

# SUNLIGHT



Sunlight products cover 70 countries in East Asia, Southeast Asia, the Middle East, Europe, North America, South America, and Africa.



**Sunlight Chengdu Xihanggang Electric Manufacturing Co., Ltd**

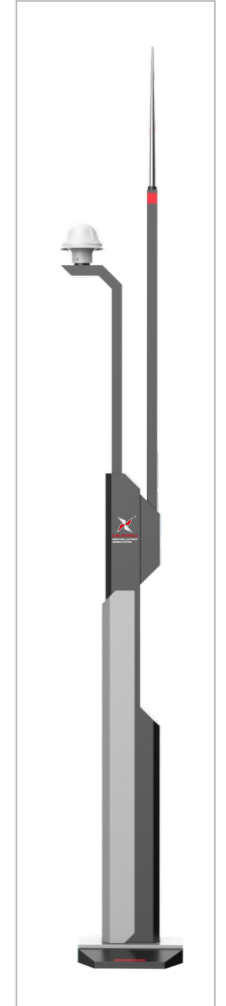
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2024DGSv1.1

# SUNLIGHT



SUNLIGHTWELD



## Digital Grounding System

Sunlight Chengdu Xihanggang Electric Manufacturing Co., Ltd



## Sunlight lightning Warning system 3.0

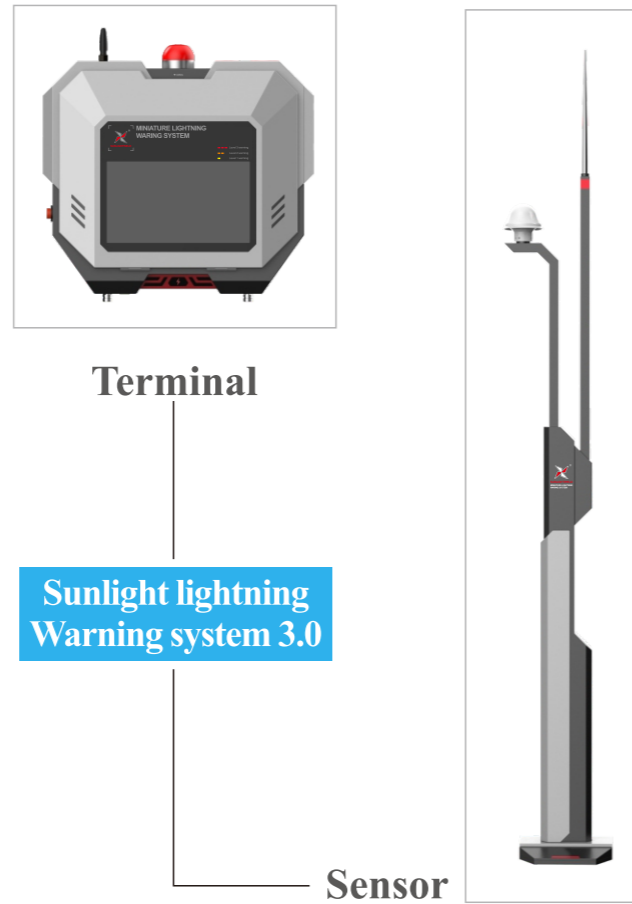
The Sunlight lightning Warning system 3.0 developed by Sunlight uses MEMS atmospheric electric field sensors to monitor the intensity and polarity changes of the cloud-to-ground electric field. The system can detect changes in the environmental electrostatic field within a radius of 15km at any time, and send warning signals by level about 5-30 minutes before lightning occurs, allowing users to take precautions. The lightning warning system can provide timely and accurate local lightning warning and proactively prevent lightning disasters!

### Applied to

- School
- Racecourse
- Minery
- Gas station
- Port
- Industrial zone
- Highway
- Scenic spot
- Plaza
- Golf course



Sensor



**Comly with**

- IEC62793-2020 《Lightning Protection-Thunderstorm Warning System》
- GB/T 38121-2023 《Lightning Protection-Thunderstorm Warning System》
- GB/T 40619-2021 《Technical specifications for lightning approach warning based on lightning positioning system》

**Features**

- Split type
- Self against lightning
- Adapt to multiple scenarios
- Optimized warning algorithm
- Real-time monitoring
- Three levels warning
- Data export
- One button to cancel the alarm

**Product**

- Support independent/network
- Support with/without internet version
- Support Ethernet/4G communication
- Support local data storage/cloud storage

**Technical Parameters**



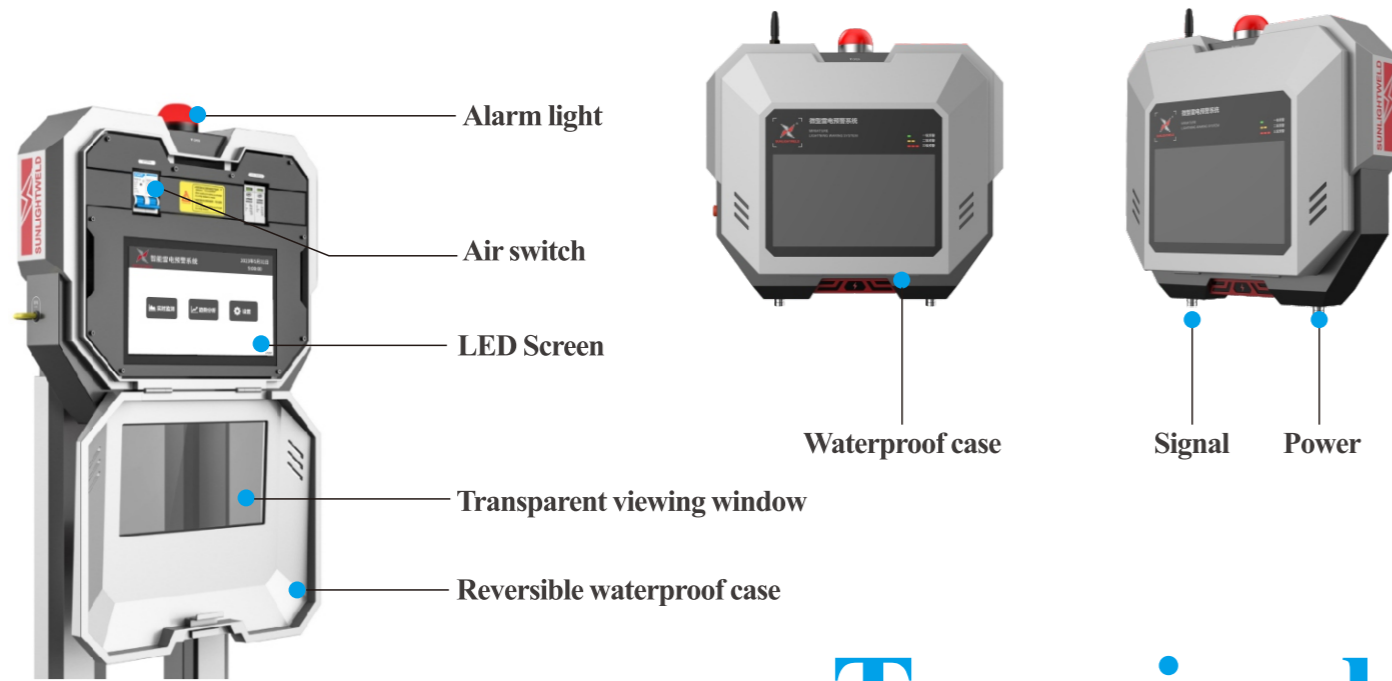
**Terminal**

Warning accuracy	Above 95%
Warning method	Three levels warning
Communication	Ethernet/4G
Operating Voltage	12V
Power consumption	4.5W
Protection degree	Ip54
Power supply	Mains power (85-305 VAC)
Working environment	-30°C-80°C, 20-90%RH
Screen size	10.1 inches
Overall size	42*39*12.5cm
Total Weight	8kg
Installation method	Wall-mounted

**Sensor**

Detection radius	15km
Monitoring range	-100kv/m—100kv/m
Resolution	15V/m
Accuracy	Better than 5%
Protection degree	Ip66
Anticorrosion	Wf 2
Data transmission	Rs485
Overall height	2m
Lightning rod height	2.5m (optional)
Base size	30*30cm
Total Weight	23kg

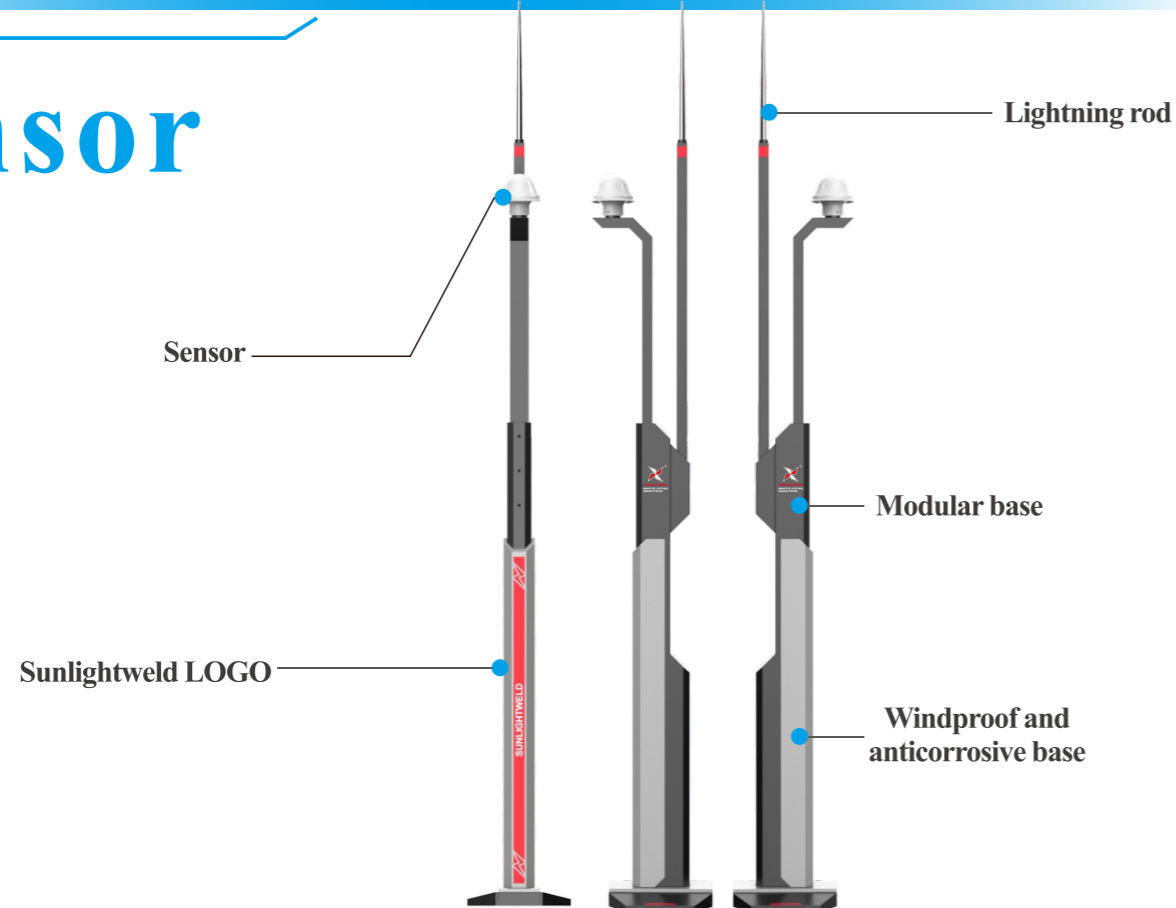
Product Technology



# Terminal

## Sunlight lightning Warning system 3.0

# Sensor



Product function

## Real-time monitoring/data statistics

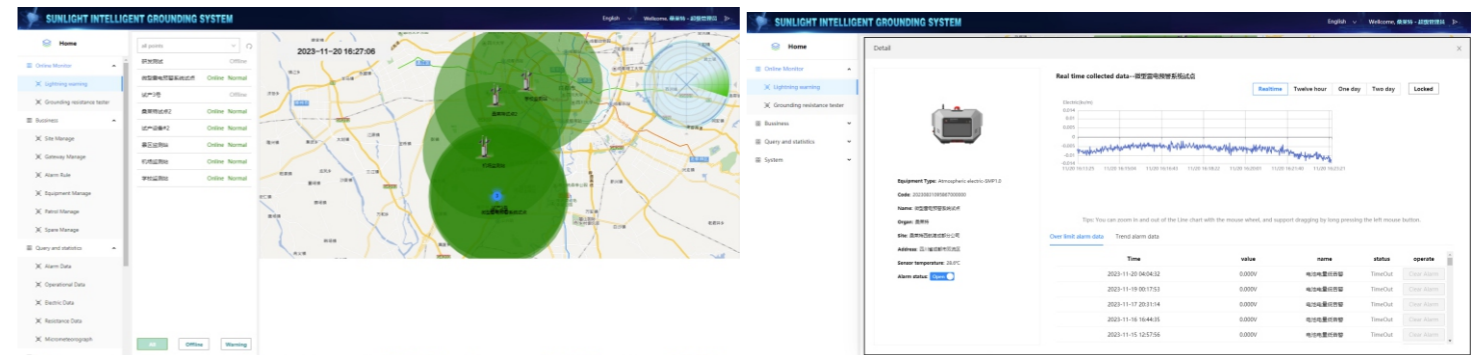


## Three levels warning



- Level 3 warning
- Level 2 warning
- Level 1 warning

## Digital platform



## Product application and installation

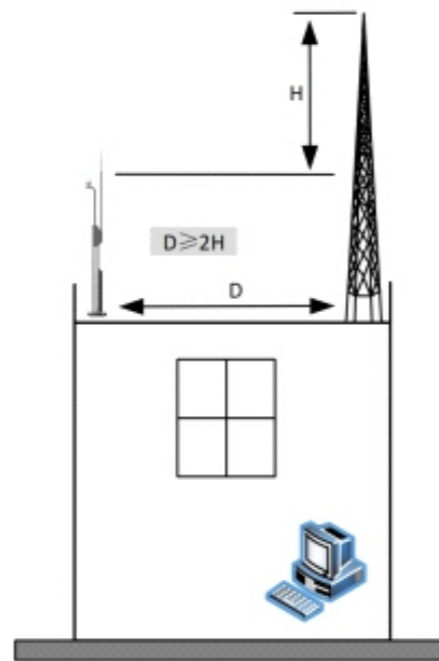
During the installation, the following must be avoided:

- 1) Various smoke or objects that can produce smoke;
- 2) Under high-voltage lines and close to Metal structures or mast structures;
- 3) Chain-link fences and sharp metals;
- 4) Too close to leafy woods;
- 5) External air conditioning pipes, ventilator, and air conditioning chilled water towers;
- 6) Rapidly changing environments, such as construction sites;
- 7) Areas with heavy traffic.

The electric field intensity lines will change when the equipment is installed on the top of a building or near a building, so there are restrictions to the installation location. Therefore, it is necessary to avoid installing it at the roots of objects with a certain height (trees, buildings, towers, etc.); The following are some options of location.



Instal near buildings, trees



Install on the roof

## Product shipping and storage

- Waterproofing the product during transportation to avoid water penetrating the packaging.
- Be careful not to give violent impacts or high-frequency vibrations to avoid damaging the appearance of the product and damaging the equipment.
- Product storage temperature:  $-55$ - $+125^{\circ}\text{C}$ , relative humidity  $<95\%$ , ventilated, no corrosive gas, and the surrounding is dry.

## Product use and maintenance

- ▲ The miniature lightning warning system does not require special maintenance during daily use. Since some parts are exposed to the air for a long time and bear the impact of the external, in order to prevent equipment failure from causing missed alarms and false alarms, its working status should be checked regularly, especially during the thunderstorm season. The device should be checked in time before and after thunderstorms; Periodic once every three months;
- ▲ When installing the equipment, please strictly follow the instruction manual and product specifications. Any questions please call for the manufacturer's support. On-site installation must be completed by professionals.
- ▲ When a malfunction occurs and cannot be solved, one must contact the manufacturer for repair. Users are not encouraged to replace the circuit boards or modules inside the product.



## Grounding resistance online monitoring device

### Product Introduction

The SGR1.0 grounding resistance online monitoring device can monitor the connection status of grounding down conductors, circuit grounding resistance, metal circuit connection resistance, or calculate the operating status of the overall grounding network based on the grounding resistance values of these equipment.

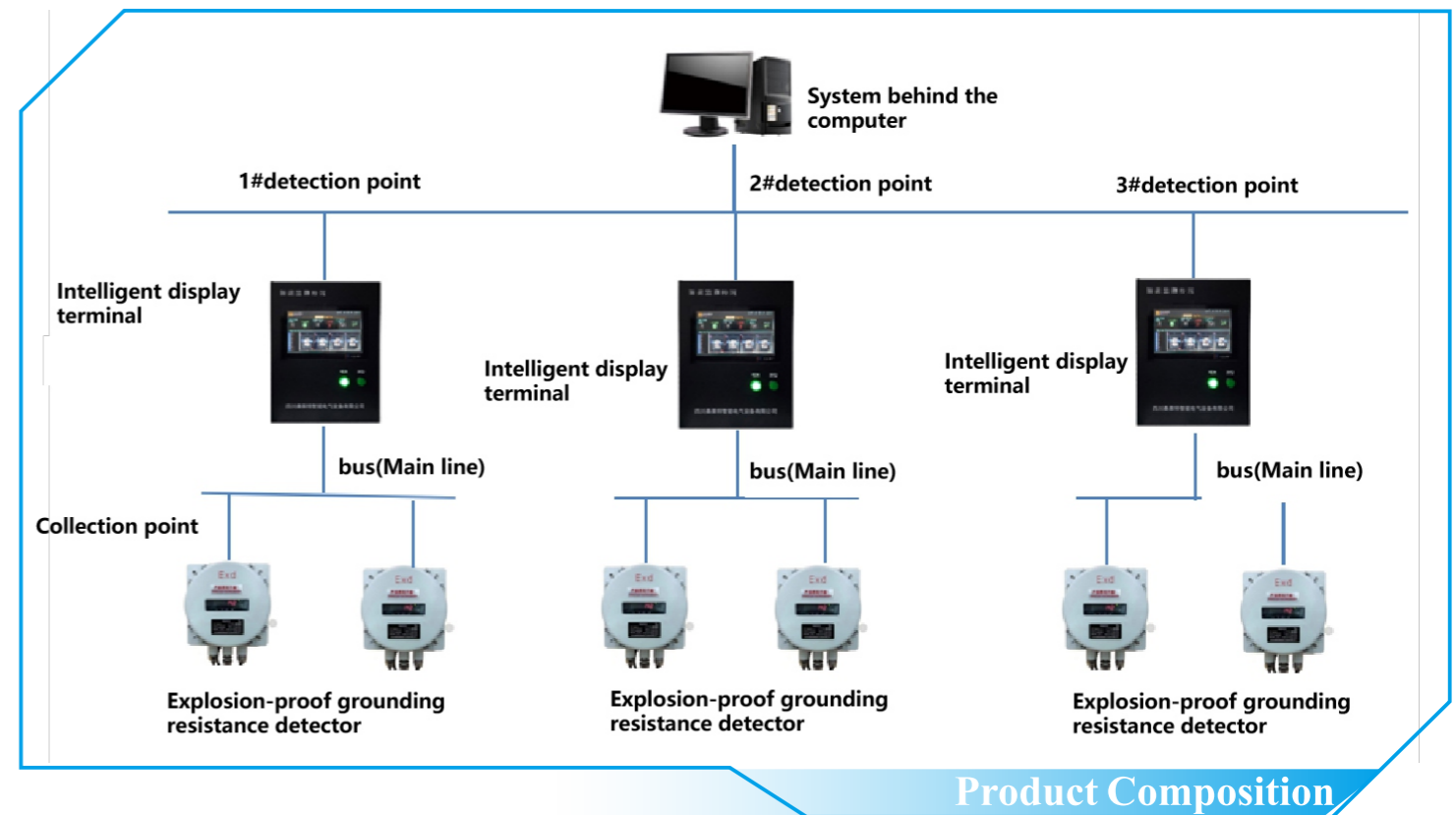
The product has online measurement, non-contact measurement, ground wire passing through the core, without affecting the lightning protection grounding effect and the normal operation of the facilities, without the need for self inspection and real-time detection, and adopts RS485 wired communication. The detector is equipped with built-in sensors and circuit boards to prevent rain and dust, ensuring high-precision, high stability, and high reliability for long-term online monitoring in the field, underground mines, and indoor environments.

The SGR1.0 grounding resistance online monitoring device is suitable for grounding in oil storage tank areas; Grounding of transmission line poles and towers; Underground mine equipment grounding; Meteorological lightning protection grounding; Petrochemical grounding; Communication grounding; Grounding of substation and distribution station; Grounding of railway facilities; Grounding of building warehouses; Online monitoring of grounding for various equipment or scenarios such as electrical equipment grounding.

The product can be installed and used individually or assembled into a network system. The product transmits data through RS485 communication protocol and is composed of communication management machine, monitoring software, industrial control computer, etc. It is suitable for close or remote ground resistance monitoring.

### Product Composition

The SGR1.0 ground resistance online detection system mainly consists of a ground resistance detection device, an intelligent terminal display, and a backend PC. This product is the equipment part of the ground resistance online monitoring



### System

- Detection point: 1#
- Backend PC
- Intelligent display terminal
- RS485 Network Bus
- Collection point
- Explosion proof grounding monitoring resistance device

**Product main functions**

The ground resistance detection device is installed above the down conductor and is one of the data detection units. It collects the resistance of the module in real time, and displays various data through the digital display. At the same time, the collected data is uploaded to the intelligent display terminal through RS485. When the grounding resistance exceeds the limit, the equipment alarm light will light up and alarm, and an alarm relay will output an alarm.

*Real product diagram of grounding resistance detection device*



**Explosion proof type**

**Non explosion-proof type**



**Main technical parameters**

**Equipment size**

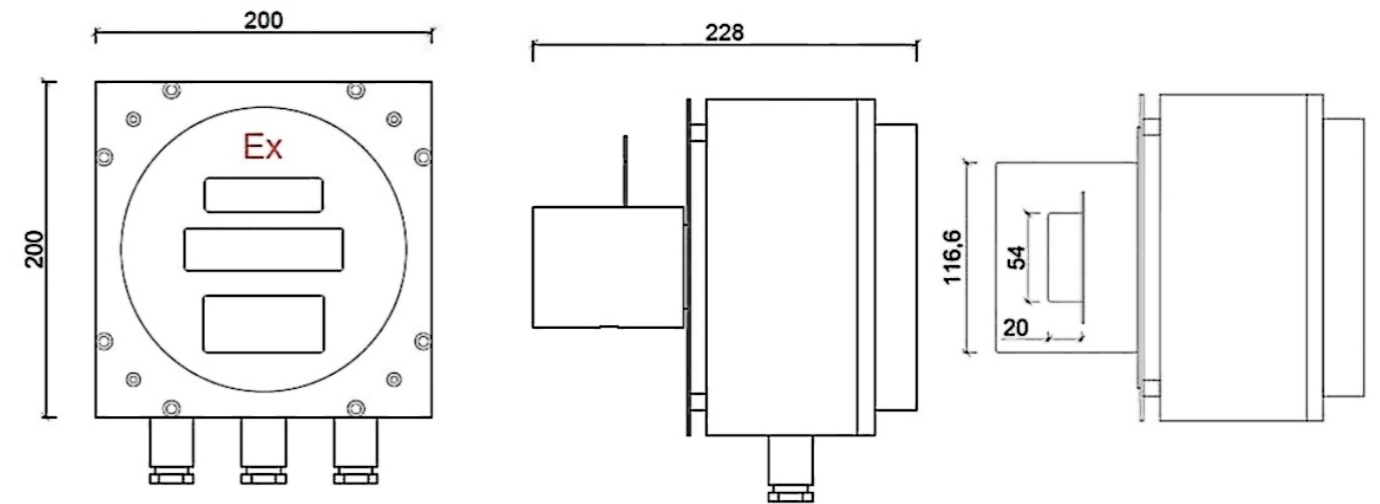
Grounding resistance monitoring device (explosion-proof type)

machine overall size: 200(L)mm\*200(W)mm\*228(THK)mm

Jaw size: 54mm\*20mm

Overall weight: About 7kg

Package box size: 240mm\*240mm\*350mm (Length\*width\*height).



**Dimensional diagram of grounding resistance monitoring device (explosion-proof)**

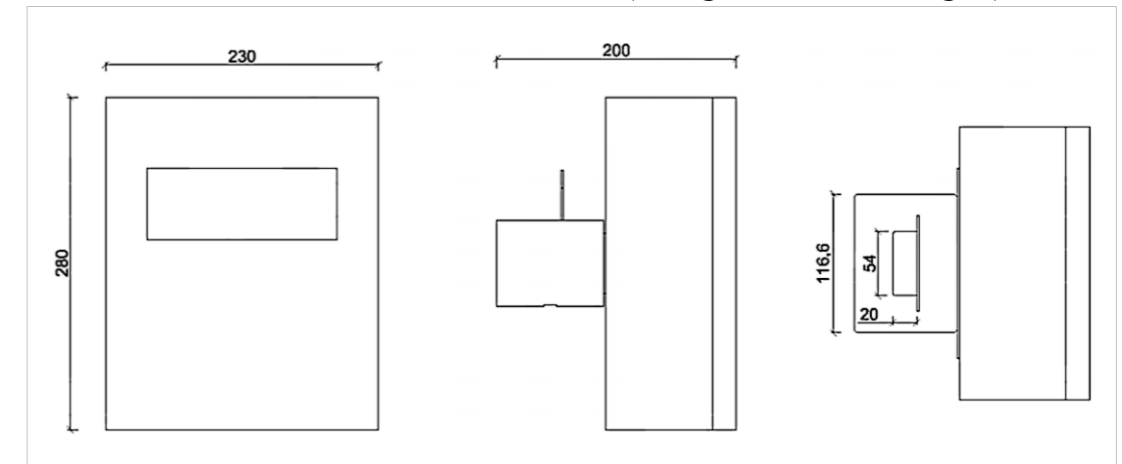
Grounding resistance monitoring device (non explosion-proof)

machine overall size: 230(L)mm\*280(W)mm\*200(THK)mm

Jaw size: 54mm\*20mm

Overall weight: About 5kg

Package box size: 280mm\*3300mm\*260mm (Length\*width\*height).



**Grounding resistance monitoring device (non explosion-proof) diagram**

**Material**

Assembly	Illustrate
Grounding resistance monitoring device	Main body: spray molded double-sided galvanized plate
Packing	Corrugated cardboard box

**Ground resistance monitor technical indicators**

1) Battery and wireless communication parameters

Parameter	Parameter Indicators
Battery life	More than 10 years
Battery Spec	8.6AH/3.6V/Disposable lithium sub battery
Radio frequency	433M (lora modulation)
Wireless communication distance	3000M (Wide open without shelter)
Operating temperature range	-40°C to 85°C, Humidity ≤95%RH (no condensation)

2) Overall performance parameters of grounding resistance device

Parameter	Parameter Indicators
Explosion proof standard	Ex d IIC T6 Gb for explosion-proof type only
Protection degree	Ip65, WF2 can be used outdoors
Device power supply	18-36VDC
	85~265VAC/DC
	Battery powered, wireless communication (no need of cable, 10-year battery life, communication distance up to 1000 meters)
Resistance range	0.01Ω~200 Ω
Resolution ratio	0.001Ω
Accuracy	≤1Ω: Error ≤10mΩ, 20°C±5°C, below 70%RH
	≤100Ω: Error ≤±1%

2) Overall performance parameters of grounding resistance device

Parameter	Parameter Indicators	
Work environment	-40°C~85°C, humidity ≤95%RH (no condensation)	
Overflow indication	When the value is greater than 100Ω, the "--" symbol is displayed.	
Alarm output	Alarm indicator, output at the same time	Not available when battery supply only
	Dry contact (load 5A/220VAC)	
Communication interface	Rs485 (ModBUS RTU protocol), Optoelectronic isolation, 1200 meters/9600bps	
	Wireless communication (433M), communication distance 1000 meters	
Product size	200mm* 200mm*228mm explosion-proof type	
	230mm* 280mm* 200mm non-explosion-proof type	
Communication interface	54mm*20mm, closed type (can pass through 54mm*10mm flat steel or Φ20mm cable)	
Installation	The ground wire passes through the installation hole of the detector and be fixed on the flat steel.	





*Lightning strike counter*

The surge and lightning strike monitoring equipment designed and developed by our company is special for monitoring and counting surges or lightning strike currents in power supply systems. When a surge or lightning strike current enters the line in the power supply system, the equipment will measure the peak current, count and retain data on the counter, monitor the number of surges and lightning strikes on the line in real time.

**Applied to**

- Power supply system control box
- Lightning rod
- Industrial equipment power supply system
- Electrical machine room power supply system
- Remote monitoring equipment power supply system
- Power supply system for field exploration equipment
- Building centralized power supply system

**Complied with**

- IEC 62561-6:2023  
《Testing standard for lightning protection systems in low-voltage power supply》
- GB/T 33588.6-2020

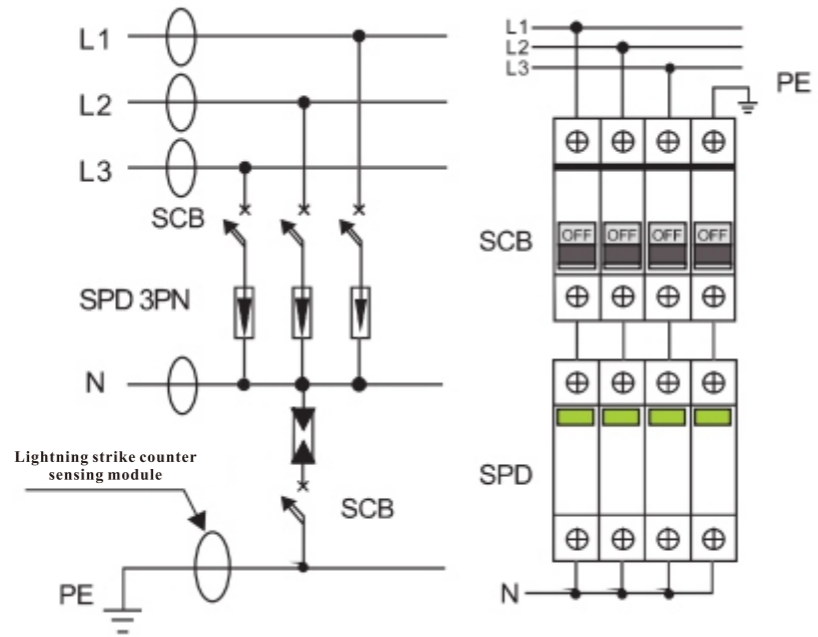
**General technical parameters**

Response time	<20nS
Outer box material	Engineering plastics
Protection level	Ip67
Leakage current	<1uA
Outer box material	Engineering plastics
Operating temperature	-40+85°C
Storage temperature	-55+125°C

**Product specifications**

Part Number	Operating Voltage(V)	Type 1 Type2	I <sub>tc</sub> (8/20)	I <sub>mcw</sub> (8/20)	I <sub>mcw</sub> (10/350)	Safety IEC GB/T
CSM-LC01	DC3-30V	T2	500A	100kA	×	× 0
CSM-LC02	DC3-30V	T2	500A	100kA	×	× 0
CSM-LC03	DC3-30V	T2	500A	100kA	×	× 0
CSM-LC01*	DC3-40V	T1	500A	100kA	100kA	× 0
CSM-LC02*	DC3-40V	T1	500A	100kA	100kA	× 0
CSM-LC03*	DC3-40V	T1	500A	200kA	100kA	× 0
CSM-LC01RS	DC3-40V	T2	500A	100kA	×	× 0
CSM-LC03loT	DC3-40V	T2	300A	100kA	×	× ×

Product schematic diagram



Product size

