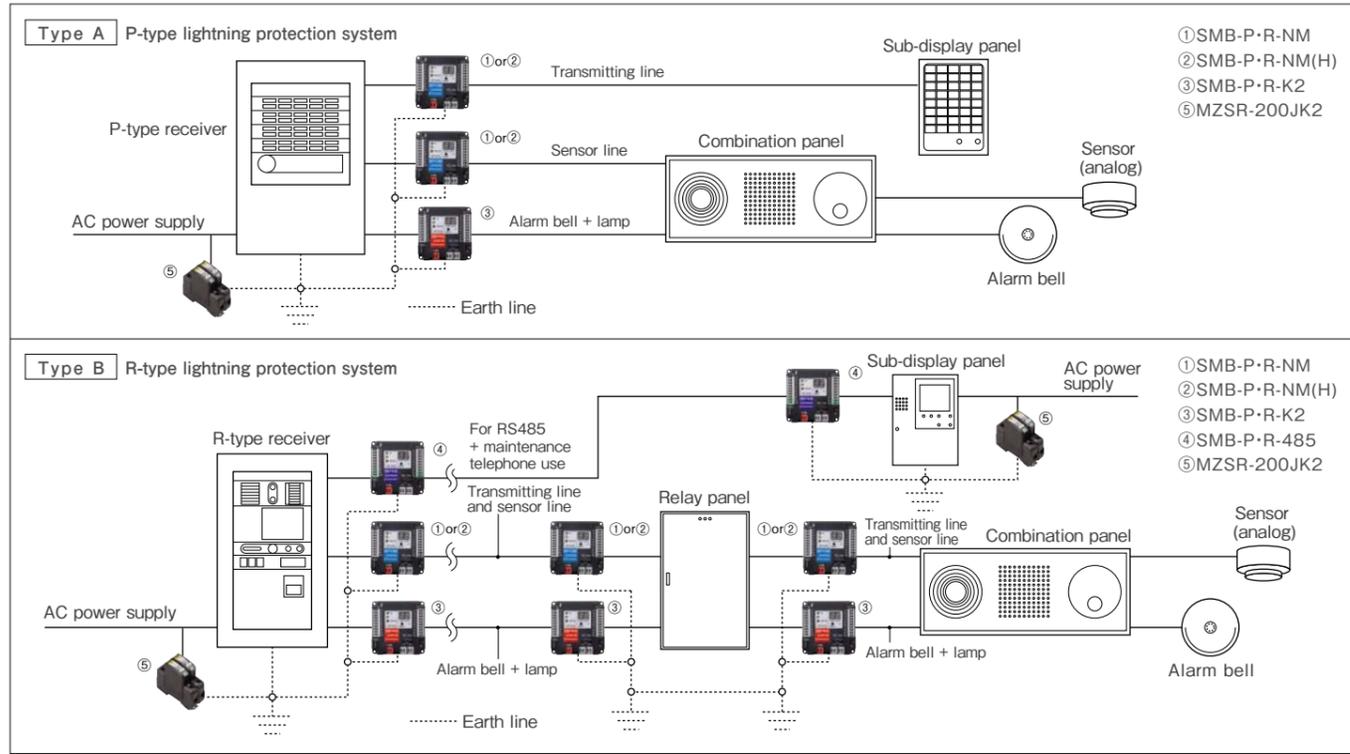


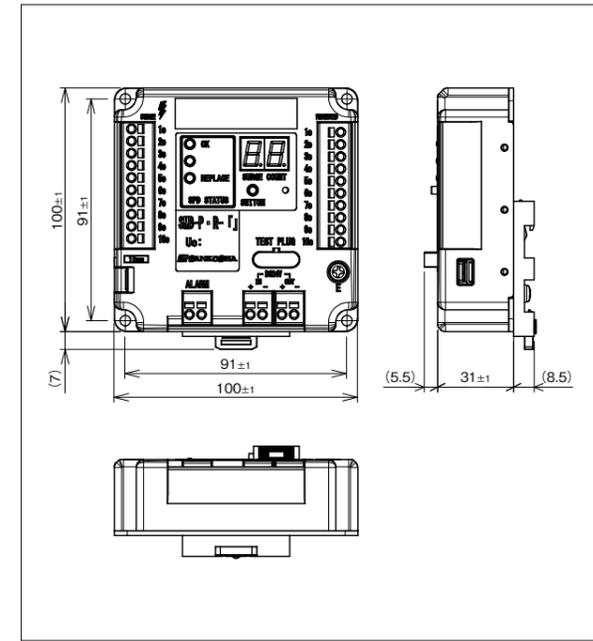
Examples of SPD installations



Main specifications

Application	For transmitting lines For sensor lines	For transmitting lines For sensor lines Impulse current withstand model	For alarm bell + lamp	For RS485 + maintenance telephone	For AC power supply
Product name	①SMB-P-R-NM	②SMB-P-R-NM(H)	③SMB-P-R-K2	④SMB-P-R-485	⑤MZSR-200JK2
External appearance					
Maximum continuous operating voltage U _c	DC48 V	DC48 V	DC110 V	RS485 DC15 V Maintenance telephone DC48 V	AC275 V (50 Hz/60 Hz)
Rated current	1 A		3 A	100 mA	1 A
Series resistance	1 Ω or less		4 Ω~6 Ω	1 Ω or less	—
Impulse withstand current 8/20 μs	5 kA	10 kA	5 kA		40 kA
Impulse withstand current 10/350 μs	2.5 kA			5 kA	
Voltage protection level	≤0.5 kV or less (1.2/50 μs, 10 kV applied)	≤1 kV (1.2/50 μs, 10 kV applied)	≤0.1 kV (1.2/50 μs, 10 kV applied)	≤0.5 kV (1.2/50 μs, 10 kV applied)	≤1.4 kV (1.2/50 μs, 10 kV applied)
Response time	3 ns or less				
Corresponding standard	IEC 61643-21 Category C2/D1 compliant RoHS directive				IEC 61643-1 Class II compliant RoHS directive
No. of cores connected	10-core		8-core	2-core	2-core (1 φ2 W)
Replacement display	Main unit LED display (current consumption approx. 80 mA at DC24 V)				Unit small-window display
Replacement alarm contact	Yes				
Mounting method	Directly mounted or mounted to a DIN rail (35 mm)				DIN rail compatible (35 mm)

Size



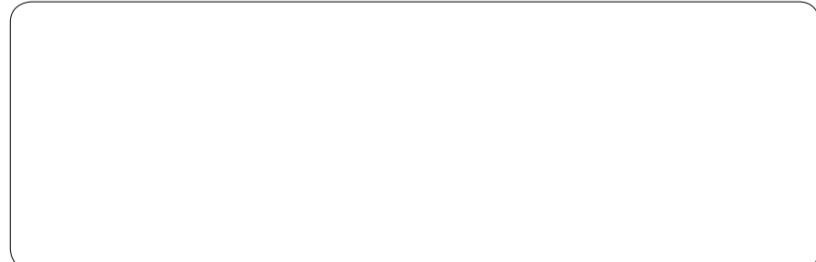
Simple & Smart!



Arrester unit for automatic fire alarm systems

HOWL2

SANKOSHA
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It's new!

Protects equipment from lightning.

Announcing the arrival of HOWL2: a multi-core unit-type SPD!



Smaller, but much more advanced. [IEC 61643-21 Category C2/D1 compliant]

Innovative status display

LEDs make the SPD status easier to read. "Replacement Recommended" function helps you make a replacement before a malfunction occurs.

<LED display>
Green: OK Yellow: Replacement recommended
Red: Replace

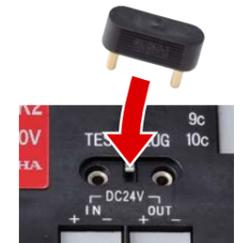
When replacement is recommended, the alarm terminal outputs an alarm signal.



Additional functions for use in insulation testing

Please remove the TEST PLUG from the front of the HOWL2 before you test the insulation of fire alarm systems. This will suppress SPD electrical discharges and meet the specified values during the tests.

* Be sure to put the TEST PLUG back in its original place after finishing insulation testing. To prevent you from forgetting to put the test plug back, an alarm will sound when the HOWL2 is operated without its plug in place.



Label color shows the types of unit

The color of the label matches each type of transmission. Enables smart SPD selection. We also have a model that can withstand high current levels for use in regions where lightning strikes are common. (NM (H))



Visualization of lightning surges

When a lightning surge comes in, a 7-segment display shows the number of times the unit has operated.

<Light-emitting system>

Uses two systems: button battery or DC power supply input. The LED-lamp status display and the 7-segment display in the surge counter light up. If the unit is only powered by a button battery, the status display will light up for several seconds when you press the "SWITCH" status light-up button.



When running on a DC power supply input, the status display will be lit all the time. In addition, if you are using multiple HOWL2 units, you can wire them in parallel to a DC power supply. (Power consumption approx. 80 mA per unit)

Multiple cores

Even though the HOWL2 is small and compact, its cable can have 10 core wires.

* Must be installed by a qualified person.



Flexibility in mounting

The HOWL2 can be directly mounted on a wooden board or other backing. If you use the special adapter, you can mount the unit on a DIN rail (35-mm width).

* The special adapter attaches to the HOWL2.

