

Section

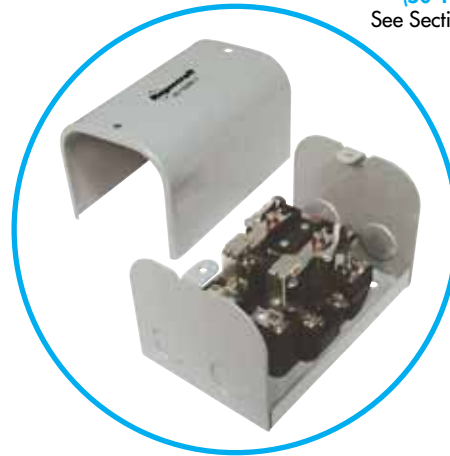
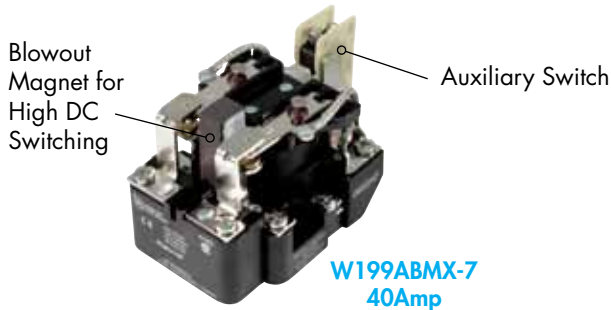
# 6 Relays - Power



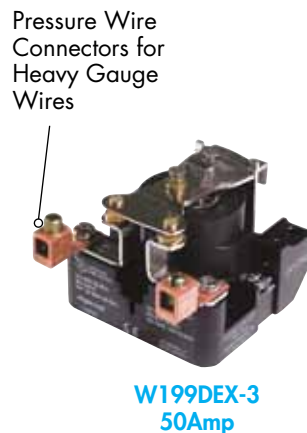
## Advantages of the W199 Power Relay

The Magnecraft 199 relay is the powerhouse open relay. Standard parts can handle up to 40A and there are options to handle up to 50A. The device is available in a variety of configurations and coil voltages. Available with up to two poles, double and single throws, insulated and non-insulated double make and/or break, and several switching forms. Options include auxiliary 10A switches with quick connects or screw terminals, quick connects on the coils and/or contacts, tungsten stationary contacts, fine silver contacts, pressure wire connectors on the output terminals and blowout magnets near the contacts for high voltage DC switching.

Optional Cover  
(50-1289-1)  
See Section 3 p.22



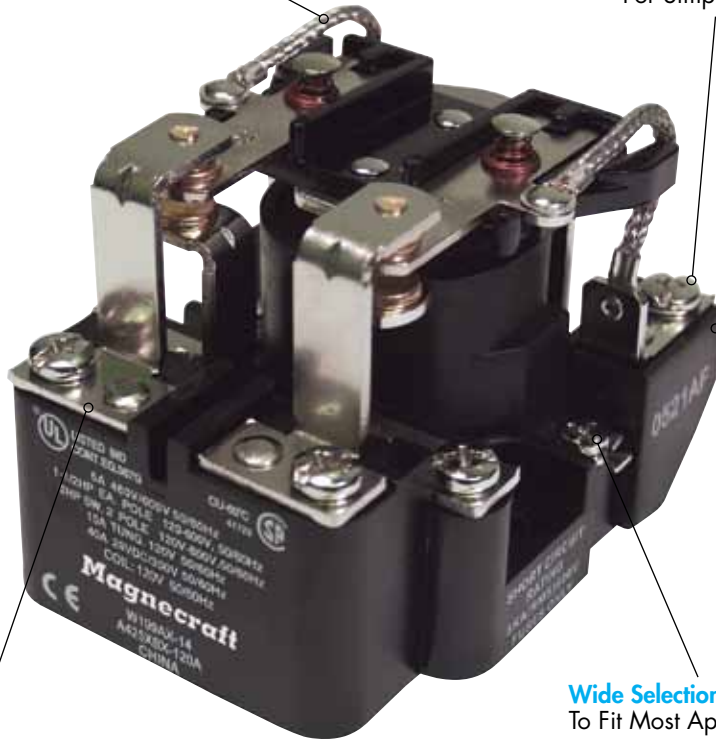
- Available Blowout Magnets for High DC Switching.
- Available Auxiliary Switches.
- Can be configured with 0.25 inch Q.C. Connections.
- Up to 50A Switching.
- Available Metal Enclosure.



14 AWG for 40A, 11 AWG for 50A Configurations  
For Superior Load Handling.

Combo-Head Screws  
For Simpler Hook-Up.

Wide Array of Options & Configurations  
For Specific Control Needs.



Riveted Construction  
To Sustain Years of Use.

Wide Selection of Coil Voltages  
To Fit Most Applications.

Auxiliary Switch



**W199AX-14**  
40Amp

**W199MX-27**  
40Amp

1/4 Inch Q.C. on  
Auxiliary Switch for  
Speedier Hook-Up

11 AWG Pigtails  
for 50A Load  
Switching

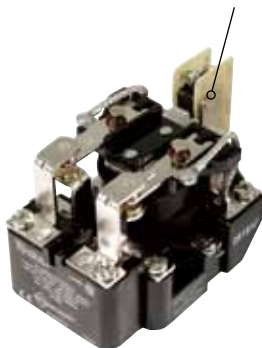


**W199X-11**  
40Amp

Auxiliary Switch

**199PQMCKX-1**  
50Amp

1/4 Q.C. on  
Coil for Simpler  
Installation

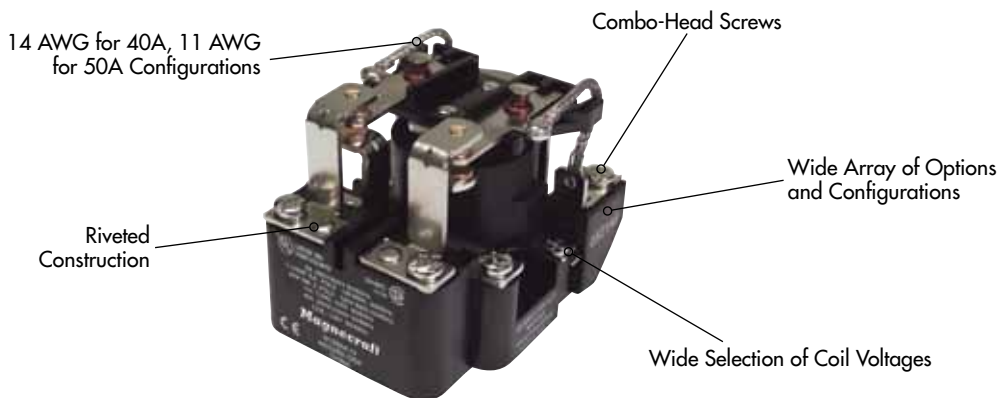
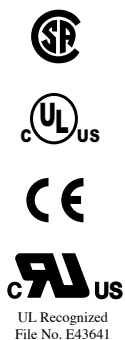


**W199MX-51**  
40Amp



**W199X-3**  
40Amp

# W199 Open Style Power Relay/Single and Two Pole 40 and 50 Amp Rating (DC and AC)



## General Specifications (UL 508)

| Contact Characteristics                   |                            | Units                  | 199, 199A                                  |
|---|----------------------------|------------------------|--|
| Number and type of Contacts               |                            |                        | SPST, SPDT, DPST, DPDT                     |
| Contact materials                         |                            |                        | Silver Alloy                               |
| Thermal (Carrying) Current rating         |                            | A                      | 40   |
| Maximum Switching Voltage                 |                            | V                      | 600V                                       |
| Switching Current @ Voltage               | ~                          | Resistive              | 40A @ 277V 50/60Hz,<br>5A @ 600VAC 50/60Hz |
|   | ⋮                          | Resistive              | 40A @ 28VDC                                |
| Blowout magnet                            | ⋮                          | Resistive              | See table A below                          |
|   |                            | HP                     | 1 1/2 @ 120-600 VAC                        |
|   |                            | Tungsten               | 15A @ 120VAC                               |
|   |                            | Pilot Duty             | A600                                       |
| Minimum Switching Requirement             | Minimum                    | mA                     | 100 @ 12 VAC/VDC                           |
| Coil Characteristics                      |                            |                        |  |
| Voltage Range                             | ~                          | V                      | 6...600                                    |
|   | % of Nominal               | ⋮                      | 6...600                                    |
| Operating Range                           | ~                          |                        | 85% to 110%                                |
|   | ⋮                          |                        | 80% to 110%                                |
| Average consumption                       | ~                          | VA                     | 10   |
|   | ⋮                          | W                      | 4  |
| Drop-out voltage threshold                | ~                          |                        | 10%  |
|   | ⋮                          |                        | 10%  |
| Performance Characteristics               |                            |                        |  |
| Electrical Life (UL 508)                  | Operations @ Rated Current | (Resistive)            | 6,000                                      |
| Operating time (response time)            |                            | ms                     | 30   |
| Dielectric                                | Between coil and contact   | ~                      | 2200                                       |
|   | Between poles              | ~                      | 2200                                       |
|   | Between contacts           | ~                      | 1500                                       |
| Environment                               |                            |                        |  |
| Product certifications                    | Standard version           |                        | UL, CSA, CE                                |
| Ambient air temperature around the device | Storage                    | °C                     | -40...+85                                  |
|   | Operation                  | °C                     | -40...+55                                  |
| Connection                                |                            | AWG (mm <sup>2</sup> ) | 8 (10)                                     |
| Terminal Tightening Torque                |                            | in-lb (Nm)             | 7...9 (0.8...1.0)                          |
| Weight                                    |                            | grams                  | 227 to 312                                 |

Table A:

| Additional DC Rating with Magnetic Blowout | Single Make/Break | Double Make/Break |
|--|-------------------|-------------------|
| 110 VDC                                    | 10 A              | 20 A              |
| 144 VDC                                    | —                 | 15 A              |
| 220 VDC                                    | 4 A               | 8 A               |
| 325 VDC                                    | 2 A               | 4 A               |
| 500 VDC                                    | —                 | 2 A               |



**Optional Cover  
(50-1289-1)**  
See Section 3 p.22



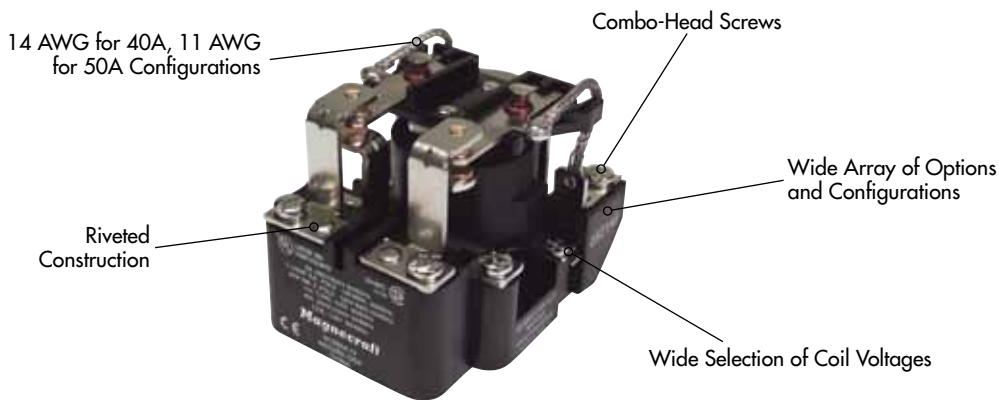
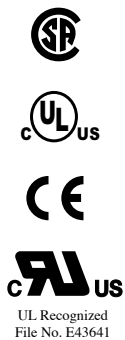
| 199D, 199DY, 199AD, 199ADY                  | 199P, 199AP                                | 199DE, 199DYE, 199ADE, 199ADYE              |
|---|--|---|
| SPST-DM, SPST-DB                            | SPST, SPDT, DPST, DPDT                     | SPST-DM, SPST-DB                            |
| Silver Alloy                                | Silver Alloy                               | Silver Alloy                                |
| 40  | 50   | 50  |
| 600V  | 600V                                       | 600V  |
| 40A @ 277V 50/60Hz,<br>10A @ 600VAC 50/60Hz | 50A @ 277V 50/60Hz,<br>5A @ 600VAC 50/60Hz | 50A @ 277V 50/60Hz,<br>10A @ 600VAC 50/60Hz |
| 40A @ 28VDC                                 | 50A @ 28VDC                                | 50A @ 28VDC                                 |
| See table A below                           | See table A below                          | See table A below                           |
| 2 @ 120-600 VAC                             | 1 1/2 @ 120-600 VAC                        | 2 @ 120-600 VAC                             |
| 15A @ 120VAC                                | 15A @ 120VAC                               | 15A @ 120VAC                                |
| A600  | A600                                       | A600  |
| 100 @ 12 VAC/VDC                            | 100 @ 12 VAC/VDC                           | 100 @ 12 VAC/VDC                            |
| 6...600                                     | 6...600                                    | 6...600                                     |
| 6...600                                     | 6...600                                    | 6...600                                     |
| 85% to 110%                                 | 85% to 110%                                | 85% to 110%                                 |
| 80% to 110%                                 | 80% to 110%                                | 80% to 110%                                 |
| 10  | 10   | 10  |
| 4   | 4  | 4   |
| 10%   | 10%  | 10%   |
| 10%   | 10%  | 10%   |
| 6,000                                       | 6,000                                      | 6,000                                       |
| 30  | 30   | 30  |
| 2200  | 2200                                       | 2200  |
| 2200  | 2200                                       | 2200  |
| 1500  | 1500                                       | 1500  |
| UL, CSA, CE                                 | UL, CSA, CE                                | UL, CSA, CE                                 |
| -40...+85                                   | -40...+85                                  | -40...+85                                   |
| -40...+55                                   | -40...+55                                  | -40...+55                                   |
| 8 (10)                                      | 8 (10)                                     | 8 (10)                                      |
| 7...9 (0.8...1.0)                           | 7...9 (0.8...1.0)                          | 7...9 (0.8...1.0)                           |
| 227 to 312                                  | 227 to 312                                 | 227 to 312                                  |

**Table B:**

| Auxiliary Switch Ratings        | SPDT        | DPDT        |
|---------------------------------|-------------|-------------|
| Up to 240 VAC 50/60Hz           | 10 A (AC1)  | 10 A (AC1)  |
| Motor Load, 120-240 VAC 50/60Hz | 1/4 HP      | 1/4 HP      |
| Pilot Duty, 120-240 VAC 50/60Hz | 278 VA      | 278 VA      |
| 125 VDC                         | 0.4 A (DC1) | 0.4 A (DC1) |
| 250 VDC                         | 0.2 A (DC1) | 0.2 A (DC1) |
| Tungsten, 120 VAC 50/60Hz       | 3 A         | 3 A         |



## W199 Open Style Power Relay/Single and Two Pole 40 and 50 Amp Rating (DC and AC) *continued*



### Standard Part Numbers

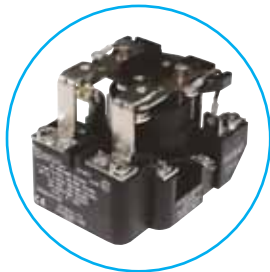
### BOLD-FACED PART NUMBERS ARE NORMALLY STOCKED

| Nominal Input Voltage<br>40A Rated Relays, AC Operated | Coil Resistance (OHMS) | Part Number       | Contact Configuration | Equipped Optional Features              |
|--|------------------------|-------------------|-----------------------|---|
| 24 VAC 50/60 Hz  | 12 Ω                   | <b>W199AX-3</b>   | SPDT                  |   |
| 120 VAC 50/60 Hz                                       | 290 Ω                  | <b>W199AX-4</b>   | SPDT                  |   |
| 24 VAC 50/60 Hz  | 12 Ω                   | <b>W199AX-13</b>  | DPDT                  |   |
| 120 VAC 50/60 Hz                                       | 290 Ω                  | <b>W199AX-14</b>  | DPDT                  |   |
| 240 VAC 50/60 Hz                                       | 1200 Ω                 | <b>W199AX-15</b>  | DPDT                  |   |
| 24 VAC 50/60 Hz  | 12 Ω                   | <b>W199AX-8</b>   | DPST-NO               |   |
| 120 VAC 50/60 Hz                                       | 290 Ω                  | <b>W199AX-9</b>   | DPST-NO               |   |
| 240 VAC 50/60 Hz                                       | 1200 Ω                 | <b>W199AX-10</b>  | DPST-NO               |   |
| 120 VAC 50/60 Hz                                       | 290 Ω                  | <b>W199ADX-4</b>  | SPST-NO-DM            |   |
| 240 VAC 50/60 Hz                                       | 1200 Ω                 | W199ADX-5         | SPST-NO-DM            |   |
| 120 VAC 50/60 Hz                                       | 290 Ω                  | <b>W199ADBX-4</b> | SPST-NO-DM            | Magnetic Blowout                        |
| 120 VAC 50/60 Hz                                       | 290 Ω                  | <b>W199ABX-14</b> | DPDT                  | Magnetic Blowout                        |
| 120 VAC 50/60 Hz                                       | 290 Ω                  | W199ABMX-7        | DPDT                  | Auxiliary Switch, Magnetic Blowout      |
| 120 VAC 50/60 Hz                                       | 290 Ω                  | <b>W199AMX-64</b> | DPDT                  | Auxiliary Switch                        |
| 40A Rated Relays, DC Operated                          |                        |                   |                       |   |
| 12 VDC   | 70 Ω                   | <b>W199X-2</b>    | SPDT                  |   |
| 24 VDC   | 290 Ω                  | <b>W199X-3</b>    | SPDT                  |   |
| 6 VDC  | 18 Ω                   | <b>W199X-11</b>   | DPDT                  |   |
| 12 VDC   | 70 Ω                   | <b>W199X-12</b>   | DPDT                  |   |
| 24 VDC   | 290 Ω                  | <b>W199X-13</b>   | DPDT                  |   |
| 110 VDC  | 6000 Ω                 | <b>W199X-14</b>   | DPDT                  |   |
| 12 VDC   | 70 Ω                   | <b>W199X-7</b>    | DPST-NO               |   |
| 24 VDC   | 290 Ω                  | <b>W199X-8</b>    | DPST-NO               |   |
| 12 VDC   | 70 Ω                   | W199DYX-2         | SPST-NC-DB            |   |
| 12 VDC   | 70 Ω                   | <b>W199DX-2</b>   | SPST-NO-DM            |   |
| 24 VDC   | 290 Ω                  | <b>W199DX-3</b>   | SPST-NO-DM            |   |
| 24 VDC   | 290 Ω                  | W199DBX-3         | SPST-NO-DM            | Magnetic Blowout                        |
| 48 VDC   | 1200 Ω                 | W199DBX-6         | SPST-NO-DM            | Magnetic Blowout                        |
| 24 VDC   | 290 Ω                  | <b>W199BX-13</b>  | DPDT                  | Magnetic Blowout                        |
| 110 VDC  | 6000 Ω                 | <b>W199BX-14</b>  | DPDT                  | Magnetic Blowout                        |
| 24 VDC   | 290 Ω                  | W199BMX-13        | DPDT                  | Auxiliary Switch, Magnetic Blowout      |
| 24 VDC   | 290 Ω                  | W199MX-51         | DPDT                  | Auxiliary Switch                        |
| 50A Rated Relays                                       |                        |                   |                       |   |
| 24 VAC 50/60 Hz  | 8 Ω                    | W199APX-13        | DPDT                  |   |
| 120 VAC 50/60 Hz                                       | 260 Ω                  | W199APX-14        | DPDT                  |   |
| 240 VAC 50/60 Hz                                       | 1040 Ω                 | W199APX-15        | DPDT                  |   |
| 120 VAC 50/60 Hz                                       | 290 Ω                  | W199ADEX-4        | SPST-NO-DM            | Pressure Wire Connectors                |
| 6 VDC  | 18 Ω                   | 199PX-11          | DPDT                  |   |
| 12 VDC   | 70 Ω                   | W199PX-12         | DPDT                  |   |
| 24 VDC   | 260 Ω                  | W199PX-13         | DPDT                  |   |
| 110 VDC  | 6000 Ω                 | 199PX-14          | DPDT                  |   |
| 24 VDC   | 290 Ω                  | W199DEX-3         | SPST-NO-DM            | Pressure Wire Connectors                |
| 110 VDC  | 6000 Ω                 | 199PQMKXX-1       | DPDT                  | 1/4" QC Term. On Coil, Auxiliary Switch |

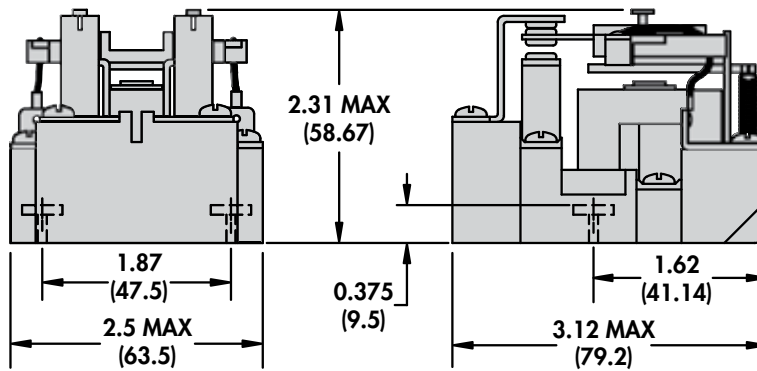
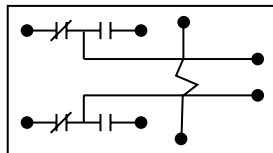
\*Contact Magnecraft for more configurations to fit your applications.



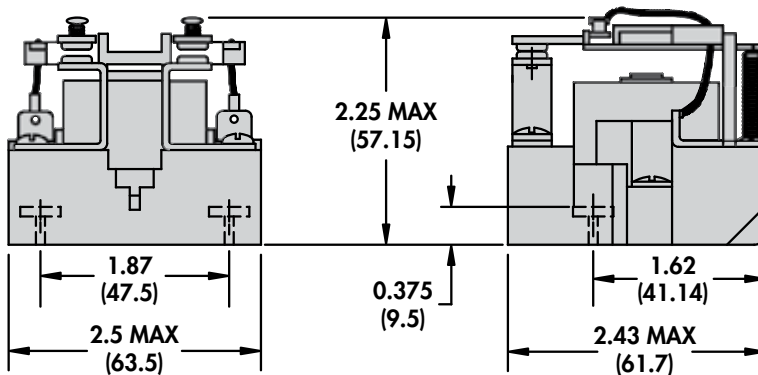
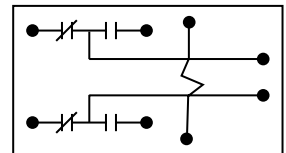
Optional Cover  
(50-1289-1)  
See Section 3 p.22



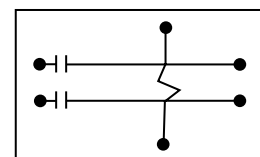
DPDT



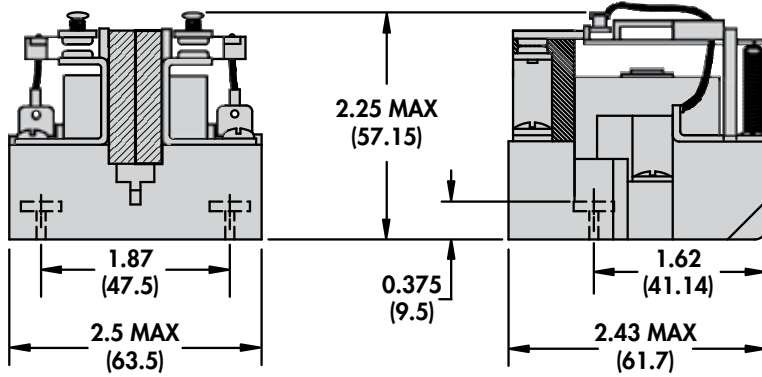
DPDT



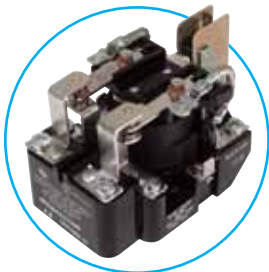
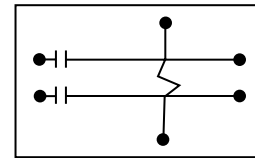
DPST-NO



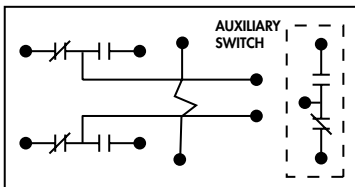
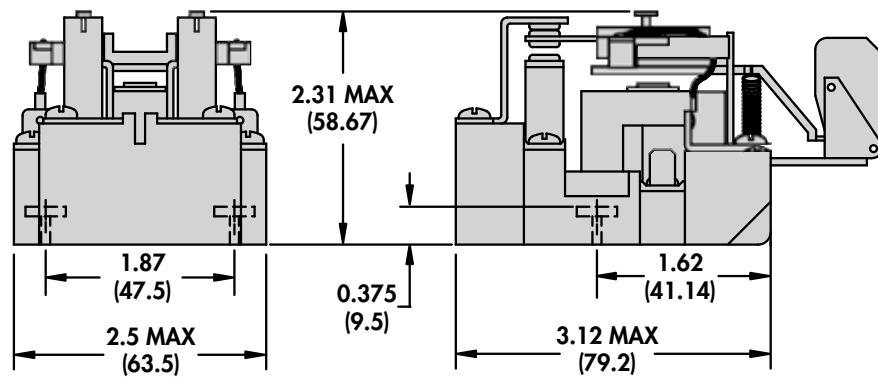
W199 Open Style Power Relay/Single and Two Pole 40 and 50 Amp Rating (DC and AC) *continued*



DPST-NO w/Blowout Magnet



DPDT w/Auxiliary Switch and QC Connectors on Coil

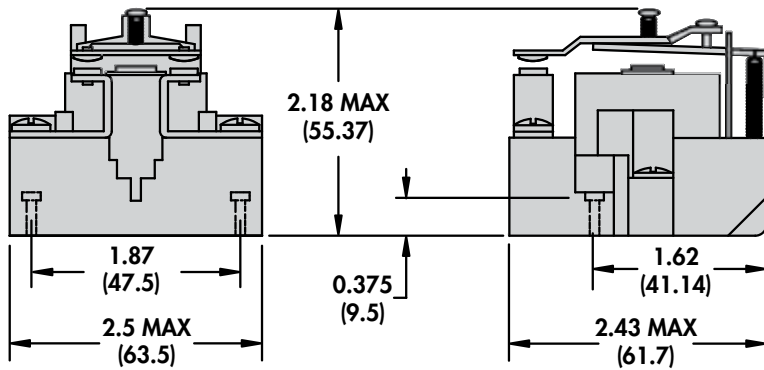
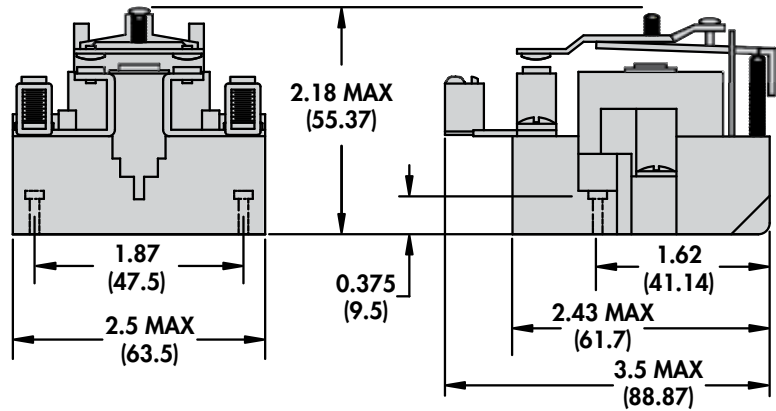
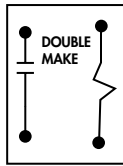


SECTION 6

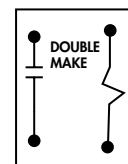




SPST-NO-DM w/Pressure Wire Connectors



SPST-NO-DM

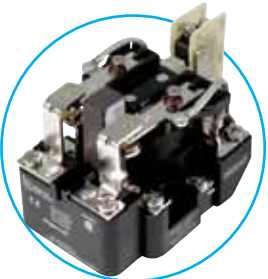
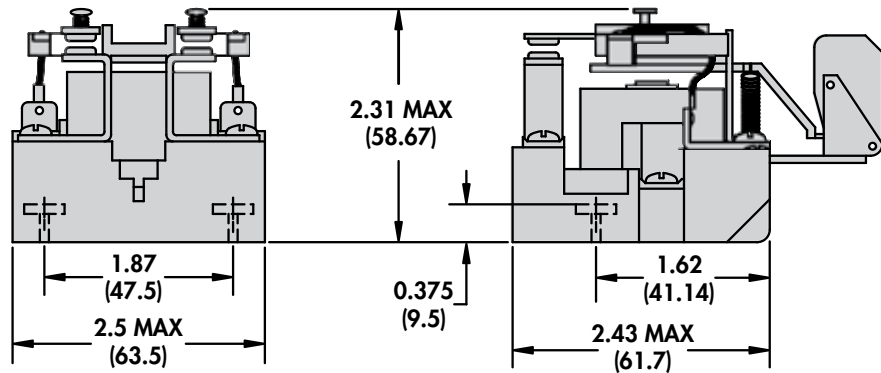
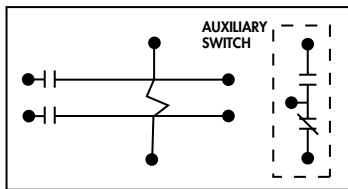


\*More configurations available.

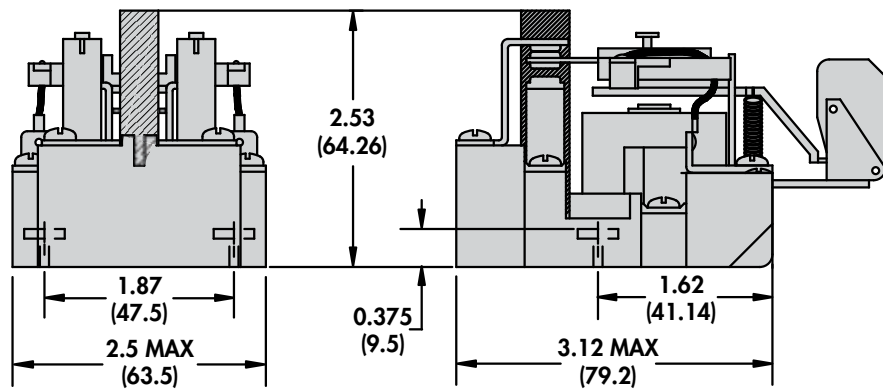
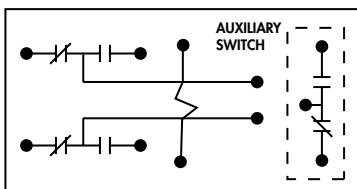
**W199 Open Style Power Relay/Single and Two Pole 40 and 50 Amp Rating (DC and AC) continued**



**DPST-NO w/Auxiliary Switch**



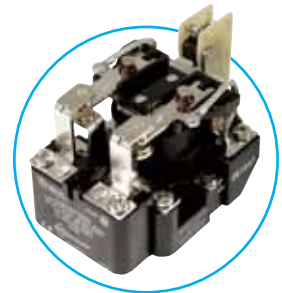
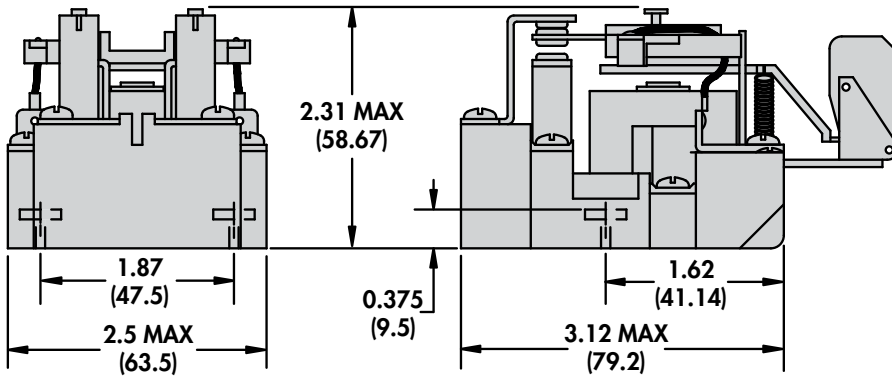
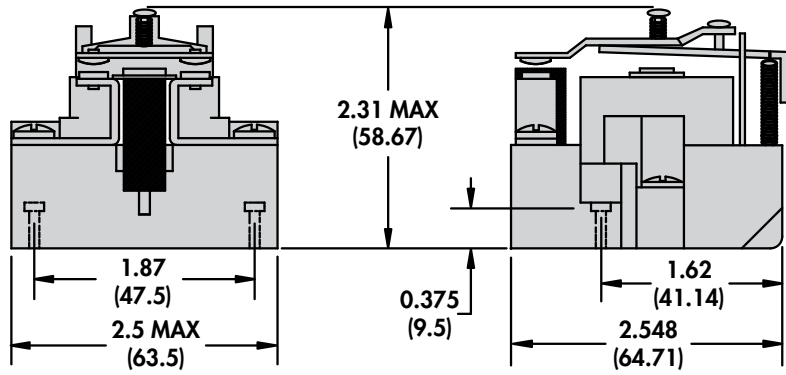
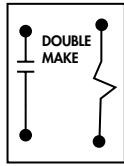
**DPDT w/Blowout Magnet and Auxiliary Switch**



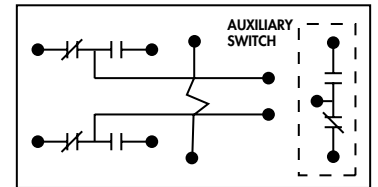
SECTION 6



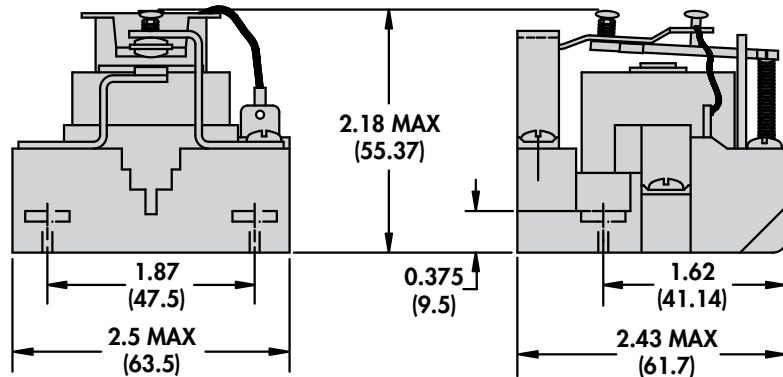
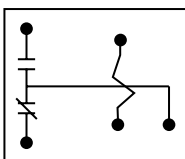
SPST-NO-DM w/Blowout Magnet



DPDT w/Auxiliary Switch

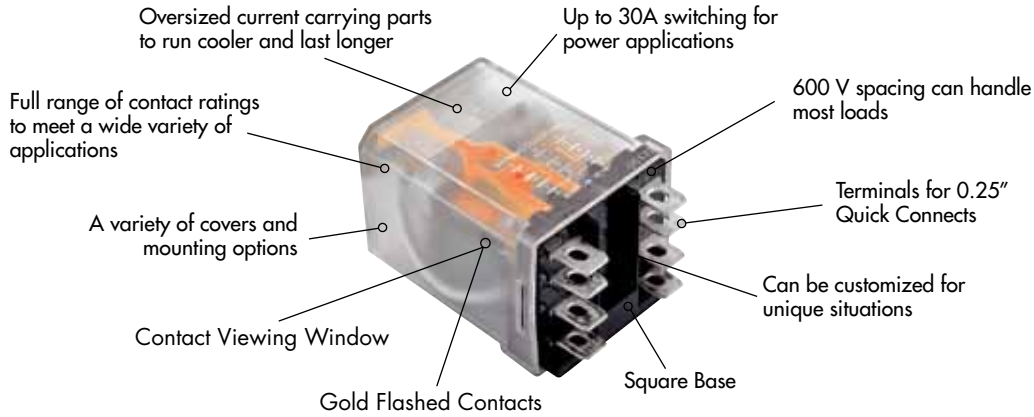


SPDT



\*More configurations available.

## 389F Power Relays/One, Two or Three Pole 20-30 Amp Rating (DC and AC)



### General Specifications - (UL 508)

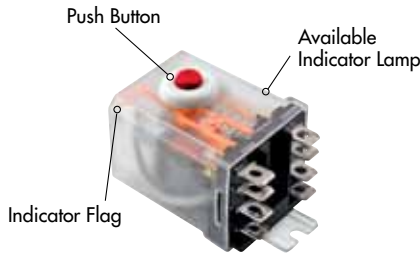
| Contact Characteristics                      |                          | 389FHXX, XHX                                     | 389FXAX, BXX, XBX                                | 389FCXX, XCX                                       |
|--|--------------------------|--|--|--|
| Number and type of contacts                  |                          | SPST-NO-DM, SPDT-DM-DB                           | SPST, SPDT, DPST, DPDT                           | 3PST, 3PDT   |
| Contact materials                            |                          | Silver Alloy                                     | Silver Alloy                                     | Silver Alloy                                       |
| Thermal (carrying) current                   |                          | 30 A   | 25 A   | 20 A   |
| Maximum switching voltage                    |                          | 600 V  | 600 V  | 300 V  |
| Switching current @ voltage                  | Resistive                | 30 A @ 300 VAC 50/60Hz<br>30 A @ 28 VDC          | 25 A @ 300 VAC 50/60Hz<br>13 A @ 28 VDC          | 20 A @ 150 VAC 50/60Hz<br>13 A @ 28 VDC            |
|  | Ballast                  | 25 A @ 277 VAC 50/60Hz                           | 20 A @ 277 VAC 50/60Hz                           | 20 A @ 150 VAC 50/60Hz<br>6.67 A @ 277 VAC 50/60Hz |
|  | HP                       | 1.5 @ 200-300 V 50/60Hz<br>1 @ 120-199 V 50/60Hz | 1.5 @ 208-240 V 50/60Hz<br>1 @ 480-600 V 50/60Hz | 0.5 @ 208-240 V 50/60Hz<br>0.5 @ 120 V 50/60Hz     |
|  | Pilot Duty               | A600   | B600   | B300   |
| Minimum switching requirement                |                          | 100 mA @ 5 VDC or 0.5 W                          | 100 mA @ 5 VDC or 0.5 W                          | 100 mA @ 5 VDC or 0.5 W                            |
| Coil Characteristics                         |                          |  |  |  |
| Voltage range                                |                          | 12 to 240 VAC<br>12 to 110 VDC                   | 12 to 240 VAC<br>12 to 110 VDC                   | 12 to 240 VAC<br>12 to 110 VDC                     |
| Operating range (% of nominal)               |                          | 85% to 110% AC<br>80% to 110% DC                 | 85% to 110% AC<br>80% to 110% DC                 | 85% to 110% AC<br>80% to 110% DC                   |
| Average consumption                          |                          | 3.5 VA<br>1.44 W                                 | 3.5 VA<br>1.44 W                                 | 3.5 VA<br>1.44 W                                   |
| Drop-out voltage threshold                   |                          | 10% AC/DC  | 10% AC/DC  | 10% AC/DC  |
| Performance Characteristics                  |                          |  |  |  |
| Electrical life (operations @ rated current) |                          | 100,000 operations                               | 100,000 operations                               | 100,000 operations                                 |
| Mechanical life (unpowered)                  |                          | 5,000,000 operations                             | 5,000,000 operations                             | 5,000,000 operations                               |
| Operating time (response time)               |                          | 20 ms  | 20 ms  | 20 ms  |
| Dielectric strength                          | Between coil and contact | 2000 VAC   | 2000 VAC   | 2000 VAC   |
|  | Between poles            | 2000 VAC   | 2000 VAC   | 2000 VAC   |
|  | Between contacts         | 500 VAC  | 500 VAC  | 500 VAC  |
| Environment                                  |                          |  |  |  |
| Product certifications                       | Standard version         | UL, CE, CSA                                      | UL, CE, CSA                                      | UL, CE, CSA  |
| Ambient air temperature around the device    | Storage                  | -40 to 85 °C                                     | -40 to 85 °C                                     | -40 to 85 °C                                       |
|  | Operation                | -40 to 55 °C                                     | -40 to 55 °C                                     | -40 to 55 °C                                       |
| Weight                                       |                          | 88 g   | 88 g   | 88 g   |

### Part Number Builder

| 389F   | XBX   | C1M   | -120         | A                              |
|--|---|---|--------------|--------------------------------|
| Series   | Configuration   | Options**   | Voltage      | Current Type                   |
| 389F = Standard model equipped with flag indicator | <b>XAX</b> = SPDT<br><b>BXX</b> = DPST-NO<br><b>XBX</b> = DPDT<br><b>CXX</b> = 3PST-NO<br><b>XCX</b> = 3PDT<br><b>HXX</b> = SPST-NO-DM<br><b>XHX</b> = SPDT-DM-DB | <b>B</b> = Mounting base<br><b>C</b> = Plastic dust cover - socket mountable<br><b>C1</b> = Side flange mount cover<br><b>C3</b> = Top flange cover<br><b>L</b> = Indicator lamp across coil<br><b>M</b> = Manual operator button on case<br><b>T</b> = Printed circuit board terminals | Coil Voltage | <b>A</b> = AC<br><b>D</b> = DC |

Note - Not all iterations of option codes are available and some standard parts may use different nomenclature than outlined in part number builder.

\*\*Multiple codes may be used.



Side Flange Cover  
Option C1



Plain Cover  
Option C



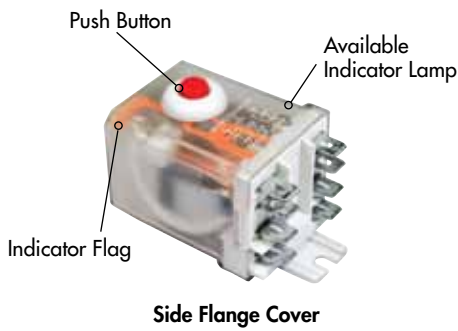
389 Relay with the  
70-788EL11-1 Socket

**Standard Part Numbers**

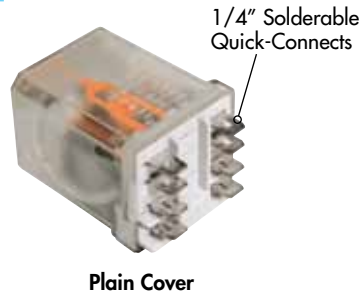
**BOLD-FACED PART NUMBERS ARE NORMALLY STOCKED**

| Nominal Input Voltage                                    | Coil Resistance | Part Number         | Contact Configuration |
|--|-----------------|---------------------|-----------------------|
| <b>25 Amp, AC Operated Flange Mount with Push Button</b> |                 |                     |                       |
| 220/240 VAC, 50/60 Hz                                    | 7200 Ω          | 389FBXC1M-240A      | DPDT                  |
| 110/120 VAC, 50/60 Hz                                    | 1700 Ω          | 389FBXC1M-120A      | DPDT                  |
| <b>20 Amp, AC Operated Flange Mount with Push Button</b> |                 |                     |                       |
| 220/240 VAC, 50/60 Hz                                    | 4600 Ω          | 389FCXC1M-240A      | 3PDT                  |
| 110/120 VAC, 50/60 Hz                                    | 1200 Ω          | 389FCXC1M-120A      | 3PDT                  |
| <b>25 Amp, DC Operated Flange Mount with Push Button</b> |                 |                     |                       |
| 12 VDC   | 100 Ω           | 389FBXC1M-12D       | DPDT                  |
| 24 VDC   | 400 Ω           | 389FBXC1M-24D       | DPDT                  |
| <b>20 Amp, DC Operated Flange Mount with Push Button</b> |                 |                     |                       |
| 12 VDC   | 100 Ω           | 389FCXC1M-12D       | 3PDT                  |
| 24 VDC   | 400 Ω           | 389FCXC1M-24D       | 3PDT                  |
| <b>30 Amp, AC Operated Flange Mount</b>                  |                 |                     |                       |
| 110/120 VAC 50/60 Hz                                     | 1100 Ω          | 389FHXC1-120A       | SPST-NO-DM            |
| 220/240 VAC 50/60 Hz                                     | 4300 Ω          | 389FHXC1-240A       | SPST-NO-DM            |
| 24 VAC 50/60 Hz  | 44 Ω            | 389FHXC1-24A        | SPDT-DM-DB            |
| 110/120 VAC 50/60 Hz                                     | 1100 Ω          | 389FHXC1-120A       | SPDT-DM-DB            |
| <b>30 Amp, DC Operated Flange Mount</b>                  |                 |                     |                       |
| 12 VDC   | 100 Ω           | 389FHXC1-12D        | SPST-NO-DM            |
| 24 VDC   | 400 Ω           | 389FHXC1-24D        | SPST-NO-DM            |
| 12 VDC   | 100 Ω           | 389FHXC1-12D        | SPDT-DM-DB            |
| 24 VDC   | 400 Ω           | 389FHXC1-24D        | SPDT-DM-DB            |
| <b>25 Amp, AC Operated Flange Mount</b>                  |                 |                     |                       |
| 110/120 VAC 50/60 Hz                                     | 1700 Ω          | 389FXAXC1-120A      | SPDT                  |
| 24 VAC 50/60 Hz  | 72 Ω            | 389FBXC1-24A        | DPDT                  |
| 110/120 VAC 50/60 Hz                                     | 1700 Ω          | 389FBXC1-120A       | DPDT                  |
| 220/240 VAC 50/60 Hz                                     | 7200 Ω          | 389FBXC1-240A       | DPDT                  |
| <b>20 Amp, AC Operated Flange Mount</b>                  |                 |                     |                       |
| 110/120 VAC 50/60 Hz                                     | 1200 Ω          | 389FCXC1-120A       | 3PDT                  |
| 220/240 VAC 50/60 Hz                                     | 4600 Ω          | 389FCXC1-240A       | 3PDT                  |
| <b>25 Amp, DC Operated Flange Mount</b>                  |                 |                     |                       |
| 12 VDC   | 100 Ω           | 389FXAXC1-12D       | SPDT                  |
| 24 VDC   | 400 Ω           | 389FXAXC1-24D       | SPDT                  |
| 12 VDC   | 100 Ω           | 389FBXC1-12D        | DPDT                  |
| 24 VDC   | 400 Ω           | 389FBXC1-24D        | DPDT                  |
| <b>20 Amp, DC Operated Flange Mount</b>                  |                 |                     |                       |
| 12 VDC   | 100 Ω           | 389FCXC1-12D        | DPDT                  |
| 24 VDC   | 400 Ω           | 389FCXC1-24D        | DPDT                  |
| <b>25 Amp, AC Operated Socket Compatible</b>             |                 |                     |                       |
| 220 / 240 VAC 50/60 Hz                                   | 7200 Ω          | <b>389FBXC-240A</b> | DPDT                  |
| 110 / 120 VAC 50/60 Hz                                   | 1700 Ω          | <b>389FBXC-120A</b> | DPDT                  |
| 24 VAC 50/60 Hz  | 72 Ω            | <b>389FBXC-24A</b>  | DPDT                  |
| <b>25 Amp, DC Operated Socket Compatible</b>             |                 |                     |                       |
| 110/125 VDC  | 8000 Ω          | 389FBXC-110/125D    | DPDT                  |
| 24 VDC   | 400 Ω           | <b>389FBXC-24D</b>  | DPDT                  |
| <b>20 Amp, AC Operated Socket Compatible</b>             |                 |                     |                       |
| 220/240 VAC 50/60 Hz                                     | 4600 Ω          | 389FCXC-240A        | DPDT                  |
| 110/120 VAC 50/60 Hz                                     | 1200 Ω          | <b>389FCXC-120A</b> | DPDT                  |
| 24 VAC 50/60 Hz  | 46 Ω            | <b>389FCXC-24A</b>  | DPDT                  |
| <b>20 Amp, DC Operated Socket Compatible</b>             |                 |                     |                       |
| 110/125 VDC  | 8000 Ω          | 389FCXC-110/125D    | DPDT                  |
| 24 VDC   | 400 Ω           | <b>389FCXC-24D</b>  | DPDT                  |

# 389F Power Relays/One, Two or Three Pole 20-30 Amp Rating (DC and AC) *continued*

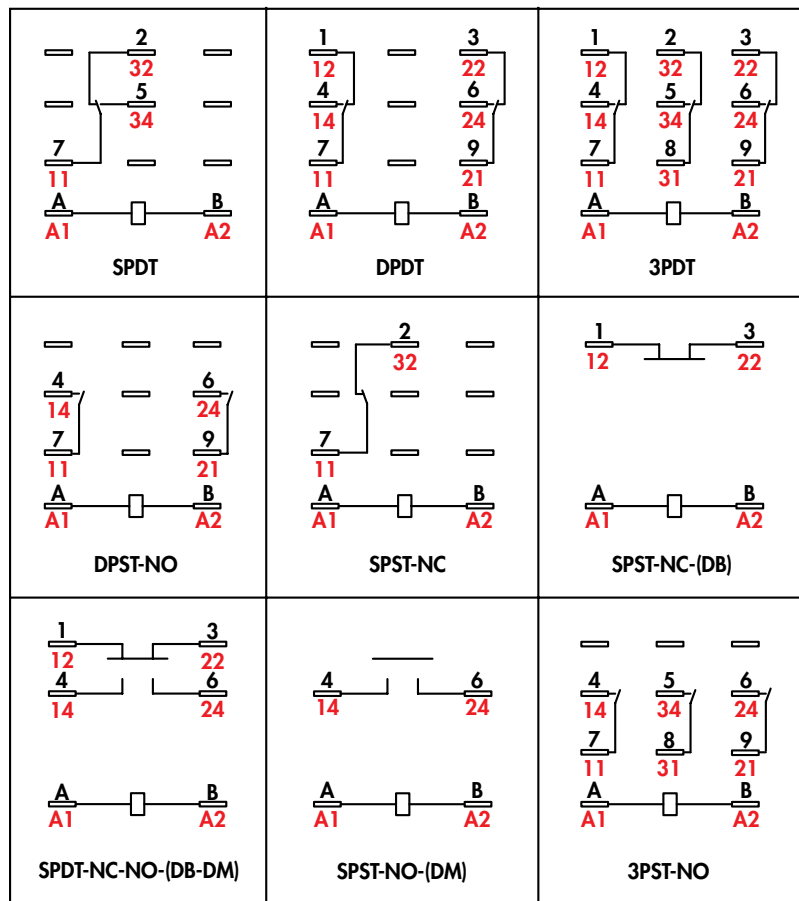


**NEW!**



## WIRING DIAGRAMS BOTTOM VIEW

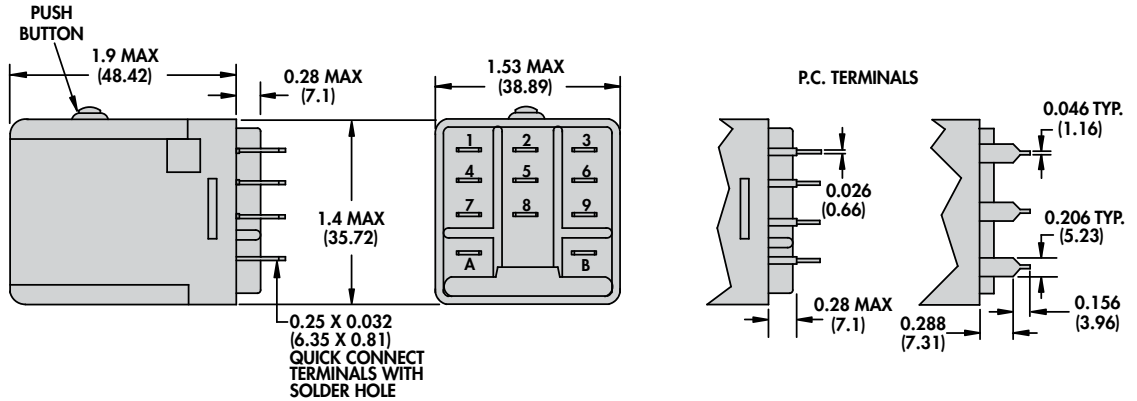
## NEMA IEC





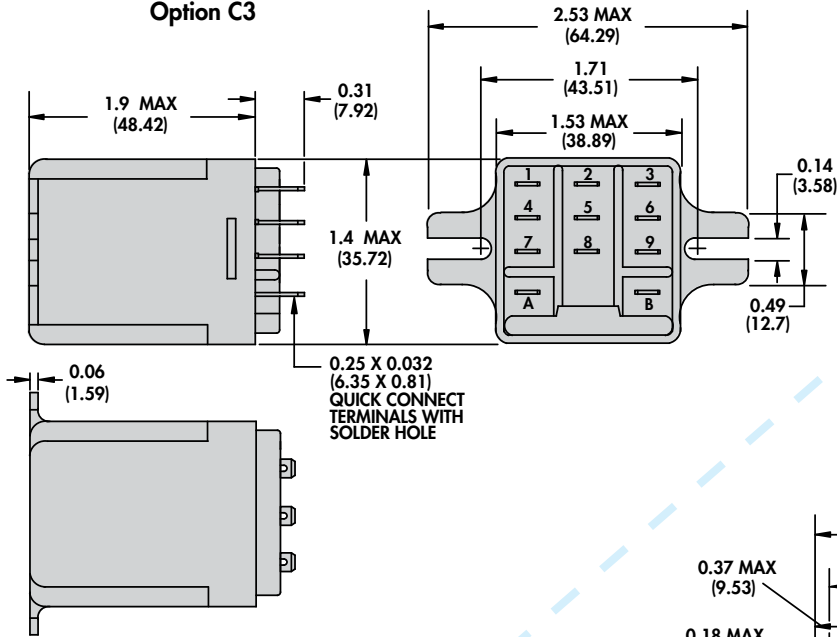
**PLAIN/PUSH BUTTON COVER STYLE**

**Option C**



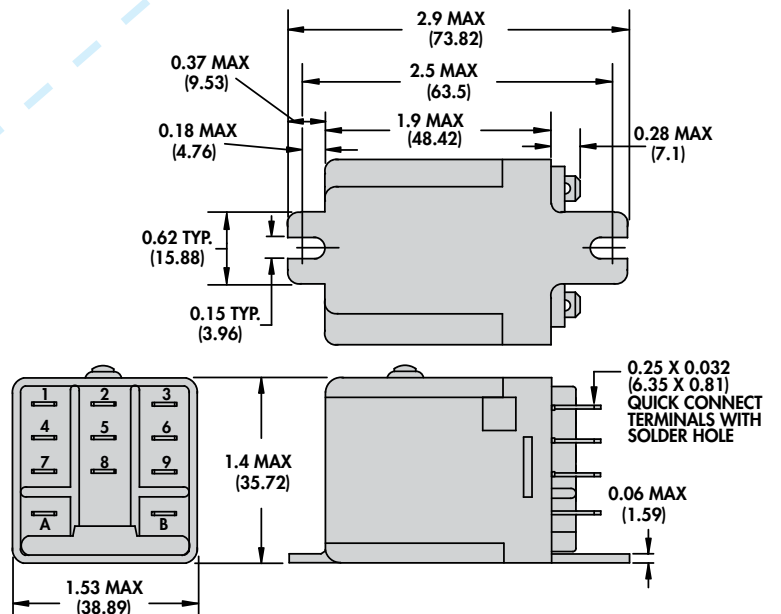
**TOP FLANGE COVER STYLE**

**Option C3**

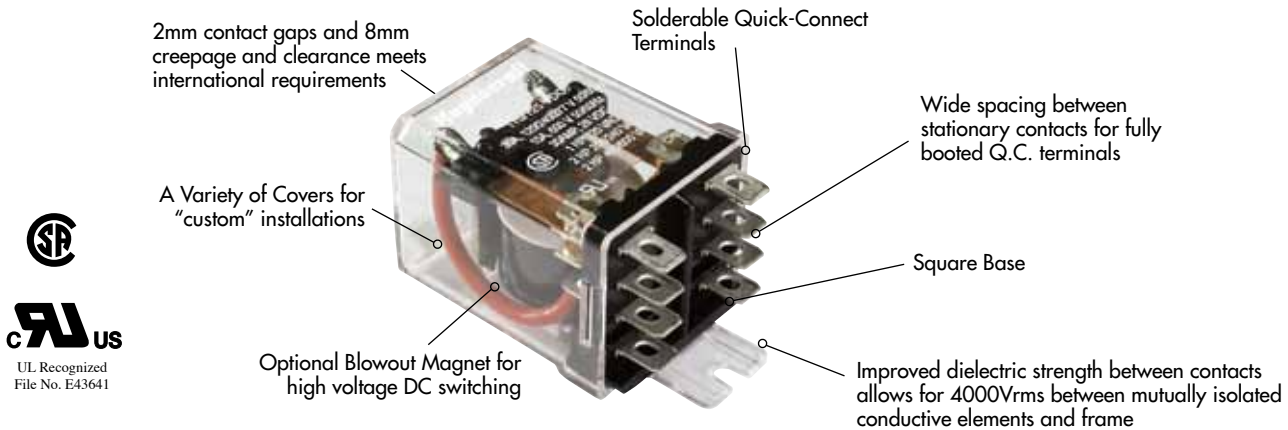


**SIDE FLANGE COVER STYLE**

**Option C1**



## 300 Series Power Relays/Two Pole 30 Amp Rating (DC and AC)



### General Specifications

(UL 508)

| Contact Characteristics                   |                            | Units       | Standard               | SPST-NO-DM              |
|---|----------------------------|-------------|------------------------|-------------------------|
| Number and type of Contacts               |                            |             | SPST, SPDT, DPST, DPDT | SPST-NO-DM              |
| Contact materials                         |                            |             | Silver Alloy           | Silver Alloy            |
| Thermal (Carrying) Current                |                            | A           | 30                     | 30                      |
| Maximum Switching Voltage                 |                            | V           | 600V                   | 600V                    |
| Switching current @ voltage               | ~                          | Resistive   | 30A @ 300V 50/60Hz     | 30A @ 300V 50/60Hz      |
|   | ~                          | Resistive   | 30A @ 28V              | 30A @ 28V               |
|   |                            | HP          | 2 @ 208-600 VAC        | 2 @ 208-600 VAC         |
|   |                            | HP          | 1 @ 120 VAC            | 1 @ 120 VAC             |
|   |                            | Pilot Duty  | 5.5 A @ 120 VAC        | 5.5 A @ 120 VAC         |
| Current rating with magnetic blowout      | ~                          | A           | 3 @ 150V ('69' Suffix) | 10 @ 150V ('69' Suffix) |
| Minimum Switching Requirement             |                            | mA          | 500 @ 12 VAC/VDC       | 500 @ 12 VAC/VDC        |
|   | Minimum                    |             |                        |                         |
| Coil Characteristics                      |                            |             |                        |                         |
| Voltage Range                             |                            | V           | 6...240                | 6...240                 |
|   |                            | V           | 6...125                | 6...125                 |
| Operating Range                           |                            |             | 85% to 110%            | 85% to 110%             |
|   | % of Nominal               |             | 80% to 110%            | 80% to 110%             |
| Average consumption                       |                            | VA          | 3.4                    | 3.4                     |
|   |                            | W           | 1.5                    | 1.5                     |
| Drop-out voltage threshold                |                            |             | 30%                    | 30%                     |
|   |                            |             | 10%                    | 10%                     |
| Performance Characteristics               |                            |             |                        |                         |
| Electrical Life (UL 508)                  |                            | (Resistive) | 30,000                 | 30,000                  |
| Mechanical Life                           | Operations @ Rated Current |             | 5,000,000              | 5,000,000               |
| Operating time (response time)            | Unpowered                  | ms          | 20                     | 20                      |
| Dielectric                                |                            | V           | 2500                   | 2500                    |
|   | Between coil and contact   | V           | 4000                   | 4000                    |
|   | Between poles              | V           | 2500                   | 2500                    |
|   | Between contacts           | V           | 2500                   | 2500                    |
| Environment                               |                            |             |                        |                         |
| Product certifications                    |                            |             | UL, CSA                | UL, CSA                 |
| Ambient air temperature around the device | Standard version           | °C          | -40...+85              | -40...+85               |
|   | Storage                    | °C          | -40...+55              | -40...+55               |
| Weight                                    | Operation                  | grams       | 85                     | 85                      |

### Part Number Builder

| Series              | Configuration    | DC Switching Option                  |
|---------------------|------------------|--------------------------------------|
| 300                 | XBX              |                                      |
| 300 = Standard      | XAX = SPDT       | 69 = Magnetic Blowouts near contacts |
| F300 = Class F Coil | BXX = DPST-NO    |                                      |
|                     | XBX = DPDT       |                                      |
|                     | XXB = DPST-NC    |                                      |
|                     | HXX = SPST-NO-DM |                                      |



300BXC1



300BXC4

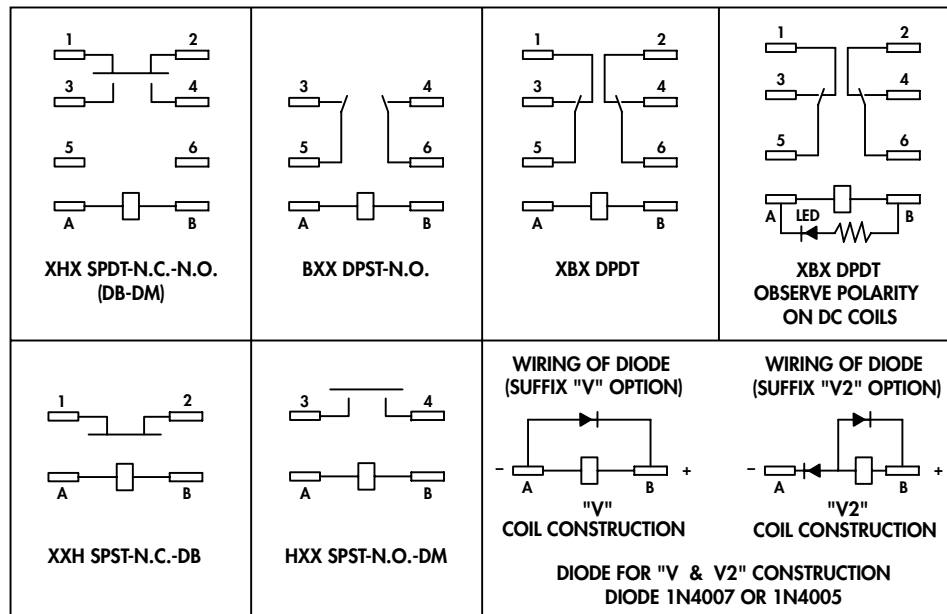
Available DIN rail mountable cover

**Standard Part Numbers**

**BOLD-FACED PART NUMBERS ARE NORMALLY STOCKED**

| Nominal Input Voltage | Coil Resistance (OHMS) | Part Number          | Contact Configuration |
|-----------------------|------------------------|----------------------|-----------------------|
| 220/240 VAC, 50/60 Hz | 5400 Ω                 | <b>300BXC1-240A</b>  | DPDT                  |
| 110/120 VAC, 50/60 Hz | 1270 Ω                 | <b>300BXC1-120A</b>  | DPDT                  |
| 24 VAC, 50/60 Hz      | 54 Ω                   | <b>300BXC1-24A</b>   | DPDT                  |
| 12 VAC, 50/60 Hz      | 13.5 Ω                 | 300BXC1-12A          | DPDT                  |
| 110/125 VDC           | 6300 Ω                 | 300BXC1-110D         | DPDT                  |
| 24 VDC                | 300 Ω                  | <b>300BXC1-24D</b>   | DPDT                  |
| 12 VDC                | 75 Ω                   | <b>300BXC1-12D</b>   | DPDT                  |
| 110/125 VDC           | 6300 Ω                 | 300BX69C1-110D       | DPDT                  |
| 24 VDC                | 300 Ω                  | <b>300BX69C4-24D</b> | DPDT                  |
| 12 VDC                | 75 Ω                   | 300BX69C1-12D        | DPDT                  |

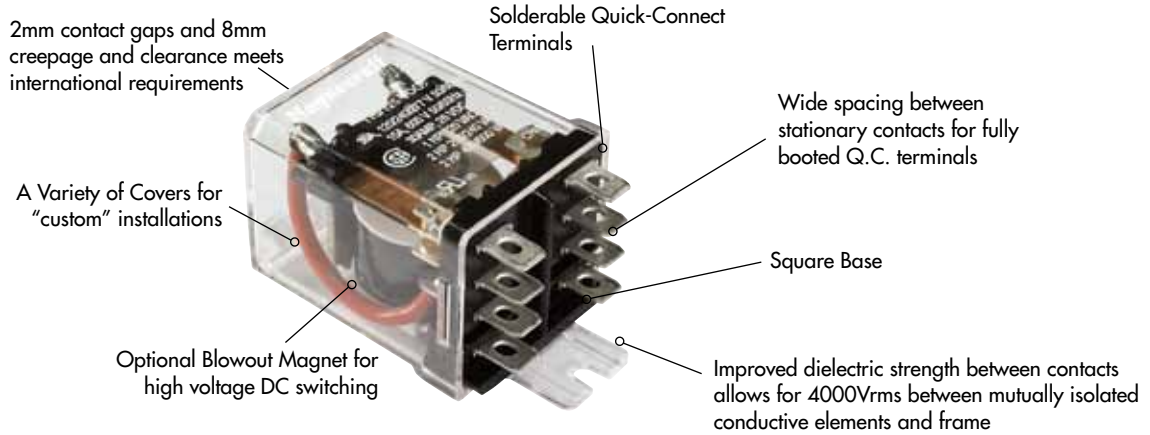
**WIRING DIAGRAMS**



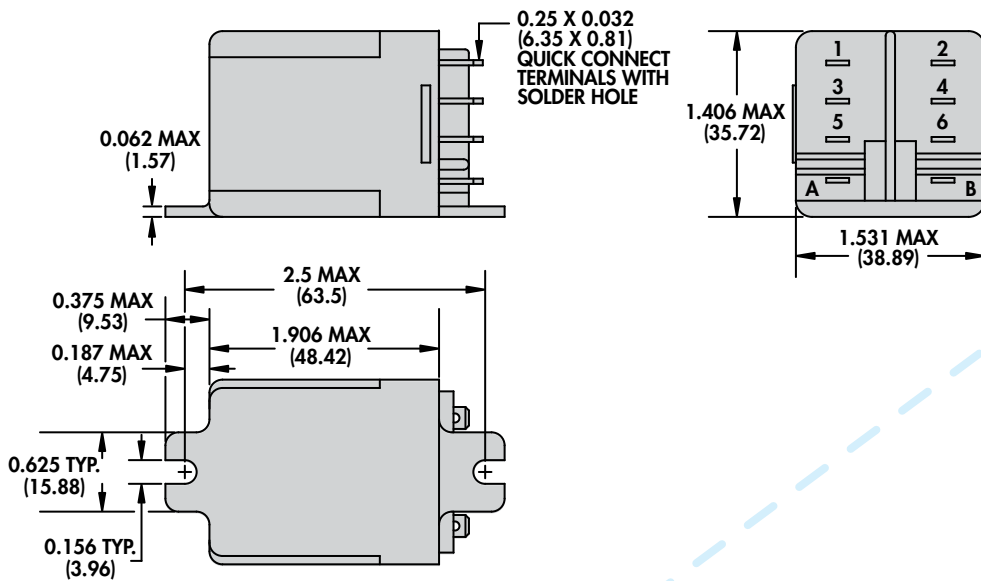
| C1<br>Cover  | Options*                     | -12<br>Coil Voltage | D<br>Current Type |
|--|------------------------------|---------------------|-------------------|
| C = Clear polycarbonate cover (To be used with PC Terminals)         | M = Manual Operator          | Coil Voltage        | A = AC            |
| C1 = Side flange mount cover   | L = Lamp across contacts     |                     | D = DC            |
| C2 = Cover with anti-rotation tabs and thread mounting hole in frame | T = Printed wiring terminals |                     |                   |
| C3 = Top flanged cover   |                              |                     |                   |
| C4 = Top DIN mount cover   |                              |                     |                   |

\*Multiple Codes May be Used

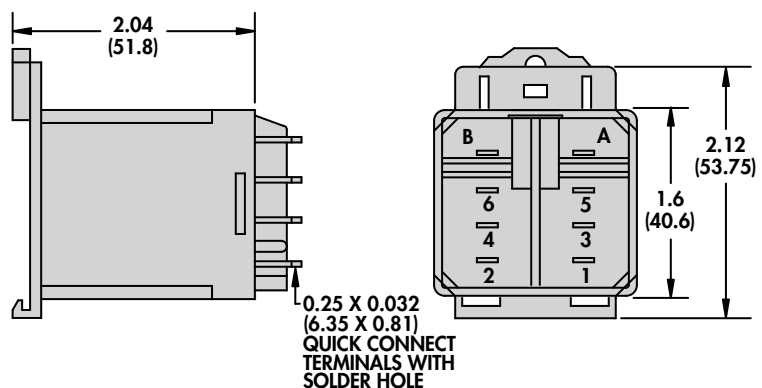
# 300 Series Power Relays/Two Pole 30 Amp Rating (DC and AC) *continued*



## SIDE MOUNTING COVER STYLE



## DIN RAIL MOUNTED STYLE





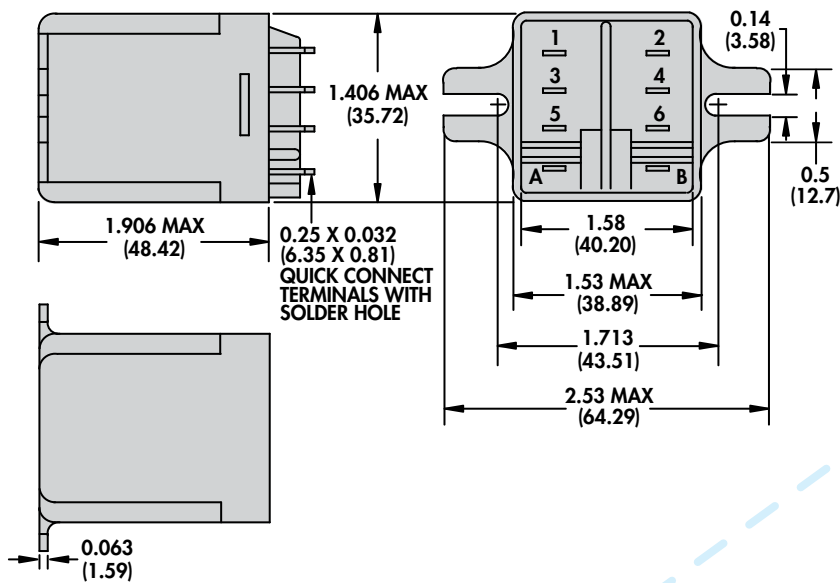
300BXC1



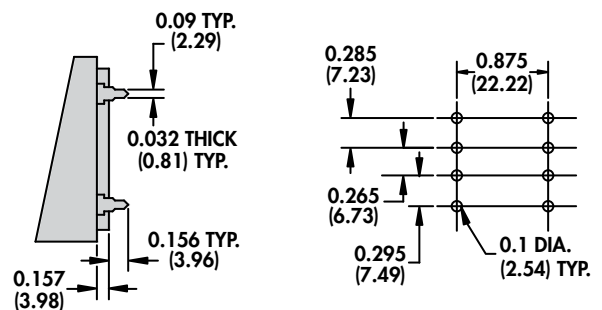
Available DIN rail mountable cover

300BXC4

**TOP FLANGE COVER STYLE**



**PRINTED CIRCUIT TERMINAL**



## 92 Combination DIN and Flange Mount Power Relay/DPST-NO and DPDT 30 Amp Rating (DC and AC)



### General Specifications

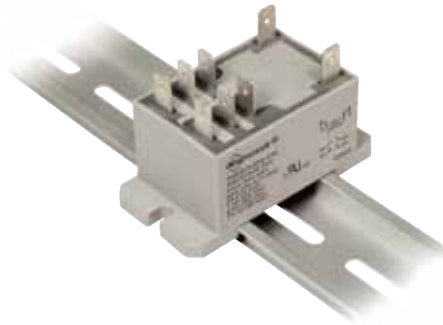
(UL 508)

| Contact Characteristics                   |                          | Units       | Single Throw<br>92S7 | Double Throw<br>92S11 |
|---|--------------------------|-------------|----------------------|-----------------------|
| Number and type of Contacts               |                          |             | DPST-NO              | DPDT-NO               |
| Contact materials                         |                          |             | Silver Alloy         | Silver Alloy          |
| Thermal (Carrying) Current                | A                        |             | 30                   | 30                    |
| Maximum Switching Voltage                 | V                        |             | 300V                 | 300V                  |
| Switching Current @ Voltage               | ~                        | Resistive   | 30A @ 277V 50/60Hz   | 30A @ 277V 50/60Hz    |
|   |                          | Resistive   | 20A @ 28V            | 20A @ 28V             |
|   | ⎓                        | HP          | 3 @ 240V 50/60Hz     | 3 @ 240V 50/60Hz      |
|   |                          | HP          | 1 @ 120V 50/60Hz     | 1 @ 120V 50/60Hz      |
| Minimum Switching Requirement             | Minimum                  | Pilot Duty  | 720 VA               | 720 VA                |
|   |                          | mA          | 500 @ 12 VAC/VDC     | 500mA @ 12 VAC/VDC    |
| 100mA @ 6 VAC/VDC                         |                          |             |                      |                       |
| Coil Characteristics                      |                          |             |                      |                       |
| Voltage Range                             | % of Nominal             | ~           | V                    | 12...240              |
|   |                          | ⎓           | V                    | 6...110               |
| Operating Range                           | ~                        | ~           |                      | 80% to 120%           |
|   |                          | ⎓           |                      | 75% to 120%           |
| Average consumption                       | ~                        | ~           | VA                   | 4                     |
|   |                          | ⎓           | W                    | 1.7                   |
| Drop-out voltage threshold                | ~                        | ~           |                      | 10%                   |
|   |                          | ⎓           |                      | 10%                   |
| Performance Characteristics               |                          |             |                      |                       |
| Electrical Life (UL 508)                  | Operations @             | (Resistive) |                      | 100,000               |
|   | Rated Current            |             |                      | 100,000               |
| Mechanical Life                           | Unpowered                |             |                      | 5,000,000             |
| Operating time (response time)            |                          |             | ms                   | 15                    |
| Dielectric                                | Between coil and contact | ~           | V                    | 4000                  |
|   | Between poles            | ~           | V                    | 2000                  |
|   | Between contacts         | ~           | V                    | 1500                  |
| Environment                               |                          |             |                      |                       |
| Product certifications                    | Standard version         |             |                      | UL, CE, CSA           |
| Ambient air temperature around the device | Storage                  |             | °C                   | -40...+85             |
|   | Operation                |             | °C                   | -40...+55             |
| Vibration resistance                      | Operational              |             | g-n                  | 3, 10-55Hz            |
| Shock resistance                          |                          |             | g-n                  | 10                    |
| Weight                                    |                          |             | grams                | 86                    |

### Part Number Builder

| 92     | S                     | 7                        | D                | 22D                        | -12          |
|--------|-----------------------|--------------------------|------------------|----------------------------|--------------|
| Series | Cover                 | Configuration            | Current Type     | Mounting                   | Voltage      |
| 92     | S = Sealed dust cover | 7 = DPST-NO<br>11 = DPDT | A = AC<br>D = DC | 22D = DIN rail mount cover | Coil Voltage |



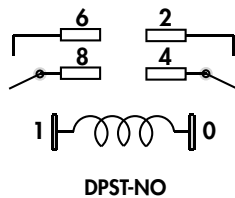
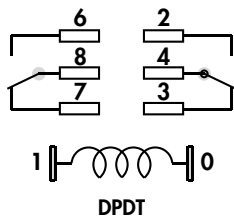


**Standard Part Numbers**

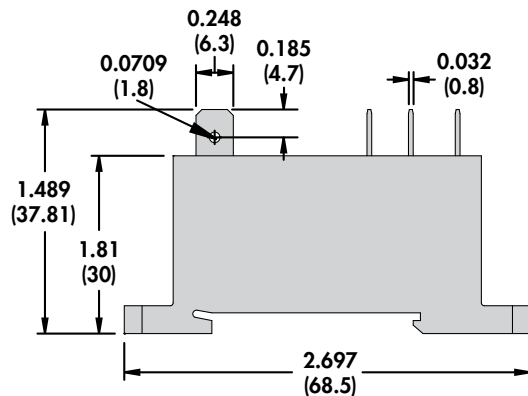
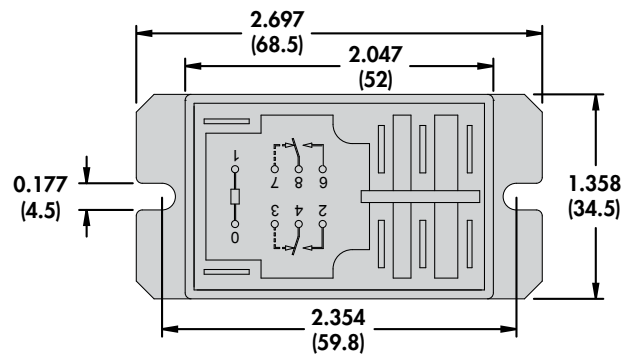
**BOLD-FACED PART NUMBERS ARE NORMALLY STOCKED**

| Nominal Input Voltage | Coil Resistance (OHMS) | DIN Part Number      | Supersedes Part Number | Contact Configuration |
|-----------------------|------------------------|----------------------|------------------------|-----------------------|
| 24 VAC, 50/60 Hz      | 250 Ω                  | <b>92S7A22D-24</b>   | W92S7A22-24            | DPST-NO               |
| 120 VAC, 50/60 Hz     | 1600 Ω                 | <b>92S7A22D-120</b>  | W92S7A22-120           | DPST-NO               |
| 240 VAC, 50/60 Hz     | 6500 Ω                 | <b>92S7A22D-240</b>  | W92S7A22-240           | DPST-NO               |
| 24 VAC, 50/60 Hz      | 250 Ω                  | <b>92S11A22D-24</b>  | W92S11A22-24           | DPDT                  |
| 120 VAC, 50/60 Hz     | 1600 Ω                 | <b>92S11A22D-120</b> | W92S11A22-120          | DPDT                  |
| 240 VAC, 50/60 Hz     | 6500 Ω                 | <b>92S11A22D-240</b> | W92S11A22-240          | DPDT                  |
| 12 VDC                | 86 Ω                   | <b>92S7D22D-12</b>   | W92S7D22-12            | DPST-NO               |
| 24 VDC                | 350 Ω                  | <b>92S7D22D-24</b>   | W92S7D22-24            | DPST-NO               |
| 110/125 VDC           | 7255 Ω                 | <b>92S7D22D-110</b>  | W92S7D22-110           | DPST-NO               |
| 12 VDC                | 86 Ω                   | <b>92S11D22D-12</b>  | W92S11D22-12           | DPDT                  |
| 24 VDC                | 1600 Ω                 | <b>92S11D22D-24</b>  | W92S11D22-24           | DPDT                  |
| 110/125 VDC           | 6500 Ω                 | <b>92S11D22D-110</b> | W92S11D22-110          | DPDT                  |

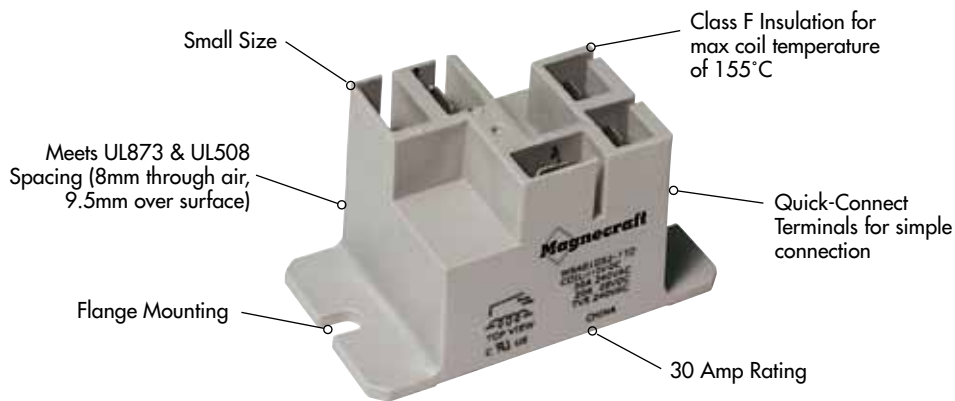
**WIRING DIAGRAMS**



ONLY NECESSARY TERMINALS ARE PRESENT ON SINGLE THROW STYLES



## 9A Miniature Power Relays/SPST and SPDT 30 Amp Rating (DC and AC)

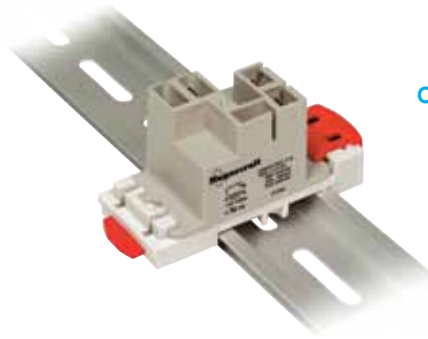


### General Specifications

(UL 508)

SPST

| Contact Characteristics                   |                            | Units       | 9AS1                |
|---|----------------------------|-------------|---------------------|
| Number and type of Contacts               |                            |             | SPST-NO             |
| Contact materials                         |                            |             | Silver Alloy        |
| Thermal (Carrying) Current                |                            | A           | 30                  |
| Maximum Switching Voltage                 |                            | V           | 300V                |
| Switching Current @ Voltage               | ~                          | Resistive   | 30A @ 240V 50/60Hz  |
|   | ⎓                          | Resistive   | 30A @ 28V           |
|   |                            | HP          | 2 @ 240V 50/60Hz    |
|   |                            | HP          | 1 @ 125V 50/60Hz    |
|   |                            | Pilot Duty  | 470 VA              |
| Minimum Switching Requirement             | Minimum                    | mA          | 100 @ 5 VDC, 12 VAC |
| Coil Characteristics                      |                            |             |                     |
| Voltage Range                             |                            | V           | 12...277            |
|   | % of Nominal               | V           | 5...110             |
| Operating Range                           |                            |             | 85% to 120%         |
|   |                            |             | 75% to 120%         |
| Average consumption                       |                            | VA          | 2.8                 |
|   |                            | W           | 1                   |
| Drop-out voltage threshold                |                            |             | 10%                 |
|   |                            |             | 10%                 |
| Performance Characteristics               |                            |             |                     |
| Electrical Life (UL 508)                  | Operations @ Rated Current | (Resistive) | 100,000             |
| Mechanical Life                           | Unpowered                  |             | 10,000,000          |
| Operating time (response time)            |                            | ms          | 15                  |
| Dielectric                                | Between coil and contact   | V           | 2500                |
|   | Between contacts           | V           | 1500                |
| Environment                               |                            |             |                     |
| Product certifications                    | Standard version           |             | UL                  |
| Ambient air temperature around the device | Storage                    | °C          | -40...+85           |
|   | Operation                  | °C          | -40...+55           |
| Vibration resistance                      | Operational                | g-n         | 3, 10-55Hz          |
| Shock resistance                          |                            | g-n         | 10                  |
| Weight                                    |                            | grams       | 33                  |

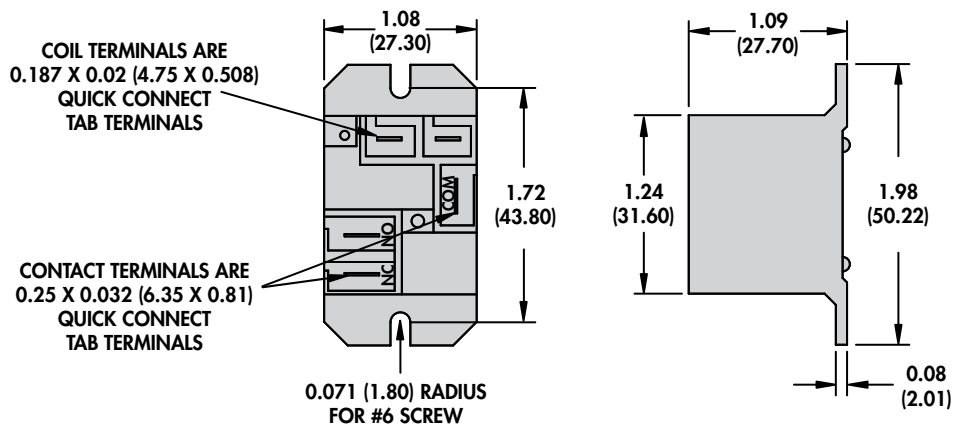
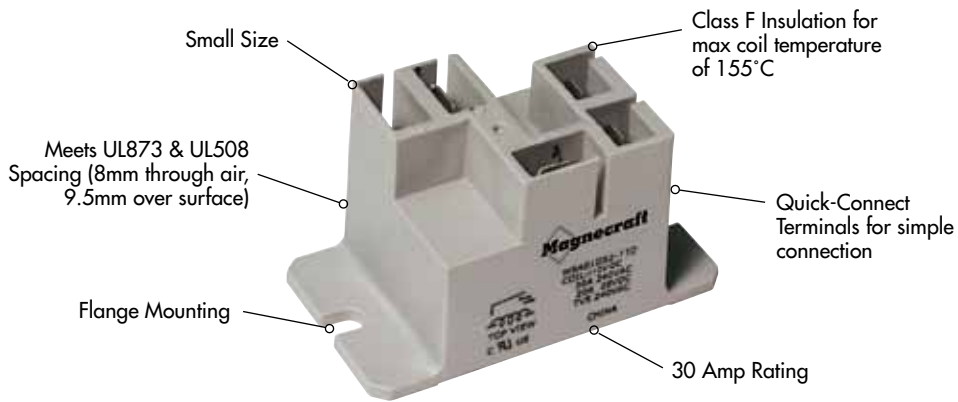


Optional DIN Rail Adapter  
(16-9ADIN-1)  
See Section 3 p.17

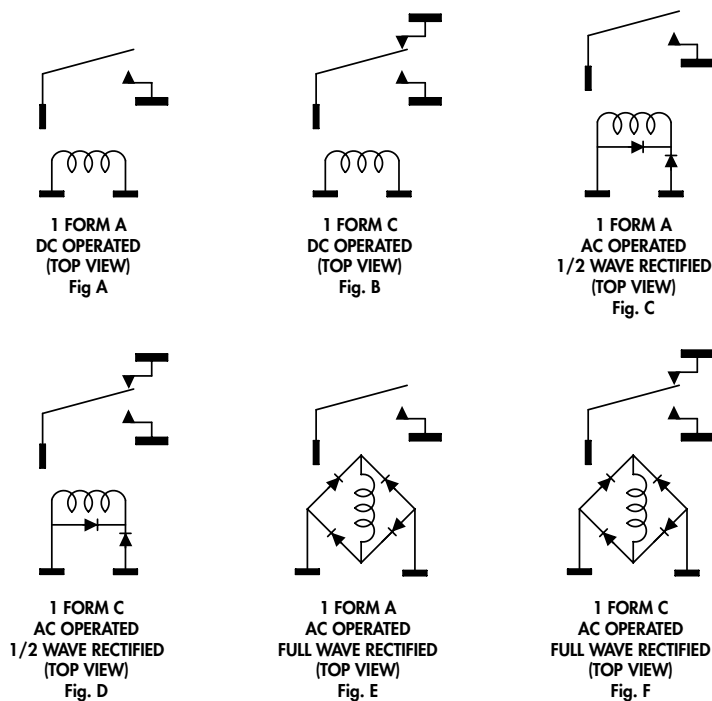
**SPDT**

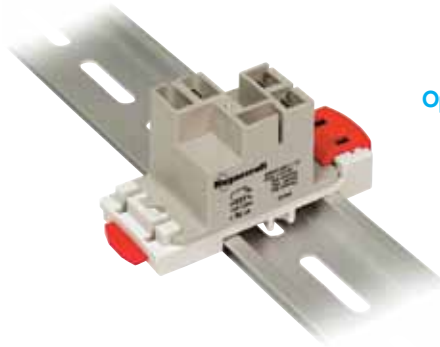
| Normally Open Contact | Normally Closed Contact |
|-----------------------|-------------------------|
| Silver Alloy          | Silver Alloy            |
| 30                    | 15                      |
| 300V                  | 300V                    |
| 30A @ 240V 50/60Hz    | 15A @ 240 50/60Hz Max   |
| 30A @ 28V             | 10A @ 28V               |
| 2 @ 240V 50/60Hz      | 1/2 @ 240 V 50/60Hz     |
| 1 @ 125V 50/60Hz      | 1/4 @ 125 V 50/60Hz     |
| 470 VA                | 275 VA                  |
| 100 @ 5 VDC, 12 VAC   | 100 @ 5 VDC, 12 VAC     |
|                       | 12....277               |
|                       | 5...110                 |
|                       | 85% to 120%             |
|                       | 75% to 120%             |
|                       | 2.8                     |
|                       | 1                       |
|                       | 10%                     |
|                       | 10%                     |
|                       | 100,000                 |
|                       | 10,000,000              |
|                       | 15                      |
|                       | 2500                    |
|                       | 1500                    |
|                       | UL                      |
|                       | -40...+85               |
|                       | -40...+55               |
|                       | 3, 10-55Hz              |
|                       | 10                      |
|                       | 33                      |

## 9A Miniature Power Relays/SPST and SPDT 30 Amp Rating (DC and AC) *continued*



### WIRING DIAGRAMS





Optional DIN Rail Adapter  
(16-9ADIN-1)  
See Section 3 p.17

**Standard Part Numbers**

**BOLD-FACED PART NUMBERS ARE NORMALLY STOCKED**

| Nominal Input Voltage | Coil Resistance (OHMS) | Part Number        | Figure | Contact Configuration |
|-----------------------|------------------------|--------------------|--------|-----------------------|
| <b>SPST DC Relays</b> |                        |                    |        |                       |
| 5 VDC                 | 25 Ω                   | <b>9AS1D52-5</b>   | A      | SPST-NO               |
| 12 VDC                | 144 Ω                  | <b>9AS1D52-12</b>  | A      | SPST-NO               |
| 24 VDC                | 576 Ω                  | <b>9AS1D52-24</b>  | A      | SPST-NO               |
| 110/125 VDC           | 12100 Ω                | 9AS1D52-110        | A      | SPST-NO               |
| <b>SPDT DC Relays</b> |                        |                    |        |                       |
| 5 VDC                 | 25 Ω                   | <b>9AS5D52-5</b>   | B      | SPDT                  |
| 12 VDC                | 144 Ω                  | <b>9AS5D52-12</b>  | B      | SPDT                  |
| 24 VDC                | 576 Ω                  | <b>9AS5D52-24</b>  | B      | SPDT                  |
| 110/125 VDC           | 12100 Ω                | 9AS5D52-110        | B      | SPDT                  |
| <b>SPST AC Relays</b> |                        |                    |        |                       |
| 24 VAC 50/60 Hz       | 500 Ω                  | <b>9AS1A52-24</b>  | E      | SPST-NO               |
| 120 VAC 50/60 Hz      | 3000 Ω                 | <b>9AS1A52-120</b> | C      | SPST-NO               |
| 240 VAC 50/60 Hz      | 12100 Ω                | 9AS1A52-240        | C      | SPST-NO               |
| <b>SPDT AC Relays</b> |                        |                    |        |                       |
| 24 VAC 50/60 Hz       | 500 Ω                  | <b>9AS5A52-24</b>  | F      | SPDT                  |
| 120 VAC 50/60 Hz      | 3000 Ω                 | <b>9AS5A52-120</b> | D      | SPDT                  |
| 240 VAC 50/60 Hz      | 12100 Ω                | <b>9AS5A52-240</b> | D      | SPDT                  |

**Part Number Builder**

| Series | Cover  | Configuration                | Current Type          | Mount                              | Contact Material      | Voltage             |
|--------|--|------------------------------|-----------------------|------------------------------------|-----------------------|---------------------|
| 9A     | P = Enclosed dust cover<br>S = Sealed dust cover | 5<br>1 = SPST-NO<br>5 = SPDT | A<br>A = AC<br>D = DC | 5<br>5 = Panel Mount Flanged Cover | 2<br>2 = Silver Alloy | -24<br>Coil Voltage |

# Section 6 Cross Reference Guide

| Magnecraft    | Tyco/Potter & Brumfield | American Zettler |          |                             |
|---------------|-------------------------|------------------|----------|-----------------------------|
| W9AS1D52-5    | T9AS1D52-5              | AZ2280-1A-5DEF   |          |                             |
| W9AS1D52-12   | T9AS1D52-12             | AZ2280-1A-12DEF  |          |                             |
| W9AS1D52-24   | T9AS1D52-24             | AZ2280-1A-24DEF  |          |                             |
| W9AS1D52-48   | T9AS1D52-48             | AZ2280-1A-48DEF  |          |                             |
| W9AS1D52-110  | T9AS1D52-110            | AZ2280-1A-110DEF |          |                             |
| W9AS5D52-5    | T9AS5D52-5              | AZ2280-1C-5DEF   |          |                             |
| W9AS5D52-12   | T9AS5D52-12             | AZ2280-1C-12DEF  |          |                             |
| W9AS5D52-24   | T9AS5D52-24             | AZ2280-1C-24DEF  |          |                             |
| W9AS5D52-48   | T9AS5D52-48             | AZ2280-1C-48DEF  |          |                             |
| W9AS5D52-110  | T9AS5D52-110            | AZ2280-1C-110DEF |          |                             |
| W9AS1A52-24   |                         | AZ2280-1A-24AEF  |          |                             |
| W9AS1A52-120  |                         | AZ2280-1A-120AEF |          |                             |
| W9AS1A52-240  |                         | AZ2280-1A-240AEF |          |                             |
| W9AS5A52-24   |                         | AZ2280-1C-24AEF  |          |                             |
| W9AS5A52-120  |                         | AZ2280-1C-120AEF |          |                             |
| W9AS5A52-240  |                         | AZ2280-1C-240AEF |          |                             |
|               |                         |                  |          |                             |
| W92S7D22-12   | T92P7D22-12             | AZ2800-2A-12D    |          |                             |
| W92S7D22-24   | T92P7D22-24             | AZ2800-2A-24D    |          |                             |
| W92S7D22-110  | T92P7D22-110            | AZ2800-2A-110D   |          |                             |
| W92S11D22-12  | T92P11D22-12            | AZ2800-2C-12D    |          |                             |
| W92S11D22-24  | T92P11D22-24            | AZ2800-2C-24D    |          |                             |
| W92S11D22-110 | T92P11D22-110           | AZ2800-2C-110D   |          |                             |
| W92S7A22-24   | T92P7A22-24             | AZ2800-2A-24AE   |          |                             |
| W92S7A22-120  | T92P7A22-120            | AZ2800-2A-120AE  |          |                             |
| W92S7A22-240  | T92P7A22-240            | AZ2800-2A-240AE  |          |                             |
| W92S11A22-24  | T92P11A22-24            | AZ2800-2C-24AE   |          |                             |
| W92S11A22-120 | T92P11A22-120           | AZ2800-2C-120AE  |          |                             |
| W92S11A22-240 | T92P11A22-240           | AZ2800-2C-240AE  |          |                             |
|               |                         |                  |          |                             |
| Magnecraft    | Tyco                    | Omron            | Deltrol  | Potter & Brumfield          |
| W199AX-4      | 9-1393127-9/1393128-5   | MGN1C-AC120      | 20239-83 | PRD5AG0-120/PRD5AY0-120     |
| W199X-2       | 1-1393128-2/1-1393128-6 | MGN1C-DC12       | 20243-81 | PRD5DG0-12/PRD5DY0-12       |
| W199X-3       | 1-1393128-3/1-1393128-7 | MGN1C-DC24       | 20243-82 | PRD5DG0-24/PRD5DY0-24       |
| W199AX-13     | 1-1393127-1/2-1393127-9 | MGN2C-AC24       | 20241-82 | PRD11AG0-24/PRD11AY0-24     |
| W199AX-14     | 1-1393127-9/2-1393127-6 | MGN2C-AC120      | 20241-83 | PRD11AG0-120/PRD11AY0-120   |
| W199AX-15     | 1-1393127-2/3-1393127-0 | MGN2C-AC240      | 20241-84 | PRD11AG0-240/PRD11AY0-240   |
| W199AMX-64    |                         |                  | 20246-83 | PRDA11AGA-120/PRDA11AYA-120 |
| W199X-11      |                         | MGN2C-DC6        |          | PRD11DG0-6/PRD11DY0-6       |
| W199X-12      | 3-1393127-5/6-1393127-1 | MGN2C-DC12       | 20245-81 | PRD11DG0-12/PRD11DY0-12     |
| W199X-13      | 3-1393127-8/6-1393127-2 | MGN2C-DC24       | 20245-82 | PRD11DG0-24/PRD11DY0-24     |
| W199X-14      | 3-1393127-4/6-1393127-0 | MGN2C-DC120      | 20245-84 | PRD11DG0-110/PRD11DY0-110   |
| W199MX-51     |                         |                  | 20247-82 | PRDA11DGA-24/PRDA11DYA-24   |
| W199AX-8      | 9-1393129-6/1393130-9   | MGN2A-AC24       | 20240-82 | PRD7AG0-24/PRD7AY0-24       |
| W199AX-9      | 9-1393129-5/1393130-7   | MGN2A-AC120      | 20240-83 | PRD7AG0-120/PRD7AY0-120     |
| W199AX-10     | 9-1393129-7/1-1393130-0 | MGN2A-AC240      | 20240-84 | PRD7AG0-240/PRD7AY0-240     |
| W199AMX-34    |                         |                  | 20248-83 | PRDA7AGA-120/PRDA7AYA-120   |
| W199X-7       | 1-1393130-5/2-1393130-8 | MGN2A-DC12       | 20244-81 | PRD7DG0-12/PRD7DY0-12       |
| W199X-8       | 1-1393130-6/2-1393130-9 | MGN2A-DC24       | 20244-82 | PRD7DG0-24/PRD7DY0-24       |
| W199MX-27     |                         |                  | 20249-82 | PRDA7DGA-24/PRDA7DYA-24     |
| W199ADX-4     | 6-1393127-9/7-1393127-9 | MGN1X-AC120      | 20238-83 | PRD3AG0-120/PRD3AY0-120     |
| W199ADX-5     | 7-1393127-1/8-1393127-1 | MGN1X-AC240      | 20238-84 | PRD3AG0-240/PRD3AY0-240     |
| W199DYX-2     |                         |                  | 20336-81 | PRD4DG0-12/PRD4DY0-12       |
| W199DX-2      | 8-1393127-3/9-1393127-5 | MGN1X-DC12       | 20242-81 | PRD3DG0-12/PRD3DY0-12       |
| W199DX-3      | 8-1393127-4/9-1393127-6 | MGN1X-DC24       | 20242-82 | PRD3DG0-24/PRD3DY0-24       |
| W199ADBX-4    | 7-1393127-4/7-1393127-3 |                  |          | PRD3AJ0-120/PRD3AH0-120     |

SECTION 6





| <b>Magnecraft</b> | <b>Tyco</b>                  | <b>Omron</b>       | <b>Deltrol</b> | <b>Potter &amp; Brumfield</b>      |
|-------------------|------------------------------|--------------------|----------------|------------------------------------|
| W199DBX-3         |                              |                    |                | PRD3DJ0-24/PRD3DH0-24              |
| W199DBX-6         |                              |                    |                | PRD3DJ0-48/PRD3DH0-48              |
| W199ABX-14        | 2-1393127-0/1-1393127-6      | MGN2CM-AC120       | 20919-83       | PRD11AJ0-120/PRD11AH0-120          |
| W199ABMX-7        |                              |                    |                | PRD11AJA-120/PRD11AHA-120          |
| W199BX-13         |                              |                    |                | PRD11DJ0-24/PRD11DH0-24            |
| W199BX-14         | 4-1393127-6                  | MGN2CM-DC110       | 20918-84       | PRD11DJ0-110/PRD11DH0-110          |
| W199BMX-13        |                              |                    |                | PRDA11DJA-24/PRDA11DHA-24          |
| W199ADEX-4        | 7-1393127-6                  |                    |                | PRD3AP4-120                        |
| W199DEX-3         | 9-1393127-1                  |                    |                | PRD3DP4-24                         |
| <b>Magnecraft</b> | <b>Tyco/Shrack</b>           | <b>Finder</b>      |                |                                    |
| 389FXCXC1M-240A   | RM735740                     | 6283 8240 0040     |                |                                    |
| 389FXCXC1M-120A   | RM735615                     | 6283 8120 0040     |                |                                    |
| 389FXBXC1M-240A   | RM835740                     | 6282 8240 0040     |                |                                    |
| 389FXBXC1M-120A   | RM835615                     | 6282 8120 0040     |                |                                    |
| 389FXCXC1M-12D    | RM735012                     | 6283 9012 0040     |                |                                    |
| 389FXCXC1M-24D    | RM735024                     | 6283 9024 0040     |                |                                    |
| 389FXBXC1M-12D    | RM835012                     | 6282 9012 0040     |                |                                    |
| 389FXBXC1M-24D    | RM835024                     | 6282 9024 0040     |                |                                    |
| <b>Magnecraft</b> | <b>Supercedes Magnecraft</b> | <b>Tyco/Shrack</b> | <b>Deltrol</b> | <b>Tyco/Potter &amp; Brumfield</b> |
| 389FHXXC1-120A    | W389ADCX-4                   | RMD 05 615         | 20840-84       | KUMP-3A5G-120                      |
| 389FHXXC1-240A    | W389ADCX-5                   | RMD 05 740         | 20840-85       | KUMP-3A5G-240                      |
| 389FXHXC1-24A     | W389ADZCX-3                  | RMC 05 524         |                | KUMP-6A5G-24                       |
| 389FXHXC1-120A    | W389ADZCX-4                  | RMC 05 615         |                | KUMP-6A5G-120                      |
| 389FHXXC1-12D     | W389DCX-2                    | RMD 05 012         | 20848-81       | KUMP-3D5G-12                       |
| 389FHXXC1-24D     | W389DCX-3                    | RMD 05 024         | 20848-82       | KUMP-3D5G-24                       |
| 389FXHXC1-12D     | W389DZCX-2                   | RMC 05 012         |                | KUMP-6D5G-12                       |
| 389FXHXC1-24D     | W389DZCX-3                   | RMC 05 024         |                | KUMP-6D5G-24                       |
| 389FXAXC1-120A    | W389ACX-4                    |                    |                | KUHP-5A51-120                      |
| 389FXBXC1-24A     | W389ACX-8                    |                    |                | KUHP-11A51-24                      |
| 389FXBXC1-120A    | W389ACX-9                    |                    |                | KUHP-11A51-120                     |
| 389FXBXC1-240A    | W389ACX-10                   |                    |                | KUHP-11A51-240                     |
| 389FXAXC1-12D     | W389CX-2                     |                    |                | KUHP-5D51-12                       |
| 389FXAXC1-24D     | W389CX-3                     |                    |                | KUHP-5D51-24                       |
| 389FXBXC1-12D     | W389CX-7                     |                    |                |                                    |
| 389FXBXC1-24D     | W389CX-8                     |                    |                |                                    |
| 389XCXC1-12D      | W389CX-12                    |                    |                |                                    |
| 389XCXC1-24D      | W389CX-13                    |                    |                |                                    |

