

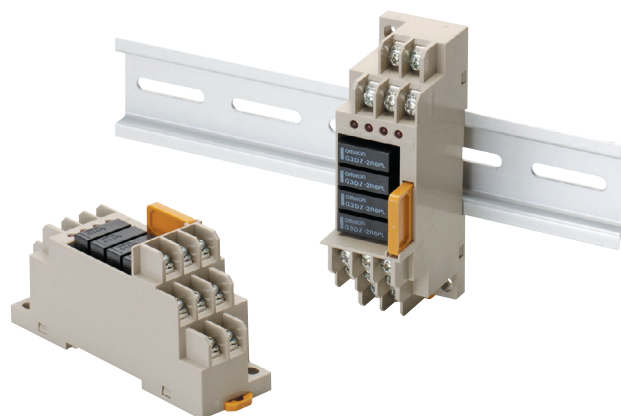
# Terminal Relay

# G6D-4B/G3DZ-4B

CSM\_G6D-4B\_G3DZ-4B\_DS\_E\_2\_1A

## Space-saving Vertical Terminal Relays with 4 Outputs

- Space saving size: 28 × 90 × 45 mm (W × H × D)
- Lineup includes models with G6D Relays and models with G3DZ Power MOS FET Relays.
- Easy wiring with separate I/O terminal construction.
- LED operation indicator.
- Built-in diode absorbs coil surge.
- Special socket used for easy Relay replacement.
- Mounts either on DIN track or with screws.
- Relay Removal Tool.



## Ordering Information

### ■ List of Models

Output	Contact configuration	Rated voltage	Model
Relay outputs	FourSPST-NO relays	12 VDC	G6D-4B
		24 VDC	
Power MOS FET relay outputs		12 VDC	G3DZ-4B
		24 VDC	

### ■ Accessories (Order Separately)

### Replacement Relays

Applicable Terminal Relay	Rated voltage	Model
G6D-4B	12 VDC	G6D-1A-ASI
	24 VDC	
G3DZ-4B	12 VDC	G3DZ-2R6PL
	24 VDC	

# Specifications

## ■ Ratings

### Relay Specifications

#### Coil Ratings (per G6D Relay)

Rated voltage (V)		Rated current (mA)	Coil resistance (Ω)	Must operate voltage (V)	Must release voltage (V)	Max. voltage (V)	Power consumption (mW)
DC	12	18.7	720	70% max. (See note 1.)	10% min.	130%	Approx. 200
	24	10.5	2,880				

- Note:**
1. The must operate voltage is 75% max. when the Terminal Relay is mounted upside down.
  2. Rated current and coil resistance were measured at a coil temperature of 23°C with a tolerance of ±10%.
  3. Operating characteristics were measured at a coil temperature of 23°C.
  4. The maximum voltage is the maximum value of the allowable voltage range for the relay coil operating power supply. There is no continuous allowance.
  5. The rated current includes the terminal's LED current.

#### Contact Ratings (per G6D Relay)

Item	Load	Resistive load ( $\cos\phi = 1$ )
Rated load		3 A at 250 VAC, 3 A at 30 VDC
Rated carry current		3 A
Max. switching voltage		250 VAC, 30 VDC
Max. switching current		3 A
Max. switching power (reference value)		750 VA, 90 W

### Power MOS FET Relay Specifications

#### Input (per G3DZ Power MOS FET Relay)

Rated voltage (V)		Operating voltage	Must operate voltage level	Must release voltage level	Input impedance	Rated current
DC	12	9.6 to 14.4 VDC	9.6 VDC max.	1 VDC min.	2 kΩ±20%	8.0 mA ±20%
	24	19.2 to 28.8 VDC	19.2VDC max.		4 kΩ±20%	8.2 mA ±20%

**Note:** The rated current includes the terminal's LED current.

#### Output (per G3DZ Power MOS FET Relay)

Load voltage	Load current	Inrush current resistance
3 to 264 VAC 3 to 125 VDC	100 μ to 0.3 A	6 A (10 ms)

## ■ Characteristics

Model		G6D-4B
Item		Relay output
Contact resistance (See note 2.)		100 mΩ max.
Must operate time (See note 3.)		10 ms max.
Release time (See note 3.)		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
		750 VAC, 50/60 Hz for 1 min between contacts of same polarity
Impulse withstand voltage (between coil and contacts)		4,000 V (1.2 × 50 μs)
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	500 m/s <sup>2</sup>
	Malfunction	100 m/s <sup>2</sup>
Endurance	Mechanical	20,000,000 operations min. (at 18,000 operations/hr)
	Electrical (See note 3.)	100,000 operations min. (3 A at 250 VAC, resistive load) 100,000 operations min. (3 A at 30 VDC, resistive load) (at 1,800 operations/hr)
Minimum permissible load (reference value) (See note 4.)		10 mA at 5 VDC
Ambient operating/storage temperature		-25 to 55°C (with no icing)
Ambient operating humidity		45 to 85%
Weight		Approx. 70 g

- Note:**
1. The above values are initial values.
  2. Measurement condition: 1 A at 5 VDC
  3. Ambient temperature: 23°C
  4. This value is measured at 120 operations/min.

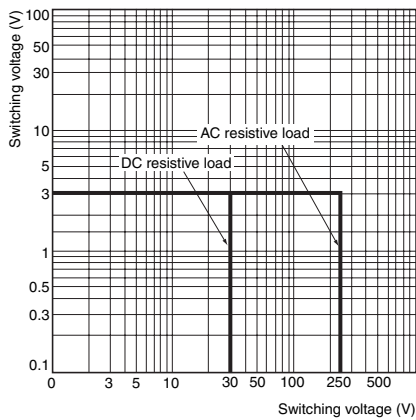
Model		G3DZ-4B
Item		Power MOS FET relay outputs
Must operate time		10 ms max.
Release time		15 ms max.
Output ON resistance		2.4 Ω max.
Leakage current at OFF state		10 μA max. (at 125 VDC)
Insulation resistance		100 MΩ min. (at 500 VDC)
Dielectric strength		2,000 VAC, 50/60 Hz for 1 min between input and output terminals
Vibration resistance		10 to 55 to 10 Hz, 0.75-mm single amplitude (1.5-mm double amplitude)
Shock resistance		500 m/s <sup>2</sup>
Ambient operating/storage temperature		-25 to 55°C (with no icing)
Ambient operating humidity		45% to 85%
Weight		Approx. 65 g

# Engineering Data

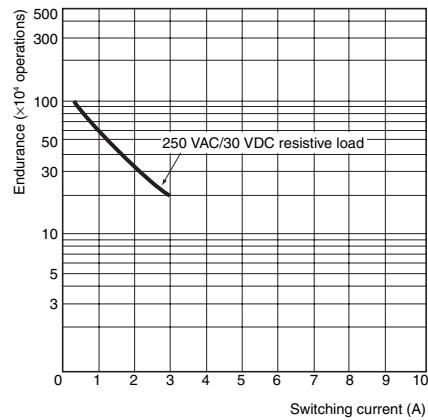
## Reference Data

### G6D-4B

#### Maximum Switching Power

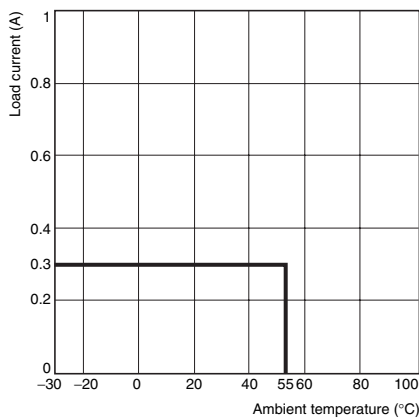


#### Endurance

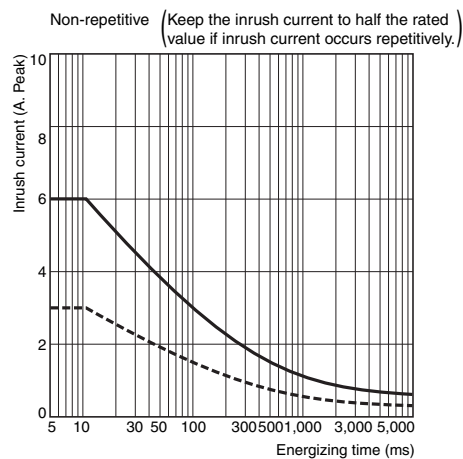


### G3DZ-4B

#### Load Current vs. Ambient Temperature



#### Inrush Current Resistance



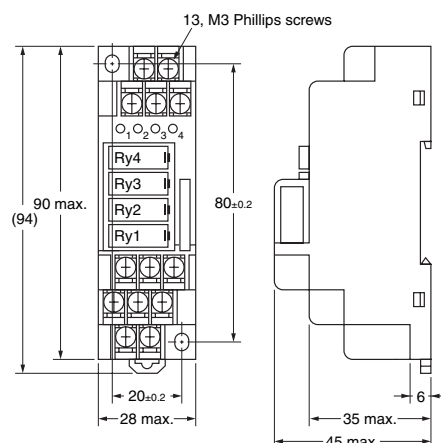
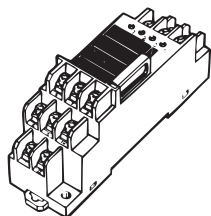
**Note:** Measurement values taken from production line samples have been plotted in graphs to provide this data. Use this data only as a guide. Relays are mass-produced, so allowances must be made for a certain amount of variation in measurement data.

## Dimensions

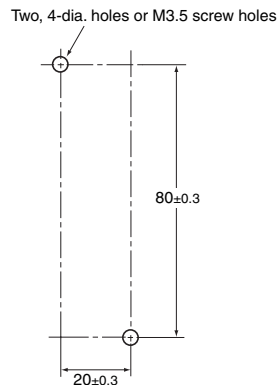
**Note:** All units are in millimeters unless otherwise indicated.

## Relays

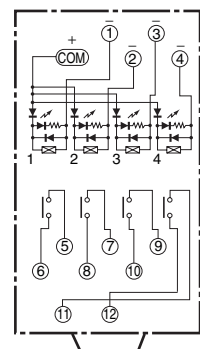
### G6D-4B G3DZ-4B



#### Mounting Holes



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



**Note:** Do not reverse the coil polarity.

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## ■ Accessories (Order Separately)

Relay Mounting Products (Order Separately)

## Safety Precautions

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Refer to *Safety Precautions for All Relays*.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

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

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