Solid State Relays for Heaters G3PE-Single-phase

CSM_G3PE-Single-phase_DS_E_2_1

Compact, Slim-profile SSRs with Heat Sinks. Models with No Zero Cross for a Wide Range of Applications.

- RoHS compliant.
- Models also available with no zero cross
- Surge pass protection improved surge dielectric strength for output currents. (OMRON testing)
- Compact with a slim profile.
- Mount to DIN Track or with screws.
- Conforms to UL, CSA, and EN standards (TÜV certification).



Refer to Safety Precautions for All G3PE Models.

Ordering Information

List of Models

Number of phases	Insulation method	Operation indicator	Rated input voltage	Zero cross function	Applicable load *	Model
		Yes (yellow)	12 to 24 VDC	Yes	15 A, 100 to 240 VAC	G3PE-215B DC12-24
					25 A, 100 to 240 VAC	G3PE-225B DC12-24
					35 A, 100 to 240 VAC	G3PE-235B DC12-24
					45 A, 100 to 240 VAC	G3PE-245B DC12-24
				No	15 A, 100 to 240 VAC	G3PE-215BL DC12-24
	Phototriac coupler				25 A, 100 to 240 VAC	G3PE-225BL DC12-24
					35 A, 100 to 240 VAC	G3PE-235BL DC12-24
Cingle phone					45 A, 100 to 240 VAC	G3PE-245BL DC12-24
Single-phase				Yes	15 A, 200 to 480 VAC	G3PE-515B DC12-24
					25 A, 200 to 480 VAC	G3PE-525B DC12-24
					35 A, 200 to 480 VAC	G3PE-535B DC12-24
					45 A, 200 to 480 VAC	G3PE-545B DC12-24
				No	15 A, 200 to 480 VAC	G3PE-515BL DC12-24
					25 A, 200 to 480 VAC	G3PE-525BL DC12-24
					35 A, 200 to 480 VAC	G3PE-535BL DC12-24
					45 A, 200 to 480 VAC	G3PE-545BL DC12-24

* The applicable load current depends on the ambient temperature. For details, refer to Load Current vs. Ambient Temperature in Engineering Data on page 3.

Specifications

Certification

UL508, CSA22.2 No.14, and EN60947-4-3

Ratings

Input (at an Ambient Temperature of 25°C)

Ite	em	Rated voltage	Operating voltage	Rated input current	Voltage level		
Model		naleu vollage	range	nateu input current	Must operate voltage	Must release voltage	
G3PE-		12 to 24 VDC	9.6 to 30 VDC	7 mA max.	9.6 VDC max.	1.0 VDC max.	
G3PE-DDBL		12 10 24 VDG	9.0 10 30 VDC	15 mA max.	9.6 VDC max.		

Output

Model	G3PE-215B(L)	G3PE-225B(L)	G3PE-235B(L)	G3PE-245B(L)	G3PE-515B(L)	G3PE-525B(L)	G3PE-535B(L)	G3PE-545B(L)
Rated load voltage		100 to 240 VA	AC (50/60 Hz)			200 to 480 V	AC (50/60 Hz)	
Load voltage range	75 to 264 VAC (50/60 Hz)				180 to 528 VAC (50/60 Hz)			
Applicable load current	0.1 to 15 A (at 40°C)	0.1 to 25 A (at 40°C)	0.5 to 35 A (at 25°C)	0.5 to 45 A (at 25°C)	0.1 to 15 A (at 40°C)	0.1 to 25 A (at 40°C)	0.5 to 35 A (at 25°C)	0.5 to 45 A (at 25°C)
Inrush current resistance	150 A (60 Hz, 1 cycle)	220 A (60 Hz, 1 cycle)	440 A (60 Hz, 1 cycle)		150 A (60 Hz, 1 cycle)	220 A (60 Hz, 1 cycle)		0 A 1 cycle)
Permissible l ² t (reference value)	121A ² s	260A ² s	1,260A ² s		128A ² s	1,350A ² s		6,600A²s
Applicable load (resistive load)	3 kW (at 200 VAC)	5 kW (at 200 VAC)	7 kW (at 200 VAC)	9 kW (at 200 VAC)	6 kW (at 400 VAC)	10 kW (at 400 VAC)	14 kW (at 400 VAC)	18 kW (at 400 VAC)

* The applicable load current depends on the ambient temperature. For details, refer to Load Current vs. Ambient Temperature in Engineering Data on page 3.

Characteristics

Model Item	G3PE -215B	G3PE -225B	G3PE -235B	G3PE -245B	G3PE -215BL	G3PE -225BL	G3PE -235BL	G3PE -245BL
Operate time	1/2 of load power source cycle + 1 ms max. 1 ms max.							
Release time	1/2 of load powe	/2 of load power source cycle + 1 ms max.						
Output ON voltage drop	1.6 V (RMS) ma	.6 V (RMS) max.						
Leakage current	10 mA max. (at	0 mA max. (at 200 VAC)						
Insulation resistance	100 M Ω min. (at	00 MΩ min. (at 500 VDC)						
Dielectric strength	2,500 VAC, 50/6	2,500 VAC, 50/60 Hz for 1 min						
Vibration resistance	10 to 55 to 10 Hz	10 to 55 to10 Hz, 0.375-mm single amplitude (0.75-mm double amplitude) (Mounted to DIN track)						
Shock resistance	Destruction: 294	Destruction: 294 m/s ² (Mounted to DIN track)						
Ambient storage temperature	–30 to 100°C (w	–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. 240 g	Approx. 240 g Approx. 400 g Approx. 240 g Approx. 400 g						

Model Item	G3PE -515B	G3PE -525B	G3PE -535B	G3PE -545B	G3PE -515BL	G3PE -525BL	G3PE -535BL	G3PE -545BL
Operate time	1/2 of load power source cycle + 1 ms max. 1 ms max.							
Release time	1/2 of load powe	/2 of load power source cycle + 1 ms max.						
Output ON voltage drop	1.8 V (RMS) ma	.8 V (RMS) max.						
Leakage current	20 mA max. (at	0 mA max. (at 480 VAC)						
Insulation resistance	100 M Ω min. (at	00 MΩ min. (at 500 VDC)						
Dielectric strength	2,500 VAC, 50/6	2,500 VAC, 50/60 Hz for 1 min						
Vibration resistance	10 to 55 to 10 Hz	10 to 55 to10 Hz, 0.375-mm single amplitude (0.75-mm double amplitude) (Mounted to DIN track)						
Shock resistance	Destruction: 294	Destruction: 294 m/s ² (Mounted to DIN track)						
Ambient storage temperature	–30 to 100°C (w	–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. 240 g Approx. 400 g Approx. 240 g Approx. 400 g							

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Input impedance

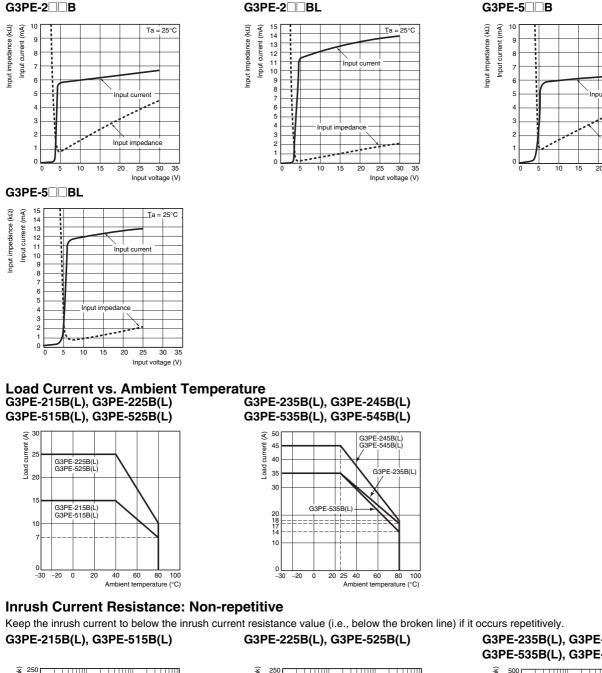
Input voltage (V)

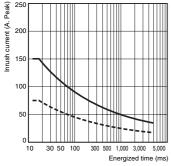
25 30 35

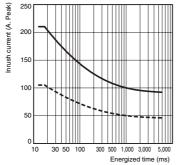
Ta = 25°C

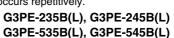
Engineering Data

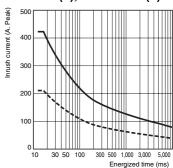
Input Voltage vs. Input Impedance and Input Voltage vs. Input Current G3PE-2 G3PE-2 BL

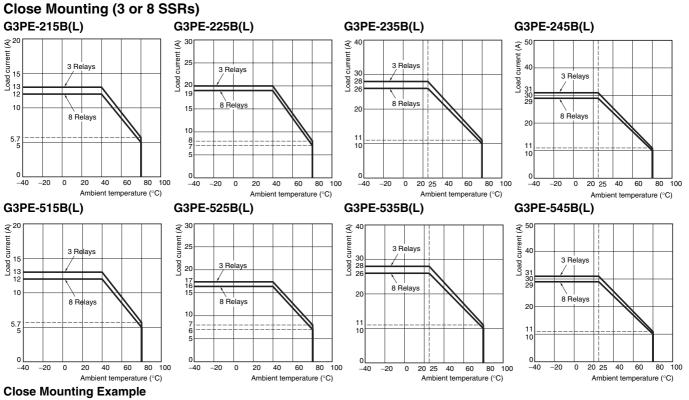


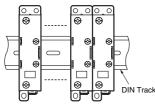












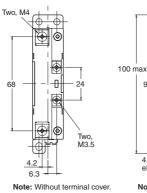
Dimensions

Note: All units are in millimeters unless otherwise indicated.

Solid State Relays

G3PE-215B(L) G3PE-225B(L) G3PE-515B(L) G3PE-525B(L)



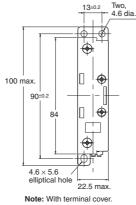


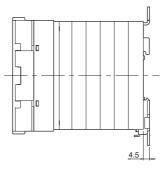
Mounting Holes

90±0.3

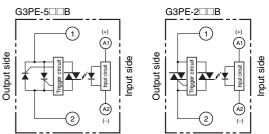
13±0.3

Three, 4.5 dia. or M4

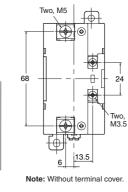




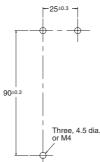
Terminal Arrangement/Internal Circuit Diagram

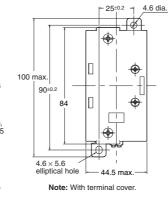












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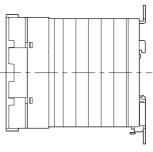
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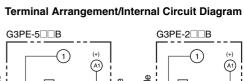
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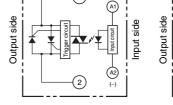
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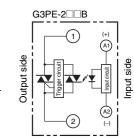
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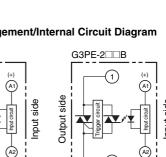
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