## 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), <br> SPST (1 Form A) |
| :--- | :--- |
| Ratings | Resistive load: |
|  | Max. switched power: 13850 VA <br> Max. switched current: 50 A <br> Max. switched voltage: 440 VAC |
| Rated Load <br> UL, CUR | 1 Form A (SPST) <br> 50 A at 277 VAC, resistive, $70^{\circ} \mathrm{C}, 100 \mathrm{k}$ cycles <br> 20 A at 347 VAC, resistive, $70^{\circ} \mathrm{C}, 30 \mathrm{k}$ cycles <br> 5000 W at 240 VAC, tungsten, $40^{\circ} \mathrm{C}, 30 \mathrm{k}$ cycles <br> $120 \mathrm{LRA} / 20 \mathrm{FLA}$, at $120 \mathrm{VAC}, 40^{\circ} \mathrm{C}, 30 \mathrm{k}$ cycles <br> $102 \mathrm{LRA} / 17 \mathrm{FLA}$, at $240 \mathrm{VAC}, 40^{\circ} \mathrm{C}, 30 \mathrm{k}$ cycles <br> $84 \mathrm{LRA} / 14 \mathrm{FLA}$, at $277 \mathrm{VAC}, 40^{\circ} \mathrm{C}, 30 \mathrm{k}$ cycles |
| Material | 1 Form C (SPDT) <br> 40 A at 277 VAC, general use, $70^{\circ} \mathrm{C}, 30 \mathrm{k}$ cycles |
| Resistance | Silver tin oxide |

## COIL

| Power <br> At Pickup Voltage <br> (typical) | .96 W single coil |
| :--- | :--- |
| Temperature | Max. $105^{\circ} \mathrm{C}\left(221^{\circ} \mathrm{F}\right)$ |

## NOTES

[^0]
## GENERAL DATA

| Life Expectancy Mechanical Electrical | Minimum operations $\begin{aligned} & 1 \times 10^{6} \\ & 1 \times 10^{5} \text { at } 50 \text { A } 250 \text { VAC Res. (SPST) } \end{aligned}$ |
| :---: | :---: |
| 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 $20^{\circ} \mathrm{C}, 500$ VDC, $50 \%$ RH |
| Creepage Distance | 8 mm (1 Form A), 6 mm (1 Form C) |
| Ambient Temperature Operating | At nominal coil voltage $-40^{\circ} \mathrm{C}\left(-40^{\circ} \mathrm{F}\right)$ to $70^{\circ} \mathrm{C}\left(158^{\circ} \mathrm{F}\right)$ |
| Vibration | 1.5 mm DA at $10-55 \mathrm{~Hz}$ |
| Shock <br> Operating Non-Operating | $10 \mathrm{~g}, 11 \mathrm{~ms}, 1 / 2$ sine (no false operation) $100 \mathrm{~g}, 11 \mathrm{~ms}, 1 / 2$ sine (no damage) |
| Enclosure | P.B.T. polyester |
| Terminals | Tinned copper alloy |
| Max. Solder Temp. | $270^{\circ} \mathrm{C}\left(518^{\circ} \mathrm{F}\right)$ |
| Max. Solder Time | 5 seconds |
| Weight | 32 grams |

## AZ2501P

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 then 60 seconds.

## MECHANICAL DATA



Dimensions in inches with metric equivalents in parentheses. Tolerance: $\pm .010{ }^{\prime \prime}$

## 

Junkersstr. 3, D-82178 Puchheim, Germany
This product specification to be used only together with the application notes
which can be downloaded from http://www.ZETTLERelectronics.com/pdfs/relais/ApplicationNotes.pdf



SPDT\&Single Coil


SPST\&Double Coil


SPDT\&Double Coil

NOTE:

## Standard Polarity type:

## 1. "Single Coil Latching Version"

(1) After energizing $1(+)$ and $2(-), 50 \mathrm{~ms}$ pulse, terminal 3 and 4 is connected.
(2) After energizing $2(+)$ and $1(-), 50 \mathrm{~ms}$ pulse, terminal 3 and 4 is disconnected.

## 2. "Double Coil Latching Version"

(1) After energizing $5(+)$ and $1(-), 50 \mathrm{~ms}$ pulse, terminal 3 and 4 is connected.
(2) After energizing $5(+)$ and $2(-), 50 \mathrm{~ms}$ pulse, terminal 3 and 4 is disconnected.

## Reverse Polarity type:

## 1. "Single Coil Latching Version"

(1) After energizing $1(-)$ and $2(+), 50 \mathrm{~ms}$ pulse, terminal 3 and 4 is connected.
(2) After energizing $1(+)$ and $2(-), 50 \mathrm{~ms}$ pulse, terminal 3 and 4 is disconnected.

## 2. "Double Coil Latching Version"

(1) After energizing $5(-)$ and $1(+), 50 \mathrm{~ms}$ pulse, terminal 3 and 4 is connected.
(2) After energizing $5(-)$ and $2(+), 50 \mathrm{~ms}$ pulse, terminal 3 and 4 is disconnected.


[^0]:    1. All values at $20^{\circ} \mathrm{C}\left(68^{\circ} \mathrm{F}\right)$.
    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!
