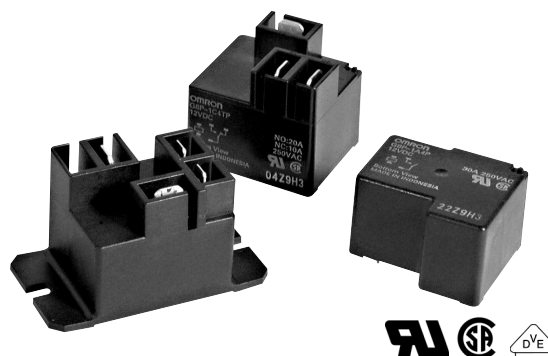


Power PCB Relay G8PT

- Up to 30 A switching capacity in compact package.
- **NEW** G8P-1A4P-BG with 2.0 mm contact gap and high dielectric strength of 4,000 VAC
- 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-BG 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:**
1. Load terminals are .250" Quick Connect. Coil terminals on Flange Mount versions are .187" Quick Connect.
 2. "-BG" version available with 12 VDC and 24 VDC coils, only.
 3. Packaged with 50 pcs per tray.

* Sealed and vented optional.

Specifications

Contact Data

| Type | SPST-NO | SPDT |
|-------------------------|--|---|
| Rated load | 30 A 250 VAC (-BG: 20 A 250 VAC), 20 A 28 VDC (-BG: - - -) | 20/10 A* at 250 VAC, 20/10 A* at 28 VDC |
| Contact material | Ag-Alloy (Cd free) | |
| Rated Carry current | 30 A max. (-BG: 20 A) | 20/10 A* |
| Max. operating voltage | 250 VAC, 28 VDC (-BG: 250 VAC) | |
| Max. operating current | AC 30 A, DC 20 A (-BG: AC 20 A) | AC 20/10 A, DC 20/10 A* |
| Max. switching capacity | 7,500 VA, 560 W (-BG: 5,000 VA) | 5,000/2,500 VA, 560/280 W* |
| Min. permissible load | 500 mA @ 5 VDC (See note 1), 100 mA @ 5 VDC (See note 2) | |

* NO contact/NC contact

- Note:**
1. Applicable for G8P-1A4TP, G8P-1CP, G8P-1C4P, G8P-1C4TP and G8P-1C2T-F versions.
 2. Applicable for G8P-1AP, G8P-1A4P(-BG), G8P-1ATP and G8P-1CTP versions.

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 with tolerances of $\pm 10\%$.
 - The operating characteristics are measured at a coil temperature of 23°C.
 - The "Maximum Voltage" is the maximum voltage that can be applied to the relay coil.

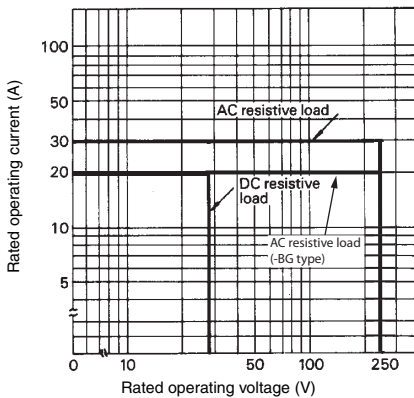
Characteristics

| | | |
|---|--|--|
| Contact resistance | 100 m Ω max. (measured with 5 VDC, 1 A, voltage drop method) | |
| Operate time | 15 ms. max. (-BG: 20 ms max.) | |
| Release time | 10 ms. max. | |
| Insulation resistance (See note 2) | 100 M Ω min. (at 500 VDC) | |
| Dielectric strength | 2,500 VAC, 50/60 Hz for 1 minute (between coil and contacts), (-BG: 4,000 VAC) 1,500 VAC, 50/60 Hz for 1 minute (between contacts of the same polarity) | |
| Impulse surge withstand | 6,000 V between coil and contacts (1.2/50 μ s) | |
| Vibration resistance | Destruction | 10 to 55 Hz, 1.65 mm double amplitude for 2 hours (-BG: 10 to 55 Hz, 1.5 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 ² (approx. 100 G) |
| | Malfunction | 100 m/s ² (approx. 10 G) |
| Ambient operating temperature | -55° to 105°C, cold coil condition (with no icing) -55° to 85°C, hot coil condition (hot start) (with no icing) | |
| Ambient operating humidity | 5% to 85% RH | |
| Service life | Mechanical | 10 million operations minimum at 18,000 ops/hour. (-BG: 5 million operations min.) |
| | Electrical | 100,000 operations approx. at 360 ops/hr. (-BG: 40,000 operations min.) |
| Weight | Approx. 24 g to 31 g | |

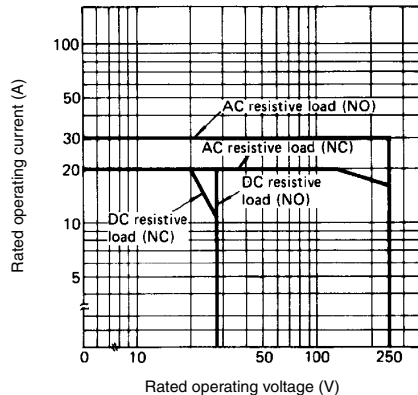
- Note:**
- Data shown are of initial value. Operate and release times excluding bounce.
 - Measurement conditions: Measured at the same points as the dielectric strength using a 500 VDC ohmmeter.
 - Please vent sealed relays after processing in order to achieve rated electrical service life, by removing the vent nib.

Characteristic Data

Maximum switching capacity SPST-NO

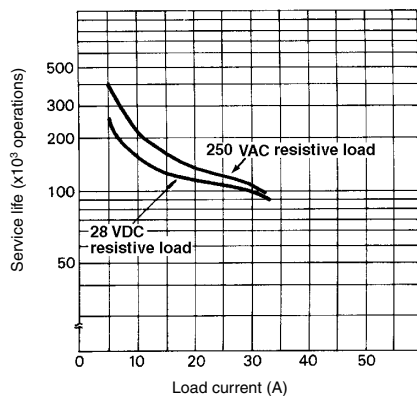


SPDT



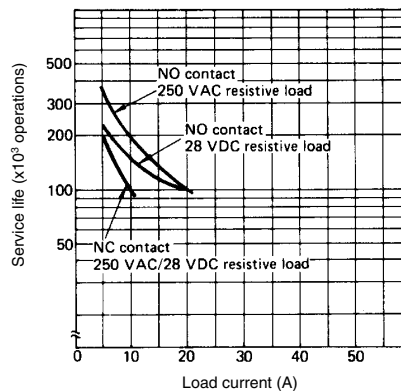
Characteristic Data

Electrical service life
SPST-NO



*Except (-BG) type

SPDT



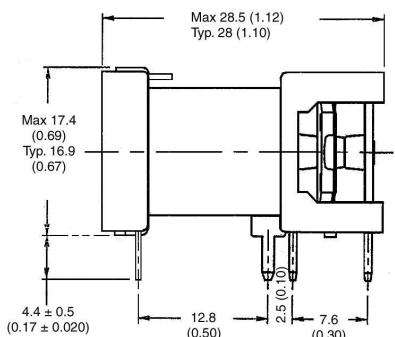
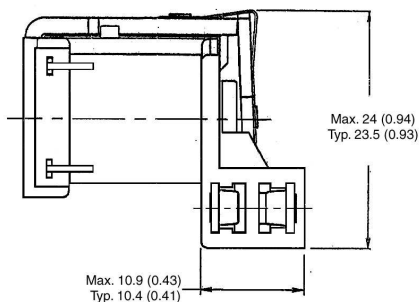
Dimensions

Unit: mm (inch)

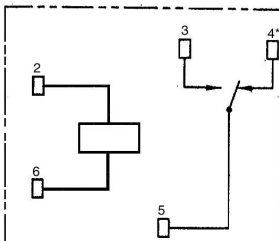
Relays

G8P-1CP / 1AP

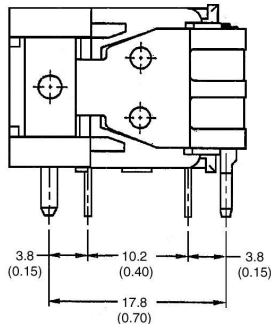
Open frame, PCB terminals



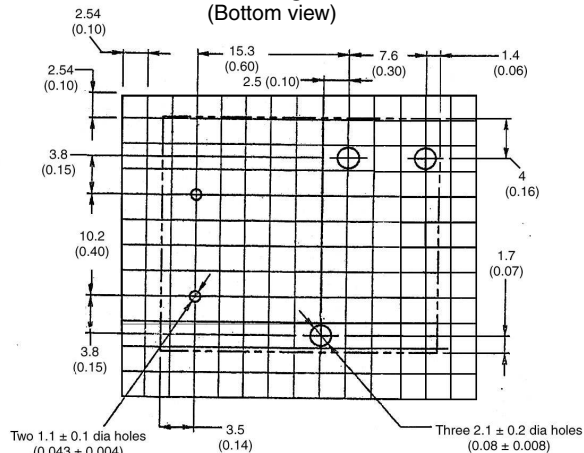
Terminal arrangement/
Internal connections
(Bottom view)



Note: Terminal #4 is omitted on G8P-1AP.



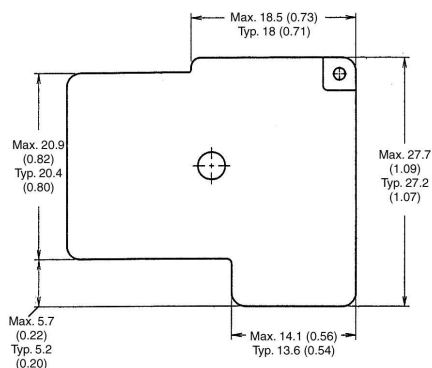
Mounting holes
(Bottom view)



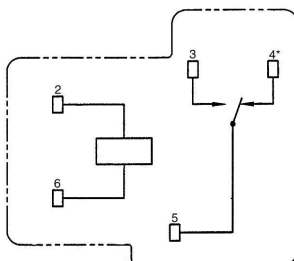
Unit: mm (inch)

G8P-1C4P / 1A4P / 1C2P / 1A2P

Sealed/Ventable, PCB terminals

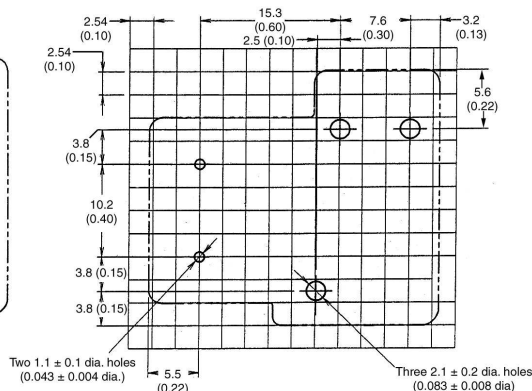


**Terminal arrangement/
Internal connections
(Bottom view)**



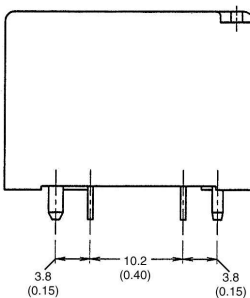
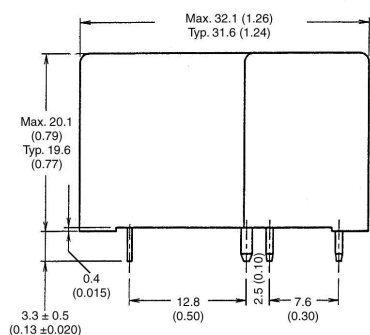
Note: Terminal #4 is omitted on G8P-1A4P/1A2P.

**Mounting holes
(Bottom view)**



Pin Dimensions

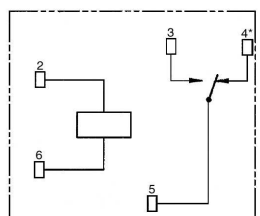
large = 1.6 x 1.2; 1.2 x 0.8 x 3.3L
small = 0.6 x 0.5 x 3.3L



G8P-1CTP / 1ATP

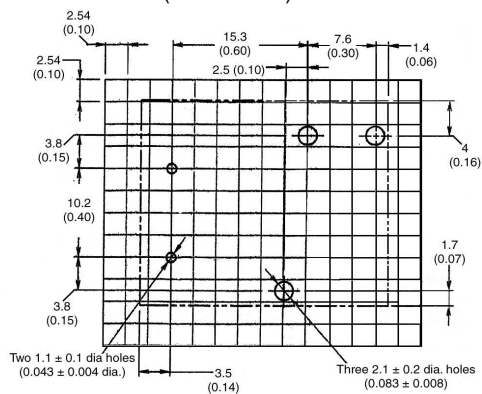
Open frame, PCB with Quick Connect terminals

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



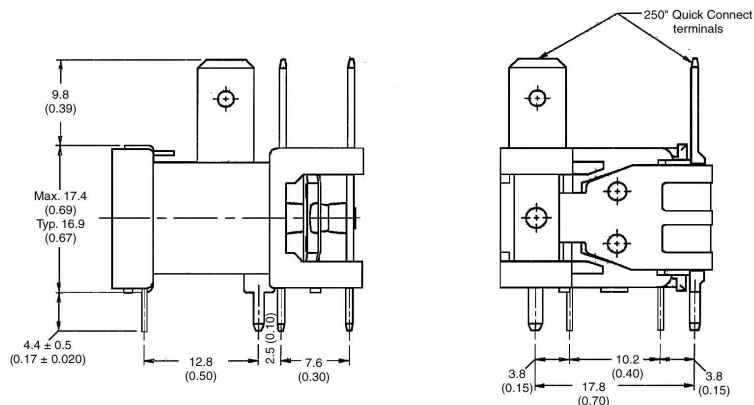
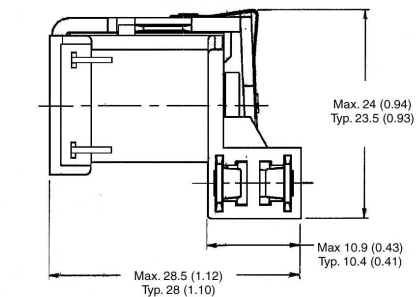
Note: Terminal #4 is omitted on G8P-1ATP.

**Mounting holes
(Bottom view)**



Pin Dimensions

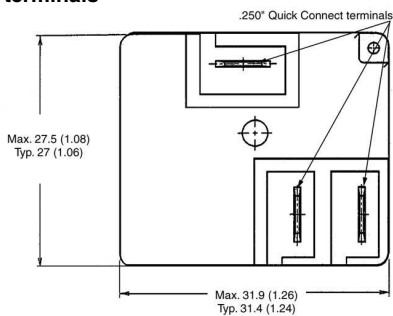
large = 1.6 x 1.2; 1.2 x 0.8 x 3.3L
small = 0.6 x 0.5 x 3.3L



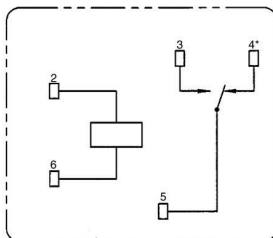
Unit: mm (inch)

G8P-1C4TP / 1A4TP / 1C2TP / 1A2TP

Sealed/Ventable, PCB with Quick Connect terminals

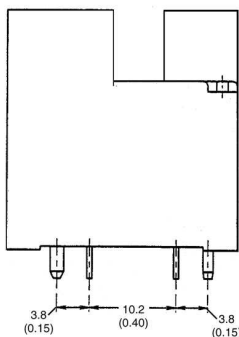
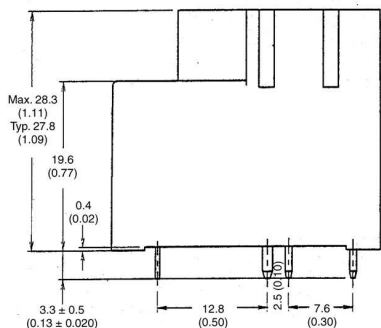
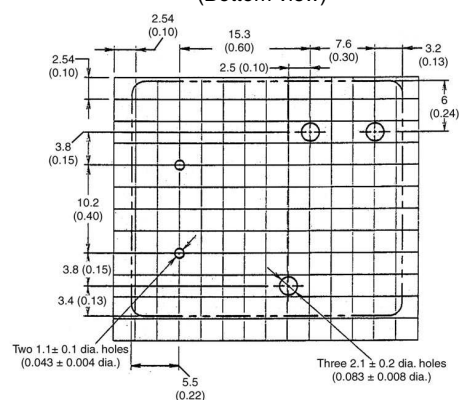


**Terminal arrangement/
Internal connections
(Bottom view)**



Note: Terminal #4 is omitted on G8P-1A4TP/1A2TP.

**Mounting holes
(Bottom view)**

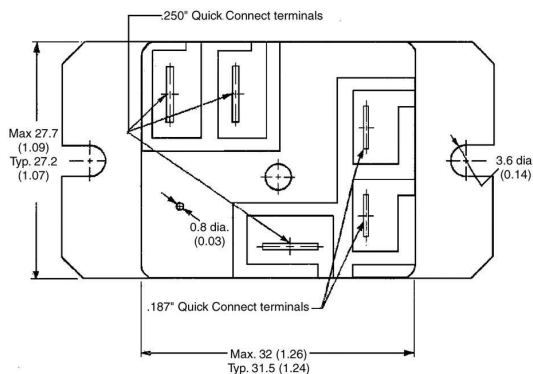


Pin Dimensions

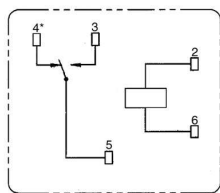
large = 1.6 x 1.2; 1.2 x 0.8 x 3.3L
small = 0.6 x 0.5 x 3.3L

G8P-1C2T-F / 1A2T-F

Flange mount

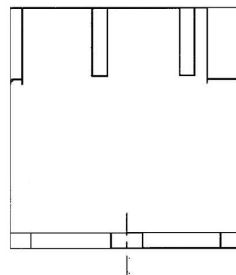
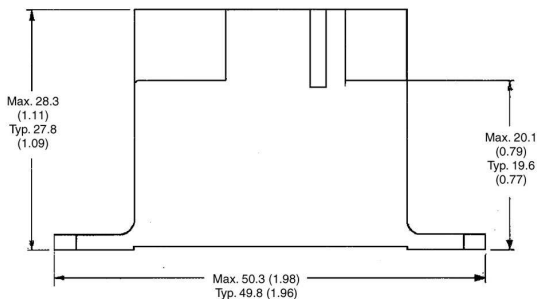
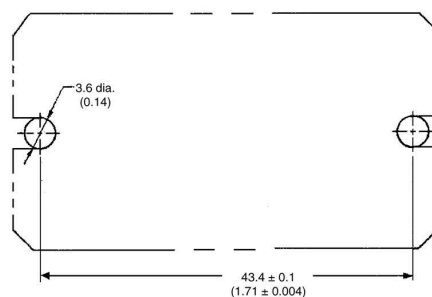


**Terminal arrangement/
Internal connections
(Bottom view)**



Note: Terminal #4 is omitted on G8P-1A2T-F.

**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. E41643), CSA Certified (File No. LR31928)

| Model | Contact form | Coil ratings | Contact ratings |
|--|--------------|--------------|---|
| G8P-1AP G8P-1A4P G8P-1ATP G8P-1A4TP G8P-1A2T-F | 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, 6,000 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 |
| G8P-1A4P-BG | | | 30 A, 277 VAC (Res.), 85°C, 30,000 cycles |
| G8P-1CP G8P-1C4P G8P-1CTP G8P-1C4TP G8P-1C2T-F | 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, 10,000 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.

Precautions

Recommended soldering condition

Pre-heat at 120°C maximum within 120 seconds.
Complete solering at 265°C maximum within 6 seconds.

Re: the Electrical Appliance and Material Safety Law (Japan)

The G8P series is not compliant with the Electrical Appliance and Material Safety Law of Japan. Pay careful attention to select a suitable Relay for the application.

A large grid of 20 columns and 30 rows of small squares, used for taking notes or calculations. The grid is composed of thin, light gray lines forming a uniform pattern across the page.

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

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Specifications subject to change without notice

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