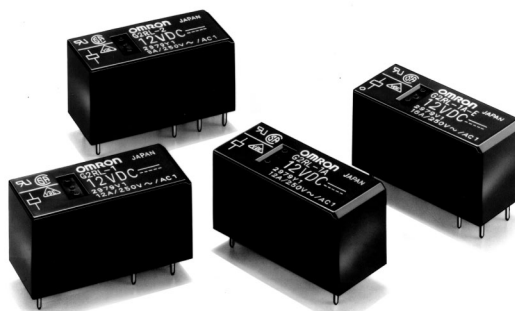


### A Power Relay with Various Models

- High-sensitivity (250 mW) and High-capacity (16 A) Models available.
- Low profile: 15.7 mm max. in height
- Conforms to VDE (EN61810-1), UL508 and CSA22.2.
- Meets EN60335-1 requirements for household products.
- Clearance and creepage distance: 10 mm/10 mm.
- Tracking resistance: CTI>250
- Coil Insulation system: Class F (UL1446)



RoHS Compliant

### Ordering Information

Classification	Enclosure ratings	Contact form			
		SPST-NO	SPDT	DPST-NO	DPDT
General-purpose	Flux protection	G2RL-1A	G2RL-1	G2RL-2A	G2RL-2
	Fully sealed	G2RL-1A4	G2RL-14	G2RL-2A4	G2RL-24
High-capacity	Flux protection	G2RL-1A-E	G2RL-1-E	---	---
	Fully sealed	G2RL-1A4-E	G2RL-14-E	---	---
High-sensitivity	Flux protection	G2RL-1A-H	G2RL-1-H	---	---

**Note:** When ordering, add the rated coil voltage to the model number.

Example: G2RL-1A 12 VDC

Rated coil voltage

### Model Number Legend

G2RL-□□□-□  
1 2 3 4

#### 1. Number of Poles

- 1: 1 pole
- 2: 2 poles

#### 2. Contact Form

- None: □PDT
- A: □PST-NO

#### 3. Enclosure Ratings

- None: Flux protection
- 4: Fully sealed

#### 4. Classification

- None: General purpose
- E: High capacity (1 pole)
- H: High sensitivity (1 pole)

### Specifications

#### ■ Coils Ratings for General-purpose and High-capacity Models

Rated voltage	5 VDC	12 VDC	24 VDC	48 VDC
Rated current	80.0 mA	33.3 mA	16.7 mA	8.96 mA
Coil resistance	62.5 Ω	360 Ω	1,440 Ω	5,358 Ω
Must operate voltage	70% max. of the rated voltage			
Must release voltage	10% min. of the rated voltage			
Max. voltage	180% of rated voltage (at 23°C)			
Power consumption	Approx. 400 mW			Approx. 430 mW

**Note:** The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of ±10%.

## ■ Coils Ratings for High-sensitivity Models

Rated voltage	5 VDC	12 VDC	24 VDC
Rated current	50.0 mA	20.8 mA	10.42 mA
Coil resistance	100 $\Omega$	576 $\Omega$	2,304 $\Omega$
Must operate voltage	75% max. of the rated voltage		
Must release voltage	10% min. of the rated voltage		
Max. voltage	180% of rated voltage (at 23°C)		
Power consumption	Approx. 250 mW		

**Note:** The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of  $\pm 10\%$ .

## ■ Contact Ratings

Item	General-purpose Models		High-capacity Models	High-sensitivity Models
Number of poles	1 pole	2 poles	1 pole	1 pole
Contact material	Ag Alloy (Cd free)			
Load	Resistive load ( $\cos\phi=1$ )			
Rated load	12 A at 250 VAC 12 A at 24 VDC (See note.)	8 A at 250 VAC 8 A at 30 VDC (See note.)	16 A at 250 VAC 16 A at 24 VDC (See note.)	10 A at 250 VAC 10 A at 24 VDC (See note.)
Rated carry current	12 A (See note.)	8 A (70°C)/5 A (85°C) (See note.)	16 A (See note.)	10 A (See note.)
Max. switching voltage	440 VAC, 300 VDC			
Max. switching current	12 A	8 A	16 A	10 A
Max. switching power	3,000 VA	2,000 VA	4,000 VA	2,500 VA

**Note:** Contact your OMRON representative for the ratings on fully sealed models.

## ■ Characteristics

Item	General-purpose (High-capacity) Models	General-purpose Models	High-sensitivity Models
Number of poles	1 pole	2 pole	1 pole
Contact resistance	100 m $\Omega$ max.		
Operate (set) time	15 ms max.		
Release (reset) time	5 ms max.		
Max. operating frequency	Mechanical: 18,000 operation/hr Electrical: 1,800 operation/hr at rated load		
Insulation resistance	1,000 M $\Omega$ min. (at 500 VDC)		
Dielectric strength	5,000 VAC, 1 min between coil and contacts 1,000 VAC, 1 min between contacts of same polarity	5,000 VAC, 1 min between coil and contacts 2,500 VAC, 1 min between contacts of different polarity 1,000 VAC, 1 min between contacts of same polarity	5,000 VAC, 1 min between coil and contacts 1,000 VAC, 1 min between contacts of same polarity
Impulse withstand voltage	10 kV (1.2 $\times$ 50 $\mu$ s) between coil and contact		
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> (approx. 100 G) Malfunction: 100 m/s <sup>2</sup> (approx. 10 G)		
Endurance (Mechanical)	20,000,000 operations (at 18,000 operations/hr)		
Ambient temperature	Operating: -40°C to 85°C (with no icing) Storage: -40°C to 85°C (with no icing)		
Ambient humidity	5% to 85%		
Weight	Approx. 12 g		

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

## ■ Approved Standards

UL508 (File No. E41643)/CSA C22.2 (No. 14) (File No. LR31928)

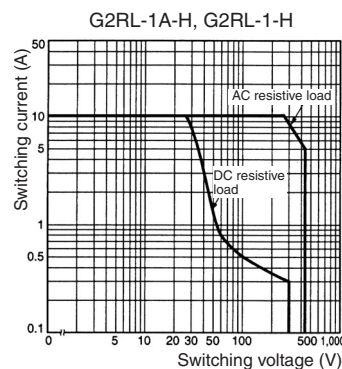
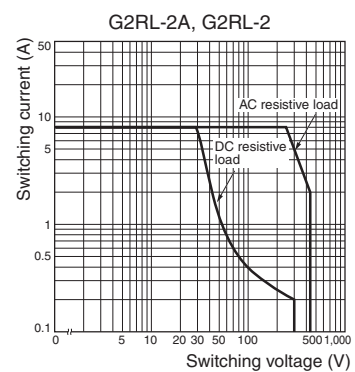
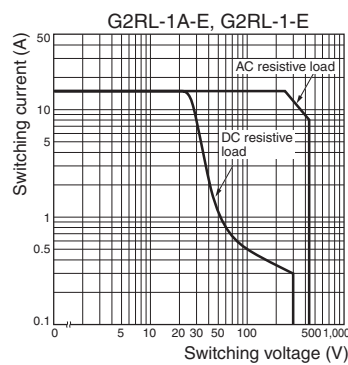
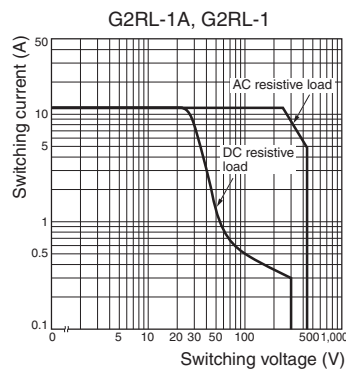
Model	Contact form	Coil ratings	Contact ratings
G2RL-1A	SPST-NO	3 to 48 VDC	12 A at 250 VAC (General use) 12 A at 24 VDC (Resistive)
G2RL-1	SPDT		
G2RL-1A-E	SPST-NO		16 A at 250 VAC (General use) 16 A at 24 VDC (Resistive)
G2RL-1-E	SPDT		
G2RL-1A-H	SPST-NO	5 to 24 VDC	10 A at 250 VAC (General use) 10 A at 24 VDC (Resistive)
G2RL-1-H	SPDT		
G2RL-2A	DPST-NO	3 to 48 VDC	8 A at 277 VAC (General use) 8 A at 30 VDC (Resistive)
G2RL-2	DPDT		

## VDE (EN61810-1) (License No. 119650)

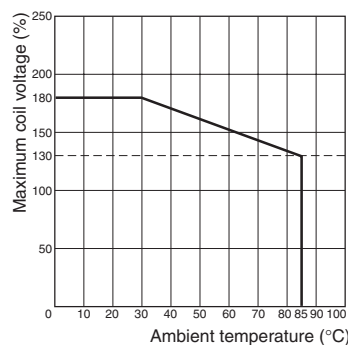
Model	Contact form	Coil ratings	Contact ratings
G2RL-1(A)	1 pole	5, 12, 18, 22, 24, 48 VDC	12 A at 250 VAC ( $\cos\phi=1$ ) 12 A at 24 VDC (L/R=0 ms) AC15: 3 A at 240 VAC DC13: 2.5 A at 24 VDC, 50 ms
G2RL-1(A)-E	1 pole	5, 12, 18, 22, 24, 48 VDC	16 A at 250 VAC ( $\cos\phi=1$ ) 16 A at 24 VDC (L/R=0 ms) AC15: 3 A at 240 VAC (NO) 1.5 A at 240 VAC (NC) DC13: 2.5 A at 24 VDC (NO), 50 ms
G2RL-1(A)-H	1 pole	5, 9, 12, 24 VDC	10 A at 250 VAC ( $\cos\phi=1$ ) 10 A at 24 VDC (L/R=0 ms)
G2RL-2(A)	2 poles	5, 12, 18, 22, 24, 48 VDC	8 A at 250 VAC ( $\cos\phi=1$ ) 8 A at 24 VDC (L/R=0 ms) AC15: 1.5 A at 240 VAC DC13: 2 A at 30 VDC, 50 ms

## Engineering Data

## Maximum Switching Capacity

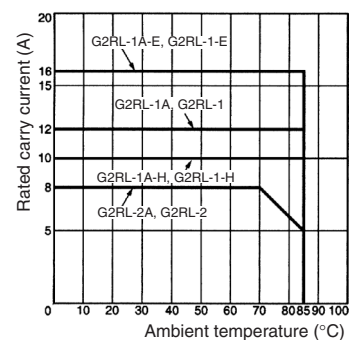


## Ambient Temperature vs Maximum Coil Voltage

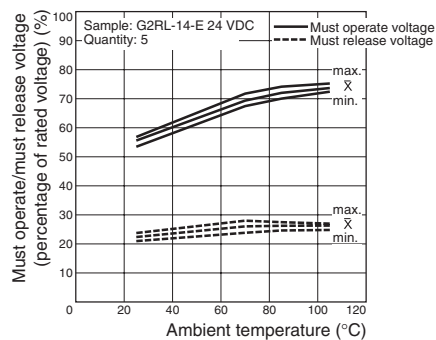


**Note:** The maximum coil voltage refers to the maximum value in a varying range of operating power voltage, not a continuous voltage.

## Ambient Temperature vs Rated Carry Current

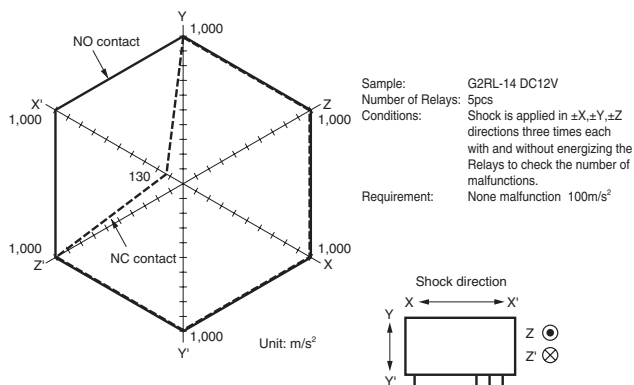


## Ambient Temperature vs Must Operate and Must Release Voltages

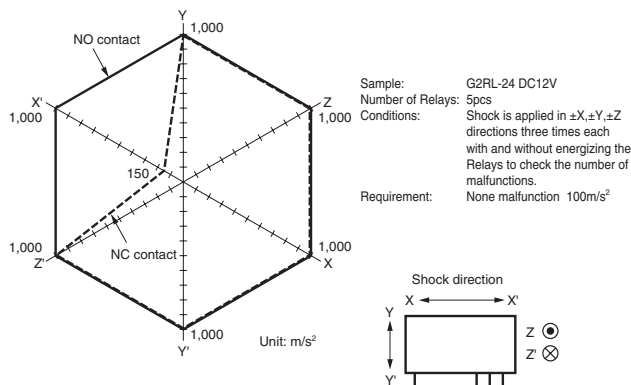


## Shock Malfunction

G2RL-1 (A)-E



G2RL-2 (A)



## Electrical Endurance Data

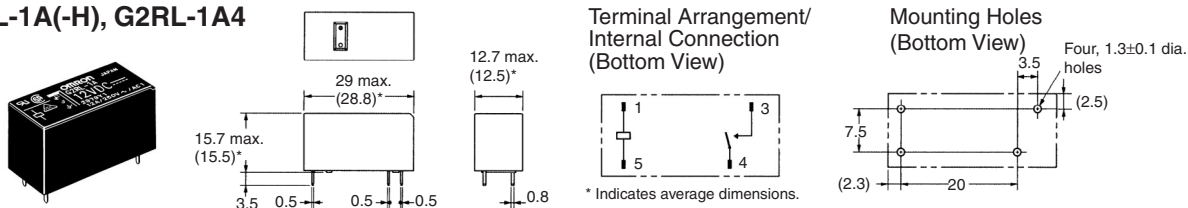
<b>G2RL-1-E</b>	16 A at 250 VAC ( $\cos\phi=1$ ) 16 A at 24 VDC 8 A at 250 VAC ( $\cos\phi=0.4$ ) 8 A at 30 VDC (L/R=7 ms)	30,000 operations min. 30,000 operations min. 200,000 operation min. (normally open side operation) 10,000 operation min. (normally open side operation)
<b>G2RL-1</b>	12 A at 250 VAC ( $\cos\phi=1$ ) 12 A at 24 VDC 5 A at 250 VAC ( $\cos\phi=0.4$ ) 5 A at 30 VDC (L/R=7 ms)	50,000 operations min. 30,000 operations min. 150,000 operation min. (normally open side operation) 20,000 operation min. (normally open side operation)
<b>G2RL-1-H</b>	10 A at 250 VAC ( $\cos\phi=1$ ) 10 A at 24 VDC	100,000 operations min. 50,000 operations min.
<b>G2RL-2</b>	8 A at 250 VAC ( $\cos\phi=1$ ) 8 A at 30 VDC	30,000 operations min. 30,000 operations min.

**Note:** The results shown reflect values measured using very severe test conditions i.e., Duty: 1 s ON/1 s OFF.  
Electrical endurance will vary depending on the test conditions. Contact your OMRON representative if you require more detailed information for the electrical endurance under your test conditions.

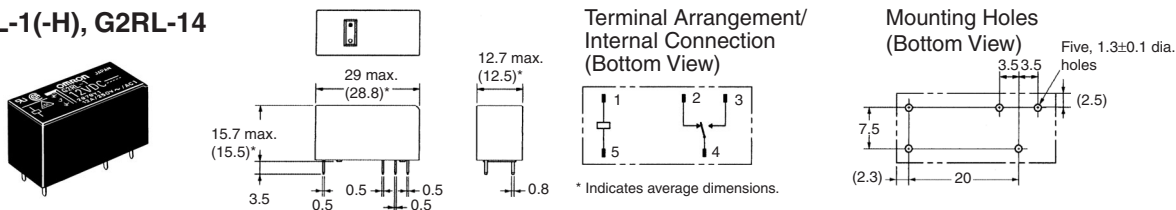
## Dimensions

**Note:** All units are in millimeters unless otherwise indicated.

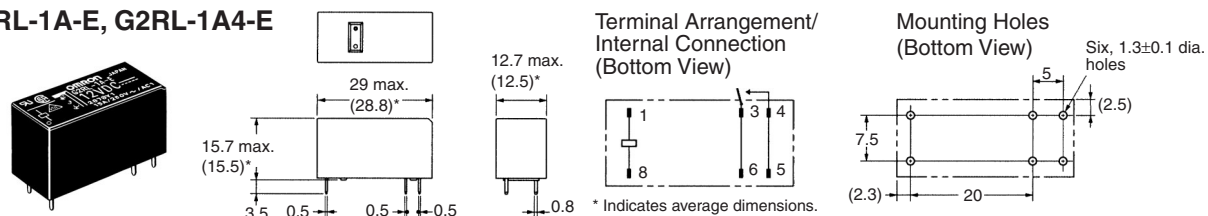
G2RL-1A(-H), G2RL-1A4

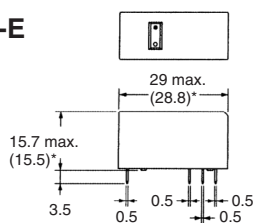
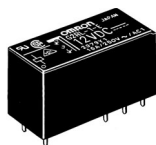
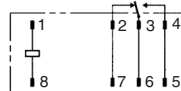


G2RL-1(-H), G2RL-14

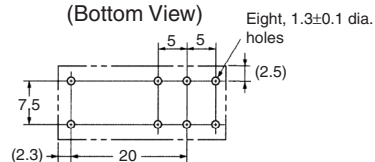
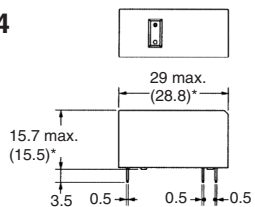
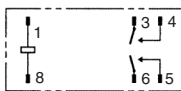


G2RL-1A-E, G2RL-1A4-E

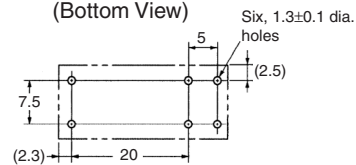
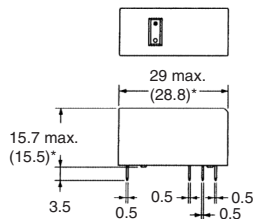
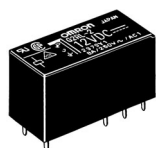
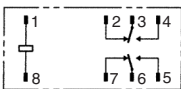


**G2RL-1-E, G2RL-14-E****Terminal Arrangement/  
Internal Connection  
(Bottom View)**

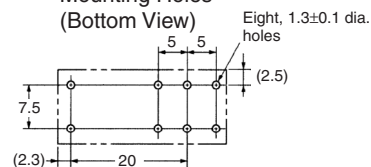
\* Indicates average dimensions.

**Mounting Holes  
(Bottom View)****G2RL-2A, G2RL-2A4****Terminal Arrangement/  
Internal Connection  
(Bottom View)**

\* Indicates average dimensions.

**Mounting Holes  
(Bottom View)****G2RL-2, G2RL-24****Terminal Arrangement/  
Internal Connection  
(Bottom View)**

\* Indicates average dimensions.

**Mounting Holes  
(Bottom View)****ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.**

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.