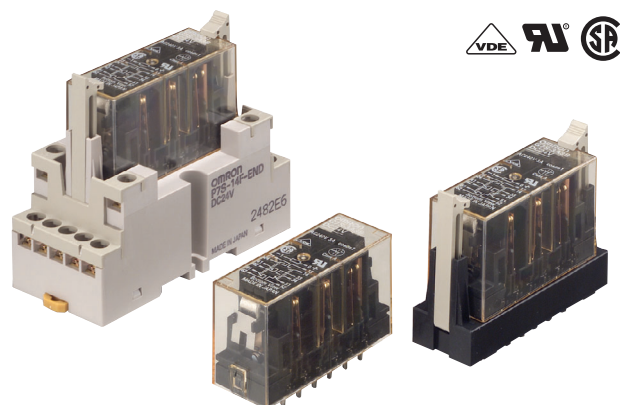


Lineup Now Includes 10-A Models

- 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	Common for track mounting and screw mounting	24 VDC
Back-mounting	PCB terminals	---

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 MΩ 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 mΩ 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 MΩ 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%.

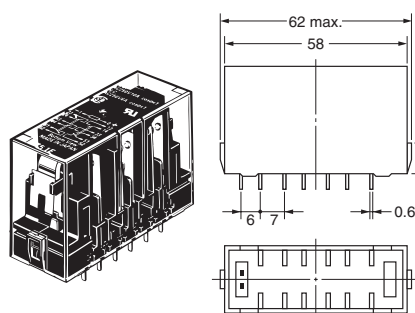
*7. The failure rate is based on an operating frequency of 60 operations/min.

Dimensions

Relays with Forcibly Guided Contacts

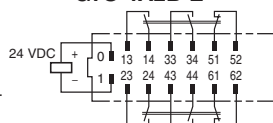
G7S-4A2B-E

G7S-3A3B-E

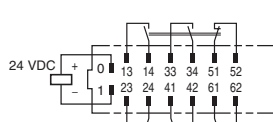


Terminal Arrangement/Internal Connection Diagram (Bottom View)

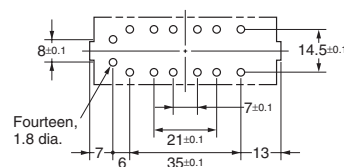
G7S-4A2B-E



G7S-3A3B-E



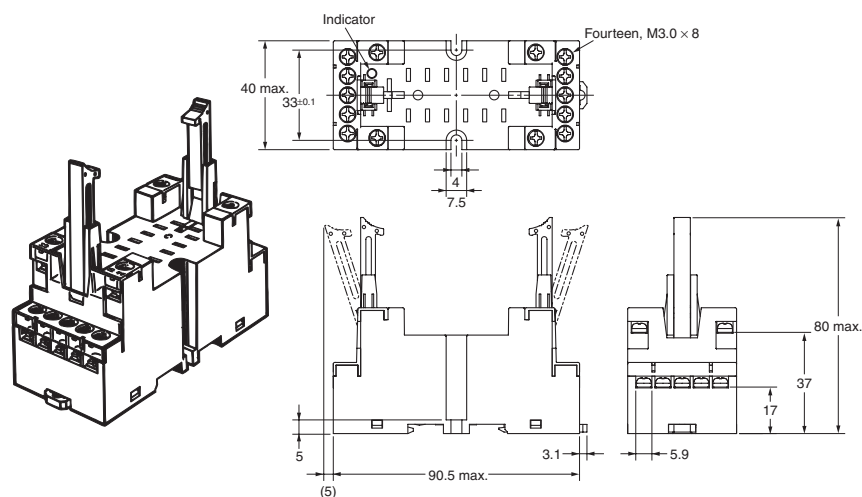
Mounting Hole Dimensions



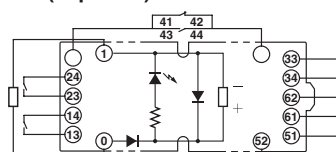
Sockets

Track-mounting Socket

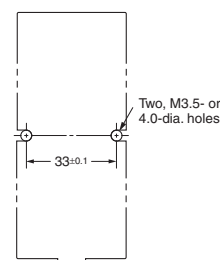
P7S-14F-END



Terminal Arrangement/Internal Connection Diagram (Top View)

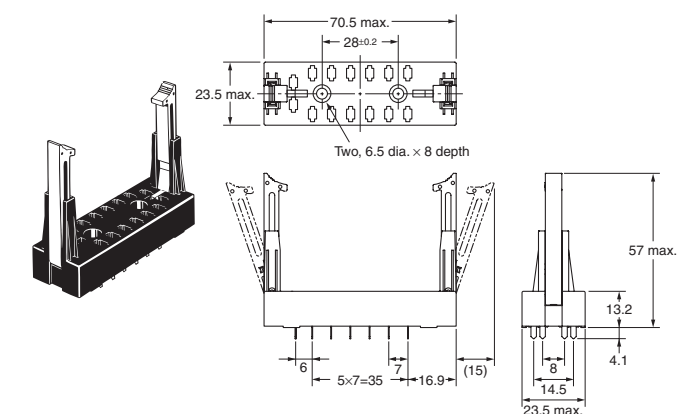


Mounting Hole Dimensions



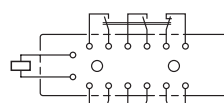
Back-mounting Socket (PCB Terminals)

P7S-14P-E

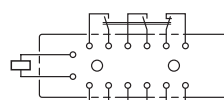


Terminal Arrangement/Internal Connection Diagram (Bottom View)

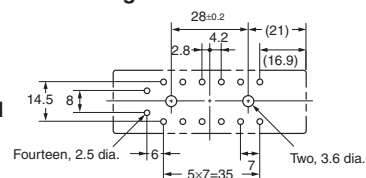
With G7S-4A2B-E mounted



With G7S-3A3B-E mounted



Mounting Hole Dimensions



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.

Read and Understand This Catalog

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

Warranty and Limitations of Liability

WARRANTY

OMRON's exclusive warranty is that the products are free from defects in materials and workmanship for a period of one year (or other period if specified) from date of sale by OMRON.

OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, REGARDING NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR PARTICULAR PURPOSE OF THE PRODUCTS. ANY BUYER OR USER ACKNOWLEDGES THAT THE BUYER OR USER ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. OMRON DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.

LIMITATIONS OF LIABILITY

OMRON SHALL NOT BE RESPONSIBLE FOR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED ON CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY.

In no event shall the responsibility of OMRON for any act exceed the individual price of the product on which liability is asserted.

IN NO EVENT SHALL OMRON BE RESPONSIBLE FOR WARRANTY, REPAIR, OR OTHER CLAIMS REGARDING THE PRODUCTS UNLESS OMRON'S ANALYSIS CONFIRMS THAT THE PRODUCTS WERE PROPERLY HANDLED, STORED, INSTALLED, AND MAINTAINED AND NOT SUBJECT TO CONTAMINATION, ABUSE, MISUSE, OR INAPPROPRIATE MODIFICATION OR REPAIR.

Application Considerations

SUITABILITY FOR USE

OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of products in the customer's application or use of the products.

At the customer's request, OMRON will provide applicable third party certification documents identifying ratings and limitations of use that apply to the products. This information by itself is not sufficient for a complete determination of the suitability of the products in combination with the end product, machine, system, or other application or use.

The following are some examples of applications for which particular attention must be given. This is not intended to be an exhaustive list of all possible uses of the products, nor is it intended to imply that the uses listed may be suitable for the products:

- Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this catalog.
- Nuclear energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
- Systems, machines, and equipment that could present a risk to life or property.

Please know and observe all prohibitions of use applicable to the products.

NEVER USE THE PRODUCTS 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 PRODUCTS ARE PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

PROGRAMMABLE PRODUCTS

OMRON shall not be responsible for the user's programming of a programmable product, or any consequence thereof.

Disclaimers

CHANGE IN SPECIFICATIONS

Product specifications and accessories may be changed at any time based on improvements and other reasons.

It is our practice to change model numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the products may be changed without any notice. When in doubt, special model numbers may be assigned to fix or establish key specifications for your application on your request. Please consult with your OMRON representative at any time to confirm actual specifications of purchased products.

DIMENSIONS AND WEIGHTS

Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

PERFORMANCE DATA

Performance data given in this catalog is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of OMRON's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to the OMRON Warranty and Limitations of Liability.

ERRORS AND OMISSIONS

The information in this document has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical, or proofreading errors, or omissions.

2009.7

In the interest of product improvement, specifications are subject to change without notice.

OMRON Corporation
Industrial Automation Company

<http://www.ia.omron.com/>

(c)Copyright OMRON Corporation 2009 All Right Reserved.