

Simple Solid State Contactors G3J

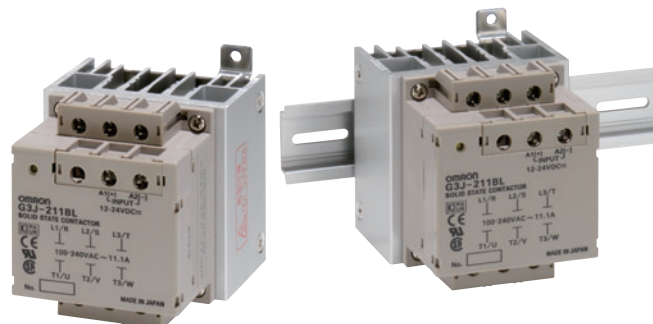
CSM_G3J_DS_E_4_2

Solid State Contactors That Can Drive 3-phase Motors Frequently, and Achieve Harmonized Protection with Thermal Overload Relays

- Certified for UL and CSA.
- 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.
- Two-element models added to series.



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

G3J-□□□□□□-□
1 2 3 4 5 6 7 8

1. Basic Model Name

G3J: Solid State Contactor

2. Load Power Supply

Blank: AC output

3. Functions

Blank: Simple models

4. Rated Load Power Supply Voltage

2: 200 VAC

5. Rated Load Current

11: 11.1 A (200-V models)

05: 4.8 A (200-V models)

6. Terminal Type

B: Screw terminals

7. Zero Cross Function

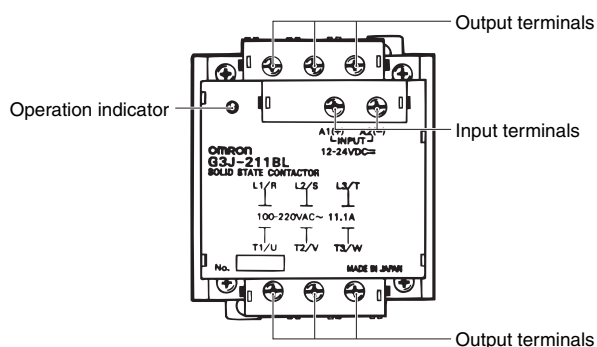
L: Not equipped with zero cross function

8. Number of Elements

Blank: Standard models (3 elements)

2: 2 elements

Appearance



Ordering Information

List of Models

Number of elements	Insulation method	Rated supply voltage	Applicable motor		Model
3	Phototriac	12 to 24 VDC	2.2 kW (11.1 A)	200 to 220 VAC	G3J-211BL
			0.75 kW (4.8 A)		G3J-205BL
	Photocoupler	100 to 240 VAC	2.2 kW (11.1 A)		G3J-211BL
			0.75 kW (4.8 A)		G3J-205BL
2	Phototriac	12 to 24 VDC	2.2 kW (11.1 A)		G3J-211BL-2
			0.75 kW (4.8 A)		G3J-205BL-2
	Photocoupler	100 to 240 VAC	2.2 kW (11.1 A)		G3J-211BL-2
			0.75 kW (4.8 A)		G3J-205BL-2

Note: When ordering, specify the rated supply voltage.

Specifications

Ratings (at an Ambient Temperature of 25°C)

Operation Circuit

Item	DC-input models	AC-input models
Rated supply voltage	12 to 24 VDC	100 to 240 VAC (50/60 Hz)
Operating voltage range	9.6 to 26.4 VDC	75 to 264 VAC (50/60 Hz)
Rated input current (impedance)	15 mA max. (at 12 to 24 VDC)	36 kΩ ±20% (100 to 240 VAC)
Must operate voltage	9.6 VDC max.	75 VAC max.
Must release voltage	3.6 VDC min.	20 VAC min.

Main Circuit

Item		G3J-211BL, G3J-211BL-2	G3J-205BL, G3J-205BL-2
Rated load voltage		100 to 240 VAC (50/60 Hz)	
Load voltage range		75 to 264 VAC (50/60 Hz)	
Rated carry current (See note 3.)		11.1 A (Ta = 40°C)	4.8 A (Ta = 40°C)
Min. load current		0.1 A	
Peak-value current resistivity		350 A, 60 Hz, 1 cycle	150 A, 60 Hz, 1 cycle
Overload resistance		Refer to <i>Safety Precautions for the G3J-T, G3J-S, and G3J</i> .	
Closed current (effective value)	AC3	111 A	48 A
	AC4	133.2 A	57.6 A
Breaking current (effective value)	AC3	88.8 A	38.4 A
	AC4	111 A	48 A
Applicable load	3-phase inductive motor (AC3 AC4 AC53-a)	200 to 220 VAC, 2.2 kW, (11.1 A)	200 to 220 VAC, 0.75 kW, (4.8 A)
	Single-phase motor (AC3) (See note 1.)	100 VAC, 0.4 kW (11.1 A) 200 VAC, 0.75 kW (8.8 A)	100 VAC, 0.1 kW, (5.1 A) 200 VAC, 0.4 kW (5.5 A) (See note 2.)
	Resistive load (AC1)	100 to 240 VAC, 11.1 A	100 to 240 VAC, 4.8 A

Note: 1. With 2-element models, L2 and T2 are shorted internally.

2. When using 0.75 kW models with 3 poles ON simultaneously, use either combination at 4.8 A max.

3. 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.

■ Characteristics

Item	DC-input models	AC-input models
Operate time	1 ms max.	50 ms max.
Release time	5/6 of the load power supply cycle time + 1 ms max.	3/2 of the load power supply cycle time + 1 ms max.
Output ON-voltage drop	1.6 V _{RMS} max.	
Leakage current (See note.)	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	Approx. 700 g	
Standards	UL508, CSA22.2 No. 14, IEC947-4-1	

Note: With 2-element models, the S-phase leakage current will be larger by a factor of $\sqrt{3}$.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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

In the interest of product improvement, specifications are subject to change without notice.

Read and Understand This Catalog

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

Warranty and Limitations of Liability

WARRANTY

OMRON's exclusive warranty is that the products are free from defects in materials and workmanship for a period of one year (or other period if specified) from date of sale by OMRON.

OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, REGARDING NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR PARTICULAR PURPOSE OF THE PRODUCTS. ANY BUYER OR USER ACKNOWLEDGES THAT THE BUYER OR USER ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. OMRON DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.

LIMITATIONS OF LIABILITY

OMRON SHALL NOT BE RESPONSIBLE FOR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED ON CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY.

In no event shall the responsibility of OMRON for any act exceed the individual price of the product on which liability is asserted.

IN NO EVENT SHALL OMRON BE RESPONSIBLE FOR WARRANTY, REPAIR, OR OTHER CLAIMS REGARDING THE PRODUCTS UNLESS OMRON'S ANALYSIS CONFIRMS THAT THE PRODUCTS WERE PROPERLY HANDLED, STORED, INSTALLED, AND MAINTAINED AND NOT SUBJECT TO CONTAMINATION, ABUSE, MISUSE, OR INAPPROPRIATE MODIFICATION OR REPAIR.

Application Considerations

SUITABILITY FOR USE

OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of products in the customer's application or use of the products.

At the customer's request, OMRON will provide applicable third party certification documents identifying ratings and limitations of use that apply to the products. This information by itself is not sufficient for a complete determination of the suitability of the products in combination with the end product, machine, system, or other application or use.

The following are some examples of applications for which particular attention must be given. This is not intended to be an exhaustive list of all possible uses of the products, nor is it intended to imply that the uses listed may be suitable for the products:

- Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this catalog.
- Nuclear energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
- Systems, machines, and equipment that could present a risk to life or property.

Please know and observe all prohibitions of use applicable to the products.

NEVER USE THE PRODUCTS FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCTS ARE PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

PROGRAMMABLE PRODUCTS

OMRON shall not be responsible for the user's programming of a programmable product, or any consequence thereof.

Disclaimers

CHANGE IN SPECIFICATIONS

Product specifications and accessories may be changed at any time based on improvements and other reasons.

It is our practice to change model numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the products may be changed without any notice. When in doubt, special model numbers may be assigned to fix or establish key specifications for your application on your request. Please consult with your OMRON representative at any time to confirm actual specifications of purchased products.

DIMENSIONS AND WEIGHTS

Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

PERFORMANCE DATA

Performance data given in this catalog is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of OMRON's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to the OMRON Warranty and Limitations of Liability.

ERRORS AND OMISSIONS

The information in this document has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical, or proofreading errors, or omissions.

2012.9

In the interest of product improvement, specifications are subject to change without notice.

OMRON Corporation
Industrial Automation Company

<http://www.ia.omron.com/>

(c)Copyright OMRON Corporation 2012 All Right Reserved.