

10 AMP DUAL POLE MINIATURE POWER RELAY

FEATURES

- 10 Amp switching capability
- 5 kV dielectric strength, Isolation spacing \geq 10 mm
- Reinforced insulation according IEC 60730-1, IEC 60335-1
- Glow wire approved versions acc. IEC 60335-1 available
- DC coil and AC coil versions
- Compact size, low seated height of 15.7 mm
- UL / CUR file E44211
- VDE certificate 40006031



CONTACTS

Arrangement	DPST-NO (2 Form A) DPDT (2 Form C)
Ratings (max.)	(resistive load)
switched power	2x 240 W or 2770 VA
switched current	2x 10 A
switched voltage	125 VDC* or 440 VAC
	* Note: If switching voltage is greater than 30 VDC, special precautions must be taken. Please contact the factory.
Rated Loads	see section UL/VDE approved ratings
Contact material	AgNi / AgNi+Au (silver nickel / Au plating) AgSnO ₂ / AgSnO ₂ +Au (silver tin oxide / Au plating)
Initial resistance	max. typ. 100 mΩ (1A / 6VDC, voltage drop method) < 10 mΩ (at rated current)

GENERAL DATA

Life Expectancy	(minimum operations) mechanical electrical 1×10^7 see UL/CUR/VDE rated loads
Operate Time	(at nominal coil voltage) max. typ. 15 ms (DC coil) 7 ms (DC coil), 10 ms (AC coil)
Release Time	(at nom. coil voltage, without coil suppression) max. typ. 8 ms 4 ms
Dielectric Strength	(at sea level for 1 min.) coil to contacts between contact sets between open contacts 5000 VAC 3000 VAC 1000 VAC
Surge voltage	coil to contacts (1.2/50 µs) 10 kV
Insulation Resistance	1000 MΩ (min.) at 23°C, 500 VDC, 50% RH
Isolation spacing	(coil to contact) clearance creepage \geq 10 mm \geq 10 mm
Insulation	coil to contacts Reinforced insulation (rated voltage: 250 VAC, pollution degree: 3, overvoltage category: III)
Temperature Range	operating DC coil types AC coil types (at nominal coil voltage) -40°C (-40°F) to 85°C (185°F) -40°C (-40°F) to 70°C (158°F)
Vibration resistance	0.062" (1.5 mm) DA at 10–55 Hz
Shock resistance	10 g
Enclosure	protection category material group P.B.T. polyester RT II - flux proof, RT III - wash tight IIIa
Terminals	Tinned copper alloy, P. C.
Soldering	max. temperature max. time 270 °C (518°F) 5 seconds
Cleaning	max. solvent temp. max. immersion time (RT III - wash tight versions only) 80°C (176°F) 30 seconds
Dimensions	length width height 29.0 mm (1.142") 12.7 mm (0.500") 15.7 mm (0.618")
Weight	16 grams (approx.)
Packing unit in pcs	50 per plastic tray / 500 per carton box
Compliance	UL 508, IEC 61810-1, RoHS, REACH

COIL

Nominal coil voltages	see coil voltage specifications tables
Dropout	
DC coil types	> 10% of nominal coil voltage
AC coil types	> 15% of nominal coil voltage
Coil power	typ. at 23°C (73°F) coil temperature
DC coil types	400 mW
nominal	200 mW
at pickup voltage	
AC coil types	0.75 VA
nominal	0.42 VA
at pickup voltage	
Temperature Rise	
DC coil types	typ. 26 K (47°F) at nominal coil voltage
Max. temperature	155°C (311°F), class F insulation system

AZ743

UL, CUR / VDE APPROVED RATINGS

UL, CUR	2 Form A / 2 Form C
	10 A at 250 VAC, resistive, 85°C, 30k cycles, (NO) [2] 10 A at 250 VAC, resistive, 85°C, 6k cycles, (NC) [2] 10 A at 277 VAC, general use, 85°C, 20k cycles, (NO) [1] 8 A at 277 VAC, resistive, 85°C, 50k cycles [1][2] 5 A at 277 VAC, general use, 85°C, 100k cycles [2] 1/2 HP at 250 VAC, 85°C, (NO) [2] 1/2 HP at 240 VAC, 85°C, 1k cycles, (NO) [1] 1/4 HP at 125 VAC, 85°C, (NO) [2] B300, 85°C, 6k cycles, (NO) [1] 8 A at 24 VDC, resistive, 85°C, 50k cycles, (NO) [1] 8 A at 24 VDC, resistive, 85°C, 20k cycles, (NC) [1]
VDE	2 Form A - DC coil 8 A at 250 VAC, resistive, 20k cycles, 85°C [2] 8 A at 250 VAC, cos phi 0.4, 50k cycles, 85°C [1] 5 A at 400 VAC, resistive, 100k cycles, 85°C [1] 2 Form A - AC coil 8 A at 250 VAC, 50k cycles, 70°C [1] 8 A at 250 VAC, 50k cycles, 70°C [2] 2 Form C - DC coil 8 A at 250 VAC, resistive, 20k cycles, 85°C [2] 8 A at 250 VAC, cos phi 0.4, 30k cycles, 85°C [1] 2 Form C - AC coil 8 A at 250 VAC, 30k cycles, 70°C [1][2]

[1] denotes AgNi / AgNi+Au (silver nickel / gold plated) contact material

[2] denotes AgSnO₂ / AgSnO₂+Au (silver tin oxide / gold plated) contact material

Note: 1) tested with RTII flux proof versions

ORDERING DATA

AZ743-------**F**

 | | | | |

Class F insulation

Plating option

nil: non plated

A: gold plated contacts

Sealing option

nil: flux proof - non sealed

E: wash tight - sealed

Coil type

D: DC coil type

A: AC coil type

Nominal coil voltage

see coil voltage specifications tables

Contact material

Nil: silver cadmium oxide—not available in all regions

B: silver nickel - AgNi

E: silver tin oxide - AgSnO₂

Contact arrangement

2A: 2 Form A (DPST-NO)

2C: 2 Form C (DPDT)

Example ordering data

AZ743-2AE-9DF 2 Form A (DPST-NO), silver tin oxide, 9 VDC nominal coil voltage, flux proof, non gold plated

AZ743-2CB-12DEAF 2 Form C (DPDT), silver nickel, 12 VDC nominal coil voltage, wash tight version, gold plated contacts

AZ743-2AE-230AF 2 Form A (DPST-NO), silver tin oxide, 230 VAC coil voltage, flux proof, non gold plated

COIL VOLTAGE SPECIFICATIONS

DC coils

Nominal Coil VDC	Must Operate VDC	Max. Coil VDC	Nom. Current mA (ref.)	Resistance Ohm
5	3.5	10.2	80.6	62 ±10%
6	4.2	12.3	66.7	90 ±10%
9	6.3	18.3	45.0	200 ±10%
12	8.4	24.7	33.3	360 ±10%
15	10.5	30.9	26.7	562 ±10%
18	12.6	37.0	22.2	810 ±10%
24	16.8	49.4	16.7	1440 ±10%
48	33.6	98.0	8.3	5760 ±15%
60	42.0	112.9	8.0	7500 ±15%
110	77.0	206.9	4.4	25200 ±15%

AC coils

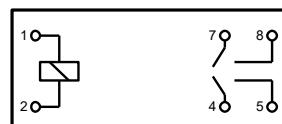
Nominal Coil VAC	Must Operate VAC	Max. Coil VAC	Nom. Current mA (ref.)	Resistance Ohm
24	18.0	31.2	31.6	350 ±10%
115	86.3	149.5	6.6	8100 ±15%
230	172.5	299.0	3.2	32500 ±15%

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

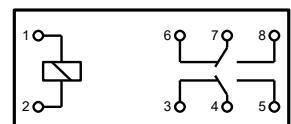
WIRING DIAGRAMS

Viewed towards terminals.

2 Form A



2 Form C

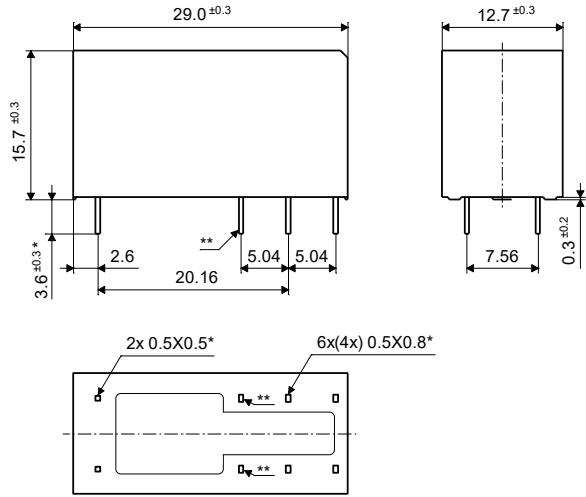


AZ743

MECHANICAL DATA

Dimensions in mm. If not stated otherwise, tolerance: ± 0.2 mm

Notes: * Pin dimensions for reference only and given without tin coating.
** Only for 2 Form C (DPDT) contact arrangement versions.

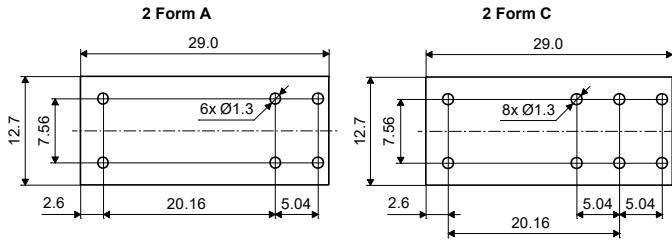


NOTES

1. All values at reference temperature of 23°C (73°F) unless stated otherwise.
2. Relay may pull in with less than "Must Operate" value.
3. "Maximum Coil Voltage" is the maximum voltage the coil can endure for a short period of time.
4. Coil suppression circuits such as diodes, etc. in parallel to the coil will lengthen the release time.
5. Relay adjustment may be affected if excessive shock is applied to the relay or if undue pressure is exerted on the relay case.
6. Substances containing silicone or phosphorus must be avoided in the vicinity to the relay as these will shorten its service life.
7. With gold plated contacts a minimum load of 10mA/5V/50mW is recommended.
8. RTII (flux proof) relays must not be washed, immersion cleaned or conformal coated.
9. Specifications subject to change without notice.

PC BOARD LAYOUT

Layout recommendation. Dimensions in mm. Viewed towards terminals.



AZ743

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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