

AZ2501P

50 AMP LATCHING POWER RELAY

FEATURES

- 50 Amp switching
- Heavy loads to 13850 VA
- 4 kV dielectric strength
- 8 mm creepage distance
- Manual switch available
- Epoxy sealed version available
- UL, CUR file E44211



CONTACTS

| | |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Arrangement | SPDT (1 Form C), SPST (1 Form A) |
| Ratings | Resistive load: Max. switched power: 13850 VA Max. switched current: 50 A Max. switched voltage: 440 VAC |
| Rated Load UL, CUR | 1 Form A (SPST) 50 A at 277 VAC, resistive, 70°C, 100k cycles 20 A at 347 VAC, resistive, 70°C, 30k cycles 5000 W at 240 VAC, tungsten, 40°C, 30k cycles 120 LRA / 20 FLA, at 120 VAC, 40°C, 30k cycles 102 LRA / 17 FLA, at 240 VAC, 40°C, 30k cycles 84 LRA / 14 FLA, at 277 VAC, 40°C, 30k cycles 1 Form C (SPDT) 40 A at 277 VAC, general use, 70°C, 30k cycles |
| Material | Silver tin oxide |
| Resistance | < 50 milliohms initially (at rated current, voltage drop method) |

COIL

| | |
|--------------------------------------------------|--------------------------------------|
| Power At Pickup Voltage (typical) | .96 W single coil 1.9 W dual coil |
| Temperature | Max. 105°C (221°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. |
| 4. Initial state of contacts may be changed during transportation or shock! |

GENERAL DATA

| | |
|----------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Life Expectancy Mechanical Electrical | Minimum operations 1 x 10 ⁶ 1 x 10 ⁵ at 50 A 250 VAC Res. (SPST) |
| Set and Reset Pulse Duration | 50 ms minimum at nominal coil voltage |
| Set Time (typical) | 15 ms at nominal coil voltage |
| Reset Time (typical) | 15 ms at nominal coil voltage |
| Dielectric Strength (at sea level for 1 min.) | 4000 Vrms coil to contact 1500 Vrms between open contacts |
| Insulation Resistance | 1000 megohms min. at 20°C, 500 VDC, 50% RH |
| Creepage Distance | 8 mm (1 Form A), 6 mm (1 Form C) |
| Ambient Temperature Operating | At nominal coil voltage -40°C (-40°F) to 70°C (158°F) |
| Vibration | 1.5mm DA at 10–55 Hz |
| Shock Operating Non-Operating | 10 g, 11 ms, 1/2 sine (no false operation) 100 g, 11 ms, 1/2 sine (no damage) |
| Enclosure | P.B.T. polyester |
| Terminals | Tinned copper alloy |
| Max. Solder Temp. | 270°C (518°F) |
| Max. Solder Time | 5 seconds |
| Weight | 32 grams |

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This product specification to be used only together with the application notes
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2014-09-08

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RELAY ORDERING DATA

| COIL SPECIFICATIONS - STANDARD SINGLE COIL | | | | | |
|--------------------------------------------|------------------|-------------------------|--------------------------------|-----------------|-----------------|
| Nominal Coil VDC | Must Operate VDC | Max. Continuous VDC [1] | Coil Resistance Ohm $\pm 10\%$ | ORDER NUMBER* | |
| | | | | 1 Form A | 1 Form C |
| 6 | 4.8 | 7.8 | 24 | AZ2501P1-1A-6D | AZ2501P1-1C-6D |
| 9 | 7.2 | 11.7 | 54 | AZ2501P1-1A-9D | AZ2501P1-1C-9D |
| 12 | 9.6 | 15.6 | 96 | AZ2501P1-1A-12D | AZ2501P1-1C-12D |
| 24 | 19.2 | 31.2 | 384 | AZ2501P1-1A-24D | AZ2501P1-1C-24D |
| 48 | 38.4 | 62.4 | 1536 | AZ2501P1-1A-48D | AZ2501P1-1C-48D |

| COIL SPECIFICATIONS - STANDARD DUAL COIL | | | | | |
|------------------------------------------|------------------|-------------------------|--------------------------------|-----------------|-----------------|
| Nominal Coil VDC | Must Operate VDC | Max. Continuous VDC [1] | Coil Resistance Ohm $\pm 10\%$ | ORDER NUMBER* | |
| | | | | 1 Form A | 1 Form C |
| 6 | 4.8 | 7.8 | 12 | AZ2501P2-1A-6D | AZ2501P2-1C-6D |
| 9 | 7.2 | 11.7 | 27 | AZ2501P2-1A-9D | AZ2501P2-1C-9D |
| 12 | 9.6 | 15.6 | 48 | AZ2501P2-1A-12D | AZ2501P2-1C-12D |
| 24 | 19.2 | 31.2 | 192 | AZ2501P2-1A-24D | AZ2501P2-1C-24D |
| 48 | 38.4 | 62.4 | 768 | AZ2501P2-1A-48D | AZ2501P2-1C-48D |

* For epoxy sealed version (not allowed with manual switch) add suffix "E".

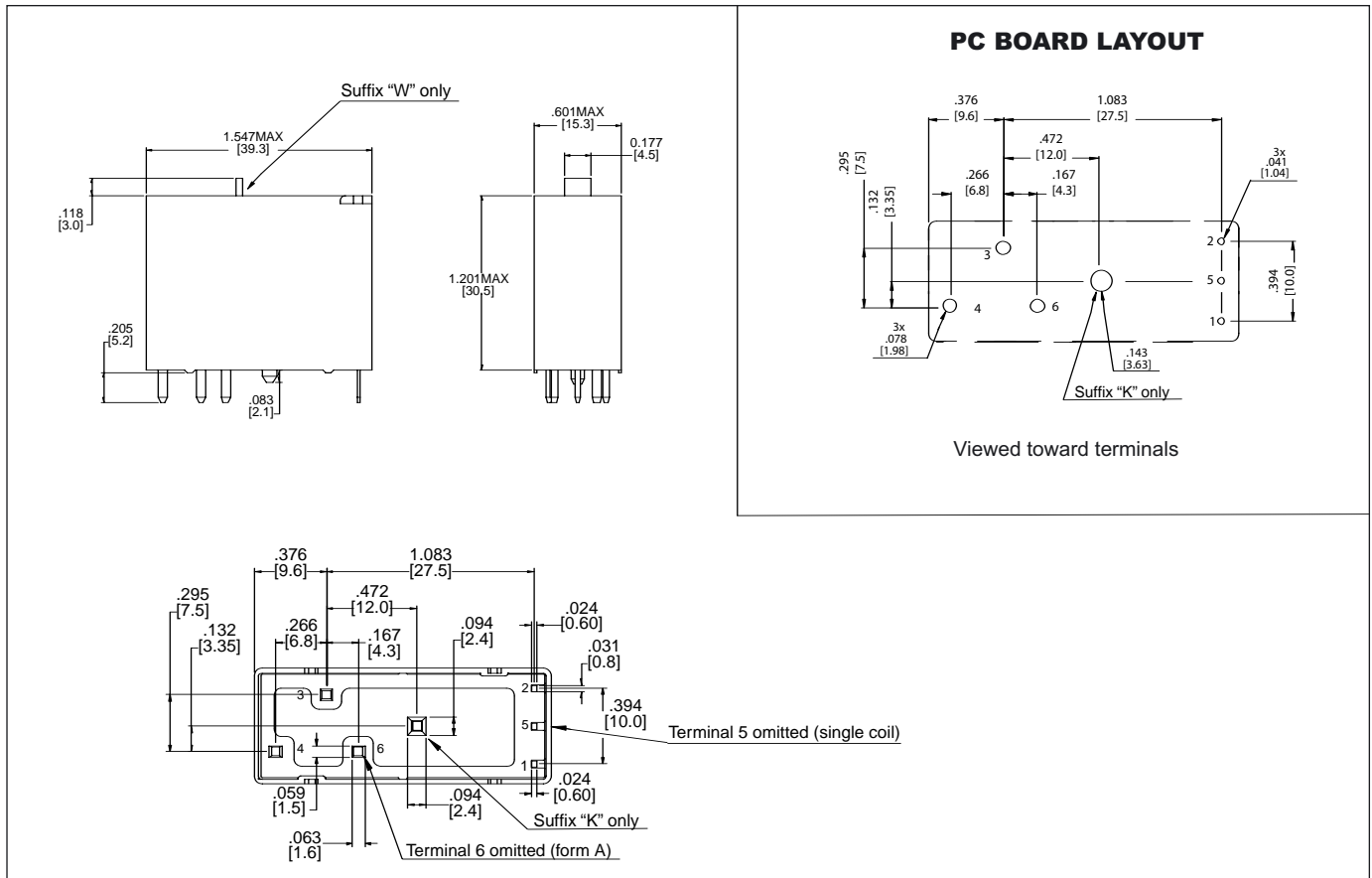
For manual switch add suffix "W".

For PCB retaining stud add suffix "K".

For reverse polarity coil add suffix "R".

NOTE: [1] Max. continuous voltage should not be applied for more than 60 seconds.

MECHANICAL DATA



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

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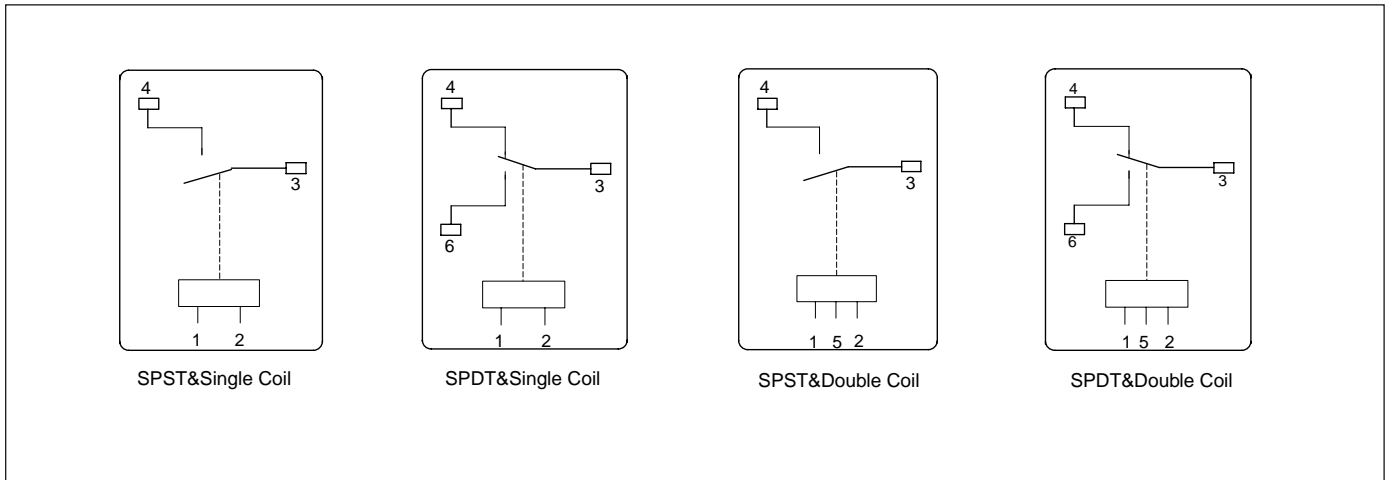
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WIRING DIAGRAMS



NOTE:

Standard Polarity type:

1. "Single Coil Latching Version"

- (1) After energizing 1 (+) and 2 (-), 50ms pulse, terminal 3 and 4 is connected.
- (2) After energizing 2 (+) and 1 (-), 50ms pulse, terminal 3 and 4 is disconnected.

2. "Double Coil Latching Version"

- (1) After energizing 5 (+) and 1 (-), 50ms pulse, terminal 3 and 4 is connected.
- (2) After energizing 5 (+) and 2 (-), 50ms pulse, terminal 3 and 4 is disconnected.

Reverse Polarity type:

1. "Single Coil Latching Version"

- (1) After energizing 1 (-) and 2 (+), 50ms pulse, terminal 3 and 4 is connected.
- (2) After energizing 1 (+) and 2 (-), 50ms pulse, terminal 3 and 4 is disconnected.

2. "Double Coil Latching Version"

- (1) After energizing 5 (-) and 1 (+), 50ms pulse, terminal 3 and 4 is connected.
- (2) After energizing 5 (-) and 2 (+), 50ms pulse, terminal 3 and 4 is disconnected.

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