

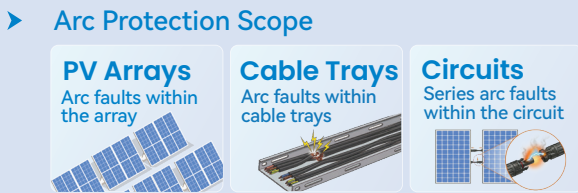
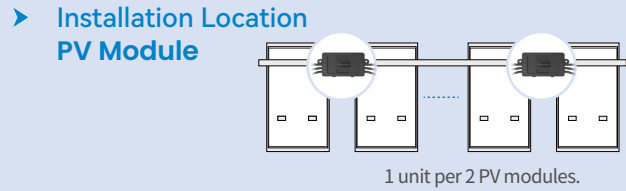
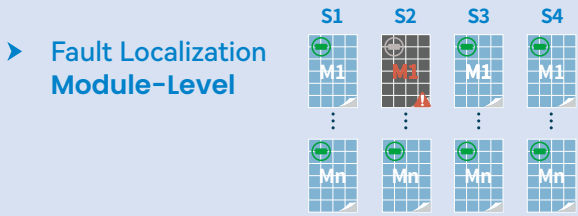
AFCI Protection Solutions

Fonrich (Shanghai) New Energy Technology Co., Ltd.



A LEADER IN CLEAN ENERGY SAFETY

The Fonrich Smart Safety Protector solution delivers dual protection through module-level rapid shutdown (RSD) and arc fault circuit interruption (AFCI). Strictly complying with international safety standards, it integrates module-level RSD, arc fault protection, and remote monitoring capabilities to comprehensively prevent financial losses and personal injury caused by fire hazards.

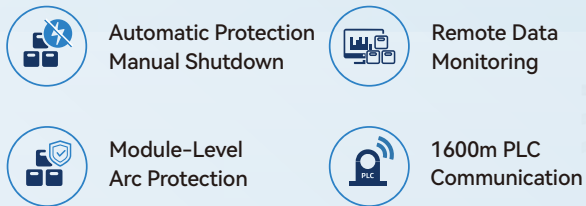


Module-Level AFCI and Shutdown

HOT Ultra-Precise

► Key Applications

- ✓ C&I & Public Facilities
- ✓ Energy-Intensive Facilities
- ✓ Highway Service & EV Charging Hubs
- ✓ Challenging & Complex Environments
- ✓ Residential PV Systems
- ✓ High-Safety & Critical Infrastructure
- Utility-Scale Solar Plants

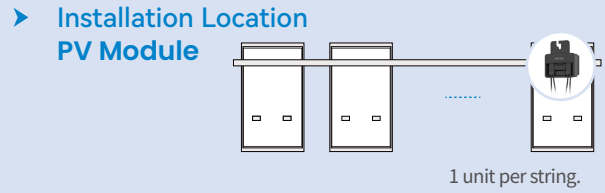


Smart Safety Protector (Smart RSD)

| Model | FR-PVMS-TTQB | FR-PVMS-TTQC | FR-PVMS-THQJ |
|--|--------------|---------------------|--------------|
| Supported PV Channel / Modules | 2-to-2 | 2-to-2 | 1-to-2 |
| Max. Input Voltage | 70 V DC×2 | 70 V DC×2 | 140 V DC |
| Max. Continuous Input / Output Current | 20 A DC | 23 A DC | 23 A DC |
| Max Short Circuit Current | 25 A DC | 25 A DC | 25 A DC |
| Max. System Voltage | | 1500 V DC | |
| Max. Cable Loop Length | | 1600 m | |
| Operating Ambient Temperature | | -40 °C ~ +85 °C | |
| Installation Method | | PV Rail | |
| Protection Rating | | IP68 / NEMA Type 6P | |
| Size (W/O Cables and Connectors) | | 120×68×26mm | |

*Specifications listed for product models are subject to the latest official datasheet.

The Fonrich String-Level AFCI Solution effectively mitigates arc fault risks in utility-scale PV plants. It equips every string with independent arc detection capabilities, instantly isolating and shutting down the specific string the moment an arc fault is detected.



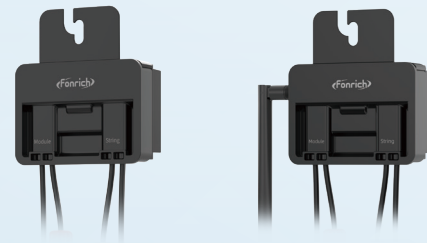
String-Level AFCI and Shutdown



► Key Applications

- ✓ C&I & Public Facilities
- ✓ Challenging & Complex Environments
- ✓ High-Safety & Critical Infrastructure
- ✓ Energy-Intensive Facilities
- ✓ Residential PV Systems
- ✓ Utility-Scale Solar Plants
- ✓ Highway Service & EV Charging Hubs

- String-Level Arc Protection
- String-Level Current Monitoring
- Remote Data Monitoring
- Flexible Configuration



String-Level AFCI Device

| Model | FR-AFCI-KNJC | FR-AFCI-KNJW |
|--|---------------------|--------------|
| Max. System Voltage | 1500 V DC | 1500 V DC |
| Max. Continuous Input / Output Current | 20 A DC | 20 A DC |
| Communication Technology | Power Line Carrier | LoRa |
| Voltage Range For Operation | 20 V DC ~ 60 V DC | |
| Max. Cable Loop Length | 1600 m | |
| Operating Ambient Temperature | -30 °C ~ +85 °C | |
| Relative Humidity Range | 0% ~ 100% | |
| Installation Method | PV Rail | |
| Protection Rating | IP68 / NEMA Type 6P | |
| Size (W/O Cables and Connectors) | 120×132×45mm | |

*Specifications listed for product models are subject to the latest official datasheet.

As an integral part of the Fonrich String-Level AFCI Solution, the DC AFCI Box is tailored for rooftop PV systems. It provides a rapid upgrade to meet stringent arc safety requirements, supporting up to 4 or 16 channel arc fault detection and featuring seamless Wi-Fi and Bluetooth connectivity.

► **Fault Localization String-Level**



► **Installation Location Inverter DC Side**



► **Arc Protection Scope**

Cable Trays
Arc faults within sections of cable trays



Circuits
Series arc faults within the circuit



► **Remote Alert SafeSolar Cloud & App**



String-Level AFCI and Shutdown



► **Key Applications**

- C&I & Public Facilities
- Challenging & Complex Environments
- High-Safety & Critical Infrastructure
- Energy-Intensive Facilities
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Rapid Arc Protection



Convenient Wall-Mounted Installation



Remote Fault Monitoring



Compatible with System Voltage up to 1100V



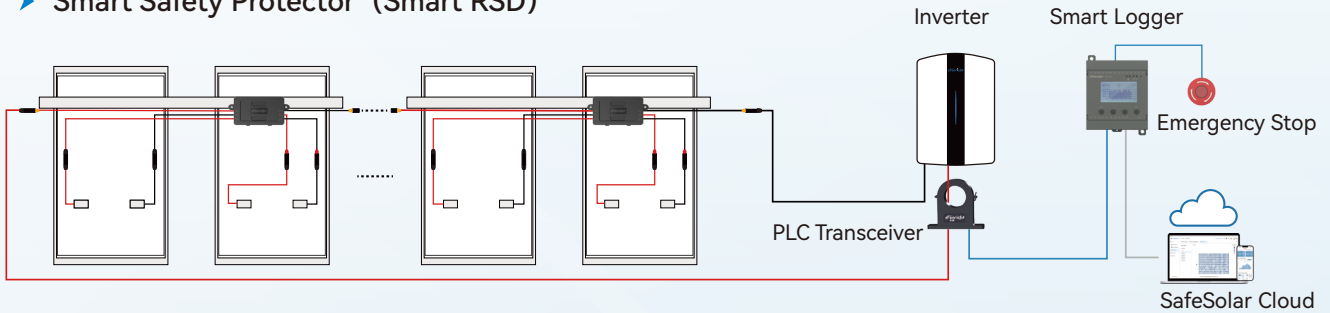
DC AFCI Box

| Model | FR-AFCI-B04A | FR-AFCI-B16C |
|-------------------------------|---|--------------------|
| Max. System Voltage | 1100 V DC | 1100 V DC |
| Max. String Current | 20 A DC | 20 A DC |
| Max. Monitored Strings | 4 | 16 |
| Mounting Location | In series between inverter and PV strings | |
| Arc Fault Protection Time | ≤2.5 s | |
| Arc Fault Type | UL1699B (Type 1) | |
| Operating Ambient Temperature | -20 °C ~ +60 °C | |
| IP Rating | IP66 | |
| Communication / Protocol | Bluetooth / Wi-Fi | RS485 / Modbus-RTU |

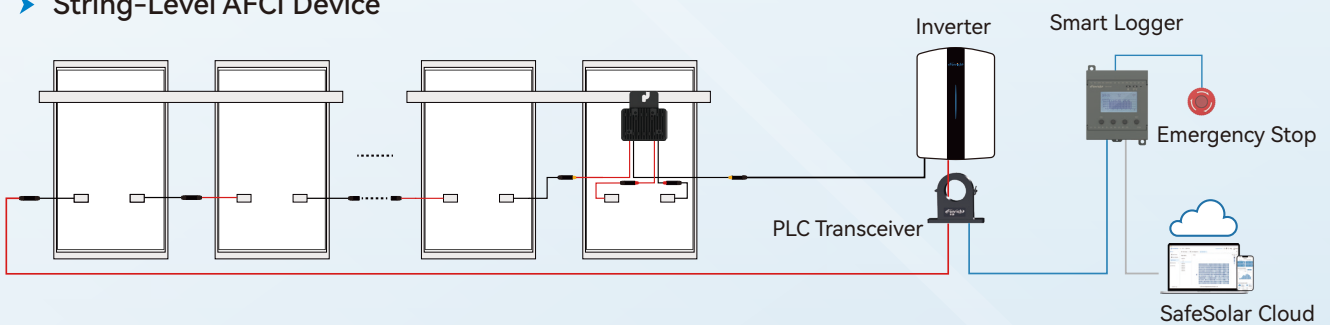
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System Topology

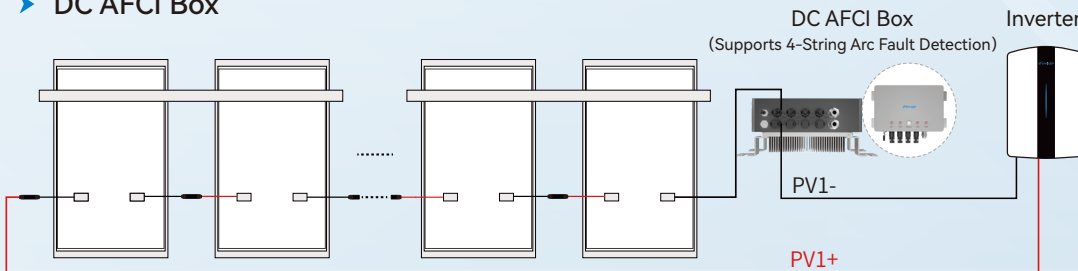
Smart Safety Protector (Smart RSD)



String-Level AFCI Device

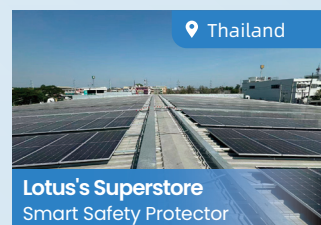


DC AFCI Box



* For illustration only. Actual deployments are subject to customization based on specific system scale and hardware requirements.

Featured Projects





**Guard Energy Security
Empower Green Development**

FONRICH NEW ENERGY

The Leader in DC AFCI Technology

Backed by 100+ Invention Patents

Safeguarding Global Renewable Energy Systems

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