

# Terminal Relay G6B-4□□ND

## Compact Terminal Relay with 4 Independent Outputs

- Equipped with four G6B Mini-relays that are compact, highly sensitive, and highly resistant to dielectric surges, and that can switch 5 amps of power.
- Sealed plastic construction used for relays.
- Easy wiring with separated input/output terminals.
- Special P6B Mounting Socket used to facilitate maintenance (except for high-reliability models).
- Standard models meet UL508 and CSA requirements.
- DIN Track mounting, and screw mounting models are available.



## Model Number Structure

### ■ Model Number Legend

G6B-□□□ND  
1 2 3

**Note:** UL508 and CSA requirements met by standard models.

#### 1. Number of Poles

- 4: 4 poles (4PST-NO standard circuit)
- 47: 4 poles (4PST-NO long-life circuit)
- 48: 4 poles (4PST-NO high-reliability circuit)

#### 2. Mounting

- None: DIN Track or screw mounting
- F: Screw mounting

#### 3. Input Terminal

- B: Phillips screw (3.5 mm) terminals (4 independent points)
- B1: Flat-bladed screw terminals (4 points with same common)
- P: Connector terminals (4 independent points)

## Ordering Information

### ■ List of Models

Classification	Contact form	Mounting method	Terminals	Rated voltage	Model
Equipped with operation indicator and diode to absorb coil surge	4PST (standard)	DIN Track or screw mounting	Phillips screw terminal	5 VDC 12 VDC 24 VDC	G6B-4BND
	4PST (long-life)	DIN Track or screw mounting	Phillips screw terminal	5 VDC 12 VDC 24 VDC	G6B-47BND
	4PST (high reliability)	DIN Track or screw mounting	Phillips screw terminal	5 VDC 12 VDC 24 VDC	G6B-48BND
	4PST (standard)	Screw mounting	Flat-bladed screw terminal	5 VDC 12 VDC 24 VDC	G6B-4FB1ND
	4PST (standard)	Screw mounting	Connector	5 VDC 12 VDC 24 VDC	G6B-4FPND

**Note:** 1. For replacement relays, use relays with the same voltage specifications as the relays provided with the Terminal when it was purchased. Longer operating life can be achieved by replacing the G6B-4□□ND with the G6B-1147P-FD-US.

2. Standard models are also available without relays mounted to the sockets. To obtain such terminals, replace the "G6B" portion of the model number with "P6BF." For example, to order G6B-4BND with empty sockets, use model number P6BF-4BND. Also specify voltage specifications for models with operation indicators.

# Specifications

## ■ Ratings

### Coil Ratings (per G6B Relay)

Rated voltage	5 VDC	12 VDC	24 VDC
Rated current	35.5 mA	19.1 mA	10.7 mA
Coil resistance	125 $\Omega$	720 $\Omega$	2,880 $\Omega$
Must operate voltage	80% max. of rated voltage		
Must release voltage	10% min. of rated voltage		
Max. voltage	130% of rated voltage		
Power consumption	Approx. 200 mW		

- Note:**
1. Rated current and coil resistance were measured at a coil temperature of 23°C with a tolerance of  $\pm 20\%$ .
  2. Operating characteristics were measured at a coil temperature of 23°C.
  3. The maximum allowable voltage is the maximum value of the allowable voltage range for the relay coil operating power supply. There is no continuous allowance.
  4. Diodes to absorb coil surge are equivalent to S5688J (reverse voltage resistance: 600 V; forward current: 1 A).

### Contact Ratings

Classification	G6B-4BND (standard), G6B-47BND (long-life)		G6B-48BND (high-reliability)	
Load	Resistive load ( $\cos\phi = 1$ )	Inductive load ( $\cos\phi = 0.4$ , L/R = 7 ms)	Resistive load ( $\cos\phi = 1$ )	Inductive load ( $\cos\phi = 0.4$ , L/R = 7 ms)
Rated load	5 A at 250 VAC, 5 A at 30 VDC	2 A at 250 VAC, 2 A at 30 VDC	2 A at 250 VAC, 2 A at 30 VDC	0.5 A at 250 VAC, 0.5 A at 30 VDC
Rated carry current	5 A		2 A	
Max. switching voltage	380 VAC, 125 VDC			
Max. switching current	5 A		2 A	
Max. switching power	1,250 VA, 150 W	500 VA, 60 W	500 VA, 60 W	125 VA, 15 W
Error rate (reference value) (see note)	10 mA at 5 VDC		1 mA at 1 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 m $\Omega$ max.
Operate time	10 ms max. (approx. 3 ms)
Release time	15 ms max. (approx. 4 ms)
Switching power	Mechanical: 18,000 operations/hr Rated load: 1,800 operations/hr
Insulation resistance	1,000 M $\Omega$ 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 250 VAC, 50/60 Hz for 1 min between coils of different polarity
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, 0.75-mm single amplitude (1.5-mm double amplitude)
Shock resistance	Destruction: 1,000 m/s <sup>2</sup> (approx. 100G) Malfunction: 100 m/s <sup>2</sup> (approx. 10G)
Endurance	Mechanical: 50,000,000 operations min. (at 18,000 operations/hr) Electrical: 100,000 operations min. (at 1,800 operations/hr, rated load) 500,000 operations min. for long-life at 2 A 100,000 operations min for long-life at 5 A
Ambient temperature	Operating: -25°C to 55°C (with no icing or condensation) Storage: -25°C to 55°C (with no icing or condensation)
Ambient humidity	Operating: 35% to 85%
Weight	Approx. 75 g

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

# Engineering Data

## ■ Maximum Switching Power



## ■ Endurance



## ■ Contact Reliability (High-reliability Models)



# Dimensions

Note: All units are in millimeters unless otherwise indicated.

## Philip Screw Terminals

G6B-4BND  
G6B-47BND  
G6B-48BND

Note: G6B-4BND is shown in illustration (terminal numbers are incised).



### Mounting Holes



### Terminal Arrangement/ Internal Connections (Top View)



Note: Do not reverse the coil polarity.

## Flat Screw Terminal

G6B-4FB1ND



### Mounting Holes



### Terminal Arrangement/ Internal Connections (Top View)



Note: Do not reverse the coil polarity.

## Connector Terminal

G6B-4FPND



### Mounting Holes



### Terminal Arrangement/ Internal Connections (Top View)



Note: Do not reverse the coil polarity.

## ■ Accessories (Order Separately)

### Replacement Relays

Applicable terminal relay	Rated voltage	Model
G6B-4BND	5 VDC 12 VDC 24 VDC	G6B-1114P-FD-US
G6B-47BND	5 VDC 12 VDC 24 VDC	G6B-1174P-FD-US

**Note:** Relays cannot be replaced for G6B-48BND, which is mounted directly to boards.

### Relay Mounting Products

Name	Model
Relay Removal Tool	P6B-Y1
Short Bars	G6B-4-SB
Mounting Track	PFP-100N
	PFP-50N
	PFP-100N2
End Plate	PFP-M
Spacer	PFP-S

#### P6B-Y1 Relay Removal Tool



#### G6B-4-SB Short Bars

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



#### G6B-4-C Terminal Covers (Two per set)

