

Power PCB Relay G8PT

- Up to 30 A switching capacity in compact package.
- 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 |
| | SPDT | Open frame | G8P-1CP |
| | | Sealed with ventable nib* | G8P-1C4P |
| PCB & Quick Connect load terminals | SPST-NO | Open frame | G8P-1ATP |
| | | Sealed with ventable nib* | G8P-1A4TP |
| | SPDT | Open frame | G8P-1CTP |
| | | Sealed with ventable nib* | G8P-1C4TP |
| Flange mount Quick Connect terminals | SPST-NO | Vented | G8P-1A2T-F |
| | SPDT | Vented | G8P-1C2T-F |

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

* Sealed and vented optional.

Specifications

Contact Data

| Type | SPST-NO | SPDT |
|-------------------------|--|--|
| Rated load | 30 A 250 VAC, 20 A 28 VDC | 20/10 A* at 250 VAC, 20/10 A at 28 VDC |
| Contact material | Ag-Alloy | |
| Carry current | 30 A max. | 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 | 500 mA @ 5 VDC (AgSnIn), 100 mA @ 5 VDC (optional alloy) | |

* 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 | 2,480 | | | | |
| 110 | 9 | 12,400 | | | | |

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

Characteristics

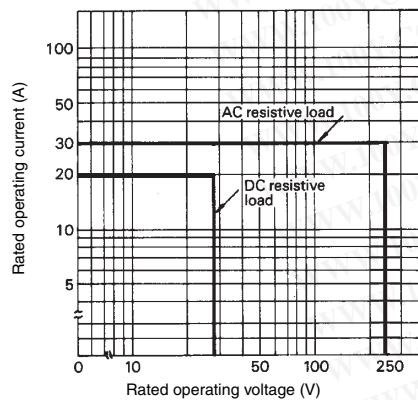
| | | |
|--------------------------------|-------------------------------|--|
| Contact resistance | | 100 m Ω max. (measured with 5 VDC, 1 A) |
| Operate time | | 15 ms. max. |
| Release time | | 10 ms. max. |
| Insulation resistance | | 100 M Ω min. (at 500 VDC) |
| Dielectric strength | | 2,500 VAC, 50/60 Hz for 1 minute (coil to contacts), 1,500 VAC, 50/60 Hz for 1 minute (between contacts) |
| Impulse surge withstand | | 6,000 V between coil to contacts (1.2 μ s/50 μ 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 ² (approx. 100 G) |
| | Malfunction durability | 100 m/s ² (approx. 10 G) |
| Ambient temperature | | -55° to 105°C, cold coil condition (with no icing) -55° to 85°C, hot coil condition (hot start) (with no icing) |
| Humidity | | 5% to 85% RH |
| Service life | Mechanical | 10 million operations minimum |
| | Electrical | 100,000 operations, 360 ops/hr, at rated load (minimum) |

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

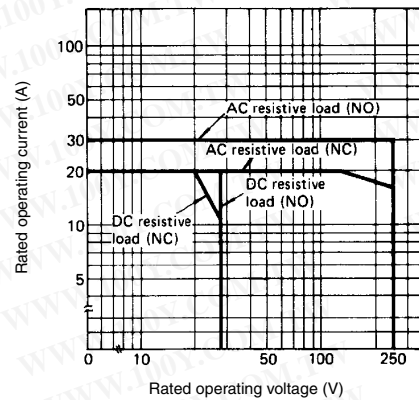
2. Please vent sealed relays after processing in order to achieve rated electrical service life, by removing the vent nib.

Characteristic Data

Maximum switching capacity SPST-NO

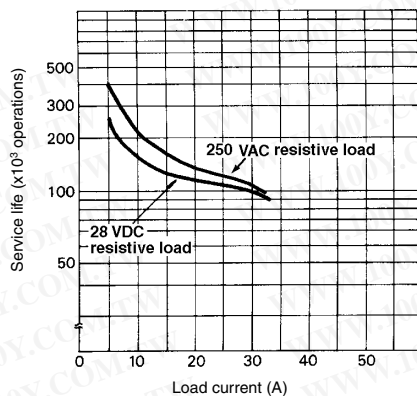


SPDT

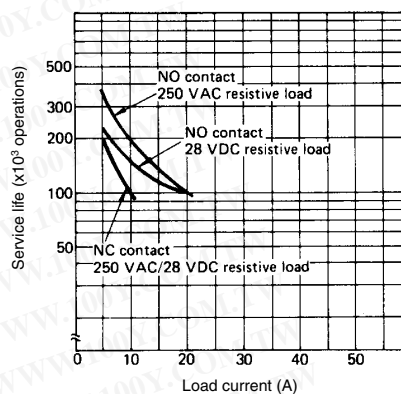


Characteristic Data

Electrical service life
SPST-NO



SPDT



Dimensions

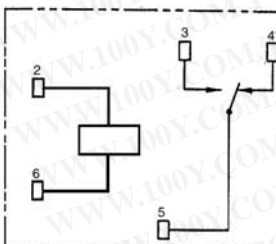
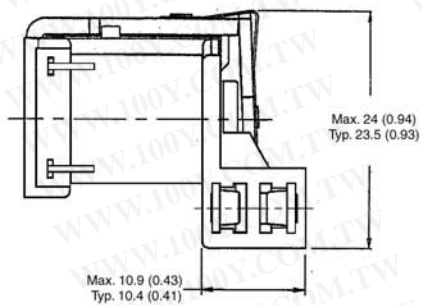
Unit: mm (inch)

Relays

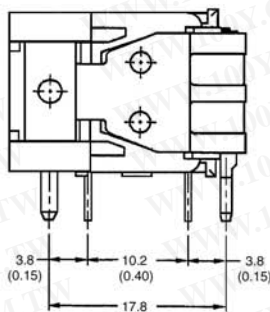
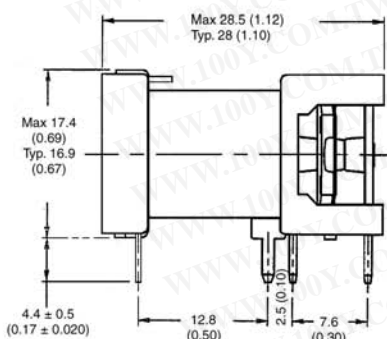
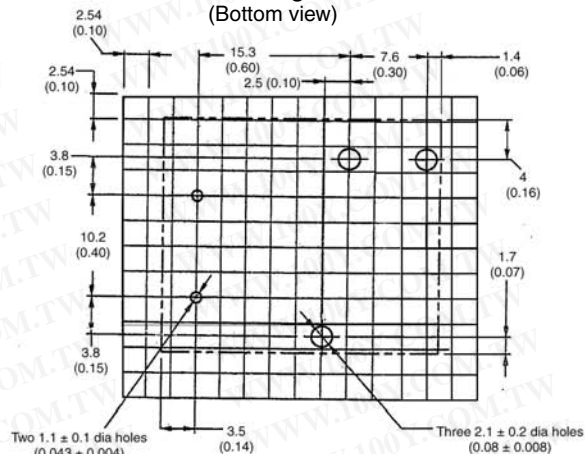
Open frame, PCB terminals

Terminal arrangement/
Internal connections
(Bottom view)

Mounting holes
(Bottom view)

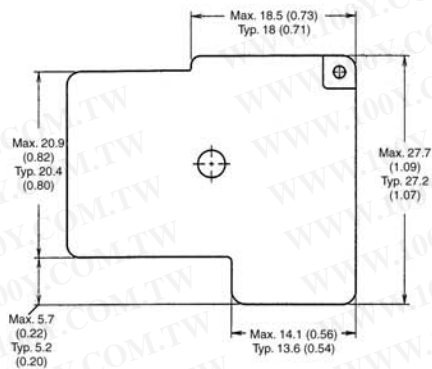


Note: Terminal #4 is omitted on SPST-NO version.

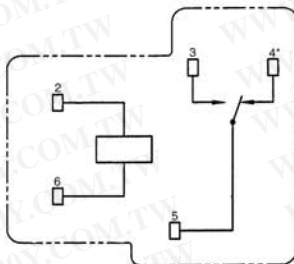


Unit: mm (inch)

Sealed/Ventable, PCB terminals

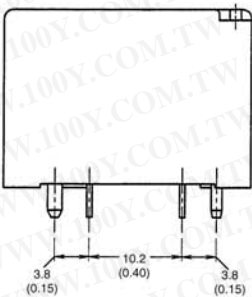
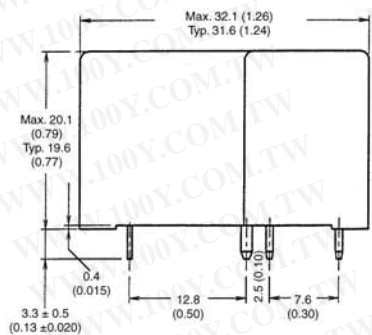
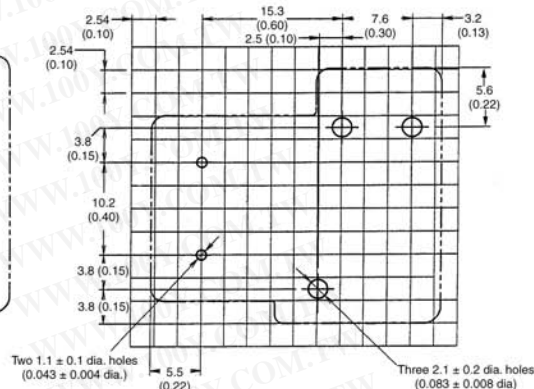


**Terminal arrangement/
Internal connections
(Bottom view)**



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

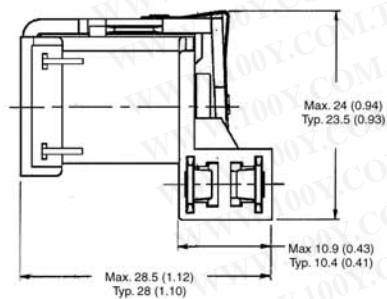
**Mounting holes
(Bottom view)**



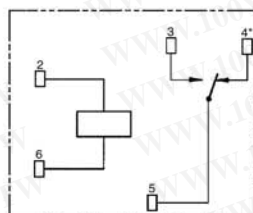
Pin Dimensions

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

**Open frame, PCB with
Quick Connect terminals**

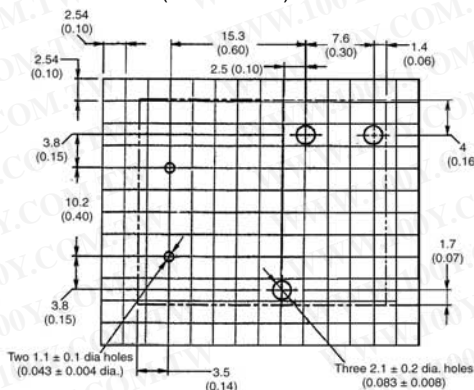


**Terminal arrangement/
Internal connections
(Bottom view)**



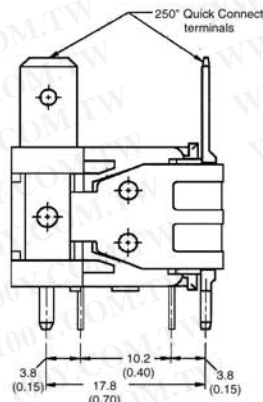
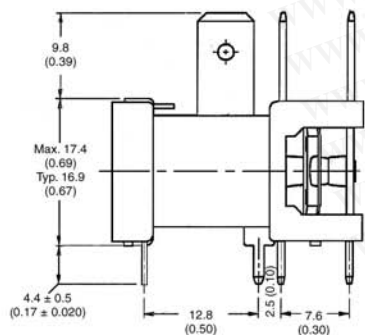
Note: Terminal #4 is omitted on SPST-NO version.

**Mounting holes
(Bottom view)**



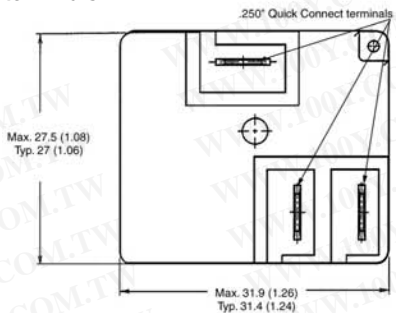
Pin Dimensions

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

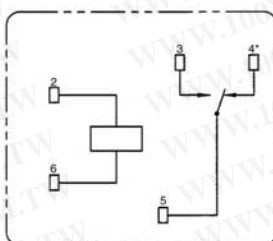


Unit: mm (inch)

Sealed/Ventable, PCB with Quick Connect terminals

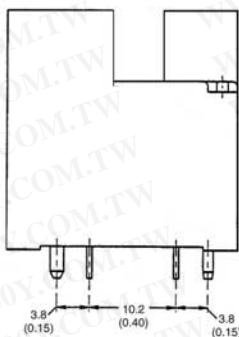
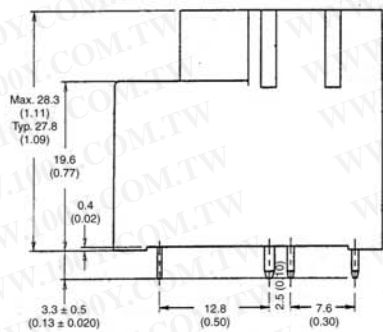
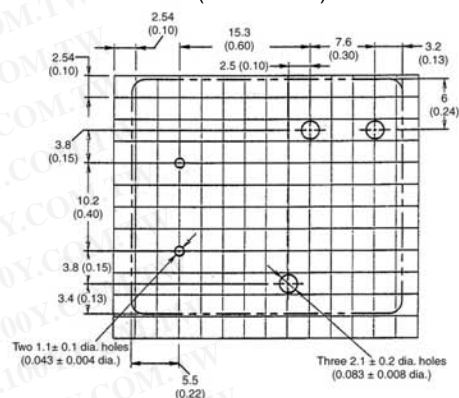


**Terminal arrangement/
Internal connections
(Bottom view)**



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

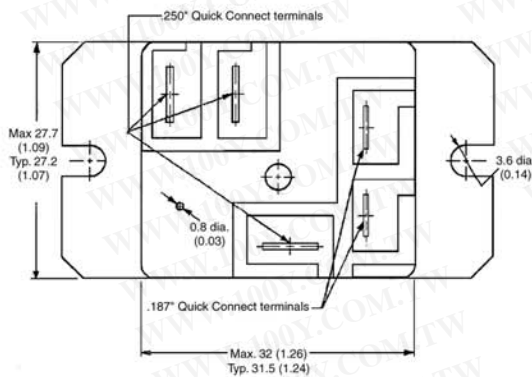
**Mounting holes
(Bottom view)**



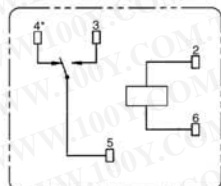
Pin Dimensions

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

Flange mount

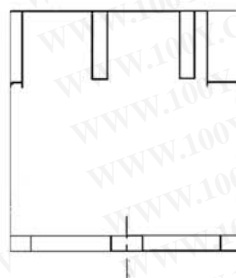
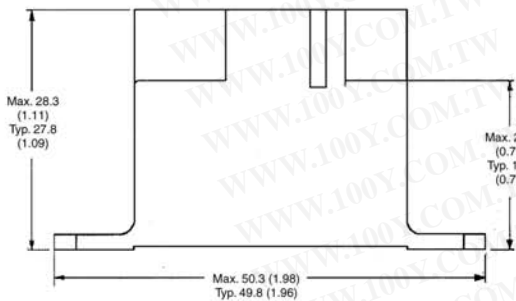
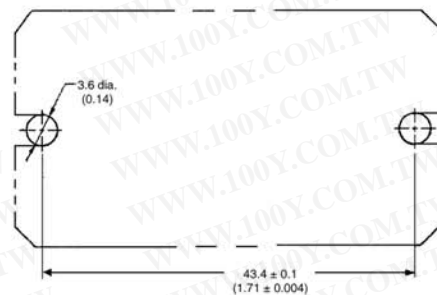


**Terminal arrangement/
Internal connections
(Bottom view)**



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

**Mounting holes
(Bottom view)**



Note: Allow air circulation within the sealed type G8PT by removing the ventilation nib from the cover after soldering and cleaning is complete.

■ Approvals

UL Recognized (File No. E42643), CSA Certified (File No. LR34815)

| Contact form | Coil ratings | Contact ratings |
|--------------|--------------|--|
| 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, 600 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 |
| 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, 100,000 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.
 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.
 4. Please contact Omron for details regarding VDE approvals.
 5. Meets requirements of pollution degree 2 with Material II & III.

Omron Electronic Components, LLC

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 - Products:** Products and/or services of Seller
 - Including:** Including without limitation
- Offer/Acceptance:** These Terms are deemed part of all quotations, acknowledgments, invoices, purchase orders and other documents, whether electronic or in writing, relating to the sale of Products by Seller. Seller hereby objects to any Terms proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms.
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 - Delivery and shipping dates are estimates only; and
 - Seller will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.
- Claims:** Any claim by Buyer against Seller for shortage or damage to the Products occurring before delivery to the carrier or any claim related to pricing or other charges must be presented in detail in writing to Seller within 30 days of receipt of shipment.

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- Errors And Omissions:** The information on Seller's website or in other documentation has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.
- Export Controls:** Buyer shall comply with all applicable laws, regulations and licenses regarding (a) export of the Products or information provided by Seller; (b) sale of Products to forbidden or other proscribed persons or organizations; (c) disclosure to non-citizens of regulated technology or information.

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 - (iii) Use in consumer products or any use in significant quantities.
 - (iv) Systems, machines and equipment that could present a risk to life or property. Please know and observe all prohibitions of use applicable to this product.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
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ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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