

OTOWA**OTOWA ELECTRIC CO.,LTD.****SPD Instruction manual** **Model : LD-210GSE**

Please read the instructions before installing the product, as this instruction manual explains how to use the SPD effectively and safely.

The SPD conforms to the induced lightning current test specified in class I of JIS C 5381-11 : 2014 (IEC 61643-11:2011).

Please confirm the detailed specification, size, etc. using the brochure or data sheet.

1. Safety instruction**1) Instruction for use**

(1) It is exceptionally difficult to predict the energy involved with lightning since it is a natural phenomenon.

In the event of a direct lightning strike exceeding the specification, the SPD may deteriorate, short circuit and in the worst case fail. To prevent these problems from occurring and protect other equipment, follow instruction.

(2) The SPD may deteriorate, short circuit or in the worst case fail due to the electrical conditions and application environment – keep the following instructions to prevent this happening.

① Do not use the SPD in the circuits that are subjected to frequent current surges with a very short interval between them.

② Do not expose the SPD to high temperature such as direct sunshine or install adjacent to hot object.

(Application temperature : $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$)

③ Do not expose the SPD to adverse environmental conditions such as rain, steam, dust, and salty air.

④ Do not expose the SPD to acid, alkali, corrosion gas, solvent, oil, dust, and salt.

⑤ Handle the SPD carefully to prevent mechanical shock (e.g. Dropping) or vibration, as this may cause cracking of its plastic housing.

2) Instruction for regular maintenance (Electric shock attention)

(1) ~~When the maintenance of the SPD, please confirm that there is no leakage to prevent an electric shock.~~

3) In the unlikely event of failure of the SPD

(1) Personnel without authorization to work on electrical circuitry

Immediately contact the relevant authorized personnel but do NOT touch the SPD.

(2) Authorized person

When the maintenance of the SPD, please confirm that there is no leakage to prevent an electric shock For details of the inspection procedure, refer to "Regular maintenance" described in item 3.

2. Installation method of the SPD**1) Installation circuit**

The SPD is installed between ground electrodes in the main ground terminal board.

The ground electrode whose resistance is lowest is the common earth.

Please connect the SPD between single earths.

2) Installation method

(1) The SPD should be installed to DIN rail only.

(2) Installation method (Fig.2) : Put one slider to the DIN rail, and push another slider.

After that please confirm that the SPD is not disconnected.

(3) Removal method (Fig.3) : Pull the slider by a tool (flat-bladed screwdriver), and pull the SPD forward.

(4) Application wire : (rigid) Max 50mm², (stranded) Max 35 mm²

Peel the cable (14~15mm), and insert to the terminal, and drive a screw.

(5) Recommended torque for the screw : 2.5~3.0N·m

(6) Keep the wires used for the connection as short as possible.

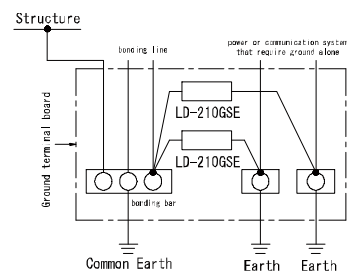


Fig.1 installation circuit

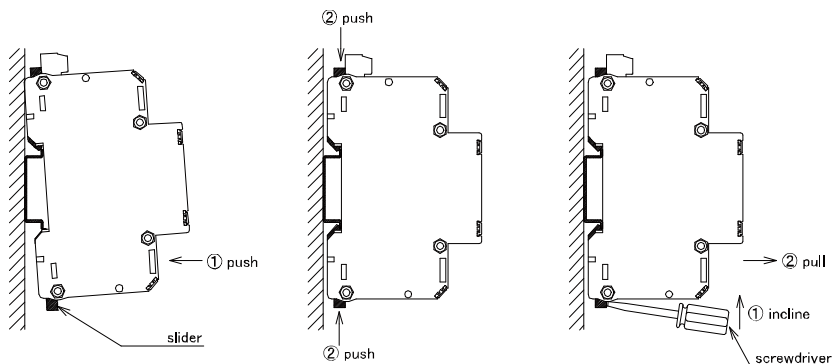


Fig.2 Installation method

Fig.3 Removal method

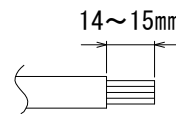


Fig.4 peeling of cable

3) Deterioration contact output terminal

(1) Specification

Contact type	b type (Normally ON, Deteriorated OFF)
Maximum operating voltage / current	AC250V/2A
Application wire	Max 1.5 mm ²

(2) Peeling of cable for the signal line: 6~7mm, Torque for the terminal screw: 0.15~0.25N·m

(3) When connecting signal line to the deterioration contact output terminal, install the SPD as shown in table on adjacent the monitoring device to protect it against lightning surge.

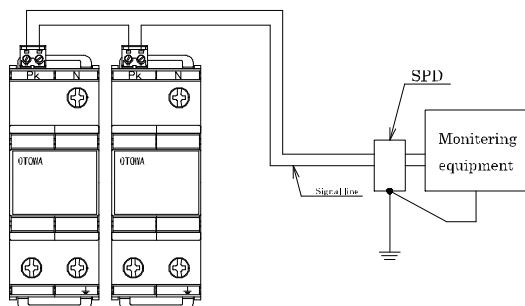


Fig.5 Connection example

Contact circuit voltage	Applied SPD
AC100V	LT-121
AC200V	LT-122
DC12V	SL-GV12J
DC24V	SL-GV24J
DC48V	SL-GV48J
DC100V	LT-121

3. Regular maintenance

Follow below instruction when maintenance.

(Ref: 1.Safety instruction 2.Instruction for regular maintenance)

- (1) If it is noted that the plastic housing has changed color or shape, replace the SPD.
- (2) If the deterioration contact output OFF, replace the SPD.
- (3) If the insulation resistance is out of acceptance range, replace the SPD.
- (4) When the measurement of insulation resistance, remove the SPD from the circuit.

Insulation resistance tester	acceptance range
500V	more than 100MΩ

Contact Us

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