I/O Solid State Relays
G3R-I/O

CSM_G3R-I/O_DS_E_4_2

SSR with Plug-in Terminals

The Same Shape as the G2R-1-S Power Relays

- Reduces wiring work by 60% when combined with the P2RF-05-PU Push-In Plus Socket (according to actual OMRON measurements).
- These I/O solid state relays can be mounted in OMRON G70A I/O Terminals.
- Lineup includes Input Modules for microloads and Output Modules for standard loads.
- Lineup also includes UL, CSA, and TÜV-certified models (-UTU models).

RoHS Compliant

Note: The socket is optional.

Refer to the standards certifications and compliance section of your OMRON website for the latest information on certified models.

⚠ Refer to ***Safety Precautions for All Solid State Relays.***

Ordering Information

List of Models

Input Modules for Microloads

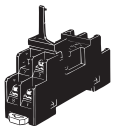
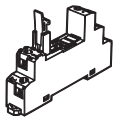
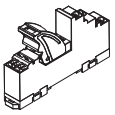
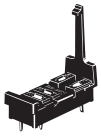
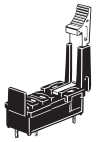
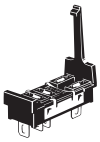
Insulation method	Operation indicator	Response speed	Applicable load	Input rated voltage	Model
Photocoupler	Yes	---	4 to 32 VDC 0.1 to 100 mA	100 to 240 VAC	**G3R-IAZR1SN AC100-240**
		High-speed		5 VDC	**G3R-IDZR1SN DC5**
				12 to 24 VDC	**G3R-IDZR1SN DC12-24**
		Low-speed		5 VDC	**G3R-IDZR1SN-1 DC5**
				12 to 24 VDC	**G3R-IDZR1SN-1 DC12-24**

Output Modules for Standard Loads

Insulation method	Operation indicator	Zero cross function	Applicable load	Input rated voltage	Model
Phototriac	Yes	Yes	2 A at 100 to 240 VAC	5 to 24 VDC	**G3R-OA202SZN DC5-24**
		No			**G3R-OA202SLN DC5-24**
Photocoupler		---	2 A at 5 to 48 VDC		**G3R-ODX02SN DC5-24**
			1.5 A at 48 to 200 VDC		**G3R-OD201SN DC5-24**

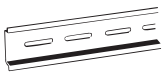
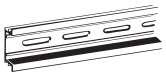
Accessories (Order Separately)

Connection Sockets

Classification	Terminal type	Appearance	Model
Front-mounting	Screw terminals		**P2RF-05**
	Screw terminals (finger protection structure)		**P2RF-05-E**
	Push-In Plus terminal blocks		**P2RF-05-PU**
Back-mounting	Relays with PCB Terminals		**P2R-05P**
			**P2R-057P**
	Solder terminals		**P2R-05A**

Refer to *Common Socket and DIN Track Products for details on Connection Sockets and DIN Track products (sold separately)* of your OMRON website.
Refer to *PYF-□□-PU/P2RF-□□-PU for details on A Push-In Plus Terminal Block Socket* of your OMRON website.

DIN Track Mounting Parts

Classification	Type		Appearance	Model
For front-mounting	DIN Tracks	Shallow type, total length: 1 m		**PFP-100N**
		Shallow type, total length: 0.5 m		**PFP-50N**
		Deep type, total length: 1 m		**PFP-100N2**
	End Plate			**PFP-M**
	Spacer			**PFP-S**
For back-mounting	Mounting Plates for Sockets ✻ (For 5 Sockets)		---	**P2R-P**

✻ Used to mount several P2R-05A Connecting Sockets side by side.

Ratings and Specifications

Ratings

Input Modules for Microloads

Input Side

Model	Item	Rated voltage	Operating voltage	Input current	Must-operate voltage	Must-release voltage
G3R-IAZR1SN		100 to 240 VAC	60 to 264 VAC	15 mA max.	60 VAC max.	20 VAC min.
G3R-IDZR1SN		5 VDC	4 to 6 VDC	8 mA max.	4 VDC max.	1 VDC min.
G3R-IDZR1SN		12 to 24 VDC	6.6 to 32 VDC		6.6 VDC max.	3.6 VDC min.
G3R-IDZR1SN-1		5 VDC	4 to 6 VDC		4 VDC max.	1 VDC min.
G3R-IDZR1SN-1		12 to 24 VDC	6.6 to 32 VDC		6.6 VDC max.	3.6 VDC min.

Output Side

Model	Item	Load voltage	Load current
G3R-IAZR1SN		4 to 32 VDC	0.1 to 100 mA
G3R-IDZR1SN			
G3R-IDZR1SN			
G3R-IDZR1SN-1			
G3R-IDZR1SN-1			

Output Modules for Standard Loads

Input Side

Model	Item	Rated voltage	Operating voltage	Input current	Must-operate voltage	Must-release voltage
G3R-OA202SZN		5 to 24 VDC	4 to 32 VDC	15 mA max. (at 25° C)	4 VDC max.	1 VDC min.
G3R-OA202SLN						
G3R-ODX02SN				8mA max.		
G3R-OD201SN						

Output Side

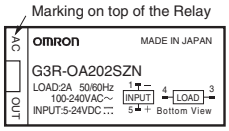
Model	Item	Load voltage	Load current*1	Surge withstand current
G3R-OA202SZN		75 to 264 VAC	0.05 to 2 A*2	30 A (60 Hz, 1 cycle)
G3R-OA202SLN				
G3R-ODX02SN		4 to 60 VDC	0.01 to 2 A*2	8 A (10 ms)
G3R-OD201SN		40 to 200 VDC	0.01 to 1.5 A*2	8 A (10 ms)

*1. Depends on the ambient temperature. Refer to the reference data *Load Current vs. Ambient Temperature Rating* on page 4 for details.
*2. The minimum current value is for a temperature of 10°C or higher.

I/O External Display

Lineup includes Input Modules and Output Modules.
The I/O Module classification and AC/DC classification are also indicated in the markings on top of the Relay.

Marking	Specifications
AC IN	Input Modules for Microloads, AC input
DC IN	Input Modules for Microloads, DC input
AC OUT	Output Modules for Standard Loads, AC output
DC OUT	Output Modules for Standard Loads, DC output



Characteristics

Input Modules for Microloads

Model / Item	G3R-IAZR1SN	G3R-IDZR1SN	G3R-IDZR1SN-1
Operation time	20 ms max.	0.1 ms max.	15 ms max.
Release time			
Response frequency	10 Hz	1 kHz	10 Hz
Output ON voltage drop	1.6 V max.		
Leakage current	5 μA max.		
Insulation resistance	100 MΩ min. between I/O		
Dielectric strength	4,000 VAC for 1 min. between I/O		
Vibration resistance	10 to 55 to 10 Hz, 0.75-mm single amplitude (1.5-mm double amplitude)		
Shock resistance	1,000 m/s^2		
Storage temperature	−30 to 100°C (with no icing)		
Ambient operating temperature	−30 to 80°C (with no icing)		
Ambient operating humidity	45% to 85% RH		
Weight	Approx. 18 g		

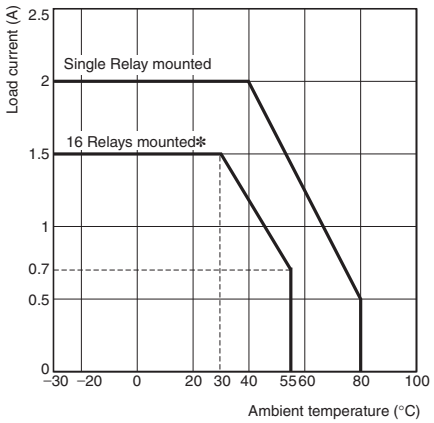
Output Modules for Standard Loads

Model / Item	G3R-OA202SZN	G3R-OA202SLN	G3R-ODX02SN	G3R-OD201SN
Operation time	1/2 load power supply cycle + 1 ms max.	1 ms max.		
Release time	1/2 load power supply cycle + 1 ms max.		2 ms max.	
Response frequency	20 Hz		100 Hz	
Output ON voltage drop	1.6 V max.			2.5 V max.
Leakage current	1.5 mA max.		1 mA max.	
Insulation resistance	100 MΩ min. between I/O			
Dielectric strength	4,000 VAC for 1 min. between I/O			
Vibration resistance	10 to 55 to 10 Hz, 0.75-mm single amplitude (1.5-mm double amplitude)			
Shock resistance	1,000 m/s^2			
Storage temperature	−30 to 100°C (with no icing)			
Ambient operating temperature	−30 to 80°C (with no icing)			
Ambient operating humidity	45% to 85% RH			
Weight	Approx. 18 g			

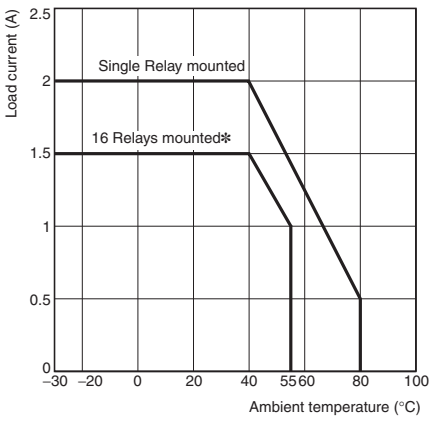
Engineering Data

Load Current vs. Ambient Temperature Rating

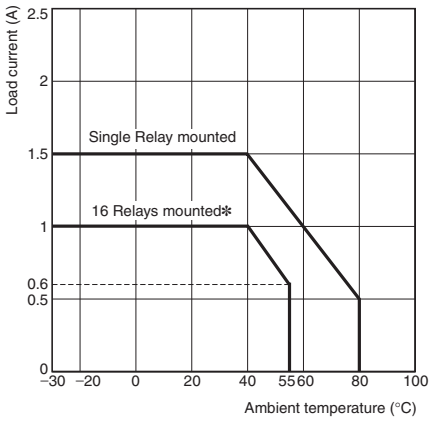
G3R-OA202S□N



G3R-ODX02SN (4 to 60 VDC)



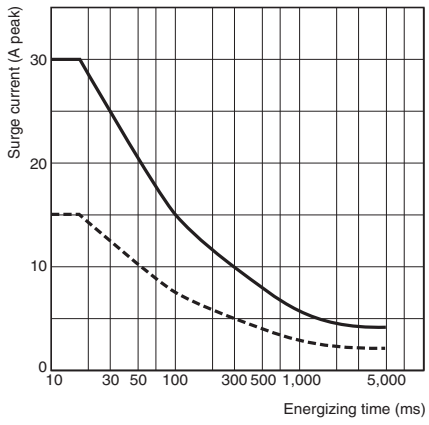
G3R-OD201SN (40 to 200 VDC)



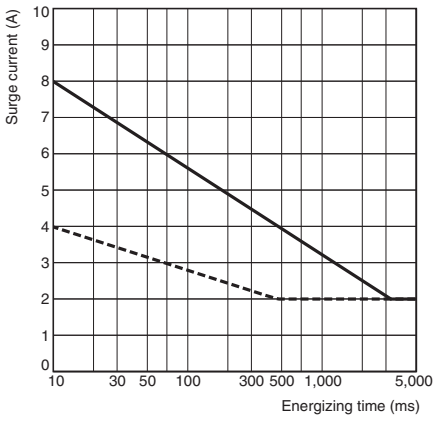
* On G70A-ZOC16, fully mounted.

Non-repetitive Surge Withstand Current (If repetitive, keep the inrush current below the dotted line.)

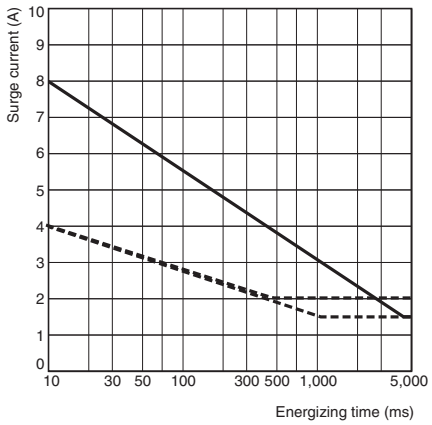
G3R-OA202S□N



G3R-ODX02SN (4 to 60 VDC)



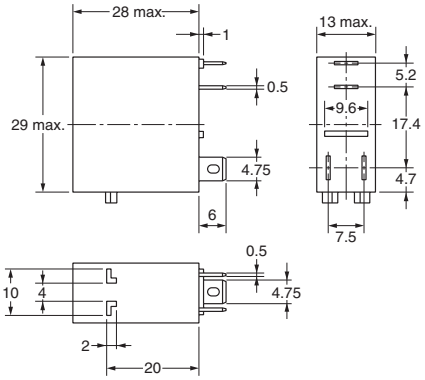
G3R-OD201SN (40 to 200 VDC)



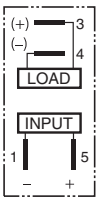
Dimensions

(Unit: mm)

Relay



Terminal Arrangement/
Internal Connections
(Bottom View)



The information in parentheses
in for a DC output.

Note: The load can be connected to either the positive or negative terminals.

Accessories (Order Separately)

Connection Socket

DIN Track Mounting Parts

Refer to *Products Related to Common Sockets and DIN Tracks for precautions on the applicable Sockets* of your OMRON website.
Refer to *PYF-□□-PU/P2RF-□□-PU for precautions on Push-In Plus Terminal Block Sockets* of your OMRON website.

Safety Precautions

Be sure to read 'the Common Precautions' in the website at the following URL:
http://www.ia.omron.com/.

Refer to *Safety Precautions for All Solid State Relays* of your OMRON website.
Refer to *Products Related to Common Sockets and DIN Tracks for precautions on the applicable Sockets* of your OMRON website.
Refer to *PYF-□□-PU/P2RF-□□-PU for precautions on Push-In Plus Terminal Block Sockets* of your OMRON website.

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2016.6

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P2R-05P P2RF-05-E P2R-08P P2RF-08-E P2R-057P P2R-05A P2RM-SB P2RM-SR P2R-08A

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