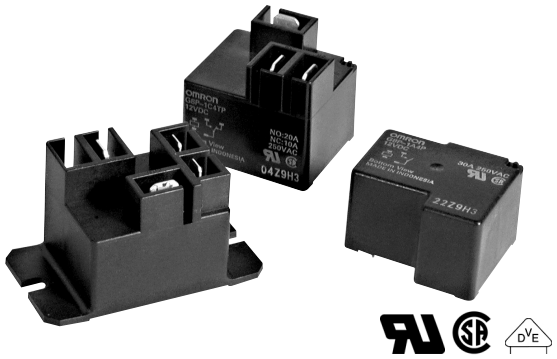
Power PCB Relay
G8PT

- Up to 30 A switching capacity in compact package.
- **NEW** G8P-1A4P-BG with 2.0 mm contact gap and high dielectric strength of 4,000 VAC
- Available with quick-connect contact terminals for easy load connecting with either QC or PCB coil terminals.
- UL Class F coil insulation standard
- Minimum 6 kV Impulse Surge Withstand.
- Ideal for home and industrial appliances, HVAC and many other applications.
- UL recognized / CSA certified. VDE approved.
- RoHS Compliant



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-BG**
			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: 1. Load terminals are .250" Quick Connect. Coil terminals on Flange Mount versions are .187" Quick Connect.
2. "-BG" version available with 12 VDC and 24 VDC coils, only.
3. Packaged with 50 pcs per tray.

* Sealed and vented optional.

Specifications

■ Contact Data

Type	SPST-NO	SPDT
Rated load	30 A 250 VAC (-BG: 20 A 250 VAC), 20 A 28 VDC (-BG: - - -)	20/10 A* at 250 VAC, 20/10 A* at 28 VDC
Contact material	Ag-Alloy (Cd free)	
Rated Carry current	30 A max. (-BG: 20 A)	20/10 A*
Max. operating voltage	250 VAC, 28 VDC (-BG: 250 VAC)	
Max. operating current	AC 30 A, DC 20 A (-BG: AC 20 A)	AC 20/10 A, DC 20/10 A*
Max. switching capacity	7,500 VA, 560 W (-BG: 5,000 VA)	5,000/2,500 VA, 560/280 W*
Min. permissible load	500 mA@ 5 VDC (See note 1), 100 mA @ 5 VDC (See note 2)	

* NO contact/NC contact

Note: 1. Applicable for G8P-1A4TP, G8P-1CP, G8P-1C4P, G8P-1C4TP and G8P-1C2T-F versions.
2. Applicable for G8P-1AP, G8P-1A4P(-BG), G8P-1ATP and G8P-1CTP versions.

■ 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: 1. The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of ±10%.
2. The operating characteristics are measured at a coil temperature of 23°C.
3. The "Maximum Voltage is the maximum voltage that can be applied to the relay coil.

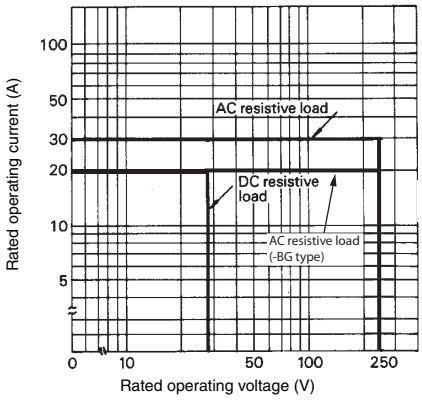
■ Characteristics

Contact resistance		100 mΩ max. (measured with 5 VDC, 1 A, voltage drop method)
Operate time		15 ms. max. (-BG: 20 ms max.)
Release time		10 ms. max.
Insulation resistance (See note 2)		100 MΩ min. (at 500 VDC)
Dielectric strength		2,500 VAC, 50/60 Hz for 1 minute (between coil and contacts), (-BG: 4,000 VAC) 1,500 VAC, 50/60 Hz for 1 minute (between contacts of the same polarity)
Impulse surge withstand		6,000 V between coil and contacts (1.2/50 μs)
Vibration resistance	**Destruction**	10 to 55 Hz, 1.65 mm double amplitude for 2 hours (-BG: 10 to 55 Hz, 1.5 mm double amplitude for 2 hours)
	Malfunction	10 to 55 Hz, 1.65 mm double amplitude for 5 minutes
Shock resistance	**Destruction**	1,000 m/s^2 (approx. 100 G)
	Malfunction	100 m/s^2 (approx. 10 G)
Ambient operating temperature		-55° to 105°C, cold coil condition (with no icing) -55° to 85°C, hot coil condition (hot start) (with no icing)
Ambient operating humidity		5% to 85% RH
Service life	**Mechanical**	10 million operations minimum at 18,000 ops/hour. (-BG: 5 million operations min.)
	Electrical	100,000 operations approx. at 360 ops/hr. (-BG: 40,000 operations min.)
Weight		Approx. 24 g to 31 g

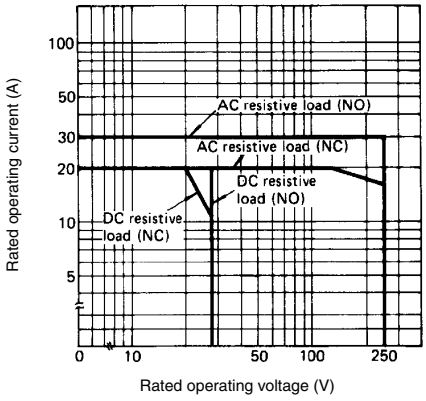
Note: 1. Data shown are of initial value. Operate and release times excluding bounce.
2. Measurement conditions: Measured at the same points as the dielectric strength using a 500 VDC ohmmeter.
3. Please vent sealed relays after processing in order to achieve rated electrical service life, by removing the vent nib.

■ Characteristic Data

Maximum switching capacity
SPST-NO

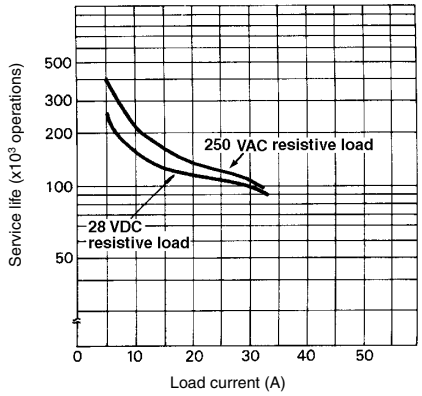


SPDT



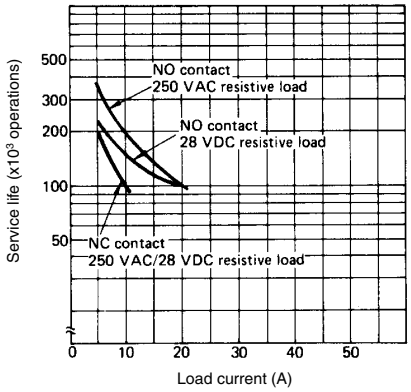
■ Characteristic Data

Electrical service life
SPST-NO



*Except (-BG) type

SPDT



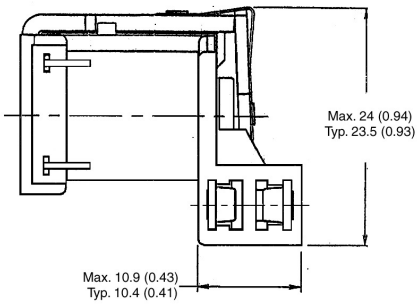
Dimensions

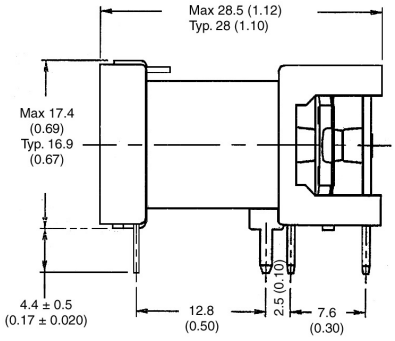
Unit: mm (inch)

■ Relays

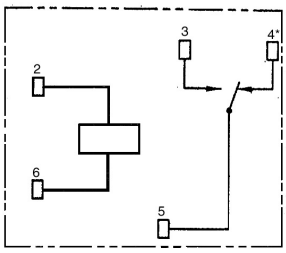
G8P-1CP / 1AP

Open frame, PCB terminals

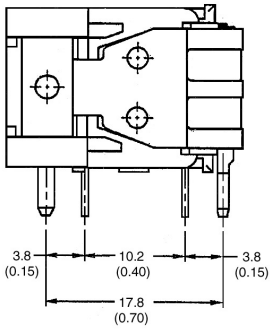




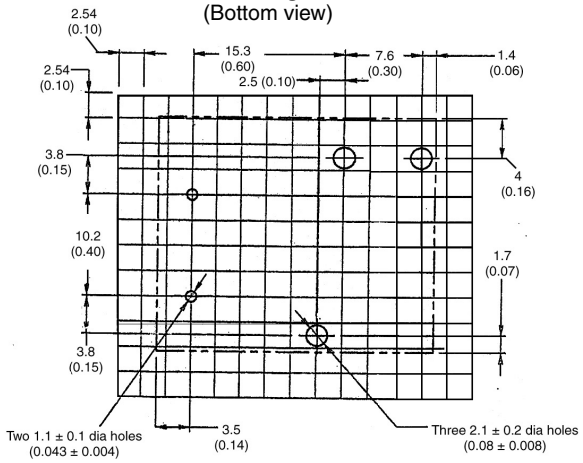
Terminal arrangement/
Internal connections
(Bottom view)



Note: Terminal #4 is omitted on G8P-1AP.



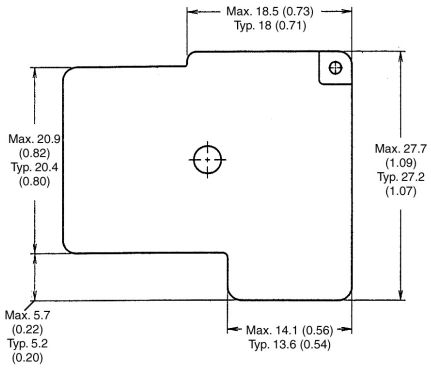
Mounting holes
(Bottom view)



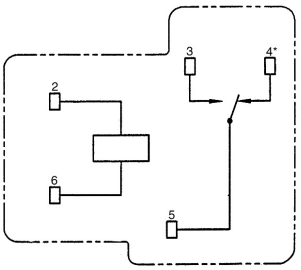
Unit: mm (inch)

G8P-1C4P / 1A4P / 1C2P / 1A2P

Sealed/Ventable, PCB terminals

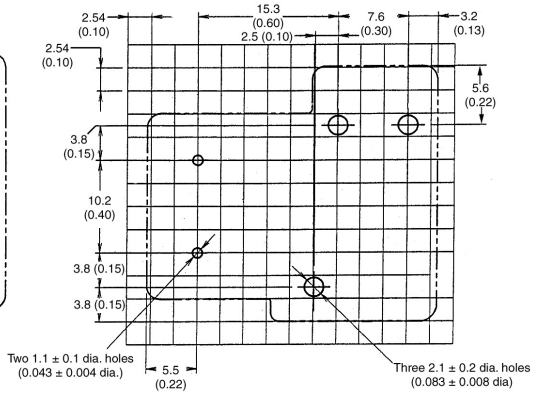


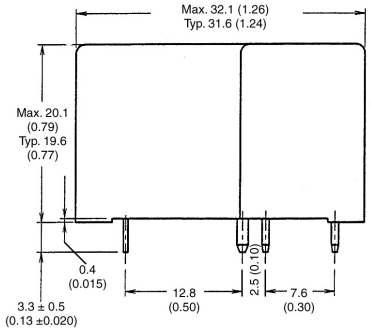
Terminal arrangement/ Internal connections
(Bottom view)

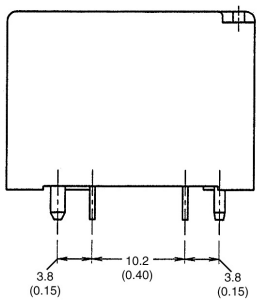


Note: Terminal #4 is omitted on G8P-1A4P/1A2P.

Mounting holes
(Bottom view)





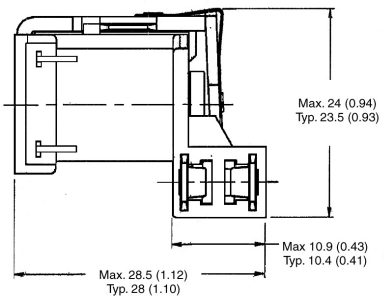


Pin Dimensions

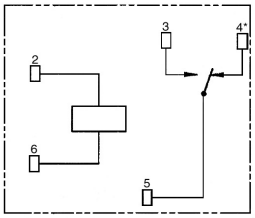
large = 1.6 x 1.2; 1.2 x 0.8 x 3.3L
small = 0.6 x 0.5 x 3.3L

G8P-1CTP / 1ATP

Open frame, PCB with Quick Connect terminals

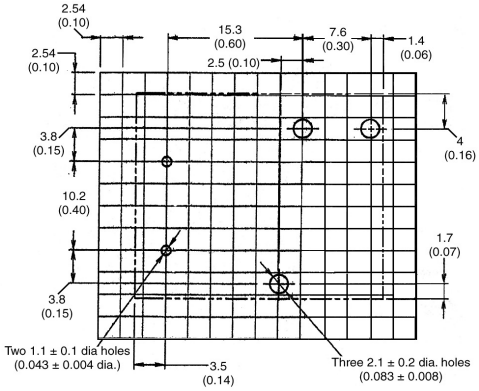


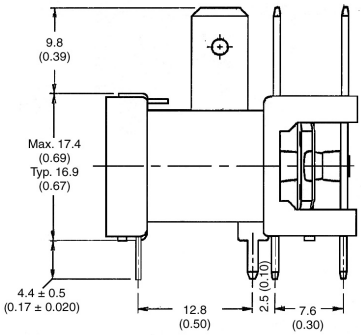
Terminal arrangement/ Internal connections
(Bottom view)

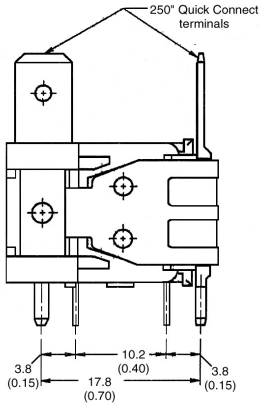


Note: Terminal #4 is omitted on G8P-1ATP.

Mounting holes
(Bottom view)







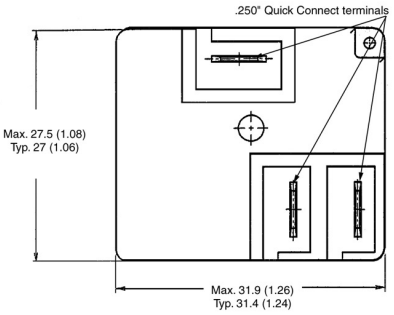
Pin Dimensions

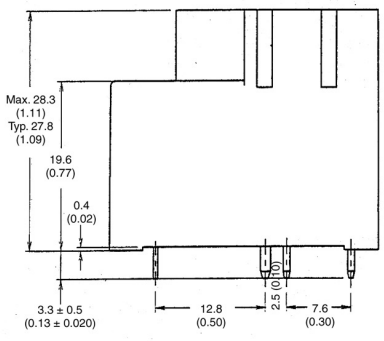
large = 1.6 x 1.2; 1.2 x 0.8 x 3.3L
small = 0.6 x 0.5 x 3.3L

Unit: mm (inch)

G8P-1C4TP / 1A4TP / 1C2TP / 1A2TP

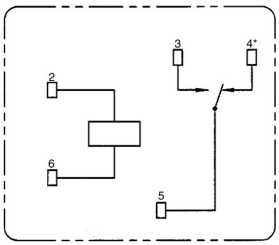
Sealed/Ventable, PCB with Quick Connect terminals



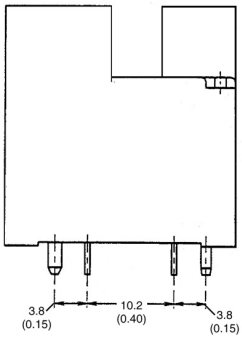


Terminal arrangement/ Internal connections

(Bottom view)

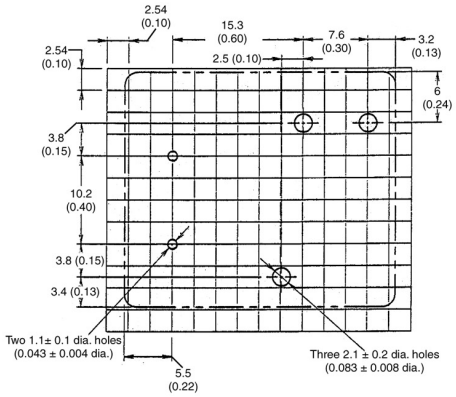


Note: Terminal #4 is omitted on G8P-1A4TP/1A2TP.



Mounting holes

(Bottom view)

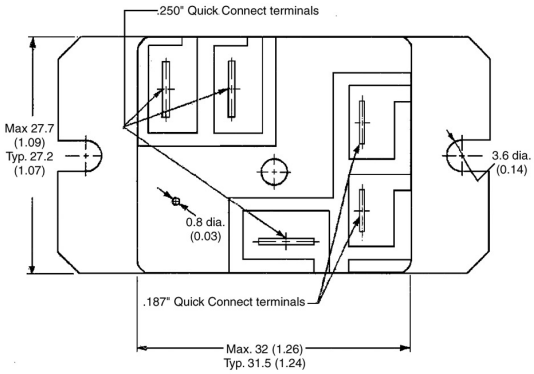


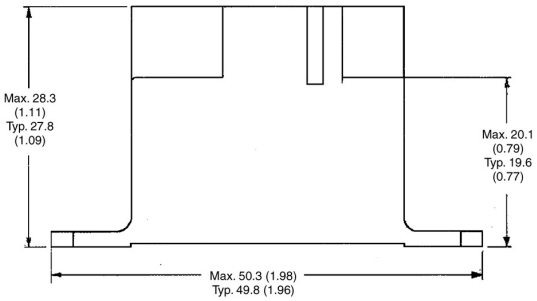
Pin Dimensions

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

G8P-1C2T-F / 1A2T-F

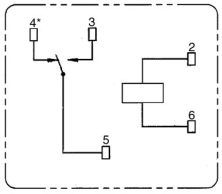
Flange mount





Terminal arrangement/ Internal connections

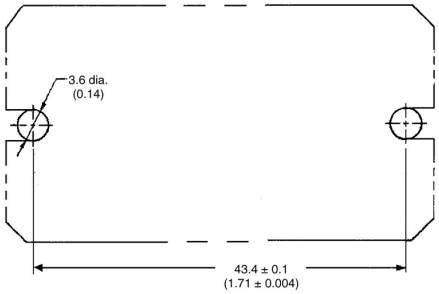
(Bottom view)



Note: Terminal #4 is omitted on G8P-1A2T-F.

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. E41643), CSA Certified (File No. LR31928)

Model	Contact form	Coil ratings	Contact ratings
G8P-1AP G8P-1A4P G8P-1ATP G8P-1A4TP G8P-1A2T-F	SPST-NO	5 to 110 VDC	30 A, 240 VAC (G.P./Res.), 40°C, 50,000 cycles 20 A, 28 VDC (Res.), 40°C, 6,000 cycles 20 A, 240 VAC (Res.), 70°C, 100,000 cycles 23 A, 240 VAC (Res.), 85°C, 100,000 cycles 1 HP, 125-250 VAC, 40°C, 1,000 cycles 2 HP, 250 VAC, 40°C, 1,000 cycles A300 Pilot Duty, 40°C, 6,000 cycles 20 FLA, 96 LRA, 125 VAC, 40°C, 100,000 cycles 5 A, 250 VAC (Tungsten), 40°C, 6,000 cycles 20 A, 120-277 VAC (Ballast), 40°C, 6,000 cycles TV-5, 40°C, 25,000 cycles
G8P-1A4P-BG			30 A, 277 VAC (Res.), 85°C, 30,000 cycles
G8P-1CP G8P-1C4P G8P-1CTP G8P-1C4TP G8P-1C2T-F	SPDT	5 to 110 VDC	NO/NC
			30 A/20 A, 277 VAC (Res.), 40°C, 100,000 cycles (N.O.) and 30,000 cycles (N.C.) 20 A/15 A, 250 VAC (Res.), 105°C, 100,000 cycles (N.O.) and 30,000 cycles (N.C.) 20 A/10 A, 28 VDC (Res.), 40°C, 6,000 cycles 30 A/30 A, 277 VAC(Res.), 40°C, 10,000 cycles 1/2 HP/1/2 HP, 125 VAC, 40°C, 100,000 cycles 2 HP/ 1/2 HP, 250 VAC, 40°C, 1,000 cycles 1 HP/ 1/4 HP, 125 VAC, 40°C, 1,000 cycles B150 Pilot Duty, 40°C, 100,000 cycles 5 A/ 3 A, 250 VAC (Tungsten), 40°C, 6,000 cycles 6 A/ 3 A, 277 VAC (Ballast), 40°C, 6,000 cycles TV-5 (N.O.), 40°C, 25,000 cycles

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.

Precautions

Recommended soldering condition

Pre-heat at 120°C maximum within 120 seconds.
Complete solering at 265°C maximum within 6 seconds.

Re: the Electrical Appliance and Material Safety Law (Japan)

The G8P series is not compliant with the Electrical Appliance and Material Safety Law of Japan. Pay careful attention to select a suitable Relay for the application.

MEMO

All sales are subject to Omron Electronic Components LLC standard terms and conditions of sale, which can be found at http://www.components.omron.com/components/web/webfiles.nsf/sales_terms.html

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

OMRON

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