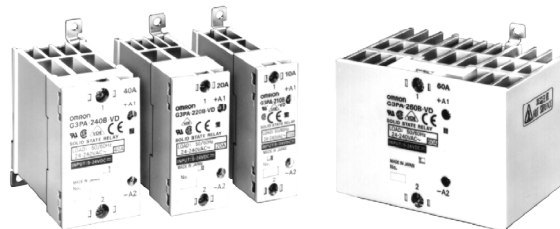


Solid State Relays (SSRs) G3PA/G3PB

Long Service Life for Circuits that Cycle Frequently

- Built-in heat sink increases life and reliability
- Voltage turn-on at zero crossing reduces initial inrush load currents
- LED indicator turns on when control power is applied
- DIN rail mountable
- Conforms to UL, CSA, VDE and CE requirements



Ordering Information

■ G3PA Relays with Replaceable Triac Output Cartridge

- Current indicator turns red when excessive current is applied
- Side-by-side dense mounting is possible using built-in linking brackets

Single-Phase Models

Stock Note: Shaded models are normally stocked.

Max. load current	Max. inrush current	Operating voltage	Load voltage	Model
10 amps	150 amps, 60 Hz	5-24 VDC	24-240 VAC	G3PA-210B-VD DC5-24
20 amps	220 amps, 60 Hz			G3PA-220B-VD DC5-24
40 amps	440 amps, 60 Hz			G3PA-240B-VD DC5-24
60 amps	440 amps, 60 Hz			G3PA-260B-VD DC5-24
20 amps	220 amps, 60 Hz	12-24 VDC	200-480 VAC	G3PA-420B-VD-2 DC12-24
30 amps	440 amps, 60 Hz			G3PA-430B-VD-2 DC12-24
50 amps	440 amps, 60 Hz			G3PA-450B-VD-2 DC12-24

■ G3PB Relays

Single Phase Models

Stock Note: Shaded models are normally stocked.

Max. load current	Max. inrush current	Operating voltage	Load voltage	Model
15 amps	150 amps, 60 Hz	12-24 VDC	100-240 VAC	G3PB-215B-VD DC12-24
25 amps	220 amps, 60 Hz			G3PB-225B-VD DC12-24
35 amps	440 amps, 60 Hz			G3PB-235B-VD DC12-24
45 amps	440 amps, 60 Hz			G3PB-245B-VD DC12-24

■ DIN Rail Mounting Track

Stock Note: Shaded models are normally stocked.

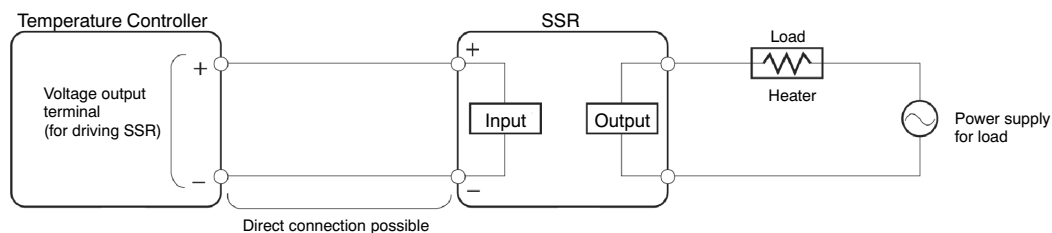
Description	Model
DIN rail track, 7.3 mm (0.29 in) depth; 50 cm (1.64 ft) length	PFP-50N
DIN rail track, 7.3 mm (0.29 in) depth; 1 m (3.28 ft) length	PFP-100N
End plate	PFP-M
Spacer	PFP-S

■ Replacement Parts

Stock Note: Shaded models are normally stocked.

Name	Carry current	Applicable SSR	Model
Power device cartridge	10 A	G3PA-210B-VD DC5-24	G32A-A10-VD DC5-24
		G3PA-210BL-VD DC5-24	G32A-A10L-VD DC5-24
		G3PA-210-VD AC24	G32A-A10-VD AC24
	20 A	G3PA-220-VD DC5-24	G32A-A20-VD DC5-24
		G3PA-220L-VD DC5-24	G32A-A20L-VD DC5-24
		G3PA-220-VD AC24	G32A-A20-VD AC24
	40 A	G3PA-240-VD DC5-24	G32A-A40-VD DC5-24
		G3PA-240L-VD DC5-24	G32A-A40L-VD DC5-24
		G3PA-240-VD AC24	G32A-A40-VD AC24
	60 A	G3PA-260-VD DC5-24	G32A-A60-VD DC5-24
		G3PA-260L-VD DC5-24	G32A-A60L-VD DC5-24
		G3PA-260-VD AC24	G32A-A60-VD AC24
	20 A	G3PA-420-VD DC12-24	G32A-A420-VD DC12-24
	30 A	G3PA-430-VD DC12-24	G32A-A430-VD DC12-24
	20 A	G3PA-420-VD-2 DC5-24	G32A-A420-VD-2 DC5-24
	30 A	G3PA-430-VD-2 DC5-24	G32A-A430-VD-2 DC5-24
	50 A	G3PA-450-VD-2 DC5-24	G32A-A450-VD-2 DC5-24

Application Examples



Omron's SSRs offer these advantages over electro-mechanical relays (EMRs):

- Longer service life with no contacts to wear out
- Reduced electromagnetic interference
- Faster response time
- Vibration and shock resistance
- No audible noise when switching
- Enhanced reliability

Specifications

■ Ratings

Input (at 25°C)

Model	Rated voltage	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-420B-VD-2	12 to 24 VDC	9.6 to 30 VDC	7 mA max.	9.6 VDC max.	1 VDC min.
G3PA-430B-VD-2					
G3PA-450B-VD-2					
G3PB-215B-VD	12 to 24 VDC	9.6 to 30 VDC	7 mA max.	9.6 VDC max.	1 VDC min.
G3PB-225B-VD					
G3PB-235B-VD					
G3PB-245B-VD					

Output

Model	Applicable load			
	Load voltage	Load current	Inrush current	With Class-1 AC resistive load
G3PA-210B-VD	19 to 264 VAC (50/60 Hz)	0.1 to 10 A	150 A (60 Hz, 1 cycle)	2.4 kW at 240 VAC
G3PA-220B-VD		0.1 to 20 A	220 A (60 Hz, 1 cycle)	4.8 kW at 240 VAC
G3PA-240B-VD		0.5 to 40 A	440 A (60 Hz, 1 cycle)	9.6 kW at 240 VAC
G3PA-260B-VD		0.5 to 60 A	440 A (60 Hz, 1 cycle)	14.4 kW at 240 VAC
G3PA-420B-VD-2	180 to 528 VAC (50/60 Hz)	0.5 to 20 A	220 A (60 Hz, 1 cycle)	9.6 kW at 480 VAC
G3PA-430B-VD-2		0.5 to 30 A	440 A (60 Hz, 1 cycle)	14.4 kW at 480 VAC
G3PA-450B-VD-2		0.5 to 50 A	440 A (60 Hz, 1 cycle)	24 kW at 480 VAC
G3PB-215B-VD	75 to 264 VAC (50/60 Hz)	0.1 to 15 A	150 A (60 Hz, 1 cycle)	3 kW at 200 VAC
G3PB-225B-VD		0.1 to 25 A	220 A (60 Hz, 1 cycle)	5 kW at 200 VAC
G3PB-235B-VD		0.5 to 35 A	440 A (60 Hz, 1 cycle)	7 kW at 200 VAC
G3PB-245B-VD		0.5 to 45 A	440 A (60 Hz, 1 cycle)	9 kW at 200 VAC

■ Characteristics

G3PA

Item	G3PA-210B-VD	G3PA-220B-VD	G3PA-240B-VD	G3PA-260B-VD	G3PA-420B-VD-2	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)						
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 120 VAC 10 mA max. at 230 VAC		10 mA max. at 120 VAC 20 mA max. at 230 VAC		20 mA max. at 400 VAC		
I²t	260 A²S		810 A²S		260 A²S	810 A²S	
Insulation resistance	100 MΩ min. at 500 VDC						
Dielectric strength	4,000 VAC, 50/60 Hz for 1 min						
Vibration resistance	Malfunction: 10 to 55 Hz, 0.75-mm double amplitude (mounted to DIN rail)						
Shock resistance	Malfunction: 300 m/s² (mounted to DIN rail)						
Ambient temperature	Operating: -30°C to 80°C (with no icing or condensation) Storage: -30°C to 100°C (with no icing or condensation)						
Approved standards	UL508 File No.E64562, CSA C22.2 (No.14, No.950) File No.LR35535, EN60950 File No. 5915UG						
Ambient humidity	Operating: 45% to 85%						
Weight	Approx. 260 g	Approx. 340 g	Approx. 460 g	Approx. 900 g	Approx. 290 g	Approx. 410 g	Approx. 900 g

G3PB

Part number	G3PB-215B-VD		G3PB-225B-VD		G3PB-235B-VD		G3PB-245B-VD	
Operate time	1/2 of load power source cycle + 1 ms max. (DC input)							
Release time	1/2 of load power source cycle + 1 ms max. (DC input)							
Output ON voltage drop	1.6 V (RMS) max.							
Leakage current	10 mA max. (at 200 VAC)							
Permissible I ² t (half 60-Hz wave)	121 A ² s		260 A ² s		1,260 A ² s			
Insulation resistance	100 MΩ min. at 500 VDC							
Dielectric strength	2,500 VAC, 50/60 Hz for 1 min							
Vibration resistance	Destruction and malfunction: 10 to 55 Hz, 0.75-mm double amplitude							
Shock resistance	Destruction: 294 m/s ² Malfunction: 294 m/s ² (DIN track mounting)							
Ambient temperature	Operating: -30°C to 80°C (with no icing or condensation) Storage: -30°C to 100°C (with no icing or condensation)							
Approved standards	UL508 File No. E64562 (From April 1999) CSA22.2 No. 14 File No. LR35535 (From April 1999) IEC947-4-3 File No. 6825 UG							
Ambient humidity	Operating: 45% to 85%							
Weight	Approx. 240 g		Approx. 240 g		Approx. 400 g		Approx. 400 g	