

AZDC110

DC HIGH VOLTAGE POWER RELAY

FEATURES

- 10A 300VDC / 16A 180VDC switching capability
- Magnetic arc blow-out design
- 5 kV dielectric strength, 10 kV surge withstand voltage
- Ambient temperature up to 105°C (221°F)
- UL Class F insulation (155°C) standard
- Compact size, low seated height of 19 mm
- UL / CUR E44211
- TÜV R 50386704



CONTACTS

| | |
|---|---|
| Arrangement | SPST-N.O. (1 Form A) |
| Ratings (max.) (resistive load) | |
| switched power | 3000 W or 4800 VA |
| switched current | 16 A |
| switched voltage | 420 VDC or 300 VAC |
| Rated Loads UL/CUR | 16 A at 180 VDC, gen.use/resistive, 105°C, 30k cycles 10 A at 300 VDC, gen.use/resistive, 105°C, 30k cycles 5 A at 420 VDC, gen.use/resistive, 105°C, 30k cycles 16 A at 300 VAC, gen.use/resistive, 105°C, 30k cycles |
| TÜV | 16 A at 180 VDC, resistive, 30k cycles 10 A at 300 VDC, resistive, 30k cycles 5 A at 420 VDC, resistive, 30k cycles 16 A at 300 VAC, cos phi = 0.75 - 0.8, 30k cycles |
| Contact material | AgSnO ₂ (silver tin oxide) |
| Initial resistance | ≤ 100 mΩ (1 A / 6 V - voltage drop method) |

COIL

| | |
|---------------------------------|---------------------------------------|
| Nominal coil DC voltages | see coil voltage specifications table |
| Dropout voltage | ≥ 5% of nominal coil voltage |
| Coil power | |
| nominal | 400 mW |
| at pickup voltage | 225 mW (typ.) |
| max. cont. dissipation | 1.7 W at 20°C (68°F) |
| Temperature Rise | 26 K (47°F) at nominal coil voltage |
| Max. temperature | Class F insulation - 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. This relay is equipped with a permanent magnet. This has to be taken into account during handling and assembly of the component.
4. Specifications subject to change without notice.

GENERAL DATA

| | |
|--|---|
| Life Expectancy mechanical electrical | (minimum operations) 3 x 10 ⁷ 3 x 10 ⁴ at rated loads |
| Operate Time | 10 ms (max.) at nominal coil voltage |
| Release Time | 5 ms (max.) at nominal coil voltage, without coil suppression |
| Dielectric Strength | (at sea level for 1 min.) 5000 V _{RMS} coil to contact 1000 V _{RMS} between open contacts |
| Surge voltage coil to contact | 10 kV (at 1.2 x 50 μs) |
| Insulation Resistance | 1000 MΩ (min.) at 20°C, 500 VDC, 50% RH |
| Temperature Range operating | (at nominal coil voltage) -40°C (-40°F) to 105°C (221°F) |
| Vibration resistance | 0.062" (1.5 mm) DA at 10–55 Hz |
| Shock resistance | 10 g |
| Enclosure | RTII - flux proof (vented) P.B.T. polyester, UL94 V-0 |
| Terminals | Tinned copper alloy, P. C. |
| Soldering max. temperature max. time | 270 °C (518°F) 5 seconds |
| Cleaning max. solvent temp. max. immersion time | 80°C (176°F) 30 seconds |
| Dimensions length width height | 29.3 mm (1.154") 12.7 mm (0.500") 19.0 mm (0.748") |
| Weight | 15 grams (approx.) |
| Packing unit in pcs | 25 per tray / 250 per carton box |
| Compliance | UL 508, IEC 61810-1, IEC60335-1 (GWT), RoHS, REACH |

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This product specification is to be used only together with the application notes which can be downloaded from www.ZETTLERelectronics.com/pdfs/relais/ApplicationNotes.pdf

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COIL VOLTAGE SPECIFICATIONS

| Nominal Coil VDC | Must Operate VDC | Max. Continuous VDC | Resistance Ohm $\pm 10\%$ |
|------------------|------------------|---------------------|---------------------------|
| 5 | 3.75 | 7.5 | 62.5 |
| 6 | 4.5 | 9.0 | 90 |
| 9 | 6.75 | 13.5 | 203 |
| 12 | 9.0 | 18.0 | 360 |
| 18 | 13.5 | 27.0 | 810 |
| 24 | 18.0 | 36.0 | 1440 |

ORDERING DATA

AZDC110-1AE- DF

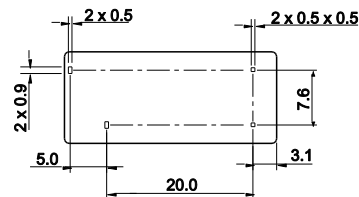
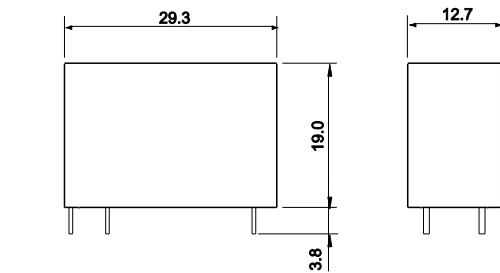
Nominal coil voltage
see coil voltage specifications table

Example ordering data

AZDC110-1AE-12DF 12 VDC nominal coil voltage

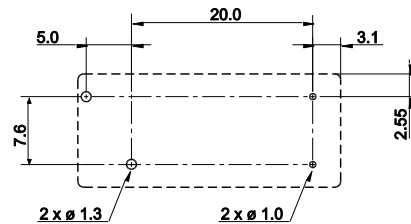
MECHANICAL DATA

Dimensions in mm. Tolerance: ± 0.1 mm, Outline tolerance: ± 0.5 mm



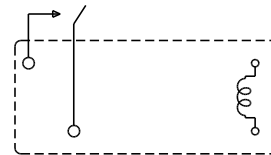
PC BOARD LAYOUT

Dimensions in mm. Tolerance: ± 0.1 mm
Viewed towards terminals.



WIRING DIAGRAMS

Viewed towards terminals.



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