

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

Extremely Thin Relays Integrated with Heat Sinks

- Downsizing achieved through optimum design of heat sink.
- Mounting possible via screws or via DIN track.
- Close mounting possible for linking terminals. (Except for G3PA-260B-VD and G3PA-450B-VD-2.)
- Applicable with 3-phase loads.
- Replaceable power element cartridges.
- Comply with VDE 0160 (finger protection), with a dielectric strength of 4,000 V between input and load.
- Certified by UL, CSA, and VDE (reinforced insulation).



Model Number Structure

■ Model Number Legend

G3PA-

1 2 3 4 5 6 7

1. Basic Model Name

G3PA: Solid State Relay

2. Rated Load Power Supply Voltage

2: 200 VAC

4: 400 VAC

3. Rated Load Current

10: 10 A

20: 20 A

30: 30 A

40: 40 A

50: 50 A

60: 60 A

4. Terminal Type

B: Screw terminals

5. Zero Cross Function

Blank: Equipped with zero cross function

L: Not equipped with zero cross function

6. Certification

VD: Certified by UL, CSA, and VDE

7. Special Specifications

Blank: Standard models

2: 480-V models

Ordering Information

■ List of Models

Model	Isolation	Zero cross function	Indicator	Rated output load	Rated input voltage		
G3PA-210B-VD	Phototriac coupler	Yes	Yes	10 A at 24 to 240 VAC	5 to 24 VDC		
G3PA-220B-VD				20 A at 24 to 240 VAC			
G3PA-240B-VD				40 A at 24 to 240 VAC			
G3PA-260B-VD				60 A at 24 to 240 VAC			
G3PA-210BL-VD		No		10 A at 24 to 240 VAC			
G3PA-220BL-VD				20 A at 24 to 240 VAC			
G3PA-240BL-VD				40 A at 24 to 240 VAC			
G3PA-260BL-VD				60 A at 24 to 240 VAC			
G3PA-210B-VD		Yes		10 A at 24 to 240 VAC	24 VAC		
G3PA-220B-VD				20 A at 24 to 240 VAC			
G3PA-240B-VD				40 A at 24 to 240 VAC			
G3PA-260B-VD				60 A at 24 to 240 VAC			
G3PA-420B-VD						20 A at 180 to 400 VAC	12 to 24 VDC
G3PA-430B-VD						30 A at 180 to 400 VAC	
G3PA-420B-VD-2						20 A at 200 to 480 VAC	
G3PA-430B-VD-2						30 A at 200 to 480 VAC	
G3PA-450B-VD-2	50 A at 200 to 480 VAC						

Note: When ordering, specify the rated input voltage.

Replacement Parts

Name	Carry current	Load voltage range	Model	Applicable SSR	VDE certification	
Power Device Cartridge	10 A	19 to 264 VAC	G32A-A10-VD DC5-24	G3PA-210B-VD DC5-24	Yes	
			G32A-A10L-VD DC5-24	G3PA-210BL-VD DC5-24		
			G32A-A10-VD AC24	G3PA-210B-VD AC24		
			G32A-A20-VD DC5-24	G3PA-220B-VD DC5-24		
	20 A		G32A-A20L-VD DC5-24	G3PA-220BL-VD DC5-24		
			G32A-A20-VD AC24	G3PA-220B-VD AC24		
			40 A	G32A-A40-VD DC5-24		G3PA-240B-VD DC5-24
				G32A-A40L-VD DC5-24		G3PA-240BL-VD DC5-24
	G32A-A40-VD AC24			G3PA-240B-VD AC24		
	60 A			G32A-A60-VD DC5-24		G3PA-260B-VD DC5-24
			G32A-A60L-VD DC5-24	G3PA-260BL-VD DC5-24		
			G32A-A60-VD AC24	G3PA-260B-VD AC24		
			20 A	150 to 440 VAC		G32A-A420-VD DC12-24
	30 A		G32A-A430-VD DC12-24			G3PA-430B-VD DC12-24
	20 A		180 to 528 VAC	G32A-A420-VD-2 DC12-24		G3PA-420B-VD-2 DC12-24
	30 A			G32A-A430-VD-2 DC12-24		G3PA-430B-VD-2 DC12-24
50 A	G32A-A450-VD-2 DC12-24	G3PA-450B-VD-2 DC12-24				

■ Other Units (Order Separately)

Units that Enable 2-line Switching of 3-phase Power

Name	Current flow	Model	Applicable SSR
Short-circuit Unit	10 A	G32A-D20	G3PA-210B-VD, G3PA-210BL-VD
	20 A		G3PA-220B-VD, G3PA-220BL-VD G3PA-420B-VD, G3PA-420B-VD-2
	30 A	G32A-D40	G3PA-430B-VD, G3PA-430B-VD-2
	40 A		G3PA-240B-VD, G3PA-240BL-VD

Specifications

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

Input

Model	Rated voltage	Operating Voltage range	Input current impedance	Voltage level	
				Must operate voltage	Must release voltage
G3PA-210B-VD	5 to 24 VDC	4 to 30 VDC	7 mA max.	4 VDC max.	1 VDC min.
G3PA-220B-VD					
G3PA-240B-VD					
G3PA-260B-VD					
G3PA-210BL-VD	5 to 24 VDC	4 to 30 VDC	20 mA max.	4 VDC max.	1 VDC min.
G3PA-220BL-VD					
G3PA-240BL-VD					
G3PA-260BL-VD					
G3PA-210B-VD	24 VAC	19.2 to 26.4 VAC	1.4 kΩ±20%	19.2 VAC max.	4.8 VAC min.
G3PA-220B-VD					
G3PA-240B-VD					
G3PA-260B-VD					
G3PA-420B-VD	12 to 24 VDC	9.6 to 30 VDC	7 mA max.	9.2 VDC max.	1 VDC min.
G3PA-430B-VD					
G3PA-420B-VD-2					
G3PA-430B-VD-2					
G3PA-450B-VD-2					

Output

Model	Applicable load			
	Rated load voltage	Load voltage range	Load current	Inrush current
G3PA-210B(L)-VD	24 to 240 VAC (50/60 Hz)	19 to 264 VAC (50/60 Hz)	0.1 to 10 A at 40°C	150 A (60 Hz, 1 cycle)
G3PA-220B(L)-VD			0.1 to 20 A at 40°C	220 A (60 Hz, 1 cycle)
G3PA-240B(L)-VD			0.5 to 40 A at 40°C	440 A (60 Hz, 1 cycle)
G3PA-260B(L)-VD			0.5 to 60 A at 40°C	440 A (60 Hz, 1 cycle)
G3PA-420B-VD	200 to 400 VAC (50/60 Hz)	180 to 440 VAC (50/60 Hz)	0.5 to 20 A at 30°C	220 A (60 Hz, 1 cycle)
G3PA-430B-VD			0.5 to 30 A at 30°C	440 A (60 Hz, 1 cycle)
G3PA-420B-VD-2	200 to 480 VAC (50/60 Hz)	180 to 528 VAC (50/60 Hz)	0.5 to 20 A at 30°C	220 A (60 Hz, 1 cycle)
G3PA-430B-VD-2			0.5 to 30 A at 30°C	440 A (60 Hz, 1 cycle)
G3PA-450B-VD-2			0.5 to 50 A at 30°C	440 A (60 Hz, 1 cycle)

Refer to *Engineering Data* for further details.

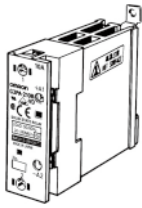
■ Characteristics

Item	G3PA-210B(L)-VD	G3PA-220B(L)-VD	G3PA-240B(L)-VD	G3PA-260B(L)-VD	G3PA-420B-VD	G3PA-420B-VD-2	G3PA-430B-VD	G3PA-430B-VD-2	G3PA-450B-VD-2	
Operate time	1/2 of load power source cycle + 1 ms max. (DC Input, -B models) 1 1/2 of load power source cycle + 1 ms max. (AC Input) 1 ms max. (-BL models)									
Release time	1/2 of load power source cycle + 1 ms max. (DC Input) 1 1/2 of load power source cycle + 1 ms max. (AC Input)									
Output ON voltage drop	1.6 V (RMS) max.					1.8 V (RMS) max.				
Leakage current	5 mA max. (at 100 VAC) 10 mA max. (at 200 VAC)		10 mA max. (at 100 VAC) 20 mA max. (at 200 VAC)		20 mA max. (at 400 VAC)	20 mA max. (at 480 VAC)	20 mA max. (at 400 VAC)	20 mA max. (at 480 VAC)		
I ² t	260 A ² s		1,260 A ² s		260 A ² s	1,800 A ² s	1,800 A ² s		1,800 A ² s	
Insulation resistance	100 MΩ min. (at 500 VDC)									
Dielectric strength	4,000 VAC, 50/60 Hz for 1 min									
Vibration resistance	Destruction: 10 to 55 to 10 Hz, 0.375–mm single amplitude (Mounted to DIN track)									
Shock resistance	Destruction: 300 m/s ² (mounted to DIN track)									
Ambient temperature	Operating: –30°C to 80°C (with no icing or condensation) Storage: –30°C to 100°C (with no icing or condensation)									
Certified standards	UL508, CSA C22.2 (No.14, No.950), EN60950-1 File No. 5915ÜG				UL508, CSA C22.2 (No.14), EN60947-4-3 File No. 6642ÜG	UL508, CSA C22.2 (No.14), EN60947-4-3 File No. 133127ÜG	UL508, CSA C22.2 (No.14), EN60947-4-3 File No. 6642ÜG	UL508, CSA C22.2 (No.14), EN60947-4-3 File No. 133127ÜG		
EMC	Emission: EN55011 Group 1 Class A Immunity: EN61000-6-2									
Ambient humidity	Operating: 45% to 85%									
Weight	Approx. 260 g	Approx. 340 g	Approx. 460 g	Approx. 900 g	Approx. 290 g	Approx. 290 g	Approx. 410 g	Approx. 410 g	Approx. 900 g	

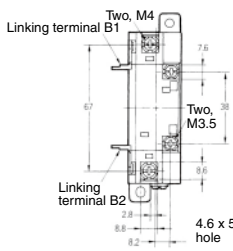
Dimensions

Note: All units are in millimeters unless otherwise indicated.

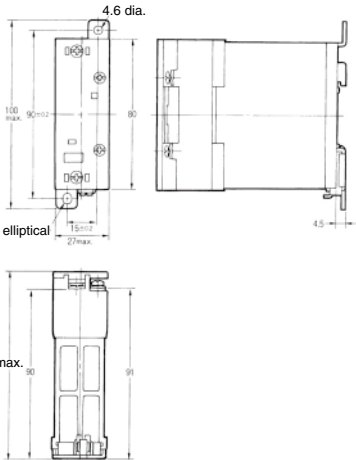
G3PA-210B(L)-VD



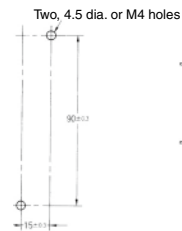
Without Terminal Cover



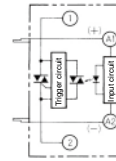
With Terminal Cover



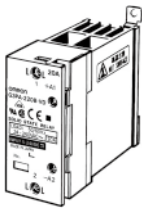
Mounting Holes



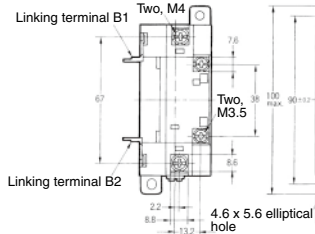
Terminal Arrangement/ Internal Connections



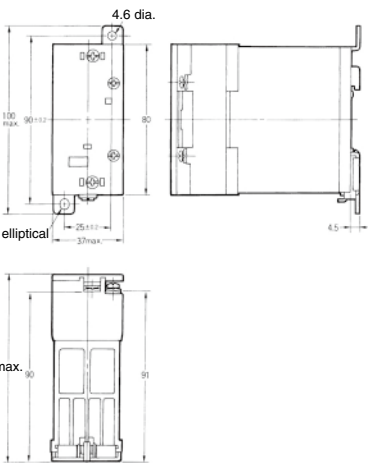
G3PA-220B(L)-VD



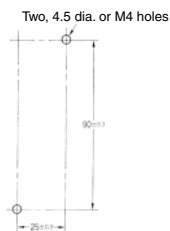
Without Terminal Cover



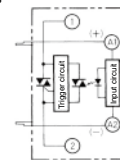
With Terminal Cover



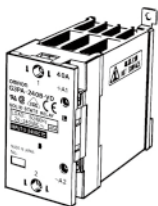
Mounting Holes



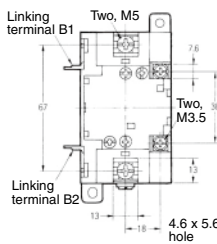
Terminal Arrangement/ Internal Connections



G3PA-240B(L)-VD



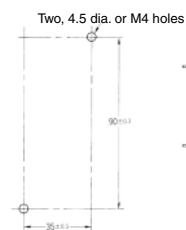
Without Terminal Cover



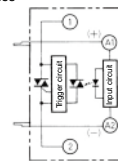
With Terminal Cover



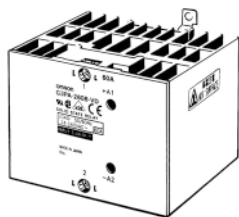
Mounting Holes



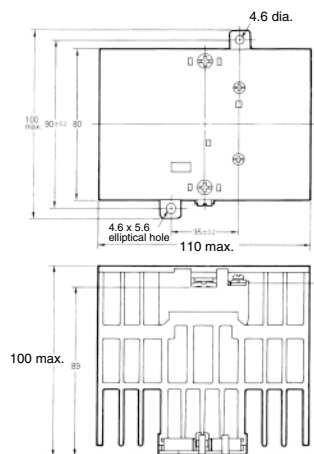
Terminal Arrangement/ Internal Connections



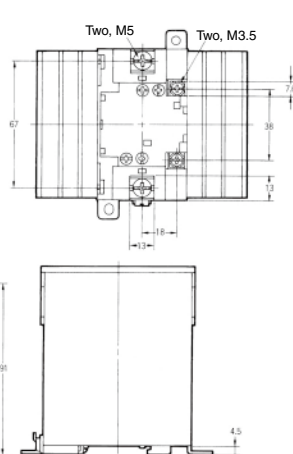
G3PA-260B(L)-VD G3PA-450B-VD-2



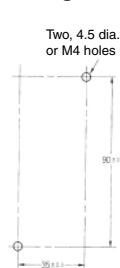
With Terminal Cover



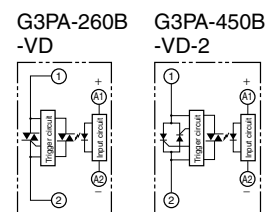
Without Terminal Cover



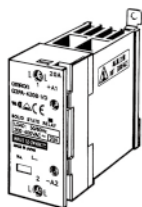
Mounting Holes



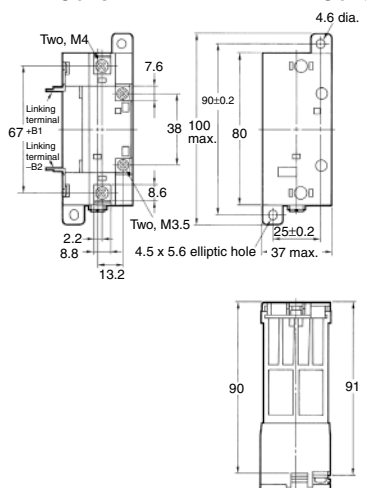
Terminal Arrangement/ Internal Connections



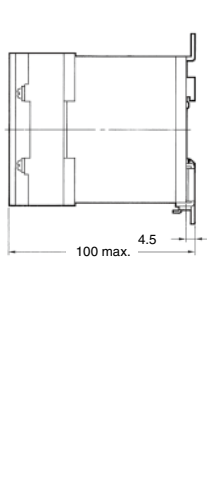
G3PA-420B-VD, G3PA-420B-VD-2



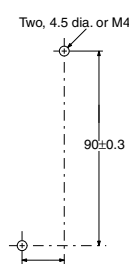
Without Terminal Cover



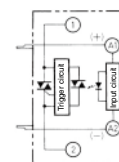
With Terminal Cover



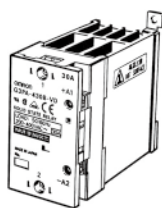
Mounting Holes



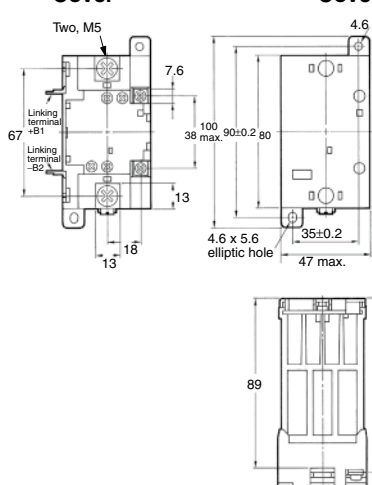
Terminal Arrangement/ Internal Connections



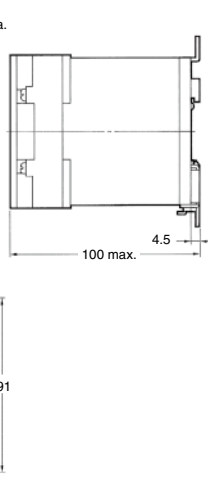
G3PA-430B-VD, G3PA-430B-VD-2



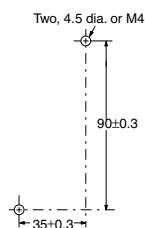
Without Terminal Cover



With Terminal Cover



Mounting Holes



Terminal Arrangement/ Internal Connections

