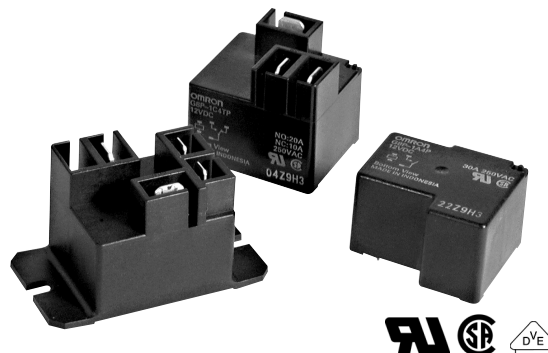


Power PCB Relay

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
	SPDT	Open frame	G8P-1A4P
		Sealed with ventable nib*	G8P-1CP
PCB & Quick Connect load terminals	SPST-NO	Open frame	G8P-1C4P
		Sealed with ventable nib*	G8P-1ATP
	SPDT	Open frame	G8P-1A4TP
		Sealed with ventable nib*	G8P-1CTP
Flange mount Quick Connect terminals	SPST-NO	Vented	G8P-1C2TP
	SPDT	Vented	G8P-1A2T-F
			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 $\pm 10\%$.

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 m Ω 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 M Ω 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 μ s)
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

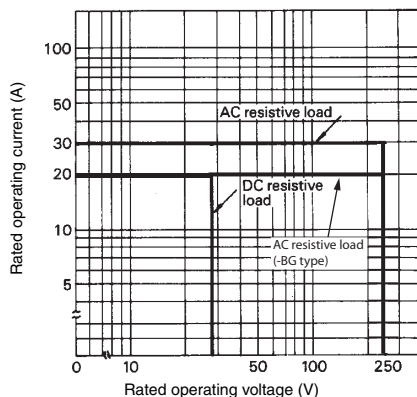
Note: 1. Data shown are of initial value. Operate and release times excluding bounce.

2. Measurement conditions: Measured at the same points as the dielectric strength using a 500 VDC ohmmeter.

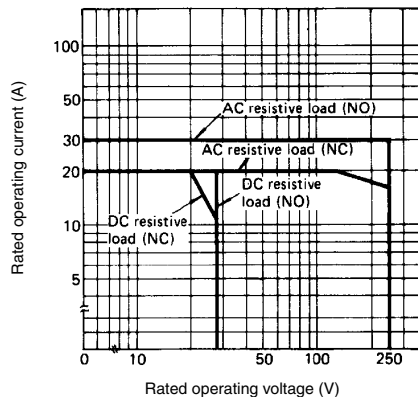
3. Please vent sealed relays after processing in order to achieve rated electrical service life, by removing the vent nib.

■ Characteristic Data

Maximum switching capacity SPST-NO

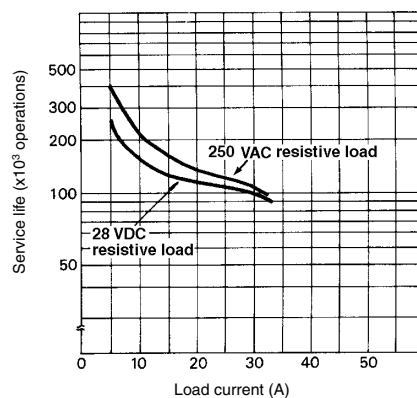


SPDT



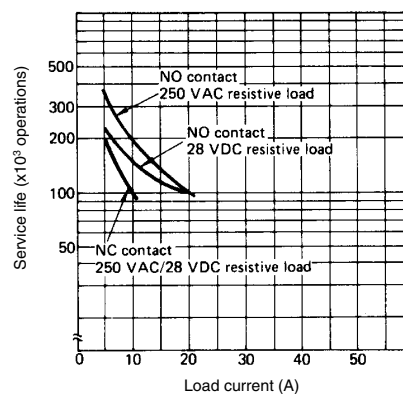
Characteristic Data

Electrical service life
SPST-NO



*Except (-BG) type

SPDT



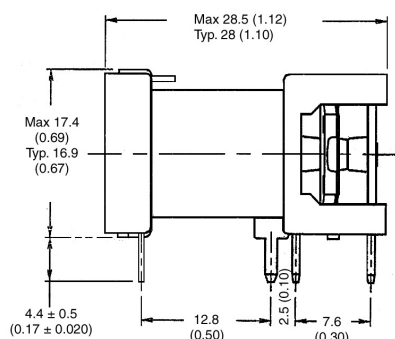
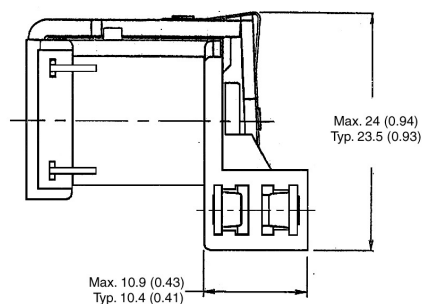
Dimensions

Unit: mm (inch)

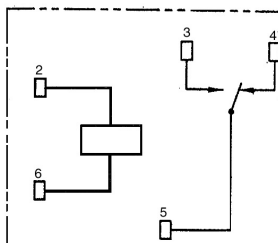
Relays

G8P-1CP / 1AP

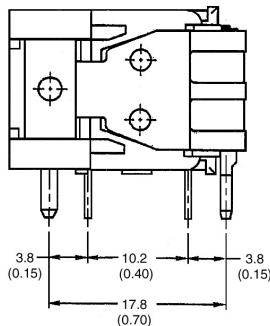
Open frame, PCB terminals



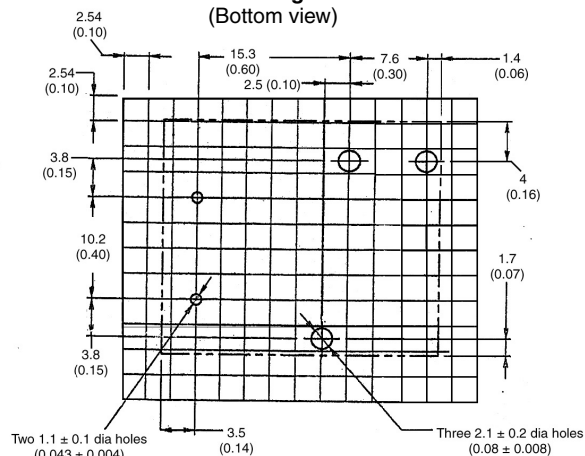
Terminal arrangement/
Internal connections
(Bottom view)



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



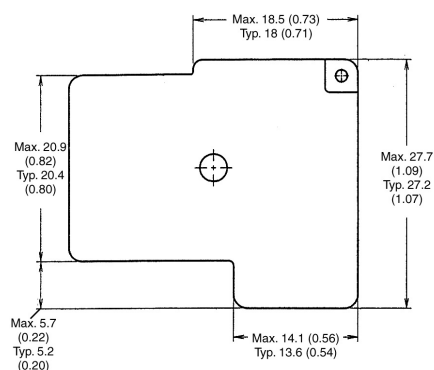
Mounting holes
(Bottom view)



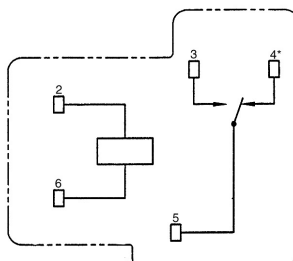
Unit: mm (inch)

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

Sealed/Ventable, PCB terminals

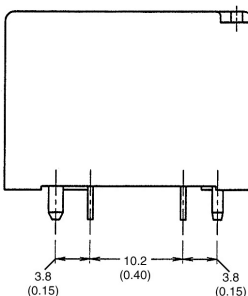
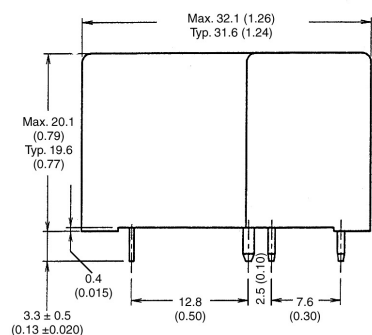
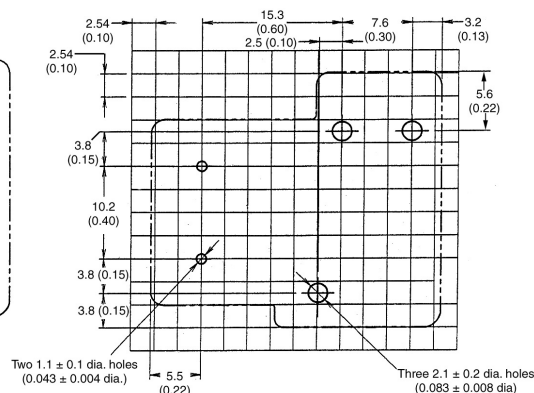


Terminal arrangement/
Internal connections
(Bottom view)



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

Mounting holes
(Bottom view)



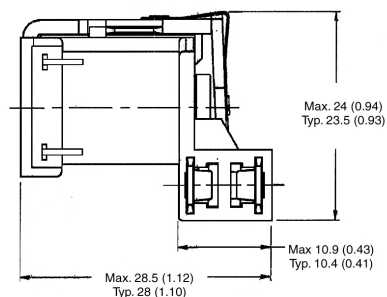
Pin Dimensions

large = 1.6 x 1.2; 1.2 x 0.8 x 3.3L

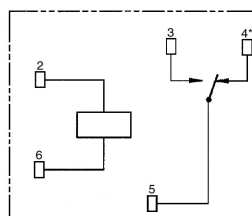
small = 0.6 x 0.5 x 3.3L

G8P-1CTP / 1ATP

Open frame, PCB with
Quick Connect terminals

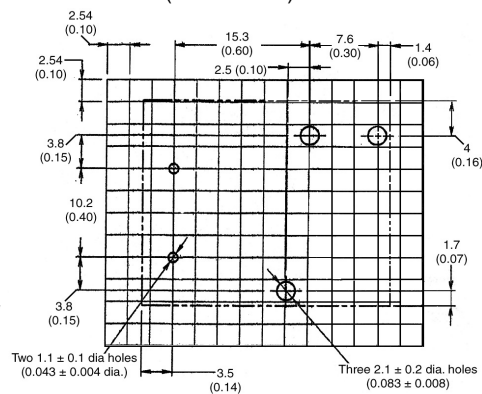


Terminal arrangement/
Internal connections
(Bottom view)



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

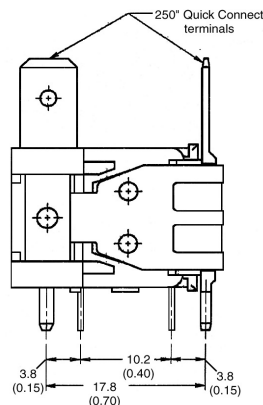
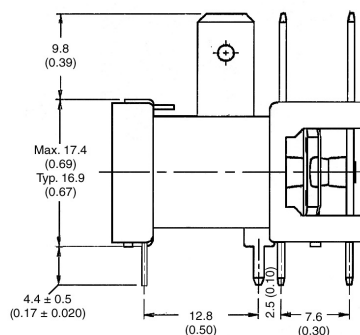
Mounting holes
(Bottom view)



Pin Dimensions

large = 1.6 x 1.2; 1.2 x 0.8 x 3.3L

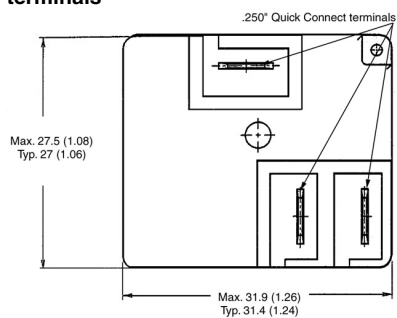
small = 0.6 x 0.5 x 3.3L



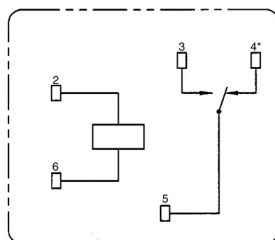
Unit: mm (inch)

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

Sealed/Ventable, PCB with Quick Connect terminals

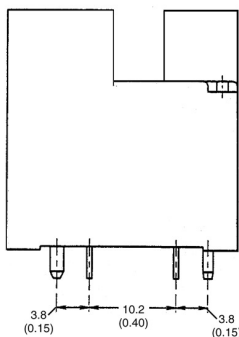
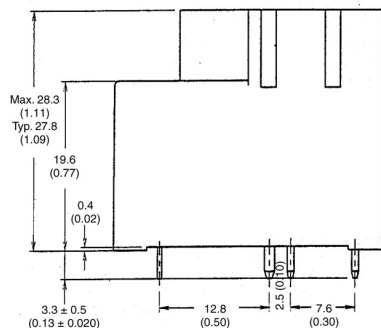
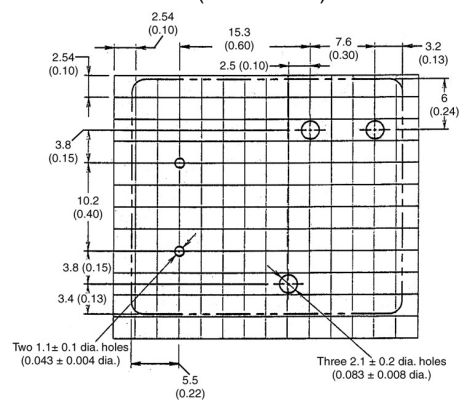


Terminal arrangement/
Internal connections
(Bottom view)



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

Mounting holes
(Bottom view)

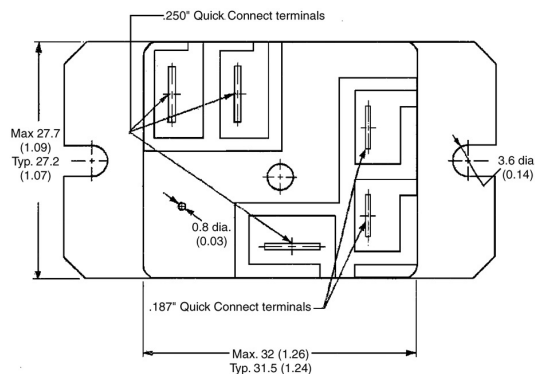


Pin Dimensions

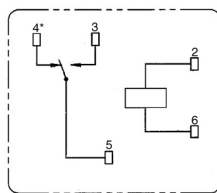
large = 1.6 x 1.2; 1.2 x 0.8 x 3.3L
small = 0.6 x 0.5 x 3.3L

G8P-1C2T-F / 1A2T-F

Flange mount

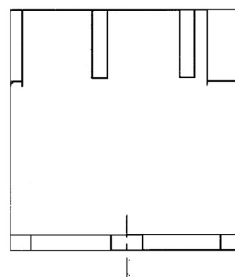
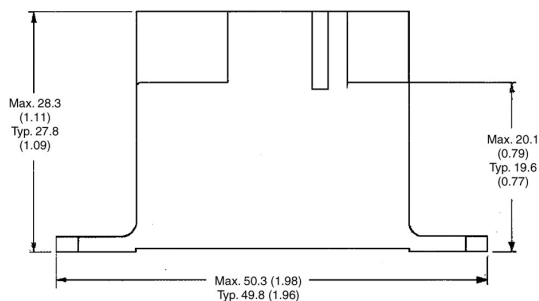
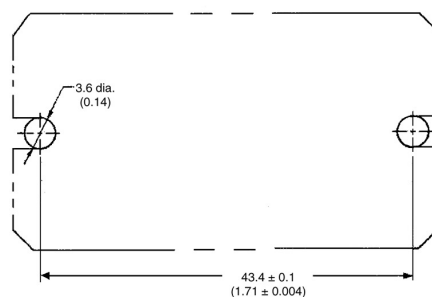


Terminal arrangement/
Internal connections
(Bottom view)



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.

- For information on additional ratings not included in this catalog, contact your local Omron Representative.
- In the interest of product improvement, specifications are subject to change.
- Please contact Omron for details regarding VDE approvals.
- Meets requirements of pollution degree 2 with Material II & III.

Precautions

Recommended soldering condition

Pre-heat at 120°C maximum within 120 seconds.
Complete soldering 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.

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.

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**OMRON ELECTRONIC
COMPONENTS LLC**

55 E. Commerce Drive, Suite B
Schaumburg, IL 60173

847-882-2288

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12/14 (08/12)

Specifications subject to change without notice

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