

High-power Solid State Relays

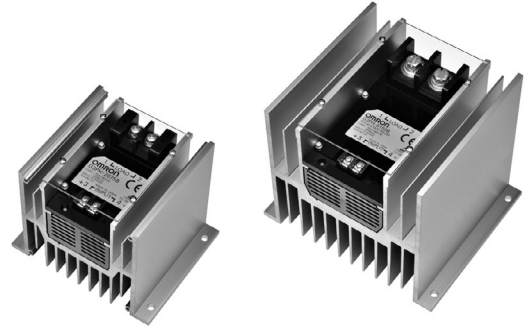
G3PH

High-power, Load-control SSRs with High Current of 75 or 150 A and High Voltage of 240 or 480 VAC



- RoHS compliant.
- Models also available with no zero cross.
- Replaceable power elements.
- Conforms to cULus standards and EN standards (TÜV certification).

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



Ordering Information

Solid State Relays

Insulation method	Operation indicator	Zero cross function	Applicable output load*	Rated input voltage	Model
Photocoupler	Yes (yellow)	Yes	75 A, 100 to 240 VAC	5 to 24 VDC	G3PH-2075B DC5-24
				100 to 240 VAC	G3PH-2075B AC100-240
			150 A, 100 to 240 VAC	5 to 24 VDC	G3PH-2150B DC5-24
				100 to 240 VAC	G3PH-2150B AC100-240
		No	75 A, 100 to 240 VAC	5 to 24 VDC	G3PH-2075BL DC5-24
				5 to 24 VDC	G3PH-2150BL DC5-24
			150 A, 100 to 240 VAC	5 to 24 VDC	G3PH-5075B DC5-24
				100 to 240 VAC	G3PH-5075B AC100-240
		Yes	75 A, 180 to 480 VAC	5 to 24 VDC	G3PH-5150B DC5-24
				100 to 240 VAC	G3PH-5150B AC100-240
			150 A, 180 to 480 VAC	5 to 24 VDC	G3PH-5075B DC5-24
				100 to 240 VAC	G3PH-5075B AC100-240
No	75 A, 180 to 480 VAC	5 to 24 VDC	G3PH-5075BL DC5-24		
		5 to 24 VDC	G3PH-5150BL DC5-24		
	150 A, 180 to 480 VAC	5 to 24 VDC	G3PH-5075BL DC5-24		
		5 to 24 VDC	G3PH-5150BL DC5-24		

Note:The Thyristor Module is built in.

*The applicable output load depends on the ambient temperature. For details, refer to *Load Current vs. Ambient Temperature* in *Engineering Data* on page 2.

Options (Order Separately)

Thyristor Module

Name	Applicable output load*	Applicable models	Model
Thyristor Module	75 A, 75 to 264 VAC	G3PH-2075B(L)	G32A-P2075
	150 A, 75 to 264 VAC	G3PH-2150B(L)	G32A-P2150
	75 A, 150 to 520 VAC	G3PH-5075B(L)	G32A-P5075
	150 A, 150 to 528 VAC	G3PH-5150B(L)	G32A-P5150

*The applicable output load depends on the ambient temperature. For details, refer to *Load Current vs. Ambient Temperature* in *Engineering Data* on page 2.

Specifications

Ratings

Input

Rated voltage	Operating voltage	Impedance (input current)	Voltage level	
			Must operate voltage	Must release voltage
5 to 24 VDC	4 to 30 VDC	(5 mA max.)*	4 VDC max.	1.0 VDC max.
100 to 240 VAC	75 to 264 VAC	41 kΩ ±20%	75 VAC max.	20 VAC max.

*A constant-current circuit is used for the input current to the G3PH.

Output

Model	Item	Applicable load		
		Rated load voltage	Load voltage range	Load current*
G3PH-2075B(L)		100 to 240 VAC	75 to 264 VAC	1 to 75 A (at 40°C)
G3PH-2150B(L)		100 to 240 VAC	75 to 264 VAC	1 to 150 A (at 40°C)
G3PH-5075B(L)		180 to 480 VAC	150 to 528 VAC	1 to 75 A (at 40°C)
G3PH-5150B(L)		180 to 480 VAC	150 to 528 VAC	1 to 150 A (at 40°C)

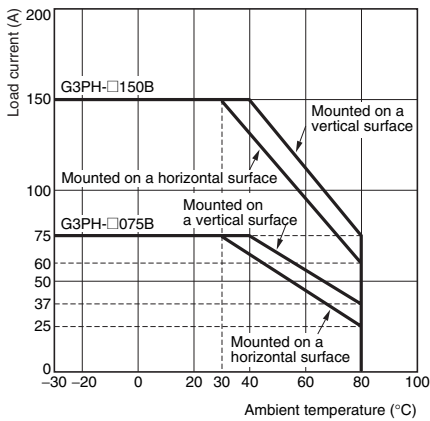
*The load current depends on the ambient temperature. For details, refer to *Load Current vs. Ambient Temperature* in *Engineering Data* on page 2.

Characteristics

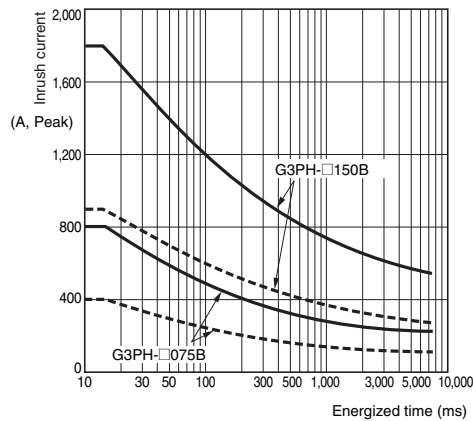
Item	Model	G3PH-2075B	G3PH-2150B	G3PH-5075B	G3PH-5150B	G3PH-2075BL	G3PH-2150BL	G3PH-5075BL	G3PH-5150BL
Operate time		1/2 of load power source cycle + 1 ms max. for DC input 3/2 of load power source cycle + 1 ms max. for AC input				1 ms max.			
Release time		1/2 of load power source cycle + 1 ms max. for DC input 3/2 of load power source cycle + 1 ms max. for AC input				1/2 of load power source cycle + 1 ms max.			
Output ON voltage drop		1.6 V (RMS) max.							
Leakage current		30 mA max. (at 200 VAC)		60 mA max. (at 400 VAC)		30 mA max. (at 200 VAC)		60 mA max. (at 400 VAC)	
Insulation resistance		100 M Ω min. (at 500 VDC)							
Dielectric strength		2,500 VAC, 50/60 Hz for 1 min							
Vibration resistance		10 to 55 to 10 Hz, 0.375-mm single amplitude (0.75-mm double amplitude)							
Shock resistance		500 m/s ²							
Ambient storage temperature		-30 to 100°C (with no icing or condensation)							
Ambient operating temperature		-30 to 80°C (with no icing or condensation)							
Ambient operating humidity		45% to 85%							
Weight		Approx. 1.8 kg	Approx. 3.0 kg	Approx. 1.8 kg	Approx. 3.0 kg	Approx. 1.8 kg	Approx. 3.0 kg	Approx. 1.8 kg	Approx. 3.0 kg

Engineering Data

Load Current vs. Ambient Temperature G3PH-□075B (L) and G3PH-□150B (L)

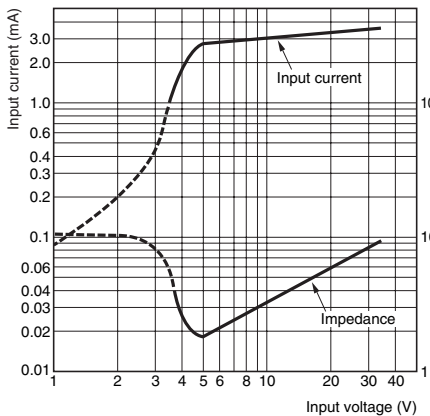


Inrush Current Resistance: Non-repetitive G3PH-□075B (L) and G3PH-□150B (L)



Keep the inrush current to below the inrush current resistance value (i.e., below the broken line) if it occurs repetitively.

Input Voltage vs. Input Impedance G3PH (4 to 30 VDC)



G3PH (75 to 264 VAC)

