

# G3J-T-C

## New Models with AC Power Supply Input and Monitor Output Equivalent to Non-contact SPST-NO Join the G3J-T Series

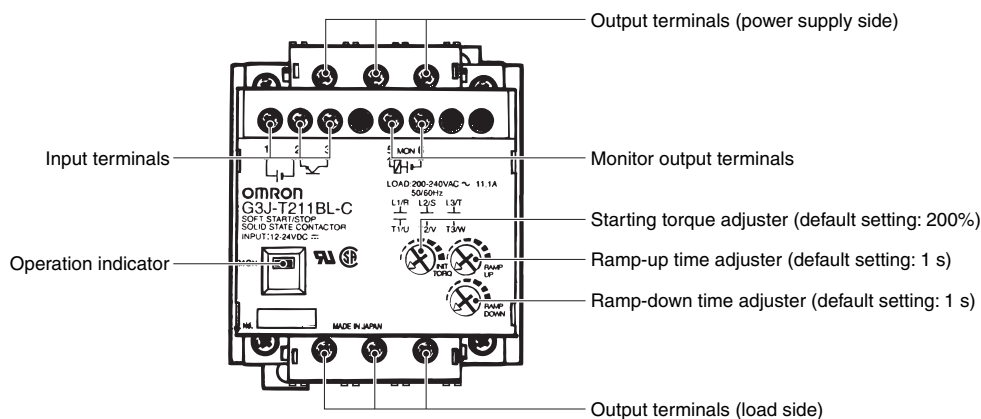
- Limiting the starting current saves energy.
- Certified for UL and CSA.
- Mounts with screws or to DIN Track.
- Compact design with heat sinks (3.7-kW models: 100 × 100 × 130 mm (W × H × D)).
- Built-in snubber circuit and thyristor.
- Built-in operation indicator.



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

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

## Appearance



## Ordering Information

### List of Models

Number of elements	Isolation method	Rated power supply voltage	Input method	Applicable monitor capacity (AC3)		Monitor output	Model
3	Phototriac coupler	100 to 240 VAC	No-voltage input (open and short-circuited input)	3.7 kW (17.4 A)	200 to 220 VAC	AC switching output	G3J-T217BL-C AC100-240
				2.2 kW (11.1 A)			G3J-T211BL-C AC100-240
				0.75 kW (4.8 A)			G3J-T205BL-C AC100-240
		12 to 24 VDC		3.7 kW (17.4 A)		DC switching output	G3J-T217BL-C DC12-24
				2.2 kW (11.1 A)			G3J-T211BL-C DC12-24
				0.75 kW (4.8 A)			G3J-T205BL-C DC12-24

# Specifications

## ■ Certified Standards

UL 508, CSA 22.2 No. 14

## ■ Ratings (at an Ambient Temperature of 25°C)

### Power Supply

Item	Operating input power supply specifications	AC Model	DC Model
Rated power supply voltage		100 to 240 VAC	12 to 24 VDC
Operating voltage range		85 to 264 VAC	10.2 to 26.4 VDC
Current consumption		40 mA max. (at 100 to 240 VAC)	70 mA max. (at 12 to 24 VDC)

### Operating (Input) Circuit

#### AC Model

Input method	No-voltage input	Short-circuiting/opening terminals 3 and 1 or terminals 3 and 2
		SSR input short-circuited: Maximum impedance of 1 k $\Omega$ , Maximum residual voltage of 1 V
		SSR input open: Minimum impedance of 100 k $\Omega$
		Relay input: For minute signals

#### DC Model

Input current	10 mA max. (at 12 to 24 VDC)
Input method	No-voltage input
	Short-circuiting/opening terminals 3 and 1 or terminals 3 and 2
	SSR input turned ON: Maximum residual voltage of 2 V between short-circuited terminals
	SSR input turned OFF: Maximum leakage current of 0.15 mA
	Relay input: For minute signals

### Main Circuit (for Both AC and DC Models)

Item	Model	G3J-T217BL-C	G3J-T211BL-C	G3J-T205BL-C
Rated load voltage		200 to 240 VAC		
Rated voltage range		180 to 264 VAC		
Rated carry current (See note 1.)		17.4 A (at 40°C)	11.1 A (at 40°C)	4.8 A (at 40°C)
Minimum load current		0.5 A		
Inrush current resistance (peak value)		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 5		
Closed current (effective value)	AC3	174 A	111 A	48 A
	AC4	208.8 A	133.2 A	57.6 A
Breaking current (effective value)	AC3	139.2 A	88.8 A	38.4 A
	AC4	174 A	111 A	48 A
Applicable load	3-phase inductive motor (See note 2.) (AC3, AC4, AC53-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)
	Resistive load (AC1) (See note 3.)	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 load depends on the ambient temperature. For details, refer to the Load Current vs. Ambient Temperature graph in *Engineering Data*.

**2.** Satisfies switching test conditions of AC3, AC4, and AC53-a. (Refer to *Engineering Data* on page 5 for the test conditions.)

**3.** Single-phase loads cannot be used.

### Monitor Output

Item	Operating input power supply specifications	AC model	DC model
Rated power supply voltage		100 to 240 VAC	12 to 24 VDC
Operating voltage range		85 to 264 VAC	10.2 to 26.4 VDC
Rated carry current		50 mA	0.2 A
Minimum load current		3 mA	3 mA

## ■ Characteristics (for Both AC and DC Models)

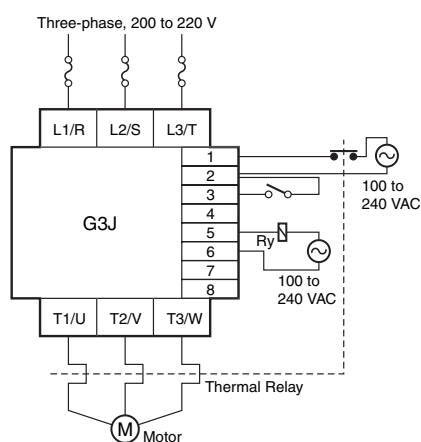
Item	Model	G3J-T217BL-C	G3J-T211BL-C	G3J-T205BL-C
Ramp-up time		Set within a range of approx. 1 to 25 s.		
Ramp-down time		Set within a range of approx. 1 to 25 s.		
Starting torque (See note 1.)		Set within a range of 200% to 450% $I_n$ .		
Monitor output operate time (See note 2.)		After control signal input: AC model: 300 ms max. (TYP 50 ms), DC model: 50 ms max.		
Monitor output release time (See note 2.)		After ramp-down time completion (after main circuit current turns OFF): 60 ms max.		
Output ON voltage drop (main circuit)		1.6 V (RMS) max.		
Output ON voltage drop (monitor output)		AC model: 3.5 VAC max., DC model: 2.0 VDC max.		
Leakage current (main circuit)		10 mA max. (at 200 VAC)		
Leakage current (monitor output)		AC model: 1.5 mA max. (at 200 VAC), DC model: 0.15 mA max. (at 24 VDC)		
Insulation resistance		100 M $\Omega$ min. (at 500 VDC)		
Dielectric strength		2,500 VAC, 60 Hz for 1 min		
Vibration resistance		10 to 55 to 10 Hz, 0.75-mm single amplitude (1.5-mm double amplitude)		
Shock resistance		294 m/s <sup>2</sup>		
Storage temperature		-30 to 70°C (with no icing or condensation)		
Ambient operating temperature		-20 to 60°C (with no icing or condensation)		
Ambient operating humidity		45 to 85 %		
Weight		Approx. 890 g	Approx. 760 g	Approx. 760 g

- Note:** 1. Provided that the starting torque is 600%  $I_n$  when the motor is started at full voltage.  
2. The monitor output will be ON while load current is flowing to the main circuit.

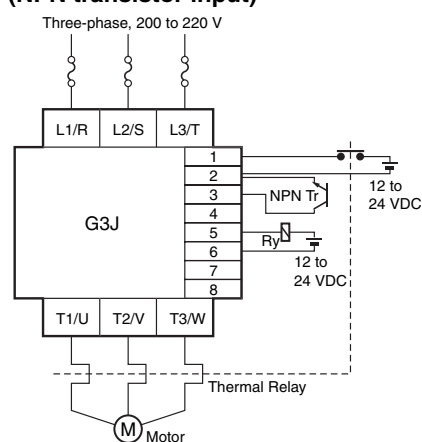
## Connections

### ■ Connection Examples

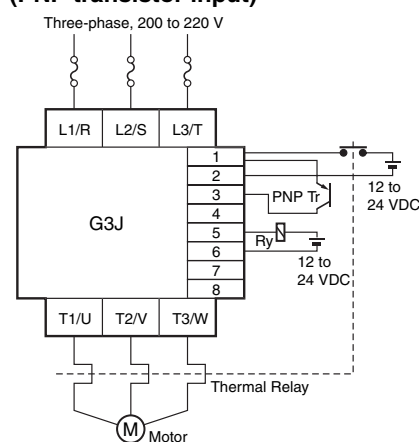
#### AC Model G3J-T□BL-C



#### DC Model G3J-T□BL-C (NPN transistor input)



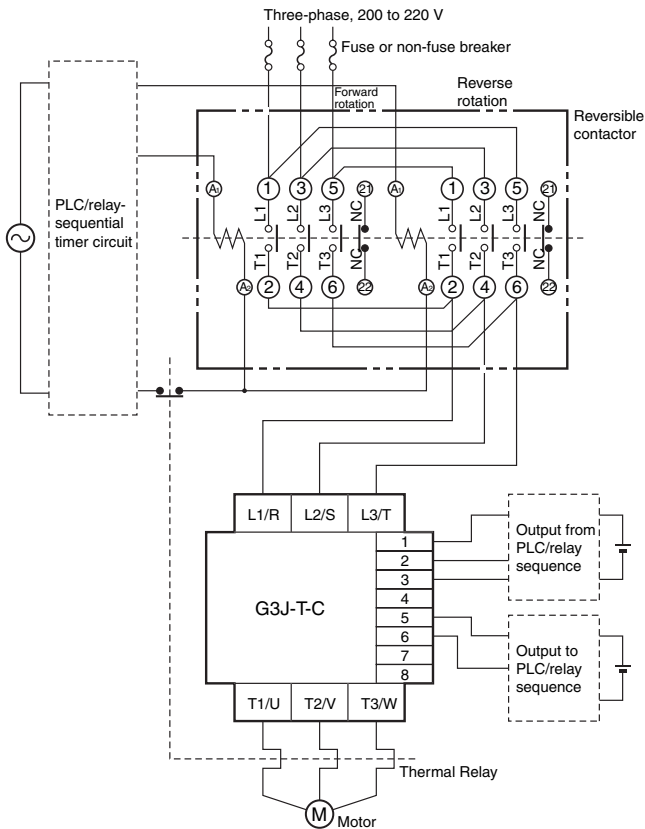
#### (PNP transistor input)



**Note:** Harmonized protection for motor overload is ensured by using a thermal relay. Be sure, however, to install protective devices on the power supply side, such as fuses and non-fuse breakers, as protection against accidents due to short-circuiting.

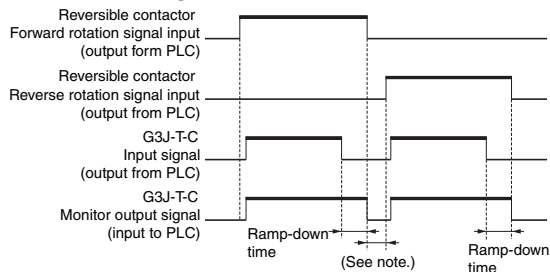
## Example of Forward/Reverse Rotation Using Monitor Output

G3J-T-C



**Note:** Be sure to use a fuse or non-fuse breaker to protect the G3J.

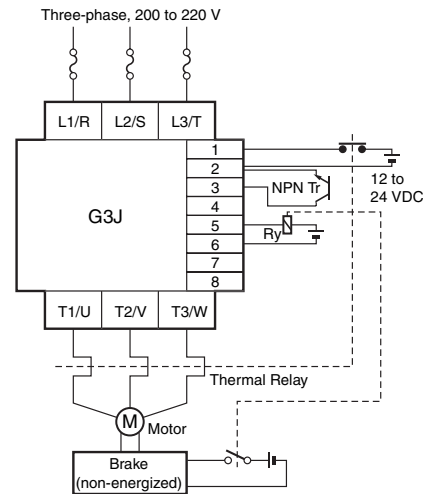
## Time Chart Example



**Note:** Switch between forward and reverse rotation only after the motor rotation has come to a complete stop.

## Monitor Output Usage Example (Motor Stop Hold)

DC Model G3J-T□BL-C



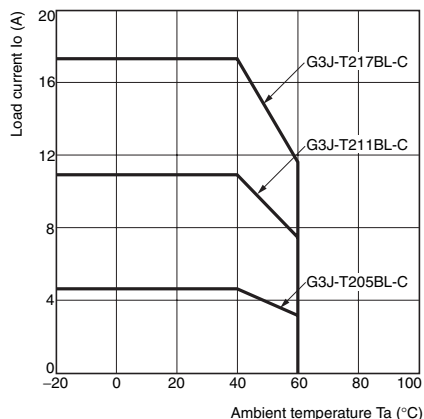
## Monitor Output Applications

- The monitor output will be ON while current is flowing to the main circuit. Use the monitor output, e.g., to switch the operation indicator, or to switch control signals during forward/reverse rotation or when a mechanical brake is used.
- Be sure to use a surge absorber when connecting an inductive load to the monitor output.

**Do not use two G3J-T or G3J-C Contactors together for reversible operation.**

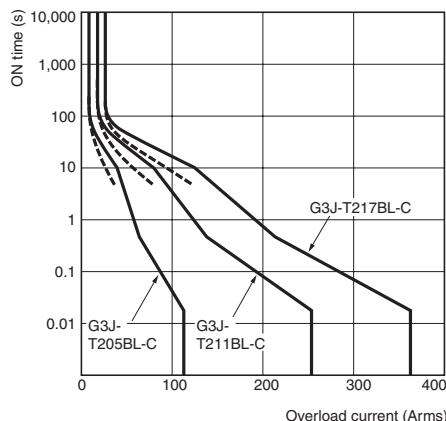
# Engineering Data

## Load Current vs. Ambient Temperature (at Continuous Power)



## Overload Resistance

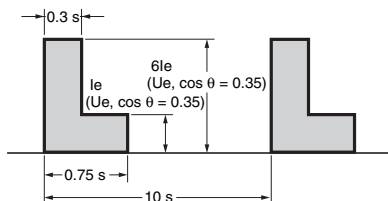
60 Hz, Ta of 25°C, non-repetitive (1/2 max. for repetitive application)



Note: dotted lines are for hot start.

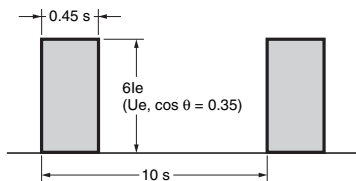
## Switching Frequency Conditions (AC3/AC4/AC53-a)

### AC3 Class (Immediate Start)



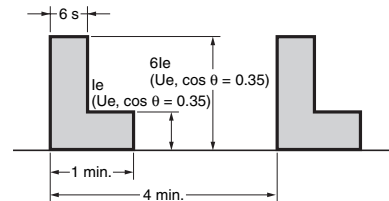
Ie: Rated carry current  
 Ue: Rated load voltage (200/400 V)  
 Testing for the soft-start model was performed at the following conditions:  
 Ramp-up time = 1 s  
 Starting torque = 450% In  
 Testing for the soft start/stop model was performed at the following conditions:  
 Ramp-up time = 1 s  
 Ramp-down time = 1 s  
 Starting torque = 450% In

### AC4 Class (Inching)



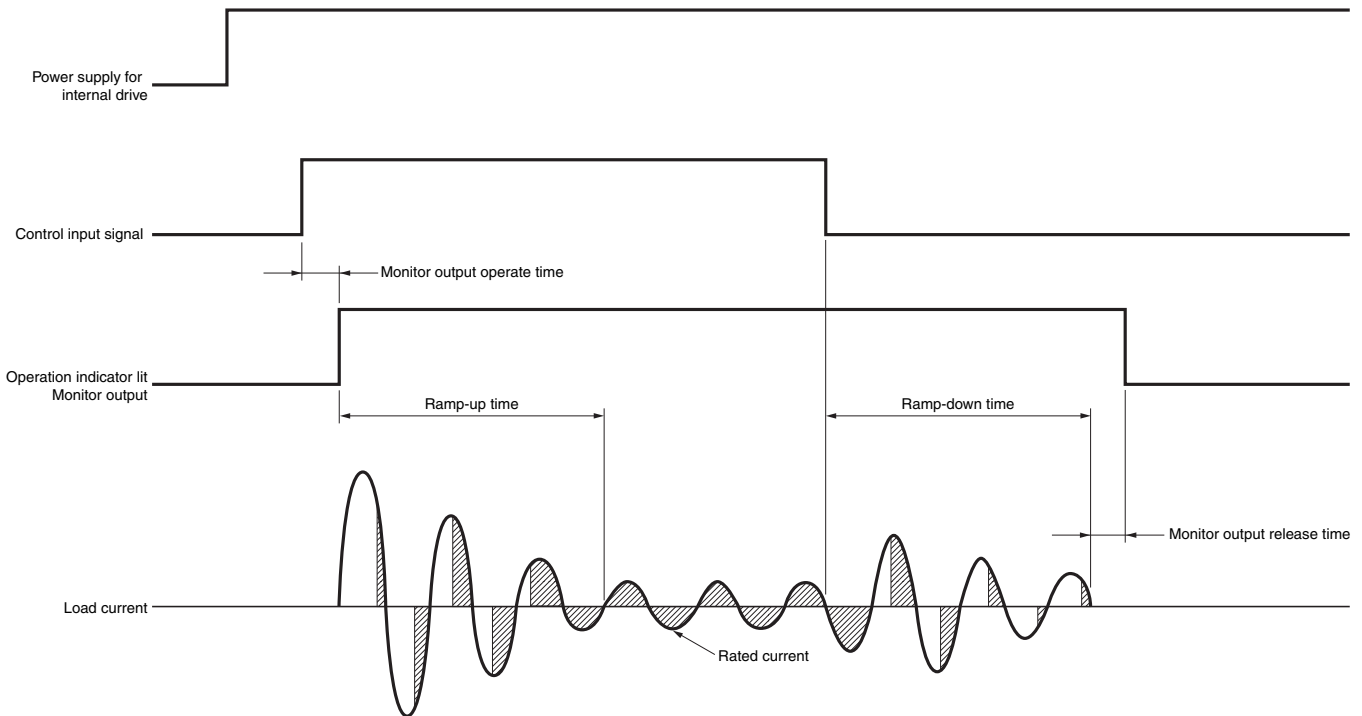
Ie: Rated carry current  
 Ue: Rated load voltage (200/400 V)  
 Testing for the soft-start model was performed at the following conditions:  
 Ramp-up time = 1 s  
 Starting torque = 450% In  
 Testing for the soft start/stop model was performed at the following conditions:  
 Ramp-up time = 1 s  
 Ramp-down time = 1 s  
 Starting torque = 450% In

### AC53-2: 6-6: 25-15, Actual Load Service Life Test



Ie: Rated carry current  
 Ue: Rated load voltage (200/400 V)  
 Testing for the soft-start model was performed at the following conditions:  
 Ramp-up time = 1 s  
 Starting torque = 450% In  
 Testing for the soft start/stop model was performed at the following conditions:  
 Ramp-up time = 1 s  
 Ramp-down time = 1 s  
 Starting torque = 450% In

## Time Chart

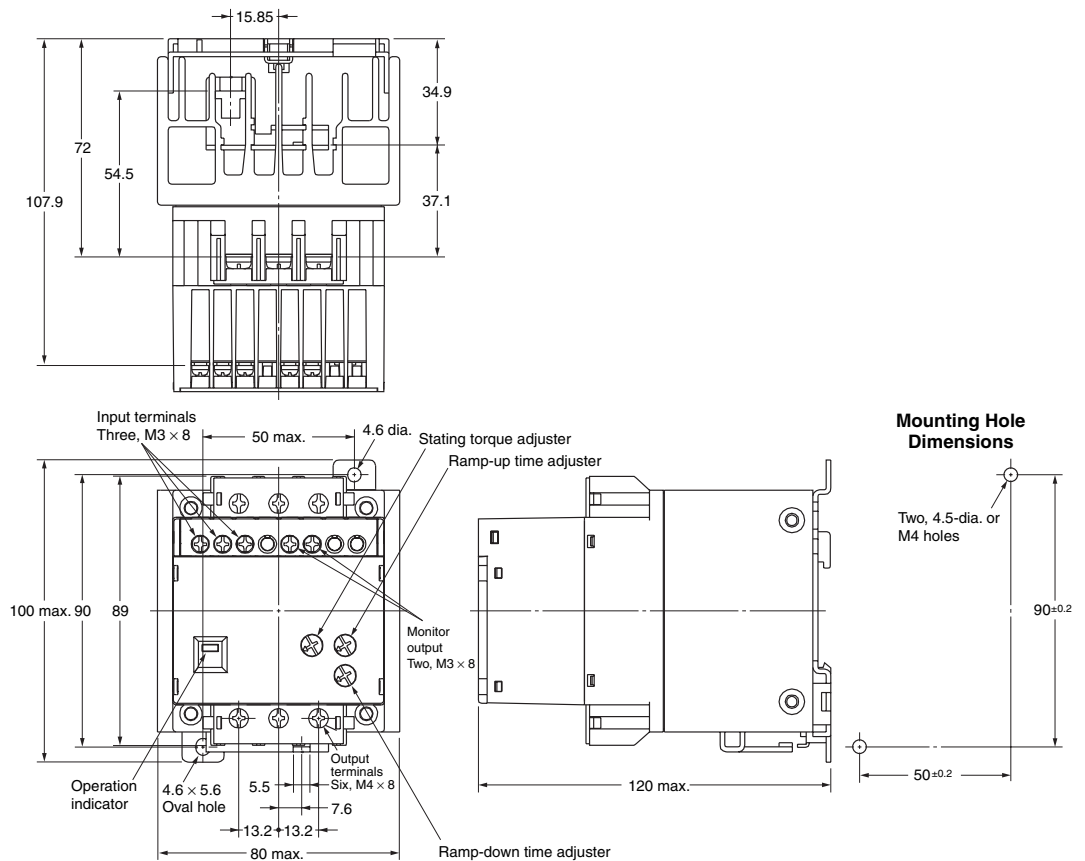
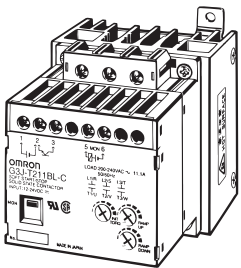


- Note:**
1. The soft-start time and soft-stop time depend on the load characteristics (e.g., inertia and friction factor) in addition to the starting torque, ramp-up time, and ramp-down time. Therefore, the soft-start time or soft-stop time will not increase beyond a certain point if the ramp-up time and ramp-down time are increased.
  2. Due to the soft-stop control characteristics, the load current continues flowing even after the motor stops. Set to the optimum value according to the application.
  3. The operation indicator will light synchronized with the monitor output.

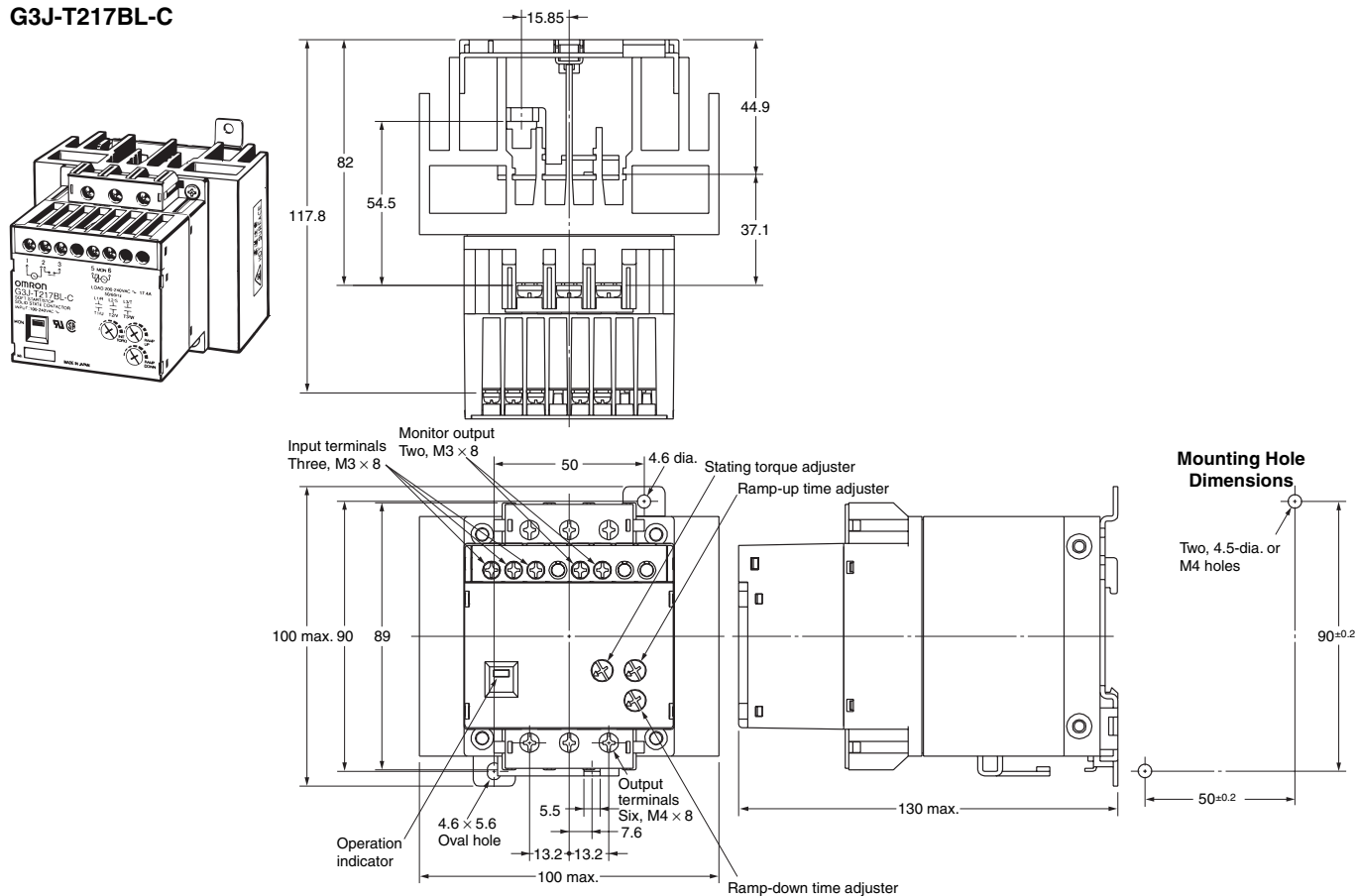
## Dimensions

**Note:** All units are in millimeters unless otherwise indicated.

G3J-T205BL-C  
G3J-T211BL-C



## G3J-T217BL-C



## Safety Precautions

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

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.

## Terms and Conditions Agreement

### 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.

### Warranties.

(a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.

(b) Limitations. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE.

Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses 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. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.

See <http://www.omron.com/global/> or contact your Omron representative for published information.

### Limitation on Liability; Etc.

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

Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.

### Suitability of Use.

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

### Programmable Products.

Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

### Performance Data.

Data presented in Omron Company websites, catalogs and other materials 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 user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.

### 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 part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.

### Errors and Omissions.

Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

2017.1

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 2017 All Right Reserved.



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Omron:

[G3J-T205BL-C AC100-240](#) [G3J-T205BL-C DC12-24](#) [G3J-T211BL-C AC100-240](#) [G3J-T211BL-C DC12-24](#) [G3J-T217BL-C AC100-240](#) [G3J-T217BL-C DC12-24](#)



## Стандарт Электрон Связь

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

### Наши контакты:

**Телефон:** +7 812 627 14 35

**Электронная почта:** [sales@st-electron.ru](mailto:sales@st-electron.ru)

**Адрес:** 198099, Санкт-Петербург,  
Промышленная ул, дом № 19, литера Н,  
помещение 100-Н Офис 331