reliable and unaffected by altitude
- Compact, lightweight design makes it easy to install
- No exposed copper or brass parts for excellent resistance to corrosion
- Feed-through design for easy installation
- Durable all aluminum exterior
- Available for heating only or heating or cooling/ventilation applications

**Certifications and Compliances:**
- NEC/CEC:
  - Class I, Division 1 & 2, Groups C, D
  - Class II, Division 1, Groups E, F, G
  - Class II, Division 2, Groups F, G
  - Class III
- UL Standard: 1203
- CSA Standard: C22.2 No. 30

**Standard Materials:**
- Copper-free aluminum

**Standard Finishes:**
- Natural

**Size Ranges:**
- Conduit opening – ¾" hub

**Electrical Ratings:**
- 480 VAC max
- ½ HP @ 120 VAC
- 1 HP @ 250 VAC
- 22 amps Res.

**Temperature Range:**
- 36°F to 82°F (2°C to 28°C)
- Temperature differential: 2.5°F (1.5°C)

**Ordering Information**

<table>
<thead>
<tr>
<th>Hub Size Description</th>
<th>Cat. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>¾ Single Pole, Single Throw (heating only)</td>
<td>HRC1</td>
</tr>
<tr>
<td>¾ Single Pole, Double Throw (heating or cooling/ventilation applications)</td>
<td>HRC2</td>
</tr>
</tbody>
</table>
TCH Electric Clocks

Factory-sealed

Applications:
Type TCH electric clocks are used:
- In oil refinery control rooms, hospital operating rooms, chemical plants, grain handling and processing plants and other similar locations where specific hazardous atmospheres may exist

Features:
- Sheet steel case may be used where environmental conditions are not severe; electric motor and connections are contained in corrosion-resistant enclosure; dials are 13” in diameter; reset knob protrudes from bottom of case
- Disassembly for installation and maintenance is easily performed; the motor housing is factory-sealed, with no external seals required

Certifications and Compliances:
- NEC:
  Class I, Division 1 & 2, Groups C, D
  Class II, Division 1, Groups E, F, G
  Class II, Division 2, Groups F, G
  Class III
- UL Standard: 1203

Standard Materials:
- Clock body and cover – sheet steel
- Motor housing – copper-free aluminum

Standard Finishes:
- Aluminum – aluminum acrylic paint
- Sheet steel – baked aluminum enamel

Size Ranges:
- Hubs – 1” through-feed

Electrical Rating Ranges:
- 110VAC, 60 hertz
- Self-starting synchronous motor – 3 watts

Options:
The following special options are available:

<table>
<thead>
<tr>
<th>Description</th>
<th>Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheet metal band notched for conduit, can be supplied for enclosing gap between wall surface and back of case</td>
<td>See listings</td>
</tr>
</tbody>
</table>

Ordering Information:

<table>
<thead>
<tr>
<th>Enclosure with Clock Motor Hub Size Style</th>
<th>Cat. #</th>
<th>Enclosing Sheet Metal Band Cat. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCH2220 110 VAC 60 hertz Self-Starting Synchronous (3 Watts)</td>
<td>TCH2220</td>
<td>TCH202</td>
</tr>
</tbody>
</table>

Dimensions*

<table>
<thead>
<tr>
<th>Cat. #</th>
<th>a</th>
<th>b</th>
<th>c</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCH2220</td>
<td>17</td>
<td>2½</td>
<td>¾</td>
</tr>
</tbody>
</table>

*Dimensions are approximate, not for construction purposes.
ETW Telephones

Applications:
ETW series telephones are used:
• For communication in areas which may be hazardous due to the presence of flammable gases or vapors, and/or combustible dusts
• In chemical plants, oil refineries, bulk loading stations, paint and varnish manufacturing plants, grain processing and similar industries

Features:
• Modern styled, pushbutton wall-mount unit is very rugged in design, suitable for the harshest industrial applications
• Large, easy to read keyboard allows gloves-on operation
• Cast copper-free aluminum housing, with baked on powder coat finish, is highly resistant to corrosive atmospheres
• Units are tone or pulse compatible and offer superior audio clarity
• Handset cord features a pin-type connector for easy field replacement; handset circuit is intrinsically safe
• Up to ten units can be connected on one line

Certifications and Compliances:
• NEC/CEC:
  Class I, Divisions 1 & 2, Groups B, C, D
  Class II, Division 1, Groups E, F, G
  Class II, Division 2, Groups F, G
• UL Standard: 1203, 698
• CSA Standard: C22.2 No. 30
• FCC Approved

Standard Materials:
• Enclosure – copper-free aluminum
• Handset – high impact plastic

Certifications and Compliances:
• NEC/CEC:
  Class I, Divisions 1 & 2, Groups B, C, D
  Class II, Division 1, Groups E, F, G
  Class II, Division 2, Groups F, G
• UL Standard: 1203, 698
• CSA Standard: C22.2 No. 30
• FCC Approved

Ordering Information:

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phone w/ handset</td>
<td>ETW401</td>
</tr>
<tr>
<td>Replacement handset (10' cord) ETW</td>
<td>ETW:301SC</td>
</tr>
<tr>
<td>Replacement handset (20' cord) ETW</td>
<td>ETW:301SC 20</td>
</tr>
<tr>
<td>Phone w/ headset</td>
<td>ETW401 HS</td>
</tr>
<tr>
<td>Phone push-to-talk handset</td>
<td>ETW401 PB</td>
</tr>
<tr>
<td>Replacement headset</td>
<td>ETW:P7200</td>
</tr>
<tr>
<td>Explosionproof ringer</td>
<td>ETR1</td>
</tr>
</tbody>
</table>

Dimensions
In inches:

![Dimensions Diagram]

Dimensions are approximate, not for construction purposes.
Ex-ResistTel, FernTel IP - Hazardous Area Communication Series

Applications:
Industrial telephones developed specifically for the harsh and hazardous environments are found in:
- Oil refineries, petrochemical plants, offshore platforms, marine applications and industrial manufacturing.
These telephones can handle large temperature differences found outdoors, high humidity and exposure to sea water, as well as heavy mechanical wear and tear.

Features:
Ex-ResistTel – Hazardous Analog Telephone
- Fully encapsulated electronics in robust glass fiber-reinforced polymer housing with ½” NPT conduit entries and Type 4X (IP66) protection
- Programmable with alphanumeric display and a 21-piece stainless steel lighted keypad
- Hermetically sealed non-contact hook sensing switch improves system reliability
- Captive cover screws prevent loss during installation
- Ventilation/pressure balancing plug eliminates moisture collection inside the enclosure
- 10 ringing melodies, maximum 50 directory entries; multiple languages available
- Operating Environment from -20°C to +40°C
- Ringer output: 90dB; noise suppression: 3dB

FernTel IP – Hazardous Voice over Internet Protocol Telephone
- Corrosion resistant polycarbonate housing with ½” NPT conduit entries and Type 3 (IP65) protection
- Programmable with alphanumeric illuminated display and a 21-piece lighted keypad
- Hermetically sealed non-contact hook sensing switch improves system reliability
- Captive cover screws prevent loss during installation
- Power supply: PoE (power over ethernet) with no separate power supply required
- Operating Connection: 10/100 BASE-T Ethernet LAN
- Protocol: H323 and SIP
- Operating Environment from -20°C to +55°C
- Ringer Output: 95dB

Certifications and Compliances:
Ex-ResistTel
- Class I, Division 2, Groups A, B, C, D T6
- Type 4X, IP66 to EN 60529
- UL & cUL
- FCC: Parts 15 and 68 hearing aid compatible
- TIA-968-A & CS-03 Part 1

FernTel IP
- Class I, Division 2, Groups A, B, C, D T5
- Type 3, IP65 to EN 60529
- UL & cUL

Standard Materials:
- Enclosure – Glass fiber-reinforced polymer (Ex-ResistTel); Polycarbonate (FernTel IP)
- Keypad, Faceplate, Trip, Armored Cord – 316 SST

Dimensions & Weights:
- Ex-ResistTel – 10.5” x 9” x 5.3”; 12 lbs
- FernTel IP – 12” x 8” x 5”; 5.5 lbs

Ordering Information:

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Description</th>
<th>Color</th>
<th>Cat. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ex-ResistTel</td>
<td>Analog</td>
<td>Keypad &amp; Display</td>
<td>Black</td>
<td>11286101110</td>
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<tr>
<td>FernTel IP</td>
<td>VoIP</td>
<td>Spiral Cord</td>
<td>Yellow</td>
<td>11241141</td>
</tr>
<tr>
<td>FernTel IP</td>
<td>VoIP</td>
<td>Armored Cord</td>
<td>Yellow</td>
<td>11243141</td>
</tr>
</tbody>
</table>
Telephone Accessories

Features:
- ETC232 power relays are used with ESR bells and ETH, W2H or WH horns; the relay coil is energized by the telephone ringing circuit, and the relay contacts control the separate 115VAC, 60 hertz power source.
- ETR1 external ringer for ETW401 telephone; for low ambient noise areas, ring tone level is similar to a general use telephone; includes a ring detect relay which is powered by the telephone line voltage, (maximum 90VAC).

Certifications and Compliances:
- NEC/CEC:
  - Class I, Division 1 & 2, Groups B*, C, D
  - Class II, Division 1, Groups E, F, G
  - Class II, Division 2, Groups F, G
  - Class III
- UL Standard: 1203
- CSA Standard: C22.2 No. 30

Standard Materials:
- Bodies – copper-free aluminum
- Covers – copper-free aluminum

Standard Finishes:
- Aluminum – baked epoxy powder paint

*For use in Group B hazardous areas, seals must be installed within 1 1/2” of each conduit entrance.

<table>
<thead>
<tr>
<th>Description</th>
<th>Rating</th>
<th>Hub Size</th>
<th>Cat. #</th>
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</thead>
<tbody>
<tr>
<td>Relay for Horn Signal</td>
<td>10A 115VAC</td>
<td>3/4”</td>
<td>ETC232</td>
</tr>
<tr>
<td>ETR1 Normal volume external ringer for ETW40 telephone</td>
<td>3/4”</td>
<td>ETR1</td>
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</table>

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

**Power Relay**

**Ringer**
<table>
<thead>
<tr>
<th>Description</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>XDT Hazardous Location Dry-Type Transformers</td>
<td>see pages 716–718</td>
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</tbody>
</table>
Eaton’s Crouse-Hinds Hazardous Location Dry-Type Transformers provide safe and efficient electric power distribution in the most extreme harsh and hazardous locations.

Applications:
Eaton’s Crouse-Hinds Hazardous Location Dry-Type Transformers are designed to operate where volatile flammable liquids or gases are handled, processed, or used, and where ignitable concentrations of gases or vapors are normally prevented by positive mechanical ventilation, such as:
- Refineries
- Chemical and petrochemical plants
- Mining
- Corrosive process facilities
- Indoor and outdoor industrial applications

Features:
- Resin-encapsulated core-coil assembly for reliable performance in extreme environments
- NEMA 3R and 4X enclosures provide essential ingress protection
- 180°C insulation system with 115°C winding temperature rise creates optimal loading capabilities
- Ratings: single phase - 0.5 kVA through 37.5 kVA; three phase - 3 kVA through 150 kVA
- Custom configurations available to meet customer specifications

Certifications and Compliances:
- Class I, Division 2, Groups A, B, C, D
- NEMA 3R, 4X
- UL Standard 1604
- cUL to C22.2 No. 66 and C22.2 No. 213-M1987

Standard Materials:
- Enclosure – painted steel (NEMA 3R) or 316 stainless steel (NEMA 4X)
- Windings – aluminum or copper

Electrical Ratings:
- Single phase: 0.5 to 37.5 kVA
- Three phase: 3 to 150 kVA
- 180°C insulation
- 115°C winding temperature rise
- Frequency: 60 Hz
- Impedance: 2 to 5%

Options:
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<thead>
<tr>
<th>Description</th>
<th>Suffix</th>
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<tr>
<td>NEMA 4X</td>
<td>X</td>
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<tr>
<td>Aluminum windings (three phase only)</td>
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### Ordering Information - Single Phase:

<table>
<thead>
<tr>
<th>Primary Voltage</th>
<th>480V</th>
<th>Secondary Voltage</th>
<th>120 / 240V</th>
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<tbody>
<tr>
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<td></td>
</tr>
<tr>
<td>kVA</td>
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</tr>
<tr>
<td>0.5</td>
<td>XDT1A0A</td>
<td>XDT1A0AX</td>
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<tr>
<td>0.75</td>
<td>XDT1A0B</td>
<td>XDT1A0BX</td>
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</tr>
<tr>
<td>1</td>
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<td>XDT1A1X</td>
<td></td>
</tr>
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<td>XDT1A1A</td>
<td>XDT1A1AX</td>
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</tr>
<tr>
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<td>XDT1A2X</td>
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<tr>
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<tr>
<td>5</td>
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<td>7.5</td>
<td>XDT1A7</td>
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<td>10</td>
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<td>15</td>
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### Ordering Information - Three Phase:

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<tr>
<td>Secondary Voltage</td>
<td>208Y / 120V</td>
<td>240V</td>
</tr>
<tr>
<td>NEMA 3R 4X 4X 4X</td>
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<tr>
<td>kVA</td>
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<td></td>
</tr>
<tr>
<td>3</td>
<td>XDT3B3</td>
<td>XDT3B3X</td>
</tr>
<tr>
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<td>XDT3B6</td>
<td>XDT3B6X</td>
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<tr>
<td>9</td>
<td>XDT3B9</td>
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<td>XDT3B30X</td>
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### Technical Details - Single Phase:

NEMA 3R Painted Steel Enclosure

<table>
<thead>
<tr>
<th>kVA</th>
<th>Winding</th>
<th>Height (In.)</th>
<th>Width (In.)</th>
<th>Depth (In.)</th>
<th>Weight (Lbs.)</th>
<th>Frame</th>
<th>Taps</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>XDT1A0A</td>
<td>6.5</td>
<td>4.9</td>
<td>4.7</td>
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<td>58H</td>
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<tr>
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<td>XDT1A7</td>
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<td>409</td>
<td>300H</td>
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</tbody>
</table>

### Technical Details - Three Phase:

NEMA 3R Painted Steel Enclosure

<table>
<thead>
<tr>
<th>kVA</th>
<th>Winding</th>
<th>Height (In.)</th>
<th>Width (In.)</th>
<th>Depth (In.)</th>
<th>Weight (Lbs.)</th>
<th>Frame</th>
<th>Taps</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>XDT3B3</td>
<td>13.4</td>
<td>16.0</td>
<td>3.4</td>
<td>152</td>
<td>201H</td>
<td>2 at -5%</td>
</tr>
<tr>
<td>6</td>
<td>XDT3B6</td>
<td>15.9</td>
<td>16.5</td>
<td>9.9</td>
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<td>200H</td>
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</tr>
<tr>
<td>9</td>
<td>XDT3B9</td>
<td>15.9</td>
<td>16.5</td>
<td>9.9</td>
<td>230</td>
<td>103H</td>
<td>2 at -5%</td>
</tr>
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<td>XDT3B15</td>
<td>17.4</td>
<td>19.7</td>
<td>10.7</td>
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<td>95H</td>
<td>2 at +2.5%; 2 at -2.5%</td>
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<td>25.3</td>
<td>12.8</td>
<td>632</td>
<td>243H</td>
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</tr>
<tr>
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</tr>
<tr>
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<td>30.1</td>
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</tr>
<tr>
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<tr>
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<td>CU</td>
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</tbody>
</table>

### Additional Information and Configurations:
- Contact Customer Service for technical specifications (dimensions, weights, taps, etc.) on all other sizes.
- Special configurations are available on request. Please contact Customer Service for additional details.