

# AZ2150

## 40A MINIATURE POWER RELAY

### FEATURES

- 40 Amp switching capability
- 1 Form A, B and C contacts available
- DC coils to 120 VDC
- Life expectancy to 10 million operations
- Class B insulation standard
- Class F (155°C) version available
- Available with an epoxy seal for automatic wave soldering and immersion cleaning
- Proof Tracking Index (PTI/CTI) 175
- UL, CUR file E44211 including versions meeting UL 508 and UL 873 spacing and contact rating requirements; VDE 40023154 (some models)

### CONTACTS

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Arrangement</b> | SPDT (1 Form C)<br>SPST (1 Form A and 1 Form B)                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Ratings</b>     | Resistive load:<br>Max. switched power: 900 W or 10000 VA<br>Max. switched current: 40 A (Form A) 30 A (Form B)<br>Max. switched voltage: 30 VDC or 300 VAC<br><b>UL Rating:</b> See chart for UL contact ratings. AZ2150 Series meets UL 508 Group A spacing and UL 873 refrigeration and safety control requirements. AZ2151 Series meets UL 508 Group B spacing requirements.<br><b>VDE Rating:</b><br>AZ2150-1A - 25 A at 250 VAC, 10k cycles, resistive<br>AZ2150-1C - 20 A at 250 VAC, 10k cycles, resistive |
| <b>Material</b>    | Silver cadmium oxide                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Resistance</b>  | < 20 milliohms initially<br>(at rated current, voltage drop method)                                                                                                                                                                                                                                                                                                                                                                                                                                                |

### COIL

|                                    |                                                               |
|------------------------------------|---------------------------------------------------------------|
| <b>Power</b>                       |                                                               |
| <b>At Pickup Voltage (typical)</b> | 500 mW                                                        |
| <b>Max. Continuous Dissipation</b> | 2.2 W at 20°C (68°F) ambient<br>1.8 W at 40°C (104°F) ambient |
| <b>Temperature Rise</b>            | 43°C (77°F) at nominal coil voltage                           |
| <b>Temperature</b>                 | Max. 130°C (266°F) Class B<br>Max. 155°C (311°F) Class F      |



### 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 (max.)</b>                                           | Max. 12 ms<br>Typical: 8 ms                                                                                                                                                                     |
| <b>Release Time (max.)</b>                                           | Max. 5 ms<br>Typical: 3.5 ms                                                                                                                                                                    |
| <b>Dielectric Strength (at sea level for 1min)</b>                   | 2500 Vrms contact to coil<br>1500 Vrms between open contacts                                                                                                                                    |
| <b>Insulation Resistance</b>                                         | 1000 megohms min. at 500 VDC, 20°C<br>50% RH                                                                                                                                                    |
| <b>Dropout</b>                                                       | Greater than 10% of nominal coil voltage                                                                                                                                                        |
| <b>Ambient Temperature</b><br><b>Operating</b><br><br><b>Storage</b> | At nominal coil voltage<br>-55°C (-67°F) to 100°C (212°F) Class B<br>-55°C (-67°F) to 125°C (257°F) Class F<br>-55°C (-67°F) to 130°C (266°F) Class B<br>-55°C (-67°F) to 155°C (311°F) Class F |
| <b>Vibration</b>                                                     | 0.062" DA at 10–55 Hz                                                                                                                                                                           |
| <b>Shock</b>                                                         | 20 g                                                                                                                                                                                            |
| <b>Enclosure</b>                                                     | P.B.T. polyester                                                                                                                                                                                |
| <b>Terminals</b>                                                     | Tinned copper alloy                                                                                                                                                                             |
| <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>                                                        | 25 grams                                                                                                                                                                                        |

### NOTES

1. All values at 20°C (68°F).
2. Relay may pull in with less than "Must Operate" value.
3. Unsealed relays should not be dip cleaned.
4. Other coil resistances and sensitivities available upon request. Please call the factory.
5. Specifications subject to change without notice.



**AMERICAN ZETTLER, INC.**

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7/23/09

# AZ2150

## RELAY ORDERING DATA

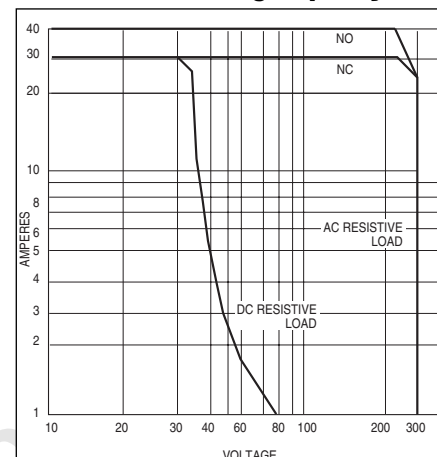
| STANDARD RELAYS: 1 Form A (SPST): 1/8" Clearance, 1/4" Creepage |                     |                            |                  |                |                 |
|-----------------------------------------------------------------|---------------------|----------------------------|------------------|----------------|-----------------|
| COIL SPECIFICATIONS                                             |                     |                            |                  | ORDER NUMBER*  |                 |
| Nominal Coil VDC                                                | Max. Continuous VDC | Coil Resistance $\pm 10\%$ | Must Operate VDC | Unsealed       | Sealed          |
| 5                                                               | 7.3                 | 27                         | 3.75             | AZ2150-1A-5D   | AZ2150-1A-5DE   |
| 6                                                               | 8.9                 | 40                         | 4.5              | AZ2150-1A-6D   | AZ2150-1A-6DE   |
| 9                                                               | 13.9                | 97                         | 6.75             | AZ2150-1A-9D   | AZ2150-1A-9DE   |
| 12                                                              | 17.5                | 155                        | 9.0              | AZ2150-1A-12D  | AZ2150-1A-12DE  |
| 15                                                              | 22.5                | 256                        | 11.25            | AZ2150-1A-15D  | AZ2150-1A-15DE  |
| 18                                                              | 27.4                | 380                        | 13.5             | AZ2150-1A-18D  | AZ2150-1A-18DE  |
| 24                                                              | 36.1                | 660                        | 18.0             | AZ2150-1A-24D  | AZ2150-1A-24DE  |
| 48                                                              | 68.4                | 2,560                      | 36.0             | AZ2150-1A-48D  | AZ2150-1A-48DE  |
| 70                                                              | 104.4               | 5,500                      | 52.5             | AZ2150-1A-70D  | AZ2150-1A-70DE  |
| 110                                                             | 163.2               | 13,450                     | 82.5             | AZ2150-1A-110D | AZ2150-1A-110DE |

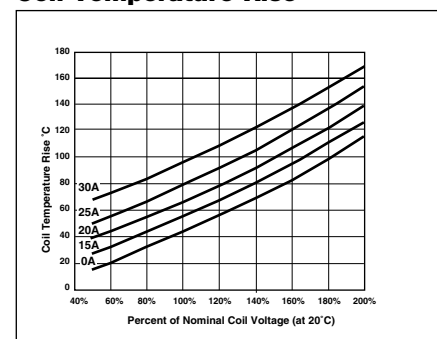
| STANDARD RELAYS: 1 Form A (SPST): 1/16" Clearance, 1/8" Creepage |                     |                            |                  |                |                 |
|------------------------------------------------------------------|---------------------|----------------------------|------------------|----------------|-----------------|
| COIL SPECIFICATIONS                                              |                     |                            |                  | ORDER NUMBER*  |                 |
| Nominal Coil VDC                                                 | Max. Continuous VDC | Coil Resistance $\pm 10\%$ | Must Operate VDC | Unsealed       | Sealed          |
| 5                                                                | 7.3                 | 27                         | 3.75             | AZ2151-1A-5D   | AZ2151-1A-5DE   |
| 6                                                                | 8.9                 | 40                         | 4.5              | AZ2151-1A-6D   | AZ2151-1A-6DE   |
| 9                                                                | 13.9                | 97                         | 6.75             | AZ2151-1A-9D   | AZ2151-1A-9DE   |
| 12                                                               | 17.5                | 155                        | 9.0              | AZ2151-1A-12D  | AZ2151-1A-12DE  |
| 15                                                               | 22.5                | 256                        | 11.25            | AZ2151-1A-15D  | AZ2151-1A-15DE  |
| 18                                                               | 27.4                | 380                        | 13.5             | AZ2151-1A-18D  | AZ2151-1A-18DE  |
| 24                                                               | 36.1                | 660                        | 18.0             | AZ2151-1A-24D  | AZ2151-1A-24DE  |
| 48                                                               | 68.4                | 2,560                      | 36.0             | AZ2151-1A-48D  | AZ2151-1A-48DE  |
| 70                                                               | 104.4               | 5,500                      | 52.5             | AZ2151-1A-70D  | AZ2151-1A-70DE  |
| 110                                                              | 163.2               | 13,450                     | 82.5             | AZ2151-1A-110D | AZ2151-1A-110DE |

\* Substitute "1B" or "1C" in place of the "1A" to indicate 1 Form B and 1 Form C respectively. To indicate Class F version, add suffix "F".

## Maximum Switching Capacity



## Coil Temperature Rise

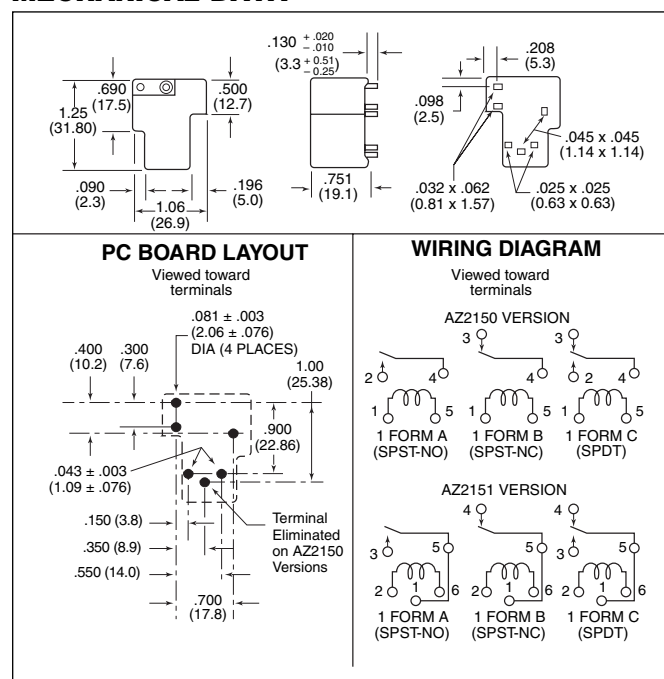


## UL/CUR File E44211 Approved Contact Ratings

| Load Type                           | Cycles  | Volts          | Form A (NO) | Form B (NC) | Form C   |        |
|-------------------------------------|---------|----------------|-------------|-------------|----------|--------|
|                                     |         |                |             |             | NO       | NC     |
| General Purpose (Inductive)         | 100,000 | 125 or 240 VAC | 30 A        | 15 A        | 30 A     | 15 A   |
|                                     | 30,000  | 277 VAC        | 30 A        | 30 A        | 30 A     | 30 A   |
| Resistive                           | 100,000 | 125 or 240 VAC | 30 A        | 15 A        | 30 A     | 15 A   |
|                                     | 100,000 | 30 VDC         | 20 A        | 10 A        | 20 A     | 10 A   |
|                                     | 100,000 | 277 VAC        | 20 A        | —           | —        | —      |
|                                     | 100,000 | 240 VAC        | 15 A        | —           | —        | —      |
|                                     | 6,000   | 250 VAC        | 40 A        | —           | 40 A     | —      |
| Ballast                             | 6,000   | 277 VAC        | 6 A         | 3 A         | 6 A      | 3 A    |
|                                     | 6,000   | 125 VAC        | 800 VA      | 290 VA      | 800 VA   | 290 VA |
|                                     | 30,000  | 125 VAC        | 800 VA      | —           | 690 VA   | —      |
|                                     | 100,000 | 125 VAC        | 690 VA      | —           | 470 VA   | 275 VA |
|                                     | 6,000   | 240 VAC        | 1152 VA     | 768 VA      | 1152 VA  | 768 VA |
| Pilot Duty                          | 100,000 | 277 VAC        | 764 VA      | —           | 764 VA   | —      |
|                                     | 6,000   | 125 VAC        | 1 HP        | 1/4 HP      | 1 HP     | 1/4 HP |
|                                     | 6,000   | 240 VAC        | 3 HP        | 1 HP        | 2 HP     | 1 HP   |
|                                     | 30,000  | 125 VAC        | 1 HP        | —           | 1 HP     | —      |
|                                     | 100,000 | 125 or 277 VAC | 3/4 HP      | —           | 3/4 HP   | —      |
| Motor Load                          | 30,000  | 125 VAC        | 96 LRA      | 33 LRA      | 60 LRA   | 33 LRA |
|                                     | 100,000 | 125 VAC        | 82.8 LRA    | —           | 82.8 LRA | —      |
|                                     | 30,000  | 240 VAC        | 80 LRA      | 33 LRA      | 60 LRA   | 33 LRA |
|                                     | 100,000 | 277 VAC        | 60 LRA      | —           | 60 LRA   | —      |
|                                     | 6,000   | 120 VAC        | —           | 3 A         | —        | —      |
| Definite Purpose (LRA-Locked Rotor) | 6,000   | 240 VAC        | —           | 3 A         | —        | —      |
|                                     | 6,000   | 240 VAC        | —           | 3 A         | —        | —      |
|                                     | 6,000   | 240 VAC        | —           | 3 A         | —        | —      |
|                                     | 6,000   | 240 VAC        | —           | 3 A         | —        | —      |
|                                     | 6,000   | 240 VAC        | —           | 3 A         | —        | —      |
| Tungsten                            | 6,000   | 125 VAC        | 15 A        | —           | 15 A     | 3 A    |
|                                     | 6,000   | 240 VAC        | 5 A         | —           | 5 A      | 3 A    |
|                                     | 6,000   | 120 VAC        | —           | 3 A         | —        | —      |
|                                     | 6,000   | 240 VAC        | —           | 3 A         | —        | —      |
|                                     | 6,000   | 240 VAC        | —           | 3 A         | —        | —      |
| TV-5                                | 25,000  | 120 VAC        | TV-5        | —           | TV-5     | TV-3   |
| TV-3                                | 25,000  | 120 VAC        | —           | TV-3        | —        | TV-3   |

Note: See AZ2100 Data Sheet for more complete UL and CUR approved contact ratings.

## MECHANICAL DATA



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



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