

# AZ9731

## 40 AMP AUTOMOTIVE RELAY

### FEATURES

- 40 Amp contact rating
- High operating temperature (125°C)
- Quick connect terminals
- Epoxy sealed version available
- Metal or plastic mounting bracket available
- Resistor or diode parallel to coil available
- ISO/TS 16949, ISO14001



### CONTACTS

<b>Arrangement</b>	SPST (1 Form A) SPDT (1 Form C)
<b>Ratings</b>	Resistive load:  Max. switched power: 560 W Max. switched current: 40 A (N.O.), 30 A (N.C.) Max. switched voltage: 28 VDC
<b>Rated load</b>	1 Form A* 40 A at 14 VDC 20 A at 24 VDC  1 Form C* 40 A at 14 VDC (N.O.) 30 A at 14 VDC (N.C.) 20 A at 24 VDC (N.O.) 15 A at 24 VDC (N.C.)  *Note: 80°C ambient at continuous current 125°C ambient at switched current  1 Form A 15 A at 14 / 24 VDC, continuous, 125°C  1 Form C 15A at 14 / 24 VDC (N.O.), continuous, 125°C 10 A at 14 / 24 VDC (N.C.), continuous, 125°C
<b>Material</b>	Silver tin oxide
<b>Resistance</b>	< 100 milliohms initially (at 6 V, 1 A, voltage drop method)

### 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.

### GENERAL DATA

<b>Life Expectancy</b> <b>Mechanical</b> <b>Electrical</b>	Minimum operations 1 x 10 <sup>7</sup> 1 x 10 <sup>5</sup> at 40 A 14 VDC Res.
<b>Operate Time (max.)</b>	7 ms at nominal coil voltage
<b>Release Time (max.)</b>	5 ms at nominal coil voltage (with no coil suppression)
<b>Dielectric Strength</b> <b>(at sea level for 1 min.)</b>	750Vrms coil to contact 500Vrms between open contacts
<b>Insulation</b> <b>Resistance</b>	100 megohms min. at 20°C, 500 VDC, 50% RH
<b>Dropout</b>	Greater than 10% of nominal coil voltage
<b>Ambient Temperature</b> <b>Operating</b>	At nominal coil voltage -40°C (-40°F) to 125°C (257°F)
<b>Vibration</b>	0.062" (1.5 mm) DA at 10–40 Hz
<b>Shock</b>	15 g
<b>Enclosure</b>	PA66
<b>Terminals</b>	Tinned copper alloy Quick connect Note: Allow suitable slack on leads when wiring, and do not subject the terminals to excessive force.
<b>Weight</b>	36 grams

### COIL

<b>Power</b> <b>At Pickup Voltage</b> <b>(typical)</b>	680 mW
<b>Max. Continuous</b> <b>Dissipation</b>	2.7 W at 20°C (68°F) ambient
<b>Temperature Rise</b>	75°C (135°F) at nominal coil voltage (at 40 A)
<b>Temperature</b>	Max. 155°C (311°F) Class F

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## RELAY ORDERING DATA

COIL SPECIFICATIONS			
Nominal Coil VDC	Must Operate VDC	Max. Continuous VDC	Coil Resistance Ohm $\pm 10\%$
6	3.9	7.8	22.5
12	7.8	15.6	90
24	15.6	31.2	360

## RELAY ORDERING DATA

<b>AZ9731 - 1C - 12D C2 R1</b>	
<p>Blank - Standard no diode, no resistor</p> <p>R1 - 180 Ohm, ½ W resistor in parallel with 6 V coil - 680 Ohm, ½ W resistor in parallel with 12 V coil - 2700 Ohm ½ W resistor in parallel with 24 V coil</p> <p>D1 - 1N4007 diode in parallel with coil, anode on #86 terminal</p> <p>D2 - 1N4007 diode in parallel with coil, cathode on #86 terminal</p> <p>C1 - Plastic dust cover with steel mounting bracket</p> <p>C1E - Plastic dust cover with steel mounting bracket, sealed</p> <p>C2 - Plastic dust cover with plastic mounting bracket</p> <p>C2E - Plastic dust cover with plastic mounting bracket, sealed</p> <p>C3 - Plastic dust cover</p> <p>C3E - Plastic dust cover, sealed</p> <p>C4 - Plastic dust cover, shrouded, with metal mounting bracket, sealed</p> <p>24D - 24 volt coil</p> <p>12D - 12 volt coil</p> <p>6D - 6 volt coil</p> <p>1A - SPST normally open</p> <p>1A2 - SPST normally open (2 x terminal 87)</p> <p>1C - SPDT changeover</p> <p>Basic series designation - AZ9731</p>	<p>Blank - Standard no diode, no resistor</p> <p>R1 - 180 Ohm, ½ W resistor in parallel with 6 V coil - 680 Ohm, ½ W resistor in parallel with 12 V coil - 2700 Ohm ½ W resistor in parallel with 24 V coil</p> <p>D1 - 1N4007 diode in parallel with coil, anode on #86 terminal</p> <p>D2 - 1N4007 diode in parallel with coil, cathode on #86 terminal</p> <p>C1 - Plastic dust cover with steel mounting bracket</p> <p>C1E - Plastic dust cover with steel mounting bracket, sealed</p> <p>C2 - Plastic dust cover with plastic mounting bracket</p> <p>C2E - Plastic dust cover with plastic mounting bracket, sealed</p> <p>C3 - Plastic dust cover</p> <p>C3E - Plastic dust cover, sealed</p> <p>C4 - Plastic dust cover, shrouded, with metal mounting bracket, sealed</p> <p>24D - 24 volt coil</p> <p>12D - 12 volt coil</p> <p>6D - 6 volt coil</p> <p>1A - SPST normally open</p> <p>1A2 - SPST normally open (2 x terminal 87)</p> <p>1C - SPDT changeover</p> <p>Basic series designation - AZ9731</p>

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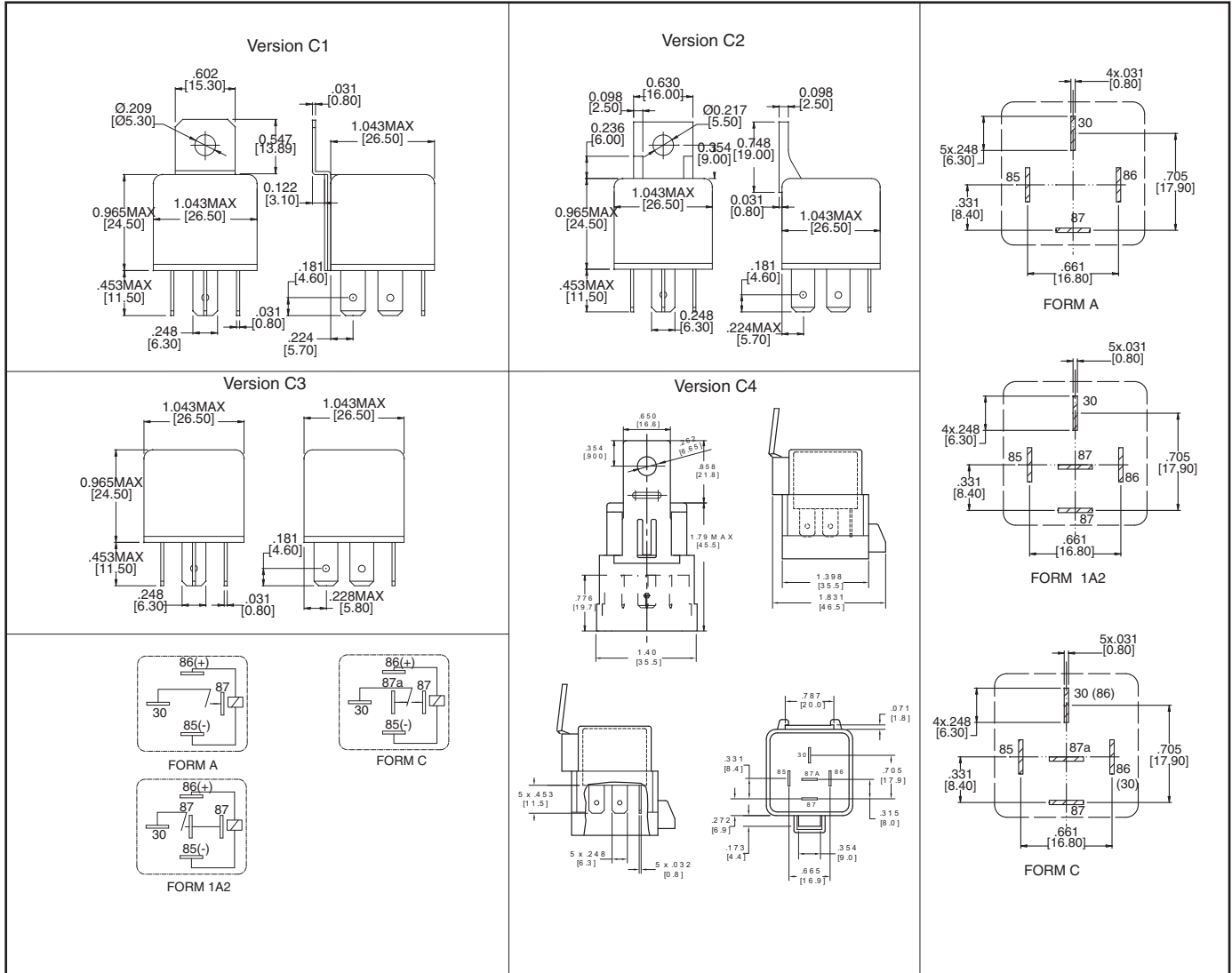
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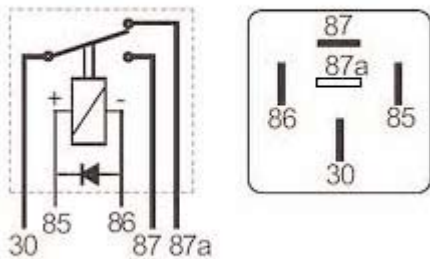
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## MECHANICAL DATA



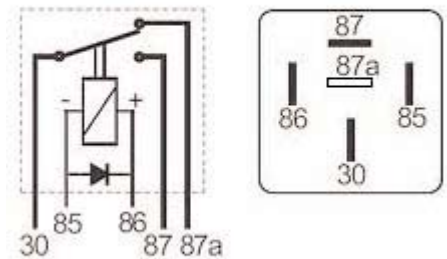
Dimensions in inches with metric equivalents in parentheses. Tolerance:  $\pm .010$ "

### "D1" Option Anode on Terminal #86



Cathode ← Anode

### "D2" Option Cathode on Terminal #86



Anode → Cathode

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