

AZ970E/AZ971E

40 AMP MINIATURE POWER RELAY FOR AUTOMOTIVE USE

FEATURES

- Low cost
- Up to 40 Amp switching capability in a compact size
- Open, covered or sealed
- Coils to 24 VDC
- Small footprint (European style)
- 1 Form A, B and C contacts available
- Vibration and shock resistant
- Designed for high in-rush applications



CONTACTS

Arrangement	SPST (1 Form A) SPST (1 Form B) SPDT (1 Form C)
Ratings	Resistive load: Max. switched power: Form A: 560 W Form B: 420 W Form C: 420 W Max. switched current: Form A: 40 A Form B: 30 A Form C: 30 A Max. switched voltage: 150* VDC * If switching voltage is greater than 30 VDC, special precautions must be taken. Please contact the factory.
Material	Silver tin oxide
Resistance	< 100 milliohms initially (24 V, 1 A voltage drop method)

GENERAL DATA

Life Expectancy Mechanical Electrical	Minimum operations 5 x 10 ⁶ operations 1 x 10 ⁵ operations at 40 A 14 VDC Res.
Operate Time (typical)	5 ms at nominal coil voltage
Release Time (typical)	3 ms at nominal coil voltage (with no coil suppression)
Dielectric Strength (at sea level for 1 min.)	500 VDC coil to contact 500 VDC between open contacts
Insulation Resistance	100 megohms min. at 20°C, 500 VDC, 50% RH
Dropout	Greater than 6% of nominal coil voltage
Ambient Temperature AZ970E Operating AZ970E Storage AZ971E Operating AZ971E Storage	At nominal coil voltage -40°C (-40°F) to 105°C (221°F) -40°C (-40°F) to 105°C (221°F) -40°C (-40°F) to 105°C (221°F) -40°C (-40°F) to 105°C (221°F)
Vibration	0.062" (1.5 mm) DA at 10–55 Hz
Shock	10 g
Enclosure	P.B.T. polyester
Terminals	Tinned copper alloy, P.C.
Max. Solder Temp.	270°C (518°F)
Max. Solder Time	5 seconds
Max. Solvent Temp.	80°C (176°F)
Max. Immersion Time	30 seconds
Weight	20 grams

COIL

Power At Pickup Voltage (typical) Max. Continuous Dissipation Temperature Rise	514 mW (12 and 24 VDC Coil) 573 mW (6 VDC Coil) 5.3 W 20°C (68°F) ambient (AZ970E) 4.6 W 20°C (68°F) ambient (AZ971E) 56°C (101°F) nominal coil VDC (AZ970E) 59°C (106°F) nominal coil VDC (AZ971E)
Max. Temperature	155°C (311°F)

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.

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AZ970E/AZ971E

RELAY ORDERING DATA — AZ970E — OPEN STYLE

COIL SPECIFICATIONS				ORDER NUMBER		
Nominal Coil VDC	Must Operate VDC	Max. Continuous VDC	Coil Resistance Ohm $\pm 10\%$	Form A (SPST)	Form B (SPST)	Form C (SPDT)
6	3.3	9.8	19.0	AZ970E-1A-6D	AZ970E-1B-6D	AZ970E-1C-6D
9	5.1	15.9	50.0	AZ970E-1A-9D	AZ970E-1B-9D	AZ970E-1C-9D
12	6.8	21.3	90.0	AZ970E-1A-12D	AZ970E-1B-12D	AZ970E-1C-12D
24	13.9	42.7	362.0	AZ970E-1A-24D	AZ970E-1B-24D	AZ970E-1C-24D

RELAY ORDERING DATA — AZ971E — With Dust Cover

COIL SPECIFICATIONS				ORDER NUMBER*		
Nominal Coil VDC	Must Operate VDC	Max. Continuous VDC	Coil Resistance Ohm $\pm 10\%$	Form A (SPST)	Form B (SPST)	Form C (SPDT)
6	3.3	9.4	19.0	AZ971E-1A-6D	AZ971E-1B-6D	AZ971E-1C-6D
9	5.1	15.2	50.0	AZ971E-1A-9D	AZ971E-1B-9D	AZ971E-1C-9D
12	6.8	20.4	90.0	AZ971E-1A-12D	AZ971E-1B-12D	AZ971E-1C-12D
24	13.9	41.0	362.0	AZ971E-1A-24D	AZ971E-1B-24D	AZ971E-1C-24D

*Add suffix "E" for epoxy sealed version.

MECHANICAL DATA

AZ970E Outline Dimensions and PCB Layout		Terminal Dimensions								
	<p>Viewed towards terminals</p>	<table border="1"> <thead> <tr> <th>Term.</th> <th>Dimensions</th> </tr> </thead> <tbody> <tr> <td>3,5</td> <td>.041 [1.02] x .03 [0.76]</td> </tr> <tr> <td>1,2</td> <td>.041 [1.02] x .018 [0.46]</td> </tr> <tr> <td>4</td> <td>.041 [1.02] x .062 [1.57]</td> </tr> </tbody> </table>	Term.	Dimensions	3,5	.041 [1.02] x .03 [0.76]	1,2	.041 [1.02] x .018 [0.46]	4	.041 [1.02] x .062 [1.57]
Term.	Dimensions									
3,5	.041 [1.02] x .03 [0.76]									
1,2	.041 [1.02] x .018 [0.46]									
4	.041 [1.02] x .062 [1.57]									
	<p>Viewed towards terminals</p>	<p>Wiring Diagrams</p> <p>FORM C</p> <p>FORM B</p> <p>FORM A</p> <p>Viewed towards terminals</p>								

Dimensions in inches with metric equivalents in parentheses. Tolerance: ± 0.010 "

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