# AZ2100

## 40A MINIATURE POWER RELAY

### FEATURES

- Versatility of both PC and “Trace-Saver” quick-connect terminals on contacts
- 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 for high temperature applications
- 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 132710 ÜG (some models)

### CONTACTS

| | |
|---|---|
| **Arrangement** | SPDT (1 Form C)<br>SPST (1 Form A and 1 Form B) |
| **Ratings** | 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>**UL Rating:** See chart for UL contact ratings. AZ2100 Series meets UL 508 Group A spacing and UL 873 refrigeration and safety control requirements. AZ2101 Series meets UL 508 Group B spacing requirements.<br>**VDE Rating:**<br>AZ2100-1A - 16 A at 250 VAC, 10K cycles, resistive<br>AZ2100-1C - 16 A at 250 VAC, 10k cycles, resistive |
| **Material** | Silver cadmium oxide |
| **Resistance** | < 20 milliohms initially<br>(at rated current, voltage drop method) |

### COIL

| | |
|---|---|
| **Power** | |
| **At Pickup Voltage (typical)** | 500 mW |
| **Max. Continuous Dissipation** | 2.2 W at 20°C (68°F) ambient<br>1.8 W at 40°C (104°F) ambient |
| **Temperature Rise** | 38°C (68°F) at nominal coil voltage |
| **Temperature** | Max. 130°C (266°F) Class B<br>Max. 155°C (311°F) Class F |

### GENERAL DATA

| | |
|---|---|
| **Life Expectancy**<br>**Mechanical**<br>**Electrical** | Minimum operations<br>1 x $10^7$<br>1 x $10^5$ at 30 A 120 VAC Res. (N.O.) |
| **Operate Time (max.)** | Max. 12 ms<br>Typical: 8 ms |
| **Release Time (max.)** | Max. 5 ms<br>Typical: 3.5 ms |
| **Dielectric Strength**<br>**(at sea level for 1 min.)** | 2500 Vrms contact to coil<br>1500 Vrms between open contacts |
| **Insulation Resistance** | 100 megohms min. at 500 VDC, 20°C,<br>50% RH |
| **Dropout** | Greater than 10% of nominal coil voltage |
| **Ambient Temperature**<br>**Operating**<br><br>**Storage** | <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 |
| **Vibration** | 0.062" DA at 10–55 Hz |
| **Shock** | 20 g |
| **Enclosure** | P.B.T. polyester |
| **Terminals** | Tinned copper alloy, P.C. with quick-con nect tabs, .250" wide, on top<br>Note: Allow suitable slack on leads when wiring, do not subject the terminals to excessive force. |
| **Max. Solder Temp.** | 270°C (518°F) |
| **Max. Solder Time** | 5 seconds |
| **Max. Solvent Temp.** | 80°C (176°F) |
| **Max. Immersion Time** | 30 seconds |
| **Weight** | 43 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.
5. Specifications subject to change without notice.

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1/24/06W

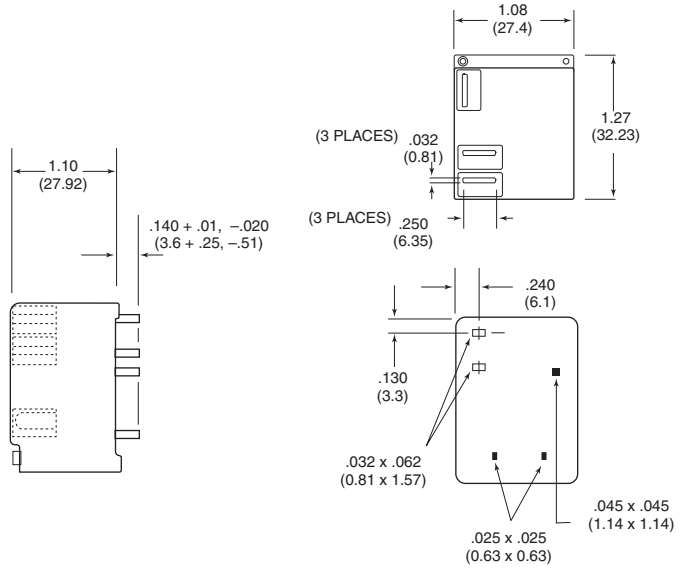
# AZ2100

## RELAY ORDERING DATA: 1/8" Clearance, 1/4" Creepage

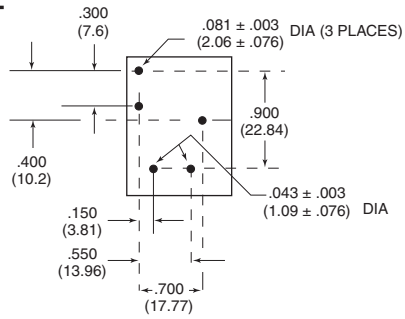
| STANDARD RELAYS: 1 Form A (SPST N.O.) | | | | | |
|---|---|---|---|---|---|
| COIL SPECIFICATIONS | | | | ORDER NUMBER* | |
| Nominal Coil VDC | Max. Continuous VDC | Coil Resistance ±10% | Must Operate VDC | Unsealed | Sealed |
| 5 | 7.3 | 27 | 3.75 | AZ2100–1A–5D | AZ2100–1A–5DE |
| 6 | 8.9 | 40 | 4.5 | AZ2100–1A–6D | AZ2100–1A–6DE |
| 9 | 13.9 | 97 | 6.75 | AZ2100–1A–9D | AZ2100–1A–9DE |
| 12 | 17.5 | 155 | 9.0 | AZ2100–1A–12D | AZ2100–1A–12DE |
| 15 | 22.5 | 256 | 11.25 | AZ2100–1A–15D | AZ2100–1A–15DE |
| 18 | 27.4 | 380 | 13.5 | AZ2100–1A–18D | AZ2100–1A–18DE |
| 24 | 36.1 | 660 | 18.0 | AZ2100–1A–24D | AZ2100–1A–24DE |
| 48 | 68.4 | 2,560 | 36.0 | AZ2100–1A–48D | AZ2100–1A–48DE |
| 70 | 104.4 | 5,500 | 52.5 | AZ2100–1A–70D | AZ2100–1A–70DE |
| 110 | 163.2 | 13,450 | 82.5 | AZ2100–1A–110D | AZ2100–1A–110DE |
| **STANDARD RELAYS: 1 Form C (SPDT)** | | | | | |
| COIL SPECIFICATIONS | | | | ORDER NUMBER* | |
| Nominal Coil VDC | Max. Continuous VDC | Coil Resistance ±10% | Must Operate VDC | Unsealed | Sealed |
| 5 | 7.3 | 27 | 3.75 | AZ2100–1C–5D | AZ2100–1C–5DE |
| 6 | 8.9 | 40 | 4.5 | AZ2100–1C–6D | AZ2100–1C–6DE |
| 9 | 13.9 | 97 | 6.75 | AZ2100–1C–9D | AZ2100–1C–9DE |
| 12 | 17.5 | 155 | 9.0 | AZ2100–1C–12D | AZ2100–1C–12DE |
| 15 | 22.5 | 256 | 11.25 | AZ2100–1C–15D | AZ2100–1C–15DE |
| 18 | 27.4 | 380 | 13.5 | AZ2100–1C–18D | AZ2100–1C–18DE |
| 24 | 36.1 | 660 | 18.0 | AZ2100–1C–24D | AZ2100–1C–24DE |
| 48 | 68.4 | 2,560 | 36.0 | AZ2100–1C–48D | AZ2100–1C–48DE |
| 70 | 104.4 | 5,500 | 52.5 | AZ2100–1C–70D | AZ2100–1C–70DE |
| 110 | 163.2 | 13,450 | 82.5 | AZ2100–1C–110D | AZ2100–1C–110DE |

***Substitute "1B" in place of "1A" or "1C" to indicate 1 Form B. To indicate Class F version, add suffix "F".**
**Other coil resistances and sensitivities available upon request. Please contact the factory.**

## MECHANICAL DATA

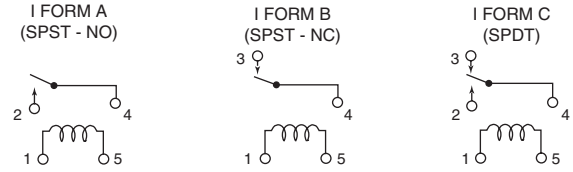



### PC BOARD LAYOUT




Viewed toward terminals

### WIRING DIAGRAM




Viewed toward terminals

Dimensions in inches with metric equivalents in parentheses. Tolerance: ± .010"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# AZ2100

## RELAY ORDERING DATA: 1/16" Clearance, 1/8" Creepage

**STANDARD RELAYS: 1 Form A (SPST N.O.)**

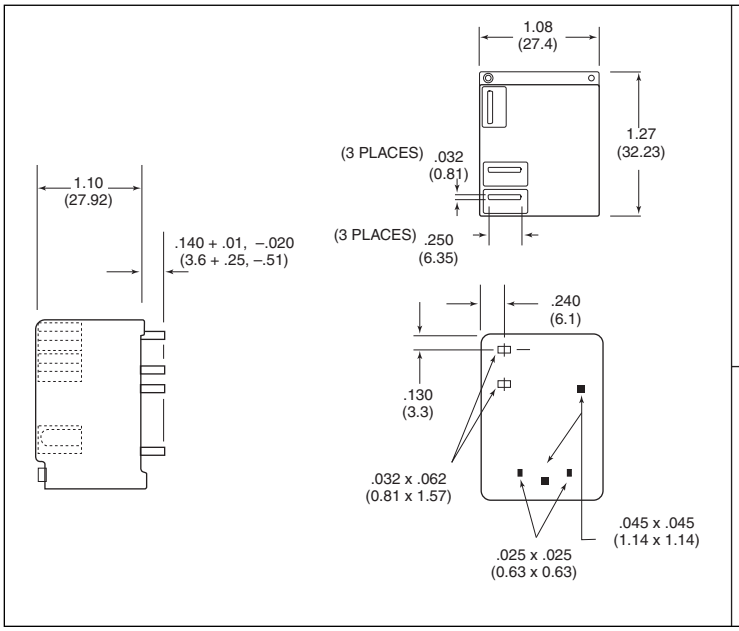
| COIL SPECIFICATIONS | | | | ORDER NUMBER* | |
|---|---|---|---|---|---|
| Nominal Coil VDC | Max. Continuous VDC | Coil Resistance ±10% | Must Operate VDC | Unsealed | Sealed |
| 5 | 7.3 | 27 | 3.75 | AZ2101–1A–5D | AZ2101–1A–5DE |
| 6 | 8.9 | 40 | 4.5 | AZ2101–1A–6D | AZ2101–1A–6DE |
| 9 | 13.9 | 97 | 6.75 | AZ2101–1A–9D | AZ2101–1A–9DE |
| 12 | 17.5 | 155 | 9.0 | AZ2101–1A–12D | AZ2101–1A–12DE |
| 15 | 22.5 | 256 | 11.25 | AZ2101–1A–15D | AZ2101–1A–15DE |
| 18 | 27.4 | 380 | 13.5 | AZ2101–1A–18D | AZ2101–1A–18DE |
| 24 | 36.1 | 660 | 18.0 | AZ2101–1A–24D | AZ2101–1A–24DE |
| 48 | 68.4 | 2,560 | 36.0 | AZ2101–1A–48D | AZ2101–1A–48DE |
| 70 | 104.4 | 5,500 | 52.5 | AZ2101–1A–70D | AZ2101–1A–70DE |
| 110 | 163.2 | 13,450 | 82.5 | AZ2101–1A–110D | AZ2101–1A–110DE |

**STANDARD RELAYS: 1 Form C (SPDT)**

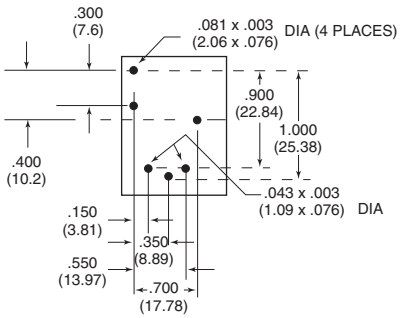
| COIL SPECIFICATIONS | | | | ORDER NUMBER* | |
|---|---|---|---|---|---|
| Nominal Coil VDC | Max. Continuous VDC | Coil Resistance ±10% | Must Operate VDC | Unsealed | Sealed |
| 5 | 7.3 | 27 | 3.75 | AZ2101–1C–5D | AZ2101–1C–5DE |
| 6 | 8.9 | 40 | 4.5 | AZ2101–1C–6D | AZ2101–1C–6DE |
| 9 | 13.9 | 97 | 6.75 | AZ2101–1C–9D | AZ2101–1C–9DE |
| 12 | 17.5 | 155 | 9.0 | AZ2101–1C–12D | AZ2101–1C–12DE |
| 15 | 22.5 | 256 | 11.25 | AZ2101–1C–15D | AZ2101–1C–15DE |
| 18 | 27.4 | 380 | 13.5 | AZ2101–1C–18D | AZ2101–1C–18DE |
| 24 | 36.1 | 660 | 18.0 | AZ2101–1C–24D | AZ2101–1C–24DE |
| 48 | 68.4 | 2,560 | 36.0 | AZ2101–1C–48D | AZ2101–1C–48DE |
| 70 | 104.4 | 5,500 | 52.5 | AZ2101–1C–70D | AZ2101–1C–70DE |
| 110 | 163.2 | 13,450 | 82.5 | AZ2101–1C–110D | AZ2101–1C–110DE |

*Substitute "1B" in place of "1A" or "1C" to indicate 1 Form B. To indicate Class F version, add suffix "F".
Other coil resistances and sensitivities available upon request. Please contact the factory.

## MECHANICAL DATA

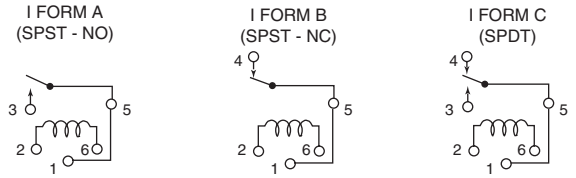



### PC BOARD LAYOUT




Viewed toward terminals

### WIRING DIAGRAM




Viewed toward terminals

Dimensions in inches with metric equivalents in parentheses. Tolerance: ± .010"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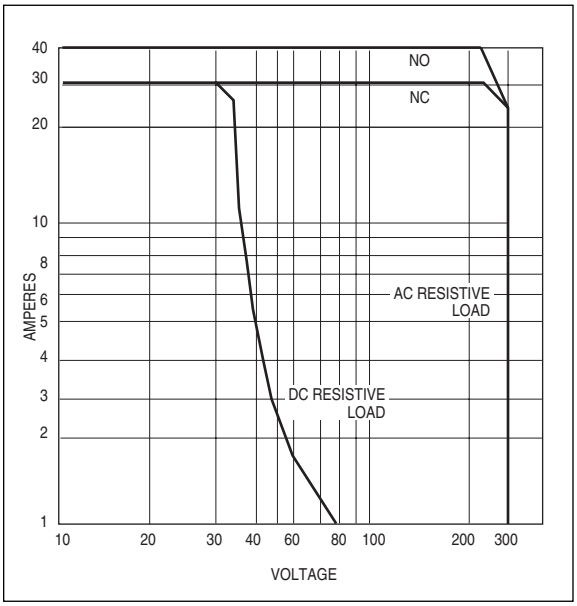
# AZ2100

## UL/CUR File E44211 Approved Contact Ratings

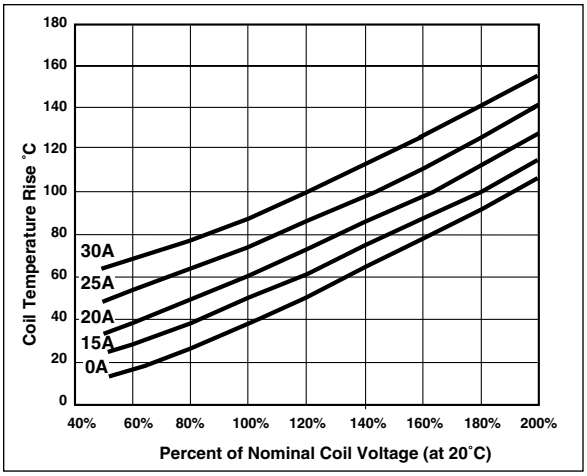
| Load Type | Cycles | Volts | Form A (NO) | Form B (NC) | Form C NO | Form C NC |
|---|---|---|---|---|---|---|
| General Purpose | 100,000 | 125 or 240 VAC | 30 A | 15 A | 30 A | 15 A |
| (Inductive) | 30,000 | 277 VAC | 30 A | 30 A | 30 A | 30 A |
| Resistive | 100,000 | 125 or 240 VAC | 30 A | 15 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 or 277 VAC | 6 A | 3 A | 6 A | 3 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 | 30,000 ** | 120 VAC | 82.8 LRA<br>13.8 FLA | —<br>— | 82.8 LRA<br>13.8 FLA | —<br>— |
| | 30,000 | 125 VAC | 96 LRA<br>30 FLA | 33 LRA<br>10 FLA | 60 LRA<br>20 FLA | 33 LRA<br>10 FLA |
| | 30,000 ** | 125 VAC | 60 LRA<br>20 FLA | 30 LRA<br>12 FLA | 60 LRA<br>20 FLA | 30 LRA<br>12 FLA |
| (LRA-Locked Rotor) | 100,000 | 125 VAC | 82.8 LRA<br>27 FLA | —<br>— | 82.8 LRA<br>27 FLA | —<br>— |
| (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 |
| | 30,000 ** | 240 VAC | 41.4 LRA<br>6.9 FLA | —<br>— | 41.4 LRA<br>6.9 FLA | —<br>— |
| | 100,000 | 277 VAC | 60 LRA<br>20 FLA | —<br>— | 60 LRA<br>20 FLA | —<br>— |
| Tungsten | 6,000 | 125 VAC | 15A | — | 15A | 3A |
| | 6,000 | 240 VAC | 5A | — | 5A | 3A |
| | 6,000 | 120 VAC | — | 3A | — | — |
| | 6,000 | 240 VAC | — | 3A | — | — |
| TV–5 | 25,000 | 120 VAC | TV–5 | — | TV–5 | TV–3 |
| TV–3 | 25,000 | 120 VAC | — | TV–3 | — | TV–3 |

* Ambient temperature 96°C (208°F) max. sealed and 105°C (221°F) unsealed.
** Ambient temperature 85°C (185°F) max. sealed and unsealed.
*** Ambient temperature 65°C (149°F) max. sealed and unsealed.

### Maximum Switching Capacity




### Coil Temperature Rise





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