AZ970/AZ971

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
- 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 Max. carry current: 60 A * If switching voltage is greater than 30 VDC, special precautions must be taken. Please contact the factory.
Minimum Load	5 VDC, 0.1 A
Material	Silver alloy
Resistance	< 100 milliohms initially (24 V, 1 A voltage drop method)

COIL

Power	
At Pickup Voltage (typical)	514 mW (12 and 24 VDC Coil) 573 mW (6 VDC Coil)
Max. Continuous Dissipation	4.8 W 20°C (68°F) ambient (AZ970) 3.8 W 20°C (68°F) ambient (AZ971)
Temperature Rise	60°C (108°F) nominal coil VDC (AZ970) 75°C (135°F) nominal coil VDC (AZ971)
Max. Temperature	200°C (392°F)

GENERAL DATA

Life Expectancy **Mechanical** **Electrical**	Minimum operations 5 x 10^6 operations 1 x 10^5 operations at rated load
Operate Time (typical)	3 ms at nominal coil voltage
Release Time (typical)	5 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	At nominal coil voltage
AZ970 Operating **AZ970 Storage**	-40°C (-40°F) to 140°C (284°F) -40°C (-40°F) to 200°C (392°F)
AZ971 Operating **AZ971 Storage**	-40°C (-40°F) to 125°C (257°F) -40°C (-40°F) to 175°C (347°F)
Vibration	0.062" 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

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.

AZ970/AZ971

RELAY ORDERING DATA — AZ970 — OPEN STYLE

COIL SPECIFICATIONS				ORDER NUMBER		
Nominal Coil VDC	Must Operate VDC	Max. Continuous VDC	Coil Resistance ±10%	Form A (SPST)	Form B (SPST)	Form C (SPDT)
6	3.3	9.0	19.0	AZ970–1A–6D	AZ970–1B–6D	AZ970–1C–6D
9	5.1	14.7	50.0	AZ970–1A–9D	AZ970–1B–9D	AZ970–1C–9D
12	6.8	19.6	90.0	AZ970–1A–12D	AZ970–1B–12D	AZ970–1C–12D
24	13.9	39.3	362.0	AZ970–1A–24D	AZ970–1B–24D	AZ970–1C–24D

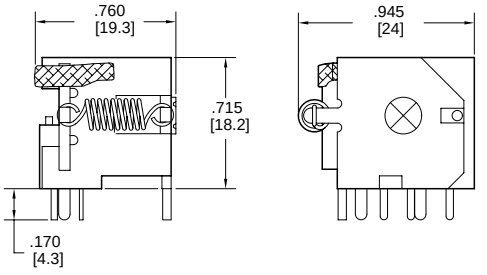
RELAY ORDERING DATA — AZ971 — With Dust Cover

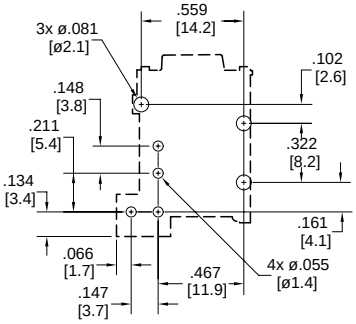
COIL SPECIFICATIONS				ORDER NUMBER*		
Nominal Coil VDC	Must Operate VDC	Max. Continuous VDC	Coil Resistance ±10%	Form A (SPST)	Form B (SPST)	Form C (SPDT)
6	3.3	8.1	19.0	AZ971–1A–6D	AZ971–1B–6D	AZ971–1C–6D
9	5.1	14.7	50.0	AZ971–1A–9D	AZ971–1B–9D	AZ971–1C–9D
12	6.8	17.6	90.0	AZ971–1A–12D	AZ971–1B–12D	AZ971–1C–12D
24	13.9	35.4	362.0	AZ971–1A–24D	AZ971–1B–24D	AZ971–1C–24D

*Add suffix “E” for epoxy sealed version.

MECHANICAL DATA

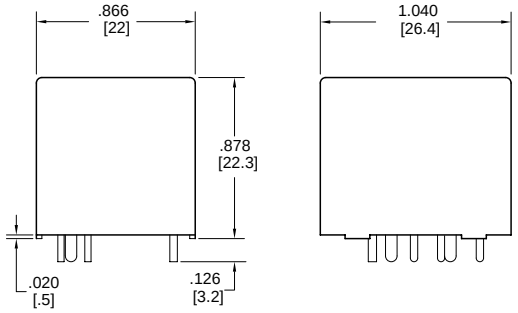
AZ970 Outline Dimensions and PCB Layout

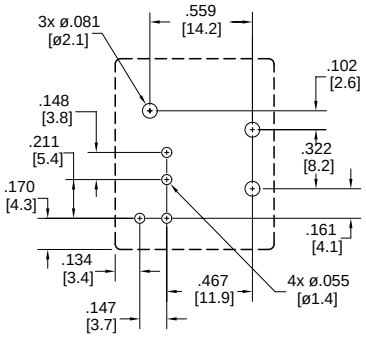




Viewed towards terminals

AZ971 Outline Dimensions and PCB Layout



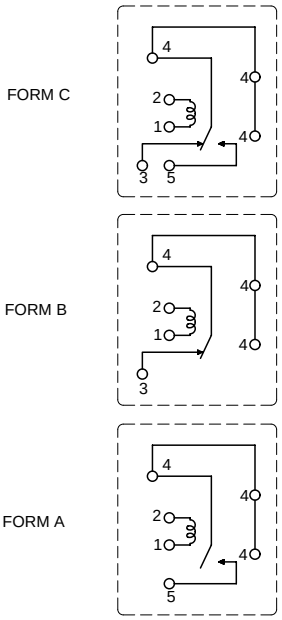


Viewed towards terminals

Terminal Dimensions

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]

Wiring Diagrams



Viewed towards terminals

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