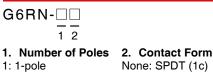


Miniature Power Relay for Switching 8 A

- Low-profile height of 15 mm (approx. 60% the height of the Omron G2R model).
- Capable of switching with 8 A at 250 VAC despite its small size.
- High sensitivity with 220mW power consumption.
- · Offers high insulation with insulation distance of 8 mm and impulse withstand voltage of 10kV between coil and contacts.
- Satisfies ambient operating temperature requirement of 85°C.
- Standard model conforms to VDE standards.

RoHS Compliant

Model Number Legend



None: SPDT (1c)

A: SPST-NO (1a)

Ordering Information

Classification	Enclosure rating	Contact form	Terminal shape	Model	Rated coil voltage	Minimun packing unit
Standard	Fully sealed	SPST-NO (1a)	PCB terminals	G6RN-1A	5, 6, 12 VDC 24 VDC	20 pcs/tube
		SPDT (1c)		G6RN-1	5, 6, 12 VDC 24 VDC	20 pcs/lube

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

Example: G6RN-1A DC5

Rated coil voltage

However, the notation of the coil voltage on the product case will be marked as ___VDC.

Ratings

• Coil

Item Rated voltage	Rated current (mA)	Coil resistance (Ω)	Must operate voltage (V)	Must release voltage (V) of rated voltage	Max. voltage (V) ge	Power consumption (mW)
5 VDC	43.9	114				
6 VDC	36.6	164	70% max.	10% min.	150%	Approx. 220
12 VDC	18.3	655	70 /o max.	10 /8 11111.	(at 23°C)	Appiox. 220
24 VDC	9.2	2,620				

Note 1. The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of ±10%.

*2. The operating characteristics are measured at a coil temperature of 23°C.

*3. The "Max. voltage" is the maximum voltage that can be applied to the relay coil.

Contacts

Load Item	Resistive load
Contact type	Single
Contact material	Ag-Alloy + gold plating (Cd free)
Rated load	8 A at 250 VAC 5 A at 30 VDC
Rated carry current	8 A
Max. switching voltage	250 VAC, 30 VDC
Max. switching current	8 A



Application Examples

Control equipments

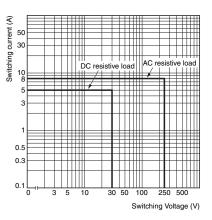
■Characteristics

Operate time 15 ms max. Release time 5 ms max. Insulation resistance *2 1,000 MΩ min. Join and coll and contacts 4,000 VAC, 50/60 Hz for 1 min contacts of the same polarity Impulse withstand voltage (between coll and contacts) 1,000 VAC, 50/60 Hz for 1 min contacts of the same polarity Insulation distance Between coll and contacts 1,000 VAC, 50/60 Hz for 1 min contacts of the same polarity Insulation distance Between coll and contacts 10,000 V (1.2 x 50 µs) Vibration resistance Between coll and contacts 10 to 55 to 10 Hz, 0.75 mm single amplitude (1.5 mm double amplitude) Vibration resistance Destruction 10 to 55 to 10 Hz, 0.75 mm single amplitude (1.5 mm double amplitude) NC: 0.75 mm single amplitude (0.8 mm double amplitude) NC: 0.75 mm single amplitude (0.8 mm double amplitude) NC: 0.4 mm single amplitude (0.8 mm double amplitude) NC: 100 m/s² NC: 50 m/s² NC: 50 m/s² Durability Electrical *3 50,000 operations min. (at 36,000 operations min. (5 A at 30 VDC, resistive load) (at 360 operations/hr) under rated load) Failure rate (P level) (reference value) *4 10 mA at 5 VDC	Contact res	istance *1	100 mΩ max.		
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Ambient operating humidity 5% to 85%					
humidity 5% to 85%			,		
147.1.1		Ŭ	5% 10 85%		
Approx. 9 g	Weight		Approx. 9 g		

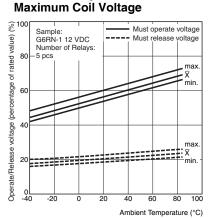
- Note. The data given above are initial values.
- Measurement conditions: 5 VDC, 1 A, voltage drop *1. method.
- *2. Measurement conditions: The insulation resistance was measured with a 500 VDC megohmmeter at the same locations as the dielectric strength was measured.
- Test conditions: With diode *3.
- *4. This value was measured at a switching frequency of 120 operations/min.

Engineering Data

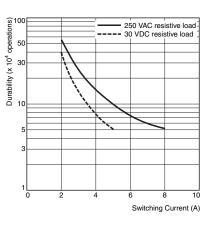




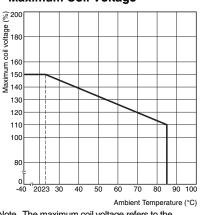
• Ambient Temperature vs.



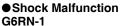
Durability

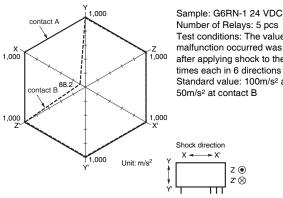


• Ambient Temperature vs. Maximum Coil Voltage



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



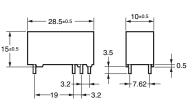


Number of Relays: 5 pcs Test conditions: The value at which malfunction occurred was measured after applying shock to the test piece 3 times each in 6 directions along 3 axes. Standard value: 100m/s² at contact A, 50m/s² at contact B

Dimensions

G6RN-1





3.5

7.62

28.5±0.5

19 +5.1

15±0.5

PCB Mounting Holes (Bottom View) Five, 1.3-dia. hole ±(1.19)

3.2±0.1

Four, 1.3-dia. holes

5.1±0.1 (2.8)

7.62±0.1

(1.5)

3.2±0.1

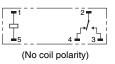
(1.19)

±(1.19)

(1.19)

7.62±0.1

Terminal Arrangement/ Internal Connections (Bottom View)



G6RN-1A



(1.6) (Bottom View) 10±0.5

0.5

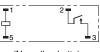
(1.6)



19±0

19±0.1

Terminal Arrangement/ Internal Connections (Bottom View)



(No coil polarity)

G 6 R N

■Approved Standards

The rated values approved by each of the safety standards may be different from the performance characteristics individually defined in this catalog.
 Percentized RN (File No. E41515)

UL Recognized 🦷	(File No. E41515)
CSA Certified	(File No. 31928)

Model	Number of poles	Coil ratings	Contact ratings	Number of test operations	
G6RN-1	1	5 to 24 VDC	8 A, 250 VAC 85°C 8 A, 30 VDC 85°C	6,000	

EN/TÜV Certified (Certificate No. 6135)

Model	Number of poles	Coil ratings	Contact ratings	Approved switching operations
G6RN-1 G6RN-1A	1	5, 6, 12, 24 VDC	8 A, 250 VAC (Resistive) 85°C	10,000

Creepage distance	8 mm
Clearance distance	8 mm
Insulation material group	Illa
Rated Insulation voltage	250 V
Pollution degree	2
Rated voltage system	250 V
Overvoltage category	
Tracking Index of relay base	PTI 250 V min. (housing parts)
Flammability class according to UL94	V-0
Ball pressure test (IEC 60695-10-2)	160°C

Precautions

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

Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.
 Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperty. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

Note: Do not use this document to operate the Unit.

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 08DRN2
 M7E-20DRN1
 M7E-HRN2
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 F03-02
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 F3UVHM
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 G2U-114P-US-DC12
 G2V-234P-US-DC48

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 G6R-1-DC5
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