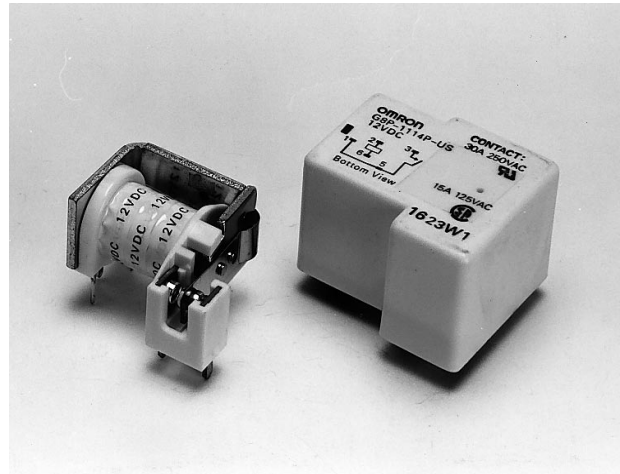


### Small, Low-Cost 30-A Power Relay for PCB Applications

- 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, sealed versions and dust cover available.



### Ordering Information

Contact form	Standard Relays		Relays with class B insulation		Relays with class F insulation	
	Open	Plastic-sealed	Open	Plastic-sealed	Open	Plastic-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. 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

#### 1. Number of Poles

1: 1 pole

#### 2. Contact Form

None: SPDT  
1: SPST-NO  
0: SPST-NC

#### 3. Contact Types

1: Single button

#### 4. Sealing

1: Open  
4: Plastic-sealed

#### 5. Terminals

P: Straight PCB

#### 6. UL Insulation Rate

None: Standard  
BI: Class B insulation  
CF: Class F insulation

#### 7. Rated Coil Voltage

5, 12, 24, 48 VDC

### Accessories (Order Separately)

Dust cover	R99-C01
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### Specifications

#### Coil Ratings

Rated voltage	5 VDC	12 VDC	24 VDC	48 VDC
Rated current	185 mA	77 mA	36 mA	19 mA
Coil resistance	27 Ω	155 Ω	660 Ω	2,480 Ω
Coil inductance (H) (ref. value)	Armature OFF	0.12	0.58	2.43
	Armature ON	0.18	0.92	4.14
Must operate voltage	75% max. of rated voltage			
Must release voltage	10% min. of rated voltage			
Max. voltage	120% of rated voltage			
Power consumption	Approx. 900 mW			

**Note:** The rated current and coil resistance are measured at a coil temperature of 20°C with tolerances of ±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 capacity	7,500 VA, 560 W	3,750 VA, 280 W	5,000/250 VA, 560/280 W*
Min. permissible load	500 mA at 5 VDC		

Note: \*NO contact/NC contact

## ■ Characteristics

Contact resistance	20 mΩ max.
Operate time	15 ms max. (mean value: approx. 8.4 ms)
Release time	10 ms max. (mean value: approx. 1.6 ms)
Max. operating frequency	Mechanical: 18,000 operations/hr Electrical: 1,800 operations/hr (under rated load)
Insulation resistance	10 MΩ min. (at 500 VDC)
Dielectric withstand voltage	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: 1,000m/s <sup>2</sup> (approx. 100G) Malfunction: 100 m/s <sup>2</sup> (approx. 10G)
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 Class B insulation types: -55°C to 85°C Class F insulation types: -55°C to 105°C
Ambient humidity	Operating: 45% to 85%
Weight	Approx. 19 g (G8P-111P), approx. 27 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	UL114-recognized
G8P-1111P-US	SPST-NO	5 to 48 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) 20 A, 28 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) 0.5 hp, 250 VAC (motor load) 3 A (750 W), 250 VAC (tungsten load)	15 A, 250 VAC (inductive load) 10 A, 28 VAC (inductive load) 0.25 hp, 125 VAC (motor load) 0.5 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) 20 A/10 A, 28 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)

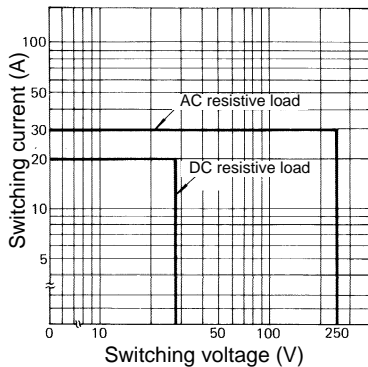
**CSA (File No. LR34815-124)**

Type	Contact form	Coil ratings	Contact ratings
G8P-1111P-US	SPST-NO	5 to 48 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) 0.5 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)

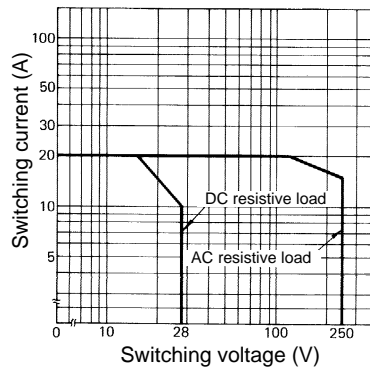
## Engineering Data

### Max. Switching Capacity

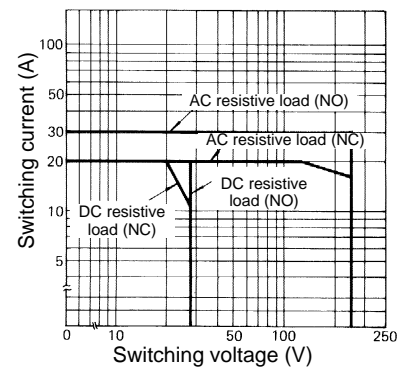
**SPST-NO**



**SPST-NC**

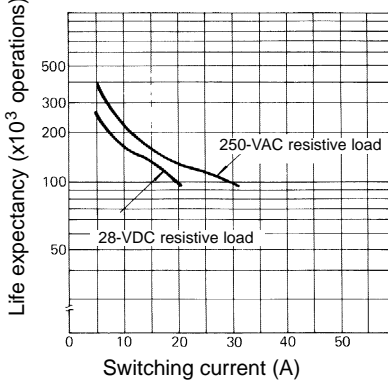


**SPDT**

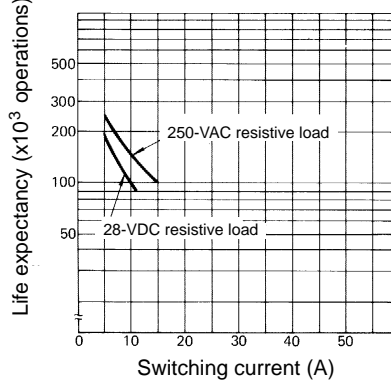


### Life Expectancy

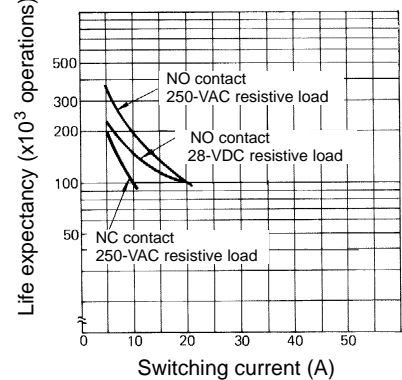
**SPST-NO**



**SPST-NC**

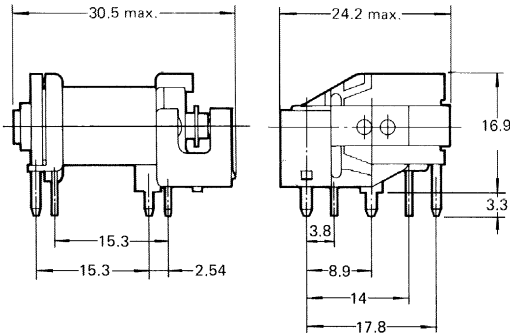


**SPDT**

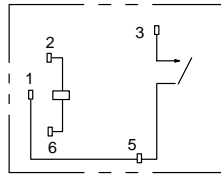


# Dimensions

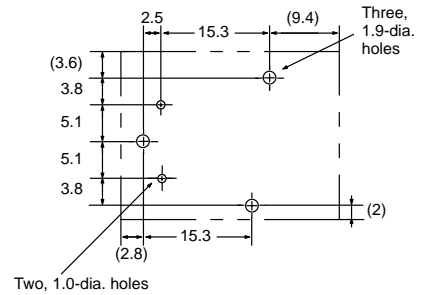
## ■ Open Types G8P-1111P-(B1)-US



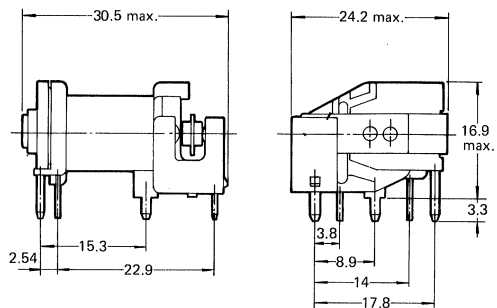
Terminal Arrangement/  
Internal Connections  
(Bottom View)



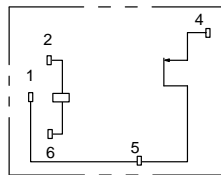
Mounting Holes  
(Bottom View)



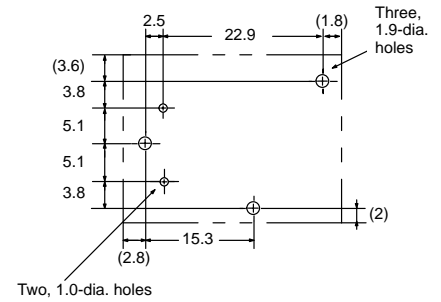
## G8P-1011P-(B1)-US



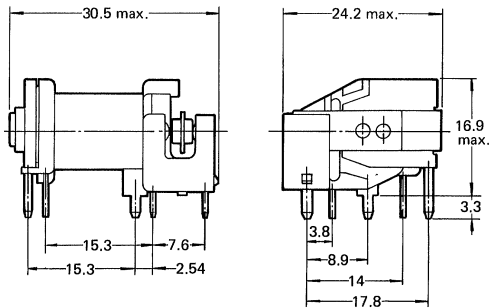
Terminal Arrangement/  
Internal Connections  
(Bottom View)



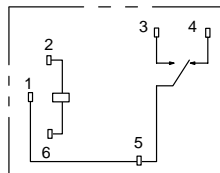
Mounting Holes  
(Bottom View)



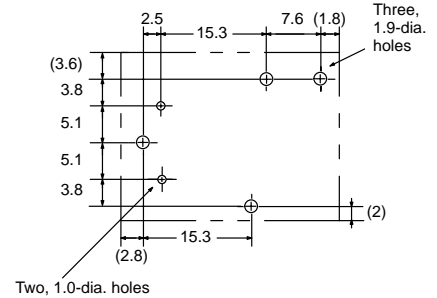
## G8P-111P-(B1)-US



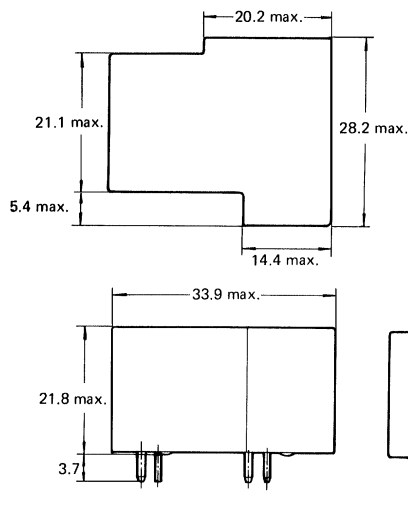
Terminal Arrangement/  
Internal Connections  
(Bottom View)



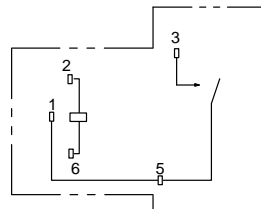
Mounting Holes  
(Bottom View)



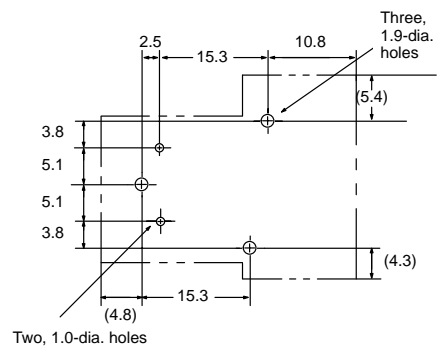
## ■ Plastic-sealed Types G8P-1114P-(B1)-US



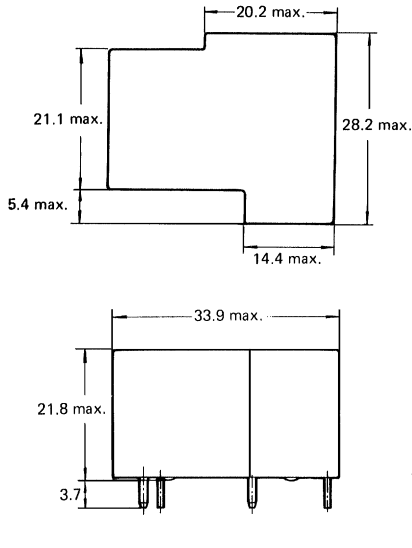
Terminal Arrangement/  
Internal Connections  
(Bottom View)



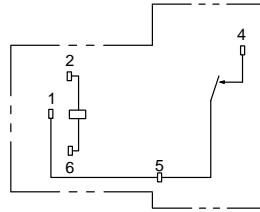
Mounting Holes  
(Bottom View)



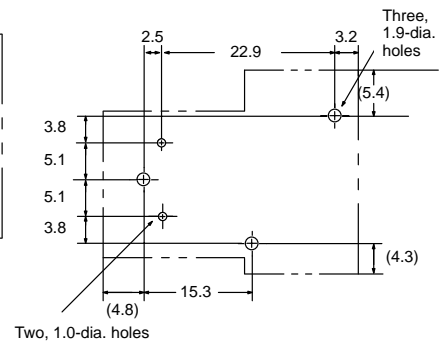
### G8P-1014P-(B1)-US



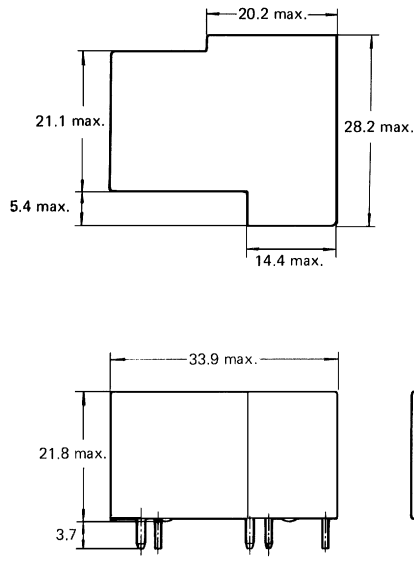
### Terminal Arrangement/ Internal Connections (Bottom View)



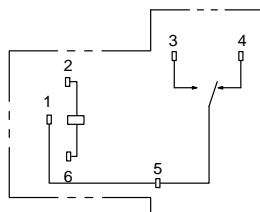
### Mounting Holes (Bottom View)



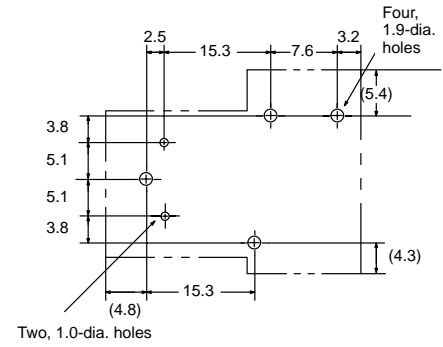
### G8P-114P-(B1)-US



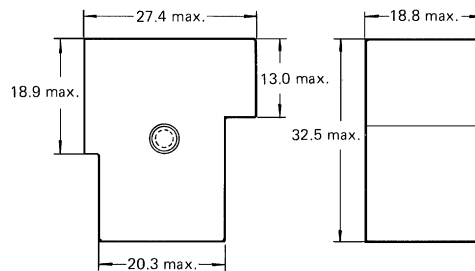
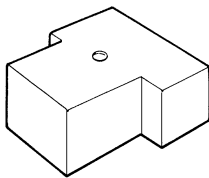
### Terminal Arrangement/ Internal Connections (Bottom View)



### Mounting Holes (Bottom View)



### Dust Cover R99-C01



## Precautions

### Sealed Relays

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