

Quick Installation Guide for Three-phase Smart Smart Meter

(Part No.: 91000295, Release Date: 2023.06)

1. Description

- 1) Due to product version upgrades or other reasons, this document will be updated from time to time.
- 2) Under no circumstances can this document replace the safety warnings and instructions in the user manual or on the product body.
- 3) All statements, information, and suggestions in this document do not constitute any express or implied warranties.
- 4) All operations of this equipment must be carried out by professional technical personnel. Professional technical personnel must undergo specialized training, fully read the manual, master relevant safety precautions for operation, be familiar with the composition and working principle of the entire photovoltaic power generation system, as well as the relevant standards and safety regulations of the project location.
- 5) Before installing the equipment, please check whether the goods are complete and whether there is obvious damage according to the order contract or packing list. If there are any abnormalities, please contact the dealer.
- 6) Equipment failure caused by storage, handling, installation and use of the equipment in accordance with the requirements of this guide and user manual is not covered by the warranty.
- 7) This guide applies to models: CSI 15-125KW Three-phase Grid-connected inverter series products.

2. Appearance and Installation Dimensions of Smart Meter

Model	Modulus	Overall Dimensions (Length × Wide × High) mm	Mounting Rail Specification	Weight (g)
DTSU666 series (current transformer)	4	100×72×65.5	DIN35 standard din rail	about 440

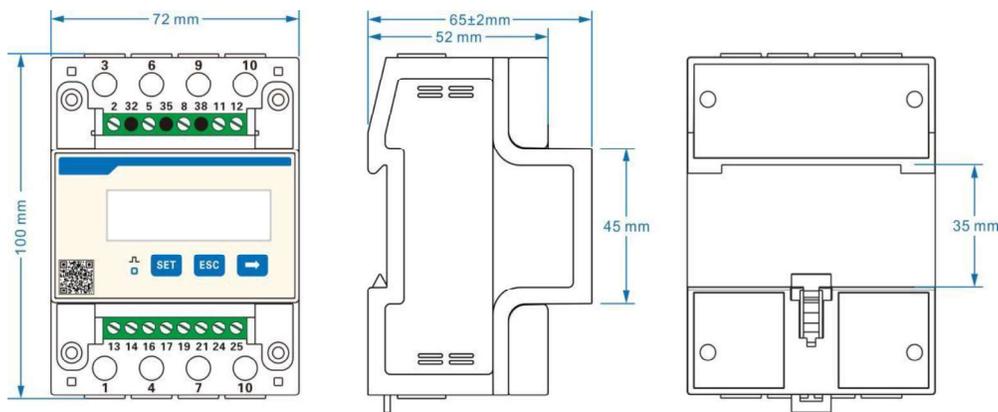


FIG1 Smart meter Dimensions

NOTE1: Undeclared tolerance is ± 1mm;

NOTE 2: Only indicates size, with slight differences in size and appearance among different instrument specifications.

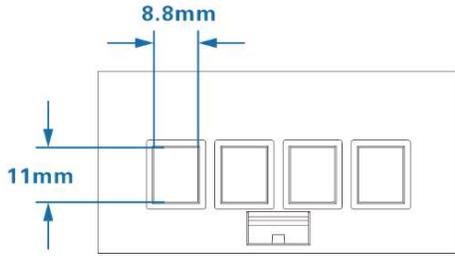


FIG 2 Current Wiring Terminal
(Conductor Cross-Sectional Area Range $\leq 16 \text{ mm}^2$)

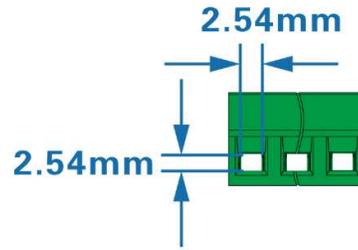


FIG 3 RS485 Wiring Terminal
(Conductor Cross-Sectional Area Range $0.25\text{-}1 \text{ mm}^2$)

3. Smart Meter Installation and Usage Instructions

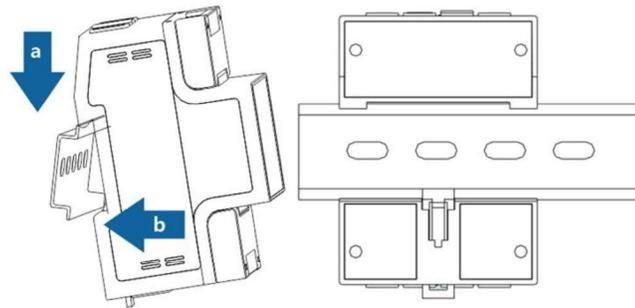
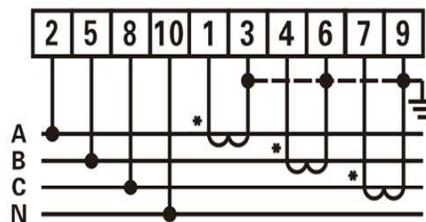


FIG 4 Installation of din rail

- 1) Connect to the smart meter through a current transformer, please install a fuse outside the smart meter at the front end of the voltage input line (Recommended 1A 300V, shall comply with EN 60947) .
- 2) The smart meter must be installed in a distribution cabinet with reliable grounding to ensure that people cannot touch it when working with electricity.
- 3) As shown in step A of the above figure, hang the hook on the upper end of the back of the smart meter onto the installation din rail; As shown in step B of the above figure, push the smart meter inward to make the lower movable hook on the back of the smart meter snap into the din rail; installation is complete.

 DANGER	<ol style="list-style-type: none"> 1. When connecting cables, it is prohibited to operate with electricity and must comply with the relevant requirements in the user manual. 2. When connecting the input cable, ensure that the circuit breaker at the front end of the AC input cable is off.
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Voltage	2-UA (A phase voltage input terminal)	5 -UB (B phase voltage input terminal)
	8-UC (C phase voltage input terminal)	10-UN (N phase voltage input terminal)
Current Signal	1-IA*(A phase voltage input terminal)	3-IA (A phase current output terminal)
	4-IB* (B phase voltage input terminal)	6-IB (B phase current output terminal)
	7-IC* (C Phase voltage input terminal)	9-IC (C phase current output terminal)

FIG 5 Typical wiring of three-phase four wire connection through current transformer

4. Installation of Current Transformer

The selection of transformer should meet the requirement of 1.5 (6) A, and the transformer should be directly hung on the cable or copper bar. The installation position is shown in FIG 6 and installed in the distribution cabinet between the load and the power grid, with the arrow of the transformer pointing towards the direction of the power grid.

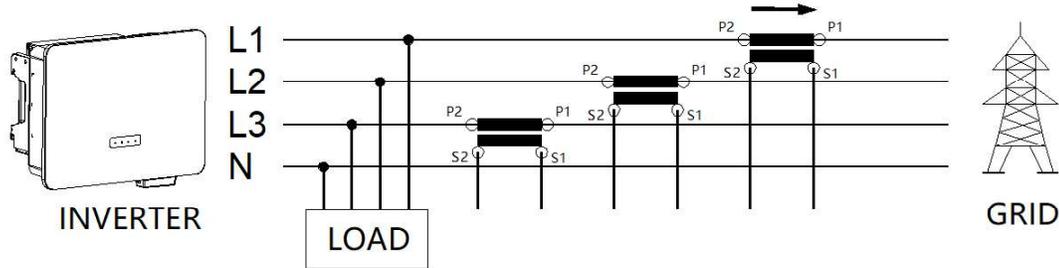


FIG 6 Installation position of current transformer

5. Communication Connection between Smart Meter and Inverter

5.1 Connected to 15-25kW/40-60kW inverters

- 1) Prepare the cables for connecting the inverter and the meter according to the recommended specifications in the table below:

Type	Core wire cross-sectional area	Outside diameter
Shielded type 2-core twisted pair	0.25-1mm ² (24~18AWG)	4~5.5mm

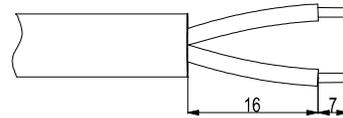


FIG 7 Stripping wire

- 2) Prepare both ends of the cable according to FIG 8, remove 23mm of the cable sheath and 7mm of the core wire insulation skin.
- 3) Connect one end of the cable to PIN-24 and PIN-25 of the meter. (Tool: Slotted screwdriver. Torque: 0.6~0.8N.m.)
- 4) Thread the other end of the cable through the forcing nut, waterproof ring, and socket of the plug in sequence, as shown in FIG 8.
- 5) Insert the prepared cable core into the corresponding PIN of the plug and tighten it with a screwdriver. (Tool: #1 phillips screwdriver. Torque: 0.6~0.8N.m.)

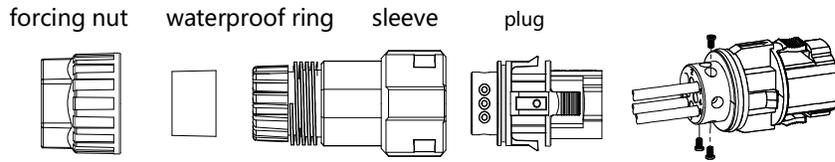


FIG 8 Composition and wiring of plugs

Plug	Function	Connection
Pin-1	485-A	Meter Pin-24
Pin-2	485-B	Meter Pin-25
Pin-3	GND	Shielding layer of cables

- 6) According to FIG 9, adjust the length of the cable, tighten the tightening nut of the plug onto the sleeve, and then push the connected plug into the sleeve.
- 7) Find the corresponding socket position on the inverter, remove the protective cover from the socket, insert the plug into the socket, and ensure that it is installed in place, as shown in FIG 10.
(NOTE: The position of the socket on the inverter is "COM-3" on both 15-25KW and 40-60KW inverters.)

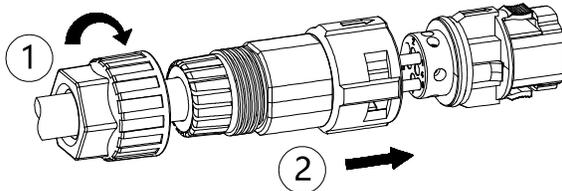


FIG 9 Assembly plug

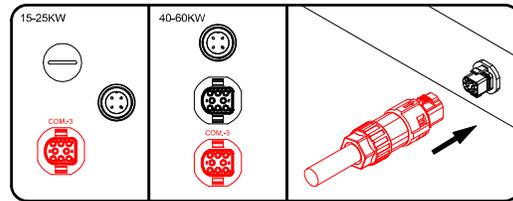


FIG 10 Insert the plug onto the inverter

5.2 Connected to 110-125kW inverter

- 1) Same as 5.1-1, prepare cables.
- 2) Same as 5.1-2, prepare both ends of the cable.
- 3) Same as 5.1-3, connect the wires at the meter end.
- 4) According to FIG 11, open the junction box first; Then remove the communication board protective cover.
- 5) Loosen the locking nut of the communication port cable fastening head, remove the plug inside the sealing ring as needed, and thread the cable through the locking nut and sealing ring in sequence.
- 6) Fix the stripped core wire conductor to the terminal block plug, as shown in FIG 12.
(NOTE: The terminal block plug has been pre-installed on the corresponding terminal block socket of the communication board. Please remove and use it when wiring.)

Plug	Function	Connection
Pin-1	485-A	Meter Pin-24
Pin-2	485-B	Meter Pin-25
Pin-3	GND	Shielding layer of cables

- 7) Insert the terminal block plug into the corresponding socket (Smart meter/Tracker) on the communication board.
- 8) Adjust the length of the communication cable inside the chassis and tighten the locking nut clockwise.
- 9) After wiring is completed, install the communication board protective cover and close the junction box in the opposite order as shown in FIG 11. M4 torque: 1.5N.m, M6 torque: 4.5N.m.

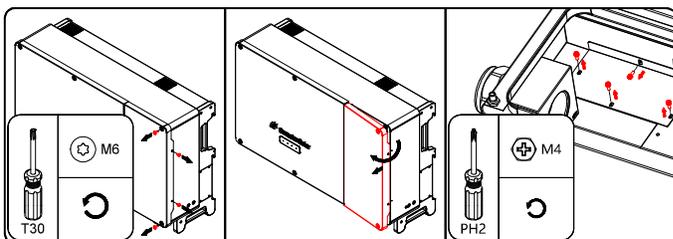


FIG 11 Open the junction box and remove the communication board protective cover

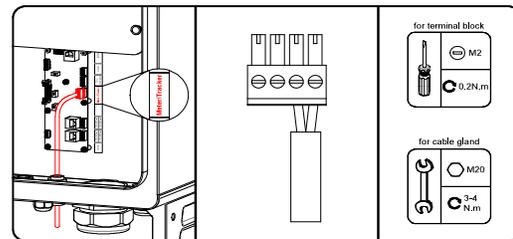


FIG 12 Communication board terminal wiring

