AZDC105 ____PRELIMINARY

DC HIGH CURRENT POWER RELAY

FEATURES

- 150A 60VDC / 100A 60VDC / 100A 48VDC switching capability
- Magnetic arc blow-out design
- 4 kV dielectric strength, 6 kV surge withstand voltage
- UL Class F insulation (155°C)
- UL / CUR intended
- TÜV intended

CONTACTS

Arrangement SPST-N.O. (1 Form A)

Ratings (max.) switched power switched current switched voltage

Rated Loads UL (intended)

TÜV (intended) 48 VDC versions rated load, resistive, 3k cycles 60 VDC versions rated load, resistive, 1k cycles

Contact material	AgSnO ₂ (silver tin oxide)
Contact gap	≥ 3.0 mm
Initial resistance	\leq 100 m Ω (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 3.2 W at pickup voltage 1.8 W (typ.) 50 K (90°F) at nominal coil voltage **Temperature Rise** Class F insulation - 155°C (311°F) Max. temperature

NOTES

- 1. All values at 20°C (68°F).
- 2. Relay may pull in with less than "Must Operate" value.
- These relays are equipped with permanent magnets. This has to be 3. taken into account during handling and assembly of the components.
- Provide sufficient PCB cross section on load terminals. 4. Recommended wiring cross section according to IEC 61810-1:2015: 35 mm² for 100 A versions, 50 mm² for 150 A versions.
- 5. Specifications subject to change without notice.



		GENERAL DATA	
(resis 9000 100 A	T-N.O. (1 Form A) tive load) W / 6000W / 4800 W \ / 150 A DC / 60 VDC	Life Expectancy mechanical electrical 48 VDC versions 60 VDC versions	(minimum operations) 1×10^{6} (360 cycles/h, 10 % duty factor) 3×10^{3} at rated loads 1×10^{3} at rated loads
100/1	50 A at 48/60 VDC, resistive, 85°C, 10k cycles	Operate Time Release Time	30 ms (max.) at nominal coil voltage 10 ms (max.) at nominal coil voltage, without coil suppression
	load, resistive, 3k cycles load, resistive, 1k cycles	Dielectric Strength	(at sea level for 1 min.) 4000 V_{RMS} coil to contact 1300 V_{RMS} between open contacts
AgSn	O ₂ (silver tin oxide)	Surge Voltage coil to contact	6 kV (at 1.2 x 50 μs)
≥ 3.0 ≤ 100	mm m Ω (1 A / 6 V - voltage drop method)	Insulation resistance overvoltage category pollution degree Creepage coil to contact	1000 MΩ (min.) at 20°C, 500 VDC, 50% RH III 2 ≥ 9.0 mm
		Clearance	
ages	see coil voltage specifications table	coil to contact	≥ 9.0 mm
ugeo	≥ 5% of nominal coil voltage	Operating Temp. Range 100 A versions 150 A versions	(at nominal coil voltage) -40°C (-40°F) to 85°C (185°F) -40°C (-40°F) to 65°C (149°F)
	1.8 W (typ.) 50 K (90°F) at nominal coil voltage	Vibration resistance Shock resistance	0.062" (1.5 mm) DA at 10–55 Hz 10 g
	Class F insulation - 155°C (311°F)	Enclosure Terminals	RTII - flux proof (vented) P.B.T. polyester, UL94 V-0 Tinned copper alloy, P. C.
		Soldering	
(68°F)		max. temperature max. time	270 °C (518°F) 5 seconds
with less than "Must Operate" value.		Cleaning	90°C (176°E)
equipped with permanent magnets. This has to be to unit and the components.		max. solvent temp. max. immersion time	80°C (176°F) 30 seconds
ring cro	oss section on load terminals. oss section according to IEC 61810-1:2015: ns, 50 mm² for 150 A versions.	Dimensions length width	47.6 mm (1.874") 40.0 mm (1.575")
ject to change without notice.		height Weight	45.1 mm (1.776") 165 grams (approx.)
		Packing unit in pcs Compliance	25 per tray / 50 per carton box UL 508, IEC 61810-1, 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

AZDC105 ____PRELIMINARY

COIL VOLTAGE SPECIFICATIONS

Nominal Coil VDC	Must Operate VDC	Resistance Ohm ± 10%
12	9.0	45
24	18.0	180
48	36.0	720

ORDERING DATA

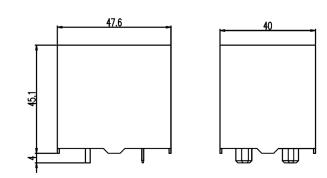
AZDC105-1A		
ΤŢ	 T Current rating option nil: 100 A rating T: 150 A rating (in conjunction with 60 VDC voltage rating only - option 'H') 	
	minal coil voltage e coil voltage specifications table	
Voltage rating option nil: 48 VDC rating H: 60 VDC rating (with blow-out magnet)		

Example ordering data

AZDC105-1A-12D	100 A 48 VDC contact rating, 12 VDC nom. coil voltage
AZDC105-1AH-24D	100 A 60 VDC contact rating, 24 VDC nom. coil voltage
AZDC105-1AH-24DT	150 A 60 VDC contact rating, 24 VDC nom. coil voltage

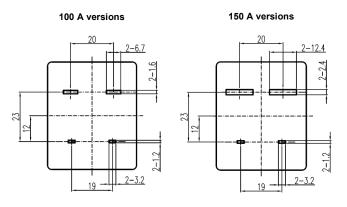
MECHANICAL DATA

Dimensions in mm. Outline tolerance: ± 0.5 mm



PC BOARD LAYOUT

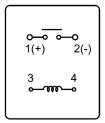
Dimensions in mm. Tolerance: ± 0.1 mm Viewed towards terminals.



WIRING DIAGRAMS

Viewed towards terminals.

Notes: This relay is polarized. Observe polarity of load contacts as shown in the diagram. Provide sufficient PCB cross section on load terminals. Recommended cross section according to IEC 61810-1: 35 mm² for 100 A versions, 50 mm² for 150 A versions.



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