# **Soft-start/stop Solid State Contactors**

# G3J-T

CSM\_G3J-T\_DS\_E\_2\_1

### Soft-start/stop Function Starts and Stops Three-phase Motors Smoothly and Economically

- Function like an inverter by holding down the starting current.
- 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 (400-V models only), and JEM requirements.
- Mount with screws or to DIN tracks.
- Compact monoblock construction for the G3J-T217BL (W: 100 × H: 100 × D: 110 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



1. Basic Model Name

G3J: Solid State Contactor

2. Load Power Supply

Blank: AC output

3. Functions

T: Soft-start/stop function

4. Rated Load Power Supply Voltage

2: 200 VAC 4: 400 VAC

#### 5. Rated Load Current

17: 17.4 A (200-V models)
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

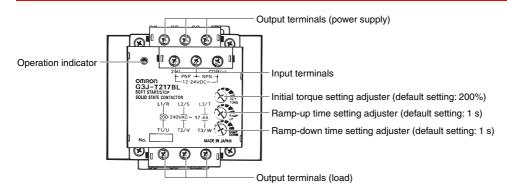
6. Terminal Type

B: Screw terminals

7. Zero Cross Function

L: Not equipped with zero cross function

# **Appearance**



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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	0 1	2.2 kW (5.5 A)	380 to 400 VAC	G3J-T405BL			
			(open and short-	0.75 kW (2.4 A)		G3J-T403BL			
					3.7 kW (17.4 A)	circuit input)	3.7 kW (17.4 A)	200 to 220 VAC	G3J-T217BL
				2.2 kW (11.1 A)		G3J-T211BL			
				0.75 kW (4.8 A)		G3J-T205BL			

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	50 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-T405BL	G3J-T403BL	G3J-T217BL	G3J-T211BL	G3J-T205BL	
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 (See note 1.)		5.5 A (Ta = 40°C)	2.4 A (Ta = 40°C)	17.4 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	500 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	AC3	55 A	24 A	174 A	111 A	48 A	
(effective value)	AC4	66 A	28.8 A	208.8 A	133.2 A	57.6 A	
Breaking cur- rent (effective value)	AC3	44 A	19.2 A	139.2 A	88.8 A	38.4 A	
	AC4	55 A	24 A	174 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, 3.7 kW, 17.4 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 2.)	200 to 400 VAC, 5.5 A	200 to 400 VAC, 2.4 A	200 to 240 VAC, 17.4 A	200 to 240 VAC, 11.1 A	200 to 240 VAC, 4.8 A	

Note: 1. The rated carry current varies depending on the ambient temperature. Refer to Load Current vs. Ambient Temperature under Engineering Data in the Information Common to the G3J-T, G3J-S, and G3J for details.

2. No single-phase load can be connected.

# **■** Characteristics

Item	G3J-T405BL	G3J-T403BL	G3J-T217BL	G3J-T211BL	G3J-T205BL	
Ramp-up time	Set within a range from 1 to 25 s.					
Ramp-down time	Set within a range from 1 to 25 s.					
Starting torque	Set within a range from 200% to 450% In.					
Output ON-voltage drop	1.8 V <sub>RMS</sub> max.		1.6 V <sub>RMS</sub> max.			
Leakage current	20 mA max. (at 400 V	AC)	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 <sup>2</sup>					
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.		800 g max.	730 g max.		
Standards	UL508 File No. E6456 CSA22.2 No. 14 File N			•		

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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2008.11

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