OMRON

Terminal Relay

G6B-4CB

A New Terminal Relay with Double-throw Operation

- Equipped with four G6B-2114P-US Relays.
- LED operation indicator provided.
- Equipped with diode to absorb coil surge.
- Mounts either on DIN Tracks or via screws.

Ordering Information

Classification	Contact form	Mounting method	Terminals	Rated voltage	Model
Equipped with operation indicator and diode to absorb coil surge	SPDT x 4	DIN track or screw mounting	Philips screw terminals	12 VDC	G6B-4CB
				24 VDC	

■ Accessories (Order Separately)

Replacement Relays

Rated voltage	Model
12 VDC	G6B-2114P-US
24 VDC	

Note: Refer to page 5 for relay mounting products, short bars, and track mounting products sold separately.

Specifications

■ Ratings

Coil Ratings (per G6B Relay)

Rated voltage	12 VDC	24 VDC
Rated current	27.0 mA	14.7 mA
Coil resistance	480 Ω	1,920 Ω
Must operate voltage	80% max. of rated voltage	
Must release voltage	10% min. of rated voltage	
Max. voltage	110% of rated voltage	
Power consumption	Approx. 300 mW	

Note: 1. Rated current and coil resistance were measured at a coil temperature of 23°C with a tolerance of ±10%.
2. Operating characteristics were measured at a coil temperature of 23°C.
3. The rated current includes the terminal's LED current.

Contact Ratings (per G6B Relay)

Load	Resistive load (cosϕ = 1)	Inductive load (cosϕ = 0.4, L/R = 7 ms)
Rated load	5 A at 250 VAC, 5 A at 30 VDC	1.5 A at 250 VAC, 1.5 A at 30 VDC
Rated carry current	5 A	
Max. switching voltage	250 VAC, 125 VDC	
Max. switching current	5 A	
Max. switching capacity	1,250 VA, 150 W	375 VA, 45 W
Min. permissible load (reference value) (see note)	10 mA at 5 VDC	

Note: This value fulfills the P reference value of opening/closing at a rate of 120 times per min (ambient operating environment and determination criteria according to JIS C5442).

■ Characteristics

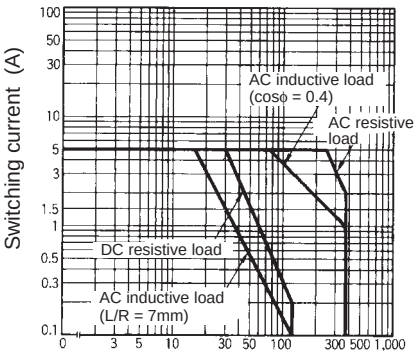
Contact resistance (see note 2)	100 mΩ max.
Operate time	10 ms max.
Release time	15 ms max.
Insulation resistance	1,000 MΩ min. (at 500 VDC)
Dielectric strength	2,000 VAC, 50/60 Hz for 1 min between coil and contacts 2,000 VAC, 50/60 Hz for 1 min between contacts of different polarity 1,000 VAC, 50/60 Hz for 1 min between contacts of same polarity
Vibration resistance	Destruction: 10 to 55 Hz, 1.5-mm double amplitude Malfunction: 10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Destruction: 500 m/x^2 (approx. 50G) Malfunction: 100 m/s^2 (approx. 10G)
Life expectancy	Mechanical: 50,000.000 operations min. (at 18,000 operations/hr) Electrical: 100,000 operations min. (rated load, at 1,800 operations/hr)
Ambient temperature	Operating: –25°C to 55°C (with no icing) Storage: –25°C to 55°C (with no icing)
Ambient humidity	Operating: 45% to 85%

Note: 1. The above values are initial values.
2. Measurement condition: 1 A at 5 VDC

Engineering Data

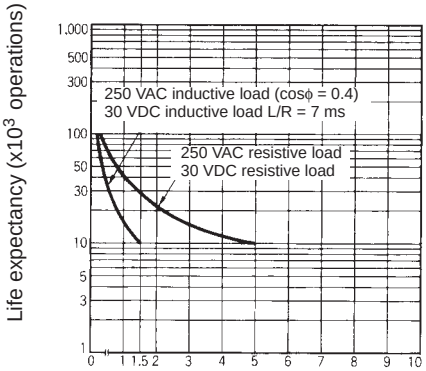
■ Reference Data

Max. Switching Capacity



Switching voltage (V)

Life Expectancy

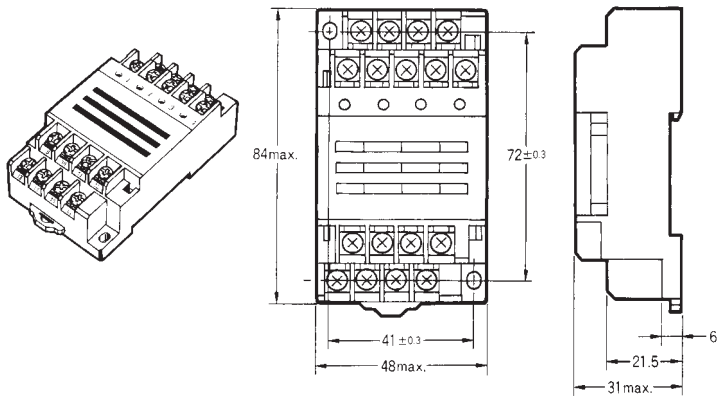


Switching current (V)

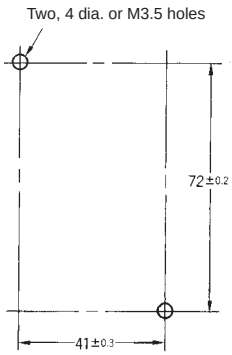
Dimensions

Note: All units are in millimeters unless otherwise indicated.

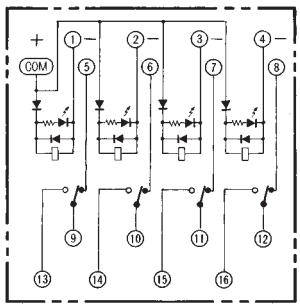
G6B-4CB



Mounting Holes



Terminal Arrangement/ Internal Connections (Top View)



Note: Do not reverse the coil polarity.

Precautions

Refer to page 4 for general precautions.

General Precautions

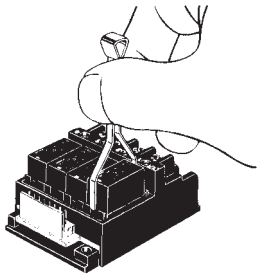
Mounting

Heat generated by the relays must be considered when gang-mounting. Space must be provided between the relays or other methods must be taken to maintain the relays' ambient temperature at 55 °C or lower.

Removing Relays

G6B-4CB, G6B-4□□ND, and G3S4

Use the P6B-Y1 Removal Tool as shown in the following diagram.



G6B-4B and G3DZ-4B

Use the removal piece on the right end of the relay.

Mounting Relays

Relays must be inserted straight onto the socket connector pins to ensure proper connection.

G6B-48BND models (high reliability) are connected directly to boards to increase reliability and the relays are thus not replaceable. If relay replacement is necessary, use the P6BF-4BND Terminal Sockets together with the G6B-1184P Mini Relays. P6BF-4BND Terminal Sockets are equipped with relay replacement sockets.

Application Precautions

Do not reverse coil polarity (+/–).

Observe the following to preserve relay performance. Care is especially important with model containing diodes to absorb surge, because the diodes may be destroyed if improperly handled.

- Be sure that no voltage exceeding the maximum allowable coil voltage is continuously applied.
- Be sure that the ambient operation temperature given in the catalog is not exceeded.
- Do not use at atmospheric pressures outside of the range 1,013 mb ±20%.

To preserve initial performance values, do not drop or apply shock to the relays, or apply excessive force to the terminals.

Always perform life tests under actual load conditions when connecting to inductive or capacitive loads, which generate surge currents or back voltages when turned on and off.

Although relays are shipped mounted on the sockets, always be sure to check the relays to make sure they are still properly mounted and not loose.

Do not use the relays when other inductive loads are connected in parallel with the coil input or when there are surges during power supply.

Resistors are used inside models equipped with operation indicators to limit the current. Do not exceed the allowable voltage. Also, do not use relays with different voltage specifications together.

Relays Mounted

G6D-4B: G6D-1A
G3DZ-1B: G3DZ-2R6PL
G6B-4CB: G6B-2114P-US
G6B-4□□ND standard: G6B-1114P-FD-US
G6B-4□□ND long life: G6B-1174P-FD
G6B-4□□ND high reliability: G6B-1184P-US
Replacement is not possible for relays mounted directly to boards.

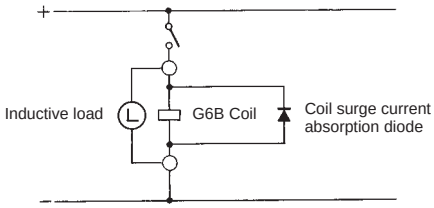
Connector Models

Relay	Connector	
	Model	Maker
G6B-4FB1	ML-35-A-5P	Sato Parts (ntlp)
G6B-4FP	IL-8P-S3EN2	JAE

Diodes used to absorb surge are equivalent to model number S5688J (reverse withstand voltage: 600 V; forward current: 1 A).

Do not use the relays when other inductive loads are connected in parallel with the coil input or when there are surges during power supply because the built-in diodes used to absorb surge may be destroyed.

Do Not Use the Following Circuit



There are no particular restrictions in the mounting direction.

Do not allow metal cuttings or wire clippings to enter the relays during mounting or application.

Accessories (Order Separately)

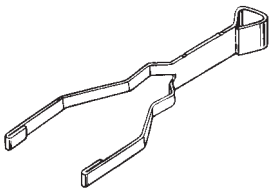
Relay Mounting Products

Name	Model	Minimum unit for ordering
Relay Removal Tool (see note 2)	P6B-Y1	1
Short Bars (see note 2)	G6B-4-SB	10
Mounting Track	PFP-100N	
	PFP-50N	
	PFP-100N2	
End Plate	PFP-M	
Spacer	PFP-S	

Note: 1. Order the above items only in multiples of the minimum unit for ordering.

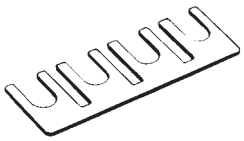
2. The Relay Removal Tool and Short Bars are for the following models only: G6B-4CB, G6B-4□□ND, and G3S4.

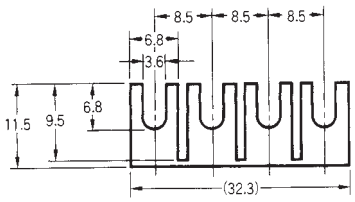
P6B-Y1 Relay Removal Tool



G6B-4-SB Short Bars

Short Bars are used to wire crossovers for common terminals for coils or contacts.





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

Cat. No. J98-E1-1 **In the interest of product improvement, specifications are subject to change without notice.**

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