

- Compact, yet capable of switching up to 30 A loads
- Ideal for home and industrial appliances, HVAC (heating, ventilating, and air conditioning), and many other applications
- Class B insulation standard
- Class F insulation, sealed versions, and dust cover available
- Complies with UL 873 and UL 508 column A spacings ( $\frac{1}{8}$ " through air,  $\frac{1}{4}$ " over surface)
- Minimum 6kV Impulse Surge Withstand



## Ordering Information

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

| Type               | Contact form | Construction | Part number       |
|--------------------|--------------|--------------|-------------------|
| Standard           | SPST-NO      | Open         | <b>G8P-1A</b>     |
|                    |              | Sealed       | <b>G8P-1A4</b>    |
|                    | SPDT         | Open         | <b>G8P-1C</b>     |
|                    |              | Sealed       | <b>G8P-1C4</b>    |
| Class F insulation | SPST-NO      | Open         | <b>G8P-1A-CF</b>  |
|                    |              | Sealed       | <b>G8P-1A4-CF</b> |
|                    | SPDT         | Open         | <b>G8P-1C-CF</b>  |
|                    |              | Sealed       | <b>G8P-1C4-CF</b> |

## Specifications

### ■ CONTACT DATA

| Type                    | SPST-NO                         | SPDT                                   |
|-------------------------|---------------------------------|----------------------------------------|
| Rated load              | 30 A at 250 VAC, 20 A at 28 VDC | 20/10 A* at 250 VAC, 20/10 A at 28 VDC |
| Contact material        | AgCdO                           |                                        |
| Carry current           | 30 A                            | 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   | DC 5 V, 500 mA                  |                                        |

\* NO contact/NC contact

Note: 1. AgSnIn contacts available; add suffix "-FD" to part number. (Example: G8P-1A4-FD-CF-DC12)  
 2. Also available with extra common pin (#1) removed; add suffix "-X" to part number. (Example: G8P-1A4-CF-X-DC12)  
 3. 1formB contact arrangement available, contact Omron for details.

## COIL DATA

| Rated voltage (VDC) | Rated current (mA) | Coil resistance ( $\Omega$ ) | Pick-up voltage<br>% of rated voltage | Dropout voltage | Maximum voltage | Power consumption (mW) |
|---------------------|--------------------|------------------------------|---------------------------------------|-----------------|-----------------|------------------------|
| 5                   | 185                | 27                           | 75% max.                              | 10% min.        | 120% max.       | Approx. 900            |
| 6                   | 150                | 40                           |                                       |                 |                 |                        |
| 9                   | 93                 | 97                           |                                       |                 |                 |                        |
| 12                  | 77                 | 155                          |                                       |                 |                 |                        |
| 15                  | 59                 | 256                          |                                       |                 |                 |                        |
| 18                  | 47                 | 380                          |                                       |                 |                 |                        |
| 24                  | 36                 | 660                          |                                       |                 |                 |                        |
| 48                  | 19                 | 2480                         |                                       |                 |                 |                        |
| 110                 | 9                  | 12400                        |                                       |                 |                 |                        |

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

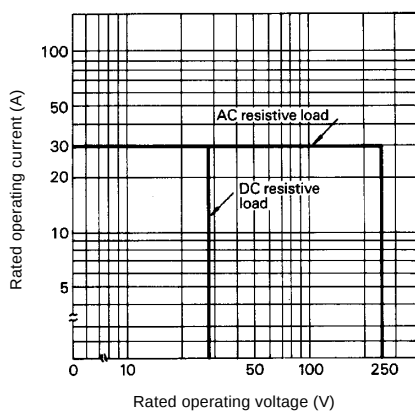
## CHARACTERISTICS

|                         |                         |                                                               |
|-------------------------|-------------------------|---------------------------------------------------------------|
| Contact resistance      |                         | 50 mΩ max. (measured with 5 VDC, 1A)                          |
| Operate time            |                         | 15 ms max.                                                    |
| Release time            |                         | 10 ms max.                                                    |
| Insulation resistance   |                         | 10 MΩ min. (at 500 VDC)                                       |
| Dielectric strength     |                         | 1,500 VAC, 50/60 Hz for 1 minute                              |
| Impulse surge withstand |                         | 6,000 V between coil to contacts (1.2 μs/50 μs)               |
| 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 <sup>2</sup> (approx. 100 G)                        |
|                         | Malfunction durability  | 100 m/s <sup>2</sup> (approx. 10 G)                           |
| Ambient temperature     | Standard type           | -55° to 85°C (-67° to 185°F)                                  |
|                         | With Class F insulation | -55° to 105°C (-67° to 221°F)                                 |
| Humidity                |                         | 45% to 85% RH                                                 |
| Service life            | Mechanical              | 10 million operations min.                                    |
|                         | Electrical              | 100,000 operations at rated load                              |
| Weight                  |                         | Approx. 19 g (0.67 oz)                                        |

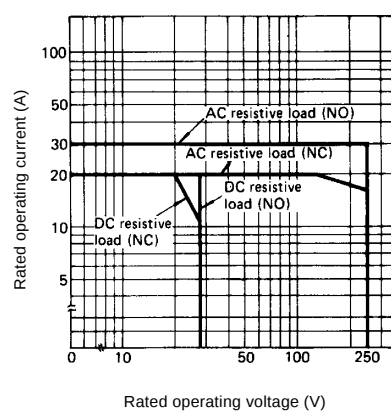
Note: Data shown are of initial value. Operate and release times excluding bounce.

## CHARACTERISTIC DATA

### Maximum switching capacity SPST-NO

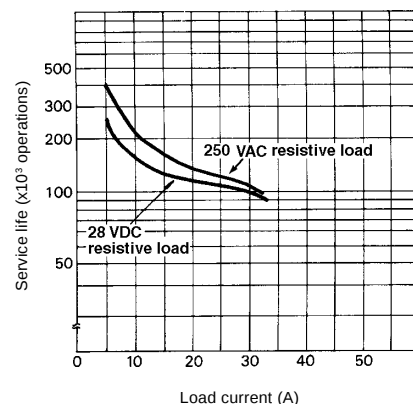


### SPDT

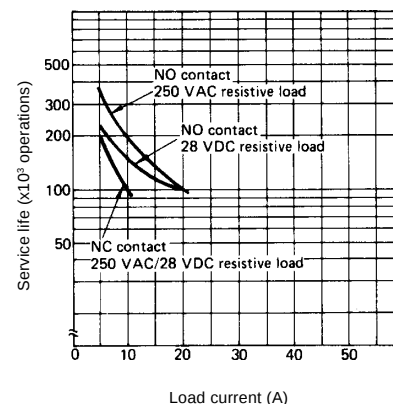


## CHARACTERISTIC DATA

### Electrical service life SPST-NO



### SPDT

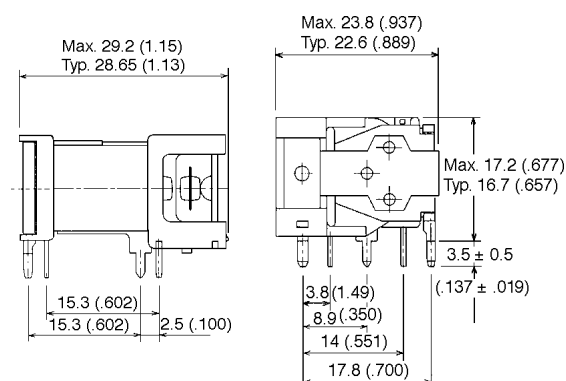


## Dimensions

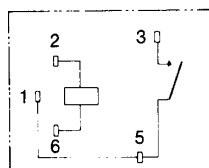
Unit: mm (inch)

### RELAYS

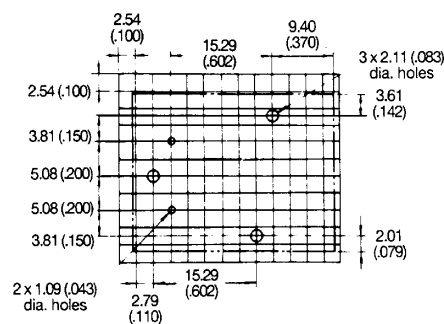
#### SPST-NO (Open)



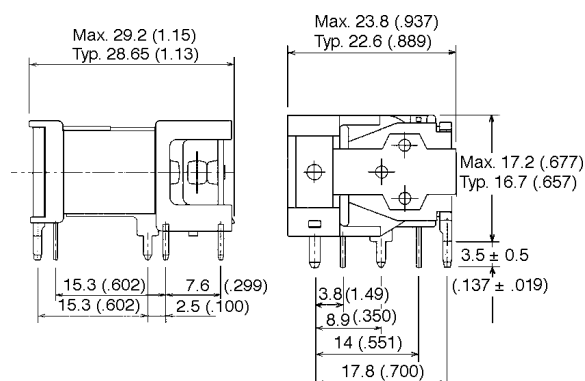
#### Terminal arrangement/ Internal connections (Bottom view)



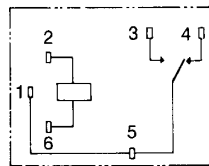
#### Mounting holes (Bottom view)



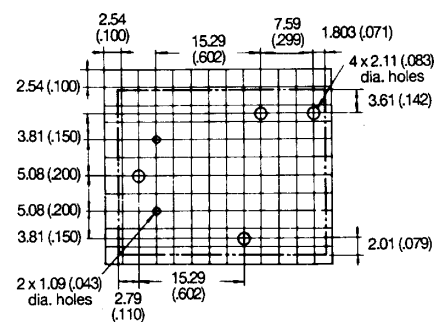
#### SPDT (Open)



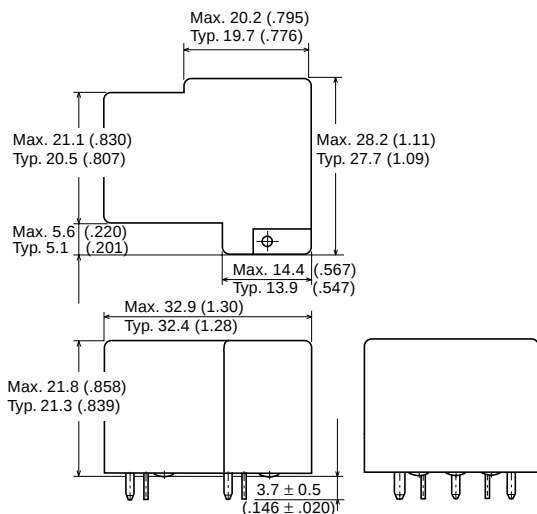
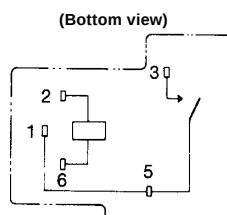
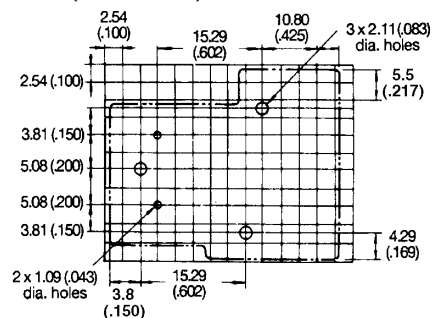
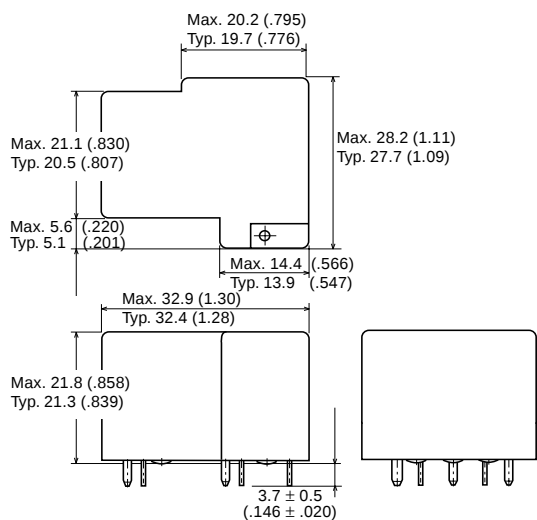
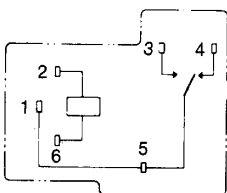
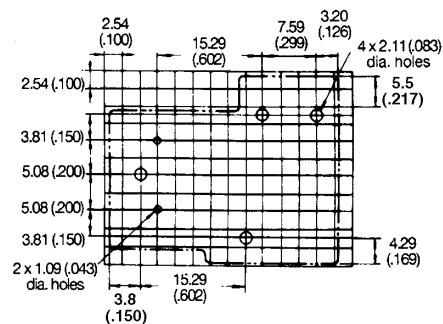
#### Terminal arrangement/ Internal connections (Bottom view)



#### Mounting holes (Bottom view)



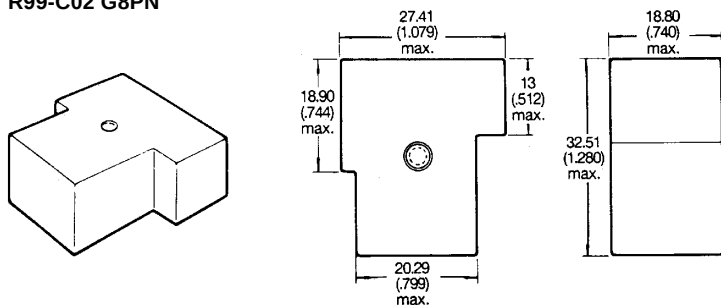
Unit: mm (inch)

**SPST-NO (Sealed)****Terminal arrangement/  
Internal connections****Mounting holes  
(Bottom view)****SPDT (Sealed)****Terminal arrangement/  
Internal connections  
(Bottom view)****Mounting holes  
(Bottom view)**

Note: Allow air circulation within the sealed type G8P by removing the knock off nib from the cover after soldering and cleaning is complete.

**ACCESSORIES**

**Snap-On Dust Cover** (Protects relay contacts against dust contamination only. Do not wave solder or flux clean with a dust cover!)

**R99-C02 G8PN**

## ■ APPROVALS

### UL recognized types (File No. E41643)

| Type                                         | Contact form | Coil ratings | Contact ratings                                                                                                                                                                                                     |                                                                                                                                                                                                                      |
|----------------------------------------------|--------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                              |              |              | UL 508 recognized                                                                                                                                                                                                   | UL 1950 recognized                                                                                                                                                                                                   |
| G8P-1A<br>G8P-1A4<br>G8P-1A-CF<br>G8P-1A4-CF | SPST-NO      | 5 to 110 VDC | 10 A, 250 VAC (G.P./Res.)<br>1 HP, 125 VAC (Motor load)<br>1 HP, 250 VAC (Motor load)<br>5 A, (1,250 W) 250 VAC (Tungsten)<br>20 A, 125 VAC (G.P./Res.)<br>20 A, 28 VDC (Resistive)                                 | 30 A, 250 VAC (G.P./Res.)<br>20 A, 28 VDC (Resistive)<br>1 HP, 125 VAC (Motor load)<br>2 HP, 250 VAC (Motor load)<br><br>12 A, 277 VAC (G.P./Res.)<br>20 A, 125 VAC (G.P./Res.)<br>5 A (1,250 W), 250 VAC (Tungsten) |
| G8P-1C<br>G8P-1C4<br>G8P-1C-CF<br>G8P-1C4-CF | SPDT         | 5 to 110 VDC | NO/NC<br>15 A/10 A, 125 VAC (G.P./Res.)<br>10 A/10 A, 250 VAC (G.P./Res.)<br>1 HP/1/4 HP, 125 VAC (Motor load)<br>1 HP/1/2 HP, 250 VAC (Motor load)<br>5 A/3 A, 250 VAC (Tungsten)<br>20 A/10 A, 28 VDC (Resistive) | NO/NC<br>20 A/10 A, 250 VAC (G.P./Res.)<br>20 A/10 A, 28 VDC (Resistive)<br>1 HP/1/4 HP, 125 VAC (Motor load)<br>2 HP/1/2 HP, 250 VAC (Motor load)<br>12 A/6 A, 277 VAC (G.P./Res.)<br>5 A/3 A, 250 VAC (Tungsten)   |

### CSA certified types (File No. LR34815)

| Type                                         | Contact form | Coil ratings | Contact ratings                                                                                                                                                                                                                                                                      |
|----------------------------------------------|--------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| G8P-1A<br>G8P-1A4<br>G8P-1A-CF<br>G8P-1A4-CF | SPST-NO      | 5 to 110 VDC | 6 A, 277 VAC (G.P./Res.)<br>15 A, 125 VAC (G.P./Res.)<br>10 A, 250 VAC (G.P./Res.)<br>15 A, 28 VDC (Resistive)<br>1 HP, 125 VAC (Motor load)<br>1 HP, 250 VAC (Motor load)<br>5 A, 125 VAC (Tungsten)<br>5 A, 250 VAC (Tungsten)                                                     |
| G8P-1C<br>G8P-1C4<br>G8P-1C-CF<br>G8P-1C4-CF | SPDT         | 5 to 110 VDC | NO/NC<br>6 A/3 A, 277 VAC (G.P./Res.)<br>15 A/10 A, 125 VAC (G.P./Res.)<br>10 A/10 A, 250 VAC (G.P./Res.)<br>15 A/10 A, 28 VDC (Resistive)<br>1/2 HP/1/4 HP, 125 VAC (Motor load)<br>1 HP/1/2 HP, 250 VAC (Motor load)<br>5 A/3 A, 125 VAC (Tungsten)<br>5 A/3 A, 250 VAC (Tungsten) |

- 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.

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