

# AZ770

## SPDT SUBMINIATURE POWER RELAY

### FEATURES

- 5 kV dielectric strength, 10 kV surge
- 8mm creepage and clearance
- Proof tracking index (PTI/CTI) 250
- 5 Amp switching (1 Form A: 20A inrush)
- Epoxy sealed version available
- Reinforced insulation, EN 60730-1 (VDE 0631, part 1),  
1 Form A: EN 60335-1 (VDE 0700, part 1)
- UL, CUR file E44211
- VDE file 40006815



### CONTACTS

|                               |   |
|-------------------------------|---|
| <b>Arrangement</b>            | SPST (1 Form A)<br>SPDT (1 Form C)  |
| <b>Ratings</b>                | Resistive load:<br>Max. switched power: 150 W or 1250 VA<br>Max. switched current: 5 A<br>Max. switched voltage: 150 VDC* or 380 VAC<br>* Note: If switching voltage is greater than 30 VDC, special precautions must be taken. Please contact the factory.   |
| <b>Rated Load<br/>UL, CUR</b> | Form A (N.O.)<br>5 A at 250 VAC, Res., 100k cycles<br>5 A at 30 VDC, Res., 100k cycles<br>1/8 HP, 125 / 250 VAC, 100k cycles<br>3 A at 250 VAC, cos phi 0.4, 100k cycles<br>C300 Pilot Duty, 125 / 250 VAC, 100k cycles<br>TV-2, 120 VAC<br><br>Form C<br>3 A at 250 VAC, Res., 100k cycles<br>3 A at 30 VDC, Res., 100k cycles |
| <b>VDE</b>                    | 5 A at 250 VAC, Res., 100k cycles at 85°C   |
| <b>Material</b>               | Silver nickel, gold plating available   |
| <b>Resistance</b>             | < 100 milliohms initially   |

### COIL

|  |   |
|--|---|
| <b>Power<br/>At Pickup Voltage<br/>(typical)</b> | 253 mW standard coil<br>113 mW sensitive coil           |
| <b>Max. Continuous<br/>Dissipation</b>           | 1.25 W at 20°C (68°F) ambient                           |
| <b>Temperature Rise<br/>(at nominal voltage)</b> | 41°C (74°F) standard coil<br>22°C (40°F) sensitive coil |
| <b>Temperature</b>                               | Max. 130°C (266°F)                                      |

### NOTES

1. All values at 20°C (68°F).
2. Relay may pull in with less than "Must Operate" value.
3. Specifications subject to change without notice.

### GENERAL DATA

|  |  |
|--|--|
| <b>Life Expectancy<br/>Mechanical<br/>Electrical</b>                   | Minimum operations<br>1 x 10 <sup>6</sup><br>1 x 10 <sup>5</sup> at 5 A 250 VAC Res.       |
| <b>Operate Time (typical)</b>  | 8 ms at nominal coil voltage   |
| <b>Release Time (typical)</b>  | 4 ms at nominal coil voltage<br>(with no coil suppression)                                 |
| <b>Dielectric Strength<br/>(at sea level for 1 min.)</b>               | 5000 Vrms coil to contact<br>1000 Vrms between open contacts                               |
| <b>Surge Voltage<br/>Coil to contact</b>                               | 10,000V (at 1.2x50 µs)   |
| <b>Insulation<br/>Resistance</b>                                       | 1000 megohms min. at 20°C<br>500 VDC 50% RH  |
| <b>Insulation<br/>(according to<br/>DIN VDE 0110,<br/>IEC 60664-1)</b> | C250<br>Overvoltage category: III<br>Pollution degree: 3<br>Nominal voltage: 250 VAC       |
| <b>Dropout</b>   | Greater than 5% of nominal coil voltage  |
| <b>Ambient Temperature<br/>Operating<br/>Storage</b>                   | At nominal coil voltage<br>-40°C (-40°F) to 85°C (185°F)<br>-40°C (-40°F) to 105°C (221°F) |
| <b>Vibration</b>   | 0.062" (1.5 mm) DA at 10–50 Hz   |
| <b>Shock</b>   | 10 g operating, 100 g damage   |
| <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>  | 4.6 grams  |
| <b>Packing unit in pcs</b>   | 100 per plastic tray / 1000 per carton box   |

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# AZ770

## RELAY ORDERING DATA

| COIL SPECIFICATIONS |                  |                     |                                | ORDER NUMBER* |               |
|---------------------|------------------|---------------------|--------------------------------|---------------|---------------|
| Nominal Coil VDC    | Must Operate VDC | Max. Continuous VDC | Coil Resistance Ohm $\pm 10\%$ | Form A (SPST) | Form C (SPDT) |
| 3                   | 2.25             | 3.9                 | 20                             | AZ770-1A-3D   | AZ770-1C-3D   |
| 5                   | 3.75             | 6.5                 | 55                             | AZ770-1A-5D   | AZ770-1C-5D   |
| 6                   | 4.5              | 7.8                 | 80                             | AZ770-1A-6D   | AZ770-1C-6D   |
| 9                   | 6.75             | 11.7                | 180                            | AZ770-1A-9D   | AZ770-1C-9D   |
| 12                  | 9.0              | 15.6                | 320                            | AZ770-1A-12D  | AZ770-1C-12D  |
| 18                  | 13.5             | 23.4                | 720                            | AZ770-1A-18D  | AZ770-1C-18D  |
| 24                  | 18.0             | 31.2                | 1,280                          | AZ770-1A-24D  | AZ770-1C-24D  |
| 48                  | 36.0             | 62.4                | 5,120 $\pm 15\%$               | AZ770-1A-48D  | AZ770-1C-48D  |

| COIL SPECIFICATIONS |                  |                     |                                | ORDER NUMBER* |  |
|---------------------|------------------|---------------------|--------------------------------|---------------|--|
| Nominal Coil VDC    | Must Operate VDC | Max. Continuous VDC | Coil Resistance Ohm $\pm 10\%$ | Form A (SPST) |  |
| 3                   | 2.25             | 5.1                 | 45                             | AZ770-1A-3DS  |  |
| 5                   | 3.75             | 8.5                 | 125                            | AZ770-1A-5DS  |  |
| 6                   | 4.5              | 10.2                | 180                            | AZ770-1A-6DS  |  |
| 9                   | 6.75             | 15.3                | 400                            | AZ770-1A-9DS  |  |
| 12                  | 9.0              | 20.4                | 720                            | AZ770-1A-12DS |  |
| 18                  | 13.5             | 30.6                | 1,600                          | AZ770-1A-18DS |  |
| 24                  | 18.0             | 40.8                | 2,800                          | AZ770-1A-24DS |  |
| 48                  | 36.0             | 81.6                | 11,520 $\pm 15\%$              | AZ770-1A-48DS |  |

\* Add suffix "E" for epoxy sealed version. Add suffix "K" for Type 2 footprint. Add suffix "G" for gold plated contacts.

## MECHANICAL DATA

**Type 1**

**Type 2**

**PC BOARD LAYOUT**

**Type 1**                      **Type 2**

Viewed toward terminals

\*Not used on Form A version

  

**WIRING DIAGRAMS**

**Type 1**                      **Type 2**

Viewed toward terminals

\*Not used on Form A version

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

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