

FIMER

FIMER & APsmart solution

Rapid Shut Down - PLC

Scope

FIMER UNO-DM-TL-PLUS string inverters, combined with APsmart's RSD devices, offer a flexible and scalable solution to provide all of the required safety features to shut down a PV array at the module-level, the safest way to de-energize a PV system.

This system integration provides the following advantages:

- Meets NEC 2017 and NEC 2020 (690.12) requirements
- Certified to SunSpec Rapid Shutdown Signal requirements
- Cost effective solution

This document describes the steps required for the installation of the Transmitter-PLC and its power supply within the wiring box of UNO-DM-PLUS inverters. Please refer to the APsmart and FIMER manuals for the complete system installation.

Application

This system compatibility refers to:

- **UNO-DM-3.3-3.8-4.6-5.0-6.0-TL-PLUS-US-Q** FIMER's inverter models (all versions)
- APsmart model: **RSD-D(S)-PLC & Transmitter-PLC**.

RSD-D(S)-PLC meets SunSpec Rapid Shutdown Signal requirements, maintaining normal function by continually receiving a heart-beat signal from the APsmart Transmitter. The RSD executes rapid system shutdown when the Transmitter signal is absent.

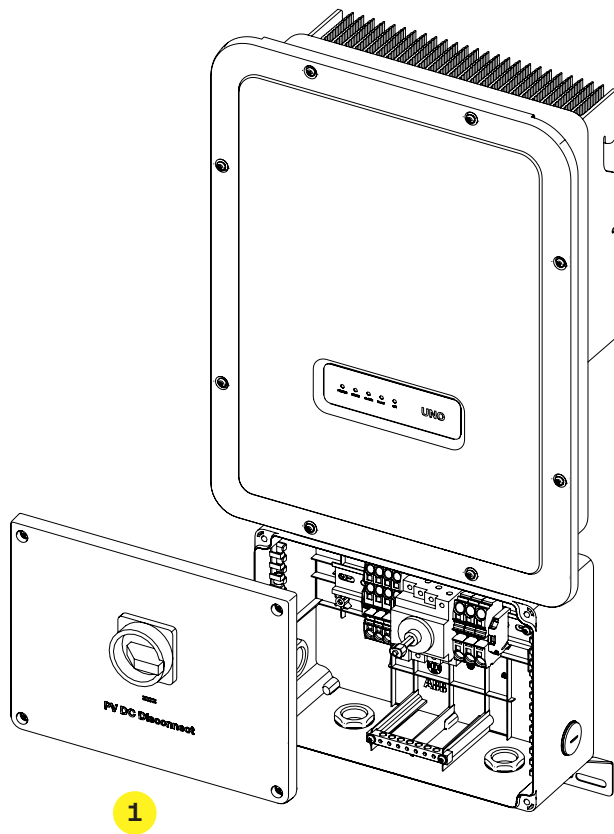
Before starting

The purpose of this document is to support a qualified technician, who has received training and/or has demonstrated skills and knowledge regarding installation, operation, and maintenance of UNO-DM-PLUS inverters.

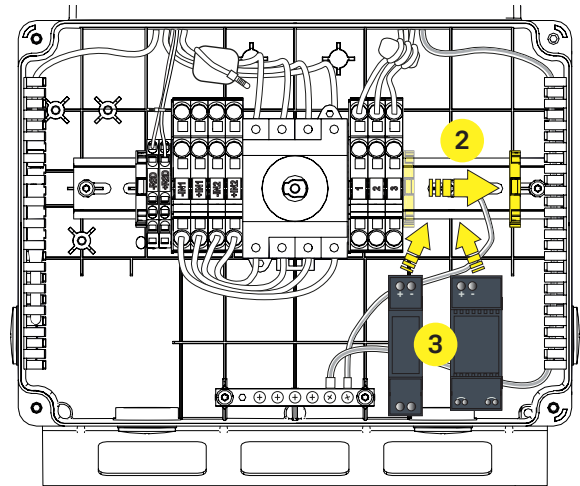
WARNING! ELECTRIC SHOCK HAZARD! Some inverter parts may be subject to voltages that could be hazardous for the operator. Before performing any work on the inverter, refer to "Inverter total de-energization and safe access" chapter in the Installation Manual of the UNO-DM-PLUS inverter to know all the necessary steps to safely work on the inverter.

Installation of the RSD power supply and Transmitter

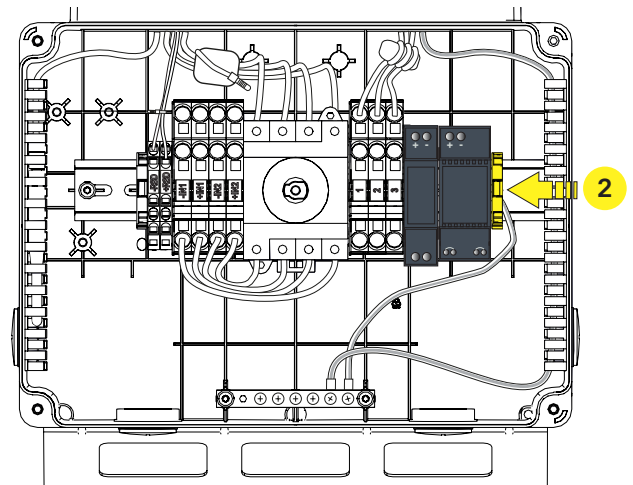
- Remove the wiring box front cover (1)
- Remove clip (2) next to AC terminal block
- Mount the Power Supply and the Transmitter-PLC on the DIN rail next to the AC terminal block (3), then put the clip (2) back on the end of DIN rail, make sure both Power Supply and Transmitter-PLC are tightly attached to the DIN rail
- Insert the RSS Cores (4) wires into the appropriate terminal of Transmitter-PLC, tighten the screws of each terminal with a torque of 0.2 – 0.4 N*m/ 0.15 – 0.3 lb*ft, then check that wires are fully inserted and can not be pulled out easily.
- Connect AC wires from the AC terminal block (5) to the Power Supply (85-264 VAC Input) and DC wires from the Power Supply (12 Vdc Output) to the Transmitter-PLC (6). Tighten the screws of each terminal with a torque of 0.2 – 0.4 N*m/ 0.15 – 0.3 lb*ft, then check that wires are fully inserted and can not be pulled out easily. (Transmitter-PLC power supply must be on same AC branch circuit as inverter to meet rapid shutdown requirements)
- Pass either positive or negative multiple homerun(s) through RSS Cores, all homeruns must be the same polarity, and never pass both homeruns of the same string through the same RSS Core.
- Connect all the wires inside wiring box by following the instructions in the Quick Installation Guide or Installation Manual. Verify that there are no unconnected wires and unused terminal screws are tightened inside wiring box after completing the installation. Close the wiring box cover and tighten the screws by following the installation guide.



1

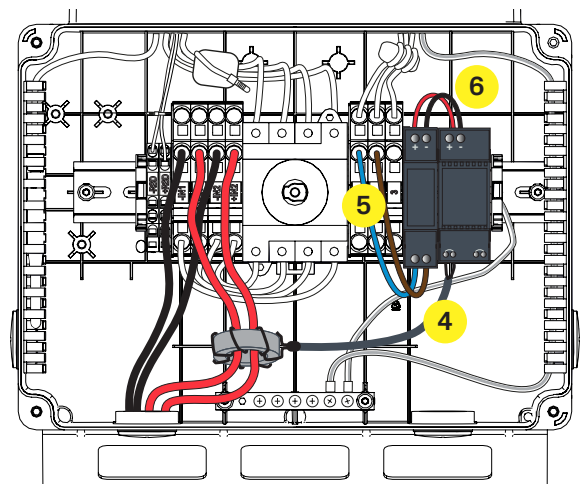


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2

- 1 - Remove the wiring box front cover
- 2 - Remove clip next to AC terminal block
- 3 - Mount the Power Supply and the Transmitter-PLC on the DIN rail next to the AC terminal block and put the clip back on the end of DIN rail
- 4 - Insert the RSS Cores wires
- 5 - Connect AC wires from the AC terminal block to the Power Supply
- 6 - Connect DC wires from the Power Supply to the terminal PLC
- 7 - Complete installation and mount again the cover according to manual



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