Shunt trip safety switch


Product description
The shunt trip technology enhances safety by providing a means to open a safety switch electronically. When using an emergency stop, safety interlock or similar means, the remote operation capability of the shunt trip switch no longer requires personnel to manually open the switch with the handle, enhancing safety and improving productivity.

The shunt trip safety switch can be configured to meet the needs of safety applications in industrial and commercial environments. The switches can be signaled to electronically operate the trip mechanism and interrupt the flow of power when a defined electrical condition is detected via protection relay.

The shunt trip safety switch builds on Eaton's extensive portfolio of safety switch solutions, incorporating a side-handle operation mechanism and visible blade indication that have decades of successful installation and operation.

Product ratings
- UL® 98 file number E5239 (600 Vac maximum)
- CSA® C22.2 No. 4, file number LL69743 (600 Vac maximum)

Note: CSA listing not applicable to integrated arc energy reduction system.

- Enclosure ratings: NEMA® 12/3R/1, 4 (painted steel), 4X (stainless steel)
- 30–1200 A (240–600 Vac)
- Horsepower ratings are the same as Eaton's standard heavy-duty safety switches
- Fusible devices have short-circuit ratings of up to 200 kAIC

Application examples
- Arc energy reduction
- Ground fault
- Remote opening (distant from switch)
- E-stop
- Safety interlocking
- Machinery OEM interlocking
- Cost-effective solution for high-interrupt applications

Key features
- Variety of coil voltages available
- Visible means of disconnect
- Standard heavy-duty safety switch design with integrated shunt trip module
- Passes Class 1 ground fault testing (1200% opening)
- Integral ground fault available for 480 Vac service entrance applications (NEC 230.95)
- Integral arc energy reduction system available (NEC 240.67)
- Overcurrent protection

Product options
Flex Center modifications available, such as viewing windows, pilot lights and more.

- Relay and applicable sensors/CTs available integrated into safety switch.
- When an arc energy reduction relay is integrated into the switch, the relay includes overcurrent protection. A time delay dial sets the overcurrent response curve to allow coordination with the fuse time/current curve.

Eaton's tried and true heavy-duty safety switch line expands to include shunt trip capability—remote switching and visible means of disconnect for commercial and industrial applications.

Integrated arc energy reduction relay and/or ground fault relay complete with viewing/access window available on 400–1200 A switches
### Shunt trip safety switch—240 Vac and 600 Vac—dimensions and ratings

<table>
<thead>
<tr>
<th>Ampere rating</th>
<th>Fuse class</th>
<th>Number of poles</th>
<th>Enclosure dimensions Ø, exterior in inches (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Height (H)</td>
</tr>
<tr>
<td>Fusible</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>H</td>
<td>2, 3 or 4 1</td>
<td>21.58 (548.1)</td>
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<tr>
<td>60</td>
<td>H</td>
<td>2, 3 or 4 1</td>
<td>21.58 (548.1)</td>
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<tr>
<td>100</td>
<td>H</td>
<td>2, 3 or 4 1</td>
<td>24.95 (633.7)</td>
</tr>
<tr>
<td>200</td>
<td>H</td>
<td>2, 3 or 4 1</td>
<td>35.38 (889.7)</td>
</tr>
<tr>
<td>400</td>
<td>H</td>
<td>2, 3 or 4 1</td>
<td>57.47 (1459.7)</td>
</tr>
<tr>
<td>600</td>
<td>H</td>
<td>2, 3</td>
<td>62.97 (1599.4)</td>
</tr>
<tr>
<td>800</td>
<td>L</td>
<td>2, 3</td>
<td>71.72 (1821.7)</td>
</tr>
<tr>
<td>1200</td>
<td>L</td>
<td>2, 3</td>
<td>72.50 (1841.5)</td>
</tr>
<tr>
<td>Non-fusible</td>
<td></td>
<td>2, 3 or 4 2</td>
<td>21.58 (548.1)</td>
</tr>
<tr>
<td>30</td>
<td>—</td>
<td>2, 3 or 4 2</td>
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<td>—</td>
<td>2, 3</td>
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</tr>
</tbody>
</table>

1. Class H fuse clips supplied as standard on fusible devices 30–600 A, Class L for 800 A; Class R, J, T fuse clips available.
2. Accurate for all enclosure NEMA type ratings—12/3R/1, 4, 4X stainless steel.
3. Four-pole devices are wider than dimension for 30, 60 and 100 A devices. Consult factory for details.

### Terminal/lug wire range

<table>
<thead>
<tr>
<th>Ampere rating</th>
<th>Minimum—maximum Wire type</th>
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</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>#14–#2</td>
<td>Cu/Al</td>
<td>400</td>
</tr>
<tr>
<td>60</td>
<td>#14–#2</td>
<td>Cu/Al</td>
<td>600</td>
</tr>
<tr>
<td>100</td>
<td>#14–1/0</td>
<td>Cu/Al</td>
<td>800</td>
</tr>
<tr>
<td>200</td>
<td>#6–300 kcmil</td>
<td>Cu/Al</td>
<td>1200</td>
</tr>
</tbody>
</table>

1. Ampere rating—12/3R/1, 4, 4X stainless steel.
2. Accurate for all enclosure NEMA type ratings.

### Catalog numbering system

- **STS** = Shunt trip switch (UL)
- **CTS** = Shunt trip switch (CSA)
- **NEMA Type enclosure rating**
  - D = NEMA 12/3R/1
  - P = NEMA 4 (painted steel)
  - W = NEMA 4X, Stainless 304
  - X = NEMA 4X, Stainless 316

**Additional options/modifications**

- 00 = No accessories
- CL = Copper lugs
- CP = Control pole
- 0J = Factory-converted provisions for Class J fusing
- 0N = Factory-installed neutral for non-fused switch
- 0T = Factory-converted provisions for Class T fusing
- 0V = Viewing window over switch blades

**Auxiliary switch**

- Blank = No auxiliary switches
- 1 = 1NO/1NC alarm switch only
- 2 = 1NO/1NC auxiliary contact only
- 3 = 2NO/2NC auxiliary contacts only
- 4 = 1NO/1NC auxiliary contact and 1NO/1NC alarm switch
- 5 = 2NO/2NC auxiliary contacts and 1NO/1NC alarm switch

**Type of Protective Relay**

- 0 = No relay
- A = Arc energy reduction relay
- B = Ground fault relay
- C = Arc energy reduction relay/ground fault combination relay

**Shunt trip voltage**

- 0 = No CPT
- 1 = 480 Vac
- 2 = 208 Vac
- 3 = 240 Vac
- 4 = 600 Vac

**CPT voltage**

- 0 = No CPT
- 1 = 480 Vac
- 2 = 208 Vac
- 3 = 240 Vac
- 4 = 600 Vac

**Protection**

- F = Fusible without neutral
- N = Fusible with neutral
- U = Non-fusible

**Terminal/lug wire range**

- 1NO/1NC alarm switch only
- 2NO/2NC auxiliary contacts only
- 1NO/1NC auxiliary contact and 1NO/1NC alarm switch
- 2NO/2NC auxiliary contacts and 1NO/1NC alarm switch

**Maximum system voltage**

- 2 = 240 Vac
- 5 = 600 Vac

**Switch series**

- STS = Shunt trip switch (UL)
- CTS = Shunt trip switch (CSA)

**Number of poles**

- 2 = Two-pole
- 3 = Three-pole
- 4 = Four-pole

**Ampere rating**

- 1 = 30 A
- 5 = 400 A
- 2 = 60 A
- 6 = 600 A
- 3 = 100 A
- 7 = 800 A
- 4 = 200 A
- 8 = 1200 A

1. Relays can only be used with fusible switches.
2. Available for 600 Vac switches only.
3. Shunt trip safety switch with relay protection must use 120 Vac coils.

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