Voltage Sensor
LG2

CSM_LG2_DS_E_4_2

Compact, Economical Plug-in Type Voltage Sensing Relay

- DPDT output contacts expand the application of the Sensor to wide-ranging fields including control, alarms, and indication.
- Voltage control is possible in the same easy manner as electro-magnetic relays, as the output relay of the sensor can be driven directly with a detection signal.
- Wide voltage setting range with fine setting capability.

Model Number Structure

■ Model Number Legend

LG2-□□
1 2 3

1. Voltage sensor

2, 3. Operating Voltage

AB: 100, 110, 200 VAC
DB: 12, 24, 48, 100 VDC

Ordering Information

■ List of Models

Detected voltage	Model
AC	LG2-AB (100 VAC) LG2-AB (200 VAC) LG2-AB (110 VAC)
DC	LG2-DB (12 VDC) LG2-DB (24 VDC) LG2-DB (48 VDC) LG2-DB (100 VDC)

■ Connecting Socket

Socket		Bracket
Type	Model	Model
Front-mounting socket	PF083A	PFC-A7
Back-mounting socket	PL08	PLC-8

Note: Use the above sockets to mount the Voltage Sensor securely and prevent problems, such as faulty contact.

Specifications

■ Ratings

Item / Model	Detected voltage: Rated voltage	Load: Power/VA consumption	Setting range: Must-operate (SET) voltage (percentage of rated value)	Setting range: Must-release (RESET) voltage (percentage of rated value)	Control output: Rated carry current	Control output: Switching capacity: Rated operating voltage	Control output: Switching capacity: Rated operating current: Resistive load (cosϕ = 1)	Control output: Switching capacity: Rated operating current: Inductive load (cosϕ = 0.4, L/R = 7 ms)
LG2-AB	100 VAC 200 VAC 50/60 Hz	5 VA max.	75% to 120%	70% to 115%	5 A	100 VAC 200 VAC 28 VDC 110 VDC	5 A 2 A 5 A 0.2 A	3 A 1.2 A 2 A 0.1 A
	110 VAC 50/60 Hz		80% to 110%	75% to 105%				
LG2-DB	12 VDC 24 VDC 48 VDC 100 VDC	3 W max.	75% to 120%	70% to 115%				

Note: 1. Set the must-operate voltage higher than the must-release voltage by at least 5% of the rated value.

2. Smoothing is required for the detected DC voltage.

3. The maximum applied voltage is 120% of the rated value.

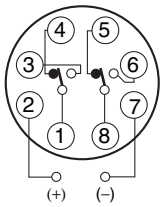
4. Special models enabling a rated voltage of 220 V are available. The setting range for these models is 80% to 110%.

■ Characteristics

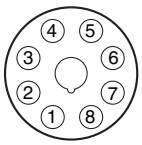
Repeat accuracy	±3% max. (with voltage fluctuations at the rate of 1 V/s)
Variation due to temperature change	±5% max. (within the range 20 °C +20/–30 °C)
Operate time	0.5 s max. (when input changes from 0 V to 120% must-operate voltage)
Release time	0.5 s max. (when input changes from 120% of the must-release voltage to 0 V)
Insulation resistance	10 MΩ min. at 500 VDC (between electric circuitry and mounting panel)
Dielectric strength	2,000 VAC, 50/60 Hz for 1 min (between electric circuitry and mounting panel)
Vibration	Malfunction: 16.7 Hz, 1-mm double amplitude
Shock	Destruction: 294 m/s^2 (approx. 30 G)
Service life	Mechanically: 10,000,000 operations min. Electrically: 50,000 operations min. (at max. applicable load)
Weight	Approx. 100 g
Ambient operating temperature	–10 to 40°C (with no condensation)

Connections

■ Terminal Arrangement



The polarity indication for terminals② and⑦ applies to the DC model (LG2-DB). (The above diagram shows the rear side of the Relay.)

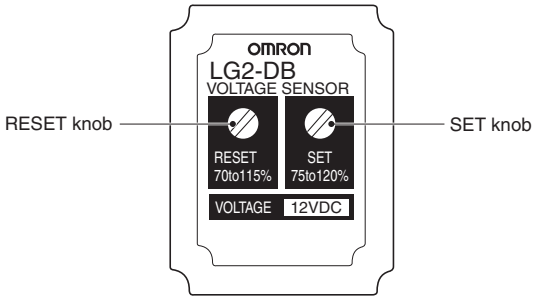


(The above diagram shows the rear side of the Relay.)

Note: 1. *Type LG2-DB is not equipped with the rectifier circuit.

2. With type LG2-DB, care should be taken to the polarity of the power supply.

Nomenclature



Setting Method

Operate Value

Input the actual voltage to be set, and set the SET knob to the point at which the Relay operates.

Release Value

- With the Relay operating, turn the RESET knob counterclockwise as far as it will go, and adjust the voltage to the value to be set. Then, gradually turn the RESET knob clockwise until it reaches the point where the Relay is released.

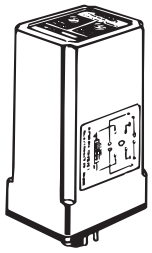
Note: After completing the settings, check the settings for the operate and release values by increasing/decreasing the input voltage.

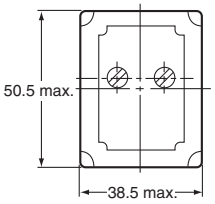
- The LG2 can be used for undervoltage detection by using the RESET knob for the operate value and the SET knob for the release value. The Relay will normally be ON, however, and so the internal temperature will rise, and this will affect the product service life.

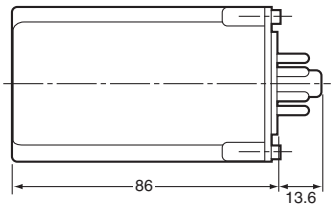
Dimensions

Note: All units are in millimeters unless otherwise indicated.

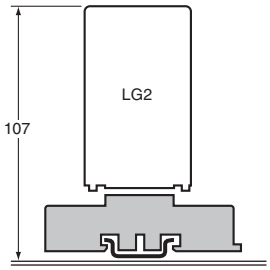
LG2-AB, LG2-DB



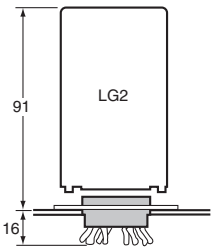




Mounting Height of Sensor with Socket



PF083A (order separately)

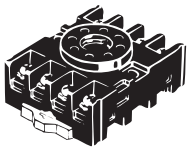


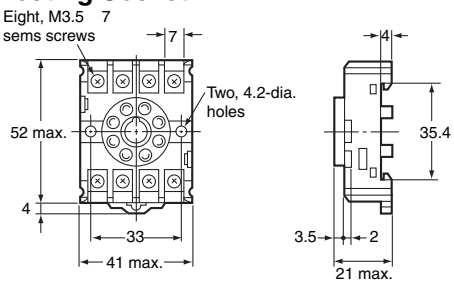
PF08 (order separately)

Accessories (Order Separately)

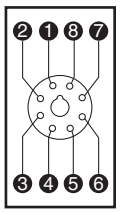
Connecting Socket

PF083A Front Connecting Socket



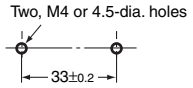


Terminal Arrangement



(Top View)

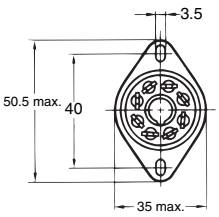
Mounting Holes

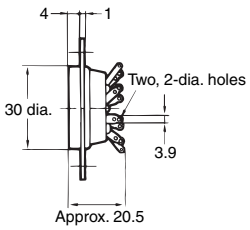


Note: Mount sockets to applicable models so that ◯ points downwards.

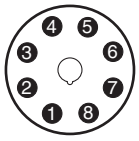
Applicable Models
APR-S
LG2

PL08 Back Connecting Socket (Solder Terminals)



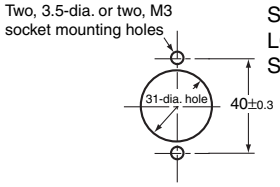


Terminal Arrangement



(Top View)

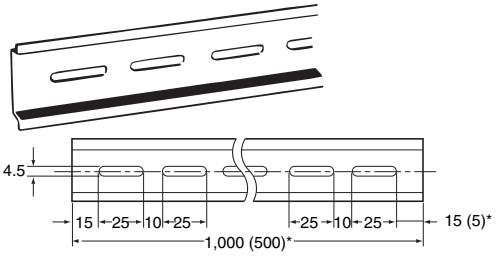
Mounting Holes

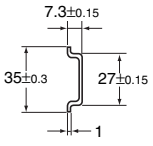


Applicable Models
SE
APR-S
SDV
LG2
SAO

Socket Mounting Track (for PF083A)

PFP-100N/PFP-50N Socket Mounting Track





* The dimensions given in parentheses are for the PFP-50N Socket Mounting Track.

Hold-down Clip

Use the Hold-down Clip to secure the Voltage Sensor on the Connecting Socket, as well as to prevent faulty contact.

Type of Socket	Applicable type of Hold-down Clip
PF083A	PFC-A7
PL08	PLC-8

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

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