

### Small, Low-Cost 30-A Power Relay for PCB Applications

- Small, yet capable of switching up to a 30-A loads.
- Inexpensive.
- Ideal for home and industrial appliances, HVAC (heating, ventilating, and air conditioning), and many other applications.
- A variety of contact forms: SPDT, SPST-NO, and SPST-NC.
- UL Class B and F insulation, open and sealed versions, and dust cover available.
- Solder-plated terminals for better solderability.



RC

### Ordering Information

Contact form	Standard		Class B		Class F	
	Open	Fully sealed	Open	Fully sealed	Open	Fully sealed
SPST-NO	G8P-1111P-US	G8P-1114P-US	G8P-1111P-BI-US	G8P-1114P-BI-US	G8P-1111P-CF-US	G8P-1114P-CF-US
SPST-NC	G8P-1011P-US	G8P-1014P-US	G8P-1011P-BI-US	G8P-1014P-BI-US	G8P-1011P-CF-US	G8P-1014P-CF-US
SPDT	G8P-111P-US	G8P-114-US	G8P-111P-BI-US	G8P-114P-BI-US	G8P-111P-CF-US	G8P-114P-CF-US

- Note:**
1. The contacts described above are AgCdO.
  2. When ordering, add the rated coil voltage to the model number.  
Example: G8P-111P-US 12 VDC  
Rated coil voltage

### Model Number Legend

G8P -      -  -   VDC  
1 2 3 4 5 6 7 8

1. **Number of Poles**  
1: 1 pole
2. **Contact Form**  
None: SPDT  
1: SPST-NO  
0: SPST-NC

3. **Contact Types**  
1: Standard
4. **Enclosure Ratings**  
1: Open  
4: Fully sealed
5. **Terminals**  
P: Straight PCB

6. **UL Insulation Rate**  
None: Standard  
BI: Class B insulation  
CF: Class F insulation
7. **Approved Standards**  
US: UL/CSA certified
8. **Rated Coil Voltage**  
5, 6, 9, 12, 15, 18, 24, 48, 110 VDC

### Accessories (Order Separately)

Dust cover	G8P-R99-C01
------------	-------------

# Specifications

## ■ Coil Ratings

Rated voltage	5 VDC	6 VDC	9 VDC	12 VDC	15 VDC	18 VDC	24 VDC	48 VDC	110 VDC
Rated current	185 mA	150 mA	93 mA	77 mA	59 mA	47 mA	36 mA	19 mA	9 mA
Coil resistance	27 $\Omega$	40 $\Omega$	97 $\Omega$	155 $\Omega$	256 $\Omega$	380 $\Omega$	660 $\Omega$	2,480 $\Omega$	12,400 $\Omega$
Must operate voltage	75% max. of rated voltage								
Must release voltage	10% min. of rated voltage								
Max. permissible voltage	120% of rated voltage								
Power consumption	Approx. 900 mW								

**Note:** The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of  $\pm 10\%$ .

## ■ Contact Ratings

Item	SPST-NO	SPST-NC	SPDT
Load	Resistive load ( $\cos\phi = 1$ )		
Rated load	30 A at 250 VAC; 20 A at 28 VDC	15 A at 250 VAC; 10 A at 28 VDC	20 A/10 A* at 250 VAC; 20 A/10 A* at 28 VDC
Contact material	AgCdO		
Rated carry current	30 A	15 A	20 A/10 A*
Max. switching voltage	250 VAC, 28 VDC		
Max. switching current	AC: 30 A, DC: 20 A	AC: 15 A, DC: 10 A	AC: 20 A/10 A, DC: 20 A/10 A*
Max. switching power	7,500 VA, 560 W	3,750 VA, 280 W	5,000/2,500 VA, 560/280 W*
Min. permissible load	500 mA at 5 VDC		

**Note:** \*NO contact/NC contact

## ■ Characteristics

Contact resistance	50 m $\Omega$ max.
Operate time	15 ms max.
Release time	10 ms max.
Max. operating frequency	Mechanical: 18,000 operations/hr Electrical: 1,800 operations/hr (under rated load)
Insulation resistance	10 M $\Omega$ min. (at 500 VDC)
Dielectric strength	1,500 VAC, 50/60 Hz for 1 min
Vibration resistance	Destruction: 10 to 55 Hz, 1.65-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 <sup>2</sup> Malfunction: 100 m/s <sup>2</sup>
Life expectancy	Mechanical: 10,000,000 operation min. (at 18,000 operations/hr) Electrical: See <i>Engineering Data</i> .
Ambient temperature	Standard types: -55°C to 70°C (with no icing) Class B insulation types: -55°C to 85°C (with no icing) Class F insulation types: -55°C to 105°C (with no icing)
Ambient humidity	Operating: 45% to 85%
Weight	Approx. 20 g (G8P-111P), approx. 30 g (G8P-114P)

**Note:** The data shown above are initial values.

## ■ Approved Standards

### UL (File No. E41643)

Type	Contact form	Coil ratings	Contact ratings	
			UL508-recognized	UL873, UL1563
G8P-1111P-US	SPST-NO	5 to 110 VDC	15 A, 125 VAC (inductive load) 10 A, 250 VAC (inductive load) 15 A, 28 VDC (resistive load) 1 hp, 125 VAC (motor load) 1 hp, 250 VAC (motor load) 5 A (1,250 W), 250 VAC (tungsten load)	30 A, 250 VAC (inductive load) 1 hp, 125 VAC (motor load) 2 hp, 250 VAC (motor load) 12 A, 277 VAC (inductive load)
G8P-1011P-US	SPST-NC		15 A, 125 VAC (inductive load) 10 A, 250 VAC (inductive load) 10 A, 28 VDC (resistive load) 0.25 hp, 125 VAC (motor load) 0.25 hp, 250 VAC (motor load) 3 A (750 W), 250 VAC (tungsten load)	15 A, 250 VAC (inductive load) 0.25 hp, 125 VAC (motor load) 0.25 hp, 250 VAC (motor load) 6 A, 277 VAC (inductive load)
G8P-111P-US	SPDT		NO/NC 15 A/10 A, 125 VAC (inductive load) 10 A/10 A, 250 VAC (inductive load) 15 A/10 A, 28 VDC (resistive load) 1 hp/0.25 hp, 125 VAC (motor load) 1 hp/0.5 hp, 250 VAC (motor load) 5 A/3 A, 250 VAC (tungsten load)	NO/NC 20 A/10 A, 250 VAC (inductive load) 1 hp/0.25 hp, 125 VAC (motor load) 2 hp/0.5 hp, 250 VAC (motor load) 12 A/6 A, 277 VAC (inductive load)/ UL873

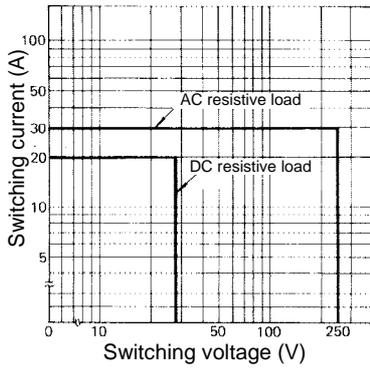
### CSA (File No. LR34815-101)

Type	Contact form	Coil ratings	Contact ratings
G8P-1111P-US	SPST-NO	5 to 110 VDC	6 A, 277 VAC (inductive load) 15 A, 125 VAC (inductive load) 10 A, 250 VAC (inductive load) 15 A, 28 VDC (resistive load) 1 hp, 125 VAC (motor load) 1 hp, 250 VAC (motor load) 5 A, 125 VAC (tungsten load) 5 A, 250 VAC, (tungsten load)
G8P-1011P-US	SPST-NC		3 A, 277 VAC (inductive load) 15 A, 125 VAC (inductive load) 10 A, 250 VAC (inductive load) 10 A, 28 VDC (resistive load) 0.25 hp, 125 VAC (motor load) 0.5 hp, 250 VAC (motor load) 3 A, 125 VAC (tungsten load) 3 A, 250 VAC, (tungsten load)
G8P-111P-US	SPDT		NO/NC 6 A/3 A, 277 VAC (inductive load) 15 A/10 A, 125 VAC (inductive load) 10 A/10 A, 250 VAC (inductive load) 15 A/10 A, 28 VDC (resistive load) 0.5 hp/0.25 hp, 125 VAC (motor load) 1 hp/0.5 hp, 250 VAC (motor load) 5 A/3 A, 125 VAC (tungsten load) 5 A/3 A, 250 VAC, (tungsten load)

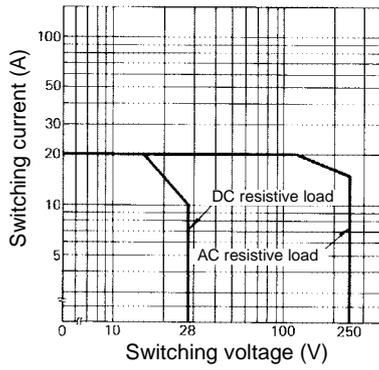
# Engineering Data

## Maximum Switching Power

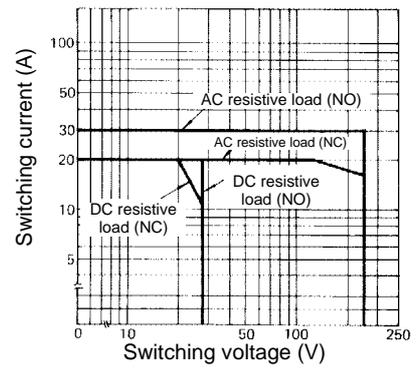
### SPST-NO



### SPST-NC

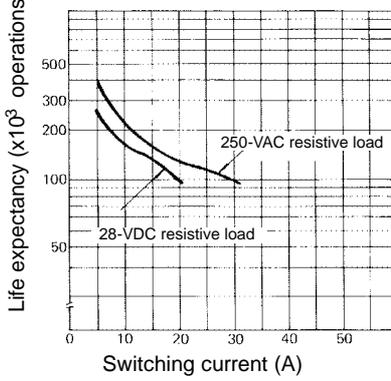


### SPDT

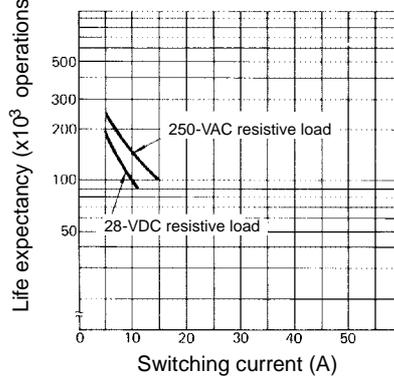


## Life Expectancy

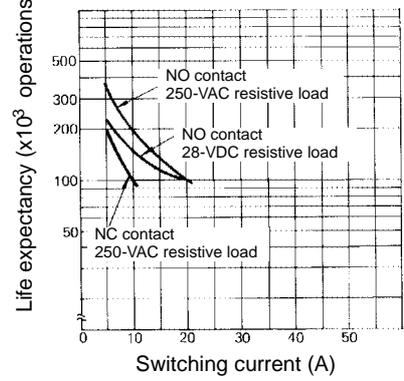
### SPST-NO



### SPST-NC



### SPDT

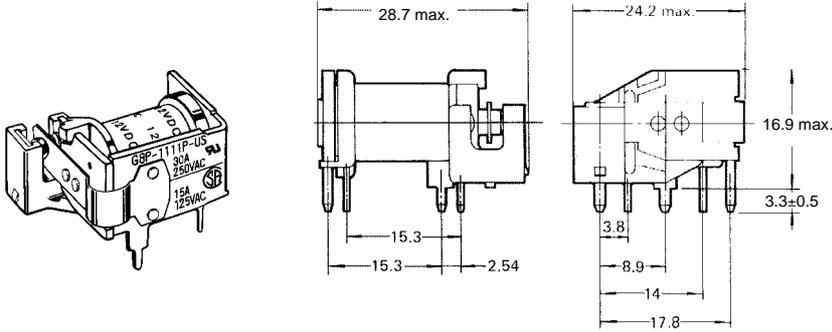


# Dimensions

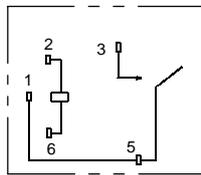
Note: All units are in millimeters unless otherwise indicated.

## ■ Open Types

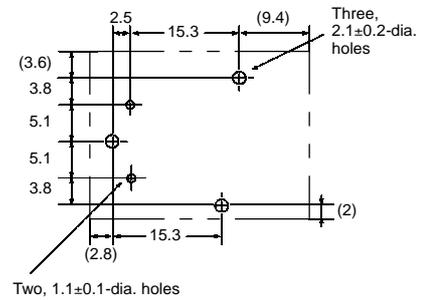
### G8P-1111P-(BI)-US



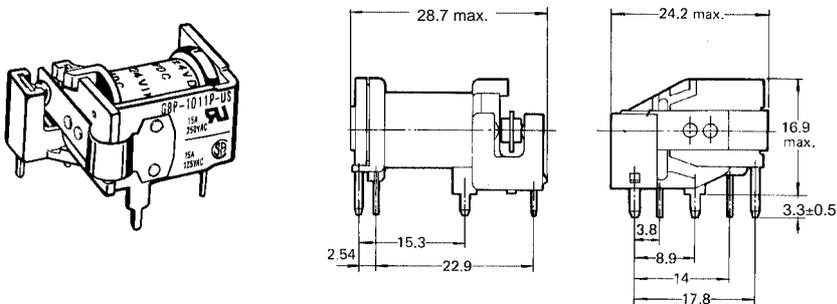
Terminal Arrangement/  
Internal Connections  
(Bottom View)



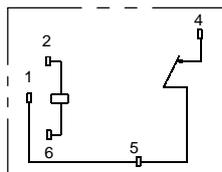
Mounting Holes  
(Bottom View)



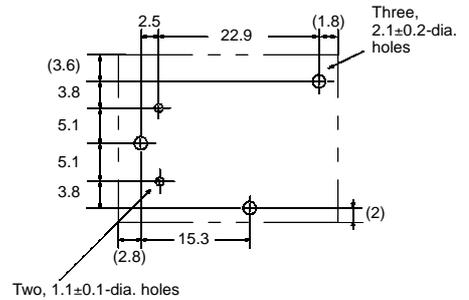
### G8P-1011P-(BI)-US



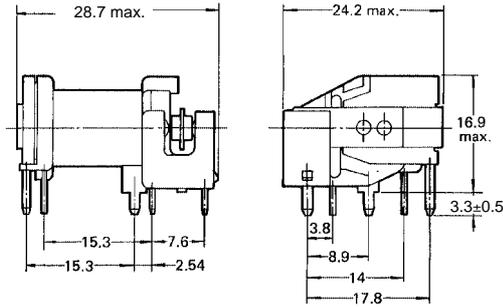
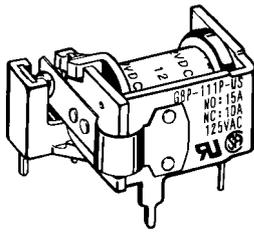
Terminal Arrangement/  
Internal Connections  
(Bottom View)



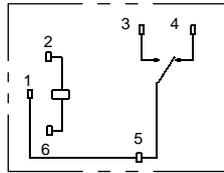
Mounting Holes  
(Bottom View)



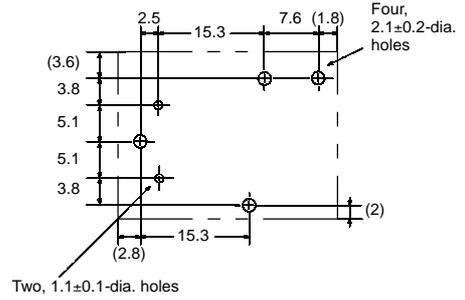
G8P-111P-(BI)-US



Terminal Arrangement/  
Internal Connections  
(Bottom View)

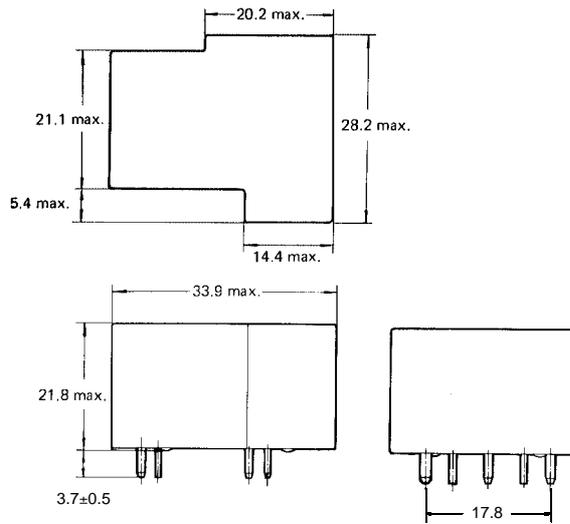
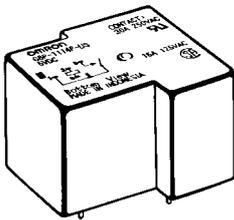


Mounting Holes  
(Bottom View)

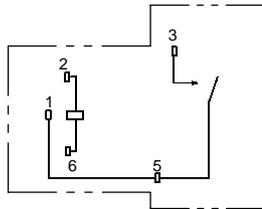


■ Fully Sealed Types

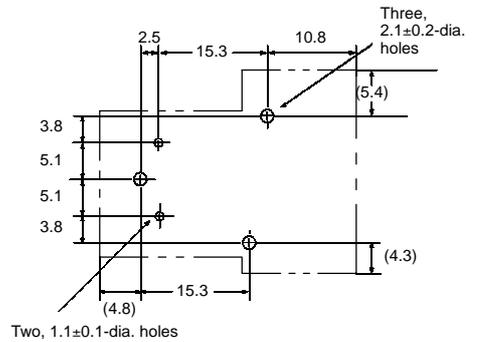
G8P-1114P-(BI)-US



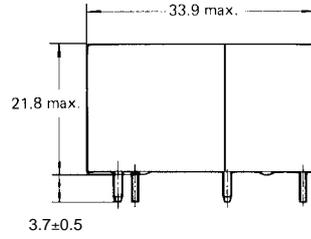
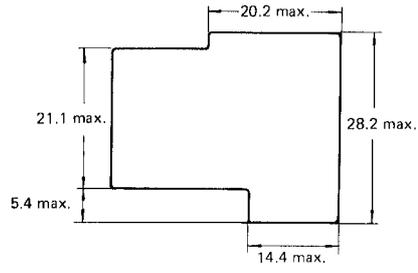
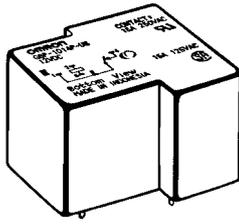
Terminal Arrangement/  
Internal Connections  
(Bottom View)



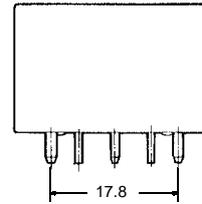
Mounting Holes  
(Bottom View)



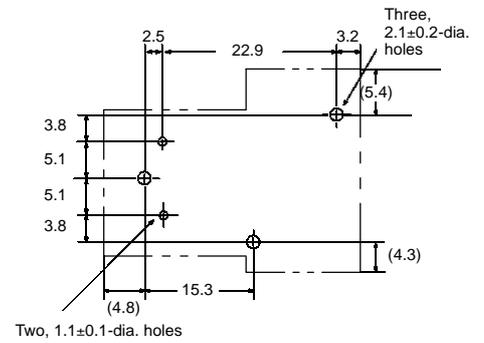
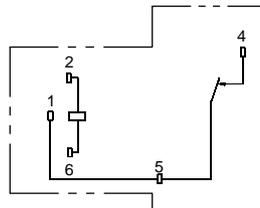
G8P-1014P-(BI)-US



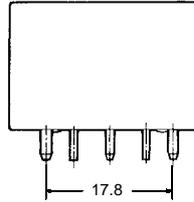
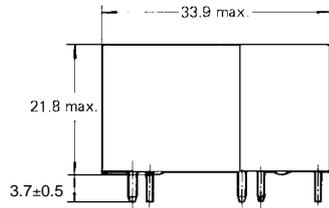
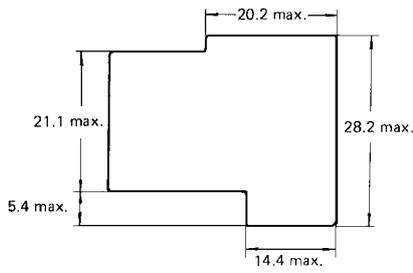
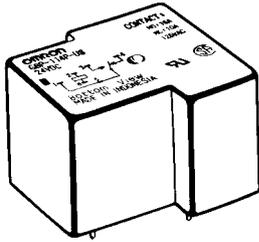
**Terminal Arrangement/  
Internal Connections  
(Bottom View)**



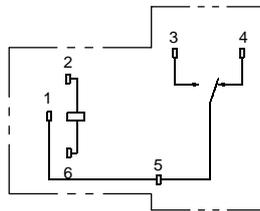
**Mounting Holes  
(Bottom View)**



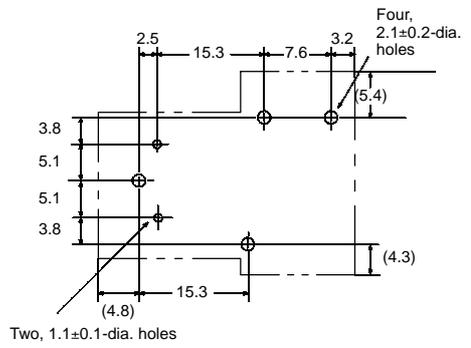
G8P-114P-(BI)-US



Terminal Arrangement/  
Internal Connections  
(Bottom View)

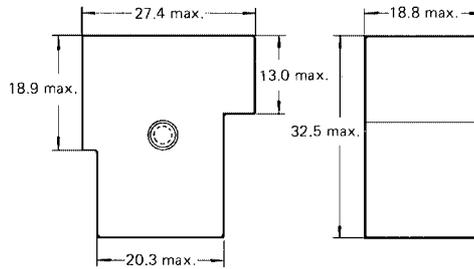
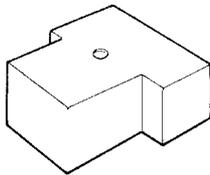


Mounting Holes  
(Bottom View)



Dust Cover

G8P-R99-C01



Precautions

Fully Sealed Relays

Remove the vent hole tape seal from the cover after all soldering and cleaning have been completed to allow air circulation within fully sealed G8P Relays.

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