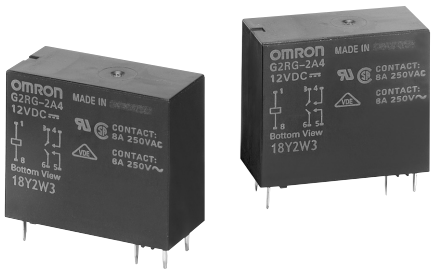
G2RG
PCB Power Relay

Power Relay with 110 VDC 5 A Switching Capacity (Use 2 poles in series with 3 mm contact gap)

- 2.8-mm contact gap (EN50091-1) satisfies the European requirement of UPS (uninterrupted power supply).
- Offers high insulation with insulation distance above 8 mm and impulse withstand voltage of 10 kV between coil and contacts.
- Standard model conforms to VDE standards.

RoHS Compliant



■Model Number Legend

G2RG-□□□
1 2 3

1. Number of Poles 2: 2-pole

2. Contact Form A: N.O. contact DPST-NO (2a)

3. Enclosure rating 4: Fully sealed

■Application Examples

- Home appliances
- OA equipments
- Industrial machinery

■Ordering Information

Contact form	Model	Rated coil voltage	Minimun packing unit
DPST-NO (2a)	G2RG-2A4	12 VDC 24 VDC	100 pcs/tray

Note. When ordering, add the rated coil voltage to the model number.
Example: G2RG-2A4 DC12
└Rated coil voltage
However, the notation of the coil voltage on the product case as well as on the packing will be marked as □□ VDC.

■Ratings

●Coil

Item / Rated voltage	Rated current (mA)	Coil resistance (Ω)	Must-operate voltage (V)	Must-release voltage (V)	Maximum voltage (V)	Power consumption (mW)
			% of rated voltage			
12 VDC	66.6	180	80% max.	10% min.	140% (at 23°C)	Approx. 800
24 VDC	33.3	720				

Note 1. The rated current and coil resistance are for a coil temperature of 23°C and have a tolerance of ±10%.
Note 2. The operating characteristics given in the above table are for a coil temperature of 23°C.
Note 3. The maximum allowable voltage is the maximum possible value of the voltage that can be applied to the relay coil.

●Contacts

Item / Load	Resistive load
Contact type	Single
Contact material	Ag-alloy (Cd free)
Rated load	8 A at 250 VAC
Rated carry current	8 A
Maximum switching voltage	380 VAC, 125 VDC
Maximum switching current	8 A
Failure rate (P level) (reference value*)	10 mA at 5 VDC

* This value was measured at a switching frequency of 120 operations/min.

●Contacts in line 2 pole

Item / Load	Resistive load
Rated load	5 A at 110 VDC
Rated carry current	8 A
Maximum switching voltage	125 VDC

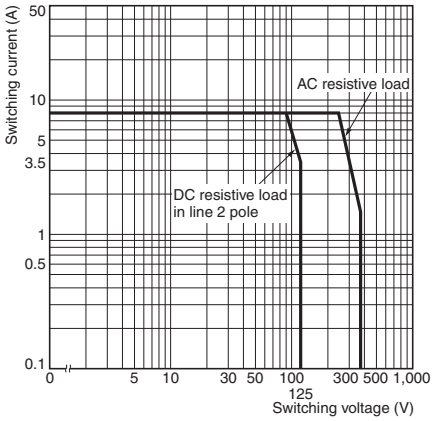
■Characteristics

Contact resistance *1		100 mΩ max.
Operate time		15 ms max.
Release time		5 ms max.
Max. switching frequency	Mechanical	18,000 operations/hr
	Electrical	1,800 operations/hr
Insulation resistance *2		1,000 MΩ min.
Dielectric strength	Between coil and contacts	5,000 VAC, 50/60 Hz for 1 min
	Between contacts of different polarity	3,000 VAC, 50/60 Hz for 1 min
	Between contacts of the same polarity	1,000 VAC, 50/60 Hz for 1 min
Impulse withstand voltage		10 kV (1.2 x 50 µs)
Insulation distance	Between coil and contacts	Clearance: 8 mm, Creepage: 8 mm
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/s²
	Malfunction	200 m/s² when energized
Durability	Mechanical	1,000,000 operations min. (at 18,000 operations/hr)
	Electrical	10,000 operations min. (at 1,800 operations/hr under rated load)
Ambient operating temperature		-40 to 70 °C (with no icing or condensation)
Ambient operating humidity		5% to 85%
Weight		Approx. 17 g

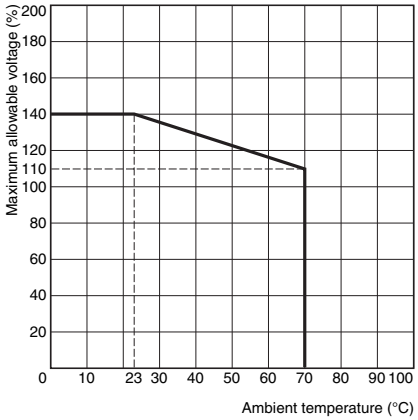
Note. The above values are initial values (at an ambient temperature of 23°C.)
*1. Measurement conditions: 5 VDC, 1 A, voltage-drop method.
*2. Measurement conditions: Measured with a 500 VDC megohmmeter at the same places as the dielectric strength.

■Engineering Data

●Maximum Switching Capacity

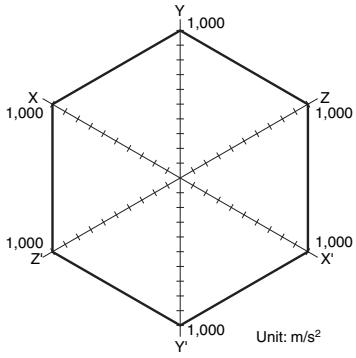


●Ambient Temperature vs Maximum Coil Voltage

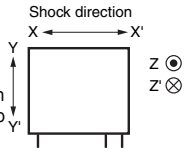


Note. The maximum allowable voltage is the maximum possible value of the voltage that can be applied to the relay coil.

●Shock Malfunction



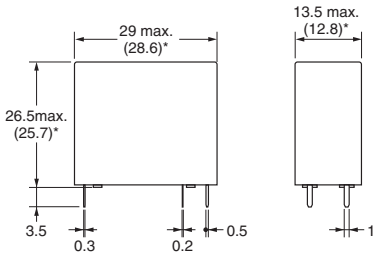
Sample: G2RG-2A4 24 VDC
Number of Relays: 5 pcs
Test conditions: Shock is applied in ±X, ±Y, and ±Z directions three times each with without energizing the Relays to check the number of malfunctions.
Requirement: 200 m/s² when energized



■Dimensions

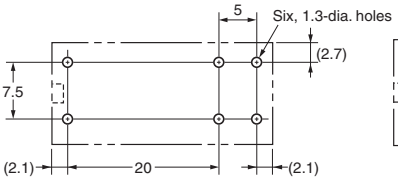
(Unit: mm)

G2RG-2A4

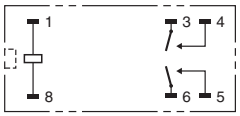


* Average value

PCB Mounting Holes
(Bottom View)



Terminal Arrangement/ Internal Connections
(Bottom View)



(No coil porality)

■Approved Standards

The approved rated values for international standards are different to the individually specified characteristic values. Be sure to confirm that required standards are satisfied before actual use.

UL Recognized: (File No. E41643)

Model	Contact form	Coil ratings	Contact ratings	Number of test operations
G2RG-2A4	DPST-NO (2a)	12 to 24 VDC	8 A, 250 VAC (Resistive) 70°C	10,000

CSA Certified: (File No. LR31928)

Model	Contact form	Coil ratings	Contact ratings	Number of test operations
G2RG-2A4	DPST-NO (2a)	12 to 24 VDC	8 A, 250 VAC (Resistive) 70°C	10,000

EN/IEC Certified Model (Approval/No. 40015012)

Model	Contact form	Coil ratings	Contact ratings	Number of test operations
G2RG-2A4	DPST-NO (2a)	12, 24 VDC	8 A, 250 VAC (cosϕ=1) 70°C	10,000

■Precautions

●Please refer to "PCB Relays Common Precautions" for correct use.

Correct Use

●Differences with the G2R

The G2RG-2A4 has the same terminal arrangement as the G2R-2A4 but the switching capacity and electrical endurance are different. Confirm that correct operation is possible in the actual operating conditions before using in applications.

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Electronic and Mechanical Components Company

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