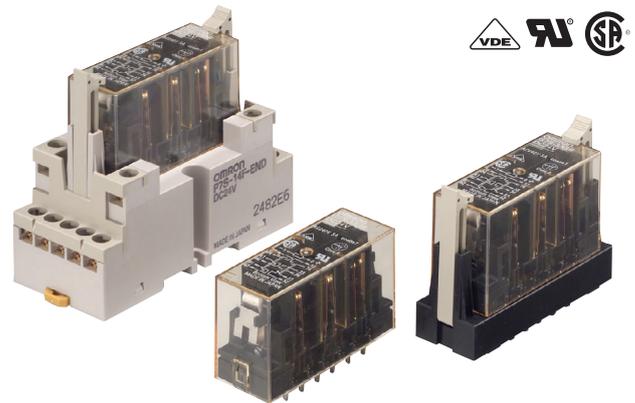


Lineup Now Includes 10-A Models

- Relays with forcibly guided contacts (EN50205 Class A, certified by VDE).
- Supports the CE marking of machinery (Machinery Directive).
- Helps avoid hazardous machine status when used as part of an interlocking circuit.
- Track-mounting and Back-mounting Sockets are available.



 Be sure to read the "Safety Precautions" on page 4 and the "Precautions for All Relays with Forcibly Guided Contacts".

Model Number Structure

Model Number Legend

G7S-□A□B-E
1 2

- 1. NO Contact Poles**
 4: 4PST-NO
 3: 3PST-NO

- 2. NC Contact Poles**
 2: DPST-NC
 3: 3PST-NC

Ordering Information

Relays with Forcibly Guided Contacts

| Type | Poles | Contact configuration | Rated voltage | Model |
|----------|---------|-----------------------|---------------|-------------------|
| Standard | 6 poles | 4PST-NO, DPST-NC | 24 VDC | G7S-4A2B-E |
| | | 3PST-NO, 3PST-NC | | G7S-3A3B-E |

Sockets

| Type | Rated voltage | Model |
|----------------|---------------|--------------------|
| Track-mounting | 24 VDC | P7S-14F-END |
| Back-mounting | --- | P7S-14P-E |

Specifications

Ratings

Coil

| Rated voltage | Item | Rated current (mA) | Coil resistance (Ω) | Must operate voltage (V) | Must release voltage (V) | Max. voltage (V) | Power consumption (W) |
|---------------|------|--------------------|---------------------|--------------------------|--------------------------|------------------|-----------------------|
| 24 VDC | | 30 | 800 | 80% max. | 10% min. | 110% | Approx. 0.8 |

- Note:**
1. The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of ±15%.
 2. Performance characteristics are based on a coil temperature of 23°C.
 3. The maximum voltage is based on an ambient operating temperature of 23°C maximum.

Contacts

| Item | Load | Resistive load | Inductive load * |
|---------------------------|------------|-----------------------------------|---|
| Rated load | NO contact | 10 A at 250 VAC 10 A at 30 VDC | AC-15: 5 A at 240 VAC DC-13: 2 A at 24 VDC |
| | NC contact | 6 A at 250 VAC 6 A at 30 VDC | AC-15: 3 A at 240 VAC DC-13: 2 A at 24 VDC |
| Rated carry current | NO contact | 10 A | |
| | NC contact | 6 A | |
| Maximum switching voltage | | 250 VAC, 30 VDC | |
| Maximum switching current | NO contact | 10 A | |
| | NC contact | 6 A | |

* In the above table, $\cos\phi = 0.3$ for AC-15 inductive loads and $L/R = 96$ ms for DC-13 inductive loads.

Characteristics of Sockets

| Model | Continuous current | Dielectric strength | Insulation resistance |
|---------|--------------------|---------------------------------------|------------------------|
| P7S-14□ | 10 A | 2000 VAC for 1 min. between terminals | 1000 M Ω min. * |

Note: Use the P7S-14F-END in the ambient humidity range of 35 to 85%.

* Measurement conditions: Measurement of the same points as for the dielectric strength at 500 VDC.

Characteristics

| | | |
|---|-------------|---|
| Contact resistance *1 | | 100 m Ω max. |
| Operating time *2 | | 50 ms max. |
| Release time *2 | | 50 ms max. |
| Maximum operating frequency | Mechanical | 18,000 operations/h |
| | Rated load | 1,800 operations/h |
| Insulation resistance *3 | | 100 M Ω min. |
| Dielectric strength *4 *5 | | Between coil and contacts: Between coil and pole 3 or coil and pole 4: 4,000 VAC, 50/60 Hz for 1 min Other than the above: 2,500 VAC, 50/60 Hz for 1 min Between different poles: Between pole 1, 3, or 5 and pole 2, 4, or 6: 4,000 VAC, 50/60 Hz for 1 min Other than the above: 2,500 VAC, 50/60 Hz for 1 min Between contacts of same polarity: 1,500 VAC, 50/60 Hz for 1 min |
| Vibration resistance | Destruction | 10 to 55 to 10 Hz, 0.75-mm single amplitude (1.5-mm double amplitude) |
| | Malfunction | 10 to 55 to 10 Hz, 0.375-mm single amplitude (0.75-mm double amplitude) |
| Shock resistance | Destruction | 1,000 m/s ² |
| | Malfunction | 100 m/s ² |
| Durability *6 | Mechanical | 10,000,000 operations min. (at approx. 18,000 operations/h) |
| | Electrical | 100,000 operations min. (at the rated load and approx. 1,800 operations/h) |
| Failure rate (P level) (reference value *7) | | 5 VDC, 1 mA |
| Ambient operating temperature | | -25 to 70°C (with no icing or condensation) |
| Ambient operating humidity | | 5% to 85% |
| Weight | | Approx. 65 g |

Note: The above values are initial values.

*1. Measurement conditions: 5 VDC, 10 mA, voltage drop method.

*2. Measurement conditions: Rated voltage operation

Ambient operating temperature: 23°C

Contact bounce time is not included.

*3. The insulation resistance was measured with a 500-VDC megohmmeter at the same locations as the dielectric strength was measured.

*4. When using a P7S Socket, the dielectric strength between coil and contacts and between different poles is 2,000 VAC, 50/60 Hz for 1 min.

*5. The coil refers to terminals 0-1, pole 1 refers to terminals 13-14, pole 2 refers to terminals 23-24, pole 3 refers to terminals 33-34, pole 4 refers to terminals 41-42 or 43-44, pole 5 refers to terminals 51-52, and pole 6 refers to terminals 61-62.

*6. The durability is for an ambient temperature of 15 to 35°C and an ambient humidity of 25% to 75%.

*7. The failure rate is based on an operating frequency of 60 operations/min.

Certified Standards

- EN standards, VDE certified
EN61810-1 (Electromechanical non-specified time all-or-nothing relays)
EN60255-23 (Contact performance)
EN50205 (Relays with forcibly guided (linked) contacts)
- UL standards: UL508 (Industrial Control Equipment)
- CSA standards: CSA C22.2 No.14 (Industrial Control Equipment)

Forcibly Guided Contacts (from EN50205)

If an NO contact becomes welded, all NC contacts will maintain a minimum distance of 0.5 mm when the coil is not energized. Likewise if an NC contact becomes welded, all NO contacts will maintain a minimum distance of 0.5 mm when the coil is energized.

Safety Precautions

Refer to the “*Precautions for All Relays*” and “*Precautions for All Relays with Forcibly Guided Contacts*”.

CAUTION

Do not pass currents of 6 A or more when using this product in combination with the P7S-14F/14P/14A Socket. Doing so may result in fire. Use this product in combination with the P7S-14F-END/14P-E.



Precautions for Correct Use

Wiring

- Use one of the following wires to connect to the P7S-14F-END.
Stranded wire: 0.75 to 1.5 mm²
Solid wire: 1.0 to 1.5 mm²
- Tighten each screw of the P7S-14F-END to a torque of 0.78 to 0.98 N·m.
- Wire the terminals correctly with no mistakes in coil polarity, otherwise the G7S will not operate.

Cleaning

The G7S is not of enclosed construction. Therefore, do not wash the G7S with water or detergent.

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