Smart Meter Installation Guide

Smart Meter Introduction

Smart Meters can be utilized in the PV system for following purpose:

- To realize zero export function
- To monitor power flows on certain cable in order to conjecture the power consumption/generation on the particular cable

Selected smart meters are easy to install and configurate. Data, such as grid voltage, grid frequency, active power, reactive power, THDi will transmit back to inverter and further to the internet.

Specified Model

NOTICE

> Please use the smart meter specified by Hypontech.

Single Phase

With CT	Without CT
	
SDM120CTM	SDM230-Modbus

Three Phase

With CT	Without CT
	
SDM630MCT	SDM630Modbus V2

Compatible Inverter Models

All Hypontech inverters are equipped with a port to connect with a meter:

Single Phase

- HPK-1000/2000/3000
- HPS-3000L/3680/4000/5000/6000/6500
- HPS-7000/8000

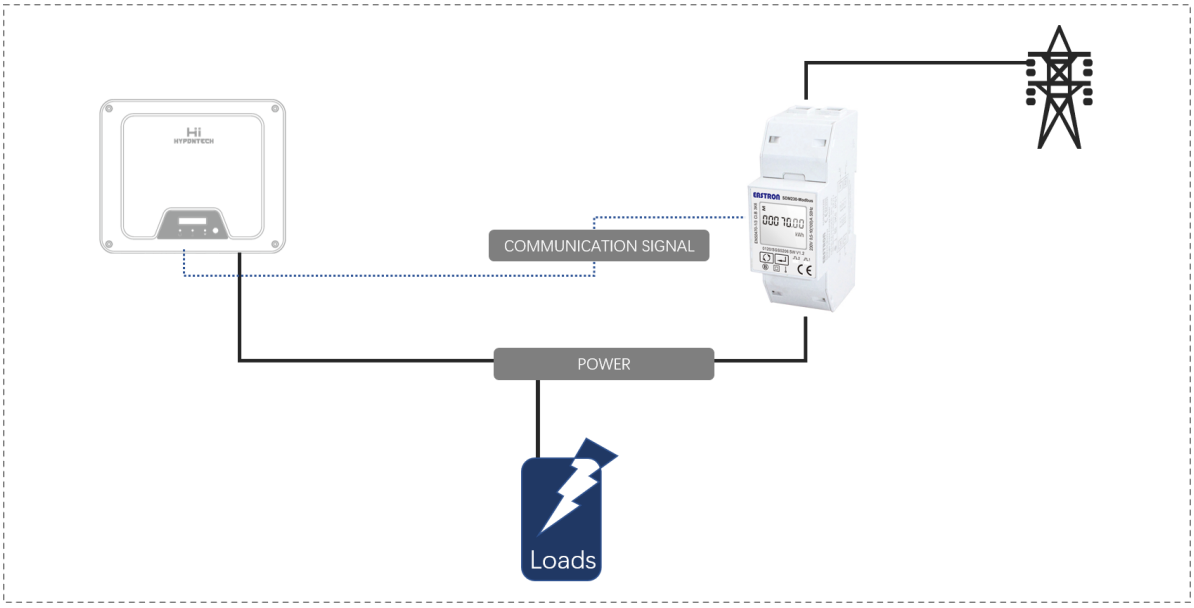
Three Phase

- HPT-3000/4000/5000/6000/8000/10000/11K
- HPT-15K/20K/25K
- HPT-33K/36K/40K/50K

With or without CT?

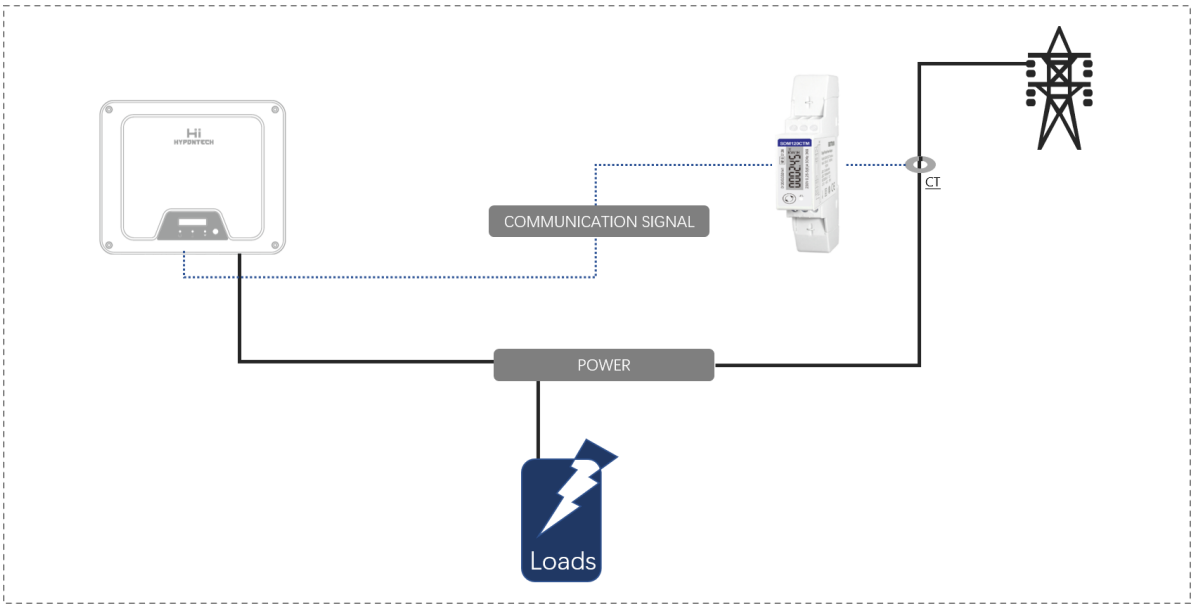
Without CT

When installing a smart meter without a CT in the power system, the existing power cable has to be cut and connect the smart meter in between.



With CT

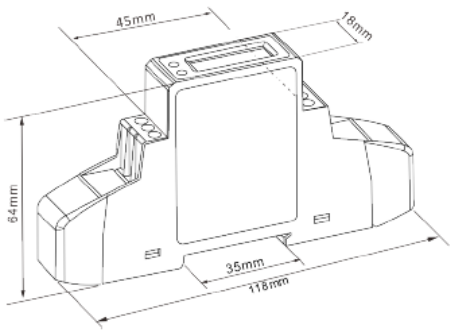
To avoid modifying existing power cables, a CT is recommended as such:

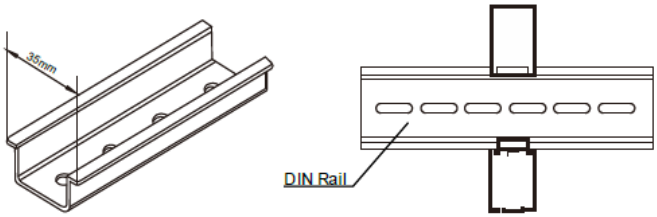


Installation

Meter

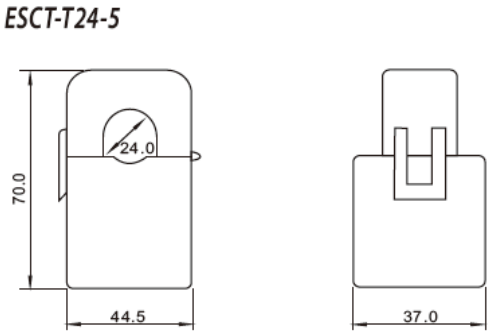
The DIN rail type installation is adopted, and the specific installation dimensions are as follows:





CT

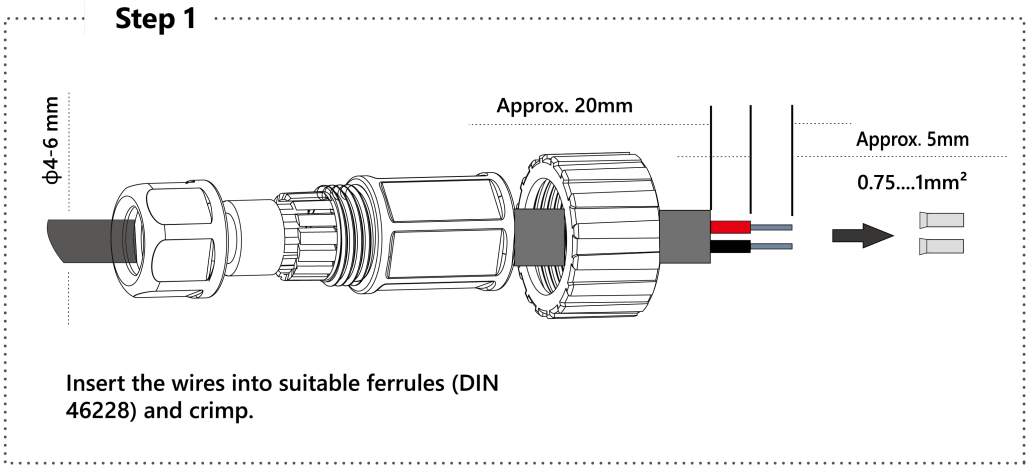
The maximum cable diameter allowed by CT is 24 mm.



Inverter Side Connection

The methods of connecting to inverter are different according to inverter models:

HPK-1-3kW

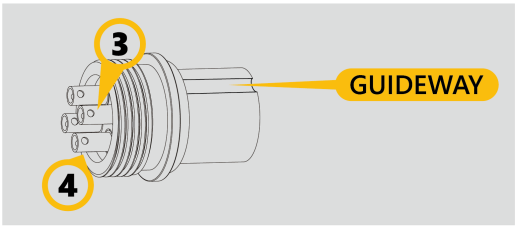


Step 2

Insert the crimped conductors accordingly into their corresponding terminals and tighten the screws.

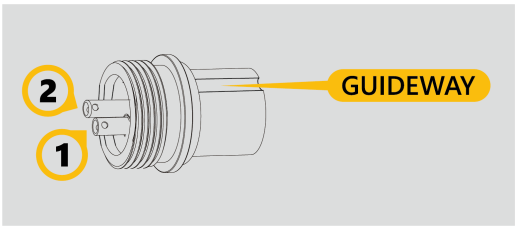
RS485

RS485 A ▶ PIN 3
RS485 B ▶ PIN 4



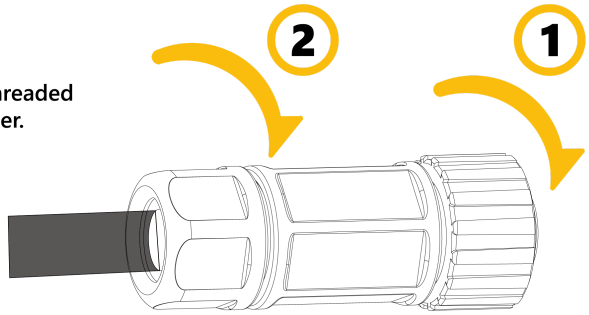
METER

RS485 A ▶ PIN 1
RS485 B ▶ PIN 2



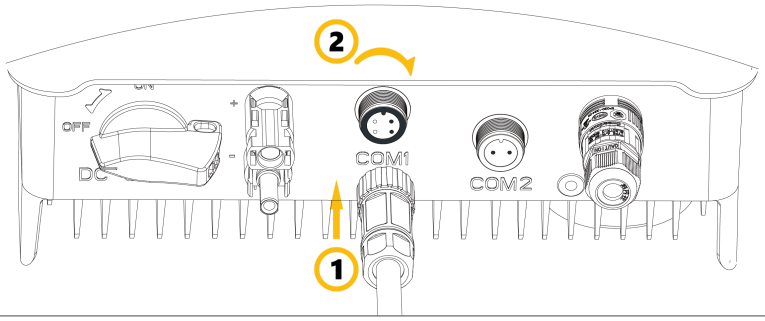
Step 3

Assemble the locking cap, threaded sleeve and swivel nut together.

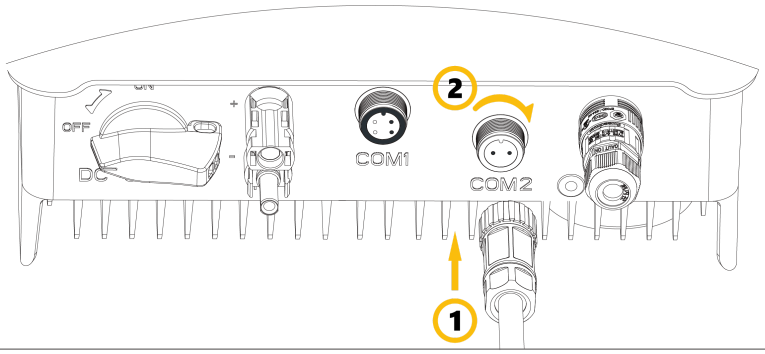


Step 4

COM1: RS485



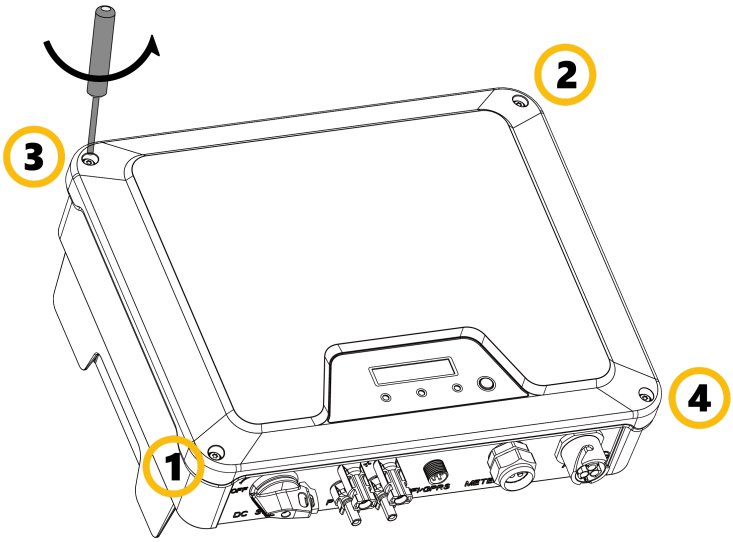
COM2: METER



Screw the connector into the socket and tighten firmly.

HPS-3-6.5kW

Step 1



Use a screwdriver to loosen the screws of the cover following the indicated sequence (1~4)

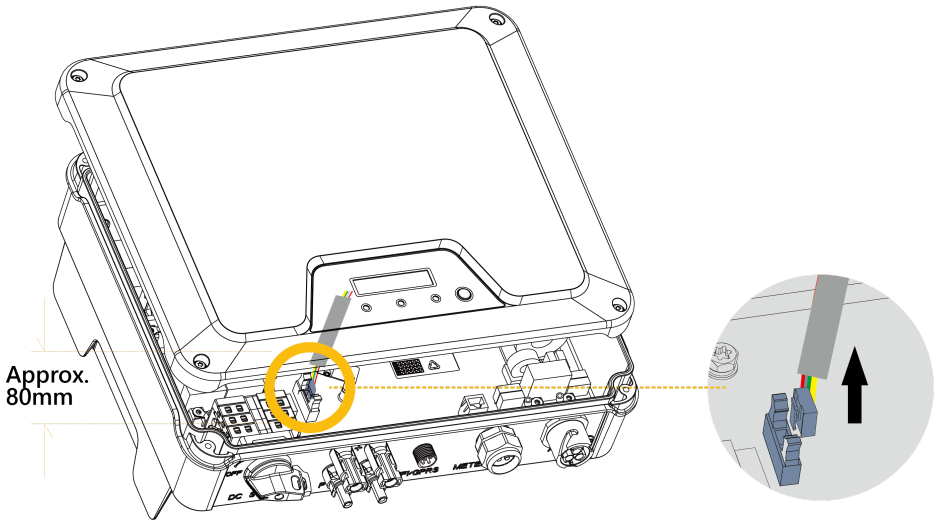
NOTICE

Leave the screws in the holes.

改：加warning：30分钟

Step 2

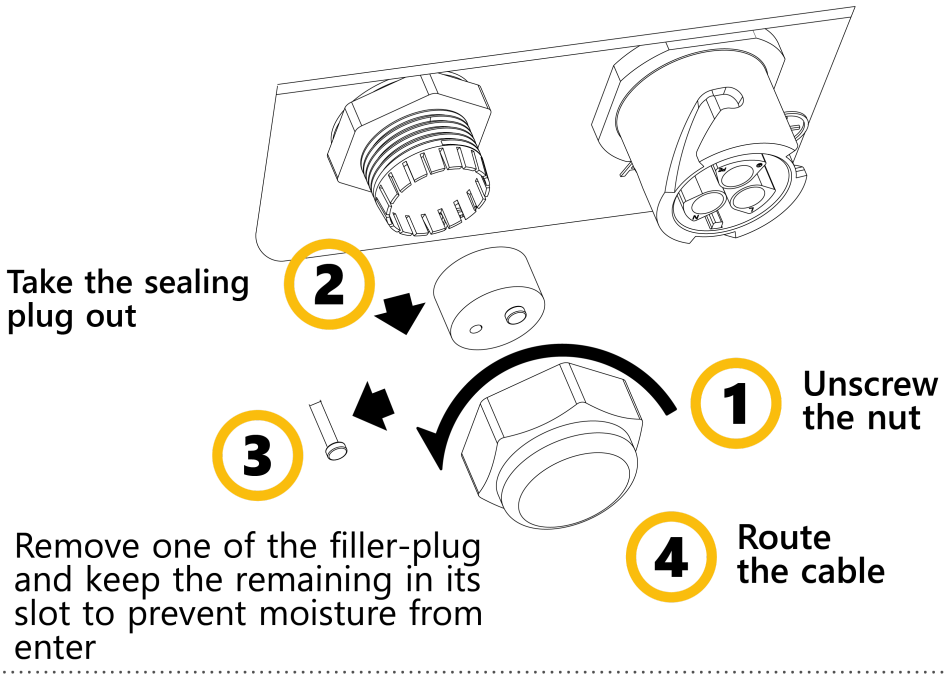
Carefully lift the cover for a vertical distance of approx. 80mm and disconnect display cable from power board



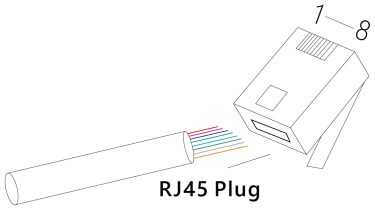
WARNING

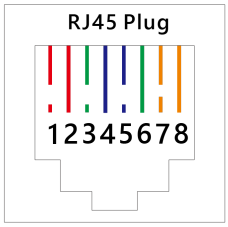
> Be aware the cover is connected to the power board with display cable.
>
> Pulling the cable may cause damage to the power board or display board.

Step 3



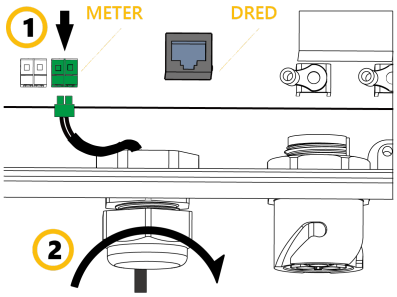
DRED





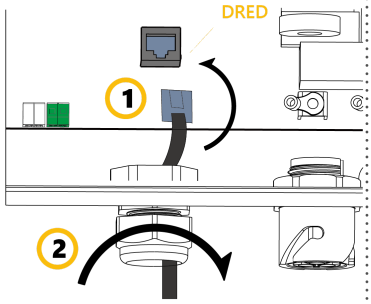
Pin1: DRM1/5 Pin5: RefGen
Pin2: DRM2/6 Pin6: Com/DRM0
Pin3: DRM3/7 Pin7: N/A
Pin4: DRM4/8 Pin8: N/A

Step 5



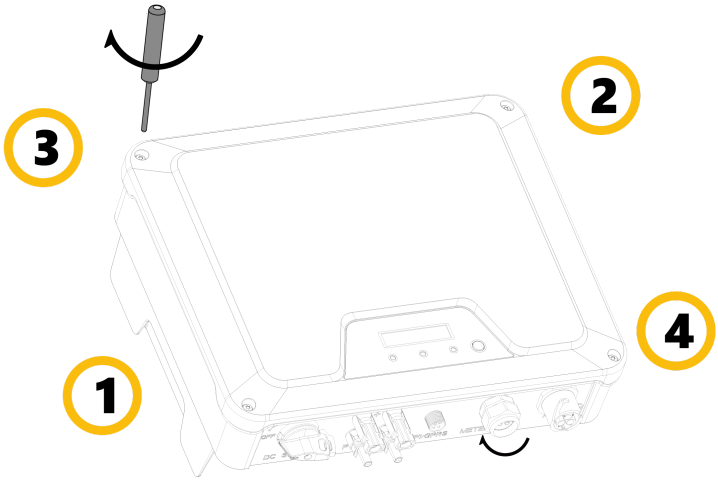
Smart Meter

DRED



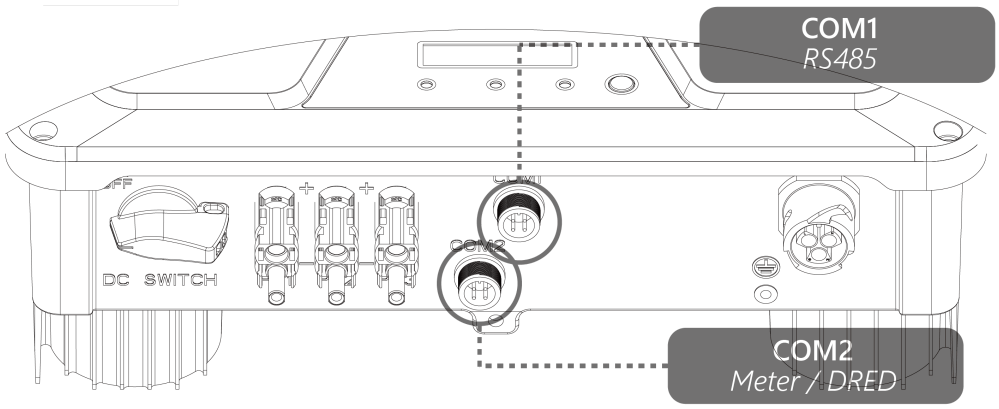
Step 6

Tighten the screws on the cover following the indicated sequence (1~4). (Tx25, torque:2.5 N·m)

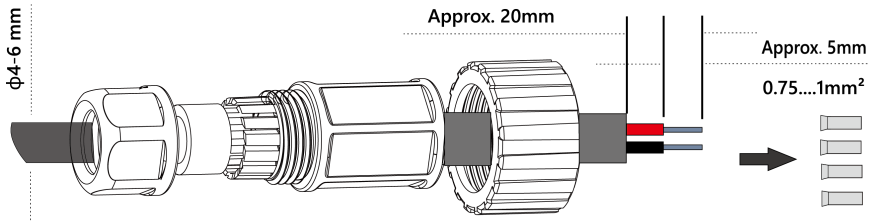


HPS-7-8kW

Position

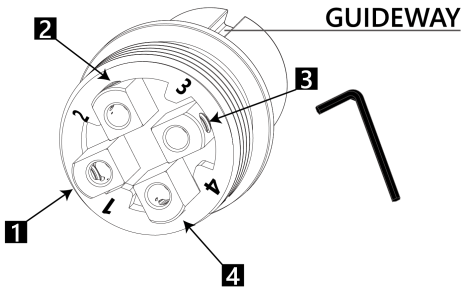


Step 1



Insert the wires into suitable ferrules (DIN 46228) and crimp.

Step 2



Insert the crimped conductors accordingly into their corresponding terminals and tighten the screws use the screwdriver in the attached bag.

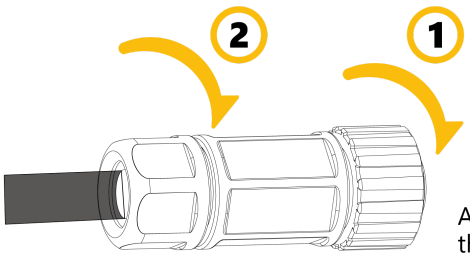
RS485 FOR COM1

Power + ▸ PIN 1
Power - ▸ PIN2
RS485 A ▸ PIN3
RS485 B ▸ PIN4

METER/DRED FOR COM2

RS485 B ▸ PIN1
RS485 A ▸ PIN2
COM LOAD/0 ▸ PIN3
REF GEN/0 ▸ PIN4

Step 3



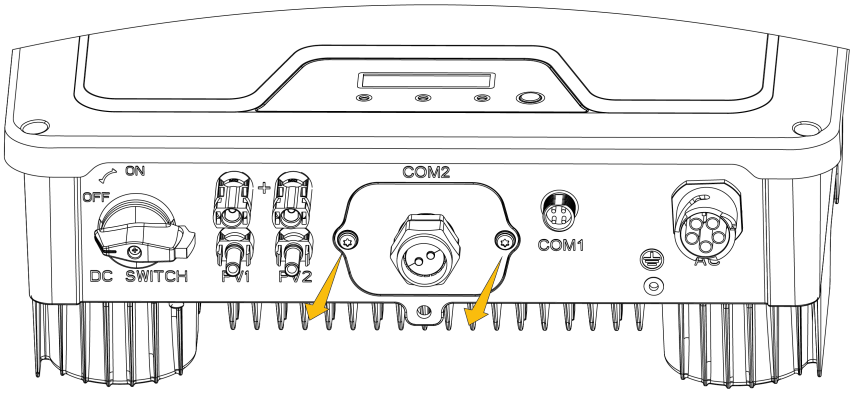
Assemble the locking cap
threaded sleeve and swivel nut together.

Step 4

Screw the connector into the socket
and tighten firmly.

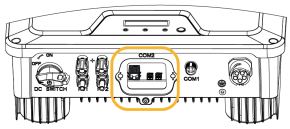
HPT-3-11kW

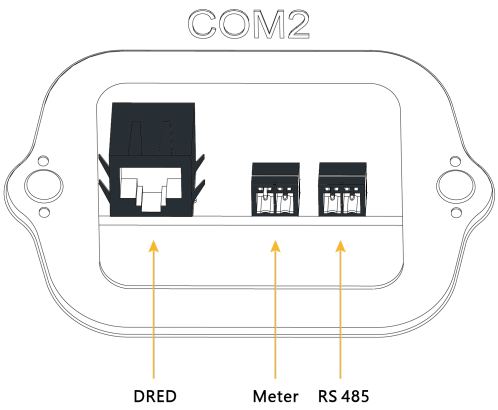
Step 1



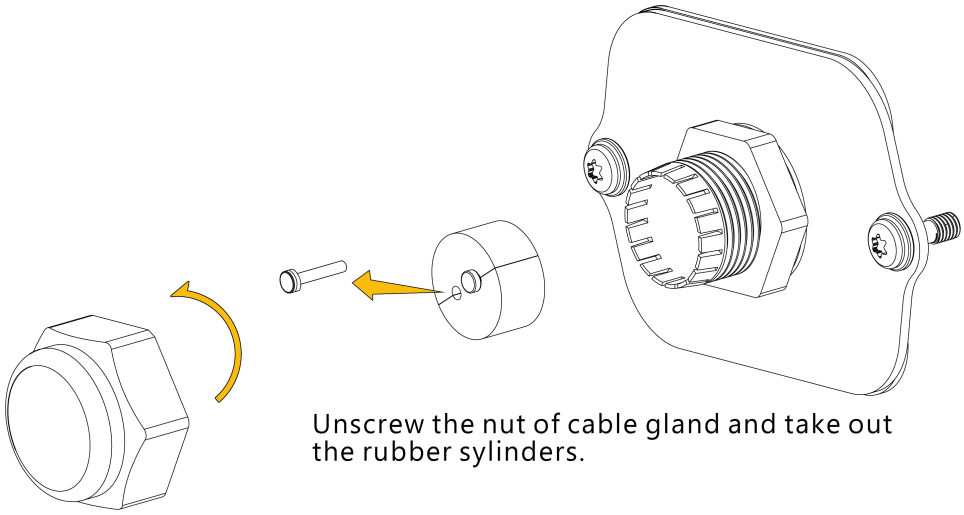
Use a T25 screwdriver to remove the COM sealing plate.

Step 2



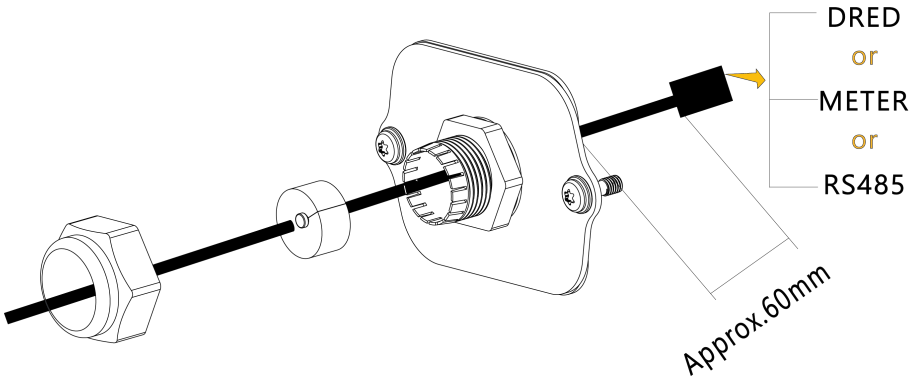


Step 3



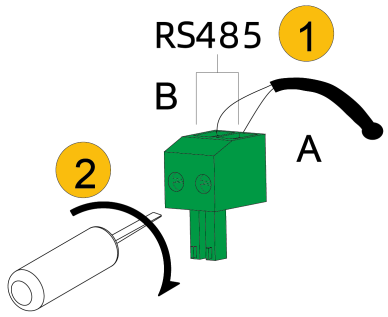
Unscrew the nut of cable gland and take out the rubber sylinders.

Step 4



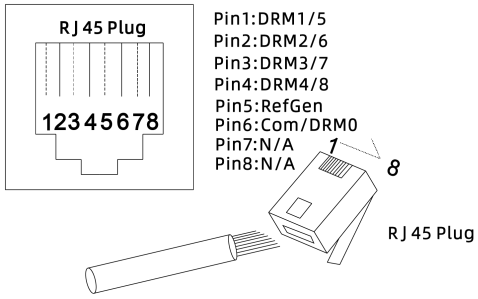
Step 5

RS485/METER connection



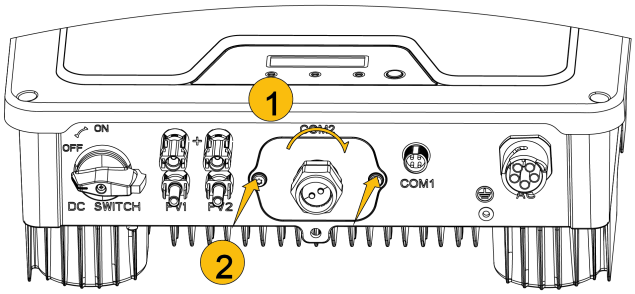
screwdriver type: Blade 0.4 x 2.5

DRED connection



Connect the crimped cables to RS485 / Meter terminals/DRED and secure by (blade 0.4x2.5) screwdriver

Step 6

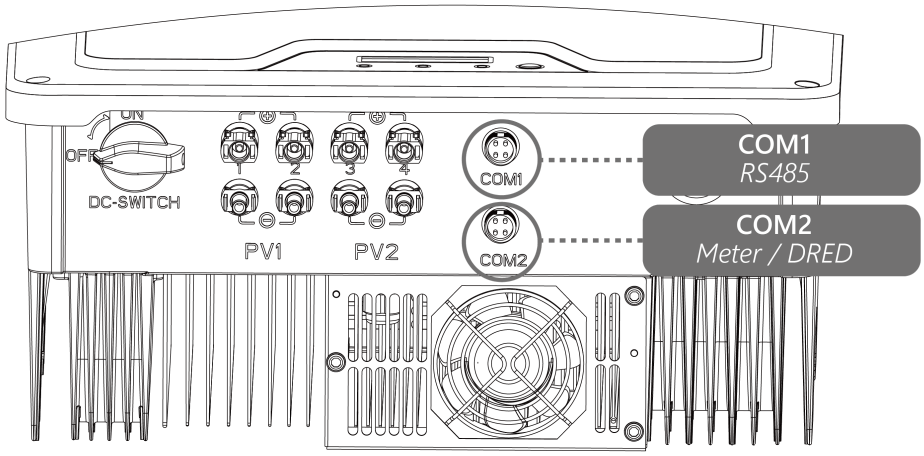


Tighten the nut to prevent the cable from wobbling, put on the COM2 sealing plate and firmly tighten the screws .

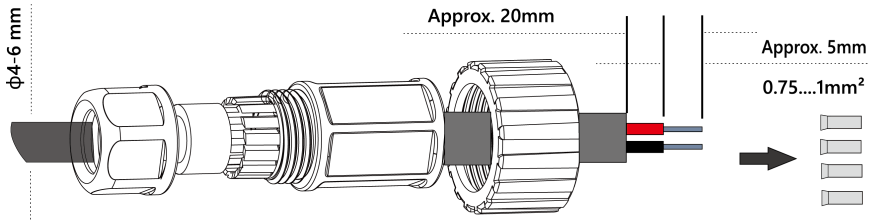
(Screwdriver type: T25; Torque: 2.5 Nm)

HPT-15K/20K/25K

Position

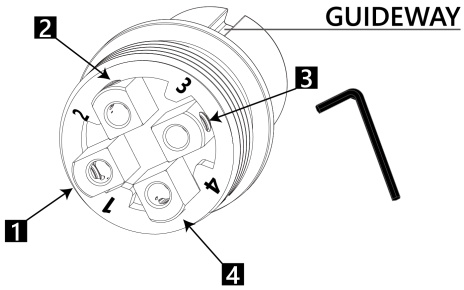


Step 1



Insert the wires into suitable ferrules (DIN 46228) and crimp.

Step 2



Insert the crimped conductors accordingly into their corresponding terminals and tighten the screws use the screwdriver in the attached bag.

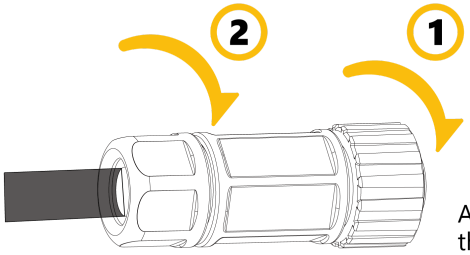
RS485 FOR COM1

Power + ▸ PIN 1
Power - ▸ PIN2
RS485 A ▸ PIN3
RS485 B ▸ PIN4

METER/DRED FOR COM2

RS485 B ▸ PIN1
RS485 A ▸ PIN2
COM LOAD/0 ▸ PIN3
REF GEN/0 ▸ PIN4

Step 3



Assemble the locking cap threaded sleeve and swivel nut together.

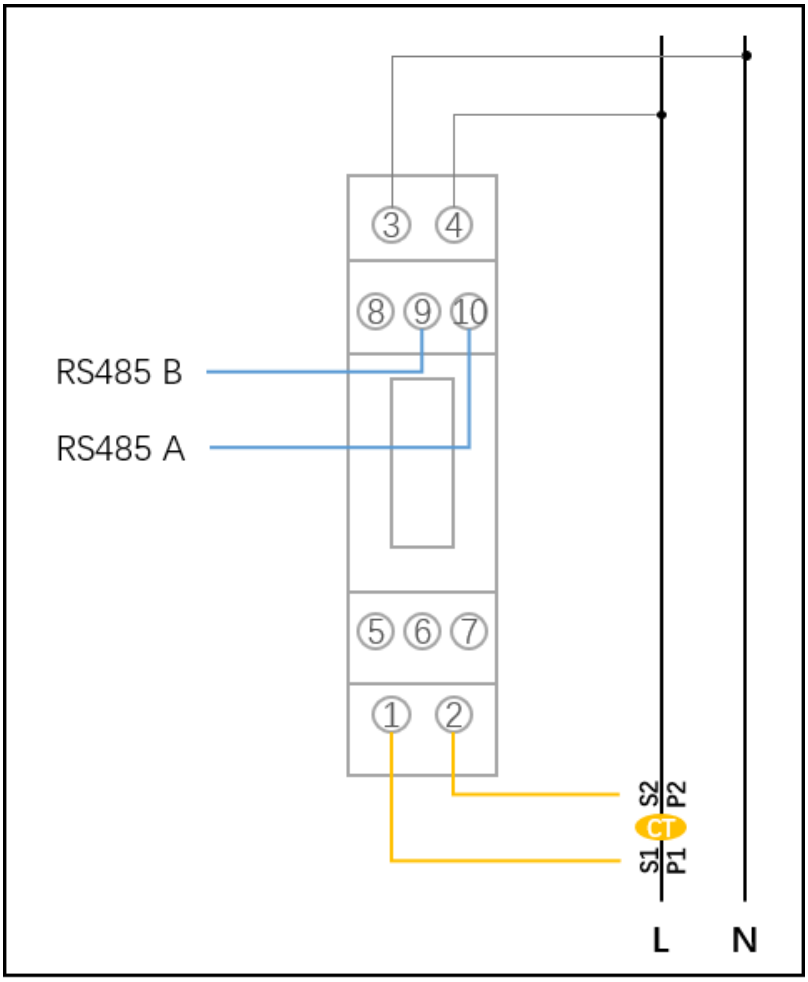
Step 4

Screw the connector into the socket and tighten firmly.

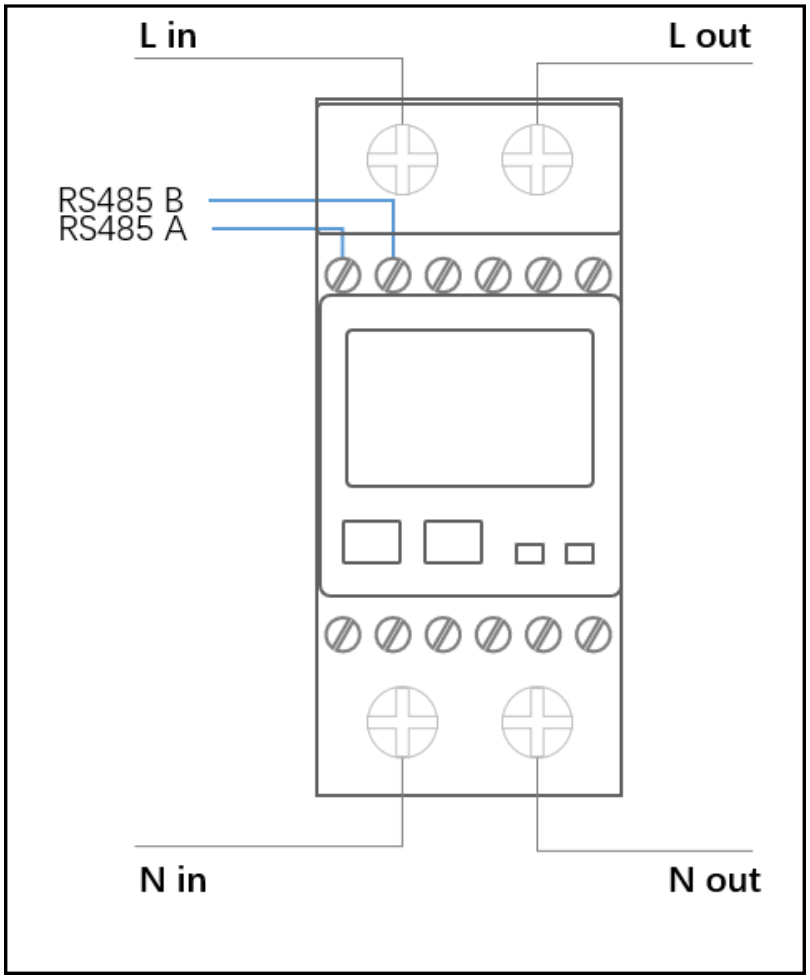
Meter Side Connection

SDM120CTM

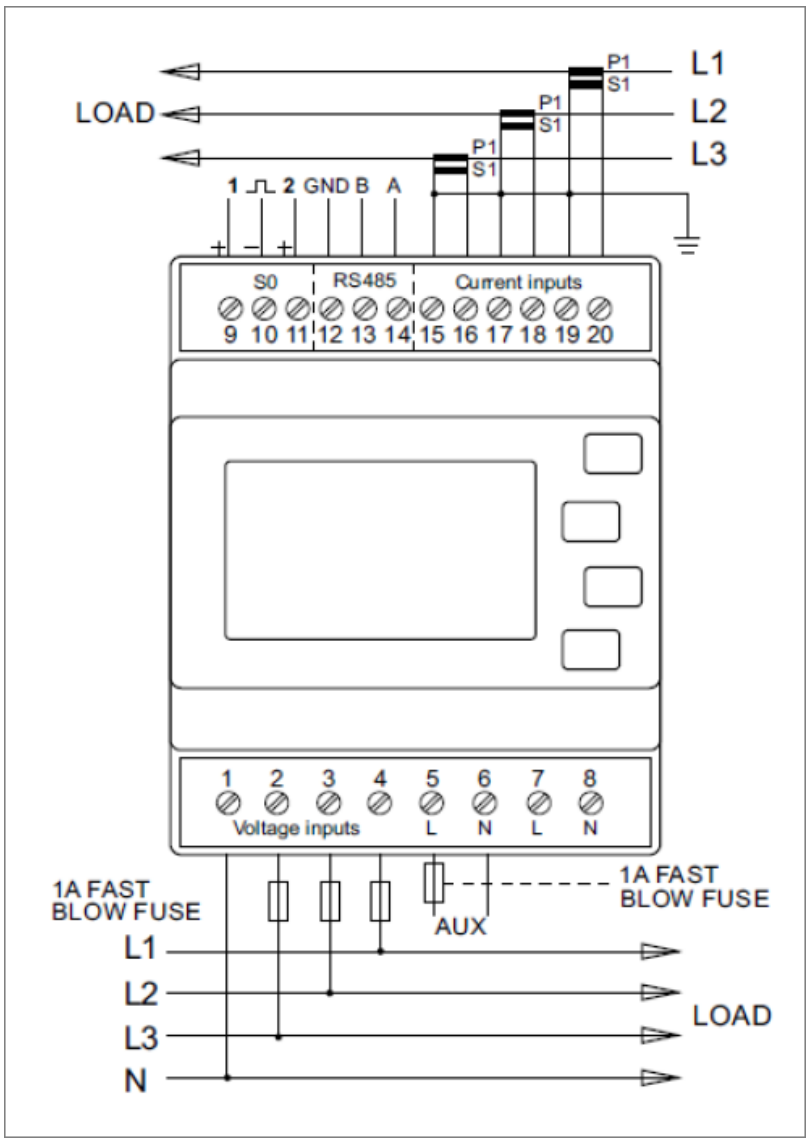
- Connect 3 and 4 to power cable L and N
- Connect 9 and 10 to RS485 B and A
- Connect 1 and 2 to S1 (white) and S2 (black)



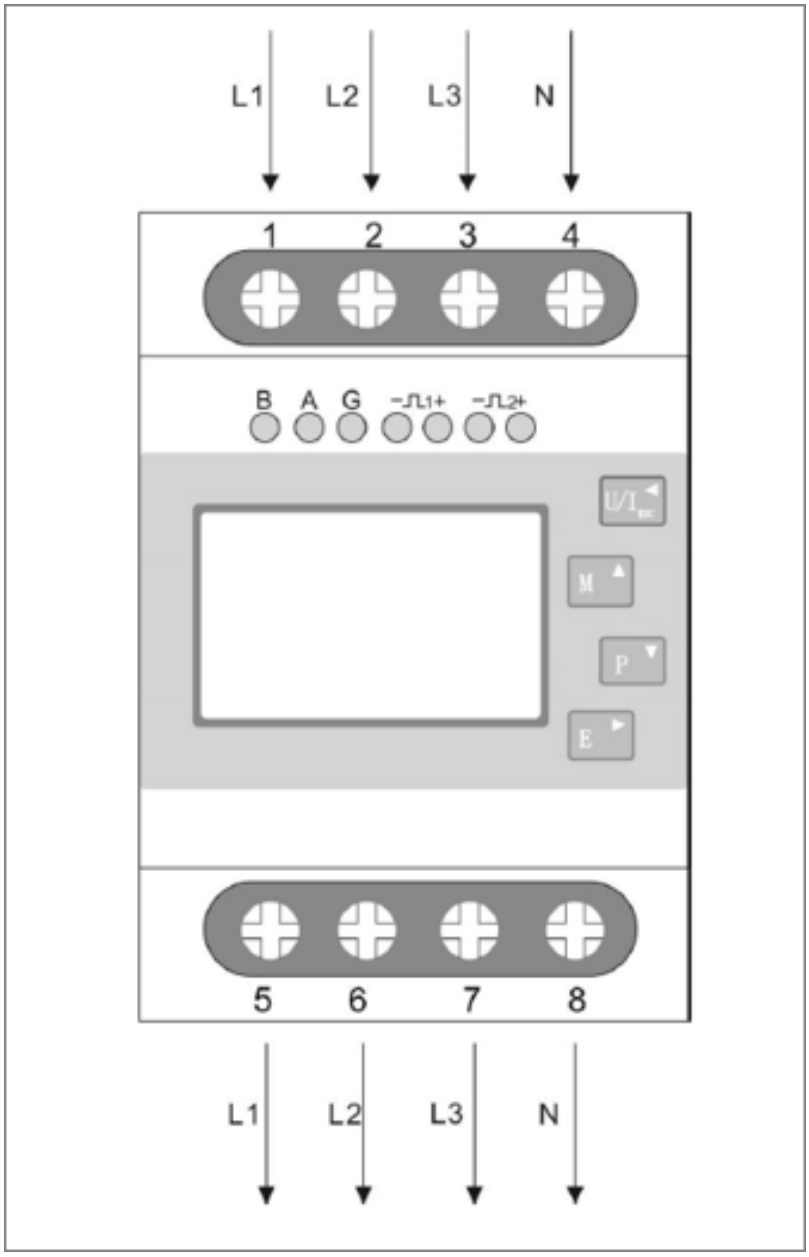
SDM230-Modbus



SDM630MCT



SDM630Modbus V2



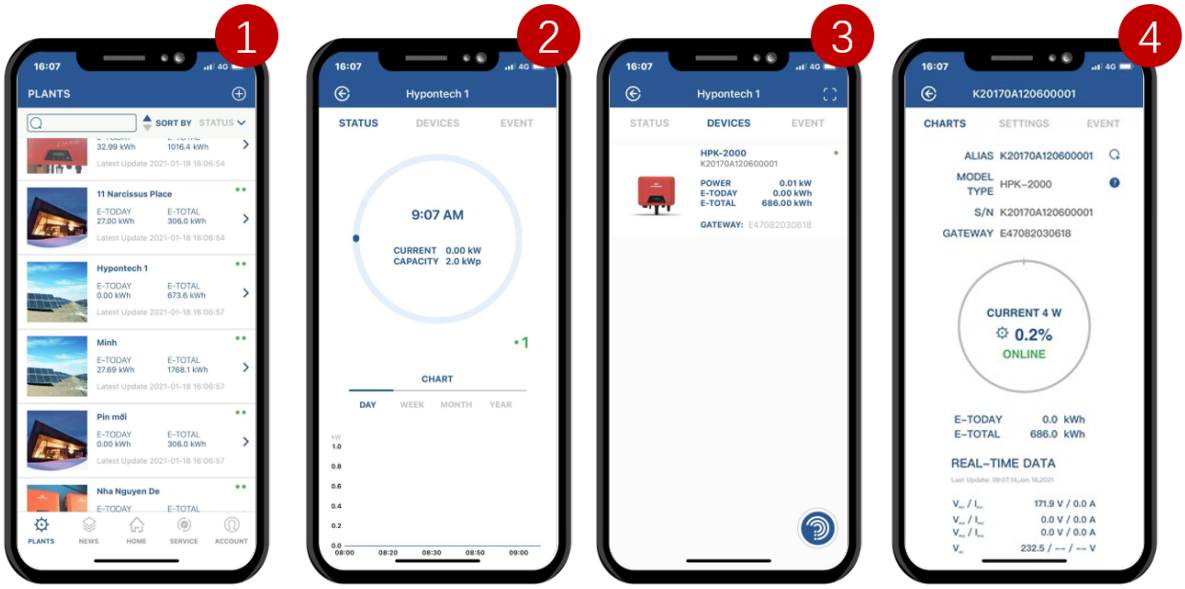
NOTICE

> The CT of meter must be connected to Grid side directly.
>
> The arrow direction of CT should point to the **LOAD** side.

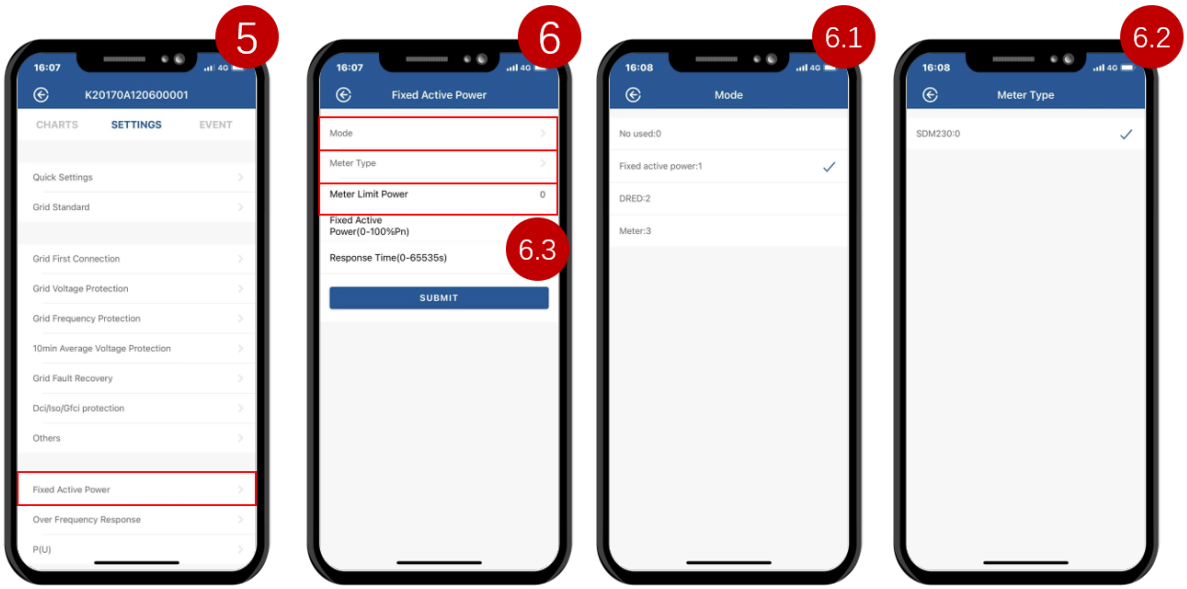
Configuration

On App

Enter the parameter setting page from App:



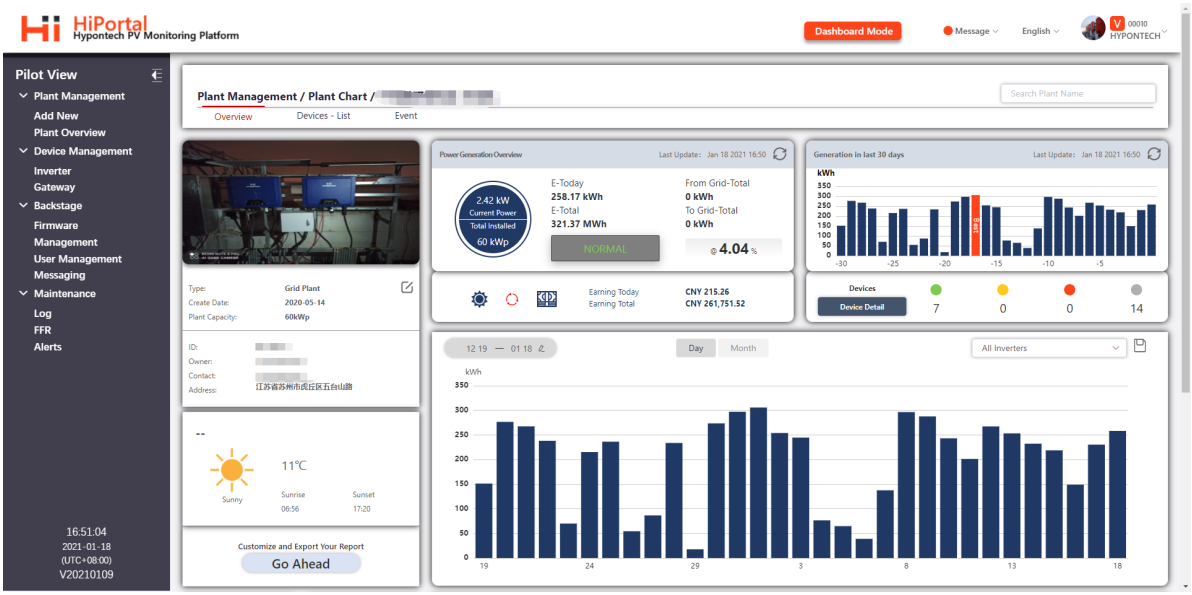
1. Go to **PLANTS** page
2. Enter the **plant page**
3. Click the **Devices** menu
4. Click the **SETTINGS**



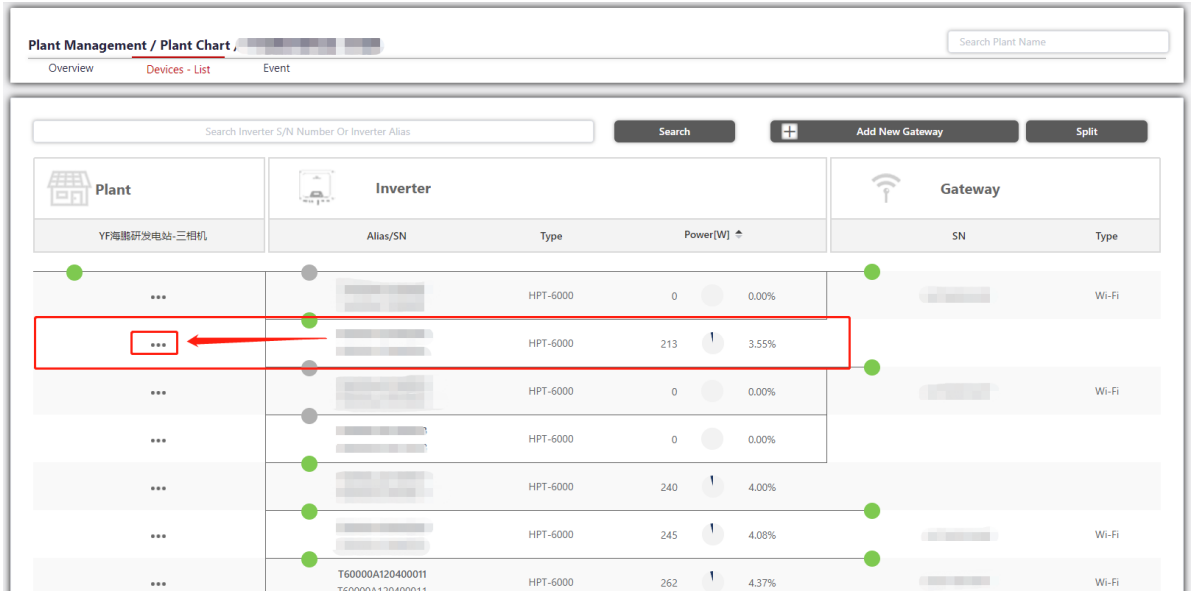
5. Choose the **Fixed active power**
6. Set the parameter: "**Mode**" (6.1), "**Meter type**" (6.2), "**Meter limit power**" (6.3) when in need

Items	How to fill in	Remarks
Mode	Choose "Meter:3"	
Meter type	Choose "SDM230" for single phase Choose ”SDM630" for three phase	Default is SDM230
Meter limit power	Input"0"	Zero export mode

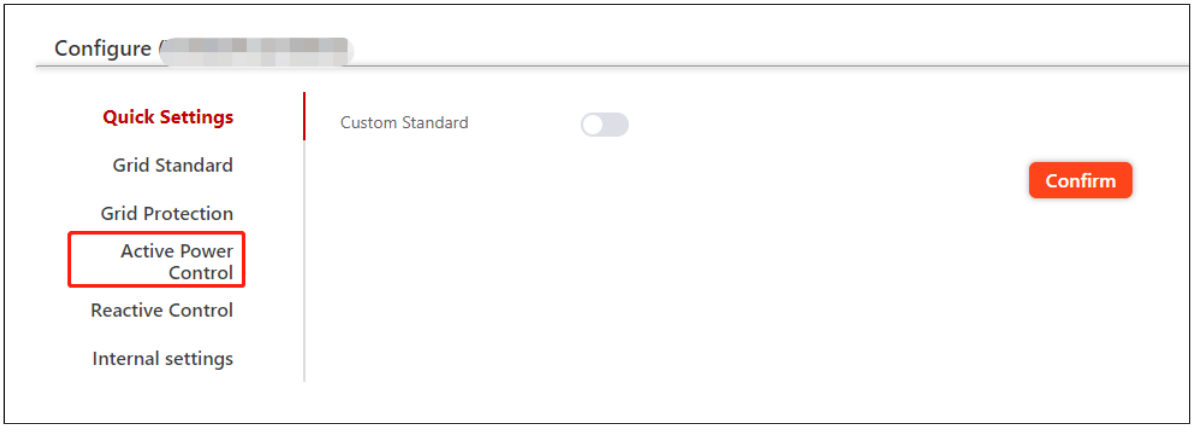
On Web portal



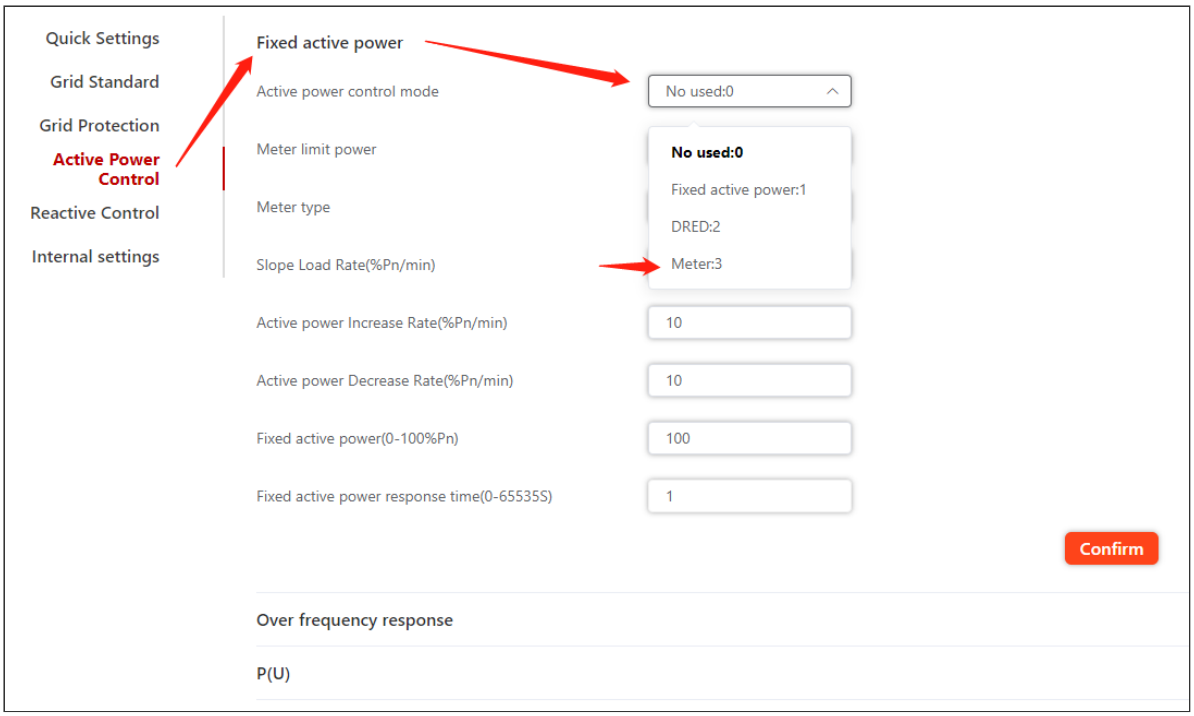
1. Enter the plant page and find the **Device** menu



2. Select **Configure**
3. Select **Active Power Control**



4. Select **Meter:3** in the dropdown menu



5. Select **Meter type** accordingly

6. Set **Meter limit power**, put in 0 for zero export.