

Instruction manual

Power line class II SPD for machine protection

(Type : LT-C12G801W, LT-C14G801W, LT-C32G801W,
LT-C34G801W, LT-C35G102W)

OTOWA
OTOWA ELECTRIC CO.,LTD.

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 II of IEC61643-11, class II of EN61643-11, Type2CA of UL1449, Type4-2 of CSA C22.2No269. This SPD can operate normally against induced lightning and does not withstand direct lightning surges (including adjacent lightning) that exceed the value described in the specification and it may not protect the equipment connected. Please confirm the detailed specification, size, etc. using the brochure or data sheet.

1. Safety instruction

1) Instruction for use

a) It is exceptionally difficult to predict the energy involved with lightning, since it is a natural phenomenon. In the event of direct lightning strike exceeding the specification or if there are multiple induced lightning currents in a short period of time, the SPD may deteriorate, short circuit and in the worst case fail. In the unlikely event of failure of the SPD, and during the inspection of the SPD, follow below instructions to protect other equipment.

- ① The SPD should be installed in a metal enclosure. (Recommended example : Metal case with transparent window)
- ② Install the SPD as shown in Fig.1.

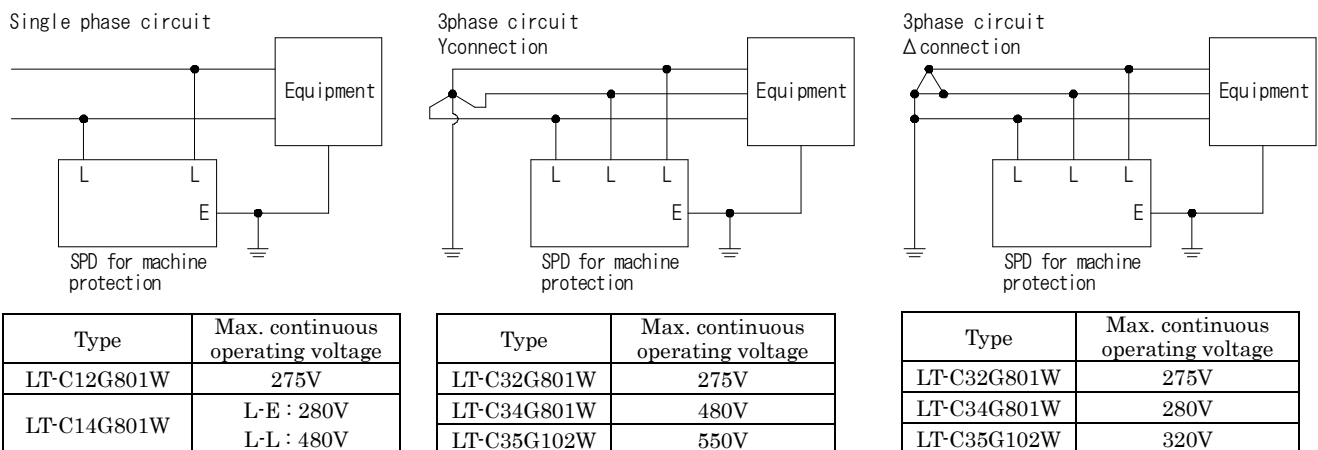


Fig.1 SPD installation circuit

b) Electric circuit condition

- ① Do not install the SPD on circuits where it is subjected to voltages above specified Maximum Continuous Operating Voltage **U_c**.
- ② Do not use the SPD above the peak value of MCOV ($U_c \times \sqrt{2}$), if DC or AC voltage has incomplete wave shape.
- ③ Do not use the SPD in the circuits that are subjected to frequent current surges with a very short interval between them.

c) Environmental condition

- ① Do not expose the SPD to high temperature such as direct sunshine or install adjacent to hot object. (Application temperature : -20°C to $+70^{\circ}\text{C}$)
- ② Do not expose the SPD to adverse environmental conditions such as rain, wind, steam, dust, and salty air.
- ③ Do not expose the SPD to acid, alkali, corrosion gas, solvent, oil, dust, and salt.
- ④ Handle the SPD carefully to prevent mechanical shock (e.g. drop) or vibration, as this may cause cracking of its plastic housing.
- ⑤ Do not pull the wires strongly and do not use the SPD in the condition that its wires are always pulling.

2) Instruction for regular maintenance

When the maintenance, the SPD should be disconnected from the circuit by switching off the main circuit isolating switch on the electric input side of the SPD, or power off the machine. If insulation withstand voltage test for the machine which the SPD is installed in is conducted, remove the earth wire of the SPD from the earth terminal.

3) Countermeasure against the failure of the SPD and unlikely event of the operation of power switch and so on

a) Personnel without authorization to work on electrical circuitry – immediately contact the relevant authorized personnel but do not touch the SPD.

b) Authorized person

During inspection of the SPD, it should be confirmed the SPD is disconnected from the circuit by switching off the main power switch on the electric input side of the SPD, to protect against an electric shock.

Refer to “3 item, regular maintenance” when checking the inspection contents.

2. Installation method

Only authorized person should install the SPD and conduct the wiring construction.

1) Installation method

Use the installation hole of $\phi 4.5$ on the SPD and fix it by M4 screw.

2) Wiring

• SPD should be wired by connecting crimp terminal to the wire of the SPD.

• Cut off the wire of the SPD to conduct wiring easily.

But during and after wiring, pulled power on the wire (More than 40N) should not be stable.

3.Regular maintenance

When maintenance, follow the below caution items.

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

<SPD inspection method >

Replace the SPD if it is under below conditions

○Appearance check

• If the indicator of the SPD turns red, SPD deteriorates.

Replace the SPD.

• If it is noted that the plastic housing has changed color or shape, replace the SPD.

○Measurement of insulation resistance

• Insulation resistance between the wire on L side and E side should be measured. If the insulation resistance does not meet “more than $10M\Omega$ by 500V insulation tester”, replace the SPD.

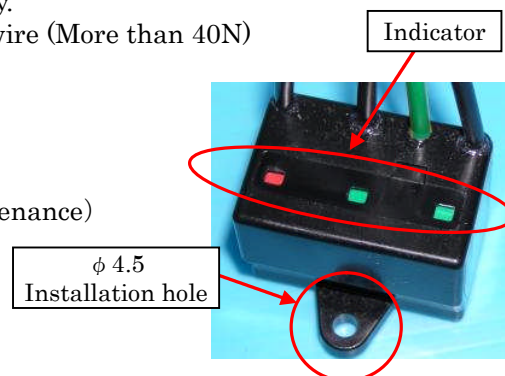


Fig.2 Insulation hole, Indicator

4.Caution item in accordance with UL standard

“Type 4-2 SPDs shall only be installed by a qualified person.”

“Les dispositifs de protection contre les surtensions de type 4-2 ne doivent être installés que par une personne qualifiée.”

“For Use on circuits delivering up to 5,000 rms Amps.”

“Prévu pour des circuits dont l'intensité est égale ou inférieure à 5,000_A eff.”

“No serviceable parts.”

“Aucune pièce remplaçable ou reparable.”

Company

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