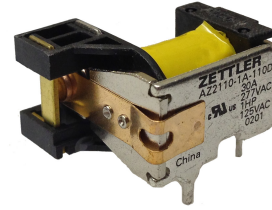


# AZ2110/AZ2120

## 40A MINIATURE POWER RELAY

### FEATURES

- 40 Amp switching capability
- 1 Form A, B and C contacts available
- DC coils to 120 VDC
- Low cost
- Life expectancy to 10 million operations
- Class B insulation standard
- Class F (155°C) version available
- Versatility of both PC and “Trace Saver” quick-connect terminals on contacts offered on the AZ2120 version
- 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: 900W or 10000VA<br>Max. switched current: 40A (Form A) 30A (Form B)<br>Max. switched voltage: 30 VDC or 300 VAC<br><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><br><b>VDE Rating:</b><br>AZ2110-1A: 25A for class F/20A for class B at 250VAC, 10k cycles, resistive<br>AZ2110-1C: 20A at 250VAC, 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>            | 38°C (68°F) at nominal coil voltage - AZ2110<br>33°C (59°F) at nominal coil voltage - AZ2120 |
| <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, 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 85°C (185°F)<br><br>-55°C (-67°F) to 105°C (221°F)  |
| <b>Vibration</b>   | 0.062" DA at 10–55 Hz   |
| <b>Shock</b>   | 20 g  |
| <b>Enclosure (optional)</b>  | P.B.T. polyester  |
| <b>Terminals</b>   | Tinned copper alloy, P.C. & quick connects, .250" wide, on top<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>Weight</b>  | 40 grams  |

### NOTES

1. All values at 20°C (68°F).
2. Relay may pull in with less than “Must Operate” value.
3. Other coil resistances and sensitivities available upon request. Please contact the factory.
4. Specifications subject to change without notice.

**AMERICAN ZETTLER, INC.** [www.azettler.com](http://www.azettler.com)

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8/05/15

# AZ2110/AZ2120

## RELAY ORDERING DATA

| STANDARD RELAYS: UL 508: 1/8" Clearance, 1/4" Creepage |                     |                            |                  |                |                |
|--|---------------------|----------------------------|------------------|----------------|----------------|
| COIL SPECIFICATIONS                                    |                     |                            |                  | ORDER NUMBER*  |                |
| Nominal Coil VDC                                       | Max. Continuous VDC | Coil Resistance $\pm 10\%$ | Must Operate VDC | Form A (SPST)  | Form C (SPDT)  |
| 5  | 7.3                 | 27                         | 3.75             | AZ2110-1A-5D   | AZ2110-1C-5D   |
| 6  | 8.9                 | 40                         | 4.5              | AZ2110-1A-6D   | AZ2110-1C-6D   |
| 9  | 13.9                | 97                         | 6.75             | AZ2110-1A-9D   | AZ2110-1C-9D   |
| 12   | 17.5                | 155                        | 9.0              | AZ2110-1A-12D  | AZ2110-1C-12D  |
| 15   | 22.5                | 256                        | 11.25            | AZ2110-1A-15D  | AZ2110-1C-15D  |
| 18   | 27.4                | 380                        | 13.5             | AZ2110-1A-18D  | AZ2110-1C-18D  |
| 24   | 36.1                | 660                        | 18.0             | AZ2110-1A-24D  | AZ2110-1C-24D  |
| 48   | 68.4                | 2,560                      | 36.0             | AZ2110-1A-48D  | AZ2110-1C-48D  |
| 70   | 104.4               | 5,500                      | 52.5             | AZ2110-1A-70D  | AZ2110-1C-70D  |
| 110  | 163.2               | 13,450                     | 82.5             | AZ2110-1A-110D | AZ2110-1C-110D |

| STANDARD RELAYS: 1/16" Clearance, 1/8" Creepage |                     |                            |                  |                |                |
|---|---------------------|----------------------------|------------------|----------------|----------------|
| COIL SPECIFICATIONS                             |                     |                            |                  | ORDER NUMBER*  |                |
| Nominal Coil VDC                                | Max. Continuous VDC | Coil Resistance $\pm 10\%$ | Must Operate VDC | Form A (SPST)  | Form C (SPDT)  |
| 5   | 7.3                 | 27                         | 3.75             | AZ2111-1A-5D   | AZ2111-1C-5D   |
| 6   | 8.9                 | 40                         | 4.5              | AZ2111-1A-6D   | AZ2111-1C-6D   |
| 9   | 13.9                | 97                         | 6.75             | AZ2111-1A-9D   | AZ2111-1C-9D   |
| 12  | 17.5                | 155                        | 9.0              | AZ2111-1A-12D  | AZ2111-1C-12D  |
| 15  | 22.5                | 256                        | 11.25            | AZ2111-1A-15D  | AZ2111-1C-15D  |
| 18  | 27.4                | 380                        | 13.5             | AZ2111-1A-18D  | AZ2111-1C-18D  |
| 24  | 36.1                | 660                        | 18.0             | AZ2111-1A-24D  | AZ2111-1C-24D  |
| 48  | 68.4                | 2,560                      | 36.0             | AZ2111-1A-48D  | AZ2111-1C-48D  |
| 70  | 104.4               | 5,500                      | 52.5             | AZ2111-1A-70D  | AZ2111-1C-70D  |
| 110   | 163.2               | 13,450                     | 82.5             | AZ2111-1A-110D | AZ2111-1C-110D |

\* Substitute "1B" in place of the "1A" to indicate 1 Form B contact. To indicate Class F version, add suffix "F". For quick connect terminals on contacts substitute "2120" or "2121" in place of "2110" or "2111".

## 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   | 125, 240, 277 VAC | 6 A                | 3 A              | 6 A                | 3 A              |
|                                     | 6,000   | 277 VAC           | 20 A               | —                | —                  | —                |
| Pilot Duty                          | 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           |
|                                     | 100,000 | 277 VAC           | 764 VA             | —                | 764 VA             | —                |
| Motor Load                          | 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             | —                |
| Definite Purpose (LRA-Locked Rotor) | 30,000  | 125 VAC           | 96 LRA<br>30 FLA   | 33 LRA<br>10 FLA | 60 LRA<br>20 FLA   | 33 LRA<br>10 FLA |
|                                     | 100,000 | 125 VAC           | 82.8 LRA<br>27 FLA | —                | 82.8 LRA<br>27 FLA | —                |
| Definite Purpose (FLA-Full Load)    | 30,000  | 240 VAC           | 80 LRA<br>30 FLA   | 33 LRA<br>10 FLA | 60 LRA<br>20 FLA   | 33 LRA<br>10 FLA |
|                                     | 100,000 | 277 VAC           | 60 LRA<br>20 FLA   | —                | 60 LRA<br>20 FLA   | —                |
| 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              | —                  | —                |
| 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.

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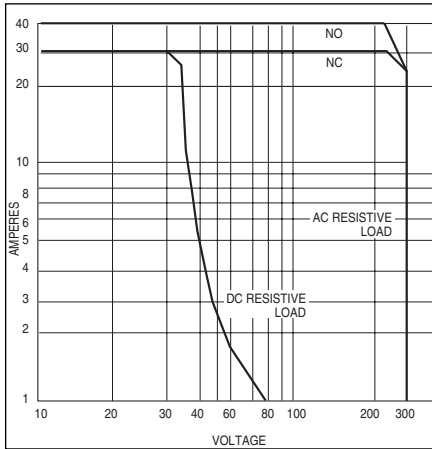
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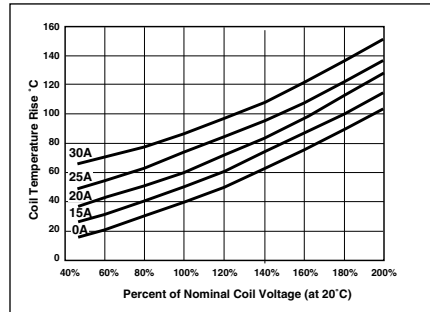
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# AZ2110/AZ2120

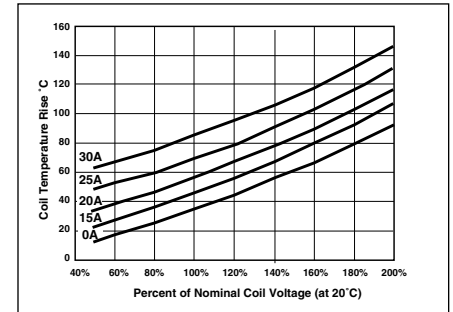
## Maximum Switching Capacity



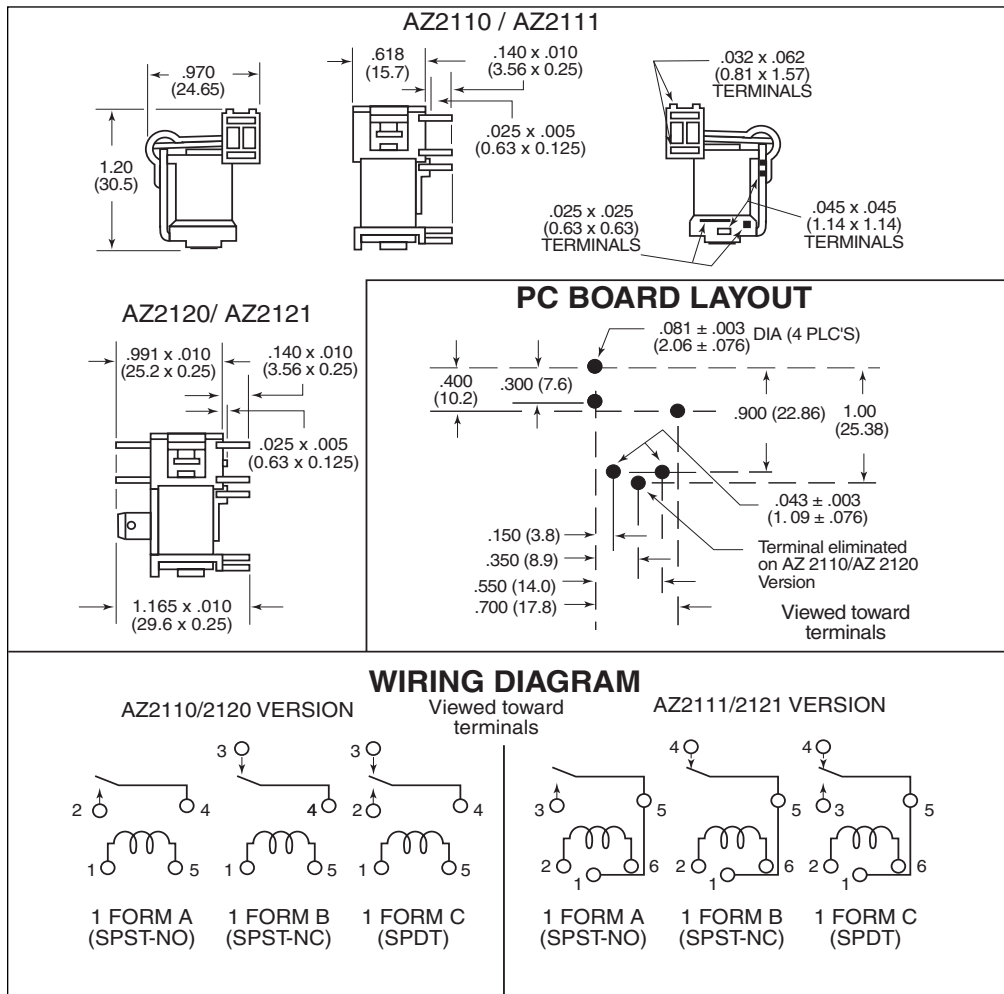
## Coil Temperature Rise - AZ2110



## Coil Temperature Rise - AZ2120



## MECHANICAL DATA



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