

Specifications

Coil Ratings

| Rated voltage | | Rated current* | | Coil resistance | Coil inductance (H) (ref. value) | | Must operate voltage | Must release voltage | Max. voltage | Power consumption (approx.) |
|---------------|-------|----------------|---------|-----------------|----------------------------------|-------------|----------------------|----------------------|--------------|-----------------------------|
| | | 50 Hz | 60 Hz | | Armature OFF | Armature ON | | | | |
| AC | 24 V | 43.5 mA | 37.4 mA | 253 Ω | 0.81 | 1.55 | 80% max. | 30% max. | 110% | 0.9 VA at 60 Hz |
| | 110 V | 9.5 mA | 8.2 mA | 5,566 Ω | 13.33 | 26.83 | | | | |
| | 120 V | 8.6 mA | 7.5 mA | 7,286 Ω | 16.13 | 32.46 | | | | |
| | 230 V | 4.4 mA | 3.8 mA | 27,172 Ω | 72.68 | 143.90 | | | | |
| | 240 V | 3.7 mA | 3.2 mA | 30,360 Ω | 90.58 | 182.34 | | | | |

| Rated voltage | | Rated current* | | Coil resistance | Coil inductance (H) (ref. value) | | Must operate voltage | Must release voltage | Max. voltage | Power consumption (approx.) |
|---------------|------|----------------|-------|-----------------|----------------------------------|-------------|----------------------|----------------------|--------------|-----------------------------|
| | | 50 Hz | 60 Hz | | Armature OFF | Armature ON | | | | |
| DC | 6 V | 87.0 mA | | 69 Ω | 0.25 | 0.48 | 70% max. | 15% min. | 110% | 0.53 W |
| | 12 V | 43.2 mA | | 278 Ω | 0.98 | 2.35 | | | | |
| | 24 V | 21.6 mA | | 1,113 Ω | 3.60 | 8.25 | | | | |
| | 48 V | 11.4 mA | | 4,220 Ω | 15.2 | 29.82 | | | | |

- Note:**
1. The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of +15%/-20% for the AC rated current and ±10% for the DC coil resistance.
 2. The AC coil resistance and inductance values are reference values only (at 60 Hz).
 3. Operating characteristics were measured at a coil temperature of 23°C.
 4. The maximum voltage is the maximum possible value of the voltage that can be applied to the relay coil. It is not the maximum voltage that can be applied continuously.

Contact Ratings

| Number of poles | 1 pole | | 2 poles | |
|----------------------------------|------------------------------------|---|----------------------------------|---|
| | Resistive load (cosφ = 1) | Inductive load (cosφ = 0.4; L/R = 7 ms) | Resistive load (cosφ = 1) | Inductive load (cosφ = 0.4; L/R = 7 ms) |
| Rated load | 10 A at 250 VAC; 10 A at 30 VDC | 7.5 A at 250 VAC; 5 A at 30 VDC | 5 A at 250 VAC; 5 A at 30 VDC | 2 A at 250 VAC; 3 A at 30 VDC |
| Rated carry current | 10 A | | 5 A | |
| Max. switching voltage | 440 VAC, 125 VDC | | 380 VAC, 125 VDC | |
| Max. switching current | 10 A | | 5 A | |
| Max. switching power | 2,500 VA, 300 W | 1,875 VA, 150 W | 1,250 VA, 150 W | 500 VA, 90 W |
| Failure rate (reference value) * | 100 mA at 5 VDC | | 10 mA at 5 VDC | |

Note: P level: $\lambda_{60} = 0.1 \times 10^{-6}$ /operation

* This value was measured at a switching frequency of 120 operations per minute.

Characteristics

| Item | 1 pole | 2 poles |
|--------------------------|--|---|
| Contact configuration | SPDT | |
| Contact structure | Single | |
| Contact resistance | 100 mΩ max. | |
| Operate (set) time | 15 ms max. | |
| Release (reset) time | AC: 10 ms max.; DC: 5 ms max. (w/built-in diode: 20 ms max.) | AC: 15 ms max.; DC: 10 ms max. (w/built-in diode: 20 ms max.) |
| Max. operating frequency | Mechanical: 18,000 operations/hr Electrical: 1,800 operations/hr (under rated load) | |
| Insulation resistance | 1,000 MΩ min. (at 500 VDC) | |
| Dielectric strength * | 5,000 VAC, 50/60 Hz for 1 min between coil and contacts; 1,000 VAC, 50/60 Hz for 1 min between contacts of same polarity | 5,000 VAC, 50/60 Hz for 1 min between coil and contacts; 3,000 VAC, 50/60 Hz for 1 min between contacts of different polarity 1,000 VAC, 50/60 Hz for 1 min between contacts of same polarity |
| Vibration resistance | Destruction: 10 to 55 to 10 Hz, 0.75 mm single amplitude (1.5 mm double amplitude) Malfunction: 10 to 55 to 10 Hz, 0.75 mm single amplitude (1.5 mm double amplitude) | |
| Shock resistance | Destruction: 1,000 m/s ² Malfunction: 200 m/s ² when energized; 100 m/s ² when not energized | |
| Endurance | Mechanical: AC coil: 10,000,000 operations min.; DC coil: 20,000,000 operations min. (at 18,000 operations/hr) Electrical: 100,000 operations min. (at 1,800 operations/hr under rated load) | |
| Ambient temperature | Operating: -40°C to 70°C (with no icing or condensation) | |
| Ambient humidity | Operating: 5% to 85% | |
| Weight | Approx. 20 g | |

Note: Values in the above table are the initial values.

*These values are relay only. Please refer to the "Products Related to Common Sockets and DIN Tracks Data Sheet" for connecting sockets.

Approved Standards

UL 508 (File No. E41643)

| Model | Contact form | Coil ratings | Contact ratings | Operations |
|-------------|--------------|------------------------------|---|-----------------------|
| G2R-1-S (S) | SPDT | 5 to 110 VDC 6 to 240 VAC | 10 A, 30 VDC (resistive) 10 A, 250 VAC (general use) | 100 × 10 ³ |
| | | | TV-3 (NO contact only) | 25 × 10 ³ |
| G2R-2-S (S) | DPDT | 5 to 110 VDC 6 to 240 VAC | 5 A, 30 VDC (resistive) 5 A, 250 VAC (general use) | 100 × 10 ³ |
| | | | TV-3 (NO contact only) | 25 × 10 ³ |

CSA 22.2 No.0, No.14

(File No. LR31928)

| Model | Contact form | Coil ratings | Contact ratings | Operations |
|-------------|--------------|------------------------------|---|-----------------------|
| G2R-1-S (S) | SPDT | 5 to 110 VDC 6 to 240 VAC | 10 A, 30 VDC (resistive) 10 A, 250 VAC (general use) | 100 × 10 ³ |
| | | | TV-3 (NO contact only) | 25 × 10 ³ |
| G2R-2-S (S) | DPDT | 5 to 110 VDC 6 to 240 VAC | 5 A, 30 VDC (resistive) 5 A, 250 VAC (general use) | 100 × 10 ³ |
| | | | TV-3 (NO contact only) | 25 × 10 ³ |

IEC/VDE (Certificate No. 40015012 EN 61810-1)

| Contact form | Coil ratings | Contact ratings | Operations |
|--------------|--|--|-----------------------|
| 1 pole | 6, 12, 24, 48 VDC 24, 110, 120, 230, 240 VAC | 5 A, 440 VAC (cosφ = 1.0) 10 A, 250 VAC (cosφ = 1.0) 10 A, 30 VDC (0 ms) | 100 × 10 ³ |
| 2 poles | 6, 12, 24, 48 VDC 24, 110, 120, 230, 240 VAC | 5 A, 250 VAC (cosφ = 1.0) 5 A, 30 VDC (0 ms) | 100 × 10 ³ |

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|-----------------|------------------------------|--|-----------------------|
| 1 pole | 5 to 110 VDC 6 to 240 VDC | 10 A, 250 VAC (general use) 7.5 A, 250 VAC (PF0.4) 10 A, 30 VDC (resistive) 5A, 30VDC (L/R=7ms) | 100 × 10 ³ |
| 2 poles | 5 to 110 VDC 6 to 240 VDC | 5 A, 250 VAC (general use) 2 A, 250 VAC (PF0.4) 5 A, 30 VDC (resistive) 3A, 30VDC (L/R=7ms) | 100 × 10 ³ |