

## 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 <sup>2</sup> Malfunction: 200 m/s <sup>2</sup> when energized; 100 m/s <sup>2</sup> 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 <sup>3</sup>
			TV-3 (NO contact only)	25 × 10 <sup>3</sup>
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 <sup>3</sup>
			TV-3 (NO contact only)	25 × 10 <sup>3</sup>

### 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 <sup>3</sup>
			TV-3 (NO contact only)	25 × 10 <sup>3</sup>
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 <sup>3</sup>
			TV-3 (NO contact only)	25 × 10 <sup>3</sup>

### 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 <sup>3</sup>
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 <sup>3</sup>

### LR

Number of poles	Coil ratings	Contact ratings	Operations
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 <sup>3</sup>
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 <sup>3</sup>