

# Switching Devices

## Safety Switches

### Safety Switch Selection Guide

| Type                                             | Voltage           | Fuse Type                |           | Fuse Class | Ampere Rating | Number of Poles <sup>③</sup> | Enclosure Type |             | Type 12 <sup>①</sup> | Type 4 Painted Steel | Type 4X Stainless Steel | Type 4X Non Metallic | NEMA 7/9 Hazardous Location |
|--------------------------------------------------|-------------------|--------------------------|-----------|------------|---------------|------------------------------|----------------|-------------|----------------------|----------------------|-------------------------|----------------------|-----------------------------|
|                                                  |                   |                          |           |            |               |                              | Type 1         | Type 3R     |                      |                      |                         |                      |                             |
| <b>Air Conditioning Disconnect</b>               | Max. 240Vac       | Fusible                  | Cartridge | H          | 30 and 60     | 2                            | —              | Yes         | —                    | —                    | —                       | —                    | —                           |
|                                                  |                   | Non-Fusible              | —         | —          | 60            | 2                            | —              | Yes         | —                    | —                    | —                       | —                    | —                           |
|                                                  | Max. 240Vac       | Moulded Case Switch      | —         | —          | 60            | 2                            | —              | Yes         | —                    | —                    | —                       | —                    | —                           |
|                                                  | Max. 600Vac       | Non-Fusible              | —         | —          | 30-80         | 3                            | —              | Yes         | —                    | —                    | —                       | —                    | —                           |
| <b>General Duty</b>                              | Single Throw      | Fusible                  | Plug      | —          | 30            | 1 and 2                      | Yes            | Yes         | —                    | —                    | —                       | —                    | —                           |
|                                                  | Max. 240Vac       | Cartridge                | H         | —          | 30-600        | 2 and 3                      | Yes            | Yes         | —                    | —                    | —                       | —                    | —                           |
|                                                  |                   | Non-Fusible              | —         | —          | 30-600        | 2 and 3                      | Yes            | Yes         | —                    | —                    | —                       | —                    | —                           |
| <b>Heavy Duty</b>                                | Single Throw      | Fusible                  | Cartridge | H          | 30-600        | 2, 3, and 4                  | Yes            | Yes         | Yes <sup>①②</sup>    | Yes <sup>②</sup>     | Yes <sup>②</sup>        | —                    | —                           |
|                                                  | Max. 600Vac       |                          | L         | —          | 800-1200      | Up to 1200A                  | Yes            | Up to 1200A | Up to 1200A          | 400-1200A            | Up to 1200A             | —                    | —                           |
|                                                  | 250 Vdc & 600 Vdc | Non-Fusible              | —         | —          | 30-1200       | 2, 3, and 4                  | Yes            | Yes         | Yes <sup>①②</sup>    | Yes <sup>②</sup>     | Yes <sup>②</sup>        | —                    | —                           |
|                                                  |                   |                          |           |            |               |                              |                |             | Up to 1200A          | 400-1200A            | Up to 1200A             | —                    | —                           |
| <b>6-Pole Motor Circuit<sup>②</sup></b>          | Single Throw      | Fusible                  | Cartridge | H          | 30-200        | 6                            | —              | Yes         | Yes <sup>①②</sup>    | —                    | Yes <sup>②</sup>        | —                    | —                           |
|                                                  | Max. 600Vac       | Non-Fusible              | —         | —          | 30-200        | 6                            | —              | Yes         | Yes <sup>①②</sup>    | —                    | Yes <sup>②</sup>        | —                    | —                           |
| <b>Double Throw<sup>③</sup></b>                  | Max. 600VAV       | Fusible                  | Cartridge | H          | 30-200        | 2 and 3                      | Yes            | Yes         | Yes <sup>①②</sup>    | Yes <sup>②</sup>     | Yes <sup>②</sup>        | —                    | —                           |
|                                                  | 250Vdc            |                          | T (240V)  | —          | 400-1200      | 3                            | Yes            | Yes         | Yes <sup>①②</sup>    | Yes <sup>②</sup>     | 400-600A                | —                    | —                           |
|                                                  |                   | Non-Fusible <sup>③</sup> | —         | —          | 30-1200       | 2, 3, 4, 6                   | Yes            | Yes         | Yes <sup>①②</sup>    | Yes <sup>②</sup>     | Yes <sup>②</sup>        | —                    | —                           |
|                                                  |                   |                          |           |            |               | 3                            | Yes            | Yes         | Up to 400A           | 400-600A             | Up to 200A              | —                    | —                           |
| <b>Enclosed Rotary Switches</b>                  | Max. 600Vac       | Non-Fusible              | —         | —          | 30-80         | 3                            |                |             | Yes <sup>①</sup>     | —                    | Yes                     | Yes                  | —                           |
| <b>Hazardous Location Disconnect Switch</b>      | Max. 600Vac       | Fusible                  | Cartridge | J          | 30-100        | 3                            |                |             | —                    | —                    | —                       | —                    | Yes                         |
|                                                  | 250Vdc            | Non-Fusible              | —         | —          | 30-100        | 3                            |                |             | —                    | —                    | —                       | —                    | Yes                         |
| <b>Enviroline All Stainless<sup>②</sup></b>      | Single Throw      | Fusible                  | Cartridge | H          | 30-400        | 2 and 3                      |                |             | —                    | —                    | Yes <sup>②</sup>        | —                    | —                           |
|                                                  | Max. 600Vac/DC    | Non-Fusible              | —         | —          | 30-400        | 3                            |                |             | —                    | —                    | Yes <sup>②</sup>        | —                    | —                           |
| <b>Viewing Window</b>                            | Single Throw      | Fusible                  | Cartridge | H          | 30-1200       | 2, 3, 4, 6                   | —              | —           | Yes <sup>①</sup>     | Yes                  | Yes                     | —                    | —                           |
|                                                  | Max. 600Vac/DC    | Non-Fusible              | —         | —          | 30-1200       | 2, 3, 4, 6                   | —              | —           | Yes <sup>①</sup>     | Yes                  | Yes                     | —                    | —                           |
| <b>Receptacle (Pin &amp; Sleeve)<sup>②</sup></b> | Single Throw      | Fusible                  | Cartridge | H          | 30-100        | 3                            | —              | —           | Yes <sup>①②</sup>    | —                    | Yes <sup>②</sup>        | —                    | —                           |
|                                                  | Max. 600Vac/DC    | Non-Fusible              | —         | —          | 60            | 3                            | —              | —           | Yes <sup>①②</sup>    | —                    | Yes <sup>②</sup>        | —                    | —                           |
| <b>Quick Connect (Cam &amp; Posi Lok)</b>        | Single Throw      | Fusible                  | Cartridge | H          | 100-600       | 2, 3, and 4                  | Yes            | Yes         | —                    | —                    | —                       | —                    | —                           |
|                                                  | Max. 600Vac       |                          | L         | —          | 800           | 2, 3, and 4                  | Yes            | Yes         | —                    | —                    | —                       | —                    | —                           |
|                                                  | Double Throw      | Non-Fusible              | —         | —          | 100-800       | 2, 3, and 4                  | Yes            | Yes         | —                    | —                    | —                       | —                    | —                           |
|                                                  | Max. 600Vac       | w Non-Fusible w Fuse     | —         | —          | —             | 2, 3, and 4                  | Yes            | Yes         | —                    | —                    | —                       | —                    | —                           |
|                                                  |                   |                          | Cartridge | H          | 100-200       | 2, 3, and 4                  | Yes            | Yes         | —                    | —                    | —                       | —                    | —                           |
|                                                  |                   |                          | T         | —          | 400-800       | 2, 3, and 4                  | Yes            | Yes         | —                    | —                    | —                       | —                    | —                           |
| <b>Solar</b>                                     | Single Throw      | Fusible                  |           | R          | 30-600        | 1 (3)                        | —              | Yes         | Yes <sup>①②</sup>    | Yes <sup>②</sup>     | —                       | —                    | —                           |
|                                                  | Max. 600Vdc       | Non-Fusible              | —         | —          | 30-600        | 1 (3)                        | —              | Yes         | Yes <sup>①②</sup>    | Yes <sup>②</sup>     | —                       | —                    | —                           |

#### Notes

① Type 12 enclosures (30-1200 amperes) can be field modified to meet Type 3R rainproof requirements when a factory provided drain screw is removed.

② Optional windows also available with type 12 or 4/4X enclosures.

③ Double throw non-fusible 4 pole 30-800A, 6 pole 30-100A.

**Product Overview**

- Used to open or close a circuit
  - Non-fusible safety switches provide a means to manually connect or disconnect the load from the source
  - Fusible safety switches provide a means to manually open and close a circuit and provide overcurrent protection by means of installed fuses
  - Fusible switches certified for use as service entrance equipment (unless noted)
  - Also commonly referred to as a disconnect switch or disconnect
- Available from 30–1200A
  - All Padlockable
  - Horsepower rated
  - 100% load break rated (unless noted)
  - Non-Fusible switches are 100% continuous duty rated and fusible switches are 80% continuous duty rated per CSA C22.2 No.4

**Standards and Certifications**

- C22.2 No.4 File #69743
- C22.2 No.14 (Enclosed Rotary) File #162136
- Det Norske Veritas
- ISO 9001:2008
- CSA certified Class I, Div, 1 & 2, Groups B, C & D; Class II, Div 1 & 2, Groups E, G & F; Class III, Div 1 & 2, Zone 1, IIB + H2 for NEMA 7/9.
- Seismic qualified (UBC and CBC) for Heavy Duty 30-800A
- ISO 1400

**Fuse Clips/Class**

Adaptable to Accept the Following Fuse Class

| Safety Switch Type                   | Standard Fuse Class Clips Supplied with Switch                     | R                  | J                                | T                                                |
|--------------------------------------|--------------------------------------------------------------------|--------------------|----------------------------------|--------------------------------------------------|
| AC Disconnect                        | H                                                                  | —                  | —                                | —                                                |
| General Duty                         | H                                                                  | 30A-600A           | 400-600A                         | 400-600A                                         |
| Heavy Duty                           | H 30-600A<br>L 800-1200A                                           | 30A-600A           | 240V-100-600A<br>600V-30-600A    | 200A-800A<br>1200A                               |
| Heavy Duty 6 Pole                    | H                                                                  | 30A-200A           | 60A-200A                         | 200A                                             |
| Double Throw                         | H 30-200A<br>T 240V-600A-1200A<br>T 600V-400A-800A<br>L 600V-1200A | 30A-400A           | 240V-200A Only<br>600V-200A-400A | 240V-600A-1200A<br>600V-400A-1200A<br>(Standard) |
| Enviroline<br>All Stainless & Window | Same as Heavy Duty                                                 | Same as Heavy Duty |                                  | Same as Heavy Duty                               |
| Receptacle (Pin & Sleeve)            | H                                                                  | 30A-100A           | 60A-100A                         | —                                                |
| Solar                                | R                                                                  | 30A - 600A         | —                                | —                                                |

**Note:** Refer to specific switch technical data page for field adaptation notes.

CDH364URKNLC Single Throw Quick Connect

CDT364URKNLC Double Throw Quick Connect



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## Heavy Duty Quick Connect Switches

### Application Description

The heavy duty quick connect **single throw** design is typically used with your main utility when temporary power is required such as, to connect a sound or lighting system, media equipment, carnival equipment. When portable power from a generator is required either a **single throw (reverse configuration)** or a **double throw** quick connect could be used. CEC does not permit double throw safety switches to be used for service entrance.

### Product Description

- 100A through 800 Ampere, (1200A pending for 2012)
- 240V - 600Vac heavy duty
- Utilizes Crouse-Hinds "J" Power series E1015, E1016, E1017 Cam-Lok® connectors or Crouse-

Hinds E200, E400 Posi-Lok® receptacles

- Fusible, Non-fusible switch design
- CDH – single throw switch design
- CDT – double throw switch design
- Single or Three phase, ground receptacle standard. Fourth pole, solid or switched neutral optional
- Type 1 or 3R enclosure. Optional type 12 or 4/4X (assembly rating 3R)
- 100% load break make rated
- Key interlocking available upon request
- Windows for Type 12 or 4/4X (assembly rating 3R) available upon request

### Features

- Both designs provide a superior safety solution, interlocking the operation of the switch with the door interlock of the receptacle compartment.
- The switch cannot be turned to the ON position without first closing the receptacle compartment door.
- Convenient and safe method to quickly connect and disconnect portable equipment.
- Spring loaded flap door in the receptacle compartment allows the cables to exit the compartment, but seals the compartment when the switch is not in use.

- An additional flap door on the main compartment allows for quick connection in the event that the appropriate plugs are not readily available.
- Additional options such as Key Interlocking, Windows, Type 12, 4/4X enclosures available upon request

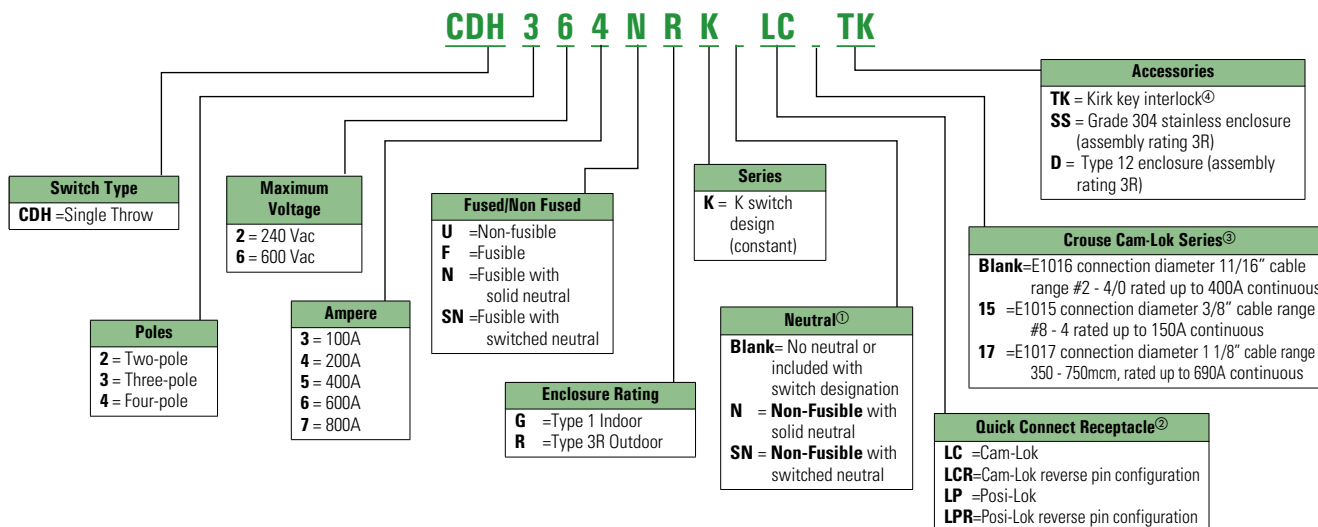
### Standards and Certifications

- CSA certified File No. LR69743
- Meets C22.2 No. 4
- ISO-9001



## Catalogue Number Selection

## Heavy Duty Single Throw with Cam or Posi-Lok Receptacles

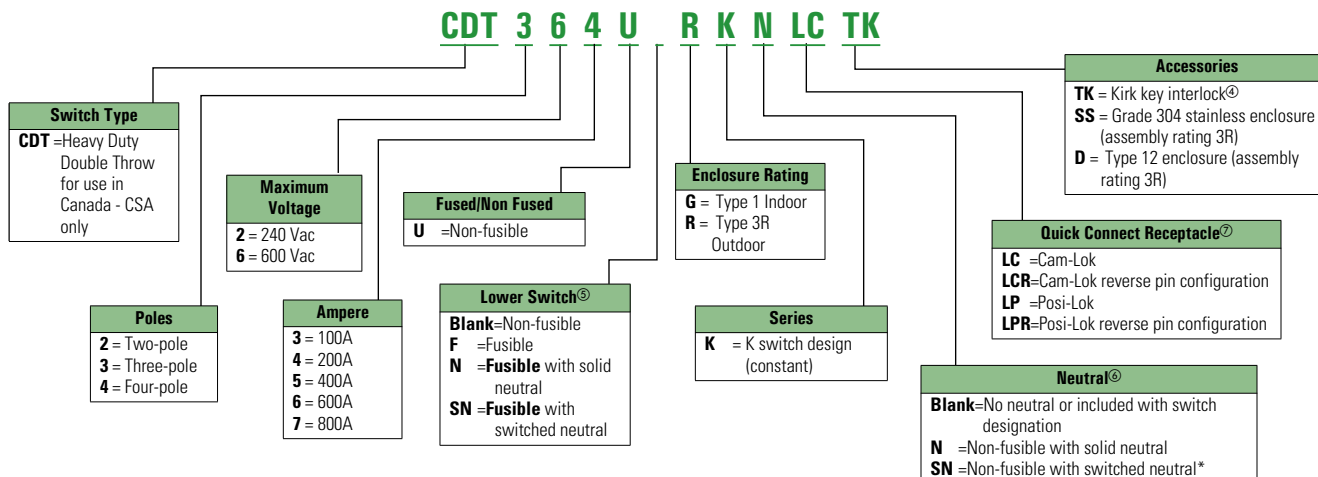


## Notes

- ① This field is only used when the switch is non-fusible.
- ② Cam-Lok devices have male ground and neutral and female phase receptacles as standard on single throw  
Posi-Lok devices have all female receptacles as standard on single throw  
Should a reverse gender configuration be required add suffix "R" to the receptacle designation  
An easy way to determine receptacle type: for generator applications male phase receptacles, for temporary load applications female phase receptacles
- ③ E1016 receptacle supplied as standard for all ratings, leave blank unless optional receptacle required
- ④ Provide key interlocking co-ordination as well as customer name, address and phone number for key registration when ordering

## Catalogue Number Selection

## Heavy Duty Double Throw with Cam or Posi-Lok Receptacles



## Notes

- ③ When lower switch is unfused, the switch configuration is consolidated in one letter (ie: "U" not "UU")  
A switch with a neutral will have either a solid neutral or a switched neutral, not both  
For switched neutral application order 3 pole for single phase and 4 pole for three phase
- ④ This field is only used when the switch is non-fusible.
- ② Cam-Lok devices have female ground and neutral and male phase receptacles as standard on double throw  
Posi-Lok devices have all male receptacles as standard on double throw  
Should a reverse gender configuration be required add suffix "R" to the receptacle designation  
An easy way to determine receptacle type: for generator applications male phase receptacles, for temporary load applications female phase receptacles

**Technical Data and Specifications**

- 100A through 800Ampere
- 240V - 600Vac heavy duty
- Utilizes Crouse-Hinds "J" Power series E1015, E1016, E1017 Cam-Lok® connectors or Crouse-Hinds E200, E400 Posi-Lok® receptacles
- Fusible, Non-fusible switch design
- CDH – single throw switch design
- CDT – double throw switch design
- 100% load break and make rated
- For short circuit withstand ratings refer to page 30 for single throw and 40 for double throw
- Horsepower rated
- Single or Three phase, ground receptacle standard. Fourth pole, solid or switched neutral optional
- Type 1 or 3R enclosures standard optional type 12 or 4/4X (assembly rating 3R)
- **Single throw** design with Cam Lok® - male ground (standard) and male neutral (optional) receptacles, female phase receptacles (standard)
- Single throw design with Posi Lok® - all female receptacles
- Receptacles on single throw factory wired to load side of switch – standard
- Reverse pin (receptacle) and wiring configuration available – add "R" to catalogue suffix
- **Double throw** with Cam-Lok® - female ground and male phase receptacles (standard). Female neutral receptacles (optional)
- Double throw design with Posi Lok® - all male receptacles
- Reverse pin (receptacle) and wiring configuration available – add "R" to catalogue suffix
- Receptacles on double throw, non fusible, factory wired to lower switch line side
- Receptacles on double throw, lower switch fusible, factory wired to line side of fuse
- 100A and 200A receptacle compartment located at bottom of enclosure
- 400A – 800A receptacle compartment located beside enclosure
- 100A through 400A have a single row of receptacles, while 600A and 800A have parallel receptacles
- Additional options such as Key Interlocking, Windows, Type 12, 4/4X enclosures (3R rated assembly) available upon request

**Lug Capacities - Quick Connect Double Throw Switch Assembly with Cam-Lok or Posi-Lok Receptacles**

| Double Throw Switch Size - Cam-Lok or Posi-Lok Receptacles | Line Terminal Per Phase                          | Load Terminal Per Phase                          | Switched Neutral Pole Load Terminals             | Solid Neutral Terminals                                       | Ground Terminals            | Receptacle Bypass Terminals               |
|------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------|--------------------------------------------------|---------------------------------------------------------------|-----------------------------|-------------------------------------------|
| 100A                                                       | (1) 1/0 – 14 AWG Cu/Al                           | (1) 1/0 – 14 AWG Cu/Al                           | (1) 1/0 - 14 AWG Cu/Al                           | (2) 1/0 - 14 AWG, (1) 2 - 14 AWG Cu/Al                        | (3) 2 - 14 AWG Cu/Al        | (1) 10 - 32 Screw Mounting                |
| 200A                                                       | (1) 300 kcmil 6 AWG Cu/Al                        | (1) 250 kcmil 6 AWG Cu/Al                        | (1) 250 kcmil - 6 AWG Cu/Al                      | (2) 250 kcmil - 6 AWG, (1) 1/0 - 14 AWG, (1) 2 - 14 AWG Cu/Al | (3) 2 - 14 AWG Cu/Al        | (2) 1/4 Studs, 1.75 Inch Spacing          |
| 400A                                                       | (1) 750 kcmil - 1/0 or (2) 300 kcmil - 1/0 Cu/Al | (1) 750 kcmil - 1/0 or (2) 300 kcmil - 1/0 Cu/Al | (1) 750 kcmil - 1/0 or (2) 300 kcmil - 1/0 Cu/Al | (6) 500 - 250 kcmil, (6) 250 kcmil - 6 AWG Cu/Al              | (4) 250 kcmil - 6 AWG Cu/Al | (2) 1/2 - 13 UNC Studs, 1.75 Inch Spacing |
| 600A                                                       | (4) 750 kcmil - 3/0 Cu/Al                        | (4) 750 kcmil - 3/0 Cu/Al                        | (4) 750 kcmil - 3/0 Cu/Al                        | (6) 500 - 250 kcmil, (4) 250 kcmil - 6 AWG Cu/Al              | (4) 250 kcmil - 6 AWG Cu/Al | (2) 1/2 - 13 UNC Studs, 1.75 Inch Spacing |
| 800A                                                       | (4) 750 kcmil - 3/0 Cu/Al                        | (4) 750 kcmil - 3/0 Cu/Al                        | (4) 750 kcmil - 3/0 Cu/Al                        | (6) 500 - 250 kcmil, (4) 250 kcmil - 6 AWG                    | (4) 250 kcmil - 6 AWG Cu/Al | (2) 1/2 - 13 UNC Studs, 1.75 Inch Spacing |

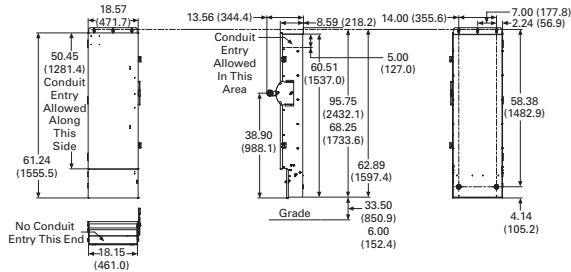
**Lug Capacities - Quick Connect Single Throw with Cam-Lok or Posi-Lok Receptacles**

| Ampere | Line Terminals Per Phase             | Load Terminals Per Phase             | Solid Neutral Terminals                                   | Ground Terminal |
|--------|--------------------------------------|--------------------------------------|-----------------------------------------------------------|-----------------|
| 100A   | 1/0 - #14                            | 1/0 - #14                            | (2) 1/0 - #14, (2) #2 - #14                               | #4 - 14AWG      |
| 200A   | (1) #6 - 300mcm                      | (1) #6 - 300mcm                      | (2) #6 - 300mcm, (2) #4 - #14                             | #4 - 14AWG      |
| 400A   | (1) 1/0 - 750mcm or (2) 1/0 - 300mcm | (1) 1/0 - 750mcm or (2) 2/0 - 300mcm | (1) 1/0 - 750mcm or (2) 1/0 - 300mcm, and (3) #6 - 250mcm | (2) #6 - 250mcm |
| 600A   | (1) #2-600mcm and (1) 1/0 - 750mcm   | (1) #2-600mcm and (1) 1/0 - 750mcm   | (1) 1/0 - 750mcm and (1) #2 - 600mcm, and (3) #6 - 250mcm | (2) #6 - 250mcm |
| 800A   | (4) 3/0 - 750mcm                     | (4) 3/0 - 750mcm                     | (3) #6 - 250mcm, (4) 3/0 - 750mcm                         | (2) #6 - 250mcm |

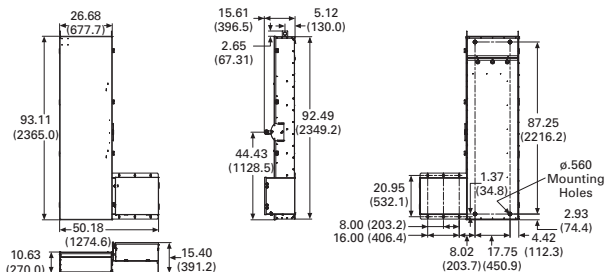
### Dimensions

Approximate Dimensions in Inches (mm)

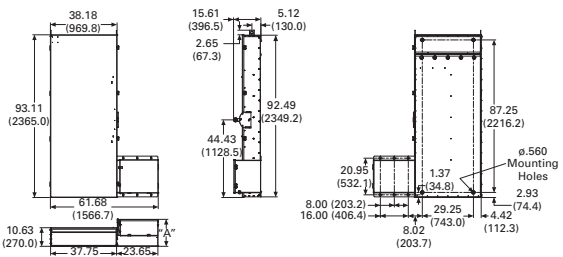
#### 100/200 Amp CDT Dimensions



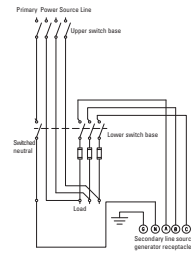
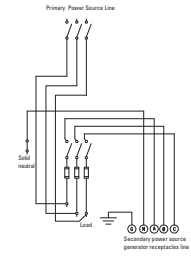
#### 400 Amp CDT Dimensions



#### 600-800 Amp CDT Dimensions

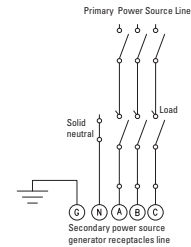


### Wiring Diagrams

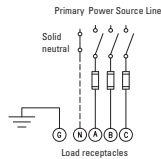


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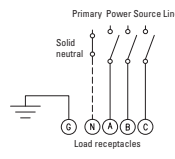
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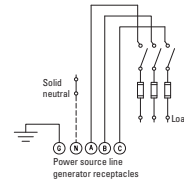
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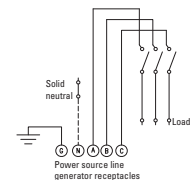
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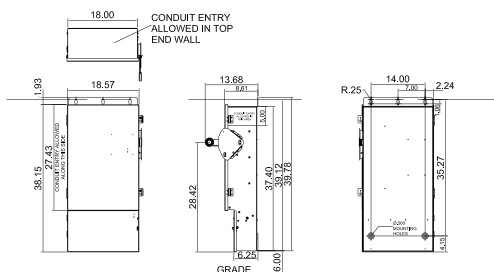


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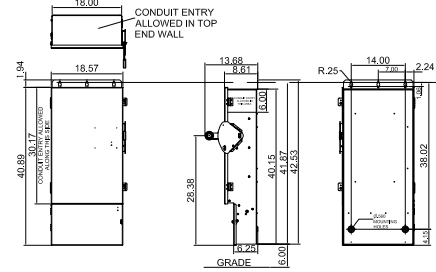


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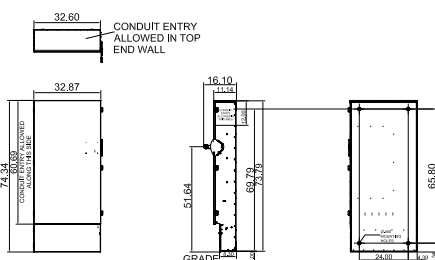
#### 100 Amp CDH Dimensions



#### 200 Amp CDH Dimensions



#### 400/600 Amp CDH Dimensions



#### 800 Amp CDH Dimensions

