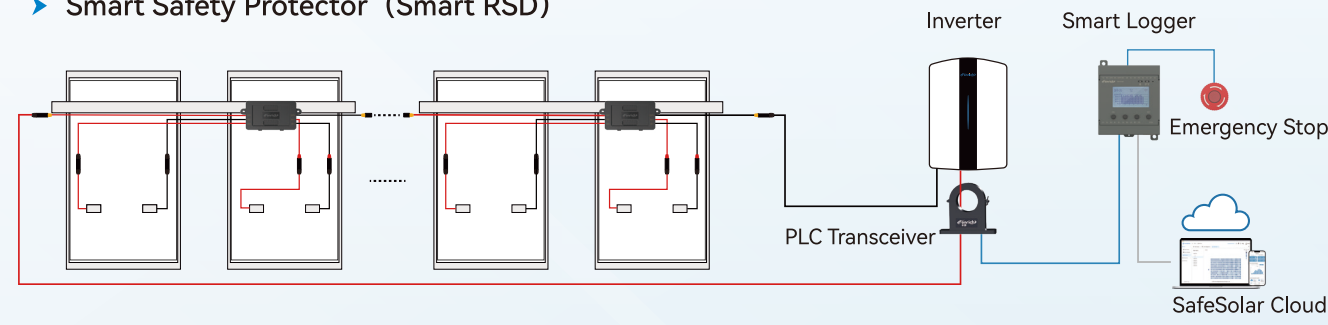
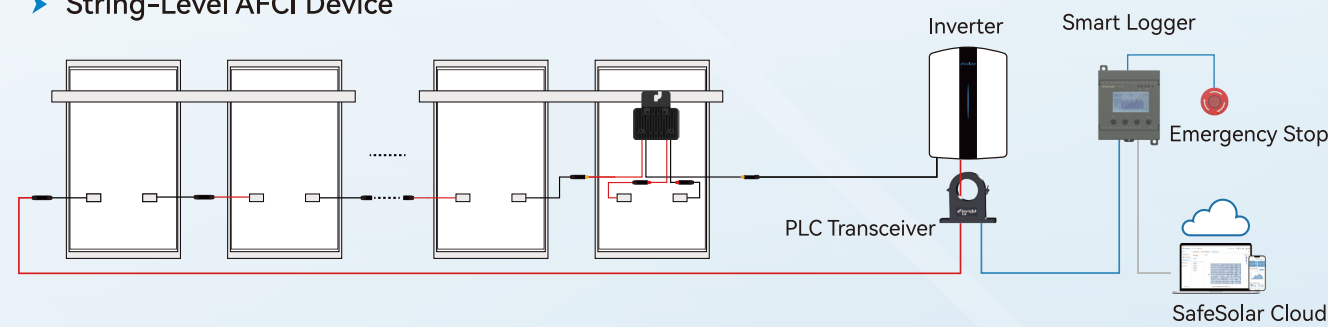


◆ System Topology

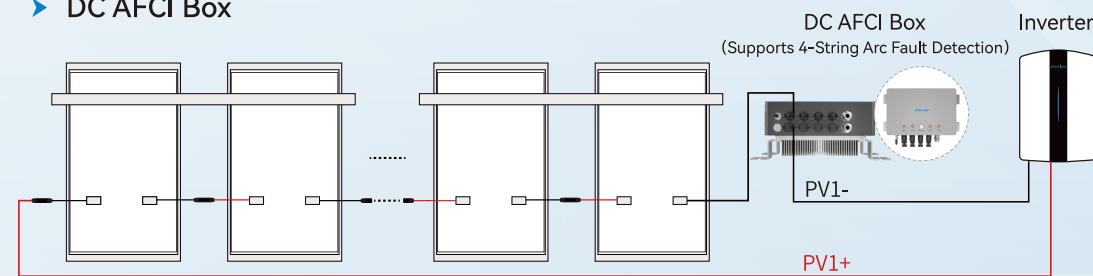
▶ Smart Safety Protector (Smart RSD)



▶ 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

<p>Shanghai</p> <p>Robotics Super Factory Smart Safety Protector</p>	<p>Guangzhou</p> <p>Conghua Racecourse Smart Safety Protector</p>	<p>Wuhan</p> <p>Aerospace Nanhu Electronics String-Level AFCI Device</p>	<p>Fujian</p> <p>Tobacco Logistics Hub String-Level AFCI Device</p>
<p>Thailand</p> <p>Suvarnabhumi Airport Smart Safety Protector</p>	<p>Malaysia</p> <p>DHL Logistics Center Smart Safety Protector</p>	<p>Thailand</p> <p>PepsiCo Manufacturing Plant Smart Safety Protector</p>	<p>Thailand</p> <p>Lotus's Superstore Smart Safety Protector</p>

Guard Energy Security
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AFCI Protection Solutions

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Module-Level AFCI Protection

FONRICH NEW ENERGY

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.

- Fault Localization Module-Level**
- Installation Location PV Module**
- Arc Protection Scope**
 - PV Arrays**: Arc faults within the array
 - Cable Trays**: Arc faults within cable trays
 - Circuits**: Series arc faults within the circuit
- Remote Mgt SafeSolar Cloud & App**

String-Level AFCI Protection

FONRICH NEW ENERGY

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.

- Fault Localization String-Level**
- Installation Location PV Module**
- Arc Protection Scope**
 - Cable Trays**: Arc faults within cable trays
 - Circuits**: Series arc faults within the circuit
- Remote Mgt. SafeSolar Cloud & App**

String-Level AFCI Protection

FONRICH NEW ENERGY

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 fault 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**

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
- Utility-Scale Solar Plants
- ✓ High-Safety & Critical Infrastructure

- Automatic Protection Manual Shutdown
- Remote Data Monitoring
- Module-Level Arc Protection
- 1600m PLC Communication



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.

String-Level AFCI and Shutdown

HOT Cost-Efficient

Key Applications

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

- 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.

String-Level AFCI and Shutdown

HOT Quick Install

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

- 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

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