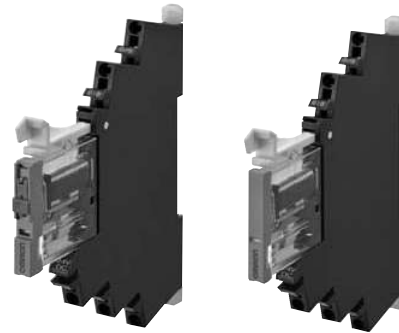


G2RV-SR

# Slim I/O Relay G2RV-SR

**Global standard size, low profile slim I/O relay with width 6.2 mm**



For the recent information on models that have been certified for safety standards, refer to your OMRON website.

G3RV-SR

- Realized about 25% lower profile than conventional products, contributing to further miniaturization of the control panel.
- Realized opening and closing ability with one pole 6 A slim shape.
- Micro load products for one pole 50 mA using Au-plated contacts for small load switching also available.
- Since G2RV is a transparent case, confirming the state of the contact with the naked eye is possible, and easy to confirm abnormality on-site (installed location).
- Screw terminal is also stocked to meet the screw type needs.
- Mounted relay uses plug-in terminals that are difficult to bend when exchanging.
- G3RV-SR featuring a solid state relay similar in shape to G2RV-SR also available.

Refer to *Safety Precautions* on page 20.

Common Precautions

## Features

### Standard model/Micro load

- Terminal x 5
- Push-in
- Screw
- Release lever
- Operation display LED (Socket section)
- Mechanical indicator
- Operation verification which is linked to the contact

### With latching lever (Test switch)

- Protective cover (Locked condition)
- Protective cover (Released state)
- Latching lever (Test switch)
- Latching lever (Test switch)
- Circuit check operation Confirmation, reducing the inspection effort

**PAT**

### Push-In Plus technology

- Short bar insertion holes
- Release hole
- Terminal (insertion) hole

"Foreign matter intrusion prevention structure"  
"Malfunction prevention stopper"

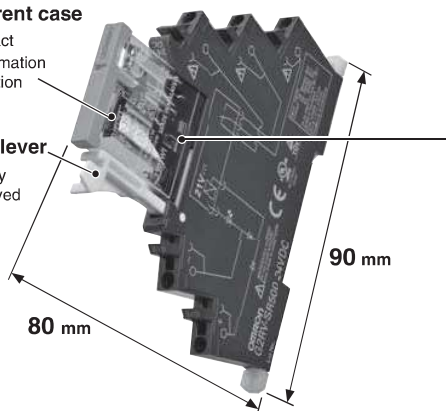
Common Accessories

### Transparent case

- Relay contact
- Easy confirmation of the situation

### Release lever

- Relay easily fixed/removed



### Plug-in terminal

- Peace of mind as the terminal does not bend when replacing

# Model Number Structure

## Model Number Legend

G2RV-SR □□□ - □ □  
 (1) (2) (3) (4) (5) (6)

**(1) Basic model name**  
 G2RV: Slim I/O Relay

**(2) Sub type**  
 SR: Slim relay + integrated low profile socket

**(3) Terminal (wire connection)**  
 50: Push-In Plus Terminal  
 70: Screw terminal

**(4) Latching lever (test switch)**  
 0: Without latching lever  
 1: With latching lever

**(5) Contact structure**  
 Blank: Standard  
 AP: Microloads

**(6) Rated input voltage**  
 12, 24 VDC  
 24, 48 VAC/VC  
 100, 110, 200, 230 VAC

## Ordering Information

Terminal (Wire connection)	Classification	Latching lever (Test switch)	Rated input voltage (V)		Model
Push-In Plus Terminal	Standard	No	DC	12	G2RV-SR500 DC12
				24	G2RV-SR500 DC24
			AC/DC	24	G2RV-SR500 AC/DC24
				48	G2RV-SR500 AC/DC48
			AC	100	G2RV-SR500 AC100
				110	G2RV-SR500 AC110
				200	G2RV-SR500 AC200
	Microloads	No	DC	12	G2RV-SR500-AP DC12
				24	G2RV-SR500-AP DC24
			AC/DC	24	G2RV-SR500-AP AC/DC24
				48	G2RV-SR500-AP AC/DC48
			AC	100	G2RV-SR500-AP AC100
				110	G2RV-SR500-AP AC110
				200	G2RV-SR500-AP AC200
Screw terminal	Standard	No	DC	12	G2RV-SR700 DC12
				24	G2RV-SR700 DC24
			AC/DC	24	G2RV-SR700 AC/DC24
				48	G2RV-SR700 AC/DC48
			AC	100	G2RV-SR700 AC100
				110	G2RV-SR700 AC110
				200	G2RV-SR700 AC200
	Microloads	No	DC	12	G2RV-SR700-AP DC12
				24	G2RV-SR700-AP DC24
			AC/DC	24	G2RV-SR700-AP AC/DC24
				48	G2RV-SR700-AP AC/DC48
			AC	100	G2RV-SR700-AP AC100
				110	G2RV-SR700-AP AC110
				200	G2RV-SR700-AP AC200
Screw terminal	No	DC	12	G2RV-SR700-AP DC12	
			24	G2RV-SR700-AP DC24	
		AC/DC	24	G2RV-SR700-AP AC/DC24	
			48	G2RV-SR700-AP AC/DC48	
		AC	100	G2RV-SR700-AP AC100	
			110	G2RV-SR700-AP AC110	
			200	G2RV-SR700-AP AC200	
Screw terminal	No	DC	12	G2RV-SR700-AP DC12	
			24	G2RV-SR700-AP DC24	
		AC/DC	24	G2RV-SR700-AP AC/DC24	
			48	G2RV-SR700-AP AC/DC48	
		AC	100	G2RV-SR700-AP AC100	
			110	G2RV-SR700-AP AC110	
			200	G2RV-SR700-AP AC200	

**Note:** Sockets are not sold individually.

# G2RV-SR

## Relay for Maintenance

### Model Number Legend

**G2RV-1 - S** □ - □ - **G** □  
 (1) (2) (3) (4) (5) (6)

(1) **No. of poles**  
 1: 1 pole

(2) **Terminal**  
 S: plug-in

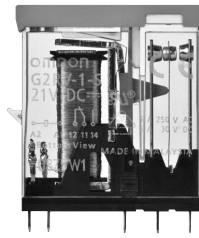
(3) **Latching lever (Test switch)**  
 Blank: Without latching lever  
 L: With latching lever

(4) **Contact material**  
 Blank: Ag alloy  
 AP: Ag alloy + Au plating

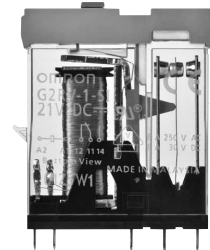
(5) **Types of relay for exchange**  
 G: G2RV-SR series equipped  
 Relay

(6) **Rated coil voltage**  
 Number: 11, 21, 48 VDC

G2RV-1-SI-G



G2RV-1-S(-AP)-G



### List of Models

Type	Latching Lever (Test switch)	Rated coil voltage (V)	Model	Applicable model			
Standard	No	DC	11	<b>G2RV-1-S-G DC11</b>	G2RV-SR700/500 DC12V		
			21	<b>G2RV-1-S-G DC21</b>	G2RV-SR700/500 DC24V G2RV-SR700/500 AC/DC24V		
			48	<b>G2RV-1-S-G DC48</b>	G2RV-SR700/500 AC/DC48V G2RV-SR700/500 AC100V G2RV-SR700/500 AC110V G2RV-SR700/500 AC200V G2RV-SR700/500 AC230V		
	Yes	DC	21	<b>G2RV-1-SI-G DC21</b>	G2RV-SR701/501 DC24V G2RV-SR701/501 AC/DC24V		
			No	DC	11	<b>G2RV-1-S-AP-G DC11</b>	G2RV-SR700/500-AP DC12V
					21	<b>G2RV-1-S-AP-G DC21</b>	G2RV-SR700/500-AP DC24V G2RV-SR700/500-AP AC/DC24V
					48	<b>G2RV-1-S-AP-G DC48</b>	G2RV-SR700/500-AP AC/DC48V G2RV-SR700/500-AP AC100V G2RV-SR700/500-AP AC110V G2RV-SR700/500-AP AC200V G2RV-SR700/500-AP AC230V

**Note:** Voltage is reduced within the socket for the slim I/O relay, so the rated input voltage and rated coil voltage of replacement relays are different.

### Accessories (order separately)

Refer to page 25 for G2RV-SR/G3RV-SR Common Accessories.

G2RV-SR

G3RV-SR

Common Precautions

Common Accessories

## Specifications

### Ratings

#### Coil ratings

Rated input voltage	Rated current			Must operate voltage	Must release voltage	Power consumption		Maximum allowable voltage
	AC		DC	Percentage of the rated voltage	Percentage of the rated voltage	AC (VA)	DC (mW)	Percentage of the rated voltage
	50 Hz	60 Hz						
12 VDC	—	—	27.9 mA			80% max.*	10% min.	
24 VDC	—	—	13.5 mA	—	Approx. 300 mW			
24 VAC/VDC	12.5 mA	12.6 mA	12.6 mA	Approx. 0.5 VA	Approx. 300 mW			
48 VAC/VDC	5.9 mA	6.1 mA	5.2 mA	Approx. 0.4 VA	Approx. 250 mW			
100 VAC	5.9 mA	6.0 mA	—	Approx. 0.8 VA	—			
110 VAC	5.9 mA	5.9 mA	—	Approx. 0.8 VA	—			
200 VAC	6.6 mA	7.6 mA	—	Approx. 1.7 VA	—			
230 VAC	7.3 mA	8.4 mA	—	Approx. 1.7 VA	—			

**Note:** The operating characteristics are measured at ambient temperature of 23°C.

\* Operating voltage will be, for mounting in the upside down direction, 85% max.

(Upside down: Direction in which the mechanical indicator faces down)

#### Contact ratings

Item	Standard (G2RV-SR700, 500, 701, 501)		For microloads (G2RV-SR700-AP, 500-AP) *2
Contact configuration	SPDT		
Load	Resistive load (cosφ=1)	Inductive load (cosφ=0.4, L/R=7ms)	Resistive load (cosφ=1)
Rated load	6 A at 250 VAC 6 A at 30 VDC	2.5 A at 250 VAC 2 A at 30 VDC	50 mA at 30 VAC 50 mA at 36 VDC
Rated carry current	6 A		50 mA
Maximum switching voltage	440 VAC, 125 VDC		30 VAC, 36 VDC
Maximum switching current	6 A		50 mA
Maximum switching power	1,500 VA 180 W	500 VA 60 W	—
Failure rate P value (reference value) *1	10 mA at 5 VDC		1 mA at 100 mVDC

\*1. P level:  $\lambda_{60}=0.1 \times 10^{-6}$ /times

This value is the value in switching frequency 120 operations/min.

\*2. If the Au plating layer is destroyed, the number will be the same as the standard type.

### Characteristics

Item	Standard (G2RV-SR700, 500, 701, 501)	For microloads (G2RV-SR700-AP, 500-AP)
Contact resistance *	100 mΩ max.	
Operate (Set) time *	20 ms max.	
Release time *	AC, AC/DC: 40 ms max. DC: 20 ms max.	
Maximum operating frequency	Mechanical: 18,000 operations/h Electrical: 1,800 operations/h (rated load)	
Insulation resistance	1,000 MΩ min. (at 500 VDC)	
Dielectric strength	Between coil and contacts: 4,000VAC 50/60 Hz 1 min Contact between the same polarity: 1,000 VAC 50/60 Hz 1 min	
Vibration resistance	Destruction: 10 to 55 to 10 Hz, single amplitude 0.50 mm (double amplitude 1.0 mm) Malfunction: 10 to 55 to 10 Hz, single amplitude 0.50 mm (double amplitude 1.0 mm)	
Shock resistance	Destruction: 1,000 m/s <sup>2</sup> Malfunction: Energized 200m/s <sup>2</sup> , Non-energized 100m/s <sup>2</sup>	
Endurance *	Mechanical	5,000,000 operations min.
	Electrical	NO contact: 70,000 operations min. NC contact: 50,000 operations min.
Ambient operating temperature	Operating: -40 to +55°C (with no icing or condensation)	
Ambient operating humidity	Operating: 5 to 85% RH	
Weight	Approx. 30 g	
Contact material	Ag alloy	Ag alloy + Au plating

**Note:** Above values are initial values.

\* Value is at ambient temperature of 23°C.

# G2RV-SR

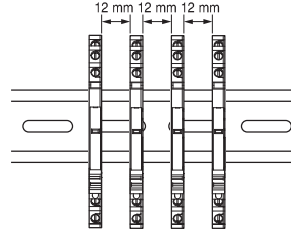
G2RV-SR

## Approved standards

UL508 (file No.E41643)

Model	Contact form	Operation coil ratings	Contact ratings	Operations
G2RV-SR series	SPDT	12 to 48 VDC 24 to 230 VAC	6 A at 250 VAC (Resistive load) 6 A at 30 VDC (Resistive load) 2 A at 400 VAC (Resistive load)*	6,000

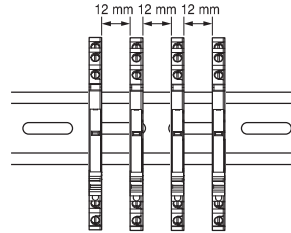
\* If the load voltage exceeds 250 VAC, please attach with a spacing of 12 mm min., or use a separate plate (XW5Z-EP12).



## TÜV (EN 61810-1)

Model	Contact form	Operation coil ratings	Contact ratings	Operations
G2RV-SR series	SPDT	12, 24 VDC 24, 48 VAC/VDC 100, 110, 200, 230 VAC	6 A at 250 VAC (Resistive load) 6 A at 30 VDC (Resistive load) 2 A at 400 VAC (Resistive load)*	50,000 50,000 6,000

\* If the load voltage exceeds 250 VAC, please attach with a spacing of 12 mm min., or use a separate plate (XW5Z-EP12).



G3RV-SR

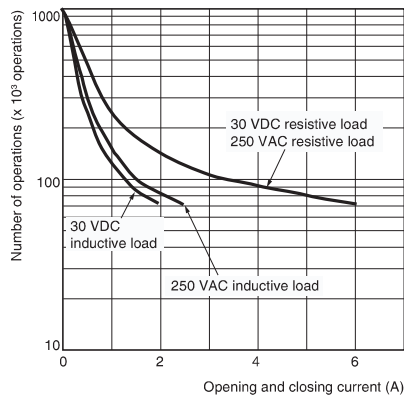
## Lloyd's (File No.07/10020)

Model	Contact form	Operation coil ratings	Contact ratings
G2RV-SR500 G2RV-SR700	SPDT	12, 24 VDC 24, 48 VAC/VDC 100, 110, 200, 230 VAC	6 A at 250 VAC (Resistive load) 2.5 A at 250 VAC (PF0.4) 6 A at 30 VAC (Ress) 2 A at 30 VDC (L/R=7ms)
G2RV-SR501 G2RV-SR701	SPDT	12, 24 VDC 24 VAC/VDC	6 A at 250 VAC (Resistive load) 2.5 A at 250 VAC (PF0.4) 6 A at 30 VAC (Ress) 2 A at 30 VDC (L/R=7ms)
G2RV-SR500-AP G2RV-SR700-AP	SPDT	12, 24 VDC 24, 48 VAC/VDC 100, 110, 200, 230 VAC	0.05 A at 30 VAC (Resistive load) 0.05 A at 36 VDC (Resistive load)

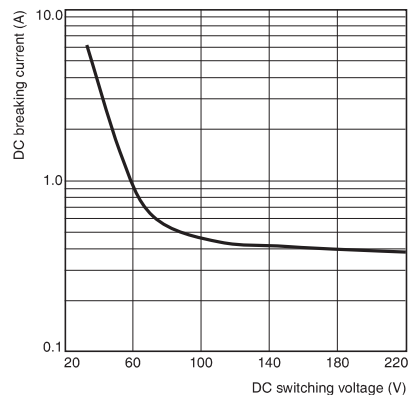
Common Precautions

## Engineering Data

Endurance curve (N.O. side)



Switching capacity of DC resistive load



Common Accessories