

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 system
- Versions according IEC 60335-1 (GWT) available
- Compact size, low seated height of 19 mm
- UL / CUR E44211
- TÜV R 50386704



CONTACTS

Arrangement	SPST-N.O. (1 Form A)
Ratings (max.) switched power switched current switched voltage	(resistive load) 3000 W or 4800 VA 16 A 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 φ 0.75 - 0.8, 30k cycles
Contact material	AgSnO ₂ (silver tin oxide)
Initial resistance max. typ.	(1 A / 6 V - voltage drop method) 100 mΩ < 3 mΩ

COIL

Nominal coil DC voltages	see coil voltage specifications table
Operative range	75% to 110% of nominal coil voltage
Dropout voltage	≥ 5% of nominal coil voltage
Coil power nominal at pickup voltage (typ.)	400 mW 225 mW
Temperature Rise	26 K (47°F) at nominal coil voltage
Max. temperature	Class F insulation - 155°C (311°F)

GENERAL DATA

Life Expectancy mechanical electrical	(minimum operations) 3 x 10 ⁶ 3 x 10 ⁴ at rated loads
Operate Time max. typ.	(at nominal coil voltage) 15 ms < 10 ms
Release Time max.	(at nom. coil voltage, without coil suppression) 5 ms
Dielectric Strength coil to contact between open contacts	(at sea level for 1 min.) 5000 VAC 1000 VAC
Surge voltage coil to contact	10 kV (at 1.2/50 μs)
Insulation Resistance	1000 MΩ (min.) at 20°C, 500 VDC, 50% RH
Insulation coil to contacts	Reinforced insulation (rated voltage: 250 VAC, pollution degree: 2, overvoltage category: II)
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 protection category material group flammability	P.B.T. polyester RT II, flux proof (vented) IIla 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, RoHS, REACH

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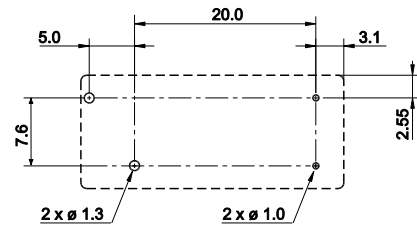
COIL VOLTAGE SPECIFICATIONS

Nominal Coil VDC	Must Operate VDC	Nominal Power mW	Resistance Ohm $\pm 10\%$
5	3.75	400	62.5
6	4.5		90
9	6.75		203
12	9.0		360
18	13.5		810
24	18.0		1440

Note: All values at 23°C (73°F), upright position, terminals downward.

PC BOARD LAYOUT

Layout recommendation. Dimensions in mm.
Viewed towards terminals.



ORDERING DATA

AZDC110-1AE-DF

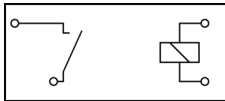
Nominal coil voltage
see coil voltage specifications table

Example ordering data

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

WIRING DIAGRAMS

Viewed towards terminals. Shown in deenergized condition.

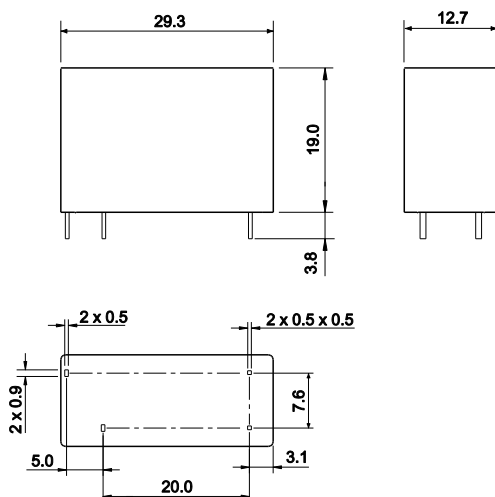


NOTES

1. All values at reference temperature of 23°C (73°F) unless stated otherwise.
2. The relays are equipped with permanent magnets. This has to be taken into account during handling and assembly of the components.
3. For isolation between the relay's magnetic fields, it is recommended that at least a .4" (10.0 mm) space is provided between adjacent relays.
4. Relay may pull in with less than "Must Operate" value.
5. Coil suppression circuits such as diodes, etc. in parallel to the coil will lengthen the release time.
6. Relay adjustment may be affected if excessive shock is applied to the relay.
7. Relay adjustment may be affected if undue pressure is exerted on the relay case.
8. Specifications subject to change without notice.

MECHANICAL DATA

Dimensions in mm. Tolerance: ± 0.1 mm, Outline tolerance: ± 0.5 mm
Pin dimensions for reference only and given without tin coating.



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DISCLAIMER

This product specification is to be used in conjunction with the application notes which can be downloaded from the regional ZETTLER relay websites. The specification provides an overview of the most significant part features. Any individual applications and operating conditions are not taken into consideration. It is recommended to test the product under application conditions. Responsibility for the application remains with the customer. Proper operation and service life cannot be guaranteed if the part is operated outside the specified limits.

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