SE Power Relays
Catalog
2021
Designed with heavy-duty contacts coupled with a specialized magnetic armature and coil to provide the necessary power handling, SE Relays easily handle current loads of 20–50 A and can also switch currents as low as 100 mA. With multiple features as well as panel and DIN mounting options, these relays offer the performance and flexibility needed to improve design, expedite installation, and simplify testing of your application.

Key Features
- Rated up to 50 A
- Socket compatible models available
- Blowout magnet options for high DC voltage switching
- Feature-rich covers, mounting options, and accessories to suit a multitude of applications

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  - 300 Series Relays
  - 92 Series Relays
  - 9A Series Relays
- Socket Accessories
- Application Data
- Selection Guide
- Website Guide

### Series Overview

<table>
<thead>
<tr>
<th>Series</th>
<th>Style</th>
<th>Terminals</th>
<th>Contact Configuration</th>
<th>Contact Current Range (A)</th>
<th>Motor Load Ratings</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>199</td>
<td>Open style</td>
<td>Screw</td>
<td>SPST, SPDT, DPST, DPDT</td>
<td>40 to 50</td>
<td>2 hp at 120 to 600 Vac 50/60 Hz</td>
<td>4</td>
</tr>
<tr>
<td>725</td>
<td>Plug-in, DIN and panel mount</td>
<td>Quick Connect and Screw</td>
<td>SPST-NO, DPST-NO</td>
<td>25 to 30</td>
<td>SPST: 1 hp at 120 Vac 50/60 Hz; 3.0 hp at 277 Vac 50/60 Hz; 1.0 hp at 120 Vac 300 Hz; 3.0 hp at 377 Vac 50/60 Hz</td>
<td>9</td>
</tr>
<tr>
<td>389F</td>
<td>Ice cube plug-in and flange mount</td>
<td>Quick Connect</td>
<td>SPST, SPDT, DPST, DPDT</td>
<td>20 to 30</td>
<td>SPST/SPDT/DPST: 1 hp at 120–200 Vac 50/60 Hz; 1.5 hp at 200–600 Vac 50/60 Hz; LRA/FLA: 0.5 hp at 120 Vac 50/60 Hz; 98 A / 22 A at 120 Vac 50/60 Hz; 3PDT: 0.5 hp at 120–200 Vac 50/60 Hz; 98 A / 22 A at 120 Vac 50/60 Hz; 300 A at 240 Vac 50/60 Hz; 3PDT: 0.5 hp at 120–200 Vac 50/60 Hz; 98 A / 22 A at 120 Vac 50/60 Hz; 300 A at 240 Vac 50/60 Hz</td>
<td>14</td>
</tr>
<tr>
<td>300</td>
<td>Flange mount</td>
<td>Quick Connect</td>
<td>DPST-NO</td>
<td>30</td>
<td>1 hp at 120 Vac 50/60 Hz; 2 hp at 208–600 Vac 50/60 Hz</td>
<td>20</td>
</tr>
<tr>
<td>92</td>
<td>DIN and panel mount</td>
<td>Quick Connect</td>
<td>SPST-NO, DPST-NO</td>
<td>30</td>
<td>1 hp at 120 Vac 50/60 Hz; 3 hp at 240 Vac 50/60 Hz; LRA/FLA: 98/22 A at 240 Vac (NO contacts, AC coil); 110/25 A at 240 Vac (NO contacts, DC coil)</td>
<td>23</td>
</tr>
<tr>
<td>9A</td>
<td>Panel mount</td>
<td>Quick Connect</td>
<td>SPST-NO</td>
<td>30</td>
<td>1 hp at 125 Vac 50/60 Hz (NO contact); 2 hp at 250 Vac 50/60 Hz (NO contact)</td>
<td>26</td>
</tr>
</tbody>
</table>
Description

The 199 series open type, heavy duty SE power relays offer high-capacity switching with high dielectric strength.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-power contacts</td>
<td>Increased contact ratings (up to 50 A, 2 hp) and electrical endurance; suitable for high-power switching applications.</td>
</tr>
<tr>
<td>Recessed construction</td>
<td>Helps to increase the mechanical life of the relay.</td>
</tr>
<tr>
<td>Blowout magnet option</td>
<td>Helps to increase DC voltage switching up to 500 V.</td>
</tr>
<tr>
<td>RoHS compliant</td>
<td>Environmentally friendly; complies with the European Restriction of Hazardous Substances directive</td>
</tr>
</tbody>
</table>

Specifications

### SE Power Relays

#### Specifications (UL 508)

<table>
<thead>
<tr>
<th>Part Numbers</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>199AX, 199X, 199ABX, 199BX</td>
<td>Contact Characteristics</td>
</tr>
<tr>
<td>199ADX, 199DX, 199DYX, 199DBX</td>
<td>Contact Configuration: SPST, SPDT, DPST, DPDT</td>
</tr>
<tr>
<td>199AX-1, 199X-1</td>
<td>Contact Material: Silver alloy</td>
</tr>
<tr>
<td>199DX-3</td>
<td>Thermal (Carrying) Current: 40 A</td>
</tr>
<tr>
<td>199ABX-1</td>
<td>Maximum Switching Voltage: 500 Vrms</td>
</tr>
<tr>
<td>199DX-3</td>
<td>Rated Switching Current at Voltage:</td>
</tr>
<tr>
<td>199ABX-1</td>
<td>Resistive:</td>
</tr>
<tr>
<td>199ABX-1</td>
<td>40 A at 300 Vac</td>
</tr>
<tr>
<td>199ABX-1</td>
<td>5 A at 480 Vac</td>
</tr>
<tr>
<td>199ABX-1</td>
<td>5 A at 500 Vac</td>
</tr>
<tr>
<td>199ABX-1</td>
<td>40 A at 28 Vdc</td>
</tr>
<tr>
<td>199ABX-1</td>
<td>Motor: 2 hp at 120–600 Vac</td>
</tr>
<tr>
<td>199ABX-1</td>
<td>Tungsten: 15 A at 120 Vac</td>
</tr>
<tr>
<td>199ABX-1</td>
<td>Maximum Output Voltage: 500 Vrms</td>
</tr>
</tbody>
</table>

#### Specifications (Standard Option)

<table>
<thead>
<tr>
<th>Load Voltage</th>
<th>Contact Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>110 Vac</td>
<td>10 A</td>
</tr>
<tr>
<td>225 Vac</td>
<td>10 A</td>
</tr>
<tr>
<td>325 Vac</td>
<td>4 A</td>
</tr>
<tr>
<td>500 Vac</td>
<td>2 A</td>
</tr>
</tbody>
</table>

#### Specifications (Non-Standard Option)

<table>
<thead>
<tr>
<th>Load Type</th>
<th>Contact Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserve Load 120/250 Vac (50/60 Hz)</td>
<td>10 A</td>
</tr>
<tr>
<td>Motor Load 120/250 Vac (50/60 Hz)</td>
<td>0.25 hp</td>
</tr>
<tr>
<td>Tungsten Load 120 Vac (50/60 Hz)</td>
<td>3 A</td>
</tr>
</tbody>
</table>

#### Specifications (UL 508) Table 1: Additional DC Ratings with Blowout Magnet

<table>
<thead>
<tr>
<th>Load Voltage</th>
<th>Contact Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>110 Vac</td>
<td>10 A</td>
</tr>
<tr>
<td>225 Vac</td>
<td>10 A</td>
</tr>
<tr>
<td>325 Vac</td>
<td>4 A</td>
</tr>
<tr>
<td>500 Vac</td>
<td>2 A</td>
</tr>
</tbody>
</table>

#### Specifications (UL 508) Table 2: Auxiliary Switch Ratings (Non-Standard Option)

<table>
<thead>
<tr>
<th>Load Type</th>
<th>Contact Rating</th>
</tr>
</thead>
</table>
### Table 3: Contact Ratings and Electrical Endurance (per IEC 60947-1, 60947-4-1)

<table>
<thead>
<tr>
<th>Contact Ratings</th>
<th>Load Voltage</th>
<th>Frequency</th>
<th>Load Type</th>
<th>Estimated Electrical Endurance</th>
<th>See Note(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AC Load</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40 A</td>
<td>280 V</td>
<td>50/60 Hz</td>
<td>Resistive</td>
<td>50,000 cycles</td>
<td>1, 3</td>
</tr>
<tr>
<td>2 hp</td>
<td>120–600 V</td>
<td></td>
<td>Motor</td>
<td>50,000 cycles</td>
<td>2, 3</td>
</tr>
<tr>
<td>15 A</td>
<td>120 V</td>
<td></td>
<td>Tungsten</td>
<td>10,000 cycles</td>
<td>3, 4</td>
</tr>
<tr>
<td>A600</td>
<td>—</td>
<td>—</td>
<td>Pilot Duty</td>
<td>100,000 cycles</td>
<td>3</td>
</tr>
<tr>
<td><strong>DC Load</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40 A</td>
<td>28 V</td>
<td>DC</td>
<td>Resistive</td>
<td>100,000 cycles</td>
<td>3</td>
</tr>
<tr>
<td>20 A</td>
<td>220 V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 A</td>
<td>220 V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 A</td>
<td>325 V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 A</td>
<td>500 V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
1. Resistive AC load ratings are based on a power factor of 0.85–1.0.
2. Motor horsepower ratings are based on a power factor of 0.4–0.5, and an initial inrush current not exceeding six times the full-load current.
3. All ratings are based on applying the rated nominal power to the relay coil so as to provide a “clean” make and break that does not result in any contact chatter or multiple actuation of the contacts.
4. The tungsten rating is based on cold-filament inrush current not exceeding 15 times the rated steady-state lamp current.

### Dimensions — inches (millimeters)

**SPDT—Short Base (shown with optional auxiliary switch)**

- 2.06 (52.4)
- 0.31 (8.0)
- 1.84 (47.00)
- 0.19 (4.8)
- 0.61 (15.5)

**SPST-NO-DM**

- 1.98 (50.3)
- 2.5 (63.4)
- 1.84 (47.00)
- 2.49 (63.2)

**DPST-NO**

- 2.31 (58.8)
- 0.31 (8.0)
- 1.84 (47.00)
- 0.19 (4.8)

### Wiring Diagrams

- **SPDT**
- **SPST-NC-DB**
- **SPST-NO-DM**

- **DPDT**
- **DPST-NO**
- **SPST-NO-DM**

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*50 A versions and additional options available. Call Customer Service for more information (847-441-2540).*
The 725 series SE power relays offer high-capacity switching with high dielectric voltage resistance capabilities.

### Description

- **Feature**: High ratings (up to 30 A, 3 hp)
- **Benefit**: Meets demands for high power applications
- **Feature**: 4,000 V dielectric strength (coil to contacts)
- **Benefit**: Helps withstand severe voltage surges and spikes which provides protection for surrounding circuits
- **Feature**: Multiple mounting options
- **Benefit**: Helps to increase functionality and ease of use
- **Feature**: Full-feature cover (Plug-in socket mount)
- **Benefit**: Offers push-to-test button, lock-down door, LED, flag indicators, and ID tag to simplify and expedite installation and testing
- **Feature**: Fingersafe cover (on relays with screw terminals)
- **Benefit**: Helps prevent the operator from touching live circuits (IP20 degree of protection)

### Part Number Explanation

- **Series**: 725
- **Contact Arrangement**: AX = SPST-NO, BX = DPST-NO
- **Coil Voltage**: 6A = 6 Vac
- **Standard Features**: M = Side pushbutton, M4 = Lockable push button and flag
- **Terminal Style**: B = Blade (Plug-in or quick connect), S = Screw terminal

### Rated Contact Current

- **Contact Configuration**: Blade terminals
- **Coil Resistance (Ω)**
- **Mounting Style**: DIN and panel
- **Terminal Style**: Blade terminals
- **Standard Part Number**

### Dimensions

- **Top View**
- **Bottom View**
- **Side View**
- **3 Mounting Holes**
- **14 Holes Tapped #8-32**
- **3.88 Knock-Out Holes**

### Metal Enclosure

- **Covers and protects relays**
- **Approx. 1 lb (16 oz)**
- **For Use with Relays**: 199 Series Relays
- **Packaging Minimum**: 1
- **Standard Part Number**: 50-1289-1

### Accessories

- **Description**: The 50-1289-1 metal enclosure provides cover and protection as well as alternate wiring and mounting options.

### Panel/DIN Mount

- **Features**: Full-feature cover
- **Description**: Helps to increase functionality and ease of use
- **Feature**: Fingersafe cover
- **Benefit**: Helps prevent the operator from touching live circuits (IP20 degree of protection)

### Panel/DIN Mount with blade terminals

- **Features**: Multiple mounting options
- **Benefit**: Helps to increase functionality and ease of use
- **Standard Features**: M = Side pushbutton, M4 = Lockable push button and flag

### Panel/DIN Mount with screw terminals

- **Features**: Multiple mounting options
- **Benefit**: Helps to increase functionality and ease of use
- **Standard Features**: M = Side pushbutton, M4 = Lockable push button and flag

### Metal Enclosure Covers and protects relays

- **Approx. 1 lb (16 oz)**
- **For Use with Relays**: 199 Series Relays
- **Packaging Minimum**: 1
- **Standard Part Number**: 50-1289-1

### Panel/DIN Mount

- **Features**: Multiple mounting options
- **Benefit**: Helps to increase functionality and ease of use
- **Standard Features**: M = Side pushbutton, M4 = Lockable push button and flag

### Panel/DIN Mount with blade terminals

- **Features**: Multiple mounting options
- **Benefit**: Helps to increase functionality and ease of use
- **Standard Features**: M = Side pushbutton, M4 = Lockable push button and flag

### Panel/DIN Mount with screw terminals

- **Features**: Multiple mounting options
- **Benefit**: Helps to increase functionality and ease of use
- **Standard Features**: M = Side pushbutton, M4 = Lockable push button and flag

### Metal Enclosure

- **Covers and protects relays**
- **Approx. 1 lb (16 oz)**
- **For Use with Relays**: 199 Series Relays
- **Packaging Minimum**: 1
- **Standard Part Number**: 50-1289-1

### Accessories

- **Description**: The 50-1289-1 metal enclosure provides cover and protection as well as alternate wiring and mounting options.

### Panel/DIN Mount

- **Features**: Multiple mounting options
- **Benefit**: Helps to increase functionality and ease of use
- **Standard Features**: M = Side pushbutton, M4 = Lockable push button and flag

### Panel/DIN Mount with blade terminals

- **Features**: Multiple mounting options
- **Benefit**: Helps to increase functionality and ease of use
- **Standard Features**: M = Side pushbutton, M4 = Lockable push button and flag

### Panel/DIN Mount with screw terminals

- **Features**: Multiple mounting options
- **Benefit**: Helps to increase functionality and ease of use
- **Standard Features**: M = Side pushbutton, M4 = Lockable push button and flag
**Specifications**

**SE Power Relays**

**725**

SPST-NO, 30 A; DPST-NO, 25 A

<table>
<thead>
<tr>
<th>Specifications</th>
<th>SE Power Relays</th>
<th>Dimensions, Wiring Diagrams</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part Number</strong></td>
<td>725AXX</td>
<td>725BXX</td>
</tr>
<tr>
<td><strong>Contact Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact Configuration</td>
<td>SPST-NO</td>
<td>DPST-NO</td>
</tr>
<tr>
<td>Contact Material</td>
<td>Silver alloy</td>
<td></td>
</tr>
<tr>
<td><strong>Thermal (Ramping) Current</strong></td>
<td>10 A</td>
<td>25 A</td>
</tr>
<tr>
<td><strong>Maximum Switching Voltage</strong></td>
<td>100 V</td>
<td></td>
</tr>
<tr>
<td>Current Ratings at Voltage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resitive:</td>
<td>25 A at 277 Vac; 50/60 Hz, 6,000 cycles</td>
<td>25 A at 277 Vac; 50/60 Hz, 6,000 cycles</td>
</tr>
<tr>
<td>Motor:</td>
<td>1.5 hp at 120 Vac 50/60 Hz</td>
<td>1.0 hp at 120 Vac 50/60 Hz</td>
</tr>
<tr>
<td></td>
<td>1.5 hp at 277 Vac 50/60 Hz, 6,000 cycles</td>
<td>2.0 hp at 277 Vac 50/60 Hz, 6,000 cycles</td>
</tr>
<tr>
<td>Tungsten:</td>
<td>1.5 kW at 120 Vac 50/60 Hz, 6,000 cycles</td>
<td>1.3 kW at 120 Vac 50/60 Hz, 6,000 cycles</td>
</tr>
<tr>
<td><strong>Minimum Switching Requirement</strong></td>
<td>100 mA at 5 Vdc (±5%)</td>
<td></td>
</tr>
<tr>
<td><strong>Coil Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coil Voltage Range</td>
<td>6–240 Vac; 50/60 Hz (A1 AC coils are rectified).</td>
<td>6–110 Vac</td>
</tr>
<tr>
<td>Operating Range (% of Nominal)</td>
<td>75%–110% (AC/DC)</td>
<td></td>
</tr>
<tr>
<td>Average Consumption</td>
<td>2.9 VA (AC); 1.9 W (DC)</td>
<td></td>
</tr>
<tr>
<td>Insulation System Per UL 508</td>
<td>Class B (130 °C)</td>
<td></td>
</tr>
<tr>
<td><strong>General Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Life at Rated Load</td>
<td>See &quot;Current Ratings at Voltage&quot;</td>
<td></td>
</tr>
<tr>
<td>Mechanical Life at No Load (Unpowered)</td>
<td>5,000,000 operations</td>
<td></td>
</tr>
<tr>
<td>Operate Time at Nominal Coil Voltage</td>
<td>30 ms (max)</td>
<td></td>
</tr>
<tr>
<td>Release Time at Nominal Coil Voltage</td>
<td>30 ms (max)</td>
<td></td>
</tr>
<tr>
<td><strong>Dielectric Strength</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coil—contacts: 4,000 V (rms)</td>
<td>Across open contacts: 2,000 V (rms) (DPST NO version only)</td>
<td>Insulation resistance: 1,000 MQ at 500 Vdc (minimum)</td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>-20 to +105 °C (4 to +221 °F)</td>
<td></td>
</tr>
<tr>
<td>Quick Connect Terminals</td>
<td>0.25 x 0.031 in (6.35 x 0.80 mm)</td>
<td></td>
</tr>
<tr>
<td>Screw Terminals</td>
<td>Coil: M3.5 combination head</td>
<td>Contacts: M4 combination head</td>
</tr>
<tr>
<td>Screw Terminal Torque</td>
<td>Load: 10 AWG (2.5 mm²); Coarse; 12 AWG (3.5 mm²)</td>
<td></td>
</tr>
<tr>
<td>Screw Terminal Maximum Wire Gauge</td>
<td>Coarse; 1.2 mm; 2.3 Nm (26.3 lb in) maximum</td>
<td></td>
</tr>
<tr>
<td>Cover Protection Category</td>
<td>IP20 (screw terminals only)</td>
<td></td>
</tr>
<tr>
<td><strong>Agency Certifications</strong></td>
<td>UL Listed (E43641), CSA (168986), CE (per IEC 60947-1), RoHS</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Actual product performance may vary depending on application and environmental conditions.

1 For available standard coil voltages, refer to the standard part number table on page 9.
SE Power Relays
725
Socket, 70-725-1; Panel Mount Adapter, 16-725C1
Spring Clip, 16-725SC; Socket Modules, 70-ASM

Relay Accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Function</th>
<th>For Use with Relays</th>
<th>Packaging Minimum</th>
<th>Standard Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socket</td>
<td>Offers an alternate installation option for plug-in models</td>
<td>725 Relays, Panel</td>
<td>10</td>
<td>70-725-1</td>
</tr>
<tr>
<td>Panel Mount Adapter</td>
<td>Provides additional panel mount option for plug-in socket mount cover</td>
<td>725 Relays</td>
<td>10</td>
<td>16-725SC</td>
</tr>
</tbody>
</table>

Socket Accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Function</th>
<th>Coil Voltage</th>
<th>For Use with Sockets</th>
<th>Packaging Minimum</th>
<th>Standard Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED indicator</td>
<td>Connects to the relay for LED indication</td>
<td>120/240 Vac/Vdc</td>
<td>70-725-1</td>
<td>10</td>
<td>70-ASM-LG-110/240</td>
</tr>
<tr>
<td>MOV suppressor</td>
<td>Protects the relay from overvoltage</td>
<td>24 Vac/Vdc</td>
<td>70-725-1</td>
<td>10</td>
<td>70-ASM-MOV-24</td>
</tr>
<tr>
<td>Protection diode</td>
<td>Protects the relay from overcurrent</td>
<td>6-250 Vac</td>
<td>70-725-1</td>
<td>10</td>
<td>70-ASM-D-250</td>
</tr>
<tr>
<td>RC circuit</td>
<td>Reduces noise in high-vibration conditions</td>
<td>240 Vac</td>
<td>70-725-1</td>
<td>10</td>
<td>70-ASM-RC-240</td>
</tr>
</tbody>
</table>

Spring Clip                   | Relay retention in high-vibration conditions                              | N/A                | 10                 | 16-725SC            |

* Use of LED or RC socket module may increase coil power draw by up to 10%. See page 30 for more information.

Socket Specifications (UL 508)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>70-725-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Terminals</td>
<td>6</td>
</tr>
<tr>
<td>Nominal Voltage Rating</td>
<td>300 V</td>
</tr>
<tr>
<td>Nominal Current Rating</td>
<td>30 A</td>
</tr>
<tr>
<td>Dielectric Strength</td>
<td>Between adjacent output terminals: 1500 V/mm; Terminals to rail/chassis: 1500 V/mm</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>Operation: -40 to +150 °C (-40 to +302 °F)</td>
</tr>
<tr>
<td>Protection Category</td>
<td>IP50</td>
</tr>
<tr>
<td>Internal Metal Tracks</td>
<td>Copper alloy, Tin plated</td>
</tr>
<tr>
<td>Screw Terminals</td>
<td>Steel, zinc-plated combination head</td>
</tr>
<tr>
<td>Maximum Screw Torque</td>
<td>10.8 lbf-in (1.2 N·m)</td>
</tr>
<tr>
<td>Mounting Style</td>
<td>30 mm DIN rail</td>
</tr>
<tr>
<td>Wire Connector Method</td>
<td>Screw terminate</td>
</tr>
<tr>
<td>Wire Size</td>
<td>Solid Cu: one 10 AWG (6.0 mm²); two 10–20 AWG (0.5–6.0 mm²)</td>
</tr>
<tr>
<td>Flammability Rating</td>
<td>94 V-0</td>
</tr>
<tr>
<td>Weight</td>
<td>2.4 or 9.7 oz</td>
</tr>
</tbody>
</table>

Agency Certifications
- UL Listed (E43941), CSA (168986), CE (PER IEC 61810), RoHS

Dimensions, Wiring Diagram

Dimensions — inches (millimeters)

Relay Mounting Example

Wiring Diagram

70-725-1

A1

A2

70-725-1
The 389F series SE power relays offer a broad range of contact ratings along with a variety of mounting options and accessories, making it the ideal solution for a variety of application requirements.

**Contact Characteristics**

- **Contact Configuration:** SPDT, DPDT, 2–25 A; SPST, 25–30 A; 3PDT, 20 A
- **Contact Material:** Silver alloy
- **Thermal (Carrying) Current:**
  - 20 A
  - 25 A
- **Maximum Switching Voltage:**
  - 120 V
  - 240 V
  - 24 Vac
- **Rated Switching Current at Voltage:**
  - 200 Vac = 15 A
  - 110 Vac = 10 A
  - 120 A = 15 A
  - 24 Vac = 30 A
  - 600 Vac = 10 A
- **Rated Switching Current at Voltage (Unpowered):**
  - 250 Vac = 40 A
  - 250 A = 10 A
- **Current Ratings at Voltage (Conforming to UL):**
  - Resistive: 25 A at 250 Vac
  - Pilot Duty: 300 A at 250 Vac
- **Dielectric Strength Between coil and contact:**
  - 2200 Vac
- **Operate Time at Nominal Coil Voltage:**
  - 20 ms
- **Drop-out Voltage Threshold:**
  - 10% minimum
- **Average Consumption:**
  - 2 VA (AC);
  - 1.5 W (DC)
- **Operating Temperature Range:**
  - 85%–110% (AC);
  - 80%–110% (DC)
- **Storage Temperature Range:**
  - 2200 Vac
- **Weight (Average):**
  - 84 g
- **Agency Certifications:**
  - UL Listed (File 164982), CSA (225619), CE (per IEC 60947-1, RoHS)

**Specifications**

- **Part Number:**
  - 389F
  - XAX, XBX
  - FXC
  - FXH, HXX

**Note:** Actual product performance may vary depending on application and environmental conditions. For available standard coil voltages, refer to the standard part number table on page 14. The NO and NC contacts were tested independently. * Break all lines for 1 hp at 600 Vac, 50/60 Hz.

**Agency Certifications:**

- UL Listed (File 164982), CSA (225619), CE (per IEC 60947-1, RoHS)

**Part Number Explanation**

<table>
<thead>
<tr>
<th>Series</th>
<th>389F</th>
<th>XAX</th>
<th>XBX</th>
<th>389FMCX</th>
<th>389FXH, HXX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Configuration</td>
<td>SPDT</td>
<td>DPDT</td>
<td>3PDT</td>
<td>389F-MCXM</td>
<td>389FXHX, HXX</td>
</tr>
<tr>
<td>Cover Style</td>
<td>C = Plug-in socket mount</td>
<td>C1 = Side flange mount</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**SE Power Relays**

**Accessories**

389F

**Socket**

- 70-788EL11-1

**Relay Accessories**

- Relay unspecified

**Socket Accessories**

- LED indicator
- MOV suppressor
- Protection diode
- RC circuit
- ID Tag/Label
- Panel Mount Adapter
- DIN Rail Clip

**Relay Mounting Example**

- 70-788EL11-1
- 70-ASM
- 16-750/788FT-1
- 16-788C1
- 16-DCLIIF-1

**Socket Specifications (UL 508)**

- Part Number: 70-788EL11-1
- Number of Terminals: 11
- Nominal Voltage Rating: 300 V
- Nominal Current Rating: 25 A
- Dielectric Strength: Between adjacent output terminals: 3000 V(rms);
  Output to input terminals: 3000 V(rms);
  Terminals to rail/chassis: 3000 V(rms)
- Temperature Range: Operation: −40 to +80 °C (−40 to +176 °F);
  Storage: −40 to +105 °C (−40 to +221 °F)
- Protection Category: IP20
- Internal Metal Tracks: Copper alloy, Tin plated
- Screw Terminals: Steel, Zinc plated combination head
- Maximum Screw Torque: 9.0 lb-in (1.0 N•m)
- Mounting Style: 35 mm DIN rail; mounts to panel with 16-788C1 adapter
- Wire Connection Method: Elevator terminals
- Wire Size: Solid Cu: two 10–12 AWG (4.0–6.0 mm²);
  Stranded Cu: two 10–12 AWG (4.0–6.0 mm²)
- Flammability Rating: 94V-0
- Weight: 3.39 oz (96 g)

**Agency Certifications**

- UL Listed (E70550), CSA (40787), CE (per IEC 61984), RoHS

---

**Dimensions, Wiring Diagrams**

**Dimensions — inches (millimeters)**

- Plug-in Cover Style
- Side Flange Cover Style

**Wiring Diagrams**

- SPDT
- DPDT
- 3PDT
- SPDT-OS-DM
- SPST-NO-(DM)

**Description**

The 389F accessories create a complete system solution for all your application needs.
**Dimensions**

**SE Power Relays**  
389F  
Socket, 70-788EL11-1

---

**Wiring Diagram**

**SE Power Relays**  
389F  
Socket, 70-788EL11-1

---
Specifications (UL 508)

Part Number: 300XBX1

Contact Characteristics
- Contact Configuration: DPDT
- Contact Material: Silver alloy
- Thermal (Carrying) Current: 30 A
- Maximum Switching Voltage: 600 V
- Current Ratings at Voltage:
  - Resistive: 30 A at 300 Vac 50/60 Hz, 30 A at 28 Vdc, NO 100,000 cycles, NC 6,000 cycles; 15 A at 600 Vac 50/60 Hz, 100,000 cycles
  - Motor: 1 hp at 120 Vac 50/60 Hz, 6,000 cycles; 2 hp at 208–600 Vac 50/60 Hz, 6,000 cycles
  - Pilot Duty: 5.5 A at 120 Vac 50/60 Hz, 6,000 cycles; 1.2 A at 600 Vac 50/60 Hz, 6,000 cycles
- Minimum Switching Requirement: 500 mA at 5 Vdc

Coil Characteristics
- Coil Voltage Range: 12–240 Vac 50/60 Hz; 12–24 Vdc
- Operating Range (% of Nominal): 85%–110% (AC); 80%–110% (DC)
- Average Consumption: 3.4 VA (AC at 60 Hz); 2.3 W (DC)
- Drop-out Voltage Threshold: 15% (AC); 10% (DC)

General Characteristics
- Electrical Life at Rated Load: 6,000 operations
- Mechanical Life at No Load (Unpowered): 5,000,000 operations
- Operate Time at Nominal-Coil Voltage: 20 ms
- Dielectric Strength: Between coil and contact: 4000 Vac; Between poles: 2500 Vac; Between contacts: 2500 Vac
- Operating Temperature Range: -40 to +55 °C (−40 to +131 °F)
- Storage Temperature Range: -40 to +85 °C (−40 to +185 °F)
- Weight (Average): without blowout magnet: 95 g (3.4 oz) with blowout magnet: 105 g (3.9 oz)

Agency Certifications: UL (E164862), CSA (225619), RoHS

Note: Actual product performance may vary depending on application and environmental conditions.
1 For additional ratings with blowout magnet, refer to “Table 3: Additional DC Ratings with Blowout Magnet” below.
2 Break all lines for 2 hp / 480–600 Vac, 50/60 Hz.
3 For available standard coil voltages, refer to the standard part number table on page 20.

Table 3: Additional DC Ratings with Blowout Magnet

<table>
<thead>
<tr>
<th>Load Voltage</th>
<th>Contact Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>150 Vdc</td>
<td>5 A</td>
</tr>
</tbody>
</table>

Related Contact Currents

<table>
<thead>
<tr>
<th>Contact Configuration</th>
<th>Coil Voltage</th>
<th>Coil Resistance (Ω)</th>
<th>Cover Style</th>
<th>Standard Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPDT</td>
<td>12 Vac</td>
<td>13.5</td>
<td>Side flange mount</td>
<td>300XBXC1-12A</td>
</tr>
<tr>
<td></td>
<td>24 Vac</td>
<td>54</td>
<td>Side flange mount</td>
<td>300XBXC1-24A</td>
</tr>
<tr>
<td></td>
<td>30 Vac</td>
<td>150</td>
<td>Side flange mount</td>
<td>300XBXC1-30A</td>
</tr>
<tr>
<td></td>
<td>240 Vac</td>
<td>5400</td>
<td>Side flange mount</td>
<td>300XBXC1-240A</td>
</tr>
<tr>
<td></td>
<td>12 Vac</td>
<td>57</td>
<td>Side flange mount</td>
<td>300XBXC1-12D</td>
</tr>
<tr>
<td></td>
<td>24 Vac</td>
<td>300</td>
<td>Side flange mount (with magnetic blowout)</td>
<td>300XBXC1-24D</td>
</tr>
</tbody>
</table>

Part Number Explanation

- Series: 300
- Contact Arrangement: XBX = DPDT
- Blowout Magnet: 69 = Blowout magnet

Description

The 300 series SE power relays offer high-amperage DPDT performance in a standard flange-mounting device. Combined with the optional blowout magnet feature, the 300 series is designed for high-voltage DC or AC switching.
The 92 series SE power relays offer a small package size and features Class F insulation for a maximum coil temperature of 155 °C (311 °F). These power relays meet UL508 spacing and are directly DIN or panel mountable.

**Dimension — inches (millimeters)**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Side Flange Mount Cover</td>
<td></td>
</tr>
<tr>
<td>0.07 Max</td>
<td>(1.9)</td>
</tr>
<tr>
<td>0.18 Max</td>
<td>(4.5)</td>
</tr>
<tr>
<td>0.37 Max</td>
<td>(9.5)</td>
</tr>
<tr>
<td>0.49 Max</td>
<td>(12.5)</td>
</tr>
<tr>
<td>0.63 Typ</td>
<td>(16)</td>
</tr>
<tr>
<td>0.73 Typ</td>
<td>(18.5)</td>
</tr>
<tr>
<td>1.36 Max</td>
<td>(34.5)</td>
</tr>
<tr>
<td>1.49 Max</td>
<td>(37.8)</td>
</tr>
</tbody>
</table>

**Wiring Diagram**

- **Series:** 92
- **Cover:** S = Dust cover
- **Contact Configuration:** 7 = DPST-NO, 11 = DPDT
- **Mounting Style:** 22D = DIN rail and panel mount cover
- **Coil Type:** A = AC, D = DC
- **Coil Voltage:** 12 = 12 V, 24 = 24 V, 120 = 120 V, 240 = 240 V

Note: Available coil voltages include 12 Vdc, 24 Vac, 24 Vdc, 120 Vac, and 240 Vac.
Specifications

SE Power Relays

24 VA −20% / +10% (AC); 1.7 W −20% / +10% (DC)

Note: Actual product performance may vary depending on application and environmental conditions.

Agency Certifications
- UL Listed (E164862), CSA (225619), CE (per IEC 60947-1), RoHS

Conformity to Standards
- IEC/EN 61810-1, UL 508, CSA C22-2 n°14

Weight (Average) 0.082 kg (0.181 oz)

Shock Resistance 10 g-n (in operation) / 30 g-n (not in operation)

Vibration Resistance ± 1 mm (10–35 Hz) and 3 g-n (35–150 Hz)

Operating Temperature
- Dielectric Strength Between coil and contact: 4000 Vac
- Rated Impulse Withstand 4000 V (1.2/50 μs)
- Thermal (Carrying) Current 30 A
- Thermal (Carrying) Current 30 A (NO); 3 A (NC)

Contact Material
- Silver alloy
- Contact Configuration DPST-NO, DPDT

Load (Unpowered)

Switching Time
- Mechanical Life at No Load (Unpowered) 5,000,000 operations
- Operating Time (Response Time) at Nominal Coil Voltage 25 ms maximum

Resistive load

Maximum Switching Capacity on DC Resistive Load
Note: These curves are for reference only and are typical values only. Actual performance depends on the actual load, environment, duty cycle, and other conditions specific to the application.

Dimensions — inches (millimeters)

Specifications (continued), Dimensions, Wiring Diagrams

SE Power Relays

92
DPST-NO, 30 A;
DPDT, 30 A (NO) / 3 A (NC)

Specifications (continued)

Electrical durability of contacts, IEC ratings

Resistive load

AC reduction coefficient for inductive load

Duty (Load Factor) x Duty (Resistance Load) x Reducing Coefficient

Maximum switching capacity on DC resistive load

Dimensions

DPST-NO (2 NO):

DPDT (2 CO):

Wiring Diagrams

DPST-NO (2 NO):

DPDT (2 CO):
### Description

The 9A series SE power relays offer robust performance in applications such as HVAC, motor controls, and alarm systems.

#### Part Number Explanation

- **Series:** 9A
- **Cover:** 5 = SPST-NO
- **Contact Configuration:** 7 = SPDT

#### Specifications (UL60947-4-1)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>9AS3</th>
<th>9AS7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact Configuration:</td>
<td>SPST-NO</td>
<td>SPDT</td>
</tr>
<tr>
<td>Contact Material:</td>
<td>Steel alloy</td>
<td></td>
</tr>
<tr>
<td>Thermal (Carrying) Current:</td>
<td>30 A</td>
<td>30 A (NO)</td>
</tr>
<tr>
<td>30 A (NO): 20 A (NC)</td>
<td>20 A (NC)</td>
<td></td>
</tr>
<tr>
<td><strong>Maximum Switching Voltage</strong></td>
<td>277 Vac / 28 Vdc</td>
<td></td>
</tr>
<tr>
<td><strong>Current Ratings at Voltage</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Specifications

- **Routine LRA/FLA:**
  - AC-8a, LRA/FLA 30/12 A, 240 Vac, 30,000 cycles, 40°C (104°F)
  - NC: AC-8a, LRA/FLA 33/10 A, 277 Vac, 30,000 cycles, 40°C (104°F)

- **Ballast:**
  - NO: AC-5a, Ballast 10 A, 277 Vac, 6,000 cycles, 40°C (104°F)
  - NC: AC-5a, Ballast 3 A, 277 Vac, 6,000 cycles, 40°C (104°F)

- **Pilot Duty:**
  - NO: Pilot duty 470 VA, 240 Vac, 6,000 cycles, 40°C (104°F)
  - NC: Pilot duty 275 VA, 240 Vac, 6,000 cycles, 40°C (104°F)

#### Minimum Switching Requirement

- 1A at 12 Vac, 5 Vdc

#### Coil Characteristics

- **Coil Voltage Range:** 12-240 Vac, 50/60 Hz, 5-24 Vdc
- **Operating Range [% of Nominal]:**
  - 85%-110% (AC)
  - 80%-110% (DC)
- **Average Consumption:**
  - 0.9 VA (AC)
  - 0.9 W (DC)
- **Insulation System:** Class F (155°C / 311°F)
- **Drop-out Voltage Threshold:** 10% (DC), 20% (AC)

Note: Actual product performance may vary depending on application and environmental conditions.

1. For available standard coil voltages, refer to the standard part number table on page 26.
**SE Power Relays**

**9A**

**SPST-NO, 30 A; SPDT, 30 A (NO) / 20 A (NC)**

### Dimensions, Wiring Diagrams

#### Part Number

<table>
<thead>
<tr>
<th>9AS3</th>
<th>9AS7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Electrical Life at Rated Load</td>
<td>100,000 cycles, unless otherwise specified under “Current Ratings at Voltage”</td>
</tr>
<tr>
<td>Mechanical Life at No Load (Unpowered)</td>
<td>10,000,000 operations</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40 to +85 °C (-40 to +185 °F)</td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>-40 to +85 °C (-40 to +185 °F)</td>
</tr>
<tr>
<td>Vibration Resistance</td>
<td>&lt; ~0.75 mm / 10-55 Hz</td>
</tr>
<tr>
<td>Shock Resistance</td>
<td>50 g</td>
</tr>
<tr>
<td>Weight (Average)</td>
<td>32 g (1.13 oz)</td>
</tr>
</tbody>
</table>

Note: Actual product performance may vary depending on application and environmental conditions.

#### SPDT/SPST-NO dimensions — inches (millimeters)

<table>
<thead>
<tr>
<th>Description</th>
<th>Function</th>
<th>For Use with Relays</th>
<th>Packaging Minimum</th>
<th>Standard Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIN Rail Adapter</td>
<td>Enables the 9A relay to be mounted directly to a DIN rail</td>
<td>SA series relays</td>
<td>10</td>
<td>16-9ADIN-1</td>
</tr>
</tbody>
</table>

**Coil Terminals:**

For #6 screw (Max Tightening Torque: 1 N•m / 8.9 lb-in)

**Contact Terminals:**

For #6 screw (Max Tightening Torque: 1 N•m / 8.9 lb-in)

**Dimensions — inches (millimeters)**

![Wiring Diagrams](image)

**Accessories**

**SE Power Relays**

**9A**

**DIN Rail Adapter, 16-9ADIN-1**

**Description**

The 16-9ADIN-1 DIN rail adapter provides the mounting flexibility needed to mount the 9A power relay in a panel board or control box.

**Dimensions — inches (millimeters)**

![Dimensions Diagram](image)
## Description

**Socket Modules, 70-ASM; Metal DIN Rail, 16-700DIN; DIN Rail Clip, 16-DCLIP; ID Tags/Labels, 16-750/788FT-1**

### LED Indicator
- Verifies that power is being supplied to the coil. Ideal for both AC and DC applications. Polarity sensitive for DC applications.
- **Socket Module**: 110/240 Vac/Vdc
  - **Standard Part Number**: 70-ASM/LG-110/240
- **Standard Part**: 10

### MOV Suppressor
- Protects by shunting potentially damaging electrical spikes away from the relay coil. Ideal for AC and DC applications.
- **Socket Module**: 24 Vac/Vdc
  - **Standard Part Number**: 70-ASM/S-24
- **Standard Part**: 10

### Protection Diode
- Protects external drive circuitry from inductive voltages generated when removing coil voltage. DC applications only. Polarity sensitive.
- **Socket Module**: 6–250 Vdc
  - **Standard Part Number**: 70-ASM/D-250

### ID Tag/Label
- Identification of circuits in multi-relay applications.
- **Socket Module**: N/A
  - **Standard Part Number**: 16-750/788FT-1

### DIN Rail Clip
- Helps to hold sockets firmly in place on the DIN rail.
- **Socket Module**: N/A
  - **Standard Part Number**: 16-DCLIP-1

*Use of LED and RC modules may increase coil power draw up to 10%.

## Dimensions — inches (millimeters)

### 70-ASM Socket Modules
- **LED (only on LED modules)**
  - **Max.**: 1.60 (41.22)

### 16-DCLIP-1 DIN Rail Clip
- **Max.**: 1.55 (40.0)

### 16-750/788FT-1 ID Tag/Label
- **Max.**: 0.55 (14.2)

### 16-700DIN Metal DIN Rail
- **Max.**: 39.3 (1000)

## Wiring Diagrams

### 70-ASM Socket Modules
- **LED Indicator**
- **MOV Suppressor**
- **Protection Diode**
- **RC Suppressor**

## Note
- The lips at base of DIN rail may or may not be present on DIN rail extrusions.

### Dimensions (continued), Wiring Diagrams

**Socket Accessories**

**Socket Modules, 70-ASM; Metal DIN Rail, 16-700DIN; DIN Rail Clip, 16-DCLIP; ID Tags/Labels, 16-750/788FT-1**

### Dimensions — inches (millimeters)

<table>
<thead>
<tr>
<th>Socket Module*</th>
<th>Description</th>
<th>Coefficient</th>
<th>Packaging Minimum</th>
<th>Standard Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>70-ASM/LG-110/240</td>
<td>LED Indicator</td>
<td>110/240 Vac/Vdc</td>
<td>10</td>
<td>70-ASM/LG-110/240</td>
</tr>
<tr>
<td>70-ASM/S-24</td>
<td>MOV Suppressor</td>
<td>24 Vac/Vdc</td>
<td>10</td>
<td>70-ASM/S-24</td>
</tr>
<tr>
<td>70-ASM/D-250</td>
<td>Protection Diode</td>
<td>6–250 Vdc</td>
<td>10</td>
<td>70-ASM/D-250</td>
</tr>
<tr>
<td>N/A</td>
<td>ID Tag/Label</td>
<td>N/A</td>
<td>10</td>
<td>16-750/788FT-1</td>
</tr>
<tr>
<td>N/A</td>
<td>DIN Rail Clip</td>
<td>N/A</td>
<td>10</td>
<td>16-DCLIP-1</td>
</tr>
</tbody>
</table>

### Dimensions — millimeters

<table>
<thead>
<tr>
<th>Socket Module*</th>
<th>Description</th>
<th>Coefficient</th>
<th>Packaging Minimum</th>
<th>Standard Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>70-ASM/LG-110/240</td>
<td>LED Indicator</td>
<td>110/240 Vac/Vdc</td>
<td>10</td>
<td>70-ASM/LG-110/240</td>
</tr>
<tr>
<td>70-ASM/S-24</td>
<td>MOV Suppressor</td>
<td>24 Vac/Vdc</td>
<td>10</td>
<td>70-ASM/S-24</td>
</tr>
<tr>
<td>70-ASM/D-250</td>
<td>Protection Diode</td>
<td>6–250 Vdc</td>
<td>10</td>
<td>70-ASM/D-250</td>
</tr>
<tr>
<td>N/A</td>
<td>ID Tag/Label</td>
<td>N/A</td>
<td>10</td>
<td>16-750/788FT-1</td>
</tr>
<tr>
<td>N/A</td>
<td>DIN Rail Clip</td>
<td>N/A</td>
<td>10</td>
<td>16-DCLIP-1</td>
</tr>
</tbody>
</table>

*Use of LED and RC modules may increase coil power draw up to 10%.
Definition
An electromechanical relay (EMR) is an electrically operated switch which enables current to flow through it on one circuit and can switch a current on and off on a second circuit. SE Power relays can handle higher power loads, and are typically rated at 20 A and above.

Principle of Operation
A simple electromechanical relay consists of a coil of wire surrounding an iron core, a yoke, a movable armature, and one or more sets of contacts. The armature is hinged to the yoke and mechanically linked to one or more sets of moving contacts. When an electric current is passed through the coil it generates a magnetic field that attracts the armature, and the consequent movement of the movable contact(s) either makes or breaks (depending on the configuration) with a fixed contact. When the current to the coil is switched off, a spring returns the armature to its original position.

Types of Relay Contacts
- Normally open (NO) contacts connect the circuit when the relay is activated; the circuit is disconnected when the relay is inactive. It is also called a Form A contact or "make" contact.
- Normally closed (NC) contacts disconnect the circuit when the relay is activated; the circuit is connected when the relay is inactive. It is also called a Form B contact or "break" contact.
- Change-over (C/O), or double-throw (DT), contacts control two circuits: one normally open contact and one normally closed contact with a common terminal. It is also called a Form C contact or "transfer" contact ("break before make").

Contact Configurations
- SPST – Single Pole Single Throw is used for normally open (SPST-NO) and normally closed contacts (SPST-NC).
- SPDT – Single Pole Double Throw is sometimes referred to as single change-over or 1 C/O.
- DPST – Double Pole Single Throw has two pairs of terminals making it equivalent to two SPST switches or relays actuated by a single coil. The contacts may be normally open (DPST-NO) or normally closed (DPST-NC).
- DPDT – Double Pole Double Throw is sometimes referred to as two change-over or 2 C/O.

The "S" (Single Pole) or "D" (Double Pole) may be replaced with a number, indicating multiple poles. For example 4PDT indicates a four pole double throw relay.

Advantages
Relays are used where it is necessary to control a circuit by a low-power signal (with complete electrical isolation between control and controlled circuits), or where several circuits must be controlled by one signal. The advantages of power relays include:
- Can withstand current surges and voltage spikes
- Higher dielectric strength provides better line to load separation
- Broad contact current range available, from 100 mA to 50 A
- Multiple poles available to control separate voltages and circuits simultaneously
- Various contact configurations also available, including normally open (NO or Form A), normally closed (NC or Form B), double throw (DT or Form C), double make (DM), and double break (DB)
- Wide ambient temperature range
- No leakage current or ON-state voltage drop

Applications
Designed with heavy-duty contacts coupled with a specialized magnetic armature and coil to provide the necessary power and contact force, SE Relays easily handle current loads of 20–50 A. With multiple features as well as panel and DIN mounting options, these relays offer the performance and flexibility needed to improve design, expedite installation, and simplify testing of your application.

Typical Examples of Power Relay Applications

- **Automation Panels**
  - Process controls, motor controls, standby lighting

- **Food & Beverage**
  - Commercial/industrial cooking equipment, filtration systems, bottling, chillers, convection ovens

- **Packaging Machinery**
  - Conveyor motors, food processors, product/shrink wrap, solenoid controls

- **Lighting Control**
  - Traffic signal systems, motorway information systems, theatrical lighting, ballast lighting

- **Power Supplies**
  - Universal power supplies, battery backup systems

- **Material Handling**
  - Motor control, conveyor controls

- **HVAC & Refrigeration**
  - Anti-condensation equipment, compressor controls, blower controls, motorized duct/vent controls

- **Appliances**
  - Air conditioners, water heaters, portable heaters, spa controls, water pumps
A Complete Range of SE Power Relays
Depending on the application, the line of power relays offers a number of advantages, including high contact ratings (up to 50 A), feature-rich covers, mounting options and accessories to suit a multitude of applications.

Selecting a Power Relay
The list below is an example of the specifications to look for when selecting a power relay.

Use the catalog specifications or online parametric search to determine a recommended part number (www.se.com).

Contract rating(s): ________________
Contact configuration: ________________
Mounting style: ________________
Coil voltage: ________________
Features and Accessories: ________________

Easily find the proper relay to fit design requirements

- Online Catalog
  Find the right product by choosing specifications, compare products side-by-side, and view technical specifications, 2D and 3D drawings, and associated accessories.

- Cross Reference Search
  Search our comprehensive database to identify products by manufacturer and part number, and link directly to part specifications.

- 3D CAD Library
  View, email, download, or insert a file directly into your open CAD software pane. Choose from 18 different file formats.

- Order Free Samples
  Schneider Electric offers free samples as a courtesy to individuals and companies evaluating our products for their designs and applications. Sample orders are subject to approval.

Simplify and shorten workflow

- Interactive Tools
  View interactive demonstrations, such as our Time Delay Relay Interactive Demo (left) which visually demonstrates the ten different timing functions offered on SE time delay relays.

- Distributor Inventory Search
  Search authorized distributors’ current Schneider Electric inventory and buy online.
  (Buy online not available for all distributors.)