OMRON

Solid-state Relay

G3M

Zero Cross Models Added to Compact, Low-cost G3M Series

- Thin design for high-density PCB applications.
- DC input-AC output for up to a 3-A load.
- Approved by UL and CSA.

Ordering Information

Isolation	Input terminal pitch	Zero cross function	Indicator	Rated output load (Applicable output load)	Rated input voltage	Model
Phototriac	7.62 mm	Yes	No	2 A at 100 to 240 VAC (2 A at 75 to 264 VAC)	5 VDC	G3M-202P-US
					12 VDC	
					24 VDC	
				3 A at 100 to 240 VAC (3 A at 75 to 264 VAC)	5 VDC	G3M-203P
					12 VDC	
					24 VDC	
		No		2 A at 100 to 120 VAC (2 A at 75 to 132 VAC)	5 VDC	G3M-102PL-US
					12 VDC	
					24 VDC	
				2 A at 100 to 240 VAC (2 A at 75 to 264 VAC)	5 VDC	G3M-202PL-US
					12 VDC	
					24 VDC	
				3 A at 100 to 240 VAC (3 A at 75 to 264 VAC)	5 VDC	G3M-203PL
					12 VDC	
					24 VDC	
				5 A at 100 to 240 VAC (5 A at 75 to 264 VAC)	5 VDC	G3M-205PL (New)
					12 VDC	
					24 VDC	

Note: 1. TÜV marking is available with “-UTU” in place of “-US” on the part number.

2. UL, CSA and VDE approval of G3M-205PL is pending.

Isolation	Input terminal pitch	Zero cross function	Indicator	Rated output load (Applicable output load)	Rated input voltage	Model
Phototriac	5.08 mm	Yes	No	2 A at 100 to 240 VAC (2 A at 75 to 132 VAC)	5 VDC	G3M-202P-US-4
					12 VDC	
					24 VDC	
				3 A at 100 to 240 VAC (3 A at 75 to 264 VAC)	5 VDC	G3M-203P-4
					12 VDC	
					24 VDC	
		No		2 A at 100 to 120 VAC (3 A at 75 to 264 VAC)	5 VDC	G3M-102PL-US-4
					12 VDC	
					24 VDC	
				2 A at 100 to 240 VAC (2 A at 75 to 264 VAC)	5 VDC	G3M-202PL-US-4
					12 VDC	
					24 VDC	
				3 A at 100 to 240 VAC (3 A at 75 to 264 VAC)	5 VDC	G3M-203PL-4
					24 VDC	
				5 A at 100 to 240 VAC (5 A at 75 to 264 VAC)	5 VDC	G3M-205PL-4 (New)
					12 VDC	
					24 VDC	

Note: TÜV marking is available with "-UTU" in place of "-US" on the part number.

Specifications

■ Ratings

Input

Rated voltage	Operating voltage	Impedance	Voltage levels	
			Must operate voltage	Must release voltage
5 VDC	4 to 6 VDC	300 Ω ±20%	4 VDC max.	1 VDC min.
12 VDC	9.6 to 14.4 VDC	800 Ω ±20%	9.6 VDC max.	
24 VDC	19.2 to 28.8 VDC	1.6 kΩ ±20%	19.2 VDC max.	

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

Output

Model	Rated voltage	Applicable load		
		Load voltage	Load current	Inrush current
G3M-102PL-US (-4)	100 to 120 VAC	75 to 132 VAC	0.1 to 2 A	30 A (60 Hz, 1 cycle)
G3M-202P(L)-US (-4)	100 to 240 VAC	75 to 264 VAC		
G3M-203P(L) (-4)			0.1 to 3 A	45 A (60 Hz, 1 cycle)
G3M-205P(L) (-4)			0.1 to 5 A	

■ Characteristics

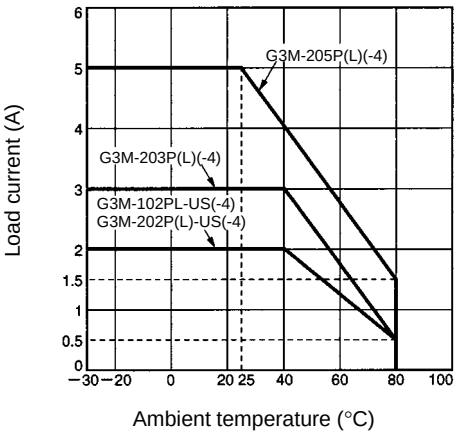
Item	G3M-102PL-US (-4)	G3M-202P(L)-US (-4)	G3M-203P (L) (-4)	G3M-205P (L) (-4)
Operate time	1 ms max. (1/2 of load power source cycle + 1 ms max. for G3M-202P, G3M-203P, G3M-205P)			
Release time	1/2 of load power source cycle + 1 ms max.			
Output ON voltage drop	1.6 V (RMS) max.			
Leakage current	2 mA max. (at 100 VAC)	2 mA max. (at 100 VAC) 5 mA max. (at 200 VAC)	1.5 mA (at 200 VAC)	
Insulation resistance	1,000 MΩ min. (at 500 VDC)			
Dielectric strength	2,000 VAC, 50/60 Hz for 1 min		2,500 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 or condensation) Storage: –30°C to 100°C (with no icing or condensation)			
Ambient humidity	Operating: 45% to 85%			
Weight	Approx. 15 g			Approx. 25 g

■ Approved Standards

Approved by UL (Report No. E64562)	Approved by CSA (Report No. LR35535)	Approved by TÜV
G3M-202P(L)-US(-4) G3M-203P(L)(-4)	G3M-202P(L)-US(-4) G3M-203P(L)(-4)	G3M-202P(L)-UTU(-4) G3M-203P(L)-UTU(-4)

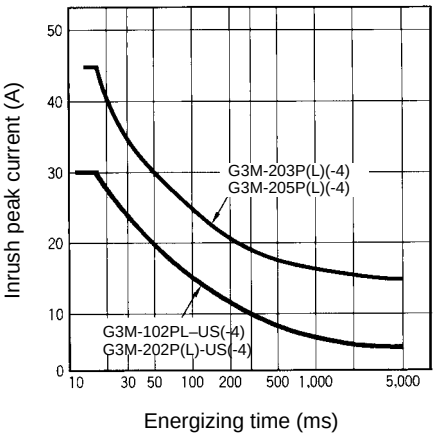
Engineering Data

Load Current vs. Ambient Temperature



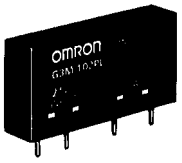
Inrush Current Immunity

Non-repetitive
Reduce the current to 1/2 or less if the G3M is in repetitive operation.

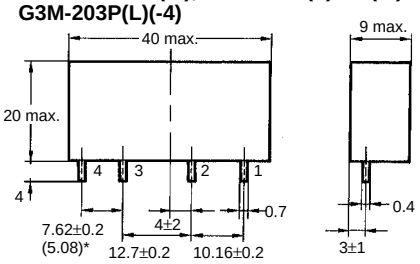


Dimensions

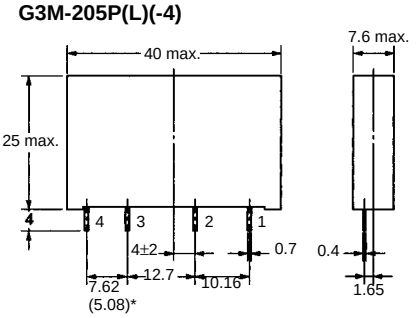
Note: All units are in millimeters unless otherwise indicated.



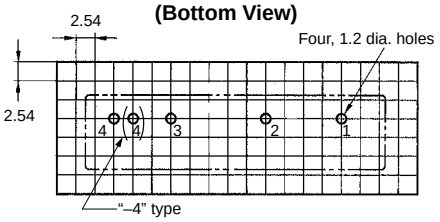
G3M-102P-US(-4), G3M-202P(L)-US(-4)
G3M-203P(L)(-4)



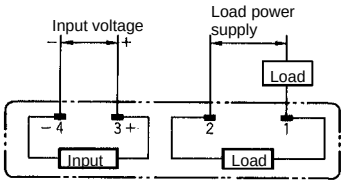
G3M-205P(L)(-4)



PCB Dimensions (Bottom View)



Terminal Arrangement (Bottom View)



*Input terminal pitch of 5.08 mm is also available.

Precautions

Protective Element

No overvoltage absorption element is built in. Therefore, if the G3M is connected to an inductive load, be sure to connect the overvoltage absorption element.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. K073-E1-1D