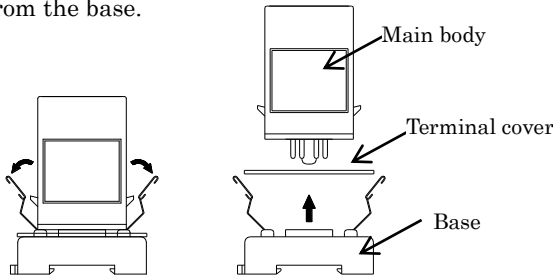


Please read the instructions before installing the product, as this instruction manual explains how to use the Surge Counter effectively and safely.

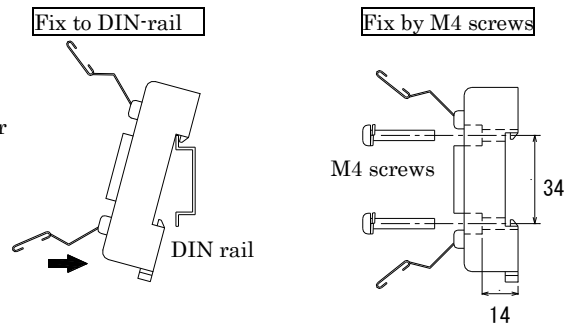
1. Connection

a) Installation of the base

- 1) Unfix the both side part of main body and remove the main body and terminal cover from the base.

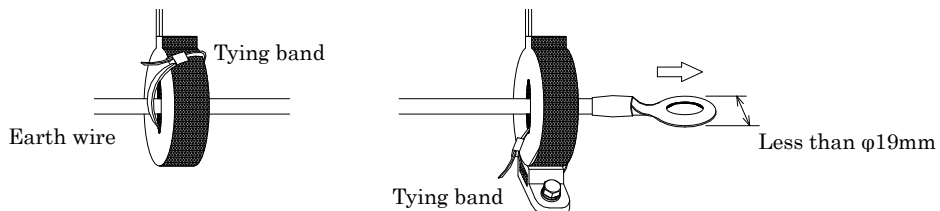


- 2) Fix the base to DIN rail or by M4 screws.



b) Installation of CT

- 1) Earth wire for counting lightning current should be formed straight as much as possible and pass it through the CT. (It is not necessary to pay attention to the polarity)
- 2) CT is fixed by a tying band. Use the accessory for fixing the tying band when it is fixed to the board. (The tying band and the accessory are not attached.)
- 3) If the width of cramp terminal of earth wire is less than 19mm, it can be passed through the CT.



c) Connection wires

⚠ Note

- Connect wires when power supply stops.
- Use power line of 0.5 to 1.25mm². Insulation cap should be covered on the connection part of terminal block or use cramp terminal with insulation tube.
- Separate lead wires of CT and signal contact from other lead wires such as power line. Do not twist lead wires of them to other wires, to avoid the induction by switching surge and noise.
- Twist the lead wires from CT(200mm) once per 1cm, to protect against noise.
- Do not extend the lead wires of CT (200mm) to protect against noise. (A malfunction might be occurred.)

- ① Connect wires of "power source", "CT", "signal contact" to the base. Connect "short bar" to the base to change the operating current

- ② The size of terminal screws is M3.5 and recommendation tightening torque is 0.8~1.3N·m.

- ③ Operating current should be adjusted by short bar.

10A : Short bar is not used.

50A : Short bar is connected on ⑥-⑤-④. (Initial state)

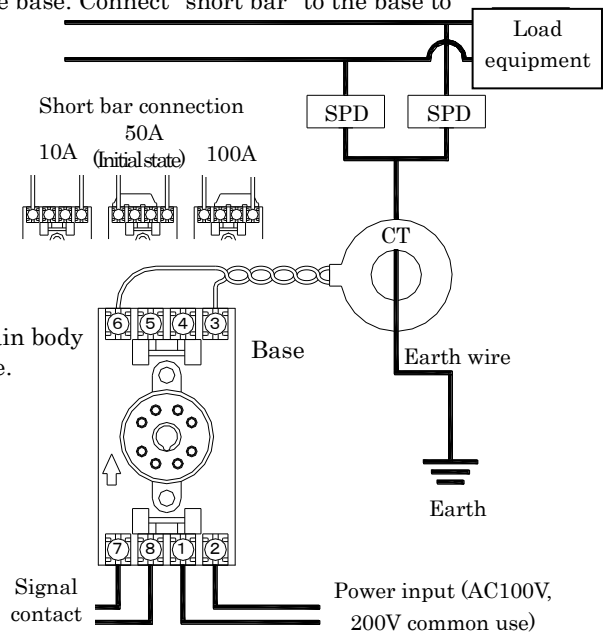
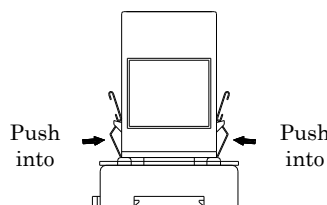
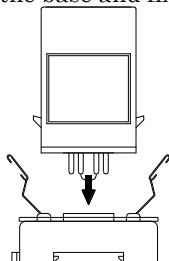
100A : Short bar is connected on ⑤-④-③.

- ④ Signal contact specification (a type)

The signal contact becomes "close"(500ms) when operating.

(Signal contact capacity : DC30V 1A, AC125V 0.5A)

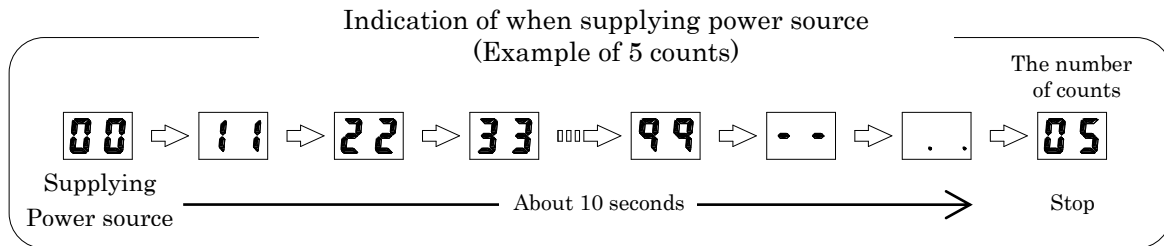
- ⑤ After connecting wires, insert the terminal cover and the main body to the base and fix the main body by fixing parts of the base.



2. Instruction to use

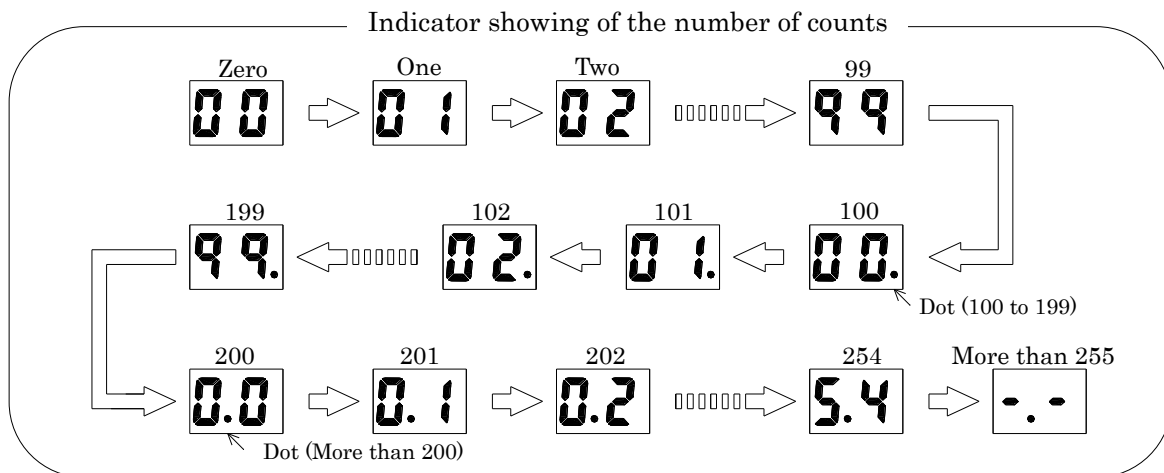
1) Supply power source

- ① Supply the power source after checking the wire connection.
- ② After supplying the power source, LED indicator shows number increasing such as “00” → “11” → “22” → “33” → . . . and in 10 seconds, it stops increasing the number and shows the number of counts. (The number of counts means the number of lightning current that CT detected.)
- ③ Push “reset” button to return to zero on LED indicator.



2) Operating

- ① When lightning current of more than operating current flows through CT (Max. 20kA(8/20 μ s)), LED indicator shows 1 number rise up and signal contact becomes “close” (500ms).
- ② Each operating time is about 1 seconds.
- ③ The number of counts is memorized even if power supply stops. After power supplies, LED indicator shows the number of counts memorized before.
- ④ LED indicator can show 254 counts maximum.
- ⑤ Dot shown in below figure is used to indicate more than 100 counts or 200 counts.
- ⑥ Even if LED indicator shows more than 255 counts, signal contact becomes “close” (500ms) when the lightning current of more than operating current flows through CT.



3) Operation check

- ① When pushing “Test” button, indicator counts one increasing and signal contact becomes “close” (500ms).
- ② Push “Test” button continuously with the interval of 1second.
- ③ Push “reset” button to return to zero on LED indicator.

⚠ Note

- After power fail recovery, the indicator shows the number increasing such as 「00」 → 「11」 → 「22」 Until stop increasing the number, this product cannot operate when it detects the lightning current. And it is no use to push “Test” and “Reset” button in this condition.

3. Notice

- Operating voltage range should be AC90V~240V (50/60Hz) . Do not use in out of this range.
- This product has no function as the arrester. Supply power source from the earth side of the SPD.
- Maximum measurement current should be 20kA(8/20μs). It might be broken by large lightning current such as direct lightning strikes.
- This product can be used only indoor. Do not use outdoor or in the place where it is splashed with water.
- Handle this product carefully to prevent mechanical shock. It may cause breaking or damage.
- A malfunction might occur when this product is installed in the place where switching surge is synchronized on power source for it or CT receives the induction of noise.
- Operating current in this manual means the current value with the shape of 8/20μs.
- It is not necessary to do maintenance, but push “Test” button to check the operation once a year.