

# AZ880

## 10 A SPST / 8 A DPST POLARIZED SUBMINIATURE POWER RELAY SINGLE SIDE STABLE (NON-LATCHING) AND BISTABLE (LATCHING)



### FEATURES

- Dielectric strength 4000 Vrms
- Single and dual coil latching versions available
- Epoxy sealed version available
- 10 Amp switching
- UL, CUR file E44211

### CONTACTS

|                               |  |
|-------------------------------|--|
| <b>Arrangement</b>            | SPST (1 Form A), DPST (2 Form A)<br>DPST (1 Form A and 1 Form B)   |
| <b>Ratings</b>                | Resistive load:<br>Max. switched power: 300 W or 2500 VA (SPST)<br>240 W or 2000 VA (DPST)<br>Max. switched current: 10 A (SPST)<br>8 A (DPST)<br>Max. switched voltage: 150 VDC or 380 VAC*<br>*Note: If switching voltage is greater than 30 VDC,<br>special precautions must be taken. Please contact<br>the factory. |
| <b>Rated Load<br/>UL, CUR</b> | SPST<br>10 A at 250 VAC general use, 30k cycles<br>10 A at 30 VDC resistive, 30k cycles<br>1/3 HP at 250 VAC<br>B300 Pilot Duty<br><br>DPST<br>8 A at 250 VAC general use, 30k cycles<br>8 A at 30 VDC resistive, 30k cycles<br>1/3 HP at 250 VAC<br>1/4 HP at 125 VAC   |
| <b>Material</b>               | Silver nickel, gold plating optional   |
| <b>Resistance</b>             | < 50 milliohms initially (6 V 1 A voltage drop<br>method)  |

### COIL

|  |   |
|--|---|
| <b>Power<br/>At Pickup Voltage<br/>(typical)</b> | 137 mW ( 2A single side stable, 2 coil<br>latching)<br><br>98 mW (1 coil latching or 1A or 1AB single<br>side stable) |
| <b>Max. Continuous<br/>Dissipation</b>           | 0.75 W at 20°C (68°F) ambient   |
| <b>Temperature Rise</b>                          | 30°C (54°F) at nominal coil voltage   |
| <b>Max. Temperature</b>                          | 105°C (221°F)   |

### GENERAL DATA

|  |  |
|--|--|
| <b>Life Expectancy<br/>Mechanical<br/>Electrical</b> | Minimum operations<br>1 x 10 <sup>7</sup><br>1 x 10 <sup>6</sup> at 10 A 250 VAC resistive (SPST)  |
| <b>Operate Time (typical)</b>                        | 5 ms at nominal coil voltage   |
| <b>Release Time (typical)</b>                        | 3 ms at nominal coil voltage<br>(with no coil suppression)   |
| <b>Set Time (typical)</b>                            | 5 ms at nominal coil voltage   |
| <b>Reset Time (typical)</b>                          | 4 ms at nominal coil voltage   |
| <b>Dielectric Strength<br/>(at sea level)</b>        | 4000 Vrms coil to contact (-1A, -1AB)<br>3000 Vrms coil to contact (-2A)<br>1000 Vrms between contacts<br>2000 Vrms between contact sets |
| <b>Insulation Resistance</b>                         | 1000 megohms min. at 20°C<br>500 Vdc 50% RH  |
| <b>Dropout</b>                                       | Greater than 10% of nominal coil voltage   |
| <b>Ambient Temperature<br/>Operating<br/>Storage</b> | At nominal coil voltage<br>-40°C (-40°F) to 70°C (158°F)<br>-40°C (-40°F) to 105°C (221°F)   |
| <b>Vibration</b>                                     | 0.062" DA at 10 to 55 Hz   |
| <b>Shock</b>   | 10 g functional  |
| <b>Enclosure</b>                                     | P.B.T. polyester   |
| <b>Terminals</b>                                     | Tinned copper alloy, P.C.  |
| <b>Max. Solder Temp.</b>                             | 270°C (518°F)  |
| <b>Max. Solder Time</b>                              | 5 seconds  |
| <b>Max. Solvent Temp.</b>                            | 80°C (176°F)   |
| <b>Max. Immersion Time</b>                           | 30 seconds   |
| <b>Weight</b>  | 6 grams  |

### NOTES

1. All values at 20°C (68°F).
2. Relay may pull in with less than "Must Operate" value.
3. Relay has fixed coil polarity.
4. For complete isolation between the relay's magnetic fields, it is recommended that a .197" (5.0 mm) space be provided between adjacent relays.
5. Relay adjustment may be affected if undue pressure is exerted on relay case.
6. Specifications subject to change without notice.



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9/6/06W

# AZ880

## RELAY ORDERING DATA

### AZ880

| COIL SPECIFICATIONS - 1 FORM A AND 1 FORM A/1 FORM B |                   |                     |                            | ORDER NUMBER* |                      |
|--|-------------------|---------------------|----------------------------|---------------|----------------------|
| Nominal Coil VDC                                     | Must. Operate VDC | Max. Continuous VDC | Coil Resistance $\pm 10\%$ | 1 Form A      | 1 Form A<br>1 Form B |
| 3  | 2.1               | 5.8                 | 45                         | AZ880-1A-3D   | AZ880-1AB-3D         |
| 5  | 3.5               | 9.7                 | 125                        | AZ880-1A-5D   | AZ880-1AB-5D         |
| 6  | 4.2               | 11.6                | 180                        | AZ880-1A-6D   | AZ880-1AB-6D         |
| 9  | 6.3               | 17.4                | 405                        | AZ880-1A-9D   | AZ880-1AB-9D         |
| 12   | 8.4               | 23.2                | 720                        | AZ880-1A-12D  | AZ880-1AB-12D        |
| 24   | 16.8              | 46.5                | 2880                       | AZ880-1A-24D  | AZ880-1AB-24D        |

\*Add suffix "E" for epoxy sealed version. Add suffix "A" for gold plated contacts. Add suffix "R" for reversed polarity coil.

### AZ880

| COIL SPECIFICATIONS - 2 FORM A |                   |                     |                            | ORDER NUMBER* |
|--------------------------------|-------------------|---------------------|----------------------------|---------------|
| Nominal Coil VDC               | Must. Operate VDC | Max. Continuous VDC | Coil Resistance $\pm 10\%$ | 2 Form A      |
| 3                              | 2.1               | 4.9                 | 32.1                       | AZ880-2A-3D   |
| 5                              | 3.5               | 8.2                 | 89.3                       | AZ880-2A-5D   |
| 6                              | 4.2               | 9.8                 | 129                        | AZ880-2A-6D   |
| 9                              | 6.3               | 14.7                | 289                        | AZ880-2A-9D   |
| 12                             | 8.4               | 19.6                | 514                        | AZ880-2A-12D  |
| 24                             | 16.8              | 39.3                | 2056                       | AZ880-2A-24D  |

\*Add suffix "E" for epoxy sealed version. Add suffix "A" for gold plated contacts. Add suffix "R" for reversed polarity coil.

### AZ880P1

| COIL SPECIFICATIONS - SINGLE COIL LATCHING |                   |                     |                            | ORDER NUMBER*  |                |                      |
|--|-------------------|---------------------|----------------------------|----------------|----------------|----------------------|
| Nominal Coil VDC                           | Must. Operate VDC | Max. Continuous VDC | Coil Resistance $\pm 10\%$ | 1 Form A       | 2 Form A       | 1 Form A<br>1 Form B |
| 3  | 2.1               | 5.8                 | 45                         | AZ880P1-1A-3D  | AZ880P1-2A-3D  | AZ880P1-1AB-3D       |
| 5  | 3.5               | 9.7                 | 125                        | AZ880P1-1A-5D  | AZ880P1-2A-5D  | AZ880P1-1AB-5D       |
| 6  | 4.2               | 11.6                | 180                        | AZ880P1-1A-6D  | AZ880P1-2A-6D  | AZ880P1-1AB-6D       |
| 9  | 6.3               | 17.4                | 405                        | AZ880P1-1A-9D  | AZ880P1-2A-9D  | AZ880P1-1AB-9D       |
| 12   | 8.4               | 23.2                | 720                        | AZ880P1-1A-12D | AZ880P1-2A-12D | AZ880P1-1AB-12D      |
| 24   | 16.8              | 46.5                | 2880                       | AZ880P1-1A-24D | AZ880P1-2A-24D | AZ880P1-1AB-24D      |

\*Add suffix "E" for epoxy sealed version. Add suffix "A" for gold plated contacts. Add suffix "R" for reversed polarity coil.

### AZ880P2

| COIL SPECIFICATIONS - DUAL COIL LATCHING |                   |                     |                            | ORDER NUMBER*  |                |                      |
|--|-------------------|---------------------|----------------------------|----------------|----------------|----------------------|
| Nominal Coil VDC                         | Must. Operate VDC | Max. Continuous VDC | Coil Resistance $\pm 10\%$ | 1 Form A       | 2 Form A       | 1 Form A<br>1 Form B |
| 3  | 2.1               | 4.9                 | 32.1                       | AZ880P2-1A-3D  | AZ880P2-2A-3D  | AZ880P2-1AB-3D       |
| 5  | 3.5               | 8.2                 | 89.3                       | AZ880P2-1A-5D  | AZ880P2-2A-5D  | AZ880P2-1AB-5D       |
| 6  | 4.2               | 9.8                 | 129                        | AZ880P2-1A-6D  | AZ880P2-2A-6D  | AZ880P2-1AB-6D       |
| 9  | 6.3               | 14.7                | 289                        | AZ880P2-1A-9D  | AZ880P2-2A-9D  | AZ880P2-1AB-9D       |
| 12                                       | 8.4               | 19.6                | 514                        | AZ880P2-1A-12D | AZ880P2-2A-12D | AZ880P2-1AB-12D      |
| 24                                       | 16.8              | 39.3                | 2056                       | AZ880P2-1A-24D | AZ880P2-2A-24D | AZ880P2-1AB-24D      |

\*Add suffix "E" for epoxy sealed version. Add suffix "A" for gold plated contacts. Add suffix "R" for reversed polarity coil.



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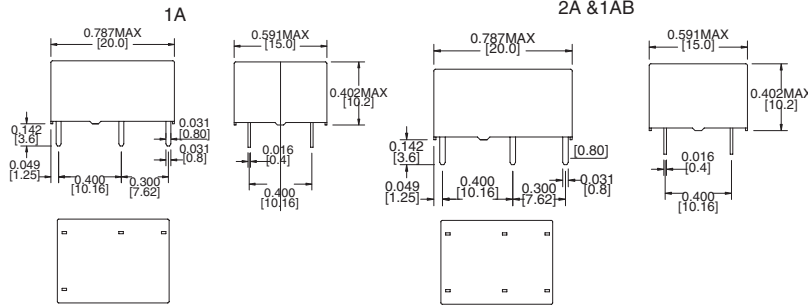
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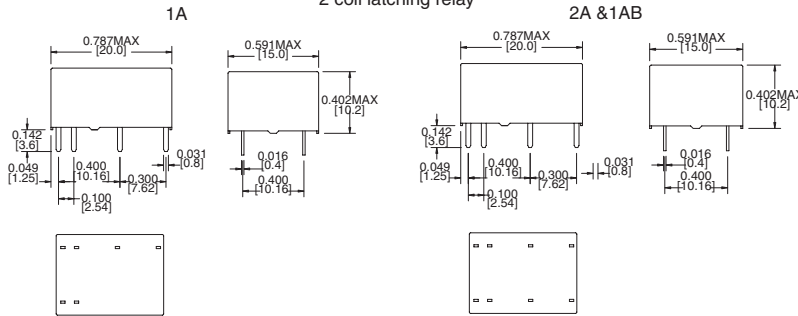
## MECHANICAL DATA

### Outline Dimensions

Single side stable or 1 coil latching relay

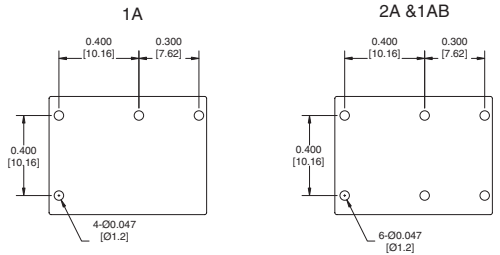


2 coil latching relay

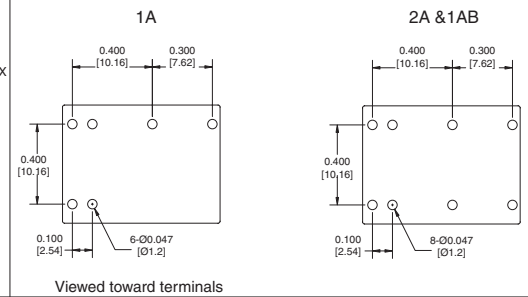


### PC Board Layout

Single side stable or 1 coil latching relay



2 coil latching relay

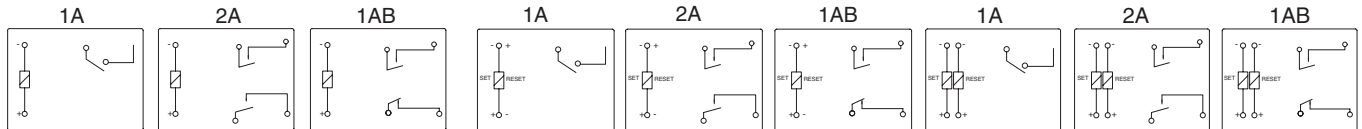


### Wiring Diagram

Single side stable

1 coil latching relay

2 coil latching relay



Viewed toward terminals. Relays shown in de-energized or reset state.

Dimensions in inches with metric equivalents in parentheses. Tolerance:  $\pm .010$ "



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