

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

- Functions like an inverter by holding down the starting current.
- Harmonized protection with thermal overload relays conforming to IEC 947-4-2 (Class 10A/10) and is like a standard contactor.
- Thermal Overload Relays can be mounted directly.
- Conforms to AC Class 3 (IEC947).
- Meets UL, CSA, IEC (400-V models only), and JEM requirements.
- Mounts with screws or to DIN tracks.
- Compact monoblock construction (80 (W) x 100 (H) x 100 (D)) except for the G3J-T217BL which is 100 (W) x 100 (H) x 110 (D) with a heat sink.
- Snubber circuit and varistor are built-in.
- With an operation indicator.



### Ordering Information

#### G3J-T

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-T405BL
				0.75 kW (2.4 A)		G3J-T403BL
				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

#### Thermal Overload Relays

Model	Current setting range
J7TY-K063	0.4 to 0.63 A
J7TY-K100	0.63 to 1.0 A
J7TY-K160	1.0 to 1.6 A
J7TY-K200	1.25 to 2.0 A
J7TY-K250	1.6 to 2.5 A
J7TY-K400	2.5 to 4.0 A
J7TY-K600	4.0 to 6.0 A
J7TY-K800	5.5 to 8.0 A
J7TY-K101	7.0 to 10.0 A
J7TY-K131	9.0 to 13.0 A

# Specifications

## ■ Ratings (Ambient Temperature: 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 page 105 for wiring examples.

### 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		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 <i>Engineering Data</i> on page 96.				
Closed current (effective value)	AC3	55 A	24 A	174 A	111 A	48 A
	AC4	66 A	28.8 A	208.8 A	133.2 A	57.6 A
Breaking current (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 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, 3.7 kW, 17.4 A	200 to 220 VAC, 2.2 kW, 11.1 A
	Resistive load (AC1) (see note)	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
		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>Switching Frequency Test Conditions</i> on page 97.				

Note: 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 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 Hz, 0.75-mm single amplitude Malfunction: 10 to 55 Hz, 0.75-mm single amplitude				
Shock resistance	Destruction: 294 m/s <sup>2</sup> Malfunction: 147 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. E64562 CSA22.2 No. 14 File No. LR35535				

## Thermal Overload Relays

Number of heater elements		3		
Contact rating	Contact configuration		SPST-NO, SPST-NC	
	Rated insulation voltage		660 V	
	Insulation resistance (initial value)		100 M $\Omega$ min. (500 VDC)	
	Dielectric strength (initial value)	Between main circuit poles		2,500 VAC, 1 min.
		Contact circuit		2,200 VAC, 1 min.
	Rated thermal current I <sub>th</sub>	AC15		4 A
		DC13		1 A
	Rated operating current	AC15	125 V	3 A
			220 V	2 A
			500 V	0.5 A
660 V			0.3 A	
DC13		24 V	1 A	
		60 V	0.5 A	
		110 V	0.25 A	
		220 V	0.1 A	