# GROWATT

1. Overview

SDM630MCT V2 is a multi-functional din-rail meter designed for accurate measurement and display of parameters in 3P3W/3P4W power grid systems, such as voltage, current, power, frequency, active power, reactive power, positive energy, reverse energy, total harmonics, etc. It is an ideal choice for real-time power monitoring, featuring a wide range of functions and applications with high stability over extended service life. The meter works with an external current transformer and can be applied in both high and low voltage power grid. It comes with an RS485 communication interface, which supports a maximum baud rate of 38400 bps and enables remote communication.
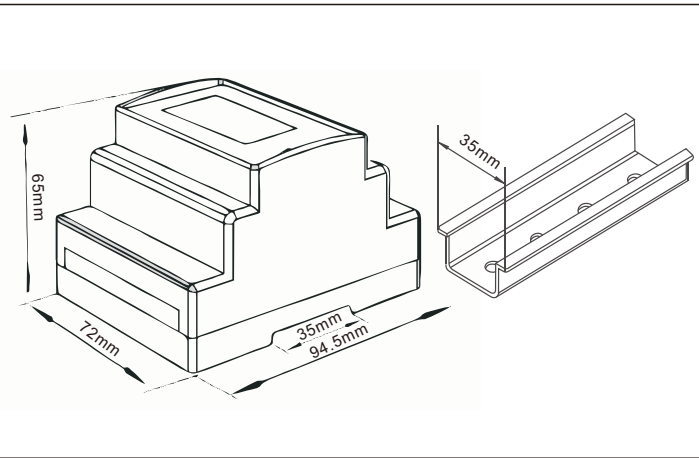
2. Technical Parameters

General Specifications	
Rated voltage	3×230/400Vac
Rated frequency	50/60Hz
L-N voltage range	100 ~ 276Vac
L-L voltage range	173 ~ 480Vac
Auxiliary power voltage range	85 ~ 275Vac or 120 ~ 380Vdc
AC withstand voltage	4KV for 1min
Input current range	1A or 5A
Short-term overcurrent	20*IMAX for 0.5s
Max. Reading	9999999.9kWh/kVArh
Accuracy	
Active power	0.5% of range maximum
Reactive power	0.5% of range maximum
Environment	
Regulated working temperature range	-25℃～+55℃
Limited working temperature range	-40℃～+70℃
Relative humidity annual average	≤90%
Installation category	CAT III
Degree of pollution	RoHS compliant
Communication	
Communication	RS485 output for Modbus RTU
Baud rate	9600bps(default)
Pulse	3200imp/kWh
Mechanics	
Outline dimensions	94.5x72x65mm(LxWxH)
Din rail dimensions	DIN rail 35mm
Protection level	IP51 (indoor)

3. Unpacking

A   B   C   D
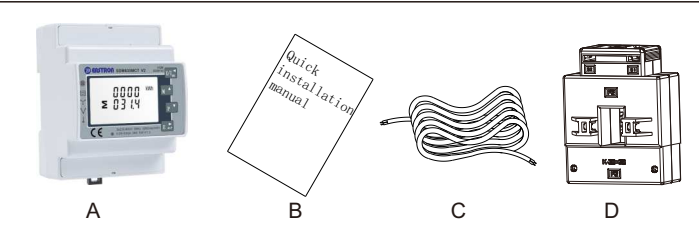
Item	Quantity	Description
A	1	Three-phase meter
B	1	Quick Installation Guide
C	1	RS485 cable (standard length: 15m)
D	3	Current Transformer

4. Dimensions (Unit: mm)

5. Installation

⚠ **Note:**
1. The Growatt Storage Inverter and the Hybrid Inverter are hereinafter referred to as "the Storage/Hybrid Inverter".
2. The grid is on the right side and the current flows from P1 to P2 (from the grid to the load).

3P3W

3P4W
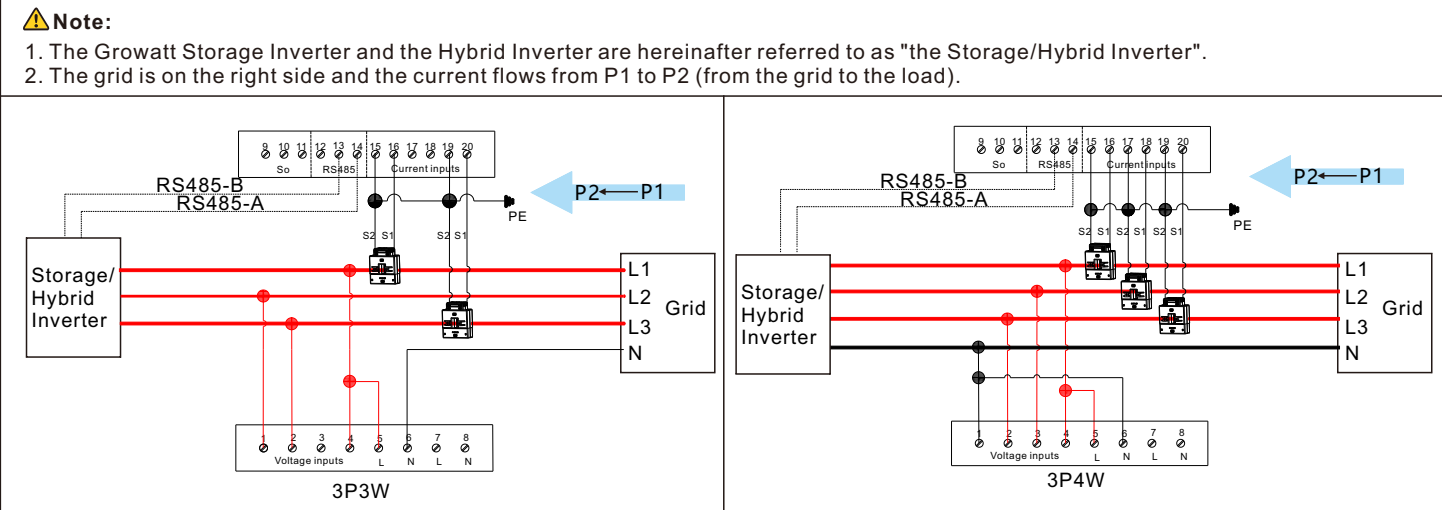
A. Voltage sampling and power supply wiring
3P3W:
Wiring of the L1 voltage sampling line: corresponding to meter Pin 4
Wiring of the L2 voltage sampling line: corresponding to meter Pin 1
Wiring of the L3 voltage sampling line: corresponding to meter Pin 2

3P4W:
Wiring of the L1 voltage sampling line: corresponding to meter Pin 4
Wiring of the L2 voltage sampling line: corresponding to meter Pin 3
Wiring of the L3 voltage sampling line: corresponding to meter Pin 2
Wiring of the N voltage sampling line: corresponding to meter Pin 1

B. Current transformer wiring
Please refer to the diagram above. The grid is on the right and the current flows from K to T (from the grid to the load).
Wiring of the L1 CT: S1 Line corresponding to meter Pin 16, S2 Line corresponding to meter Pin 15
Wiring of the L3 CT: S1 Line corresponding to meter Pin 20, S2 Line corresponding to meter Pin 19

Wiring of the L1 CT: S1 Line corresponding to meter Pin 16, S2 Line corresponding to meter Pin 15
Wiring of the L2 CT: S1 Line corresponding to meter Pin 18, S2 Line corresponding to meter Pin 17
Wiring of the L3 CT: S1 Line corresponding to meter Pin 20, S2 Line corresponding to meter Pin 19

C.RS485 cable wiring
Connect the RS485A to Pin 14 and RS485B to Pin 13 (The network cables delivered with the inverter are labeled as 485-A and 485-B; if you are using the cables purchased yourself, make sure to differentiate between 485-A and 485-B.)

D.Connecting the meter to the Growatt Three-phase Storage/Hybrid Inverter

COM1(6、7)

E. When connecting the smart meter to the inverter, connect one end of the cable to Terminal 13 (485B) and Terminal 14 (485A) of the smart meter and the other end to Pin 6 (485A) and Pin 7 (485B) of the COM1 port.
Note: In most cases, the red cable is used for 485A and the black cable for 485B.

COM1

Red(484A)---COM1(6)
Black(484B)---COM1(7)

F. Dismantle the 16-pin connector delivered with the inverter and set aside the water-proof plug. Route the cables through each part sequentially, then connect them to Pin 6 and Pin 7. Finally, connect the connector to the COM1 port of the inverter.

G. The standard RS485 cable length is 15m. If a longer RS485 cable is required, please use an intact cable and make sure the RS485 cable is less than 100m (the recommended length is less than 25m).


6. Button Description and Display

There are four touch buttons on the panel, arranged from top to bottom as follows: "ESC(←)V/A", "↑(Alt)MD/PH/HZ", "↓(Shift)P", "ENTER(→)E". These buttons can be operated in two ways: long press (pressing for more than two seconds) and short press (pressing for less than one second).
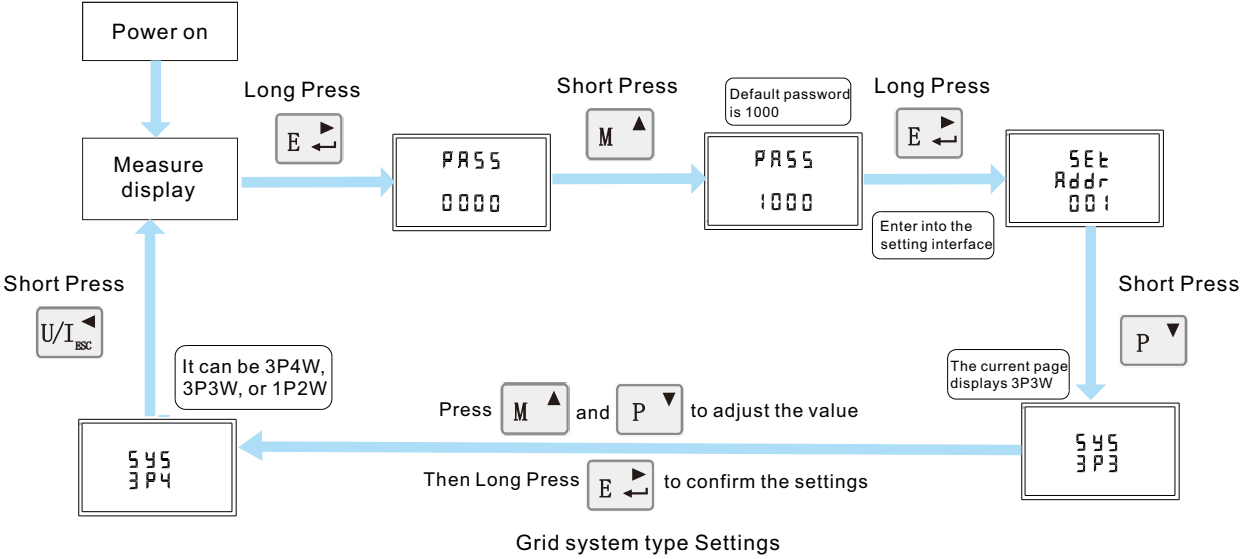
NO.	Button	Features	Viewable content(short press)
1	U/I ◄ ESC	Short press: display voltage and current, ← Long press: ESC	Phase voltage, Line voltage, Phase current, Neutral current, Voltage harmonics, Current harmonics
2	M ▲	Short press: display power factor and frequency, ↑ Long press: Alt	Phase(Total) frequency, Total power factor, Phase(Total) maximum current demand
3	P ▼	Short press: display power, ↓ Long press: Shift	Phase(Total) active power, Phase(Total) reactive power, Phase(Total) apparent power
4	E ↵	Short press: display electric energy, → Long press: Enter	Total active electric energy, Total reactive electric energy, Positive active electric energy, Reverse active electric energy, Positive reactive electric energy, Reverse reactive electric energy

The default communication address for the meter and the Growatt Three-phase Storage/Hybrid Inverter is 02, the default baud rate is 9600 and the current ratios are 250A/5A, 600A/5A, 1200A/5A, which are determined by the CT that is connected. If the communication between the meter and the inverter is not established, please check if the communication address and the baud rate are correctly set. Long press E to access the settings menu (the password is 1000 by default, then use M and P to navigate to the desired page. If the page flashes, it indicates that you can configure the parameter using the M and P buttons; if not, press E to enter the selection routine. Then long press E to confirm your setting and press U/I ESC to exit.


Setting examples of current ratio
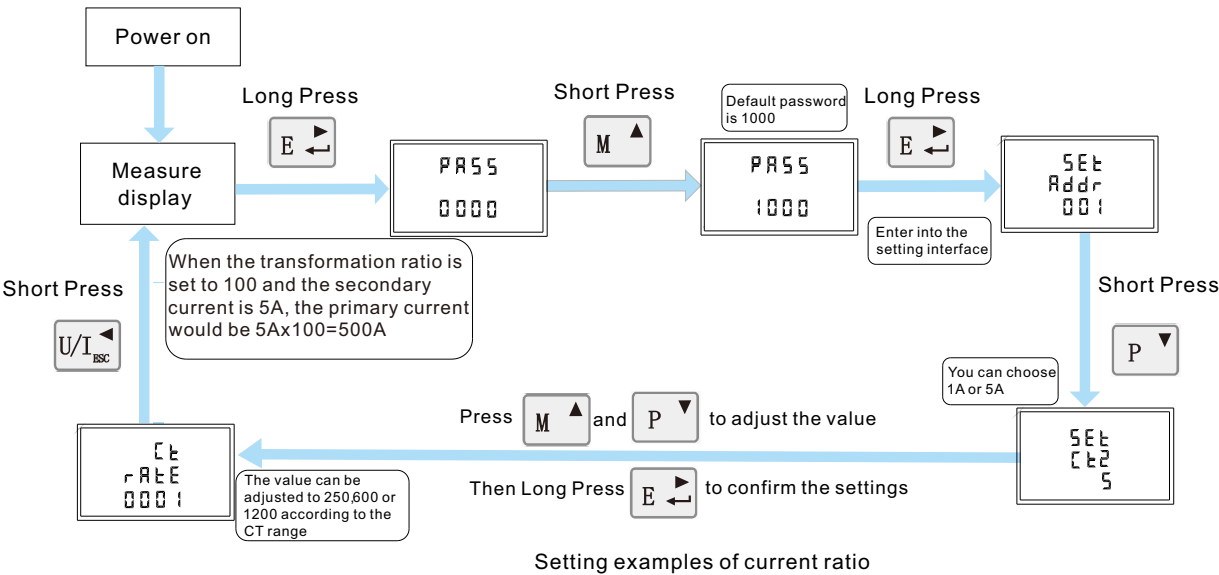
⚠ **Note:** The meter can be connected to the Growatt Three-phase Storage/Hybrid Inverter in two ways and can be set as 3P3W or 3P4W before operating.

Grid system type Settings

7. Troubleshooting

Fault phenomenon	Reason analysis	Solution
Metering inaccuracy	1. Wiring error, check whether the corresponding phase sequence of voltage and current is correct. 2. Check if the output line of the current transformer is reversely connected. 3. The transformer ratio is not set, and the meter displays the secondary data.	1. Refer to the wiring diagram to check the wiring. 2. If the transformer ratio setting is wrong, please set the voltage ratio and current ratio correctly. 3. If the issue still exists, please contact your local supplier.
RS485 communication error (Inverter error 401)	1. The RS485 communication cable is disconnected, short circuit or reversely connected. 2. The address, baud rate, data bit and parity bit of the meter are not in accordance with the inverter .	1. If there is a problem with the communication cable, please replace the communication cable. 2. Set the address, baud rate, data bit and parity bit of the meter through buttons. 3. If the issue still exists, please contact your local supplier.

The complete system wiring diagram is shown as follows. In case that the meter is not operating normally, you can refer to it to check the wiring. Connect the meter to the RS485 port of the inverter. The following takes the WIT as an example.

Storage/Hybrid Inverter

Storage/Hybrid Inverter
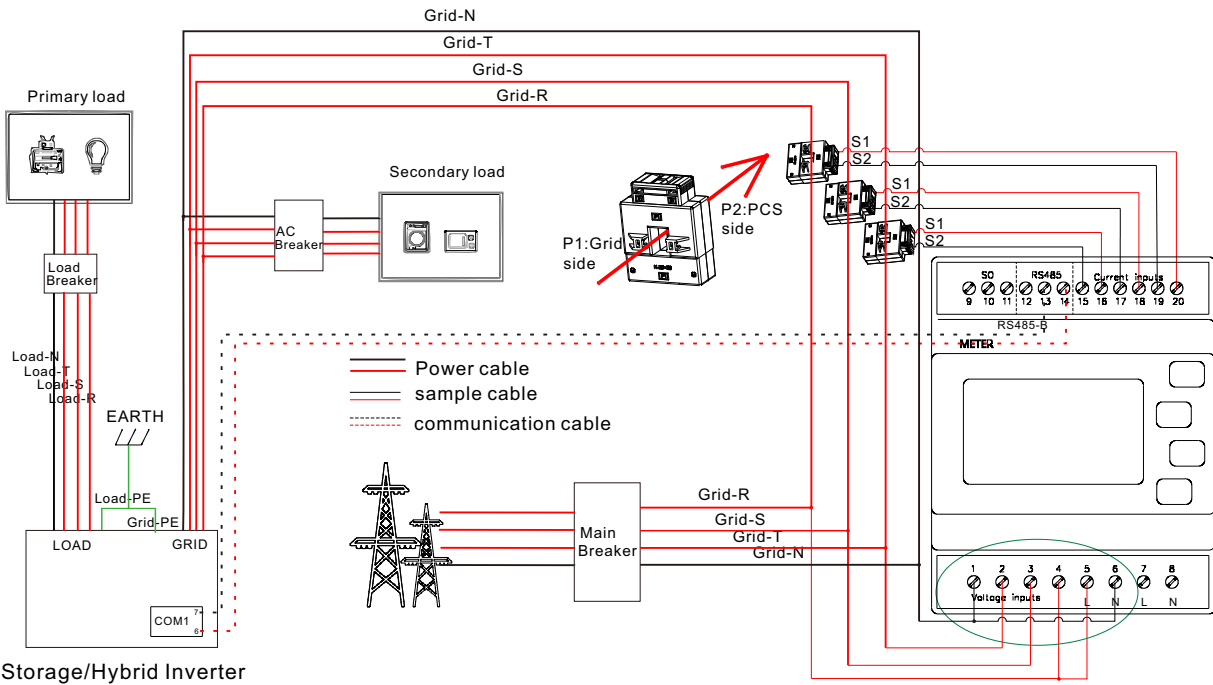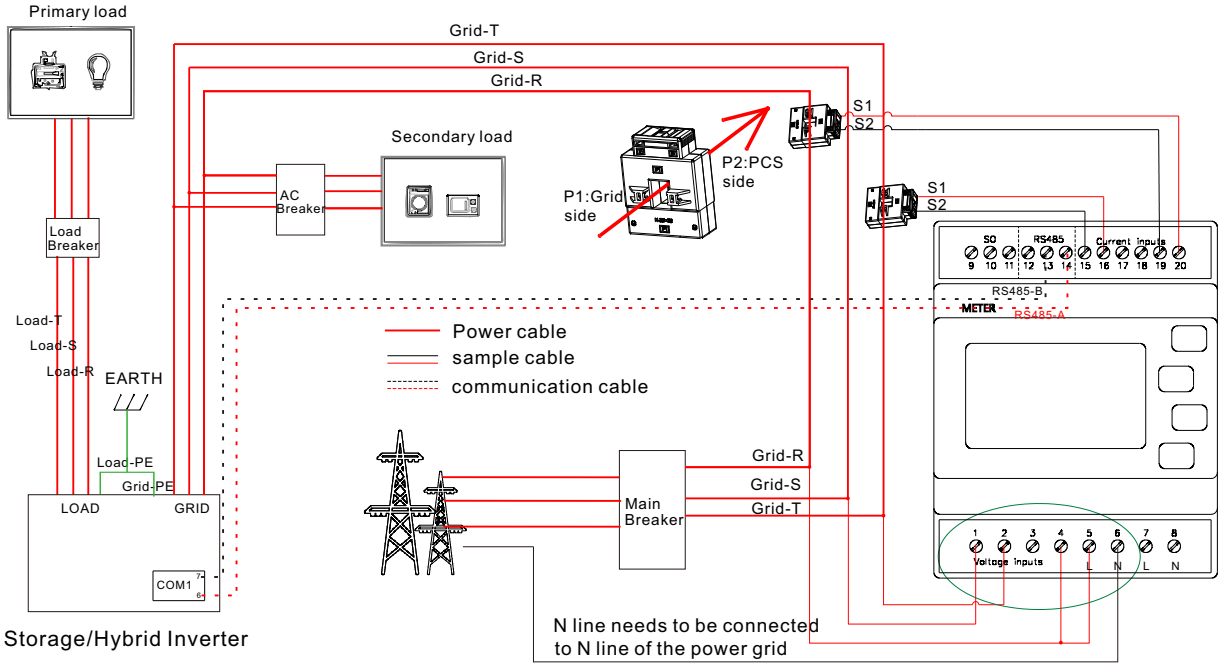
8. Service and contact

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