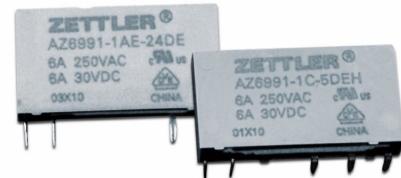


# AZ6991

## SENSITIVE SUBMINIATURE RELAY

### FEATURES

- Small footprint, extremely small width of only 5 mm
- 8 A switching capability
- High sensitivity with 95 mW pickup power
- Dielectric strength of 4000 V<sub>RMS</sub> between coil and contacts
- Isolation spacing greater than 8 mm
- Horizontal and vertical versions available
- Epoxy sealed version available
- Reinforced insulation, EN 60730-1, EN 60335-1
- UL, CUR file E43203
- VDE certificate 40020561



### CONTACTS

<b>Arrangement</b>	SPST (1 Form A), SPDT (1 Form C)
<b>Ratings (max.)</b>	(resistive load) switched power 180 W or 2216 VA switched current 8 A switched voltage 125 VDC* or 400 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>1 Form A</b> 8 A at 277 VAC, resistive, 85°C, 10k cycles [1][2] 6 A at 277 VAC, resistive, 85°C, 60k cycles [1][2] 6 A at 277 VAC, general use, 85°C, 30k cycles [1] 6 A at 277 VAC, general use, 85°C, 20k cycles [2] B300, R300 pilot duty, 85°C [1][2] C300, R300 pilot duty, 28°C, 30k cycles [1][2] 6 A at 30 VDC, 85°C, 6k cycles [1][2] <b>1 Form C</b> 8 A at 277 VAC, res., 85°C, 10k cycles (N.O.) [1][2] 6 A at 277 VAC, res., 85°C, 30k cycles (N.O.) [1][2] 6 A at 277 VAC, res., 85°C, 10k cycles (N.C.) [1][2] 6 A at 277 VAC, gen.use, 85°C, 30k cycles (N.O.) [1] 6 A at 277 VAC, gen.use, 85°C, 20k cycles (N.O.) [2] 6 A at 277 VAC, gen.use, 85°C, 20k cyc. (N.C.) [1][2] C300, R300 pilot duty, 28°C, 30k cycles (N.O.) [1][2] 6 A at 30 VDC, 85°C, 6k cycles [1][2] B300, R300 pilot duty, 85°C [1][2]
VDE	<b>1 Form A</b> 6 A at 250 VAC, 85°C, 50k cycles [1][2] 6 A at 30 VDC, 85°C, 60k cycles [1][2] <b>1 Form C</b> 6 A at 250 VAC, 85°C, 10k cycles [1][2] 6 A at 30 VDC, 85°C, 60k cycles [1][2]
<b>Contact materials</b>	AgNi (silver-nickel) [1] AgSnO <sub>2</sub> (silver-tin-oxide) [2] gold plating available
<b>Initial resistance</b>	< 100 mΩ

### GENERAL DATA

<b>Life Expectancy</b>	(minimum operations) mechanical 1 x 10 <sup>7</sup> electrical 1 x 10 <sup>5</sup> at 5 A, 250 VAC
<b>Operate Time</b>	8 ms (max.) at nominal coil voltage
<b>Release Time</b>	4 ms (max.) at nominal coil voltage, without coil suppression
<b>Dielectric Strength</b>	(at sea level for 1 min.) 4000 V <sub>RMS</sub> coil to contact 1000 V <sub>RMS</sub> between open contacts
<b>Surge voltage</b>	coil to contact 6000 V (at 1.2 x 50 μs)
<b>Insulation Resistance</b>	1000 MΩ (min.) at 20°C, 500 VDC, 50% RH
<b>Temperature Range</b>	(at nominal coil voltage) operating -40°C (-40°F) to 85°C (185°F)
<b>Vibration resistance</b>	1 mm DA at 10–55 Hz
<b>Shock</b>	5 g (operating)
<b>Enclosure</b>	P.B.T. polyester, UL94 V-0
<b>Terminals</b>	Tinned copper alloy, P. C.
<b>Soldering</b>	max. temperature 260°C (500°F) max. time 5 seconds
<b>Cleaning</b>	max. solvent temp. 80°C (176°F) max. immersion time 30 seconds
<b>Outline Dimensions</b>	28.0 mm X 5.0mm X 15.0 mm
<b>Weight</b>	5 grams (approx.)
<b>Packing unit in pcs</b>	horizontal version 20 per plastic tube / 1000 per carton box vertical version 100 per plastic tube / 2000 per carton box
<b>Compliance</b>	UL 508, IEC 61810-1, RoHS, REACH

### NOTES

1. All values at 20°C (68°F).
2. Relay may pull in with less than "Must Operate" value.
3. Specifications subject to change without notice.
4. Do not mount SPDT (1 Form C) types so that the marked side is facing downwards. See mechanical drawings for details.

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This product specification to be used only together with the application notes which can be downloaded from [www.ZETTLERelectronics.com/pdfs/relais/ApplicationNotes.pdf](http://www.ZETTLERelectronics.com/pdfs/relais/ApplicationNotes.pdf)

# AZ6991

## COIL

<b>Nominal coil DC voltages</b>	see coil voltage specifications table
<b>Dropout</b>	> 5% of nominal coil voltage
<b>Nominal power</b>	(typ.)
5 to 24 VDC coils	170 mW
48 to 60 VDC coils	210 mW
<b>Power at pickup voltage</b>	(typ.)
5 to 24 VDC coils	95 mW
48 to 60 VDC coils	120 mW
<b>Temperature Rise</b>	20 K (typ., at nominal coil voltage)
<b>Max. temperature</b>	105°C (221°F) - Class A

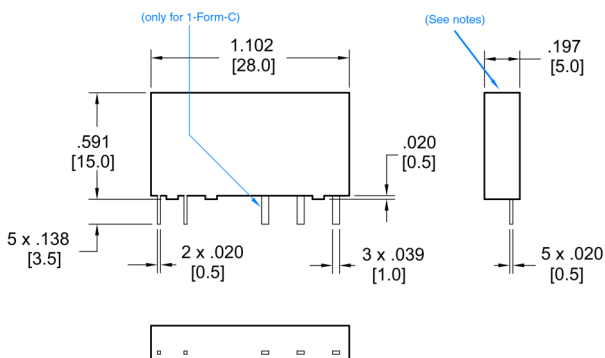
## COIL SPECIFICATIONS

Nominal Coil VDC	Must Operate VDC	Max. Continuous VDC	Resistance Ohm
5	3.75	7.5	147 (±10%)
6	4.5	9.0	212 (±10%)
9	6.75	13.5	476 (±10%)
12	9.0	18	848 (±10%)
18	13.5	27	1906 (±15%)
24	18.0	36	3390 (±15%)
48	36.0	72	10600 (±15%)
60	45.0	90	16600 (±15%)

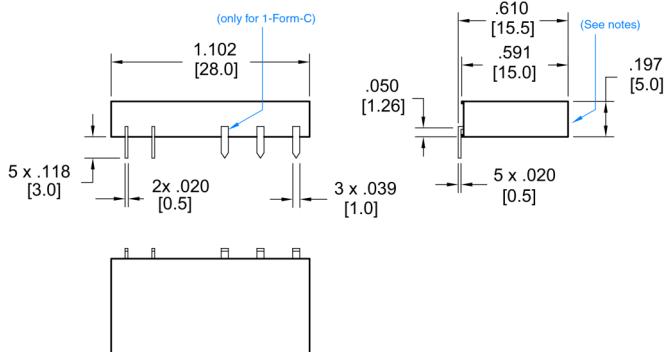
## MECHANICAL DATA

Dimensions in inches with metric equivalents in parentheses. Tolerance: ± .010"

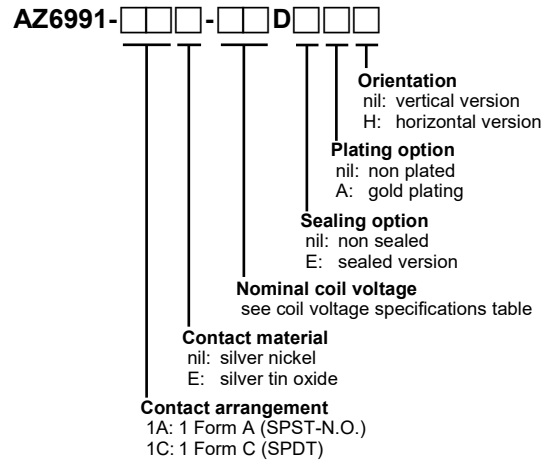
### Vertical Mount



### Horizontal Mount



## ORDERING DATA

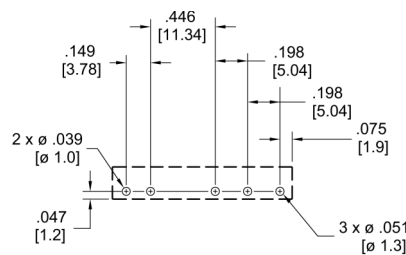


## PC BOARD LAYOUT

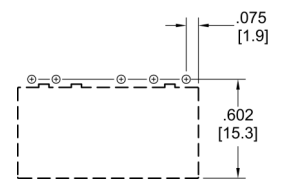
Dimensions in inches with metric equivalents in parentheses. Tolerance: ± .010"

Viewed towards terminals

### Vertical Mount



### Horizontal Mount

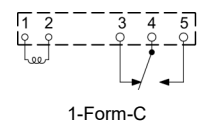
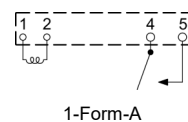


Note: Mounting hole diameters and center to center dimensions are the same for vertical and horizontal mounting version.

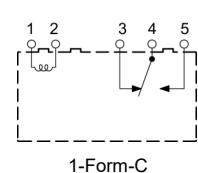
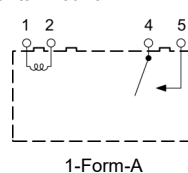
## WIRING DIAGRAMS

Viewed towards terminals

### Vertical Mount



### Horizontal Mount



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