

# AZ2280

## 30 AMP MINIATURE POWER RELAY

### FEATURES

- Quick-connect leads for contacts and coil
- 1 Form A, B and C contacts available
- AC and DC coils available
- Epoxy sealed versions available
- UL Class F (155°C) standard
- UL, CUR file E44211
- VDE certificate 40027037



### CONTACTS

|                    |  |
|--------------------|--|
| <b>Arrangement</b> | SPST (1 Form A)<br>SPST (1 Form B)<br>SPDT (1 Form C)  |
| <b>Ratings</b>     | Resistive load:  |
| <b>1 Form A</b>    | Max. switched power: 840 W or 8310 VA<br>Max. switched current: 30 A<br>Max. switched voltage: 28 VDC or 277 VAC   |
| <b>1 Form B</b>    | Max. switched power: 280 W or 4155VA<br>Max. switched current: 15 A<br>Max. switched voltage: 28 VDC or 277 VAC  |
| <b>1 Form C</b>    | Max. switched power: 560 W or 8310 VA (N.O.)<br>280 W or 5540 VA (N.C.)<br>Max. switched current: 30 A (N.O.)<br>20 A (N.C.)<br>Max. switched voltage: 28 VDC or 277 VAC |
| <b>Material</b>    | Silver cadmium oxide [1], silver tin oxide [2]   |
| <b>Resistance</b>  | < 50 milliohm initially<br>(24 V, 1A voltage drop method)  |

### COIL

|  |   |
|--|---|
| <b>Power At Pickup Voltage (typical)</b> | 500 mW, DC coil<br>1.4 VA, AC coil  |
| <b>Max. Continuous Dissipation</b>       | 1.7 W at 20°C (68°F) ambient, DC coil<br>2.7 VA at 20°C (68°F) ambient, AC coil |
| <b>Temperature Rise</b>                  | 38°C (68°F) at nominal coil voltage   |
| <b>Max. Temperature</b>                  | 155°C (311°F)   |

### NOTES

1. All values at 20°C (68°F)
2. Relay may pull in with less than "Must Operate" value.
3. AC coils are not VDE approved
4. 15 VDC and 18 VDC coils are not VDE approved.
5. Specification subject to change without notice.

### GENERAL DATA

|  |  |
|--|--|
| <b>Life Expectancy</b><br><b>Mechanical</b><br><b>Electrical</b> | Minimum operations<br>1 x 10 <sup>7</sup><br>1 x 10 <sup>5</sup> at 30 A 120 VAC Res. N.O.   |
| <b>Operate Time</b>  | 15 ms max. at nominal coil voltage   |
| <b>Release Time</b>  | 10 ms max. at nominal coil voltage<br>(with no coil suppression)   |
| <b>Dielectric Strength</b><br><b>(at sea level for 1 min.)</b>   | 2500 Vrms coil to contact<br>1500 Vrms between open contacts   |
| <b>Insulation Resistance</b>                                     | 1000 megaohms min. at 20°C,<br>500 VDC 50% RH  |
| <b>Dropout</b>   | DC: > 10% of nominal coil voltage<br>AC: > 20% of nominal coil voltage   |
| <b>Ambient Temperature</b><br><b>Operating</b><br><b>Storage</b> | -40°C (-40°F) to 85°C (185°F), DC coils<br>-40°C (-40°F) to 70°C (158°F), AC coils<br>-40°C (-40°F) to 105°C (221°F)                         |
| <b>Vibration</b>   | 1.5 mm DA at 10-55 Hz  |
| <b>Shock</b>   | 10 g   |
| <b>Enclosure</b>   | P.B.T. polyester   |
| <b>Terminals</b>   | Tinned copper alloy, Quick Connects<br>Note: Allow suitable slack on leads when wiring, and do not subject the terminals to excessive force. |
| <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>  | 36 grams   |
| <b>Packing unit in pcs</b>                                       | 40 per plastic tray / 280 per carton   |

**ZETTLER electronics GmbH**

Junkersstrasse 3, D-82178 Puchheim, Germany

Tel. +49 89 800 97 0  
Fax +49 89 800 97 200

office@ZETTLERelectronics.com  
www.ZETTLERelectronics.com

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## CONTACTS

|                          |   |
|--------------------------|---|
| <b>Rated load<br/>UL</b> | 1 Form A<br>30 A at 277 VAC, General Use, 6k cycles [1][2]<br>30 A at 28 VDC, resistive, 6k cycles [1]<br>28 A at 277 VAC, General Use, 100k cycles [1]<br>20 FLA / 60 LRA at 277 VAC, 30k cycles [1]<br>2 HP at 250 VAC [1][2]<br>1 HP at 125 VAC [1][2]       |
|                          | 1 Form B<br>15 A at 277 VAC, General Use, 6k cycles [1]<br>10 A at 28 VDC, resistive, 6k cycles [1]<br>10 FLA / 33 LRA at 277 VAC, 30k cycles [1]<br>0.5 HP at 250VAC [1]<br>0.25 HP at 125 VAC [1]   |
|                          | 1 Form C, (N.O.)<br>30 A at 277 VAC, General Use, 6k cycles [1][2]<br>20 A at 277 VAC, General Use, 6k cycles [1]<br>20 A at 28 VDC, resistive, 6k cycles [1]<br>20 FLA / 60 LRA at 277 VAC, 30k cycles [1]<br>2 HP at 250 VAC [1][2]<br>1 HP at 125 VAC [1][2] |
|                          | 1 Form C, (N.C.)<br>20 A at 277 VAC, General Use, 6k cycles [1][2]<br>10 A at 28 VDC, resistive, 6k cycles [1]<br>10 FLA / 33 LRA at 277 VAC, 30k cycles [1]<br>0.5 HP at 250 VAC [1][2]<br>0.25 HP at 125 VAC [1][2]   |

|   |  |
|---|--|
| <b>Rated load<br/>VDE</b>                           | 1 Form A, DC coils only<br>30 A at 250 VAC, resistive, 30k cycles [1]<br>15 A at 250 VAC, cos phi = 0.4, 100k cycles [1][2]  |
|   | 1 Form B, DC coils only<br>15 A at 250 VAC, resistive, 30k cycles [1]  |
|   | 1 Form C, (N.O.), DC coils only<br>30 A at 250 VAC, resistive, 30k cycles [1]<br>20 A at 250 VAC, resistive, 100k cycles [2] |
|   | 1 Form C, (N.C.), DC coils only<br>15 A at 250 VAC, resistive, 30k cycles [1]<br>10 A at 250 VAC, resistive, 100k cycles [2] |
| Note: 15 VDC and 18 VDC coils are not VDE approved. |  |

## RELAY ORDERING DATA

| COIL SPECIFICATIONS – DC Coil |                  |                     |                          |                           | ORDER NUMBER*   |
|-------------------------------|------------------|---------------------|--------------------------|---------------------------|-----------------|
| Nominal Coil VDC              | Must Operate VDC | Max. Continuous VDC | Nominal Current mA ± 10% | Coil Resistance Ohm ± 10% |                 |
| 5                             | 3.75             | 6.4                 | 185                      | 27                        | AZ2280-1AT-5DF  |
| 6                             | 4.5              | 7.8                 | 150                      | 40                        | AZ2280-1AT-6DF  |
| 9                             | 6.75             | 12.2                | 93                       | 97                        | AZ2280-1AT-9DF  |
| 12                            | 9.0              | 15.4                | 77                       | 155                       | AZ2280-1AT-12DF |
| 15                            | 11.25            | 19.8                | 59                       | 256                       | AZ2280-1AT-15DF |
| 18                            | 13.5             | 24.1                | 47                       | 380                       | AZ2280-1AT-18DF |
| 24                            | 18.0             | 32.0                | 36                       | 660                       | AZ2280-1AT-24DF |
| 48                            | 36.0             | 62.6                | 19                       | 2,560                     | AZ2280-1AT-48DF |

| COIL SPECIFICATIONS – AC Coil 50/60 Hz |                  |                     |                       | ORDER NUMBER*             |                  |
|--|------------------|---------------------|-----------------------|---------------------------|------------------|
| Nominal Coil VDC                       | Must Operate VDC | Max. Continuous VDC | Nominal Coil Power VA | Coil Resistance Ohm ± 10% |                  |
| 12                                     | 9.6              | 13.8                | 2.3                   | 25                        | AZ2280-1AT-12AF  |
| 24                                     | 19.2             | 27.6                | 2.1                   | 100                       | AZ2280-1AT-24AF  |
| 120                                    | 96.0             | 138.0               | 2.3                   | 2,500                     | AZ2280-1AT-120AF |
| 220                                    | 176.0            | 286.0               | 2.2                   | 13,490                    | AZ2280-1AT-220AF |
| 240                                    | 192.0            | 286.0               | 2.6                   | 13,490                    | AZ2280-1AT-240AF |
| 277                                    | 220.0            | 318.5               | 2.2                   | 15,000                    | AZ2280-1AT-277AF |

\* "1AT" denote silver cadmium oxide contacts.

Substitute "1BT" in place of "1AT" for 1 Form B relay.

Substitute "1CT" in place of "1AT" for 1 Form C relay.

Substitute "1AET" or "1CET" in place of "1AT" or "1CT" for silver tin oxide contacts.

Substitute "DEF" or "AEF" for epoxy sealed version.

Add suffix "K" at the end of order number for 0.11 x 0.02 [2.8 x 0.5] coil terminals.

## ZETTLER electronics GmbH

Junkersstrasse 3, D-82178 Puchheim, Germany

Tel. +49 89 800 97 0

Fax +49 89 800 97 200

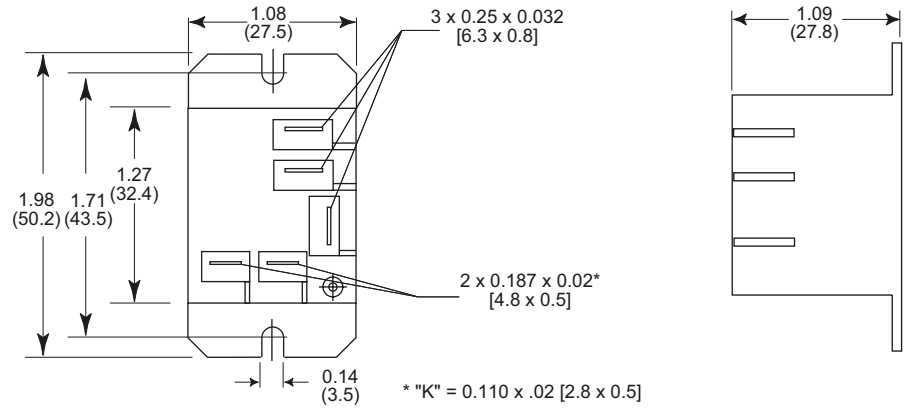
office@ZETTLERelectronics.com

www.ZETTLERelectronics.com

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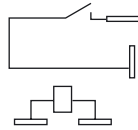
# AZ2280

## MECHANICAL DATA

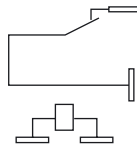


## WIRING DIAGRAMS (Top View)

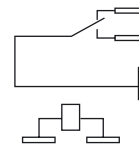
**Form A**



**Form B**



**Form C**



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