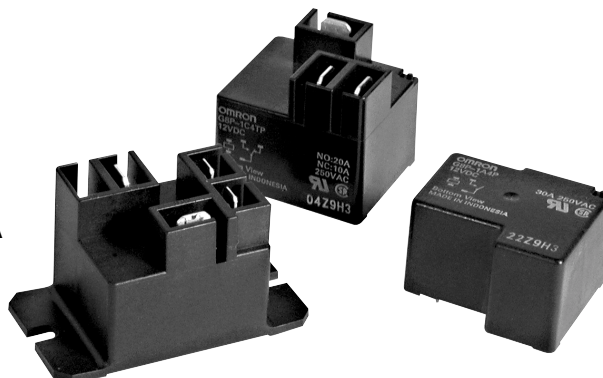


- Up to 30 A switching capacity in compact package
- Available with quick-connect terminals for easy load connecting
- UL Class F coil insulation standard
- Complies with UL 873 and UL 508 column A spacings up to 300 V
- Minimum 6kV Impulse Surge Withstand
- Ideal for home and industrial appliances, HVAC (heating, ventilating, and air conditioning), and many other applications
- UL/CSA approvals, VDE pending



## 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             | Part number       |
|--------------------------------------|--------------|--------------------------|-------------------|
| PCB                                  | SPST-NO      | Open frame               | <b>G8P-1AP</b>    |
|                                      |              | Sealed with ventable nib | <b>G8P-1A4P</b>   |
|                                      | SPDT         | Open frame               | <b>G8P-1CP</b>    |
|                                      |              | Sealed with ventable nib | <b>G8P-1C4P</b>   |
| PCB & Quick Connect load terminals   | SPST-NO      | Open frame               | <b>G8P-1ATP</b>   |
|                                      |              | Sealed with ventable nib | <b>G8P-1A4TP</b>  |
|                                      | SPDT         | Open frame               | <b>G8P-1CTP</b>   |
|                                      |              | Sealed with ventable nib | <b>G8P-1C4TP</b>  |
| Flange mount Quick Connect terminals | SPST-NO      | Vented                   | <b>G8P-1A2T-F</b> |
|                                      | SPDT         | Vented                   | <b>G8P-1C2T-F</b> |

Note: Load terminals are .250" Quick Connect. Coil terminals on Flange Mount versions are .187" Quick Connect.

## 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

## ■ 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                 | 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  $\pm 10\%$ .

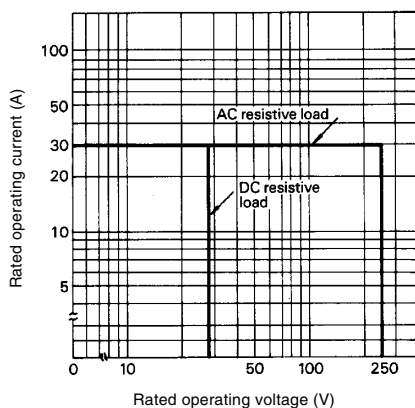
## ■ CHARACTERISTICS

|                         |                        |                                                                                                             |
|-------------------------|------------------------|-------------------------------------------------------------------------------------------------------------|
| Contact resistance      |                        | 100 m $\Omega$ max. (measured with 5 VDC, 1 A)                                                              |
| Operate time            |                        | 15 ms max.                                                                                                  |
| Release time            |                        | 10 ms max.                                                                                                  |
| Insulation resistance   |                        | 10 M $\Omega$ min. (at 500 VDC)                                                                             |
| Dielectric strength     |                        | 2,500 VAC, 50/60 Hz for 1 minute (coil to contacts),<br>1,500 VAC, 50/60 Hz for 1 minute (between contacts) |
| Impulse surge withstand |                        | 6,000 V between coil to contacts (1.2 $\mu$ s/50 $\mu$ s & 100 kHz ring wave per IEC 1000-4-12)             |
| 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     |                        | -55° to 105°C (-67° to 221°F)                                                                               |
| Humidity                |                        | 45% to 85% RH                                                                                               |
| Service life            | Mechanical             | 10 million operations minimum                                                                               |
|                         | Electrical             | 100,000 operations at rated load (minimum)                                                                  |

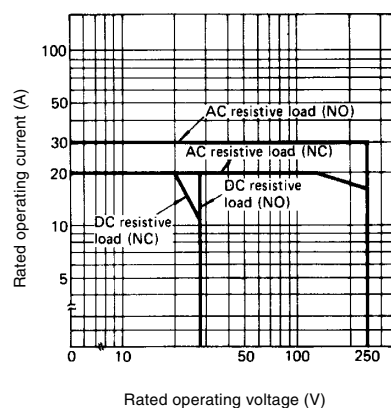
Note: Data shown are of initial value. Operate and release times excluding bounce.

## ■ CHARACTERISTIC DATA

### Maximum switching capacity SPST-NO

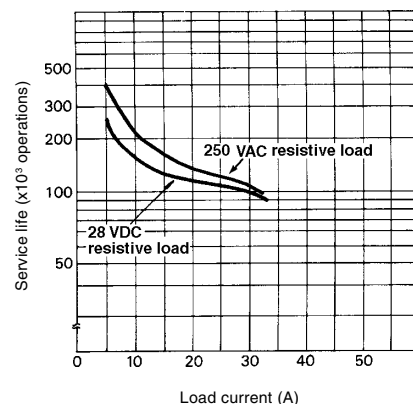


### SPDT

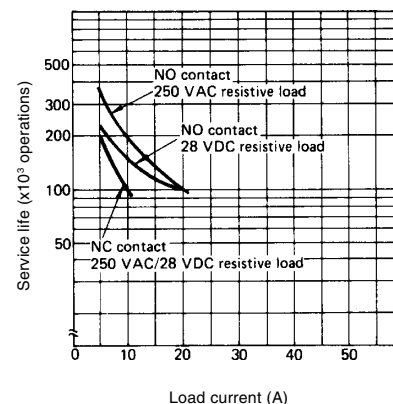


## ■ CHARACTERISTIC DATA

Electrical service life  
SPST-NO



SPDT



## Dimensions

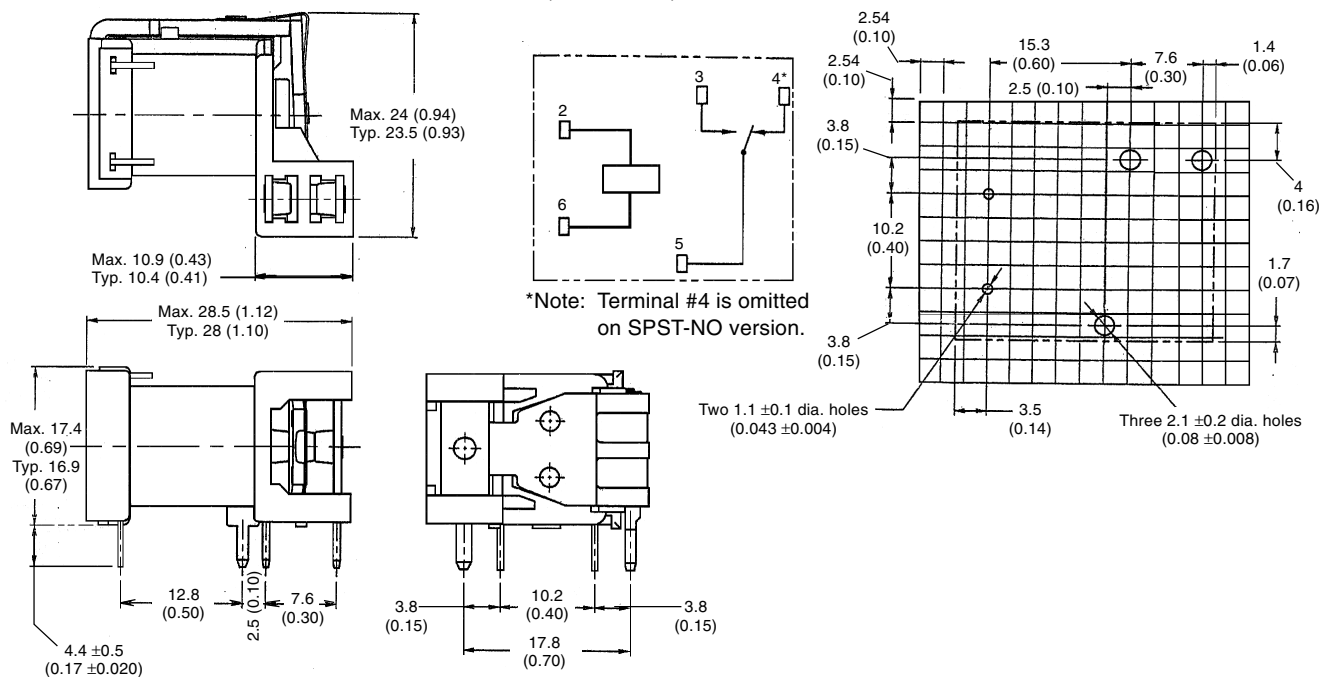
Unit: mm (inch)

## ■ RELAYS

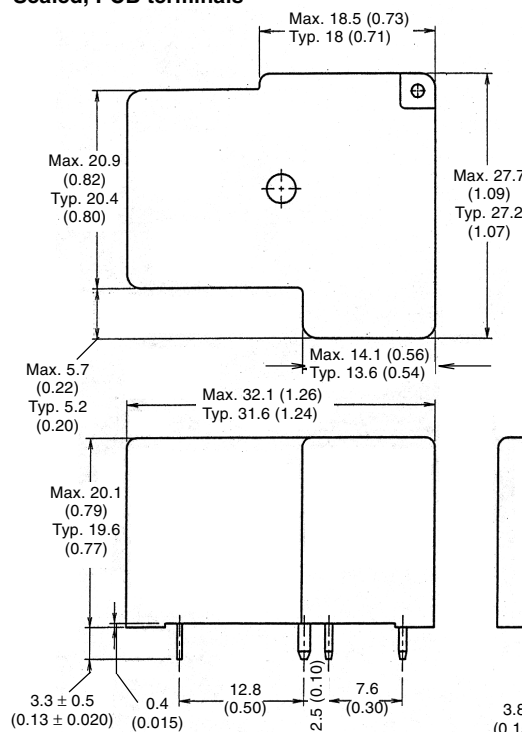
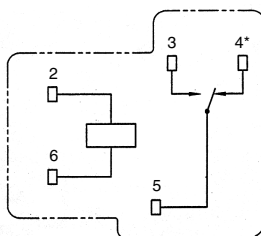
Open frame, PCB terminals

Terminal arrangement/  
Internal connections  
(Bottom view)

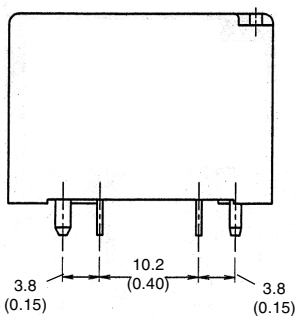
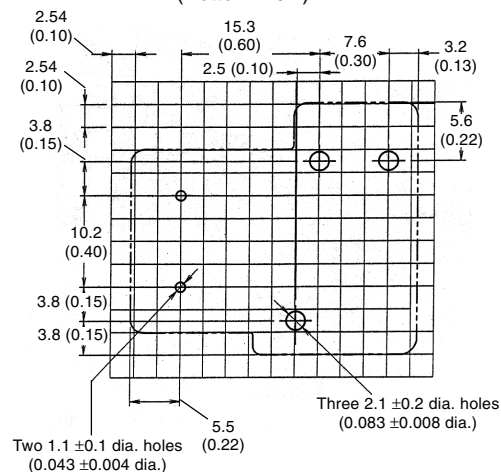
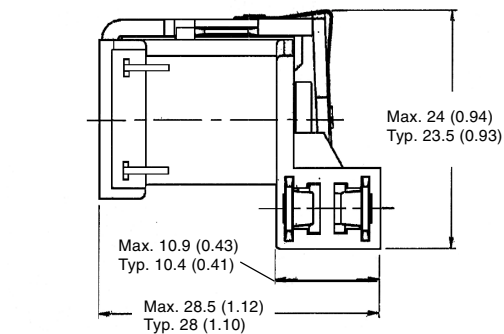
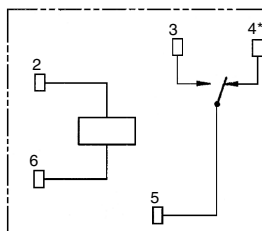
Mounting holes  
(Bottom view)



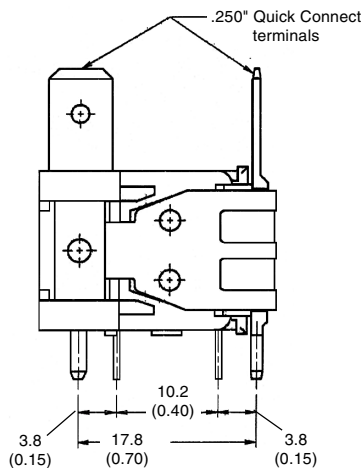
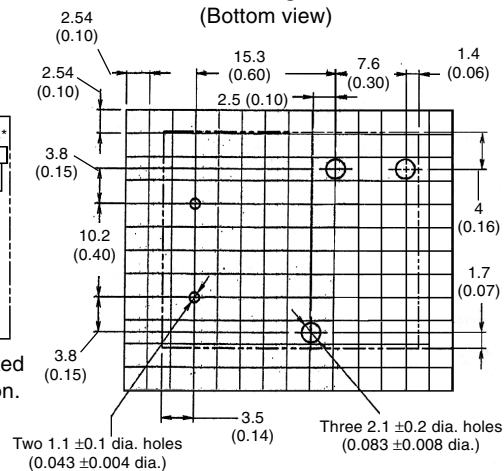
Unit: mm (inch)

**Sealed, PCB terminals****Terminal arrangement/  
Internal connections  
(Bottom view)**

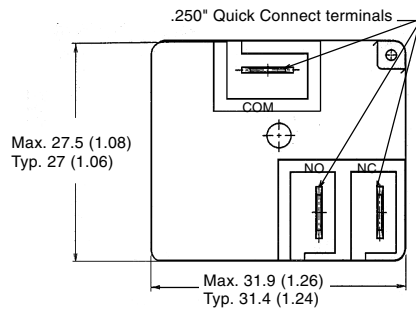
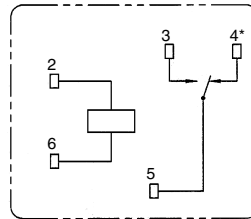
\*Note: Terminal #4 is omitted on SPST-NO version.

**Mounting holes  
(Bottom view)****Open frame, PCB with Quick Connect terminals****Terminal arrangement/  
Internal connections  
(Bottom view)**

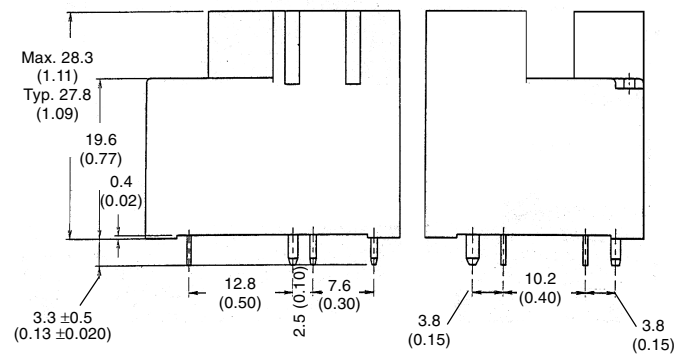
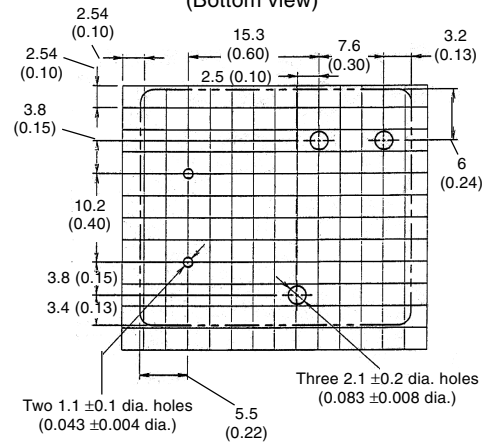
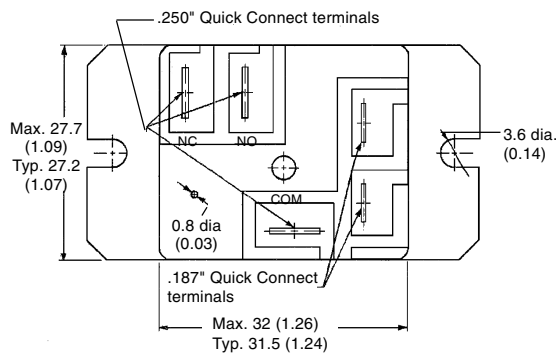
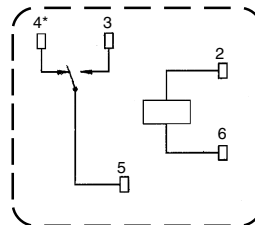
\*Note: Terminal #4 is omitted on SPST-NO version.

**Mounting holes  
(Bottom view)**

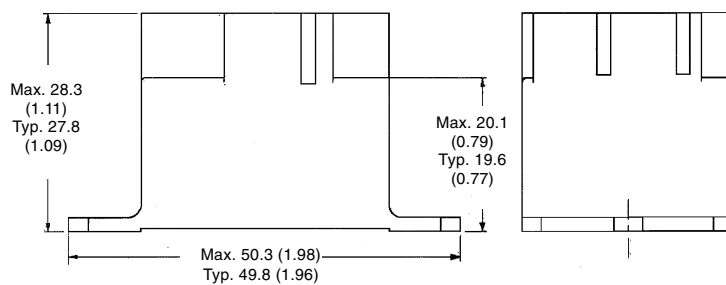
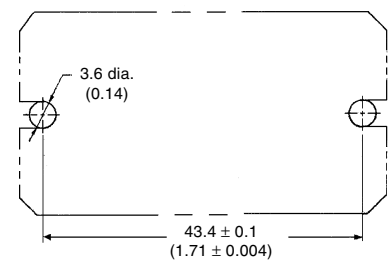
Unit: mm (inch)

**Sealed, PCB with Quick Connect terminals****Terminal arrangement/  
Internal connections  
(Bottom view)**

\*Note: Terminal #4 is omitted  
on SPST-NO version.

**Mounting holes  
(Bottom view)****Flange mount****Terminal arrangement/  
Internal connections  
(Bottom view)**

\*Note: Terminal #4 is omitted  
on SPST-NO version.

**Mounting holes  
(Bottom view)**

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

## ■ APPROVALS

UL Recognized (File No. E41643), CSA Certified (File No. LR34815)

| Contact form | Coil ratings | Contact ratings                                                                                                                                                                                                                                                                                                                                                                           |
|--------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SPST-NO      | 5 to 110 VDC | 30A, 277 VAC (G.P./Res.)<br>30A, 250 VAC, 100k ops. (Res.)<br>20A, 120-240 VAC, 70°C, 100,000 cycles (G.P./Res.)<br>20A, 28 VDC (Res.)<br>20A, 240 VAC, 105°C, 100,000 cycles (Res.)<br>1 HP, 125-250 VAC<br>2 HP, 250 VAC<br>A300 Pilot Duty<br>12FLA, 72LRA, 250 VAC, 100,000 cycles<br>20 FLA, 96 LRA, 125 VAC, 100,000 cycles<br>5A, 250 VAC (Tungsten)<br>20A, 120-277 VAC (Ballast) |
| SPDT         | 5 to 110 VDC | NO/NC<br>30A/ 30A, 250 VAC (Res.)<br>20A/ 15A, 120-240 VAC, 105°C, 100,000 cycles (Res.)<br>20A/ 10A, 120-240 VAC, 70°C, 100,000 cycles (G.P./Res.)<br>20A/ 10A, 28 VDC (Res.)<br>1/2 HP/ 1/2 HP, 125 VAC, 100,000 cycles<br>2 HP/ 1/2 HP, 250 VAC<br>1 HP/ 1/4 HP, 125 VAC<br>B150 Pilot Duty<br>5A/ 3A, 250 VAC (Tungsten)<br>6A/ 3A, 277 VAC (Ballast)                                 |

- 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.

# OMRON

**OMRON ELECTRONICS, INC.**

One East Commerce Drive  
Schaumburg, IL 60173

**1-800-55-OMRON**

**OMRON CANADA, INC.**

885 Milner Avenue  
Scarborough, Ontario M1B 5V8

**416-286-6465**