## DMRON

## Slim I/O Relays G2RV-SR/G3RV-SR

### Global standard size, low profile slim (6.2 mm width) I/O relays

- 25% lower profile than conventional products, contributing to a smaller control panel.
- Push-In Plus terminal blocks reduce wiring work by 60%\* compared to conventional screw terminals.
- 'Hand-free' structure that holds an inserted flat-blade screwdriver to achieve easier wiring work for stranded wires.
- Electromechanical relays (G2RV-SR) and solid state relays (G3RV-SR) are available.
- Screw terminal terminal block models are available.
- Plug-in terminal has strong mechanical pins that do not bend.

\* According to OMRON actual measurement data from November 2015.















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

Refer to Safety Precautions on page 20.

#### Slim I/O Relay Types

G2RV-SR series mounted relay: electromagnetic relay ...... from page 2 G3RV-SR series mounted relay: solid state relay ......from page 10

#### Common matter

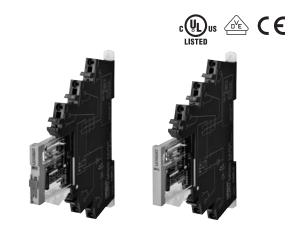
Common precautions ......from page 20 Common accessories (order separately).....page 24

## Slim Electromechanical I/O Relay

## G2RV-SR

# Global standard size, low profile, slim (6.2 mm width) I/O relay

- 25% lower profile than conventional products, contributing to a smaller control panel.
- Opening and closing ability with one pole 6 A slim shape.
- Micro load products for one pole 50 mA using gold-plated contacts for small load switching also available.
- Since G2RV has a transparent case, confirming the state of the contact with the naked eye is possible.
- Screw terminal terminal block models are available.
- Plug-in type terminal has strong mechanical pins that do not bend.

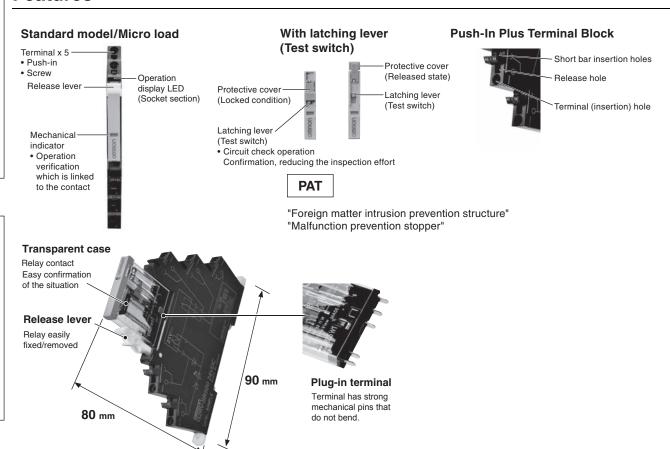


For the recent information on models that have been certified for safety standards, refer to your OMRON website.



Refer to Safety Precautions on page 20.

#### **Features**



#### **Model Number Structure**

#### **Model Number Legend**

 $\frac{\mathbf{G2RV-SR}}{(1)} \stackrel{\square}{(2)} \stackrel{\square}{(3)} \stackrel{\square}{(4)} \stackrel{-}{(5)} \stackrel{\square}{(6)}$ 

(1) Basic model name G2RV: Slim I/O Relay (3) Terminal (wire connection) 50: Push-In Plus Terminal (5) Contact structure
Blank: Standard
AP: Microloads

(2) Sub type

SR: Slim relay + integrated low profile socket

70: Screw terminal

(6) Rated input voltage

(4) Latching lever (test switch)(6) Rated input0: Without latching lever12, 24 VDC1: With latching lever24, 48 VAC/VC

100, 110, 200, 230 VAC

#### **Ordering Information**

Terminal (Wire connection)	Classification	Latching lever (Test switch)	Rated input	voltage (V)	Model
			20	12	G2RV-SR500 DC12
			DC	24	G2RV-SR500 DC24
			AC/DC	24	G2RV-SR500 AC/DC24
		No	AC/DC	48	G2RV-SR500 AC/DC48
	Standard	INO		100	G2RV-SR500 AC100
	Staridard		AC	110	G2RV-SR500 AC110
			AC	200	G2RV-SR500 AC200
				230	G2RV-SR500 AC230
Push-In Plus		Yes	DC	24	G2RV-SR501 DC24
Terminal		res	AC/DC	24	G2RV-SR501 AC/DC24
			DC	12	G2RV-SR500-AP DC12
			DC	24	G2RV-SR500-AP DC24
			AC/DC	24	G2RV-SR500-AP AC/DC24
	Microloado	No	AC/DC	48	G2RV-SR500-AP AC/DC48
	Microloads	NO	AC	100	G2RV-SR500-AP AC100
				110	G2RV-SR500-AP AC110
				200	G2RV-SR500-AP AC200
				230	G2RV-SR500-AP AC230
			DC	12	G2RV-SR700 DC12
				24	G2RV-SR700 DC24
			AC/DC	24	G2RV-SR700 AC/DC24
		No	ACIDO	48	G2RV-SR700 AC/DC48
	Standard	NO		100	G2RV-SR700 AC100
	Staridard		AC	110	G2RV-SR700 AC110
			AC	200	G2RV-SR700 AC200
				230	G2RV-SR700 AC230
Screw terminal		Yes	DC	24	G2RV-SR701 DC24
Screw terriiriai		163	AC/DC	24	G2RV-SR701 AC/DC24
			DC	12	G2RV-SR700-AP DC12
			DC	24	G2RV-SR700-AP DC24
			AC/DC	24	G2RV-SR700-AP AC/DC24
	Microloads	No	AC/DC	48	G2RV-SR700-AP AC/DC48
	MICIOIOAUS	INO		100	G2RV-SR700-AP AC100
			AC	110	G2RV-SR700-AP AC110
			AU	200	G2RV-SR700-AP AC200
				230	G2RV-SR700-AP AC230

Note: Solid wire cannot be used for Push-In Plus terminal type. Make sure to use stranded wire or stranded wire with ferrules.

#### **Relay for Maintenance**

#### **Model Number Legend**

**G2RV-1 - S**  $\square$  -  $\square$  - G $\overline{(1)}$   $\overline{(2)}$   $\overline{(3)}$   $\overline{(4)}$   $\overline{(5)}$   $\overline{(6)}$ 

(1) No. of poles

1: 1 pole

(2) Terminal

S: plug-in

(3) Latching lever (Test switch)

Blank: Without latching lever I: With latching lever

(4) Contact material

Blank: Silver alloy

AP: Silver alloy + gold plate

(5) Types of relay for exchange

G: G2RV-SR series equipped Relay

(6) Rated coil voltage

Number: 11, 21, 48 VDC









#### **List of Models**

Туре	Latching Lever (Test switch)	Rated coil voltage (V)		Model	Applicable model
			11	G2RV-1-S-G DC11	G2RV-SR700/500 DC12V
			21	G2RV-1-S-G DC21	G2RV-SR700/500 DC24V
			21	G2HV-1-3-G DC21	G2RV-SR700/500 AC/DC24V
	No	DC			G2RV-SR700/500 AC/DC48V
Standard	INO	DC			G2RV-SR700/500 AC100V
Standard			48	G2RV-1-S-G DC48	G2RV-SR700/500 AC110V
					G2RV-SR700/500 AC200V
					G2RV-SR700/500 AC230V
	Yes	DC	21	G2RV-1-SI-G DC21	G2RV-SR701/501 DC24V
	res	DC	21	GZRV-1-5I-G DCZ1	G2RV-SR701/501 AC/DC24V
			11	G2RV-1-S-AP-G DC11	G2RV-SR700/500-AP DC12V
			21	G2RV-1-S-AP-G DC21	G2RV-SR700/500-AP DC24V
			21	G2NV-1-3-AF-G DC21	G2RV-SR700/500-AP AC/DC24V
Misusland	N	DC			G2RV-SR700/500-AP AC/DC48V
Microload	No	DC			G2RV-SR700/500-AP AC100V
			48	G2RV-1-S-AP-G DC48	G2RV-SR700/500-AP AC110V
					G2RV-SR700/500-AP AC200V
					G2RV-SR700/500-AP AC230V

## **Specifications**

#### **Ratings**

#### **Coil ratings**

Rated input	Rated curren		ent	Operation voltage	Release voltage	Power cor	sumption	Maximum allowable voltage
voltage		AC	DC	Percentage of t	he rated voltage	AC (VA)	DC (mW)	Percentage of the
	50 Hz	60 Hz		reiceillage of t	ne rateu voitage	AC (VA)	DC (IIIW)	rated voltage
12 VDC	_	_	27.2 mA			_	Approx. 300 mW	
24 VDC	_	-	13.3 mA			_	Approx. 300 mW	
24 VAC/VDC	21.1 mA	22.5 mA	13.0 mA			Approx. 0.5 VA	Approx. 300 mW	
48 VAC/VDC	8.5 mA	9.0 mA	5.2 mA	80% max.*	10% min.	Approx. 0.4 VA	Approx. 250 mW	110%
100 VAC	7.1 mA	7.5 mA	-	80% max.	10% 111111.	Approx. 0.8 VA	_	110%
110 VAC	7.1 mA	7.5 mA	-			Approx. 0.8 VA	_	
200 VAC	7.2 mA	7.9 mA	-			Approx. 1.7 VA	_	
230 VAC	7.3 mA	7.9 mA	-			Approx. 1.7 VA	_	

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

#### **Contact ratings**

Item	Standard (G2R	V-SR700, 500, 701, 501)	For microloads (G2RV-SR700-AP, 500-AP) *2
Contact configuration	SPDT		
Load	Resistive load (cos $\phi$ =1) Inductive load (cos $\phi$ =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	<u>,                                      </u>	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

**<sup>\*1.</sup>** P level: λ<sub>60</sub>=0.1×10<sup>-6</sup>/times

#### **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 operatin	g frequency	Mechanical: 18,000 operations/h Electrical: 1,800 operations/h (rated load)					
Insulation resistan	ce	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 resistand	e	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 100	Om/s²				
	Mechanical	5,000,000 operations min.					
Endurance *	Electrical	NO contact: 70,000 operations min. NC contact: 50,000 operations min.  5,000,000 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 + Au plating					

**Note:** Above values are initial values. \*Value is at ambient temperature of 23°C.

<sup>\*</sup>Operating voltage will be 85% max. for upside down mounting.

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

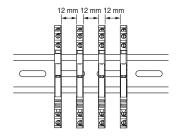
<sup>\*2.</sup> If the gold plating layer is destroyed, the number will be the same as the standard type.

#### **Approved standards**

#### UL508 (file No.E41643)

Model	No. of poles	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

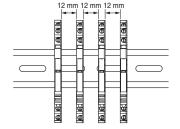
<sup>\*</sup> If the load voltage exceeds 250 VAC, please attach with a spacing of 12 mm min., or use a separate plate (XW5Z-EP12).



#### **VDE (EN 61810-1)**

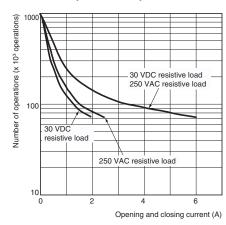
Model	No. of poles	Operation coil ratings	Contact ratings	Operations
G2RV-SR series	SPDT	12, 24 VDC 24, 48 VAC/VDC 100, 110, 200, 230 VAC	6 A at 250 VAC (Resistive load) 6 A at 30 VDC (Resistive load) 2 A at 400 VAC (Resistive load)*	50,000 50,000 6,000

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

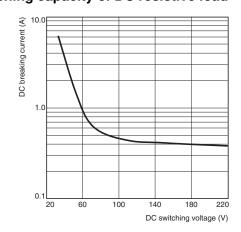


## **Engineering Data**

#### **Endurance curve (N.O. side)**

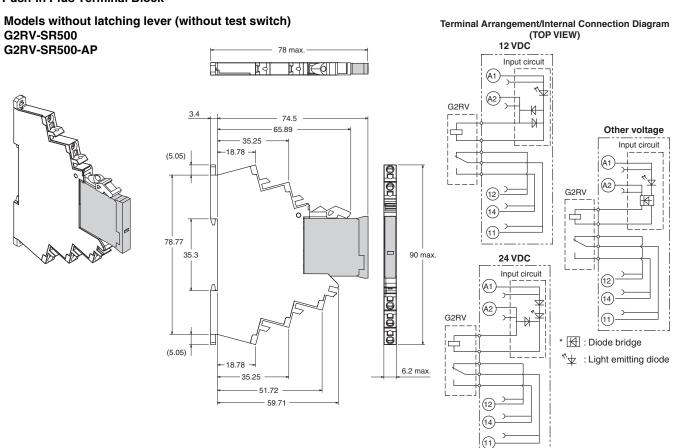


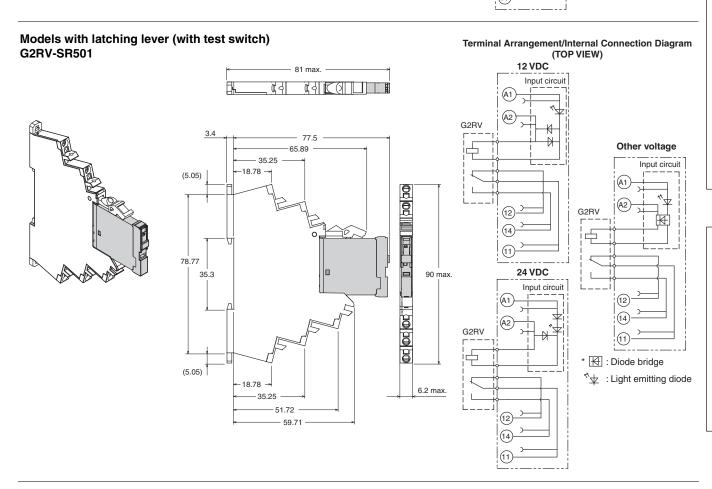
#### Switching capacity of DC resistive load

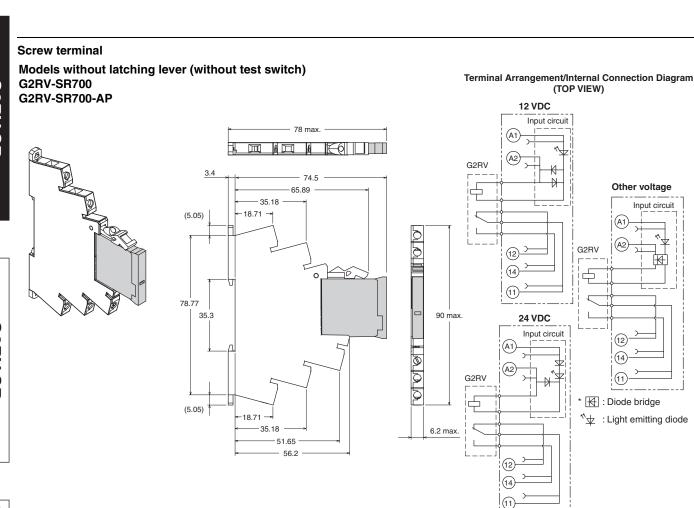


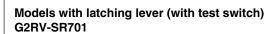
Dimensions (unit: mm)

#### Slim I/O Relay + socket Push-In Plus Terminal Block

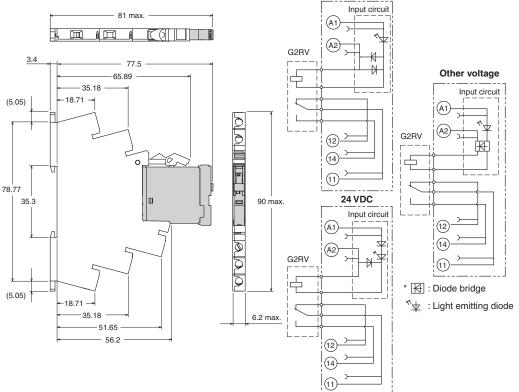








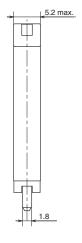
## Terminal Arrangement/Internal Connection Diagram (TOP VIEW)

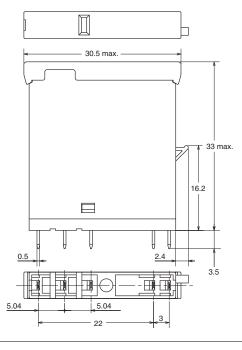


#### Relay for maintenance

Models without latching lever G2RV-1-S-G G2RV-1-S-AP-G







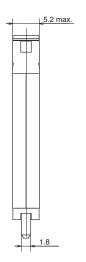
Terminal Arrangement/ Internal Connection Diagram (TOP VIEW)

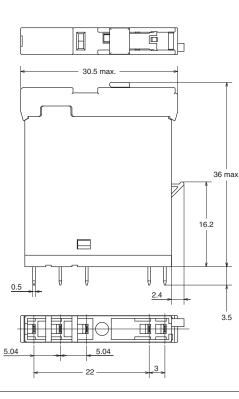
(Input circuit)



## Models with latching lever (test switch) G2RV-1-SI-G

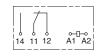






Terminal Arrangement/ Internal Connection Diagram (TOP VIEW)

(Input circuit)



# **Common Accessories**

## Slim I/O Solid State Relay

## **G3RV-SR**

# Global standard size, low profile, slim (6.2 mm width) I/O solid state relay.

- 25% lower profile than conventional products, contributing to a smaller control panel.
- Optimal slim, high frequency, high-speed opening and closing SSR (solid state relay).
- Slim shape with a switching capacity up to 3 A (DC), and 2 A (AC).
- Because MOSFET is used for the outlet element for the DC load, opening and closing load of 100 μA to 3 A is possible.
- Check operating status at a glance with the operating display LED.
- Mounted I/O SSR (solid-state relay) uses plug-in terminals with strong mechanical pins that do not bend.



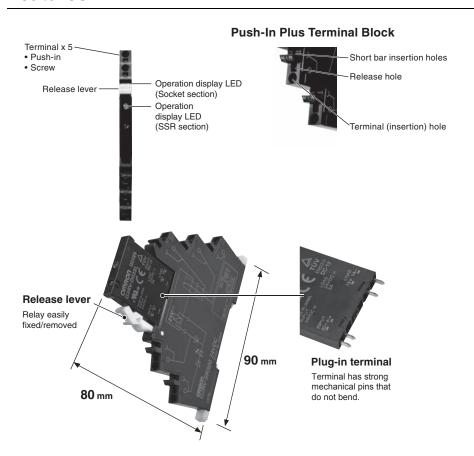


For the recent information on models that have been certified for safety standards, refer to your OMRON website.

 $\Lambda$   $^{|}$ 

Refer to Safety Precautions on page 20.

#### **Features**



#### **Model Number Structure**

#### **Model Number Legend**

#### (1) Basic model name

G3RV: Slim I/O Solid State Relay

#### (2) Sub type

SR: Slim solid relay + integrated low profile socket

#### (3) Terminal (wire connection)

500: Push-In Plus Terminal 700: Screw terminal

#### (4) Output voltage specification

A : AC output (triac) zero cross function available AL : AC output (triac) zero cross function not available

D : DC output (MOS FET)

#### (5) Rated voltage input

12, 24 VDC 24, 48 VAC/VDC 100, 110, 200, 230 VAC

## **Ordering Information**

Terminal (wire connection)	Applicable output load	Zero cross function	Rated inpu		Model
			DC	12	G3RV-SR500-D DC12
			DC	24	G3RV-SR500-D DC24
			A C / D C	24	G3RV-SR500-D AC/DC24
	DOIsed		AC/DC	48	G3RV-SR500-D AC/DC48
	DC load	_		100	G3RV-SR500-D AC100
			40	110	G3RV-SR500-D AC110
			AC	200	G3RV-SR500-D AC200
				230	G3RV-SR500-D AC230
			50	12	G3RV-SR500-A DC12
			DC	24	G3RV-SR500-A DC24
			40/00	24	G3RV-SR500-A AC/DC24
			AC/DC	48	G3RV-SR500-A AC/DC48
Push-In Plus Terminal		Yes		100	G3RV-SR500-A AC100
				110	G3RV-SR500-A AC110
			AC	200	G3RV-SR500-A AC200
				230	G3RV-SR500-A AC230
	AC load			12	G3RV-SR500-AL DC12
			DC	24	G3RV-SR500-AL DC24
				24	G3RV-SR500-AL AC/DC24
		No	AC/DC	48	G3RV-SR500-AL AC/DC48
			AC	100	G3RV-SR500-AL AC100
				110	G3RV-SR500-AL AC110
				200	G3RV-SR500-AL AC200
				230	G3RV-SR500-AL AC230
			DC	12	G3RV-SR700-D DC12
				24	G3RV-SR700-D DC24
			AC/DC	24	G3RV-SR700-D AC/DC24
				48	G3RV-SR700-D AC/DC48
	DC load	_	AC	100	G3RV-SR700-D AC100
				110	G3RV-SR700-D AC110
				200	G3RV-SR700-D AC200
				230	G3RV-SR700-D AC230
				12	G3RV-SR700-A DC12
			DC	24	G3RV-SR700-A DC24
				24	G3RV-SR700-A AC/DC24
			AC/DC	48	G3RV-SR700-A AC/DC48
Screw terminal		Yes		100	G3RV-SR700-A AC100
				110	G3RV-SR700-A AC110
			AC	200	G3RV-SR700-A AC200
				230	G3RV-SR700-A AC230
	AC load			12	G3RV-SR700-AL DC12
			DC	24	G3RV-SR700-AL DC12
				24	G3RV-SR700-AL AC/DC24
			AC/DC	48	G3RV-SR700-AL AC/DC48
		No			
				100	G3RV-SR700-AL AC110
			AC	110	G3RV-SR700-AL AC110
				200	G3RV-SR700-AL AC200
				230	G3RV-SR700-AL AC230

Note: Solid wire cannot be used for Push-In Plus terminal type. Make sure to use stranded wire or stranded wire with ferrules.

#### Solid state relay for maintenance

#### **Model Number Legend**

G3RV- $\square$   $\square$  S  $\square$  (5)

(1) Output voltage specification

(3) Terminal S: Plug-in type

D: DC output 2: AC output

(4) Zero cross functions

Blank: Zero cross function available L: Zero cross function not available

(2) Rated current 02: AC output 2 A 03: DC output 3 A

(5) Rated input voltage Number: 12, 24, 48 VDC



#### **List of Models**

Insulation method	Operation Display	Output (SSR)	Zero cross Function	Rated output Load *	Rated input voltage (socket)	Model	Applicable model
					12 VDC	G3RV-202S DC12	G3RV-SR700/500-A DC12V
					24 VDC	G3RV-202S DC24	G3RV-SR700/500-A DC24V
					24 VAC/VDC	G3HV-2025 DC24	G3RV-SR700/500-A AC/DC24V
			Yes		48 VAC/VDC		G3RV-SR700/500-A AC/DC48V
			res		100 VAC		G3RV-SR700/500-A AC100V
					110 VAC	G3RV-202S DC48	G3RV-SR700/500-A AC110V
				2 A	200 VAC		G3RV-SR700/500-A AC200V
Photo-		AC		(at 100 to	230 VAC		G3RV-SR700/500-A AC230V
triac		AC		240 VAC)	12 VDC	G3RV-202SL DC12	G3RV-SR700/500-AL DC12V
			VAC)	24 VDC	G3RV-202SL DC24	G3RV-SR700/500-AL DC24V	
		No			24 VAC/VDC	G3NV-2023L DG24	G3RV-SR700/500-AL AC/DC24V
	Yes		No		48 VAC/VDC		G3RV-SR700/500-AL AC/DC48V
	(green)		INO		100 VAC	G3RV-202SL DC48	G3RV-SR700/500-AL AC100V
					110 VAC		G3RV-SR700/500-AL AC110V
					200 VAC		G3RV-SR700/500-AL AC200V
					230 VAC		G3RV-SR700/500-AL AC230V
					12 VDC	G3RV-D03SL DC12	G3RV-SR700/500-D DC12V
					24 VDC	G3RV-D03SL DC24	G3RV-SR700/500-D DC24V
					24 VAC/VDC	G3NV-D03SL DC24	G3RV-SR700/500-D AC/DC24V
Photo- voltage		DC	_	3 A (at 5 to	48 VAC/VDC		G3RV-SR700/500-D AC/DC48V
coupler		DC	_	24 VDC)	100 VAC		G3RV-SR700/500-D AC100V
-					110 VAC	G3RV-D03SL DC48	G3RV-SR700/500-D AC110V
					200 VAC		G3RV-SR700/500-D AC200V
-t- D://1					230 VAC		G3RV-SR700/500-D AC230V

 $<sup>\</sup>ensuremath{\bigstar}$  Different depending on the ambient temperature.

For more details, refer to Load current vs. ambient rated temperature on page 16.

## **Specifications**

## Rating (ambient temperature 25°C)

## Input G3RV-SR700/500-A series

	F	Rated curre	ent	_		Input voltage
Rated input voltage	AC		DC	Operation voltage	Release voltage	Percentage of the
	50 Hz	60 Hz		3	3	rated voltage
12 VDC	-	_	15 mA	10.8 V max.		
24 VDC	-	_	12 mA	21.6 V max.		±10%
24 VAC/VDC	20 mA	21 mA	11 mA	21.6 V max.		
48 VAC/VDC	10 mA	11 mA	6 mA	43.2 V max.	1 V min.	
100 VAC	7.5 mA	7.5 mA	_	90 V max.	7 V IIIIII.	
110 VAC	7.5 mA	7.7 mA	_	99 V max.		
200 VAC	7.3 mA	8.6 mA	_	180 V max.		
230 VAC	7.3 mA	8.6 mA	_	207 V max.		

#### G3RV-SR700/500-AL series

		Rated curre	ent			Input voltage
Rated input voltage	1	AC	DC	Operation voltage	Release voltage	Percentage of the
	50 Hz	60 Hz	_ DC	3	3.	rated voltage
12 VDC	_	_	15 mA	10.8 V max.		
24 VDC	_	_	12 mA	21.6 V max.		±10%
24 VAC/VDC	20 mA	21 mA	11 mA	21.6 V max.		
48 VAC/VDC	10 mA	11 mA	6 mA	43.2 V max.	1 V min.	
100 VAC	7.5 mA	7.7 mA	-	90 V max.	I VIIIIII.	±10%
110 VAC	7.5 mA	7.7 mA	-	99 V max.		
200 VAC	7.3 mA	8.6 mA	-	180 V max.		
230 VAC	7.3 mA	8.6 mA	_	207 V max.		

#### G3RV-SR700/500-D series

<b>-</b>	Rated current					Input voltage
Rated input voltage	Α	C	DC	Operation voltage	Release voltage	Percentage of the
<b>J</b> .	50 Hz	60 Hz		3	3	rated voltage
12 VDC	-	_	8 mA	10.8 V max.		
24 VDC	-	_	4.5 mA	21.6 V max.		±10%
24 VAC/VDC	10.7 mA	11.1 mA	4.3 mA	21.6 V max.		
48 VAC/VDC	9.6 mA	10.2 mA	6 mA	43.2 V max.	1 V min.	
100 VAC	6.8 mA	7.2 mA	_	90 V max.	I V IIIIII.	
110 VAC	6.8 mA	7.2 mA	-	99 V max.		
200 VAC	6.8 mA	8.1 mA	_	180 V max.		
230 VAC	6.8 mA	8.1 mA	_	207 V max.		

#### Output

Item	G3RV-SR700/500-A(L)	G3RV-SR700/500-D
Rated load voltage	100 to 240 VAC (50/60 Hz)	5 to 24 VDC
Load voltage range	75 to 264 VAC (50/60 Hz)	3 to 26.4 VDC
Load current	0.1 to 2 A (Ambient temperature=25°C)	100 μA to 3 A (Ambient temperature=25°C)
Inrush current resistance	30 A (60 Hz, 1 cycle)	30 A (60 Hz, 1 cycle)
Permissible l²t; Joule integral value (reference value)	15A <sup>2</sup> s	9 A <sup>2</sup> s
Applied load capacity	400 W (Output voltage: 200 VAC)	72 W (Output voltage: 24 VDC)

#### **Characteristics**

Item	G3RV-SR700/500-A	G3RV-SR700/500-AL	G3RV-SR700/500-D			
Operate time	1/2 cycle of load power supply +1 ms max.	3 ms max.	6 ms max.			
Release time	60 ms max.	60 ms max.	60 ms max.			
Output ON voltage drop	1.6 V (RMS) max.	1.6 V (RMS) max.				
Output ON resistance	_		0.3 Ω max. (at 24 VDC)			
Leakage current	5 mA max. (at 200 VAC, 50/60 Hz	<u>z</u> )	10 μA max. (at 24 VDC)			
Insulation resistance	100 MΩ min. (at 500 VDC)					
Dielectric strength	Between input and output 2,500 \	/AC 50/60 Hz 1 min				
Vibration resistance	Malfunction: 10 to 55 to 10 Hz do	uble amplitude 0.70 mm				
Shock resistance	300m/s <sup>2</sup>					
Ambient operating temperature	Storage: -30 to +100°C (with no icing or no condensation) Operating: -30 to +55°C (with no icing or no condensation)					
Ambient operating humidity	45 to 85% RH					
Weight	Approx. 38 g					
Pollution degree	2					
The degree of protection by IEC60529	IP20					
Rated impulse dielectric strength	4.0 kV/III					
Load category	LC-A DC-12					
Overload current profile	1.5le 1.1Ue 5s ON, 10s OFF, 10 cycles					
Rated insulation voltage	240 V					

## **Approved standards**

#### UL 508 (file No.E64562)

Model	Input ratings	Contact ratings
G3RV-SR700/500-D series	12, 24 VDC 24, 48 VAC/VDC 100, 110, 200, 230 VAC	24 VDC 3 A (resistive load) at 25°C
G3RV-SR700/500-A(L) series	12, 24 VDC 24, 48 VAC/DC 100, 110, 200, 230 VAC	240 VAC 2 A (resistive load) at 25°C

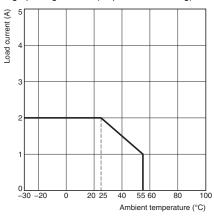
#### TÜV 62314

Model	Input ratings	Contact ratings
G3RV-SR700/500-D series	12, 24 VDC 24, 48 VAC/VDC 100, 110, 200, 230 VAC	24 VDC 3 A (resistive load)
G3RV-SR700/500-A(L) series	12, 24 VDC 24, 48 VAC/VDC 100, 110, 200, 230 VAC	240 VAC 2 A (resistive load)

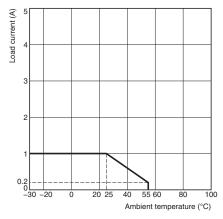
#### **Engineering Data**

## Load current vs. ambient rated temperature G3RV-SR700/500-A(L) series

Product mounting spacing 10 mm (Separate Mounting)

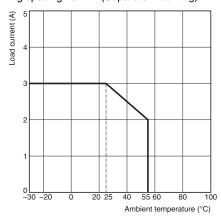


Close mounting (up to 5 units \*)

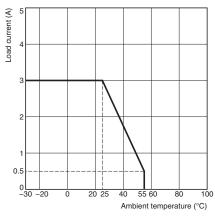


#### G3RV-SR700/500-D series

Product mounting spacing 10 mm (Separate Mounting)



Close mounting (up to 5 units \*)



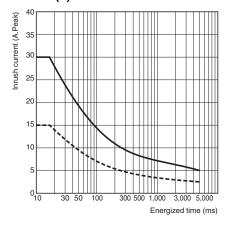
\* When five or more are installed, install with 10 mm space between

For details, please refer to Mounting on page 23.

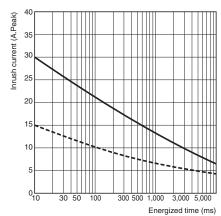
#### **Inrush Current Resistance: Non-repetitive**

Keep the inrush current to below the inrush current resistance value (i.e., below the broken line) if it occurs repetitively.

#### G3RV-SR700/500-A(L) series

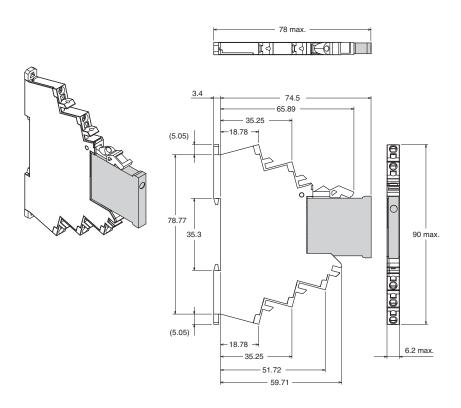


#### G3RV-SR700/500-D series



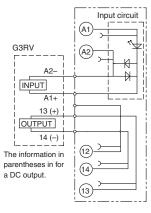
Dimensions (unit: mm)

Solid state relay + socket Push-In Plus Terminal Block G3RV-SR500

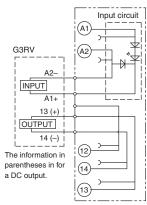


#### Terminal Arrangement/ Internal Connection Diagram (TOP VIEW)

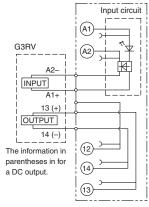
#### 12 VDC



#### 24 VDC

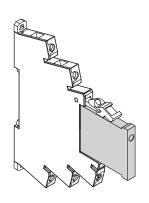


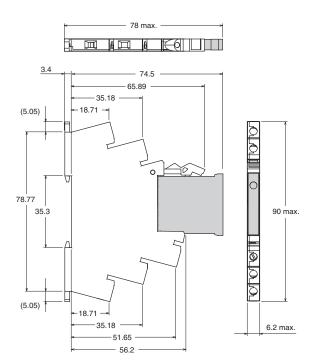
#### Other voltage



\*  $\boxed{\mathbb{H}}$  : Diode bridge

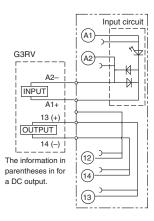
## Screw terminal G3RV-SR700



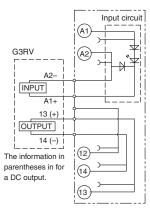


#### Terminal Arrangement/ Internal Connection Diagram (TOP VIEW)

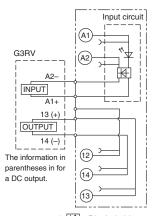
#### 12 VDC



#### 24 VDC



#### Other voltage



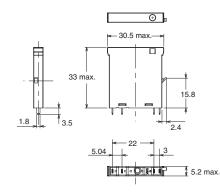
\* 🔣 : Diode bridge

 $^{^{↑}}$  : Light emitting diode

#### Solid state relay for maintenance

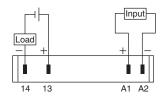
G3RV-D03SL G3RV-202S(L)



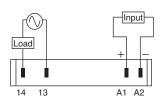


Terminal Arrangement/ Internal Connection Diagram (TOP VIEW)

#### G3RV-D03SL (input circuit)



#### G3RV-202S(L) (input circuit)

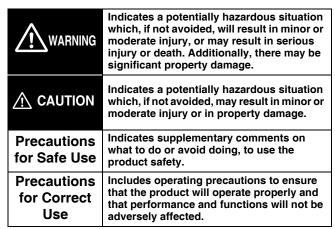


#### G2RV-SR/G3RV-SR

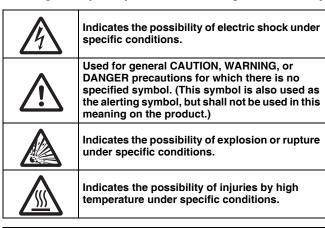
#### **Safety Precautions**

Be sure to read the *Safety Precautions for All Relays* in the website at the following URL: www.omron247.com.

#### **Format of Warning Indications**



#### Meaning of Graphic Symbols for Ensuring Product Safety



#### **↑** WARNING

Ensure that the socket is not charged during wiring and maintenance. Not doing so may result in electric shock.



Do not touch the terminal section of the G2RV-SR or the surrounding area while the power is being supplied. Doing so may result in electric shock.



#### / CAUTION

Minor electrical shock may occasionally occur.

Do not touch the G3RV terminal section (i.e., current carrying parts) while the power is being supplied.



The G3RV may rupture if short-circuit current flows. As protection against accidents due to short-circuiting, be sure to install protective devices, such as fuses and no-fuse breakers, on the power supply side.



Minor electrical shock may occasionally occur.

Do not touch the main circuit terminals on the G3RV immediately after the power supply has been turned OFF



Shock may result due to the electrical charge stored in the built-in snubber circuit.

Note: G3RV-202S(L), G3RV-SR500/700-A(L) series models only



Minor burns may occasionally occur.

Do not touch the G3RV or the heat sink while the power is being supplied or immediately after the power supply has been turned OFF.
The G3RV becomes extremely hot.



Provide a space of at least 3 mm between the G2RV-SR and ground. Not doing so may result in a ground fault.



#### **Precautions for Safe Use**

#### **Transport**

- Do not use the product if it has been dropped on the ground.
   Dropping the product may adversely affect performance.
- Do not drop the product or subject it to abnormal vibration or shock during transportation or mounting. Doing so may result in deterioration of performance, malfunction, or failure.
- Do not transport the product without it being packaged. Doing so may result in damage, malfunction, or failure.
- Do not transport the G3RV under the following conditions. Doing so may result in damage, malfunction, or deterioration of performance characteristics.
  - · High temperature, high humidity conditions
  - Conditions such as temperature change that causes rapid condensation
  - · Condition where it is not packaged

#### **Operating and Storage Environments**

- Do not use or store the product in the following locations. Doing so may result in damage, malfunction, or deterioration of performance characteristics.
  - Do not store in locations subject to ambient storage temperatures outside the range –40 to 70°C (for G2RV) and outside the range –30 to 100°C (for G3RV).
  - Locations subject to relative humidity outside the range 5% to 85% (for G2RV) and outside the range 45% to 85% (for G3RV).
  - Locations subject to high temperature or high humidity.
  - Conditions such as temperature change that causes rapid condensation
  - Locations where corrosive gases or flammable gases are present
  - · Location where rainwater or water droplets gets splashed
  - Location with splashes of water, oil, and chemicals, etc.
  - Locations with much dust, salt, and iron powder
  - · Location with blockers
  - · Where static electricity or noise occurs
  - Where strong electromagnetic field is generated
  - · Where there is a risk of exposure to radioactivity
- Do not use or store Sockets in environments that contain silicone gas, sulfidizing gas (e.g., SO<sub>2</sub> or H<sub>2</sub>S), or organic gas, or near materials that contain silicone. Doing so may cause the contacts to be unstable or to fail.

#### Handling <G3RV>

Keep the G3RV well ventilated.
 There is a risk of short-circuiting or burning due to G3RV overheating.

#### Mounting

- Before you start wiring, please make sure that the socket is securely attached to the mounting rail. If the socket is unstable, it may come loose with a risk of injury towards the workers.
- Please insert the flat-blade screwdriver to the bottom of the hole. If you do not insert the flat-blade screwdriver correctly, the cable will not be connected correctly.
- When lubricant such as oil is attached to the tip of the driver, the driver will fall off, with a risk of injury towards the workers.

#### **Usage**

- Please select the load within the rated range. Doing so may result in damage, malfunction, or failure.
- Please use the power of the rated frequency. It may cause malfunction, failure, or risk of burnout.

#### <G3RV>

- Install G3RV according to instructions Mounting on page 23. If you
  install in the wrong direction, abnormal heat is generated, and may
  lead to short-circuiting or burning the output element.
- G3RV is an SSR that generates heat. Please observe the ambient temperature setting range of G3RV. If installing in an enclosed space, set a fan, and ventilate.
- When mounting G3RV to DIN rail, firmly fit it into the groove. If it is not properly installed, there is a risk of it falling.

#### Wiring

- For the current to be applied, make sure a wire size with margin is used.
   Otherwise, excessive heat generated by the wires may cause burning.
- Do not attempt to use the wire if the coat is torn. Not doing so may result in electric shock.
- Always turn OFF the power supply before performing wiring. Not doing so may cause electrical shock.

#### <G3RV>

 The wires of the socket for G3RV socket should not be passed through the same duct as that being connected to the high-voltage power supply. Otherwise, inductive noise may damage the G3RV or cause it to malfunction.

#### **Push-In Plus Terminal Block**

- · Do not wire anything to the release holes.
- Do not tilt or twist a flat-blade screwdriver while it is inserted into a release hole on the terminal block. The terminal block may be damaged.
- Insert a flat-blade screwdriver into the release holes at an angle.
   The terminal block may be damaged if you insert the screwdriver straight in.
- Do not allow the flat-blade screwdriver to fall out while it is inserted into a release hole.
- Do not bend the wire past its natural bending radius or pull on it with excessive force. Doing so may cause the wire disconnection.
- Do not insert more than one wire into each terminal (insertion) hole.
- To prevent wiring materials from smoking or ignition, use the wiring materials given in the following table.

	Stripping length		
Recommended Wire	Ferrules When using terminal	Ferrules When not using terminal	
0.5 to 1.5 mm <sup>2</sup> /AWG20 to AWG16	10 mm	8 mm	

Note: Use Ferrules with UL certification (R/C).

#### Disposal

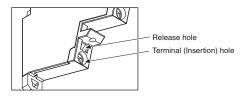
• Do not dispose of the product by burning.

#### **Precautions for Correct Use**

- Do not use or store the product in the following locations. Doing so may result in damage, malfunction, or deterioration of performance characteristics.
  - · Where vibration or shock is directly transmitted to the body
  - Do not use the product where the socket could touch a solvent or alkaline agent.
- Do not insert short bar in the hole for wire or screw driver, it may cause the result of failure of pull out.
  - If insert short bar in the hole for wire or screw driver and try to pull out, it may cause damage for short bar or socket.

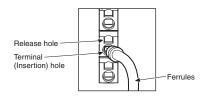
#### **Push-In Plus Terminal Block**

1. Connecting Wires to the Push-In Plus Terminal Block Part Names of the Terminal Block



#### **Connecting Wires with Ferrules**

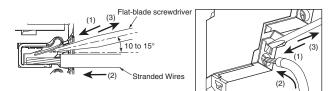
Insert the ferrule straight into the terminal block until the end strikes the terminal block.



#### **Connecting Stranded Wires**

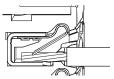
Use the following procedure to connect the wires to the terminal block.

- (1) Hold a flat-blade screwdriver at an angle and insert it into the release hole.
  - The angle should be between  $10^\circ$ and  $15^\circ$ . If the flat-blade screwdriver is inserted correctly, you will feel the spring in the release hole respond.
- (2) With the flat-blade screwdriver still inserted into the release hole, insert the wire into the terminal hole until it strikes the terminal block.
- (3) Remove the flat-blade screwdriver from the release hole.



#### **Checking Connections**

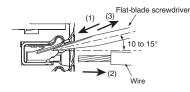
- After insertion, pull gently on the wire to make sure that it will not come out (i.e., to confirm that it is held by the terminal block).
- To prevent short circuits, insert the stripped part of a stranded wire or the conductive part of a ferrule until it is hidden inside the terminal insertion hole. (See following diagram.)



#### 2. Removing Wires from the Push-In Plus Terminal Block

Use the following procedure to remove wires from the terminal block. The same method is used to remove stranded wires and ferrules.

- (1) Hold a flat-blade screwdriver at an angle and insert it into the release hole.
- (2) With the flat-blade screwdriver still inserted into the release hole, remove the wire from the terminal insertion hole.
- (3) Remove the flat-blade screwdriver from the release hole.

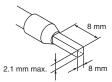




## 3. Recommended ferrules and tools Recommended Ferrules

	cable re	Ferrules Conduct	Recommended ferrules			Recommended fe		rrules
(mm²)	(AWG)	length (mm)	Phoenix Contact product	Weidmuller product	Wago product			
0.5	20	8	AI0.5-8	H0.5/14	FE-0.5-8N-WH			
0.75	18	8	AI0.75-8	H0.75/14	FE-0.75-8N-GY			
1	18	8	AI1-8	H1.0/14	FE-1.0-8N-RD			
1.5	16	8	Al1.5-8	H1.5/14	FE-1.5-8N-BK			
Recommended crimp tool		CRIMPFOX6 CRIMPFOX6T-F CRIMPFOX10S	PZ6 roto	Variocrimp4				

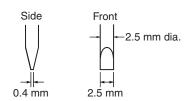
- \*1. Make sure that the outer diameter of the wire is smaller than the inner diameter of the insulating sleeve of the recommended ferrule.
- **\*2.** Make sure that the ferrule processing dimensions conform to the following figure.



#### Recommended Flat-blade Screwdriver

Use a flat-blade screwdriver to connect and remove wires. Use the following flat-blade screwdriver.

The following table is the manufacturer and format at the time in December 2015.



Model	Manufacturer
XW4Z-00B	Omron
ESD0.40×2.5	Wera
SZF 0.4×2.5	Phoenix Contact
0.4×2.5×75 302	Wiha
AEF.2.5×75	Facom
210-719	Wago
SDI 0.4×2.5×75	Weidmuller

#### **Screw Terminal**

#### Screw terminal

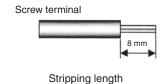
Wired type	Applicable wire size	Stripping length
Stranded wires, without ferrule	0.5 to 1.5 mm <sup>2</sup>	8 mm
Stranded wires, with ferrule and plastic collar	0.5 to 1.5 mm <sup>2</sup>	8 mm
Stranded wires with ferrule, without plastic collar	0.5 to 1.5 mm <sup>2</sup>	8 mm

#### • Tightening Torque

0.4 N · m

#### Electric wiring

Use the electric wire of specified size as shown above. The stripped wire length is 8 mm.



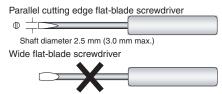
#### <G2RV>

#### **Operating latching lever**

When operating the latching lever for G2RV-SR701/501 series, use a 2.5 mm width flat-blade screwdriver.

#### • Applicable flat-blade screwdriver

Flat-blade screwdriver with parallel cutting edge: shaft diameter 2.5 mm (3.0 mm max.)



Driver with a thick shaft cannot be used.

- Always turn OFF the power supply before operating latching lever.
- Return to its original state after using the latching lever.
- Do not use the latching lever as a switch.
- Operation durability of the latching lever is 100 times or more.
- Do not keep the latching lever ON for a long period of time (24 hours or more) in order to maintain the operation check function.

#### Method of operation of the latching lever

Keep the protective cover open when using the latching lever. Move until the latching lever clicks to the ON position (ON state). After using the latching lever, in order to prevent malfunction, return the switch to contact normal position (OFF state), and make sure the protective cover is firmly closed.

#### Using the latching lever

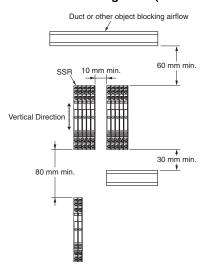
Example: check the operation of the relay and the sequence circuit

#### <G3RV>

- Since the G3RV uses electronic components, do not allow it to fall, vibrate, or apply shock that exceeds the criteria. Doing so may result in failure, malfunction, or deterioration of performance.
- Tighten screw terminal for G3RV with a torque of 0.4 N · m. It may cause short-circuit failure or burning.
- Please use the voltage and current suitable for the input and output terminal portion of G3RV. It may cause short-circuit failure or burning.

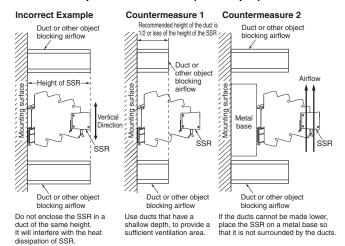
#### Mounting

#### <The SSR Mounting Pitch (Panel Mounting)>

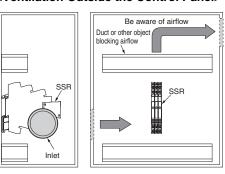


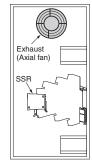
\* When five or more are installed, install with 10 mm space between each.

#### <Relationship of SSR and duct (duct depth)>



#### <Ventilation Outside the Control Panel>





- If the air inlet or air outlet has a filter, clean the filter regularly to prevent it from clogging to ensure an efficient flow of air.
- Do not place objects that may obstruct the proper ventilation for outside or inside the inlet or exhaust port, and in the outside vicinity.
- A heat exchanger, if used, should be located in front of the G3RV to ensure the efficiency of the heat exchanger.
- Please observe the ambient temperature of G3RV. The rated current of the G3RV is measured at an ambient temperature of 25°C.
- The G3RV uses a semiconductor in the output element.
   This causes the temperature inside the control panel to increase due to heating resulting from the flow of electrical current through the load. The G3RV reliability can be increased by adding a ventilation fan to the control panel to dispel this heat, thus lowering the ambient temperature of the G3RV.

(It suggests that life expectancy is doubled by each 10°C reduction in ambient temperature.)

#### ЕМІ

The G3RV is a Class A product (for industrial environments). When used in a residential environment, it may cause radio interference. In such case, the user may be required to take appropriate measures.

## For G2RV-SR/G3VR-SR Common Accessories (order separately)

#### **Ordering Information**

#### **Short Bars**

Appearance	Pitch	No. of poles	Colors	Model *	Minimum order (Quantity)	Maximum energizing current
		2		PYDN-6.2-020□		
		3	Red (R),	PYDN-6.2-030□		
U U U U U U U U U	6.2 mm 4 Blue (S), <b>PYDN-6.2-040</b>	10	32 A			
<del>111 1 1 1 1 1 1 1</del>		10	Yellow (Y)	PYDN-6.2-100□		
		20		PYDN-6.2-200□		

Note: Use for wiring to the adjacent socket.

\*Replace the box (
) in the model number with the code for the covering color. 
color selection: R = red, S = blue, Y = yellow

#### Labels

Appearance	Model	Minimum order
	XW5Z-P2.5LB2	5 sheets (1 sheet/72 pieces)

#### **Separate Plate**

Appearance	Model
	XW5Z-EP12

#### **PLC** interface unit

Appearance	I/O classification	Common process	Connection method	Model
	For input	PNP	Push-In	P2RVC-8-I-5-1
		FINE	Screw	P2RVC-8-I-7-1
		NPN	Push-In	P2RVC-8-I-5
	For output	PNP	Push-In	P2RVC-8-O-5-1
		FINE	Screw	P2RVC-8-O-7-1
		NPN	Push-In	P2RVC-8-O-5

#### **Parts for DIN Track Mounting**

Appearance	Туре		Model	Minimum order (Quantity)
	DIN Tracks	1 m	PFP-100N	_
		0.5 m	PFP-50N	
5	End Plate*		PFP-M	
	Spacer		PFP-S	10

<sup>\*</sup> When mounting components to DIN rail, prevent sliding using end plates (Model PFP-M). Refer to your OMRON website for details on PFP- $\square$ .

#### Applicable Cables

Name		Appearance	Cable length L (mm)	Connecting Cables	Applicable Connectors
		End A End B	1,000	P2RV-A100C	
Cables with Loose	8 I/O	Device PLC interface end unit end	2,000	P2RV-A200C	1
Wires P2RV-A□C	points		3,000	P2RV-A300C	Various devices
		70 L	5,000	P2RV-A500C	
			1,000	P2RV-4-100C	
Cables with Connectors (1:4)	32 output		2,000	P2RV-4-200C	PLC I/O Units with MIL connectors (1:4)
P2RV-4-□C	points		3,000	P2RV-4-300C	CJ1W-OD232/OD262, etc.
		- L→- 300 →	5,000	P2RV-4-500C	
			1,000	P2RV-4-100IMC	
Cables with Connectors (1:4)	32 input		2,000	P2RV-4-200IMC	PLC I/O Units with MIL connectors (1:4)
P2RV-4-□IMC	points		3,000	P2RV-4-300IMC	CJ1W-ID232/ID262, etc.
		L-1-300-	5,000	P2RV-4-500IMC	
			1,000	P2RV-4-100IFC	
Cables with Connectors (1:4)	32 input		2,000	P2RV-4-200IFC	PLC I/O Units with Fujitsu connectors (1:4)
P2RV-4-□IFC	points		3,000	P2RV-4-300IFC	CJ1W-ID231/ID261, etc.
		300 -	5,000	P2RV-4-500IFC	
O 11 Octobrio	8 output		500	P2RV-A050C-OMR GRT1	
Cables with Connectors (1:1)	points		1,000	P2RV-A100C-OMR GRT1	Slice I/O Units (1:1)  For inputs: GRT1-ID8-1
P2RV-A□C-OMR GRT1	8 input		500	P2RV-A050IC-OMR GRT1	For outputs: GRT1-OD8-1
	points	- L	1,000	P2RV-A100IC-OMR GRT1	
O The state	8 output	" ∥	500	P2RV-A050C-OMR NX	7: 0.1/0.11-11-1115 MIL
Cables with Connectors (1:1)	points		1,000 P2RV-A100C-OMR NX	PLC I/O Units with MIL connectors (1:1) For inputs: NX-ID4442	
P2RV-A□C-OMR NX	8 input		500	P2RV-A050IC-OMR NX	For outputs: NX-OD4256
	points	L	1,000	P2RV-A100IC-OMR NX	

Name		Appearance	Cable length L (mm)	Connecting Cables	Applicable Connectors
		E	500	P2RV-050C-SCH-A	
	20 input	End A End B  Device PLC interface	1,000	P2RV-100C-SCH-A	Schneider Electric PLCs with 32-point connectors (1:4) For inputs: 140 DDI 353 00 For outputs: 140 DDO 353 00
	32 input points	end unit end	2,000	P2RV-200C-SCH-A	
			3,000	P2RV-300C-SCH-A	
			5,000	P2RV-500C-SCH-A	
			500	P2RV-050C-SCH-B	
	32 output points		1,000	P2RV-100C-SCH-B	For outputs: 140 DDO 353 00
			2,000	P2RV-200C-SCH-B	
Oakaaidaa Elaataia	pointo		3,000	P2RV-300C-SCH-B	
Schneider Electric PLC Connecting		- L → 300 →	5,000	P2RV-500C-SCH-B	
Cables			500	P2RV-050C-SCH-C	
P2RV-□C-SCH-□		_	1,000	P2RV-100C-SCH-C	
	16 input		2,000	P2RV-200C-SCH-C	
	points		3,000	P2RV-300C-SCH-C	_
			5,000	P2RV-500C-SCH-C	Schneider Electric PLCs with 16-point connectors (1:2)
			500	P2RV-050C-SCH-D	For inputs: BMX DDI 1602
		□ ∥ д	1,000	P2RV-100C-SCH-D	For outputs: BMX DDO 1602
	16 output		2,000	P2RV-200C-SCH-D	
	points	- L → 300 →	3,000	P2RV-300C-SCH-D	
			5,000		
			500	P2RV-500C-SCH-D	
			1,000	P2RV-050C-SIM-A	
	32 input		-	P2RV-100C-SIM-A	
	points		2,000	P2RV-200C-SIM-A	
			3,000	P2RV-300C-SIM-A	Siemens PLCs with
			5,000	P2RV-500C-SIM-A	32-point connectors (1:4) For inputs: 6ES7 321-1BL00-0AA0
			500	P2RV-050C-SIM-B	For outputs: 6ES7 322-1BL00-0AA0
	32 output		1,000	P2RV-100C-SIM-B	
	points	300	2,000	P2RV-200C-SIM-B	
		<del> </del>	3,000	P2RV-300C-SIM-B	
			5,000	P2RV-500C-SIM-B	
	16 input points		500	P2RV-050C-SIM-C	
Siemens PLC			1,000	P2RV-100C-SIM-C	Siemens PLCs with 16-point connectors (1:2) For inputs: 6ES7 321-1BH02-0AA0
Connecting Cables P2RV-□C-SIM-□			2,000	P2RV-200C-SIM-C	
. 2			3,000	P2RV-300C-SIM-C	
		L → 300 →	5,000	P2RV-500C-SIM-C	
		2,000	500	P2RV-050C-SIM-D	
	00 : :		1,000	P2RV-100C-SIM-D	
	32 input points		2,000	P2RV-200C-SIM-D	
	F		3,000	P2RV-300C-SIM-D	Sigmons PI Co with
	32 output points		5,000	P2RV-500C-SIM-D	Siemens PLCs with 32-point connectors (1:4)
			500	P2RV-050C-SIM-E	For inputs: 6ES7 421-1BL-0AA0
			1,000	P2RV-100C-SIM-E	For outputs: 6ES7 422-1BL-0AA0
			2,000	P2RV-200C-SIM-E	
		<b>←</b> L → <b>  ←</b> 300 →	3,000	P2RV-300C-SIM-E	†
	1	1	5,550	5500 O.III-L	T.

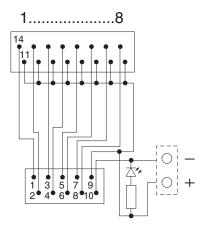
<b>D</b> : 0		
DI I	INTARTARA	unit
PLU	interface	ullit
		•••••

#### Ratings / characteristics

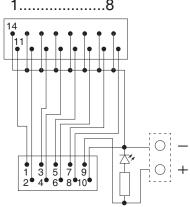
Rated voltage	30 VAC/DC		
Rated current	0.5 A/poles, 2 A/unit		
Ambient operating temperature	–40 to 55°C		

#### **Electrical schematic**

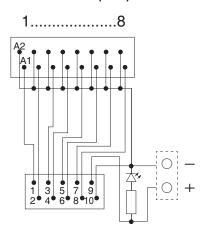
Input P2RVC-8-I-□-1 (PNP)



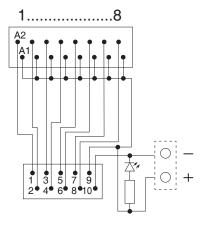
## P2RVC-8-I-5 (NPN)



#### Output P2RVC-8-O-□-1 (PNP)

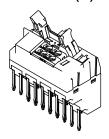


#### P2RVC-8-O-5 (NPN)

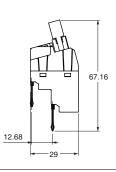


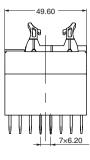
#### **PLC** interface unit

Push-IN P2RVC-8-I-5(-1) P2RVC-8-O-5(-1)



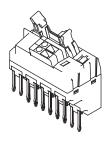




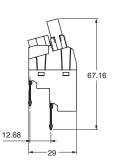


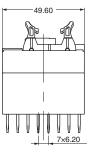
(unit: mm)

**Screw** P2RVC-8-I-7-1 P2RVC-8-0-7-1







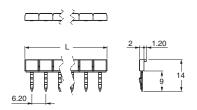


## (Except for PLC interface unit) Common Accessories

Dimensions (unit: mm)

#### **Short Bars**

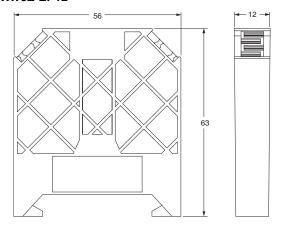
#### PYDN-6.2-□□ (6.2 mm)



Pitch	No. of poles	L (Length)	Colors	Model *	Maximum carry current
6.2 mm	2	12.4	Red (R) Blue (S) Yellow (Y)	PYDN-6.2-020□	
	3	18.6		PYDN-6.2-030□	
	4	24.8		PYDN-6.2-040□	32 A
	10	62		PYDN-6.2-100□	
	20	124		PYDN-6.2-200□	

**Note:** Use the Short Bars for crossover wiring within one Socket or between Sockets. ★ Replace the box (□) in the model number with the code for the covering color.

## Separate Plate XW5Z-EP12



#### **Parts for DIN Track Mounting**

Refer to your OMRON website for details on the PFP- $\square$ .

#### Terms and Conditions of Sale

- Offer; Acceptance. These terms and conditions (these "Terms") are deemed part of all quotes, agreements, purchase orders, acknowledgments, price lists, catalogs, manuals, brochures and other documents, whether electronic or in catalogs, manuals, brochures and other documents, whether electronic or in writing, relating to the sale of products or services (collectively, the "Products") by Omron Electronics LLC and its subsidiary companies ("Omron"). Omron objects to any terms or conditions proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms. Prices: Payment Terms. All prices stated are current, subject to change without notice by Omron. Omron reserves the right to increase or decrease prices on any unshipped portions of outstanding orders. Payments for Products are due net 30 days unless otherwise stated in the invoice. Discounts. Cash discounts, if any, will apply only on the net amount of invoices sent to Buyer after deducting transportation charges, taxes and duties, and will be allowed only if (i) the invoice is paid according to Omron's payment terms and (ii) Buyer has no past due amounts.

- and (ii) Buyer has no past due amounts.

  Interest. Omron, at its option, may charge Buyer 1-1/2% interest per month or the maximum legal rate, whichever is less, on any balance not paid within the
- Orders. Omron will accept no order less than \$200 net billing.

  Governmental Approvals. Buyer shall be responsible for, and shall bear all costs involved in, obtaining any government approvals required for the importation or sale of the Products.
- Taxes. All taxes, duties and other governmental charges (other than general real property and income taxes), including any interest or penalties thereon, imposed directly or indirectly on Omron or required to be collected directly or indirectly by Omron for the manufacture, production, sale, delivery, importa-tion, consumption or use of the Products sold hereunder (including customs
- tion, consumption or use of the Products sold hereunder (including customs duties and sales, excise, use, turnover and license taxes) shall be charged to and remitted by Buyer to Omron.

  Financial. If the financial position of Buyer at any time becomes unsatisfactory to Omron, Omron reserves the right to stop shipments or require satisfactory security or payment in advance. If Buyer fails to make payment or otherwise comply with these Terms or any related agreement, Omron may (without liability and in addition to other remedies) cancel any unshipped portion of Products sold hereunder and stop any Products in transit until Buyer pays all amounts, including amounts payable hereunder, whether or not then due, which are owing to it by Buyer Buyer shall in any event remain liable for all which are owing to it by Buyer. Buyer shall in any event remain liable for all unpaid accounts
- Cancellation: Etc. Orders are not subject to rescheduling or cancellation unless Buyer indemnifies Omron against all related costs or expenses.

  10. Force Majeure. Omron shall not be liable for any delay or failure in delivery
- resulting from causes beyond its control, including earthquakes, fires, floods strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, delay in or lack of transportation or the requirements of any government authority.

  11. Shipping: Delivery. Unless otherwise expressly agreed in writing by Omron:
  a. Shipments shall be by a carrier selected by Omron; Omron will not drop ship
- - except in "break down" situations.
    b. Such carrier shall act as the agent of Buyer and delivery to such carrier shall constitute delivery to Buyer;
  - c. All sales and shipments of Products shall be FOB shipping point (unless oth-
- c. All sales and shipments of Products shall be FOB shipping point (unless otherwise stated in writing by Omron), at which point title and risk of loss shall pass from Omron to Buyer; provided that Omron shall retain a security interest in the Products until the full purchase price is paid;
   d. Delivery and shipping dates are estimates only; and
   e. Omron will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.

  12. Claims. Any claim by Buyer against Omron for shortage or damage to the Products occurring before delivery to the carrier must be presented in writing to Omron within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Products. portation bill signed by the carrier noting that the carrier received the Products from Omron in the condition claimed.
- Warranties. (a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.

  (b) <u>Limitations</u>. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABIL-

- ITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contaminaerly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty. See http://www.omron247.com or contact your Omron representative for published information.
- lished information.

  Limitation on Liability: Etc. OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY. Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.
- Indemnities. Buyer shall indemnify and hold harmless Omron Companies and their employees from and against all liabilities, losses, claims, costs and expenses (including attorney's fees and expenses) related to any claim, investigation, litigation or proceeding (whether or not Omron is a party) which arises
- tigation, litigation of proceeding (whether or not Omron is a party) which arises or is alleged to arise from Buyer's acts or omissions under these Terms or in any way with respect to the Products. Without limiting the foregoing, Buyer (at its own expense) shall indemnify and hold harmless Omron and defend or settle any action brought against such Companies to the extent based on a claim that any Product made to Buyer specifications infringed intellectual property rights of another party.

  Property: Confidentiality. Any intellectual property in the Products is the exclusive property of Omron Companies and Buyer shall not attempt to duplicate it in any way without the written permission of Omron. Notwithstanding any charges to Buyer for engineering or tooling, all engineering and tooling shall remain the exclusive property of Omron. All information and materials supplied by Omron to Buyer relating to the Products are confidential and proprietary, and Buyer shall limit distribution thereof to its trusted employees and strictly prevent disclosure to any third party.
- prevent disclosure to any third party.

  <u>Export Controls.</u> Buyer shall comply with all applicable laws, regulations and licenses regarding (i) export of products or information; (iii) sale of products to "forbidden" or other proscribed persons; and (ii) disclosure to non-citizens of
- "forbidden" or other proscribed persons; and (ii) disclosure to non-citizens of regulated technology or information.

  Miscellaneous. (a) Waiver. No failure or delay by Omron in exercising any right and no course of dealing between Buyer and Omron shall operate as a waiver of rights by Omron. (b) Assignment. Buyer may not assign its rights hereunder without Omron's written consent. (c) Law. These Terms are governed by the law of the jurisdiction of the home office of the Omron company from which Buyer is purchasing the Products (without regard to conflict of law principles). (d) Amendment. These Terms constitute the entire agreement between Buyer and Omron relating to the Products, and no provision may be changed or waived unless in writing signed by the parties. (e) Severability if any provior waived unless in writing signed by the parties. (e) <u>Severability</u> If any provision hereof is rendered ineffective or invalid, such provision shall not invalidate any other provision. (f) <u>Setoff</u>. Buyer shall have no right to set off any amounts against the amount owing in respect of this invoice. (g) <u>Definitions</u>. As used herein, "including" means "including without limitation"; and "<u>Omron Compa</u> nies" (or similar words) mean Omron Corporation and any direct or indirect subsidiary or affiliate thereof.

## Certain Precautions on Specifications and Use

- Suitability of Use. Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide application of use of the Froduct. At Buyer's request, control will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases but the following is a non-exhaustive list of applications for which particular attention must be given:

  (i) Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this document.

  (ii) Use in consumer products or any use in significant quantities.

  (iii) Energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations systems.
  - ment, and installations subject to separate industry or government regulations. (iv) Systems, machines and equipment that could present a risk to life or property. Please know and observe all prohibitions of use applicable to this Prod-
  - NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO

- ADDRESS THE RISKS, AND THAT THE OMRON'S PRODUCT IS PROP-ERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
- Programmable Products. Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof. Performance Data. Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations
- Change in Specifications. Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time
- to confirm actual specifications of purchased Product.

  <u>Errors and Omissions.</u> Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.



#### OMRON AUTOMATION AMERICAS HEADQUARTERS • Chicago, IL USA • 847.843.7900 • 800.556.6766 • www.omron247.com

#### OMRON CANADA, INC. • HEAD OFFICE

Toronto, ON, Canada • 416.286.6465 • 866.986.6766 • www.omron247.com

#### **OMRON ELECTRONICS DE MEXICO • HEAD OFFICE**

México DF • 52.55.59.01.43.00 • 01-800-226-6766 • mela@omron.com

#### **OMRON ELECTRONICS DE MEXICO • SALES OFFICE**

Apodaca, N.L. • 52.81.11.56.99.20 • 01-800-226-6766 • mela@omron.com

#### **OMRON ELETRÔNICA DO BRASIL LTDA • HEAD OFFICE**

São Paulo, SP, Brasil • 55.11.2101.6300 • www.omron.com.br

#### **OMRON ARGENTINA • SALES OFFICE**

Cono Sur • 54.11.4783.5300

#### **OMRON CHILE • SALES OFFICE**

Santiago • 56.9.9917.3920

#### OTHER OMRON LATIN AMERICA SALES

54.11.4783.5300

OMRON EUROPE B.V. • Wegalaan 67-69, NL-2132 JD, Hoofddorp, The Netherlands. • +31 (0) 23 568 13 00 • www.industrial.omron.eu

Authorized Distributor:

#### Controllers & I/O

- Machine Automation Controllers (MAC) Motion Controllers
- Programmable Logic Controllers (PLC) Temperature Controllers Remote I/O

#### **Robotics**

• Industrial Robots • Mobile Robots

#### **Operator Interfaces**

• Human Machine Interface (HMI)

#### **Motion & Drives**

- Machine Automation Controllers (MAC) Motion Controllers Servo Systems
- Frequency Inverters

#### Vision, Measurement & Identification

• Vision Sensors & Systems • Measurement Sensors • Auto Identification Systems

#### Sensina

- Photoelectric Sensors Fiber-Optic Sensors Proximity Sensors
- Rotary Encoders Ultrasonic Sensors

- Safety Light Curtains Safety Laser Scanners Programmable Safety Systems
- Safety Mats and Edges Safety Door Switches Emergency Stop Devices
- Safety Switches & Operator Controls Safety Monitoring/Force-guided Relays

#### **Control Components**

- Power Supplies Timers Counters Programmable Relays
- Digital Panel Meters Monitoring Products

#### **Switches & Relays**

- Limit Switches Pushbutton Switches Electromechanical Relays
- Solid State Relays

#### Software

• Programming & Configuration • Runtime

 $\ensuremath{\texttt{©}}$  2016 Omron. All Rights Reserved.



#### **X-ON Electronics**

Largest Supplier of Electrical and Electronic Components

Click to view similar products for General Purpose Relays category:

Click to view products by Omron manufacturer:

Other Similar products are found below:

PCN-105D3MH,000 59641F200 LY1SAC110120 5X827E 5X837F 5X840F 5X842F 5X848E LY2N-AC120 LY2S-AC220/240 LY2-US-AC120 LY3-US-AC120 LY4F-UA-DC12 LY4F-UA-DC24 LY4F-US-AC120 LY4F-US-AC240 LY4F-US-DC24 LY4F-VD-AC110 LYQ20DC12 M115C60 M115N010 M115N0150 6031007G 603-12D 61211T0B4 61212T400 61222Q400 61243B600 61243C500 61243Q400 61311BOA2 61311BOA6 61311BOA8 61311COA2 61311COA1 61311COA6 61311F0A2 61311QOA1 61311QOA4 61311T0B6 61311TOA6 61311TOA6 61311TOB3 61311TOB4 61311U0A6 61312Q600 61312T400 61312T600 61313U200 61313U400