Soft-start Solid State Contactors

CSM_G3J-S_DS_E_3_2

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.
- 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.





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

Model Number Structure

■ Model Number Legend



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 400 VAC

5. Rated Load Current

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

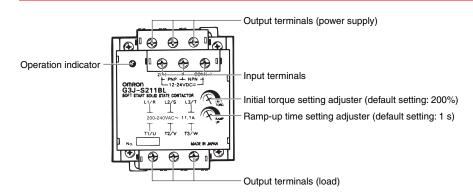
6. Terminal Type

B: Screw terminals

7. Zero Cross Function

Not equipped with zero cross function

Appearance



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Ordering Information

■ List of Models

Number of elements	Insulation method	Rated supply voltage	Input method	Applicable motor		Model
3	Phototriac	12 to 24 VDC		2.2 kW (5.5 A)	380 to 400 VAC	G3J-S405BL
	(open and short-	(open and short-	0.75 kW (2.4 A)		G3J-S403BL	
Circuit input)	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.

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)	
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 Information Common to the G3J, G3J-T, and G3J-S.				
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	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	
	AC53-a)	Motors passing the AC3-class, AC4-class, and AC53-a-class switching frequency test (Ta = 40°C) under conditions specified by OMRON. Refer to <i>Information Common to the G3J, G3J-T, and G3J-S</i> .				
	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.

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■ 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% In.						
Output ON-voltage drop	1.8 V _{RMS} max.			1.6 V _{RMS} max.			
Leakage current	20 mA max	c. (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 Emission Immunity	AC mains Electromagnetic ESD Electromagnetic	IEC947-4-2, CISPR 11 IEC947-4-2, CISPR 11 IEC947-4-2, IEC801-2: 4 kV contact discharge 8 kV air discharge IEC947-4-2, IEC1000-4	Class A arge			
	Immunity	EFT	10 V/m (80 MHz to 1 GHz) IEC947-4-2, IEC801-4: 2 kV AC power-signal line				
	Immunity	Surge transient RF disturbance	1 kV differential mode 2 kV common mode				
	minianity	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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