

Solid-state Relay

G3CN

Low-cost, PCB-mounting SSR for FA Equipment Requiring High Reliability

- Wide I/O voltage range: 3 to 28 VDC input and 75 to 264 VAC 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.



RC

Ordering Information

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

*Vertical models.

Specifications

■ Ratings Input

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

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

Output

| Model | Applicable load | | |
|--------------------------------|--------------------|-------------------|-----------------------|
| | Rated load voltage | Load current | Inrush current |
| | | Without heat sink | |
| G3CN-202P(1) G3CN-202PL(1) | 75 to 264 VAC | 0.1 to 2 A | 30 A (60 Hz, 1 cycle) |
| G3CN-203P(1) G3CN-203PL(1) | | 0.1 to 3 A | 45 A (60 Hz, 1 cycle) |
| G3CN-DX02P(1) G3CN-DX03P(1) | 3 to 52.8 VDC | 0.1 to 2 A | 12 A (10 ms) |
| | | 0.1 to 3 A | 18 A (10 ms) |

■ Characteristics

| Item | G3CN-202P(1)/203P(1) | G3CN-202PL(1)/203PL(1) | G3CN-DX02P(1)/03P(1) |
|------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------|-----------------------|
| 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 MW 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 ² (approx. 100G) | | |
| Ambient temperature | Operating: -30% to 80°C (with no icing) Storage: -30% to 100°C (with no icing) | | |
| Ambient humidity | Operating: 45% to 85% | | |
| Weight | Approx. 25 g | | |

■ Approved Standards

UL114 File No.E64562/CSA C22.2 (No.0, No.14) File No. LR35535

| Model | Ratings |
|--------------------|----------------|
| G3CN-202P(L)(1)-US | 2 A at 240 VAC |
| G3CN-203P(L)(1)-US | 3 A at 240 VAC |
| G3CN-DX02P(1)-US | 2 A at 48 VDC |
| G3CN-DX03P(1)-US | 3 A at 48 VDC |

Engineering Data

Load Current vs. Ambient Temperature Characteristics

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



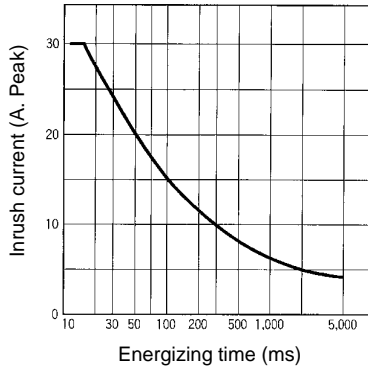
G3CN-203P(1)/-203PL(1)/-DX03P(1)



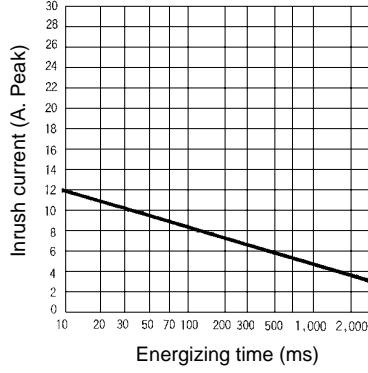
Inrush Current Resistivity 2-A Load

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

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

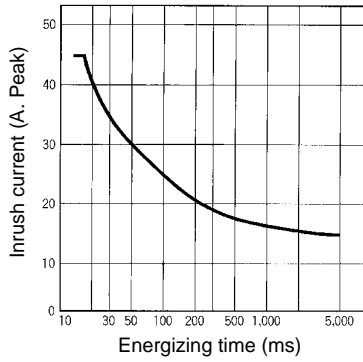


G3CN-DX02P(1)

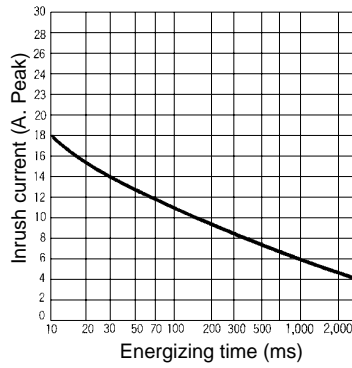


3-A Load

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



G3CN-DX03P(1)



Dimensions

Note: All units are in millimeters unless otherwise indicated.

Flat Model

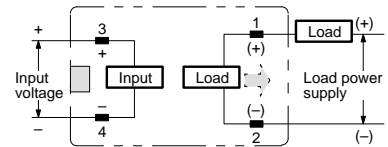
G3CN-20_P/-20_PL/-DX0_P



Terminal Arrangement/ Mounting Holes (Bottom View)



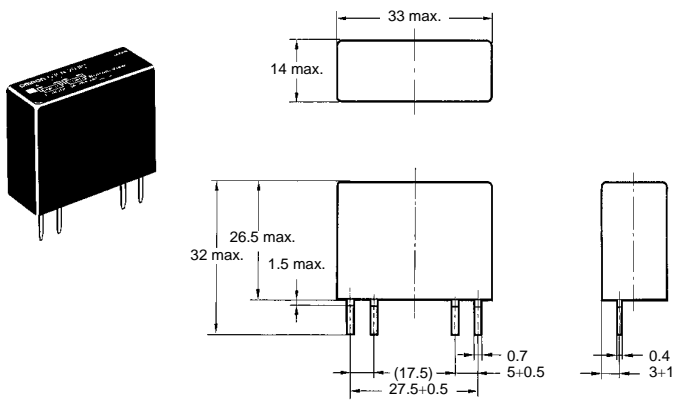
Terminal Arrangement/ Internal Connections (Bottom View)



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

Vertical Model

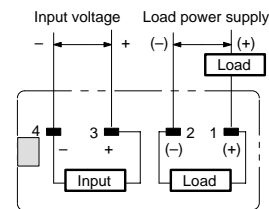
G3CN-20_P1/-20_PL1/-DX0_P1



Terminal Arrangement/ Mounting Holes (Bottom View)



Terminal Arrangement/ Internal Connections (Bottom View)



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

Precautions

Refer to pages 5 to 13 for general precautions.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.