



Product Datasheet

Version 1.0

PV Rapid Shutdown System FR-PVMS



Scan code to learn more

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

Add: 1st Floor, Building 5, No.999 Jianguo Road, Minhang District, Shanghai

Web: www.fonrich.com

Tel: +86 21 61679671

Email: sales@fonrich.com

Introduction

PV rapid shutdown system (PVRSS) is one of the important safety components of distributed PV system. Its main function is to reduce the voltage of 30cm away from the PV module to below 30V within 30s after the shutdown device is started. When the building where the PV module is located requires maintenance or firefighting, it can effectively prevent potential safety hazards such as electric shocks, and protect the lives of maintenance personnel and firefighters.

System Components

PV rapid shutdown system is mainly composed of the following PV rapid shutdown devices:



1. **Tail Module**(FR-PVMS-TSCA): A rapid shutdown module with monitoring, which can quickly shut down the PV strings and transmit the information of the PV strings to the head module by the PLC signal.
2. **Head Module**(FR-PVMS-HKA): Controls the tail module by the PLC signal, and transmit the information to the main controller by RS485.
3. **Main Controller**(FR-PVMS-MDEA): Displays the power and other information of the PV strings, and transmit the data to the cloud platform at the same time. Users can remotely control it by the mobile phone APP(SafeSolar).
4. **Main Control Box**(FR-PVMS-BDEA): Consists of Head Module, Main Controller and Box(an optional scheme).

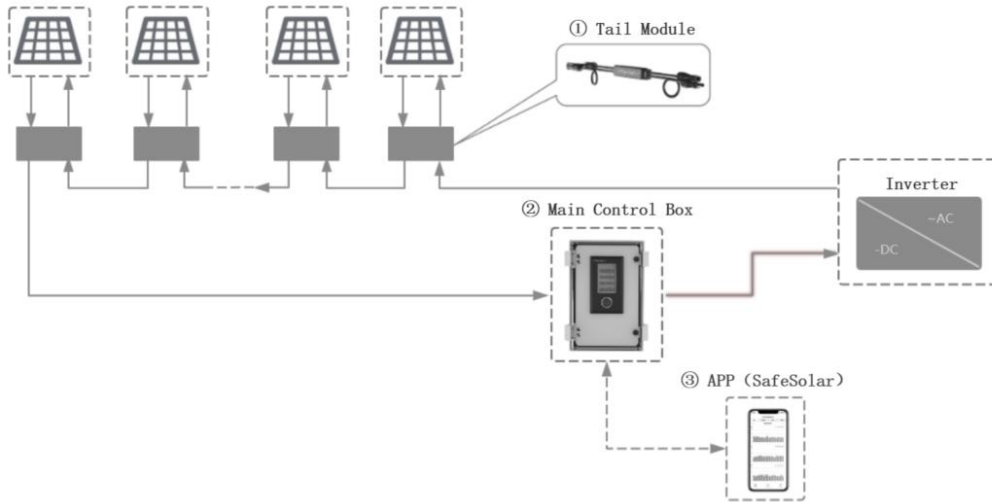
Features

- Rapid shutdown meets NEC 2017 & 2020(690.12) requirements
- Integrates current, voltage, temperature, power monitoring
- Hi-speed Bidirectional PLC communication
- Max 25A current support
- Fonrich own technology, without IP risk

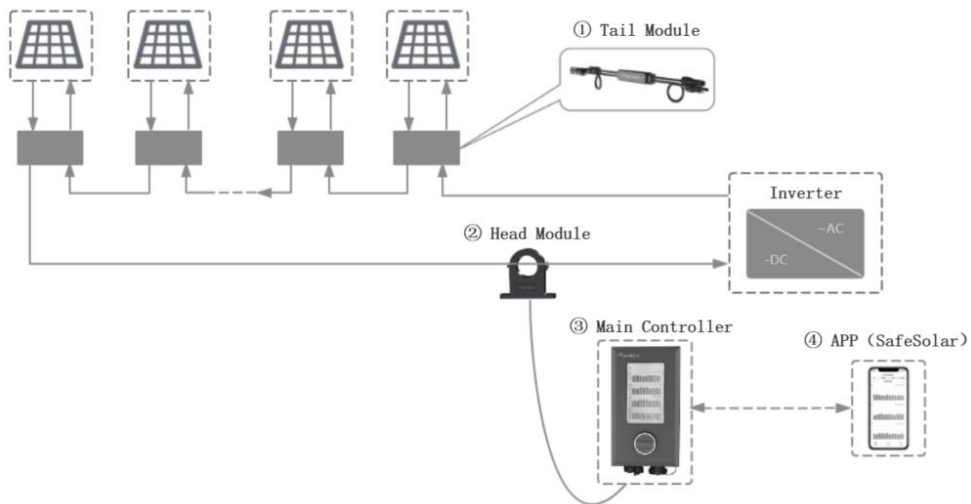
Key Technical Specifications:

Classification	Item	Parameter
Tail Module	Input operating voltage range	12V-60V
	Accuracy of voltage measuring	±0.2V
	Maximum System Voltage	1500V
	Output voltage after shutdown	V(input)/100
	Maximum cont. input current (Im)	25A@55°C
	Reverse current	25A
	Accuracy of current measuring	±0.05A
	Communication	PLC
	Communication capability, the length of cable loop	500m
	Operating temperature	-40°C ~ +80°C
	Enclosure Rating	NEMA Type 6P/IP68
Safety Compliance	UL 1741 (Ed.2, Rev. February 15, 2018), CSA C22.2 No. 330-17	
Head Module	Max. current	200A
	Max. supported PV modules per string	8
	Operating temperature	-30°C ~ 70°C
	Protection Rating	IP67, UV-Proof
	Safety Compliance	UL 1741 (Ed.2, Rev. February 15, 2018), CSA C22.2 No. 330-17
Main Controller	Operating voltage	220VAC
	Operating Ambient Temperature Range	-30°C ~ 70°C
	Enclosure Rating	IP65, UV-Proof

Typical Application

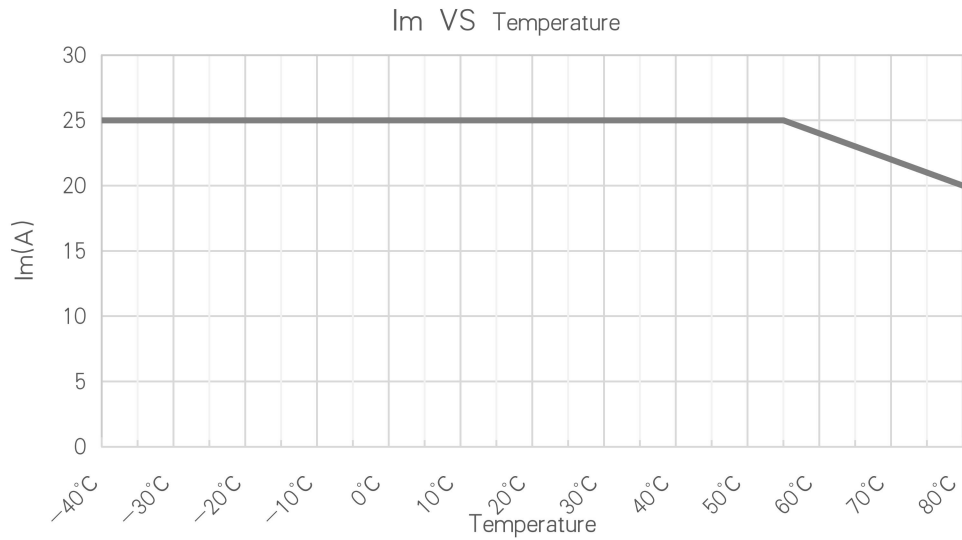


Typical application with main control box

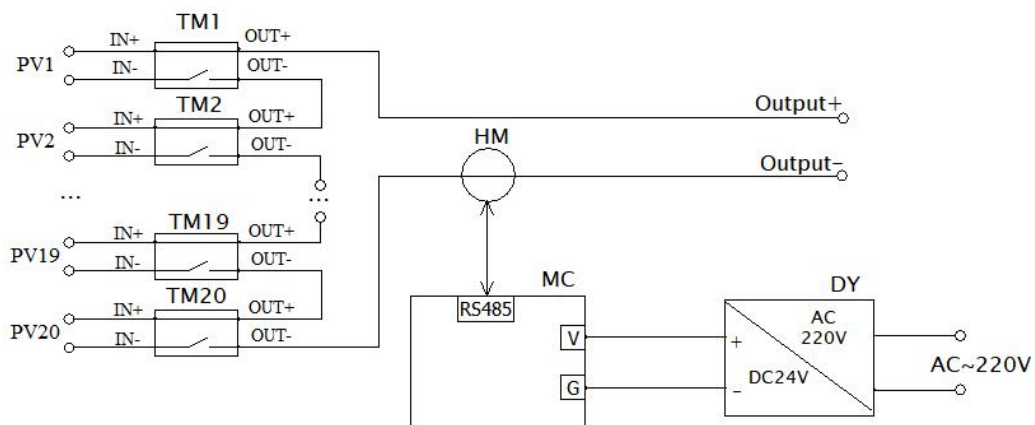


Typical application without main control box

Derating curve

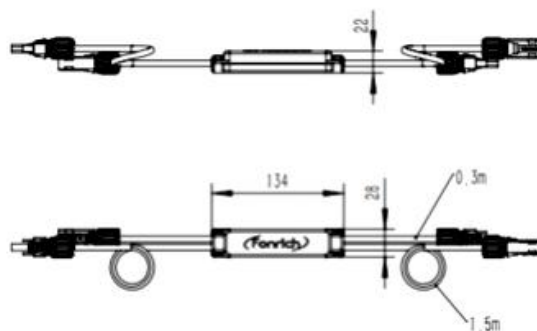


Schematic Diagram

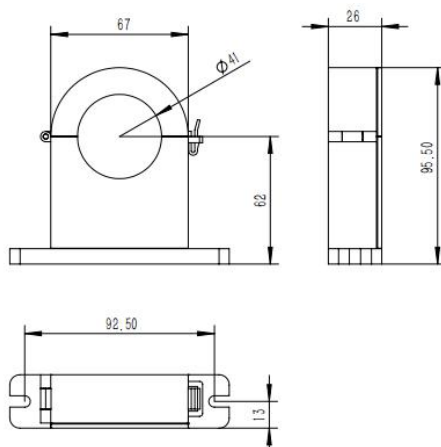


Mechanical Data(mm)

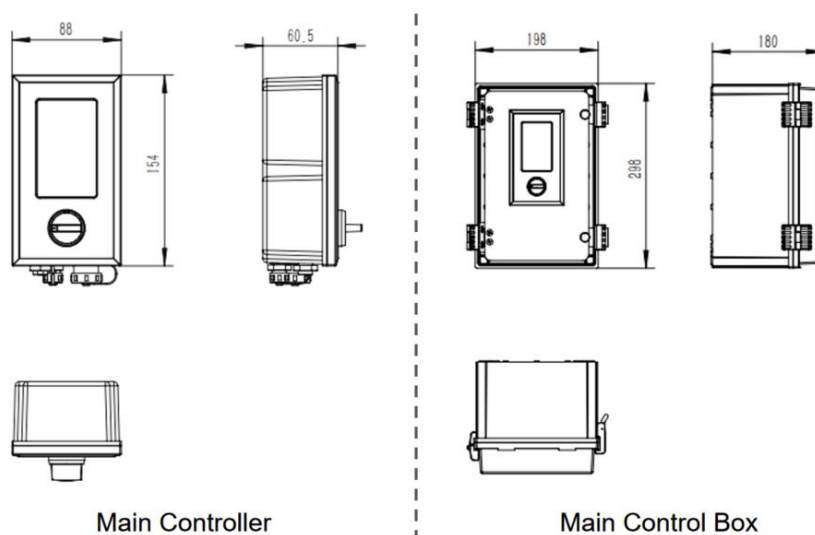
Tail Module



Head Module



Main Controller/Main Control Box



Main Controller

Main Control Box

Revision Log

Version number	Change content	Revision date
1.0	First edition	2021.05.31
1.1	Increase reverse current	2021.7.12

Contact us

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



Add: 1st Floor, Building 5, No.999 Jiangyue Road, Minhang District, Shanghai

Tel: +86 21 61679671

Email: sales@fonrich.com

Web: www.fonrich.com