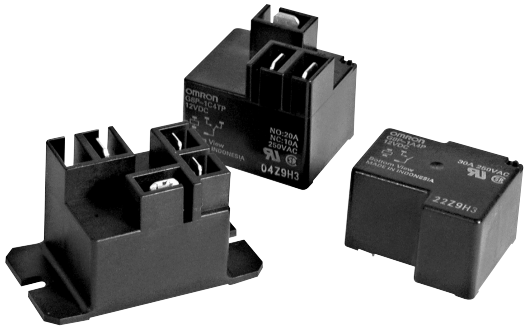
OMRON

Power PCB Relay
G8PT

- Up to 30 A switching capacity in compact package.
- Available with quick-connect contact terminals for easy load connecting with either QC or PCB coil terminals.
- UL Class F coil insulation standard even in optional sealed construction.
- Complies with UL 873 and UL 508 column A insulation resistance spacings up to 300 V.
- Minimum 6 kV Impulse Surge Withstand.
- Ideal for home and industrial appliances, HVAC and many other applications.
- UL/CSA and VDE approvals.



Ordering Information

To Order: Select the part number and add the desired coil voltage rating, (e.g., G8P-1A4P-*DC12*).

Mounting type	Contact form	Construction	Model
PCB	SPST-NO	Open frame	**G8P-1AP**
		Sealed with ventable nib*	**G8P-1A4P**
	SPDT	Open frame	**G8P-1CP**
		Sealed with ventable nib*	**G8P-1C4P**
PCB & Quick Connect load terminals	SPST-NO	Open frame	**G8P-1ATP**
		Sealed with ventable nib*	**G8P-1A4TP**
	SPDT	Open frame	**G8P-1CTP**
		Sealed with ventable nib*	**G8P-1C4TP**
Flange mount Quick Connect terminals	SPST-NO	Vented	**G8P-1A2T-F**
	SPDT	Vented	**G8P-1C2T-F**

Note: Load terminals are .250" Quick Connect. Coil terminals on Flange Mount versions are .187" Quick Connect.

* Sealed and vented optional.

Specifications

■ Contact Data

Type	**SPST-NO**	**SPDT**
Rated load	30 A 250 VAC, 20 A 28 VDC	20/10 A* at 250 VAC, 20/20 A at 28 VDC
Contact material	AgSnIn standard (other alloys available)	
Carry current	30 A max.	20/10 A*
Max. operating voltage	250 VAC, 28 VDC	
Max. operating current	AC 30 A, DC 20 A	AC 20/10 A, DC 20/10 A*
Max. switching capacity	7,500 VA, 560 W	5,000/2,500 VA, 560/280 W*
Min. permissible load	500 mA@ 5 VDC (AgSnIn), 100 mA @ 5 VDC (optional alloy)	

* NO contact/NC contact

■ Coil Data

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			% of rated voltage			
5	185	27	75% max.	10% min.	120% max.	Approx. 900
9	93	97				
12	77	155				
24	36	660				
48	19	2,480				
110	9	12,400				

Note: The rated current and coil resistance are measured at a coil temperature of 23°C (73°F) with tolerances of ±10%.

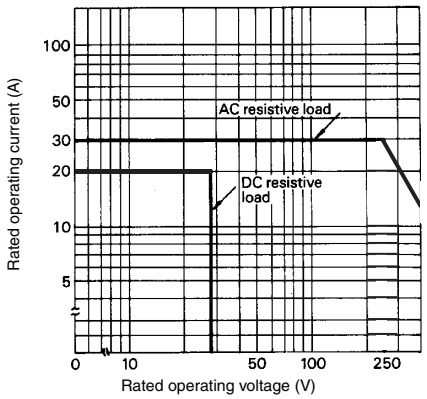
■ Characteristics

Contact resistance		100 mΩ max. (measured with 5 VDC, 1 A)
Operate time		15 ms. max.
Release time		10 ms. max.
Insulation resistance		10 MΩ min. (at 500 VDC)
Dielectric strength		2,500 VAC, 50/60 Hz for 1 minute (coil to contacts), 1,500 VAC, 50/60 Hz for 1 minute (between contacts)
Impulse surge withstand		6,000 V between coil to contacts (1.2 μs/50 μs & 100 kHz ring wave per IEC 1000-4-12)
Vibration	**Mechanical durability**	10 to 55 Hz, 1.65 mm (0.06 in) double amplitude for 2 hours
	Malfunction durability	10 to 55 Hz, 1.65 mm (0.06 in) double amplitude for 5 minutes
Shock	**Mechanical durability**	1,000 m/s^2 (approx. 100 G)
	Malfunction durability	100 m/s^2 (approx. 10 G)
Ambient temperature		-55° to 105°C (-67° to 221°F)
Humidity		45% to 85% RH
Service life	**Mechanical**	10 million operations minimum
	Electrical	100,000 operations at rated load (minimum)

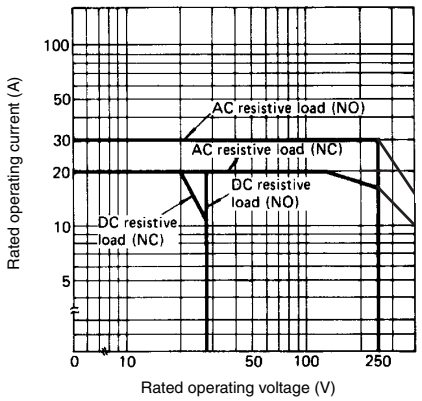
Note: Data shown are of initial value. Operate and release times excluding bounce.

■ Characteristic Data

Maximum switching capacity
SPST-NO

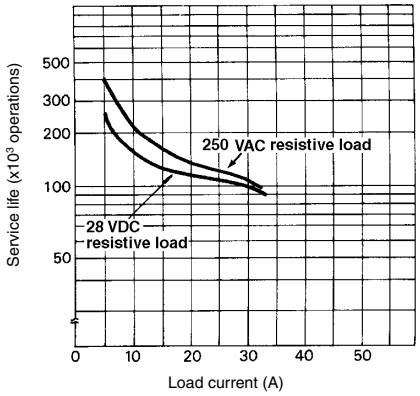


SPDT

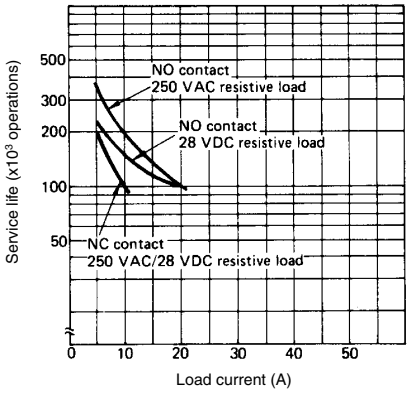


■ Characteristic Data

Electrical service life
SPST-NO



SPDT

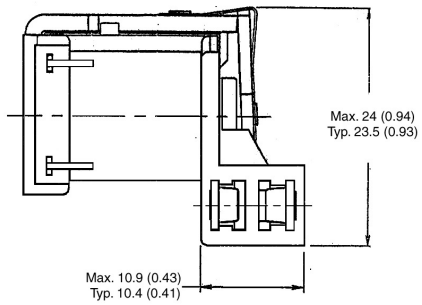


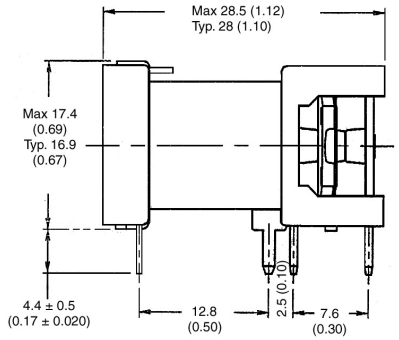
Dimensions

Unit: mm (inch)

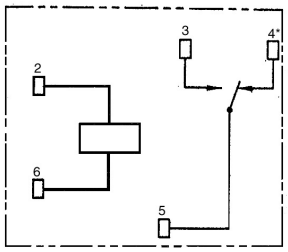
■ Relays

Open frame, PCB terminals

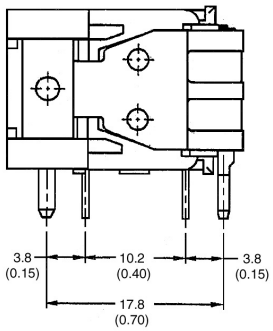




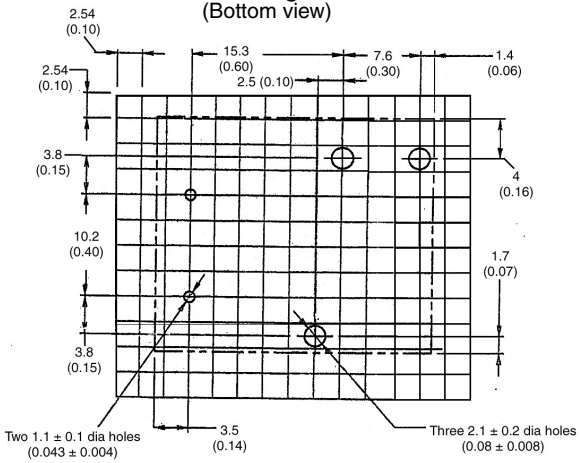
Terminal arrangement/ Internal connections
(Bottom view)



Note: Terminal #4 is omitted on SPST-NO version.

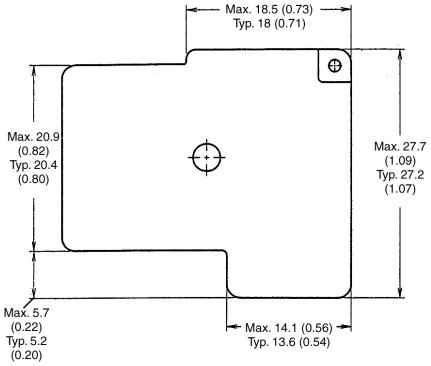


Mounting holes
(Bottom view)

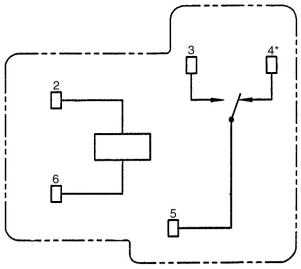


Unit: mm (inch)

Sealed/Ventable, PCB terminals



Terminal arrangement/ Internal connections
(Bottom view)



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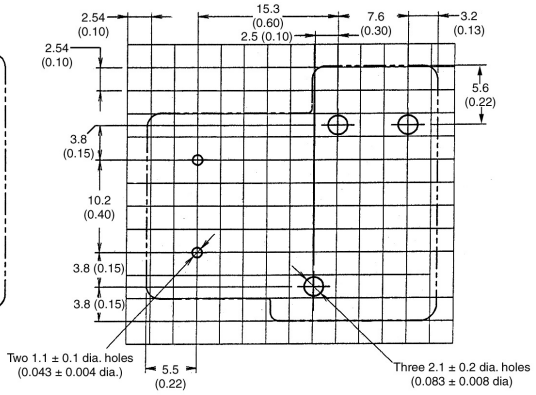
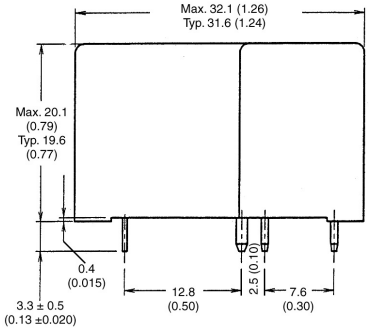
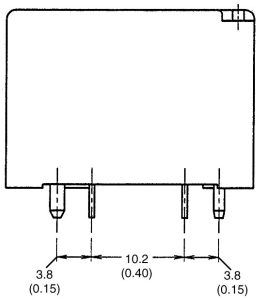
Mounting holes
(Bottom view)

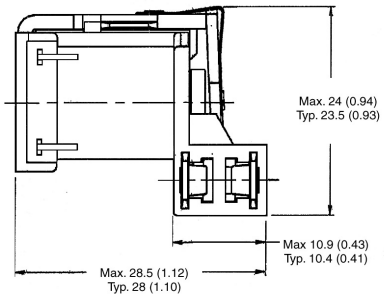




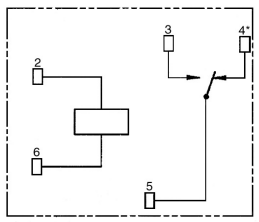


Pin Dimensions
large = 1.6 x 1.2; 1.2 x 0.8 x 3.3L
small = 0.6 x 0.5 x 3.3L

Open frame, PCB with Quick Connect terminals



Terminal arrangement/ Internal connections
(Bottom view)



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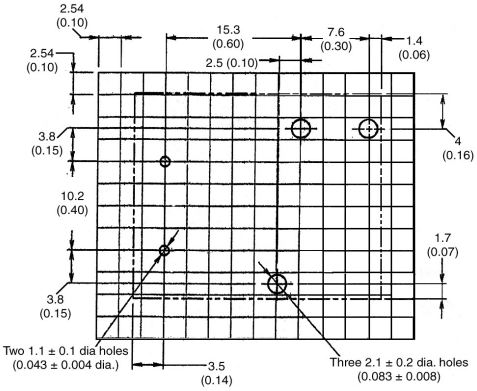
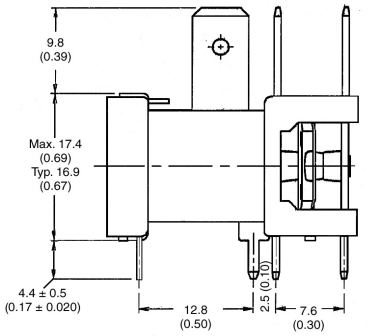
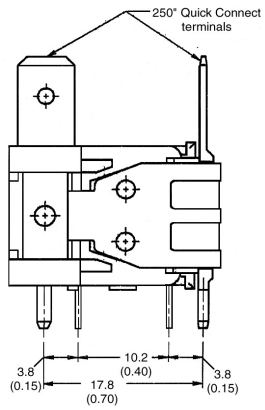
Mounting holes
(Bottom view)



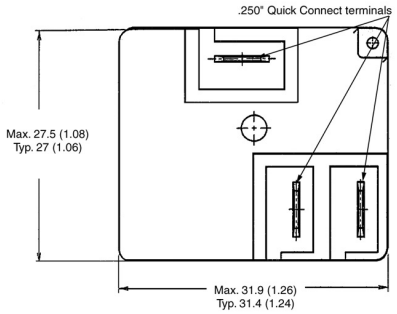


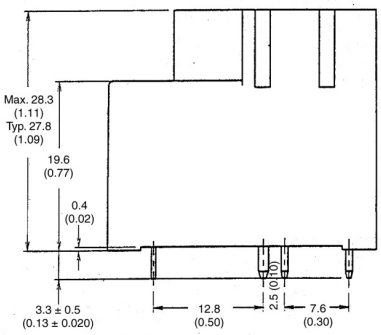


Pin Dimensions
large = 1.6 x 1.2; 1.2 x 0.8 x 3.3L
small = 0.6 x 0.5 x 3.3L

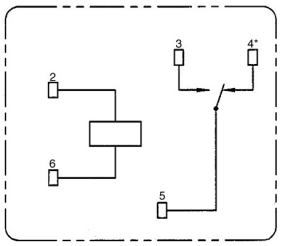
Unit: mm (inch)

Sealed/Ventable, PCB with Quick Connect terminals





Terminal arrangement/ Internal connections
(Bottom view)



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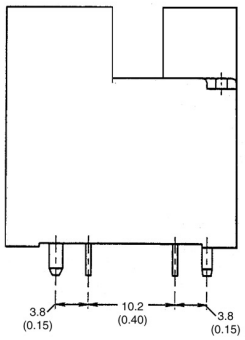
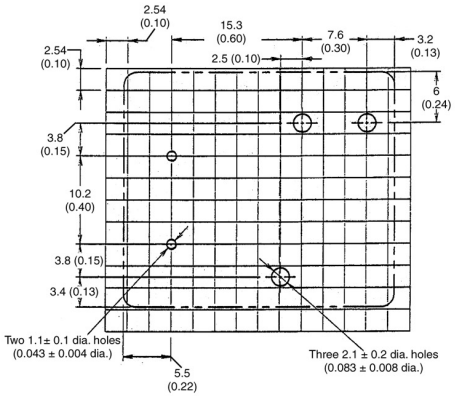


Mounting holes
(Bottom view)



Pin Dimensions
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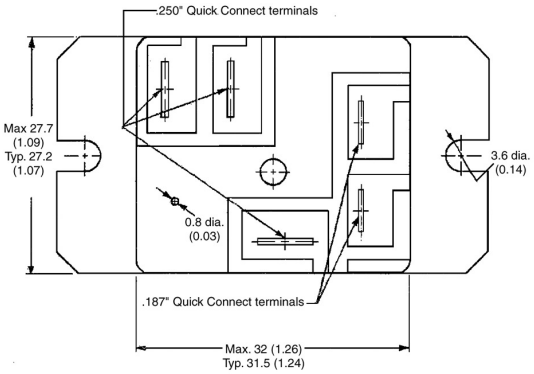
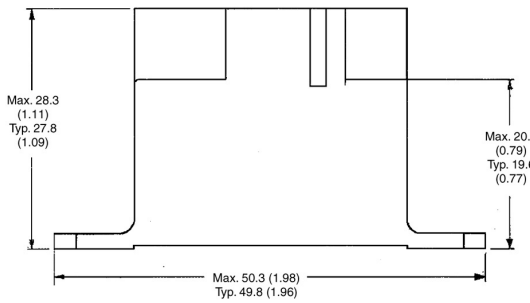
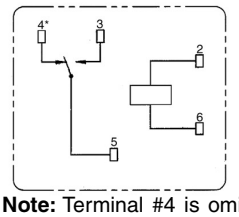
small = 0.6 x 0.5 x 3.3L

Flange mount





Terminal arrangement/ Internal connections
(Bottom view)



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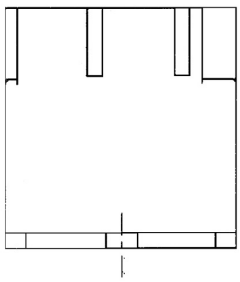
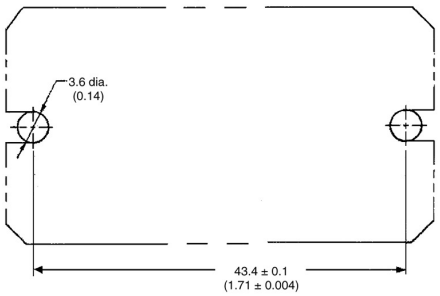


Mounting holes
(Bottom view)



Note: Allow air circulation within the sealed type G8PT by removing the ventilation nib from the cover after soldering and cleaning is complete.

■ Approvals

UL Recognized (File No. E42643), CSA Certified (File No. LR34815)

Contact form	Coil ratings	Contact ratings
SPST-NO	5 to 110 VDC	30 A, 277 VAC (G.P./RES),100,000 cycles 30 A, 240 VAC, 70°C, 100,000 cycles (G.P./Res.) 20 A, 28 VDC (Res.) 20 A, 240 VAC, 105°C, 100,000 cycles (Res.) 25 A, 240 AC, 105°C, 6,000 cycles (Res.) 1 HP, 125-250 VAC 2 HP, 250 VAC A300 Pilot Duty 12 FLA, 72LRA, 250 VAC, 100,000 cycles 20 FLA, 96 LRA, 125 VAC, 100,000 cycles 5 A, 250 VAC (Tungsten) 20 A, 120-277 VAC (Ballast) TV-5
SPDT	5 to 110 VDC	NO/NC
		30 A/30 A, 277 VAC (G.P./Res.), 100,000 cycles (N.O.) and 50,000 cycles (N.C.) 20 A/15 A, 120-240 VAC, 105°C, 100,000 cycles (Res.) 20 A/10 A, 120-240 VAC, 70°C, 100,000 cycles (G.P./Res.) 20 A/10 A, 28 VDC (Res.) 25 A, 240 AC, 105°C, 6,000 cycles (Res.) 1/2 HP/1/2 HP, 125 VAC, 100,000 cycles 2 HP/ 1/2 HP, 250 VAC 1 HP/ 1/4 HP, 125 VAC B150 Pilot Duty 5 A/ 3 A, 250 VAC (Tungsten) 6 A/ 3 A, 277 VAC (Ballast) TV-5 (N.O.)

VDE recognized type (Licence No. 40004714)

Note: 1. The rated values approved by each of the safety standards (e.g., UL, CSA) may be different from the performance characteristics individually defined in this catalog.

2. For information on additional ratings not included in this catalog, contact your local Omron Representative.

3. In the interest of product improvement, specifications are subject to change.

4. Please contact Omron for details regarding VDE approvals.

5. Meets requirements of polluiton degree 2 with Material II & III.