



# TAIHANG GUARANTEES SAFETY

— Product Catalog

A nighttime photograph of a city skyline with illuminated skyscrapers and a river. A bright lightning bolt strikes the sky in the upper right corner. The image is partially obscured by a white diagonal graphic element.

**LIGHTNING  
PROTECTION SYSTEM**  
APPLICATION EXPERT

XIAMEN TAIHANG TECHNOLOGY CO.,LTD

# COMPANY PROFILE

Xiamen Taihang Technology Co., Ltd., founded in 2004, is a National High-Tech Enterprise, a leading enterprise in the "Small Giant" technology sector in Fujian Province, and an innovative enterprise in Xiamen. The company has long focused on the research, development, and manufacturing of lightning, surge, and electromagnetic pulse protection technologies and products. It provides customers with comprehensive solutions for lightning, surge, and electromagnetic pulse safety protection and is a leader in the field of intelligent lightning protection solutions. The company has successfully solved four major global lightning protection issues: failure and fire risks of power surge protective devices (SPDs), signal interruption and remote signal tripping failure in signal surge protectors. Additionally, the company's original and independently patented Power SPD Backup Protector (SCB) has influenced the revision of various lightning protection standards both domestically and internationally.



PROVIDE SAFE, FLEXIBLE AND EASY LIGHTNING  
PROTECTION SOLUTIONS

Xiamen Taihang has more than 1,100 square meters of China National Accreditation Service for Conformity Assessment (CNAS) and International Laboratory Accreditation Cooperation (ILAC) accredited laboratories. These laboratories provide comprehensive support for online product performance and quality monitoring, as well as professional services for product development platforms and technical research platforms. The lightning proximity warning system and lightning protection online monitoring system developed by the company lead the industry in innovative technologies related to safety, data, and networking, laying a solid foundation for providing high-level, high-quality lightning protection systems for industries such as building electrical systems, petrochemical, rail transportation, and airports.

## Core Advantages

Our products are independently researched, designed, and manufactured, with core technologies based on lightning protection, such as electrostatic, electromagnetic, current, and voltage sensing technologies, as well as intelligent control processing algorithms, various data communication, and cloud computing service systems.

## CNAS Accredited Laboratory

Xiamen Taihang has a 1,100-square-meter CNAS accredited laboratory, which is a top-tier lightning device testing laboratory in China. Many of its testing equipment meet international standard technical specifications.



## Joint R&D



The China Petroleum & Chemical Corporation (Sinopec) Safety Engineering Research Institute and Xiamen Daheng Technology Co., Ltd. have established a joint research and development center.

## Product Certification

CE、CCC、CQC



国家防爆认证

## Member of the IEC SC37A Lightning Protection Working Group



**Li Xin**  
General Manager of Taihang  
Professor at Nanjing University of  
Information Science & Technology



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Senior Engineer  
Expert in Xiamen Science and  
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## INNOVATION PRODUCTS

Wireless Networking

Accurate Early Warning

Fast and Convenient



## Lightning Warning System

With the rapid development of electronic information technology, the economic losses and social impact caused by thunderstorm disasters are becoming increasingly significant. When will thunderstorms occur? In important locations such as petrochemical enterprises, oil depots, gas stations, tourist attractions, and schools, it is essential to achieve early detection, early warning, and prevention.

The lightning proximity warning system is a structure that involves lightning electric field detection, signal processing, judgment, notification, and execution. It provides sufficient time to activate emergency plans before a thunderstorm arrives, reducing personal injuries and economic losses.

The lightning proximity warning system is designed and manufactured based on military technical requirements. It is currently the most advanced lightning warning system in China, featuring safety, intelligence, and digitalization, as well as serving as a foundational platform for lightning detection.

### Six Major Features

01

Solid-state probe, extremely long lifespan, no maintenance required

02

No moving parts inside, high reliability

03

High concealment and high reliability, military-grade quality

04

Single-point early warning, complete multi-point cellular early warning system

05

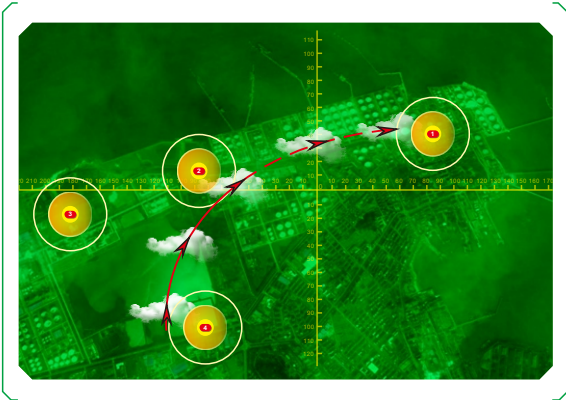
Solar + battery-powered device, supports installation in various locations

06

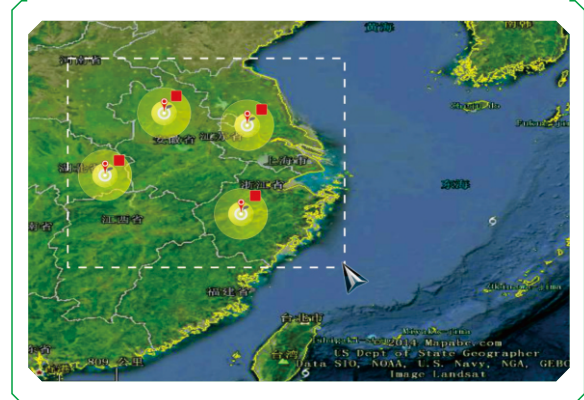
National explosion-proof certification, specialized for flammable and explosive environments

## Two Major Functions

**01** Thundercloud trajectory mapping



**02** Supports cellular networking



## Technical Advantages and System Software of Solid-state Lightning Early Warning Devices

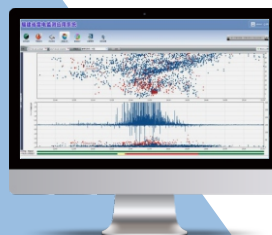


**01**

High reliability, high stability, all-weather, and environmental durability

**02**

Ultra-long lifespan, 3-year maintenance cycle



Divided into professional version and mobile device client based on the customer's application type.

## INNOVATION PRODUCTS



## Surge Protective Device

This product is widely used in power systems such as photovoltaic power plants, wind power plants, charging stations, mobile communication base stations, telecom equipment rooms, industrial factories, and other electrical systems, including various distribution stations, distribution rooms, distribution cabinets, AC/DC distribution panels, box transformers, and other important equipment that is prone to lightning strikes.

### Five Major Features

01

Comply with IEC61643.11

02

Low residual voltage with fast overvoltage response

03

Failure indicator function, the window appears red for failure state

04

Heat sensitive control overheating danger trip mechanism

05

High energy zinc oxide varistor, high discharge flow capacity

06

Pluggable structure, 35mm rail installation

## INNOVATION PRODUCTS

Original Technology, Invention  
Patent Technology

Filling the Gaps in the Domestic  
and International Lightning  
Protection Industry



## SPD Specific Protection Device (SSD)

The SPD specific protection device solves the fire hazard caused by the degradation of surge protectors and grid faults. It also addresses the issue of surge protector failure caused by backup protection device malfunctions triggered by lightning, ensuring that the SPD does not catch fire and the lightning protection for the equipment remains effective. Additionally, it effectively overcomes the protection blind spots caused by the widespread use of fuses or circuit breakers as external disconnectors. This makes it an ideal accessory for low-voltage power supply system voltage-switching SPD and voltage-limiting SPD, filling a gap in the industry.

The SPD backup protector complies with the GB18802.1, GB50057, and THQBOOI-2013 standards.

### Five Key Features

01

The dual-channel patent design selectively channels high-frequency lightning currents and low-frequency power-frequency

02

The high-energy alloy moving and stationary contacts exhibit a surge withstand capability as high as 100kA (8/20) and 25kA (10/350), coupled with a long service life.

03

The stepping electromagnet operates at a power-frequency actuation current as low as 3A, with swift responsiveness and exceptional interference immunity.

04

The residual voltage of the impulse current is low, equivalent to that of a conductor of the same size.

05

The integrated arc-extinguishing device boasts a power-frequency short-circuit breaking capacity of up to 100kA.

## The Three Major Functions

01

The SSD (Surge Protective Device) is designed to rapidly cut off the circuit when the SPD degrades, an abnormal overvoltage occurs in the distribution line, or the SPD conducts and causes a short circuit, thereby preventing the SPD from catching fire. The fast-breaking current is less than 4A;

02

When lightning occurs, the SSD does not trip or become damaged, ensuring continuous and effective lightning protection and the safety of the equipment.

03

The SSD boasts a robust short-circuit breaking capacity, with the highest level (T1) capable of reaching up to 100kA, effectively interrupting short-circuit currents.

## The Three Major Advantages

01

### Prevent SPD from Catching Fire

When the SPD deteriorates or an abnormal overvoltage occurs in the distribution line, it can cause the SPD to conduct and create a short circuit to the ground. In such cases, fuses and circuit breakers are unable to interrupt the current swiftly, leading to the surge protective device (SPD) rapidly igniting and burning. The critical point for SPD ignition is at 5A.

02

### No Malfunction Occurs Under Lightning Current Impact

When a lightning strike occurs, due to the fact that fuses and circuit breakers are power distribution components, they cannot withstand the instantaneous energy of the lightning current, resulting in the devices exploding and tripping. This causes the equipment to lose its lightning protection and become damaged.

03

### Strong Short-circuit Breaking Capacity

The insufficient short-circuit breaking capacity (Ics) of fuses and circuit breakers (6-15kA) results in the inability to interrupt the circuit after an SPD fire and short circuit, causing continuous arc burning and leading to major fire

## INNOVATION PRODUCTS

Accurate Detection of Lightning  
Strike Current Intensity

Accurate Detection of Microampere-Level  
Pure Resistive Leakage Current

Compliant with GB/T 21431-2015  
Standard



## SPD Intelligent Online Monitoring Device

Currently, the widespread use of fuses (FUSE) or miniature circuit breakers (MCB) as external disconnectors presents protection blind spots, leading to two major technical pain points: the SPD's misoperation under surge current and its susceptibility to ignition. Now, the intelligent monitoring device for SPD (Surge Protective Device) not only resolves these two pain points but also enables real-time lightning monitoring. It can automatically collect data, communicate via RS485 for flexible networking, and offer autonomous alarm functions, among others.

### Eight Key Features

01

Leading core monitoring technology, each level employs an independent CT sensor, with pure resistive current detection resolution reaching  $1\mu\text{A}$ .

03

Equipped with built-in sensors to detect the intensity of lightning strikes (peak current magnitude), positive and negative polarity, time, and frequency.

05

Achieves SPD grounding status monitoring and grounding anomaly alerts.

07

Flexible networking for network monitoring and second-level alarms.

02

Utilizing cross-reverse superposition technology and a precise mathematical model to accurately monitor leakage current.

04

The current status of the lightning protection monitoring module is monitored to determine whether the equipment is operating normally or malfunctioning.

06

Monitoring of operating voltage and environmental temperature.

08

Monitoring of the grid operating voltage to implement overvoltage and undervoltage anomaly alarms.

## INNOVATION PRODUCTS

Safe

Stable

Efficient



## Lightning Protection Online Monitoring System

With the rapid development of the national economy and the widespread use of electronic information technology, lightning protection has become especially important. According to statistics, there are thousands of fire accidents caused by lightning or lightning protection devices in China every year, resulting in significant economic losses for the country and businesses. Especially in super-high-rise buildings, large integrated plazas, and flammable and explosive environments, lightning protection safety issues are more prominent.

### Five Major Features

01

Only by establishing a lightning online monitoring system can true lightning safety be achieved! Even with lightning protection devices installed, equipment can sometimes still be damaged by lightning strikes.

02

The lightning protection device may pose a fire hazard.

03

It is difficult to promptly know whether the lightning protection device is in an effective working state.

04

It is difficult to accurately determine whether the equipment damage is caused by a lightning strike or another reason.

### Three Major Advantages

01

Accurate detection of lightning surge current intensity and microampere-level pure resistive leakage current.

02

Achieve a system that is knowable, measurable, controllable, and visible.

03

Centralized management, decentralized control" monitoring method

## INNOVATION PRODUCTS



## Overvoltage & Voltage Dip Protector

TPS220 series product, single overvoltage & voltage dip is developed based on China standard JGJ242-2011 standard. Household appliance, office automation device and lighting device etc will be damaged because of phase loss in power supply system, three phase imbalance, ferroresonance etc. TPS220 series product can achieve overvoltage and voltage dip protection.

AS/4P series product, three phase four wire overvoltage & voltage dip protector is developed based China National Standard JB/T12762-2015 and market demand. This product has maximum safe operating voltage, which can cut off the circuit stably when the voltage of circuit range is low to 50V or high up to 400V, protecting electrical appliance. When appliance fails because of single phase overvoltage & voltage dip resulting from neutral line failure, it can protect the appliance and circuit. Adopting high speed & micro low consumption processor as the core, air circuit breaker as the main circuit and modularization design, it has the good performance and high quality.

### Five Major Features

01

High anti-interference capability

02

With self-check function to guarantee electrical safety

03

Protector will not take false action under transient or temporary overvoltage

04

Automatic resetting circuit, no need manual operation

05

Three phase tripping simultaneously

## INNOVATION PRODUCTS

GB3836.1-2010 and GB3836.4-2010



## Lightning Data Logger

Lightning data logger is a new generation intelligent lightning information recorder developed by our company, combining years of design experience and user site environments, continuously improved over several years. It can accurately record the peak value, time, and frequency of lightning impulse currents, providing valuable scientific data for lightning protection and lightning strike incident analysis.

### Six Major Features

01

Easy to install, no wiring required

02

High lightning response sensitivity, low threshold, and large range

03

Measures the peak value of lightning impulse currents, as well as the frequency and time of lightning strikes

04

Built-in solar power supply device, suitable for installation in locations without power supply

05

Uses CDMA wireless transmission technology to meet the lightning signal monitoring, recording, and transmission requirements of various locations

06

Has national explosion-proof certification, suitable for use in flammable and explosive environments

## INNOVATION PRODUCTS



### Pre-discharge Lightning Rod

Pre-discharge lightning rod was produced to provide a safe and effective protection of lightning in different industries, eliminate the danger to personnel and equipment and win the user's trust. In order to provide more high-quality and efficient products, as a professional manufacturer, Taihang has organized R&D team to continuously improve the function and synchronously launch of a new generation of pre-discharge lightning rod!

The working principle of the pre-discharge lightning rod is to produce a faster uplink leader than the ordinary lightning rod.

#### Five Major Features

01

Under the same conditions (height), the protection range is larger than that of the ordinary lightning rod

02

Pre-discharge time up to 65us

03

No radioactive elements, stainless steel material, corrosion Resistance, strong wind resistance

04

No power supply, no energy consumption components

05

Light weight, easy to install

## INNOVATION PRODUCTS



### Ground Resistance Rester

The TJ1 loop ground resistance tester adopts an open-close structure, which allows installation without disconnecting the grounding down conductor, making it convenient and efficient. It supports online testing, non-contact measurement, and allows the ground wire to pass through without affecting the lightning protection grounding effect or the normal operation of the facilities. No self-testing is required, and it provides real-time detection. It is suitable for grounding of overhead transmission line towers, underground mine grounding, meteorological lightning protection grounding, petroleum and chemical grounding, communication grounding, substation grounding, railway facility grounding, building warehouse

#### Six Major Features

01

Online non-contact measurement, supports networking of multiple devices, and real-time data upload

02

Achieves functions such as historical data storage, querying, statistics, and analysis

03

Open-close structure installation, no need to disconnect the grounding down conductor, allows the ground wire to pass through

04

Achieves lightning protection without affecting the down conductor, convenient and fast

05

Wired and wireless communication modes, antenna transmission power less than or equal to 30dBm

06

Has lightning peak value recording function





Taihang Guarantees Safety

**XIAMEN TAIHANG TECHNOLOGY CO., LTD.**

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