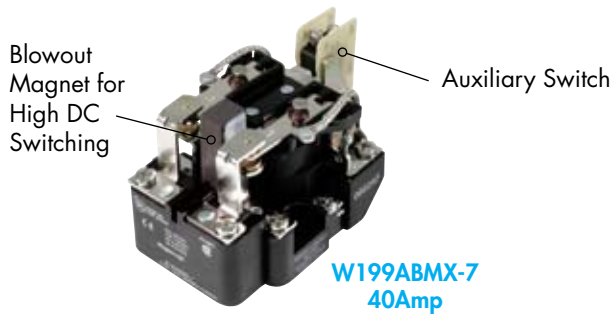


## Advantages of the W199 Power Relay

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.



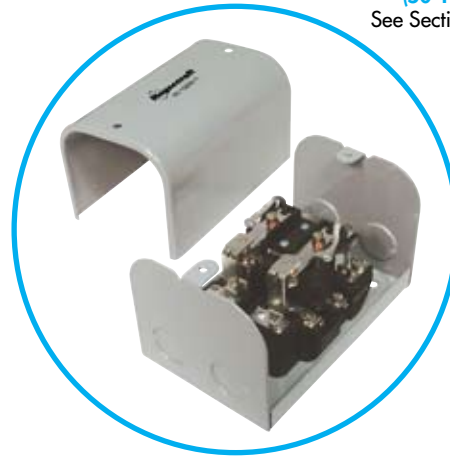
Pressure Wire Connectors for Heavy Gauge Wires



Shoulder Rivet and Spring Optimize Contact Wipe



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

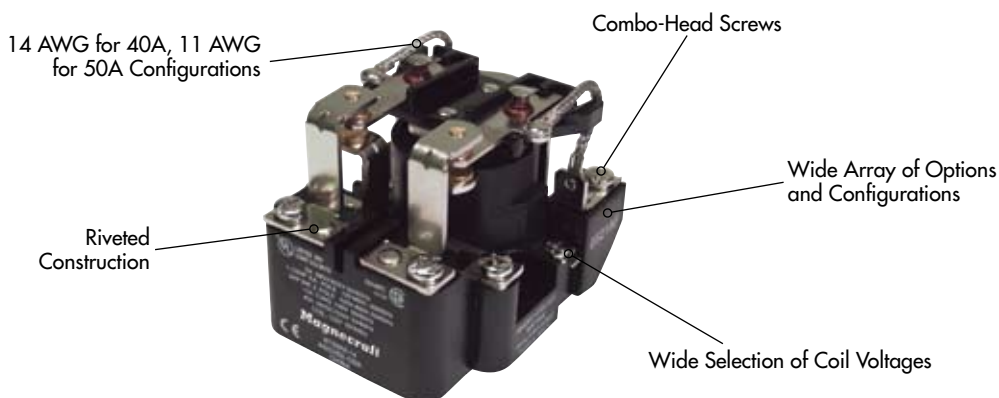
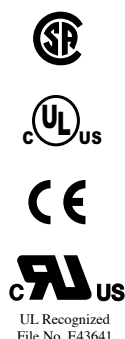
1/4 Q.C. on  
Coil for Simpler  
Installation

**199PQMCKX-1**  
**50Amp**

**W199X-3**  
**40Amp**

**W199MX-51**  
**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                      | ⋮                          | V                      | 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           | Storage                    | °C                     | -40...+85                                  |
| around the device                 | 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

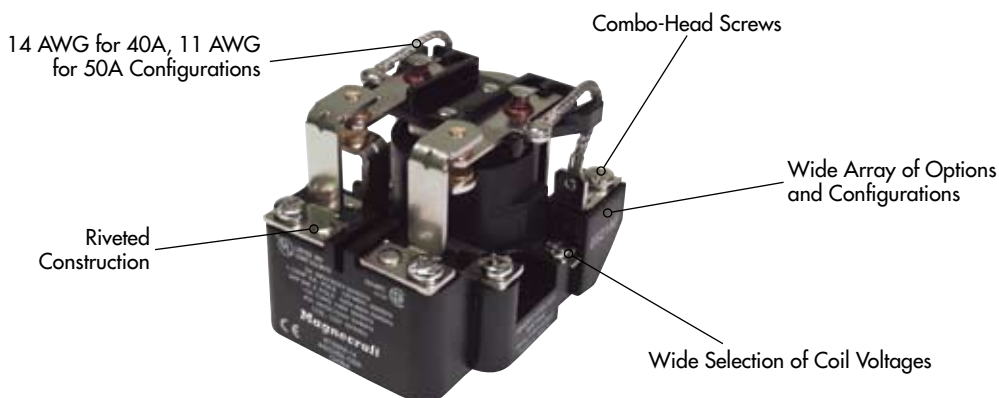
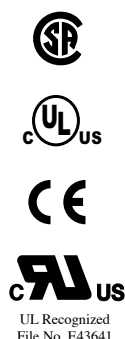


| 199D, 199DY, 199AD, 199ADY | 199P, 199AP            | 199DE, 199DYE, 199ADE, 199ADYE |
|----------------------------|------------------------|--------------------------------|
| SPST-DM, SPST-DB           | SPST, SPDT, DPST, DPDT | SPST-DM, SPST-DB               |
| Silver Alloy               | Silver Alloy           | Silver Alloy                   |
| 40                         | 50                     | 50                             |
| 600V                       | 600V                   | 600V                           |
| 40A @ 277V 50/60Hz,        | 50A @ 277V 50/60Hz,    | 50A @ 277V 50/60Hz,            |
| 10A @ 600VAC 50/60Hz       | 5A @ 600VAC 50/60Hz    | 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 $\Omega$            | <b>W199AX-3</b>   | SPDT                  |                                         |
| 120 VAC 50/60 Hz                                       | 290 $\Omega$           | <b>W199AX-4</b>   | SPDT                  |                                         |
| 24 VAC 50/60 Hz                                        | 12 $\Omega$            | <b>W199AX-13</b>  | DPDT                  |                                         |
| 120 VAC 50/60 Hz                                       | 290 $\Omega$           | <b>W199AX-14</b>  | DPDT                  |                                         |
| 240 VAC 50/60 Hz                                       | 1200 $\Omega$          | <b>W199AX-15</b>  | DPDT                  |                                         |
| 24 VAC 50/60 Hz                                        | 12 $\Omega$            | <b>W199AX-8</b>   | DPST-NO               |                                         |
| 120 VAC 50/60 Hz                                       | 290 $\Omega$           | <b>W199AX-9</b>   | DPST-NO               |                                         |
| 240 VAC 50/60 Hz                                       | 1200 $\Omega$          | <b>W199AX-10</b>  | DPST-NO               |                                         |
| 120 VAC 50/60 Hz                                       | 290 $\Omega$           | <b>W199ADX-4</b>  | SPST-NO-DM            |                                         |
| 240 VAC 50/60 Hz                                       | 1200 $\Omega$          | W199ADX-5         | SPST-NO-DM            |                                         |
| 120 VAC 50/60 Hz                                       | 290 $\Omega$           | <b>W199ADBX-4</b> | SPST-NO-DM            | Magnetic Blowout                        |
| 120 VAC 50/60 Hz                                       | 290 $\Omega$           | <b>W199ABX-14</b> | DPDT                  | Magnetic Blowout                        |
| 120 VAC 50/60 Hz                                       | 290 $\Omega$           | W199ABMX-7        | DPDT                  | Auxiliary Switch, Magnetic Blowout      |
| 120 VAC 50/60 Hz                                       | 290 $\Omega$           | <b>W199AMX-64</b> | DPDT                  | Auxiliary Switch                        |
| <b>40A Rated Relays, DC Operated</b>                   |                        |                   |                       |                                         |
| 12 VDC                                                 | 70 $\Omega$            | <b>W199X-2</b>    | SPDT                  |                                         |
| 24 VDC                                                 | 290 $\Omega$           | <b>W199X-3</b>    | SPDT                  |                                         |
| 6 VDC                                                  | 18 $\Omega$            | <b>W199X-11</b>   | DPDT                  |                                         |
| 12 VDC                                                 | 70 $\Omega$            | <b>W199X-12</b>   | DPDT                  |                                         |
| 24 VDC                                                 | 290 $\Omega$           | <b>W199X-13</b>   | DPDT                  |                                         |
| 110 VDC                                                | 6000 $\Omega$          | <b>W199X-14</b>   | DPDT                  |                                         |
| 12 VDC                                                 | 70 $\Omega$            | <b>W199X-7</b>    | DPST-NO               |                                         |
| 24 VDC                                                 | 290 $\Omega$           | <b>W199X-8</b>    | DPST-NO               |                                         |
| 12 VDC                                                 | 70 $\Omega$            | W199DYX-2         | SPST-NC-DB            |                                         |
| 12 VDC                                                 | 70 $\Omega$            | <b>W199DX-2</b>   | SPST-NO-DM            |                                         |
| 24 VDC                                                 | 290 $\Omega$           | <b>W199DX-3</b>   | SPST-NO-DM            |                                         |
| 24 VDC                                                 | 290 $\Omega$           | W199DBX-3         | SPST-NO-DM            | Magnetic Blowout                        |
| 48 VDC                                                 | 1200 $\Omega$          | W199DBX-6         | SPST-NO-DM            | Magnetic Blowout                        |
| 24 VDC                                                 | 290 $\Omega$           | <b>W199BX-13</b>  | DPDT                  | Magnetic Blowout                        |
| 110 VDC                                                | 6000 $\Omega$          | <b>W199BX-14</b>  | DPDT                  | Magnetic Blowout                        |
| 24 VDC                                                 | 290 $\Omega$           | W199BMX-13        | DPDT                  | Auxiliary Switch, Magnetic Blowout      |
| 24 VDC                                                 | 290 $\Omega$           | W199MX-51         | DPDT                  | Auxiliary Switch                        |
| <b>50A Rated Relays</b>                                |                        |                   |                       |                                         |
| 24 VAC 50/60 Hz                                        | 8 $\Omega$             | W199APX-13        | DPDT                  |                                         |
| 120 VAC 50/60 Hz                                       | 260 $\Omega$           | W199APX-14        | DPDT                  |                                         |
| 240 VAC 50/60 Hz                                       | 1040 $\Omega$          | W199APX-15        | DPDT                  |                                         |
| 120 VAC 50/60 Hz                                       | 290 $\Omega$           | W199ADEX-4        | SPST-NO-DM            | Pressure Wire Connectors                |
| 6 VDC                                                  | 18 $\Omega$            | 199PX-11          | DPDT                  |                                         |
| 12 VDC                                                 | 70 $\Omega$            | W199PX-12         | DPDT                  |                                         |
| 24 VDC                                                 | 260 $\Omega$           | W199PX-13         | DPDT                  |                                         |
| 110 VDC                                                | 6000 $\Omega$          | 199PX-14          | DPDT                  |                                         |
| 24 VDC                                                 | 290 $\Omega$           | W199DEX-3         | SPST-NO-DM            | Pressure Wire Connectors                |
| 110 VDC                                                | 6000 $\Omega$          | 199QMKKX-1        | DPDT                  | 1/4" QC Term. On Coil, Auxiliary Switch |

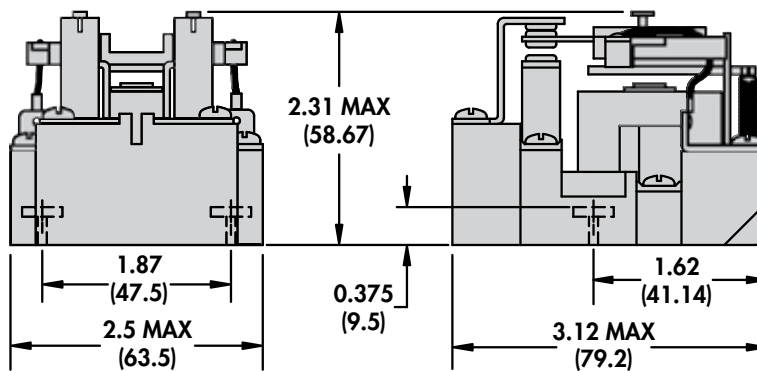
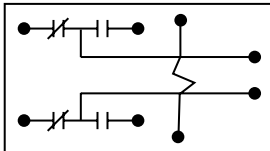
\*Contact Magnecraft for more configurations to fit your applications.



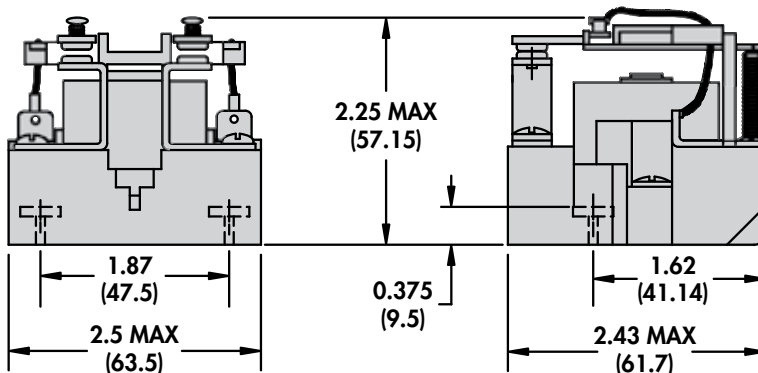
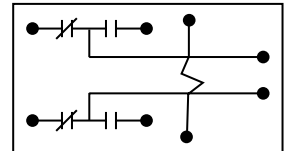
Optional Cover  
(50-1289-1)  
See Section 3 p.22



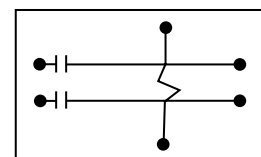
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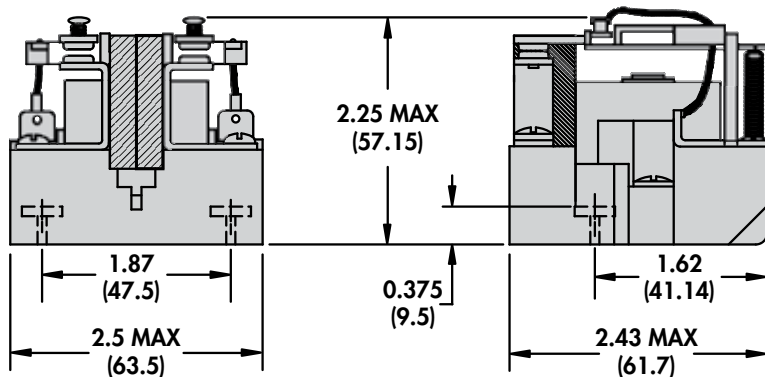
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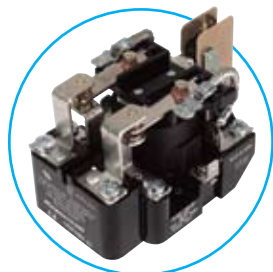
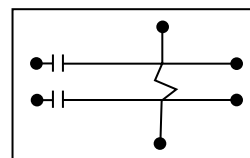
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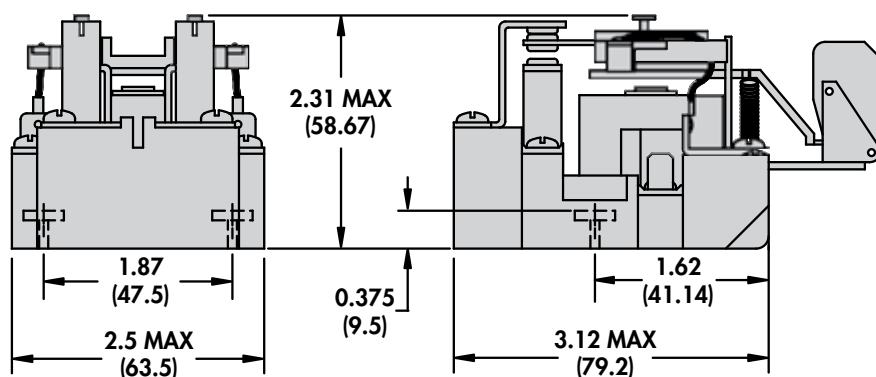
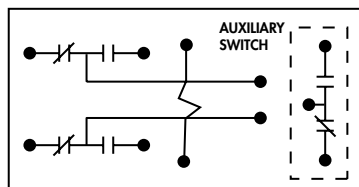
# W199 Open Style Power Relay/Single and Two Pole 40 and 50 Amp Rating (DC and AC) *continued*



DPST-NO w/Blowout Magnet



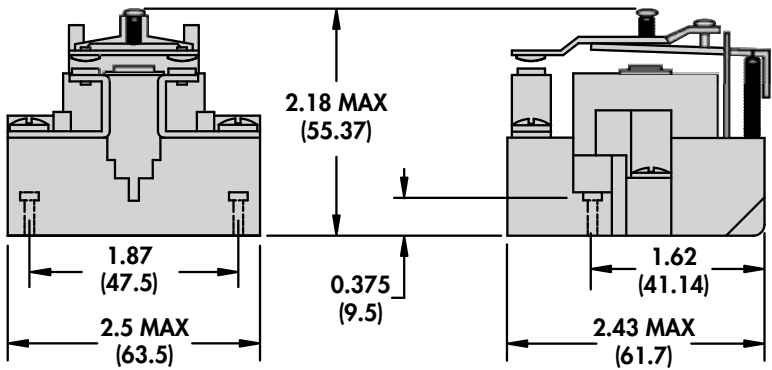
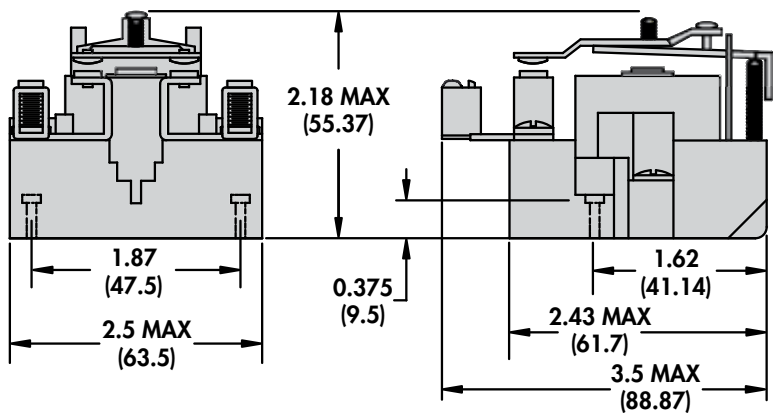
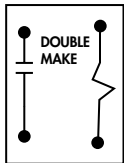
DPDT w/Auxiliary Switch and QC Connectors on Coil



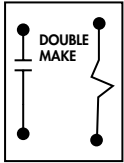
\*More configurations available.



SPST-NO-DM w/Pressure Wire Connectors



SPST-NO-DM

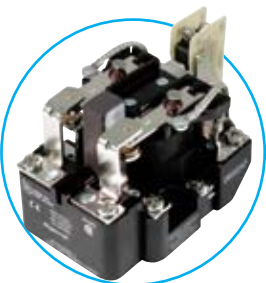
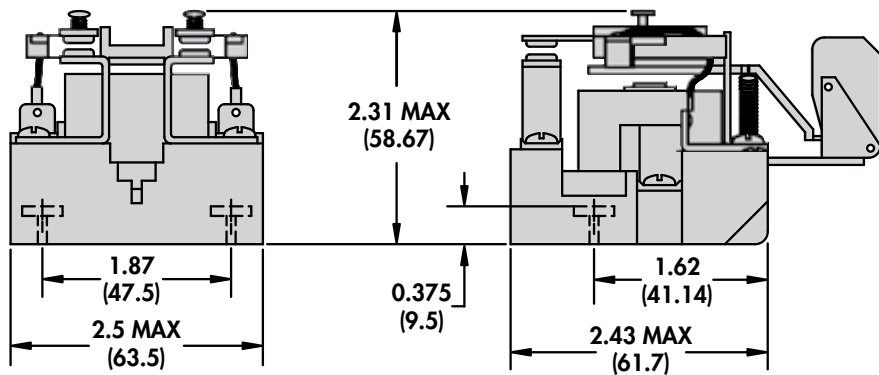
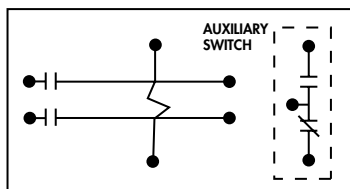


\*More configurations available.

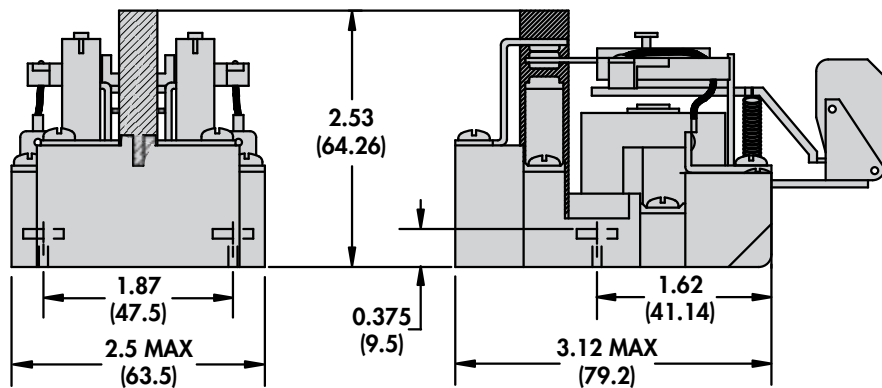
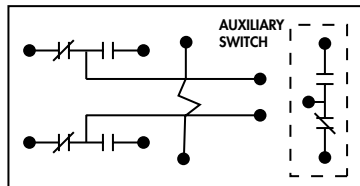
# W199 Open Style Power Relay/Single and Two Pole 40 and 50 Amp Rating (DC and AC) *continued*



DPST-NO w/Auxiliary Switch



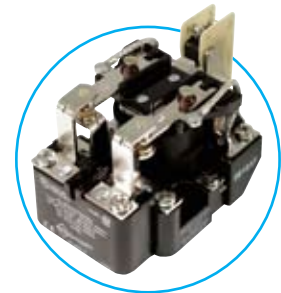
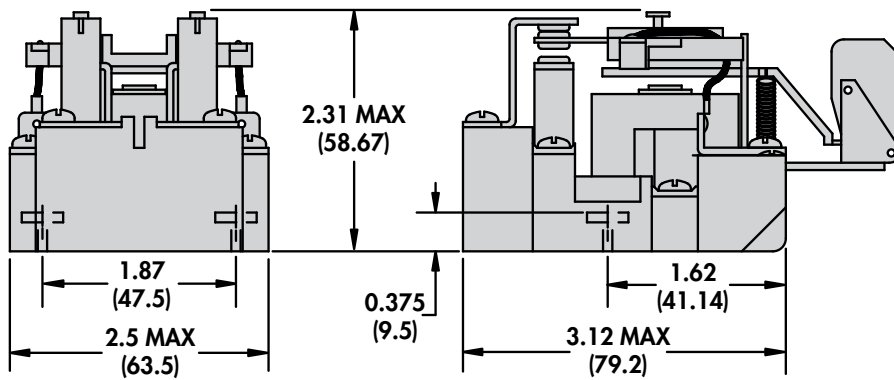
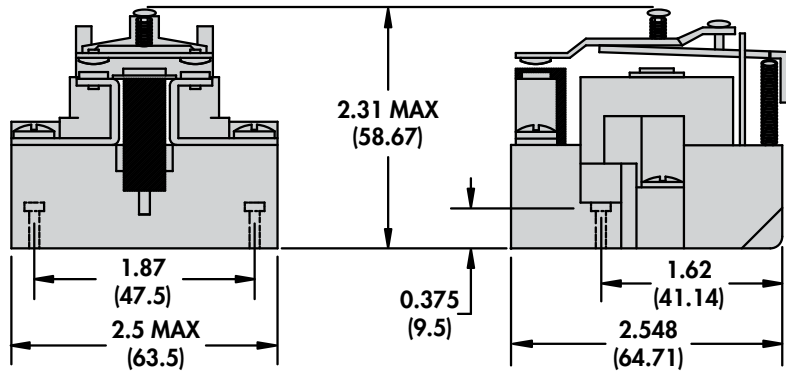
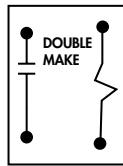
DPDT w/Blowout Magnet and Auxiliary Switch



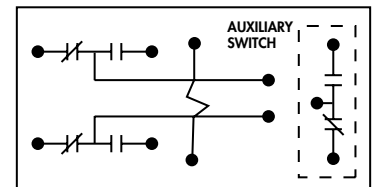
\*More configurations available.



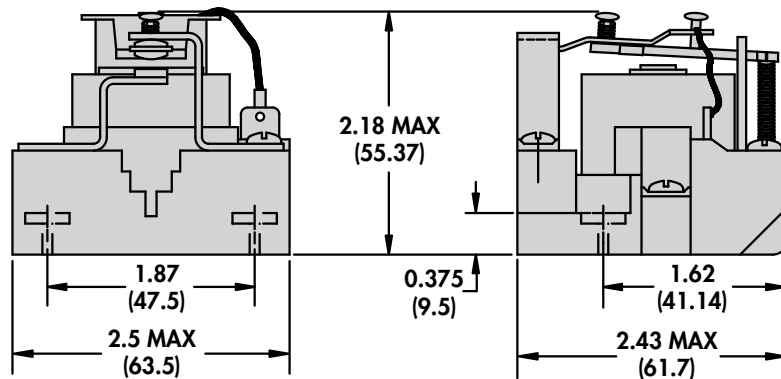
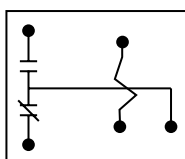
SPST-NO-DM w/Blowout Magnet



DPDT w/Auxiliary Switch



SPDT



\*More configurations available.