

Solid-state Relay

G3NE

Compact, Low-cost, SSR Switching 5 to 20 A

- Wide load voltage range: 75 to 264 VAC
- Dedicated, compact aluminum PCB and power elements used.
- Built-in varistor effectively absorbs external surges.
- Quick-connect #110 input terminals and #250 output connections.
- Approved by UL and CSA.



Ordering Information

Isolation	Zero cross function	Indicator	Rated output load (applicable output load)	Rated input voltage	Model
Phototriac	Yes	No	5 A at 100 to 240 VAC (5 A at 75 to 264 VAC)	5, 12, 24 VDC	G3NE-205T-US G3NE-205T-2-US
			10 A at 100 to 240 VAC (10 A at 75 to 264 VAC)		G3NE-210T-US G3NE-210T-2-US
			20 A at 100 to 240 VAC (20 A at 75 to 264 VAC)		G3NE-220T-US G3NE-220T-2-US
	No		5 A at 100 to 240 VAC (5 A at 75 to 264 VAC)		G3NE-205TL-US G3NE-205TL-2-US
			10 A at 100 to 240 VAC (10 A at 75 to 264 VAC)		G3NE-210TL-US G3NE-210TL-2-US
			20 A at 100 to 240 VAC (20 A at 75 to 264 VAC)		G3NE-220TL-US G3NE-220TL-2-US

Note: When ordering, specify the input voltage.

■ Accessories (Order Separately)

Heat Sink

The following heat sinks are thin and can be track-mounted. See *Dimensions* for details.

Model	Applicable SSR
Y92B-N50	G3NE-205T(L)/-210T(L)
Y92B-N100	G3NE-220T(L)

Specifications

■ Ratings

Input

Rated voltage	Operating voltage	Voltage level		Input impedance	
		Must operate	Must release	With zero cross function	Without zero cross function
5 VDC	4 to 6 VDC	4 VDC max.	1 VDC min.	250 Ω±20%	300 Ω±20%
12 VDC	9.6 to 14.4 VDC	9.6 VDC max.		600 Ω±20%	800 Ω±20%
24 VDC	19.2 to 28.8 VDC	19.2 VDC max.		1.6 kΩ±20%	

Note: Each model has 5-VDC, 12-VDC, and 24-VDC input versions.

Output

Model	Applicable load				
	Rated load voltage	Load voltage range	Load current		Inrush current
			With heat sink	Without heat sink	
G3NE-205T(L)-(-2)US	100 to 240 VAC	75 to 264 VAC	0.1 to 5 A	0.1 to 5 A	60 A (60 Hz, 1 cycle)
G3NE-210T(L)-(-2)US			0.1 to 10 A (see note)	0.1 to 5 A	150 A (60 Hz, 1 cycle)
G3NE-220T(L)-(-2)US			0.1 to 20 A (see note)	0.1 to 5 A	220 A (60 Hz, 1 cycle)

Note: These values apply when using a dedicated radiator or a radiation plate of specified size.

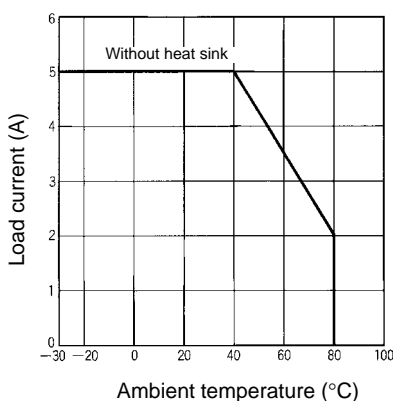
■ Characteristics

Item	G3NE-2□□T(-2)US	G3NE-2□□TL(-2)US
Operate time	1/2 of load power source cycle + 1 ms max.	1 ms max.
Release time	1/2 of load power source cycle + 1 ms max.	
Output ON voltage drop	1.6 V (RMS) max.	
Leakage current	5 mA max. (at 100 VAC) 10 mA max. (at 200 VAC)	
Insulation resistance	100 MΩ min. (at 500 VDC)	
Dielectric strength	2,000 VAC, 50/60 Hz for 1 min	
Vibration resistance	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude	
Shock resistance	Malfunction: 1,000 m/s ²	
Ambient temperature	Operating: -30°C to 80°C (with no icing nor condensation) Storage: -30°C to 100°C (with no icing nor condensation)	
Ambient humidity	Operating: 45% to 85%	
Approved standards	UL508 File No. E64562/CSA C22.2 (No.0, No.14) File No. LR35535 TÜV R9051064 (VDE0435) (EN60950)	
Weight	Approx. 37 g	

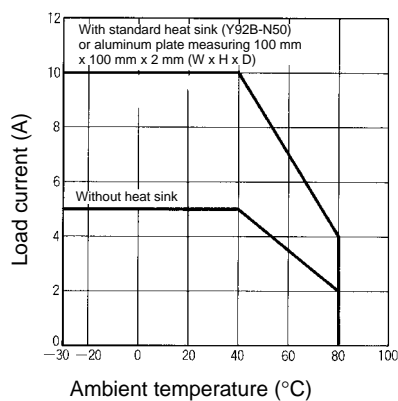
Engineering Data

Load Current vs. Ambient Temperature Characteristics

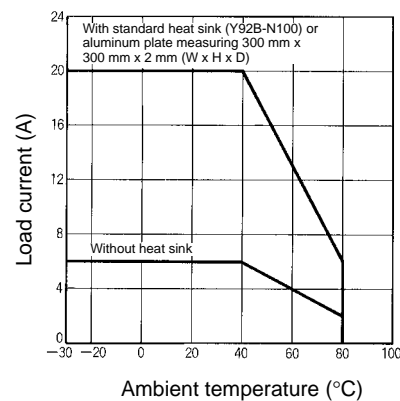
G3NE-205T(L)-(-2)US



G3NE-210T(L)-(-2)US



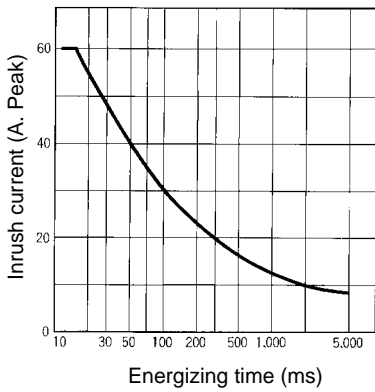
G3NE-220T(L)-(-2)US



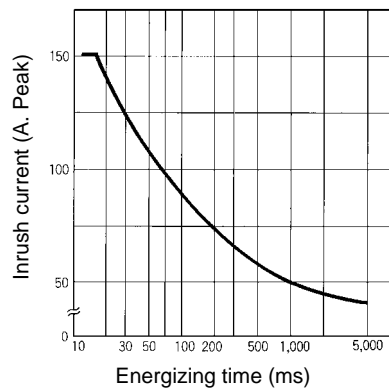
Inrush Current Resistivity

Non-repetitive (Keep the inrush current to half the rated value if it occurs repetitively.)

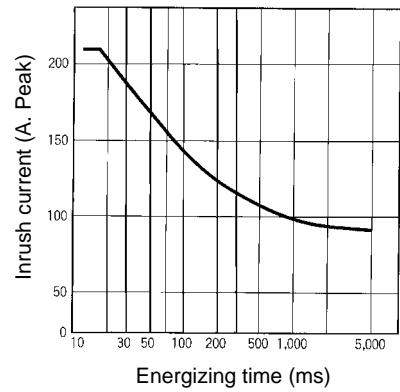
G3NE-205T(L)-(-2)US



G3NE-210T(L)-(-2)US



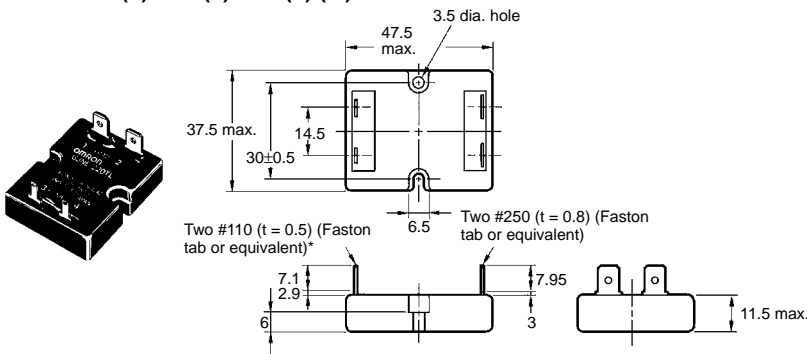
G3NE-220T(L)-(-2)US



Dimensions

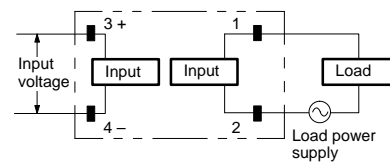
Note: All units are in millimeters unless otherwise indicated.

G3NE-205T(L)/210T(L)/220T(L)-(-2)US

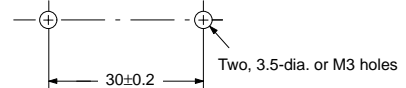


* G3NE-2□□T(L)-2-US: Two, #187 (t=0.5) (Faston tab or equivalent)

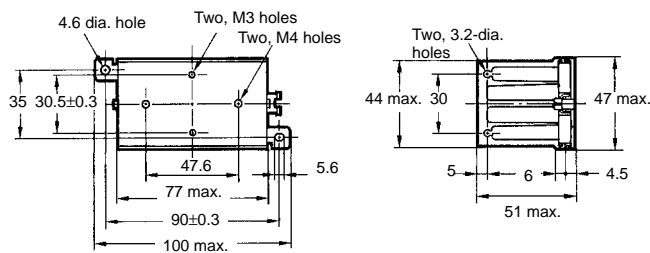
Terminal Arrangement/ Internal Connections (Top View)



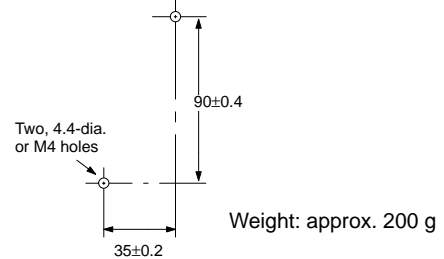
Mounting Holes



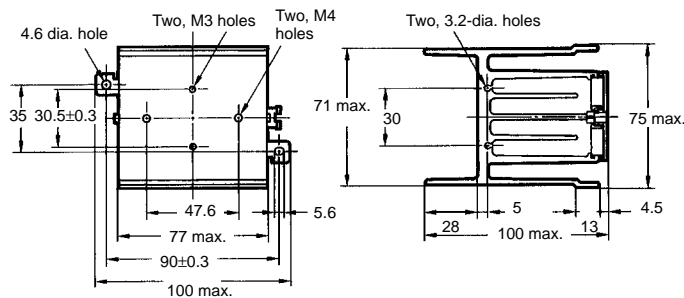
Heat Sink Y92B-N50



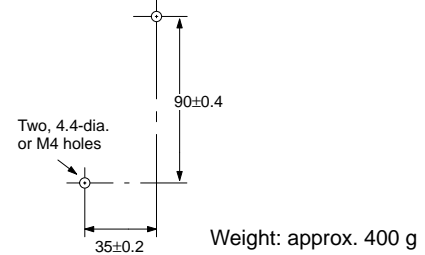
Mounting Holes



Y92B-N100



Mounting Holes

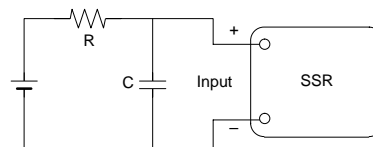


Precautions

Refer to pages 11 to 19 for general precautions

Although the LOAD terminals are internally connected to a snubber circuit that absorbs noises, do not wire power lines or high-tension lines with the load connecting lines of the G3NE in the same conduit or the G3NE may be damaged or malfunction.

Because the operation time of the G3NE is extremely short, take measures to suppress noise induced between the INPUT terminals. If generation of strong noise is expected, connect an external noise absorber such as an RC circuit.



Do not apply excessive force to the terminals. Exercise care when pulling or inserting the terminal clips.

When attaching a heat sink to the G3NE, apply heat conductive grease on the heat sink. Tighten the mounting screws of the heat sink with a torque of 0.59 to 0.98 N • m.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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