## SENSITIVE SUBMINIATURE RELAY

## FEATURES

- Small footprint, extremely small width of only 5 mm
- 8 A switching capability
- High sensitivity with 95 mW pickup power
- Dielectric strength of 4000 VRMS between coil and contacts Isolation
- spacing greater than 8 mm
- Horizontal and vertical versions available
- Epoxy sealed version available
- Reinforced insulation, EN 60730-1, EN 60335-1
- UL, CUR file E43203
- VDE certificate 40020561


## CONTACTS

| Arrangement | SPST (1 Form A) SPDT (1 Form C) |
| :---: | :---: |
| Ratings | Resistive load: <br> Max. switched power: 180W or 2216VA <br> Max. switched current: 8A <br> Max. switched voltage: 125VDC* or 400VAC <br> Note: If switching voltage is greater than 30 VDC , special precautions must be taken. Please contact the factory. |
| Rated Load UL/CUR <br> VDE | 1 Form A <br> 8 A at 277 VAC , resistive, $85^{\circ} \mathrm{C}$, 10k cycles [1][2] <br> 6 A at 277 VAC , resistive, $85^{\circ} \mathrm{C}, 60 \mathrm{k}$ cycles [1][2] <br> 6 A at 277 VAC, general use, $85^{\circ} \mathrm{C}, 30 \mathrm{k}$ cycles [1] <br> 6 A at 277 VAC , general use, $85^{\circ} \mathrm{C}, 20 \mathrm{k}$ cycles [2] <br> B300, R300 pilot duty, $85^{\circ} \mathrm{C}$ [1][2] <br> C300, R300 pilot duty, $28^{\circ} \mathrm{C}$, 30 k cycles [1][2] <br> 6 A at $30 \mathrm{VDC}, 85^{\circ} \mathrm{C}, 6 \mathrm{k}$ cycles [1][2] <br> 1 Form C <br> 8 A at 277 VAC, res., $85^{\circ} \mathrm{C}$, 10k cycles (N.O.) [1][2] <br> 6 A at 277 VAC , res., $85^{\circ} \mathrm{C}, 30 \mathrm{k}$ cycles (N.O.) [1][2] <br> 6 A at 277 VAC , res., $85^{\circ} \mathrm{C}, 10 \mathrm{k}$ cycles (N.C.) [1][2] <br> 6 A at 277 VAC, gen.use, $85^{\circ} \mathrm{C}$, 30k cycles (N.O.) [1] <br> 6 A at 277 VAC, gen.use, $85^{\circ} \mathrm{C}, 20 \mathrm{k}$ cycles (N.O.) [2] <br> 6 A at 277 VAC , gen.use, $85^{\circ} \mathrm{C}, 20 \mathrm{k}$ cyc. (N.C.) [1][2] <br> C300, R300 pilot duty, $28^{\circ} \mathrm{C}, 30 \mathrm{k}$ cycles (N.O.) [1][2] <br> 6 A at $30 \mathrm{VDC}, 85^{\circ} \mathrm{C}, 6 \mathrm{k}$ cycles [1][2] <br> B300, R300 pilot duty, $85^{\circ} \mathrm{C}$ [1][2] <br> 1 Form A <br> 6 A at $250 \mathrm{VAC}, 85^{\circ} \mathrm{C}, 50 \mathrm{k}$ cycles [1][2] <br> 6 A at $30 \mathrm{VDC}, 85^{\circ} \mathrm{C}, 60 \mathrm{k}$ cycles [1][2] <br> 1 Form C <br> 6 A at $250 \mathrm{VAC}, 85^{\circ} \mathrm{C}, 10 \mathrm{k}$ cycles [1][2] <br> 6 A at $30 \mathrm{VDC}, 85^{\circ} \mathrm{C}, 60 \mathrm{k}$ cycles [1][2] |
| Material | Silver nickel [1], Silver Tin [2] Optional gold plating |
| Resistance | <100 milliohms initially (at 1A, 6VDC) |

## COIL

| Power <br> At Pickup Voltage <br> (typical) | 95 mW |
| :--- | :--- |
| Max. Continuous <br> Dissipation | 1.0 W at $20^{\circ} \mathrm{C}\left(68^{\circ} \mathrm{F}\right)$ ambient |
| Temperature Rise | $20^{\circ} \mathrm{C}\left(36^{\circ} \mathrm{F}\right)$ at nominal coil voltage |
| Temperature | $\mathrm{Max} .105^{\circ} \mathrm{C}\left(221^{\circ} \mathrm{F}\right)$ |



## GENERAL DATA

| Life Expectancy Mechanical Electrical | Minimum operations 10 million operations $3 \times 10^{5}$ at 5A, 50VAC Res. |
| :---: | :---: |
| Operate Time (typical) | 8 ms at nominal coil voltage |
| Release Time (typical) | 4ms at nominal coil voltage (with no coil suppression) |
| Dielectric Strength (at sea level for 1 min.) | 1000 Vrms between open contacts 4000 Vrms contact to coil |
| Insulation Resistance | 1000 megohms min. at $20^{\circ} \mathrm{C}, 500$ VDC, $50 \%$ RH |
| Dropout | Greater than 5\% of nominal coil voltage |
| Ambient Temperature Operating Storage | At nominal coil voltage $-40^{\circ} \mathrm{C}\left(-40^{\circ} \mathrm{F}\right)$ to $85^{\circ} \mathrm{C}\left(158^{\circ} \mathrm{F}\right)$ $-40^{\circ} \mathrm{C}\left(-40^{\circ} \mathrm{F}\right)$ to $105^{\circ} \mathrm{C}\left(221^{\circ} \mathrm{F}\right)$ |
| Vibration | 0.062" DA 10-55 Hz |
| Shock | 5 g |
| Enclosure | P.B.T. polyester 94V-0 |
| Terminals | Tinned copper alloy, P.C. |
| Max. Solder Temp. | $260^{\circ} \mathrm{C}\left(500^{\circ} \mathrm{F}\right)$ |
| Max. Solder Time | 5 seconds |
| Max. Solvent Temp. | $80^{\circ} \mathrm{C}\left(176{ }^{\circ} \mathrm{F}\right)$ |
| Max. Immersion Time | 30 seconds |
| Weight (approx.) | 5 grams |

## NOTES

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.

RELAY ORDERING DATA

| COIL SPECIFICATIONS |  | ORDER NUMBER* |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Nominal Coil <br> VDC | Must Operate <br> VDC | Max. Continuous <br> VDC | Coil Resistance | Unsealed | Sealed |
| 5 | 3.75 | 11.5 | $147 \pm 10 \%$ | AZ6991-1A-5D | AZ6991-1A-5DE |
| 6 | 4.50 | 13.8 | $212 \pm 10 \%$ | AZ6991-1A-6D | AZ6991-1A-6DE |
| 9 | 6.75 | 20.7 | $476 \pm 10 \%$ | AZ6991-1A-9D | AZ6991-1A-9DE |
| 12 | 9.00 | 27.6 | $848 \pm 10 \%$ | AZ6991-1A-12D | AZ6991-1A-12DE |
| 18 | 13.5 | 41.4 | $1906 \pm 15 \%$ | AZ6991-1A-18D | AZ6991-1A-18DE |
| 24 | 18.0 | 55.2 | $3390 \pm 15 \%$ | AZ6991-1A-24D | AZ6991-1A-24DE |
| 48 | 36.0 | 97.7 | $10600 \pm 15 \%$ | AZ6991-1A-48D | AZ6991-1A-48DE |
| 60 | 45.0 | 122.2 | $16600 \pm 15 \%$ | AZ6991-1A-60D | AZ6991-1A-60DE |

*Substitute "-1C" for "-1A " to indicate 1 Form C contacts. Add "E" after 1A or 1C for Silver Tin contacts. Add suffix "A" for gold plated contacts. Add suffix " H " for horizontal version.

## MECHANICAL DATA



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

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