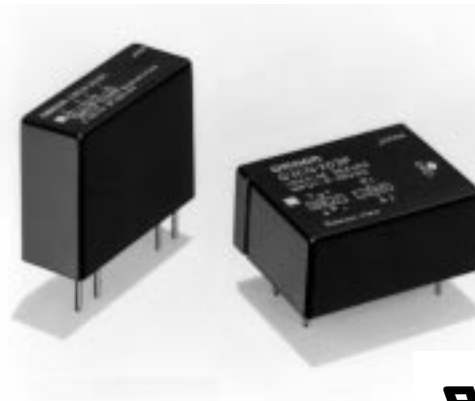


## Solid-state Relay

## G3CN

### PCB-mounting SSR for FA Equipment Requiring High Reliability

- Wide I/O voltage range: 3 to 28 VDC input and 75 to 264 VAC output or 3 to 28 VDC input and 3 to 52.8 VDC output.
- Two load currents available: 2 A and 3 A
- Flat and vertical models available for a variety of applications.
- Approved by UL and CSA.



### Ordering Information

Isolation	Zero cross function	Indicator	Rated output voltage (Applicable output load)	Rated input voltage	Model
Photocoupler	Yes	No	2 A at 100 to 240 VAC (2 A at 75 to 264 VAC)	4 to 24 VDC	G3CN-202P-US
					G3CN-202P1-US*
			3 A at 100 to 240 VAC (3 A at 75 to 264 VAC)		G3CN-203P-US
					G3CN-203P1-US*
Phototriac	No		2 A at 100 to 240 VAC (2 A at 75 to 264 VAC)	5, 12, 24 VDC**	G3CN-202PL-US
					G3CN-202PL1-US*
			3 A at 100 to 240 VAC (3 A at 75 to 264 VAC)		G3CN-203PL-US
					G3CN-203PL1-US*
Photocoupler	---		2 A at 4 to 48 VDC (2 A at 3 to 52.8 VDC)	4 to 24 VDC	G3CN-DX02P-US
					G3CN-DX02P1-US*
			3 A at 4 to 48 VDC (3 A at 3 to 52.8 VDC)		G3CN-DX03P-US
					G3CN-DX03P1-US*

\*Vertical models.

\*\*When ordering, specify the input voltage

# Specifications

## ■ Ratings

### Input

Model	Rated voltage	Operating voltage	Impedance	Voltage level	
				Must operate voltage	Must release voltage
G3CN-202P(1)-US G3CN-203P(1)-US	4 to 24 VDC	3 to 28 VDC	1.5 k $\Omega$ $^{+20\%}/_{-10\%}$	3 VDC max.	1 VDC min.
G3CN-202PL(1)-US G3CN-203PL(1)-US	5 VDC	4 to 6 VDC	390 $\Omega$ $\pm 20\%$	4 VDC max.	
	12 VDC	9.6 to 14.4 VDC	900 $\Omega$ $\pm 20\%$	9.6 VDC max.	
	24 VDC	19.2 to 28.8 VDC	2 k $\Omega$ $\pm 20\%$	19.2 VDC max.	
G3CN-DX02P(1)-US G3CN-DX03P(1)-US	4 to 24 VDC	3 to 28 VDC	1.5 k $\Omega$ $^{+20\%}/_{-10\%}$	3 VDC max.	

**Note:** The input impedance is measured at the maximum value of the operating voltage. For example, with the model rated at 4 to 24 VDC, the input impedance is measured at 28 VDC.

### Output

Model	Applicable load			
	Rated load voltage	Load voltage range	Load current	Inrush current
			Without heat sink	
G3CN-202P(1)-US G3CN-202PL(1)-US	100 to 240 VAC	75 to 264 VAC	0.1 to 2 A	30 A (60 Hz, 1 cycle)
			0.1 to 3 A	
G3CN-203P(1)-US G3CN-203PL(1)-US	4 to 48 VDC	3 to 52.8 VDC	0.1 to 2 A	12 A (10 ms)
			0.1 to 3 A	

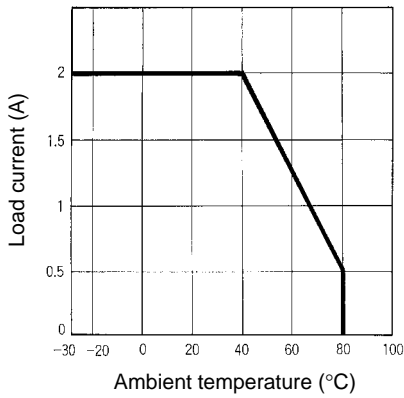
## ■ Characteristics

Item	G3CN-202P(1)/203P(1)-US	G3CN-202PL(1)/203PL(1)-US	G3CN-DX02P(1)/03P(1)-US
Operate time	1/2 of load power source cycle + 1 ms max.	1 ms max.	0.5 ms max.
Release time	1/2 of load power source cycle + 1 ms max.	1/2 of load power source cycle + 1 ms max.	2 ms max.
Output ON voltage drop	1.6 V (RMS) max.		1.5 V max.
Leakage current	5 mA max. (at 100 VAC) 10 mA max. (at 200 VAC)	2.5 mA max. (at 100 VAC) 5 mA max. (at 200 VAC)	5 mA max. (at 50 VDC)
Insulation resistance	100 M $\Omega$ min. (at 500 VDC)		
Dielectric strength	2,500 VAC, 50/60 Hz for 1 min		
Vibration resistance	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude		
Shock resistance	Malfunction: 1,000 m/s <sup>2</sup>		
Ambient temperature	Operating: -30°C to 80°C (with no icing nor condensation) Storage: -30°C to 100°C (with no icing nor condensation)		
Ambient humidity	Operating: 45% to 85%		
Approved standards	UL508, UL114 File No.E64562, CSA C22.2 (No.0, No.14) File No. LR35535		
Weight	Approx. 25 g		

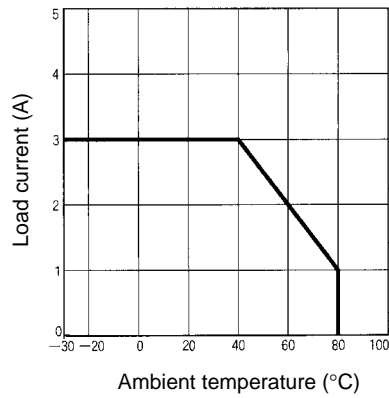
# Engineering Data

## Load Current vs. Ambient Temperature Characteristics

G3CN-202P(1)/-202PL(1)/-DX02P(1)-US



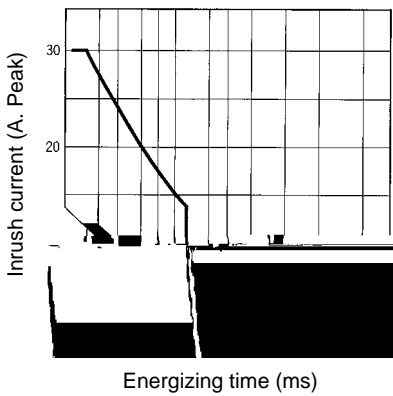
G3CN-203P(1)/-203PL(1)/-DX03P(1)-US



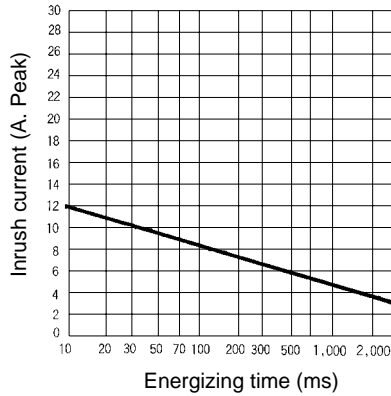
## Inrush Current Resistivity

Non-repetitive (Keep the inrush current to half the rated value if it occurs repetitively.)

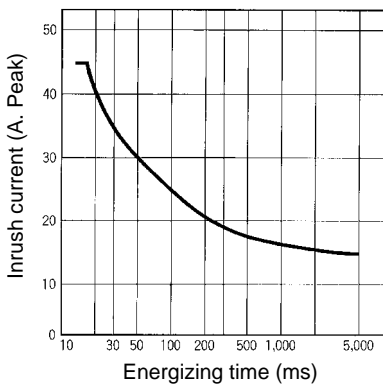
G3CN-202P(1)/-202PL(1)-US



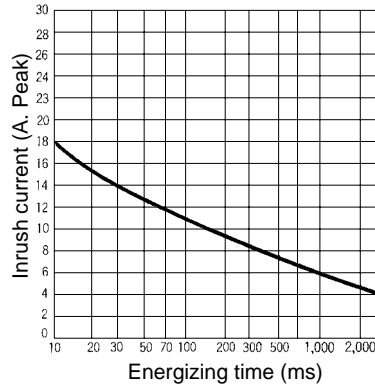
G3CN-DX02P(1)-US



G3CN-203P(1)/-203PL(1)-US



G3CN-DX03P(1)-US

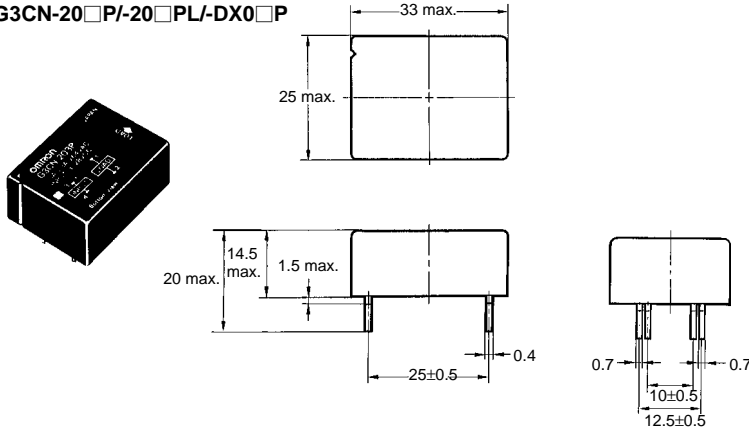


# Dimensions

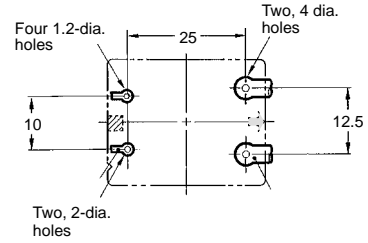
**Note:** All units are in millimeters unless otherwise indicated.

## Flat Model

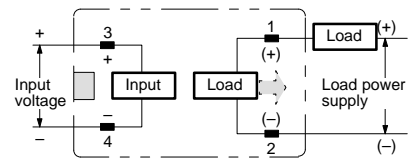
G3CN-20□P/-20□PL/-DX0□P



### Terminal Arrangement/ Mounting Holes (Bottom View)



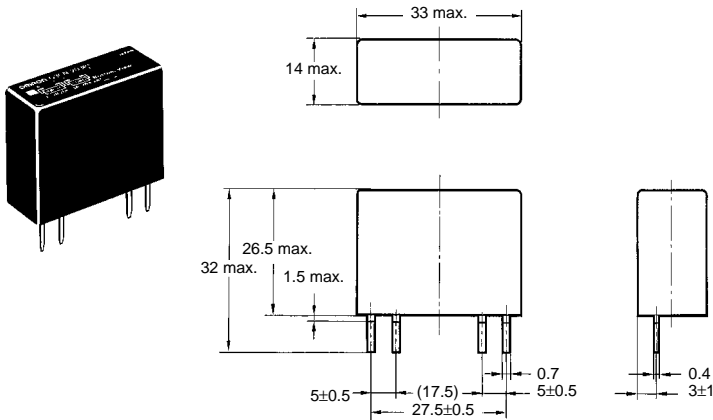
### Terminal Arrangement/ Internal Connections (Bottom View)



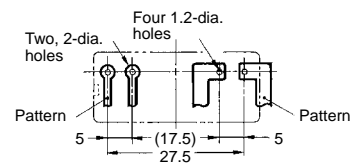
**Note:** Values in parentheses apply to the DC-load versions.

## Vertical Model

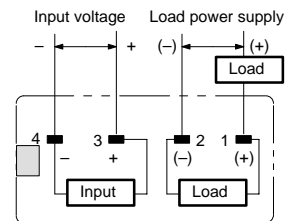
G3CN-20□P1/-20□PL1/-DX0□P1



### Terminal Arrangement/ Mounting Holes (Bottom View)



### Terminal Arrangement/ Internal Connections (Bottom View)



**Note:** Values in parentheses apply to the DC-load versions.

## Precautions

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Refer to pages 11 to 19 for general precautions.

### Connection

With the SSR for DC switching, the load can be connected to either positive or negative output terminal of the SSR.

### Protective Component

Since the SSR does not incorporate an overvoltage absorption component, be sure to connect an overvoltage absorption component when using the SSR under an inductive load.

**ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.**

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.