

## MINIATURE POWER RELAY

### FEATURES

- 10 Amp switching capability
- 4 kV dielectric strength
- Epoxy sealed versions available
- Gold plated versions available
- Glow wire approved versions acc. IEC60335-1 available
- Sensitive coil versions available
- UL, CUR file E44211
- VDE certificate 134326



Illustration similar

### CONTACTS

<b>Arrangement</b>	SPST (1 Form A), SPDT (1 Form C)
<b>Ratings (max.)</b> switched power switched current switched voltage	(resistive load) 150 W or 2770 VA 10 A (NO), 3 A (NC) 30 VDC* or 250 VAC  * Note: If switching voltage is greater than 30 VDC, special precautions must be taken. Please contact the factory.
<b>Rated Loads</b> UL/CUR	<b>Normally open contact (NO)</b> 10 A at 125 VAC, gen. use, 85°C, 100k cycles [1] 10 A at 125 VAC, gen. use, 85°C, 100k cycles [2] <sup>3)</sup> 10 A at 277 VAC, cos phi 0.4, 70°C, 10k cycles [1] 8 A at 250 VAC, gen. use, 70°C, 50k cycles [1] 5 A at 277 VAC, gen. use, 85°C, 100k cycles [1][2] 5 A at 30 VDC, resistive, 85°C, 100k cycles [1][2] 4 A at 120 VAC, resistive, 105°C, 100k cycles [2] 1 A at 120 VAC, tungsten, 105°C, 6k cycles [2] 1/10 HP at 125 VAC, 70°C, 100k cycles [1] 1/6 HP at 250 VAC, 70°C, 100k cycles [1] 2.5 FLA / 15 LRA at 120 VAC, 105°C, 6k cycles [2]  <b>Normally closed contact (NC)</b> 3 A at 277 VAC general use, 85°C, 100k cycles [1][2] 3 A at 30 VDC resistive, 85°C, 100k cycles [1][2]
VDE	<b>SPST (1 Form A) versions</b> 5 A at 250 VAC resistive, 85°C, 100k cycles [1] 5 A at 250 VAC resistive, 85°C, 75k cycles [2] <sup>1)</sup> 5 A at 250 VAC resistive, 85°C, 50k cycles [2] <sup>2)</sup> 5 A at 30 VDC resistive, 85°C, 50k cycles [2] <sup>2)</sup>  <b>SPDT (1 Form C) versions</b> 5 A (NO) / 3 A (NC) at 250 VAC res., 70°C, 100k [1] <sup>1) 3)</sup> 5 A (NO) / 3 A (NC) at 30 VDC res., 85°C, 100k [1] <sup>1)</sup> 5 A (NO) / 3 A (NC) at 277 VAC, 85°C, 50k [2] <sup>1)</sup>  Notes: <sup>1)</sup> approved for standard coil versions <sup>2)</sup> approved for sensitive coil versions <sup>3)</sup> tested with opened vent hole
<b>Contact materials</b>	[1] AgNi (silver nickel) [2] AgSnO <sub>2</sub> (silver tin oxide) gold plating available
<b>Initial resistance</b> max. typ.	(1A / 6V, voltage drop method) 100 mΩ < 10 mΩ

### GENERAL DATA

<b>Life Expectancy</b> mechanical electrical	(minimum operations) 1 x 10 <sup>7</sup> 1 x 10 <sup>5</sup> at 5 A 250 VAC resistive
<b>Operate Time</b> max.	(at nominal coil voltage) 8 ms
<b>Release Time</b> max.	(at nom. coil voltage, without coil suppression) 5 ms
<b>Dielectric Strength</b> coil to contact between open contacts	(at sea level for 1 min.) 4000 VAC 1000 VAC
<b>Insulation Resistance</b>	1000 MΩ (min.) at 500 VDC, 50% RH
<b>Creepage</b> coil to contact	≥ 8.0 mm
<b>Clearance</b> coil to contact	≥ 4.5 mm (SPST versions) ≥ 4.0 mm (SPDT versions)
<b>Insulation</b> coil to contact	Reinforced insulation acc. IEC 60730-1 (rated voltage: 250 VAC, pollution degree: 2, overvoltage category: II)
<b>Temperature Range</b> operating	at nominal coil voltage -40°C (-40°F) to 105°C (221°F)
<b>Vibration</b>	0.062" (1.5 mm) DA at 10–55 Hz
<b>Shock</b>	10 g
<b>Enclosure</b> protection category material group	P.B.T. polyester RT II (flux proof), RT III (wash tight) IIla
<b>Terminals</b>	Tinned copper alloy, P. C.
<b>Soldering</b> max. temperature max. time	270°C (518°F) 5 seconds
<b>Cleaning</b> max. solvent temp. max. immersion time	80°C (176°F) 30 seconds
<b>Dimensions</b> length width height	20.5 mm (0.807") 10.2 mm (0.401") 15.7 mm (0.681")
<b>Weight</b>	7 grams (approx.)
<b>Packing unit in pcs</b>	100 per cardboard box / 500 per carton box
<b>Compliance</b>	UL 508, IEC 61810-1, RoHS, REACH

# AZ940

## COIL

<b>Nominal coil voltages</b>	see coil voltage specifications table
<b>Dropout voltage</b>	> 5% of nominal coil voltage
<b>Power nominal at pickup voltage</b>	(typ. at 23°C) 450 mW (standard coil) / 200 mW (sensitive coil) 253 mW (standard coil) / 113 mW (sensitive coil)
<b>Max. temperature</b>	155°C (311°F), class F

## COIL VOLTAGE SPECIFICATIONS

### Standard Coil

Nominal Coil VDC	Must Operate VDC	Max. Continuous VDC	Resistance Ohm ± 10%
3	2.25	3.9	20
5	3.75	6.6	55
6	4.5	7.8	80
9	6.75	11.7	180
12	9.0	15.6	320
18	13.5	23.4	720
24	18.0	31.2	1280
48	36.0	62.4	5120

### Sensitive Coil

Nominal Coil VDC	Must Operate VDC	Max. Continuous VDC	Resistance Ohm ± 10%
3	2.25	4.5	45
5	3.75	7.5	125
6	4.5	9.0	180
9	6.75	13.5	400
12	9.0	18.0	720
18	13.5	27.0	1600
24	18.0	36.0	2800
48	36.0	72.0	11520

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

## ORDERING DATA

AZ940-□□-□□D□□□

### Plating option

nil: no plating  
G: gold plated

### Sealing option

nil: non sealed (RT II - flux tight)  
E: sealed version (RT III - wash tight)

### Coil option

nil: standard coil  
S: sensitive coil (1 Form A versions only)

### Coil type

D: DC coil

### Nominal coil voltage

see coil voltage specifications

### Contact material

B: silver nickel  
E: silver tin oxide

### Contact arrangement

1A: SPST (1 Form A)  
1C: SPDT (1 Form C)

### Example ordering data

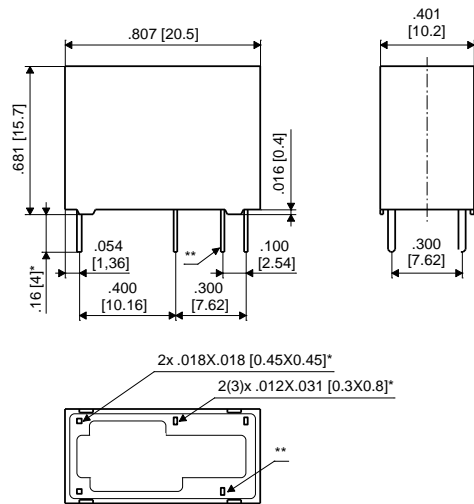
AZ940-1CE-5D 1 Form C contact arrangement, silver tin oxide contact material, 5 VDC coil voltage, flux tight

AZ940-1AB-24DSE 1 Form A contact arrangement, silver nickel contact material, 24 VDC coil voltage, sensitive coil, wash tight

## MECHANICAL DATA

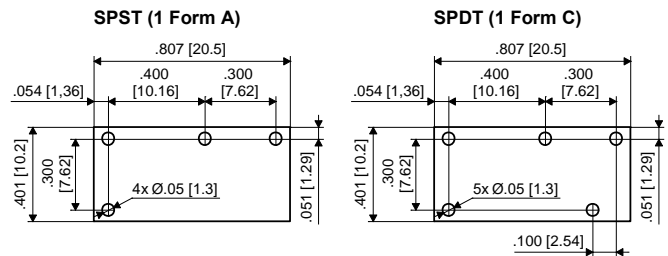
Dimensions in inches with metric equivalents in parentheses. Tolerance: ±0.1"

Notes: \* Pin dimensions for reference only and given without tin coating.  
\*\* Only for SPDT (1 Form C) contact arrangement versions.



## PC BOARD LAYOUT

Layout recommendation. Viewed towards terminals. Pin grid is a multiple of 0.1". Dimensions in inches with metric equivalents in parentheses.



## WIRING DIAGRAM

Viewed towards terminals. Shown in deenergized condition.



## 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. "Max. Continuous 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.
6. Relay adjustment may be affected if undue pressure is exerted on the relay case.
7. Specifications subject to change without notice.

**ZETTLER**

# AZ940

## 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.

## ZETTLER GROUP

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## SITES FOR ZETTLER RELAYS

### NORTH AMERICA

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