


Soft-start Function Starts Motors Smoothly and Economically

- The soft-start function allows a smooth startup of motors by holding down the starting current, and functions like an inverter.
- Harmonized protection with thermal overload relays complying with IEC 947-4-1 (Class 10A/10); can be used like a standard contactor.
- Comply with UL, CSA, IEC, and JEM requirements.
- Mount with screws or to DIN tracks.
- Compact monoblock construction (W: 80 × H: 100 × D: 100 mm) with a heat sink.
- Snubber circuit and varistor are built-in.
- Operation indicator.



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

Model Number Structure

Model Number Legend

G3J-□□□□□□
1 2 3 4 5 6 7

1. Basic Model Name

G3J: Solid State Contactor

2. Load Power Supply

Blank: AC output

3. Functions

S: Soft-start function

4. Rated Load Power Supply Voltage

2: 200 VAC

4: 400 VAC

5. Rated Load Current

11: 11.1 A (200-V models)

05: 4.8 A (200-V models), 5.5 A (400-V models)

03: 2.4 A (400-V) models

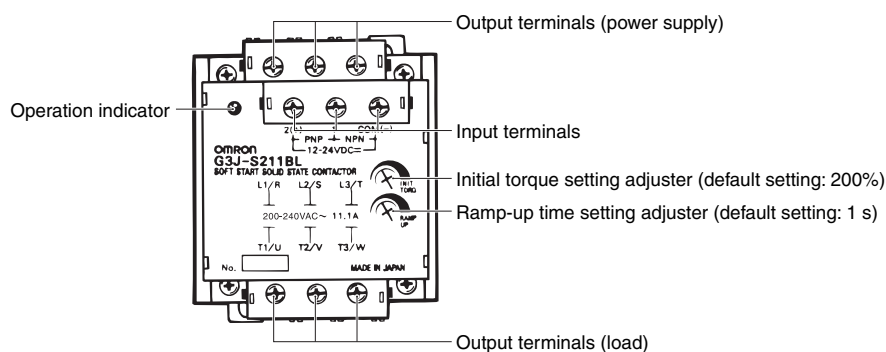
6. Terminal Type

B: Screw terminals

7. Zero Cross Function

L: Not equipped with zero cross function

Appearance



Ordering Information

List of Models

| Number of elements | Insulation method | Rated supply voltage | Input method | Applicable motor | | Model |
|--------------------|-------------------|----------------------|---|------------------|----------------|------------|
| 3 | Phototriac | 12 to 24 VDC | No-voltage input (open and short-circuit input) | 2.2 kW (5.5 A) | 380 to 400 VAC | G3J-S405BL |
| | | | | 0.75 kW (2.4 A) | | G3J-S403BL |
| | | | | 2.2 kW (11.1 A) | 200 to 220 VAC | G3J-S211BL |
| | | | | 0.75 kW (4.8 A) | | G3J-S205BL |

Note: When ordering, specify the rated supply voltage.

Accessories (Order Separately)

Mounting Bracket

| Model |
|----------------------------|
| R99-14 FOR G3J (See note.) |

Note: Use this Bracket when mounting Thermal Relay to a G3J-series SSR.

Specifications

Ratings (at an Ambient Temperature of 25°C)

Power Supply

| | |
|-------------------------|-------------------------------|
| Rated supply voltage | 12 to 24 VDC |
| Operating voltage range | 10.2 to 26.4 VDC |
| Current consumption | 100 mA max. (at 12 to 24 VDC) |

Operation Circuit

| | |
|--|---|
| Input current | 10 mA max. (at 12 to 24 VDC) |
| Input method No-voltage input (short-circuiting and opening inputs) (See note.) | Short-circuiting or opening terminals 1 and COM or 2 (+) and 1 SSR input turned ON: A maximum residual voltage of 2 V between short-circuited terminals SSR input turned OFF: A maximum leakage current of 0.15 mA Relay input: For minute signals |

Note: Refer to *Safety Precautions for the G3J-T, G3J-S, and G3J*.

Main Circuit

| Item | | G3J-S405BL | G3J-S403BL | G3J-S211BL | G3J-S205BL |
|------------------------------------|--|---|--------------------------------|--------------------------------|--------------------------------|
| Rated load voltage | | 200 to 400 VAC (50/60 Hz) | | 200 to 240 VAC (50/60 Hz) | |
| Load voltage range | | 180 to 440 VAC (50/60 Hz) | | 180 to 264 VAC (50/60 Hz) | |
| Rated carry current | | 5.5 A (Ta = 40°C) | 2.4 A (Ta = 40°C) | 11.1 A (Ta = 40°C) | 4.8 A (Ta = 40°C) |
| Min. load current | | 0.5 A | | | |
| Peak-value current resistivity | | 220 A, 60 Hz, 1 cycle | 96 A, 60 Hz, 1 cycle | 350 A, 60 Hz, 1 cycle | 150 A, 60 Hz, 1 cycle |
| Overload resistance | | Refer to <i>Information Common to the G3J, G3J-T, and G3J-S</i> . | | | |
| Closed current (effective value) | AC3 | 55 A | 24 A | 111 A | 48 A |
| | AC4 | 66 A | 28.8 A | 133.2 A | 57.6 A |
| Breaking current (effective value) | AC3 | 44 A | 19.2 A | 88.8 A | 38.4 A |
| | AC4 | 55 A | 24 A | 111 A | 48 A |
| Applicable load | 3-phase inductive motor (AC3 AC4 AC53-a) | 380 to 400 VAC, 2.2 kW, 5.5 A | 380 to 400 VAC, 0.75 kW, 2.4 A | 200 to 220 VAC, 2.2 kW, 11.1 A | 200 to 220 VAC, 0.75 kW, 4.8 A |
| | Resistive load (AC1) (See note.) | 200 to 400 VAC, 5.5 A | 200 to 400 VAC, 2.4 A | 200 to 240 VAC, 11.1 A | 200 to 240 VAC, 4.8 A |

Note: No single-phase load can be connected.

■ Characteristics

| Item | G3J-S405BL | G3J-S403BL | G3J-S211BL | G3J-S205BL |
|-------------------------------|--|-----------------|---|------------|
| Ramp-up time | Set within a range from 1 to 25 s. | | | |
| Reset time | 5/6 cycles of load power supply + 1 ms max. | | | |
| Starting torque | Set within a range from 200% to 450% I _n . | | | |
| Output ON-voltage drop | 1.8 V _{RMS} max. | | 1.6 V _{RMS} max. | |
| Leakage current | 20 mA max. (at 400 VAC) | | 10 mA max. (at 200 VAC) | |
| Insulation resistance | 100 MΩ min. (at 500 VDC) | | | |
| Dielectric strength | 2,500 VAC, 50/60 Hz for 1 min | | | |
| Vibration resistance | Destruction: 10 to 55 to 10 Hz, 0.75–mm single amplitude | | | |
| Shock resistance | Destruction: 294 m/s ² | | | |
| Ambient temperature | Operating: –20°C to 60°C (with no icing or condensation) Storage: –30°C to 70°C (with no icing or condensation) | | | |
| Ambient humidity | Operating: 45% to 85% | | | |
| Weight | 730 g max. | | | |
| Certified standards | UL508 File No. E64562 CSA 22.2 No. 14 File No. LR35535 IEC947-4-1 File No. 96.2597.02 | | | |
| EMC | Emission | AC mains | IEC947-4-2, CISPR 11 Class A | |
| | Emission | Electromagnetic | IEC947-4-2, CISPR 11 Class A | |
| | Immunity | ESD | IEC947-4-2, IEC801-2: 4 kV contact discharge 8 kV air discharge | |
| | Immunity | Electromagnetic | IEC947-4-2, IEC1000-4-3 10 V/m (80 MHz to 1 GHz) | |
| | Immunity | EFT | IEC947-4-2, IEC801-4: 2 kV AC power-signal line | |
| | Immunity | Surge transient | IEC947-4-2, IEC1000-4-5 1 kV differential mode 2 kV common mode | |
| | Immunity | RF disturbance | IEC947-4-2, IEC/DIS1000-4-6 10 V (0.15 to 80 MHz) | |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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

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Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.