

Growatt Smart Meter Installation & Configuration Guide

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1. Introduction to Growatt Smart Meters

1.1 Overview of Smart Meters

Growatt Smart Meters are crucial for real-time energy monitoring, export limitation, and integration with battery storage systems. They measure voltage, current, power factor, active/reactive power, and energy consumption, allowing better energy management.

1.2 Benefits of Using a Smart Meter

Some advantages include:

- Accurate energy measurement
- Export limitation functionality
- Easy integration with Growatt inverters
- Essential for retrofit battery storage solutions

1.3 Supported Growatt Smart Meters

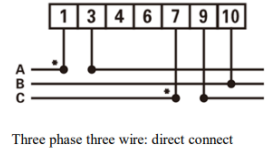
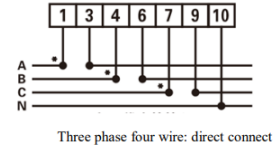
- Chint three-phase meter (**DTSU666**) : TPM-C
- Chint three-phase 6CT meter (**DTSU666**) : TPM-6CT-C
- Chint single-phase meter (**DDSU666**) : SPM-C
- Eastron three-phase CT meter (**SDM630MCT-MA**) : TPM-CT-E
- Eastron three-phase meter (**SDM630- MODBUS V3**) : TPM-E
- Eastron single-phase meter (**SDM230-MODBUS**) : SPM-E
- Eastron single-phase CT meter(**SDM120CT**) : SPM-CT-E

2. Installation Guide for Each Smart Meter

2.1 Chint DTSU666 Installation

** Technical Specifications: **

- Voltage: 230V/400V AC, 50Hz/60Hz
- Current Range: 0-80A (Direct Connection), >80A via CT
- Communication: RS485 output for Modbus RTU



** Wiring Diagram & Installation: **

- Install the meter on a DIN rail
- Connect phase and neutral terminals
- Ensure correct CT orientation if using transformers
- Connect communication wiring to inverter and meter (A = WHITE ORANGE, B = WHITE BLUE): inverter RS485A to meter pin 24, inverter RS485 B to meter pin 25



** Meter Setting: **

- Meter address (when connect to inverter): 004
- Meter password: 701

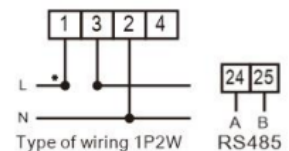
2.2 Chint DDSU666 Installation

** Technical Specifications: **

- Voltage: 220-240V AC, 50Hz/60Hz
- Max Current: 80A
- Communication: RS485 output for Modbus RTU

** Wiring & Installation: **

- Clip onto DIN rail
- Connect L/N to grid
- Connect communication wiring to inverter and meter (A = WHITE ORANGE, B = WHITE BLUE): inverter RS485 A to meter pin 24, inverter RS485 B to meter pin 25



** Meter Setting: **

- Meter address (when connect to inverter): 003
- Meter password: 701

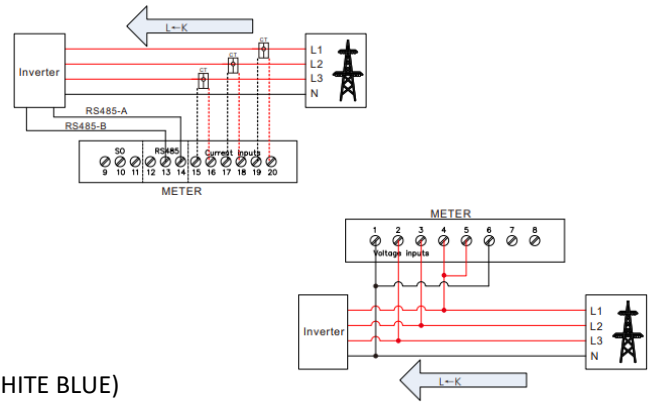
2.3 Eastron SDM630MCT Installation

** Technical Specifications: **

- Rated Voltage: 3x230/400V AC
- Current Input: Via external CTs
- Communication: RS485 Modbus

** Wiring & Installation: **

- Mount on DIN rail
- Connect voltage and current inputs
- Connect RS485 A/B to inverter (A = WHITE ORANGE, B = WHITE BLUE)
- Connect communication wiring to inverter and meter (A = WHITE ORANGE, B = WHITE BLUE):
inverter RS485 A to meter pin 14 , inverter RS485 B to meter pin 13



** Meter Setting: **

- Meter address : 002
- Meter password:1000

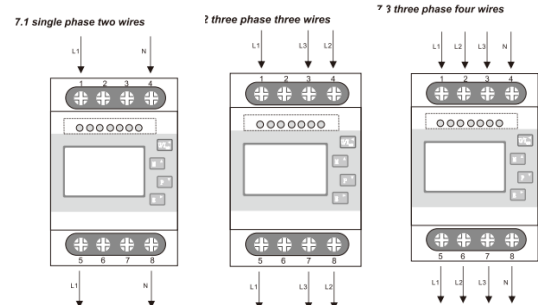
2.4 Eastron SDM630-MODBUS V3 Installation

** Technical Specifications: **

- Voltage: 100-289V (L-N), 173-480V (L-L)
- Communication: RS485 Modbus

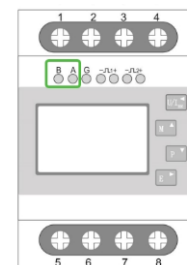
** Wiring & Installation: **

- Connect voltage sampling lines
- Connect communication wiring to inverter and meter (A = WHITE ORANGE, B = WHITE BLUE):
inverter RS485 A to meter pin A + , inverter RS485 B to meter pin B -



** Meter Setting: **

- Meter address: 002
- Meter password:1000



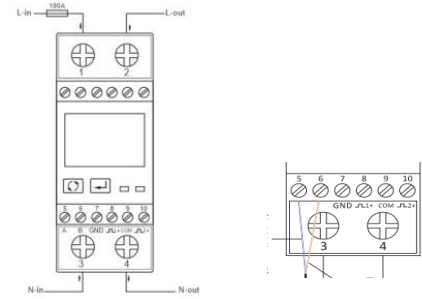
2.5 Eastron SDM230 Installation

** Technical Specifications: **

- Voltage: 176-276 AC, 50Hz/60Hz
- Max Current: 100A
- Communication: RS485 Modbus

** Wiring & Installation: **

- Clip onto DIN rail
- Connect L/N to grid
- Connect communication wiring to inverter and meter (A = WHITE ORANGE, B = WHITE BLUE):
inverter RS485 A to meter pin 5 , Inverter RS485 B to meter pin 6, inverter RS485 B



** Meter Setting: **

- Meter address : 001
- Meter password: 1000

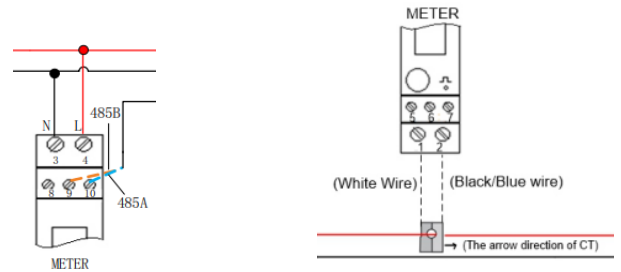
2.6 Eastron SDM120CT Installation

** Technical Specifications: **

- Rated Voltage: 184/276V AC
- Current Input: Via external CTs
- Communication: RS485 Modbus

** Wiring & Installation: **

- Mount on DIN rail
- Connect voltage and current inputs
- Connect communication wiring to inverter and meter (A = WHITE ORANGE, B = WHITE BLUE):
inverter RS485 A to meter pin 10 , inverter RS485 B to meter pin 9



** Meter Setting: **

- Meter address : 001
- Meter password:1000

3. Configuring Smart Meters for Retrofit Installations

3.1 Single-Phase Retrofit Setup

For single-phase retrofit systems, use the TPM-CT-E (SDM630MCT) meter with Growatt MIN-XH inverters. Ensure correct wiring and RS485 configuration for communication with the inverter. Please check the manual 'Growatt Retrofit Single Phase' for all the details.

3.2 Three-Phase Retrofit Setup

For three-phase setups, the TPM-6CT meter should be used with MOD-XH and MID-XH series inverters. Install CTs correctly for grid monitoring and set the RS485 communication parameters accordingly. Please check the manual 'Growatt Retrofit Three Phase' for all the details.

4. Wiring and Communication Setup

4.1 RS485 Connection and Configuration

All Growatt smart meters communicate via RS485. Ensure the correct connection of A and B terminals from the meter to the inverter.

A = White Orange

B = White Blue

4.2 How to Connect Communication Cables

- RS485 A (White Orange) from the meter connects to RS485 A on the inverter.
- RS485 B (White Blue) from the meter connects to RS485 B on the inverter.
- Proper shielding and grounding for longer cable runs.

4.3 Inverters RS485 meter Configuration

If you have a different inverter than described below. Please check the manual for that specific inverter and search for the communication configuration and look for the Meter communication port.

MIN 2500-6000 TL-XH

(COM port: PIN 5&6)

MOD 3K-10K TL3-XH(BP)

(COM port: PIN 5&6)

MID 11K-30K TL3-XH

(COM port: PIN 5&6)

7.4 Communication interfaces

7.4.1 SYS COM Port

The -XH series inverter provides a 8 pin SYS COM Port connector. The SYS COM Port connector signal distribution and function are shown in the following table:



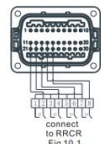
SYS COM Port Pin Definitions

NO	Definition	NO	Definition
1	Enable-: Connect Battery signal port negative	5	RS485A1: Signal for meter
2	Enable+: Connect Battery signal port positive	6	RS485B1: Signal for meter
3	RS485A2: Connect Min ShineBus or third party monitoring equipment	7	BAT-B: Connect Battery communication RS485B or CANL
4	RS485B2: Connect Min ShineBus or third party monitoring equipment	8	BAT-A: Connect Battery communication RS485A or CANH

10 Communication and Monitoring

10.1 RS485

This series of inverters provide two RS485 ports. You can monitor one or more inverters via RS485. The other RS485 port is used to connect a smart meter (stand-alone anti-backflow function).



No.	RRCR Description	Active Power
11	K1-out	0%
12	K2-out	30%
13	K3-out	60%
14	K4-out	100%
15	Relays common node	/
16	/	/

Communication and monitoring 10

10.1 COM port

This series of inverters provide four RS485 ports. You can monitor one or more inverters via RS485. The other RS485 port is used to connect to a smart meter (for export limitation and self-consumption monitoring).

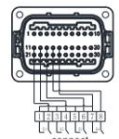


Fig 10.1

No.	Description	Function
1	+12V	Dry contact: the power of any external wiring connected to it should not be greater than 2W
2	COM	
3	RS485A1	RS485 communication port
4	RS485B1	
5	RS485A3	Meter communication port
6	RS485B3	
7	RS485A2	Battery communication port
8	RS485B2	
9	BAT-EN+	Battery wake-up signal
10	BAT-EN-	
11	DRM1/5	Relay contact 1 input
12	DRM2/6	Relay contact 2 input
13	DRM3/7	Relay contact 3 input
14	DRM4/8	Relay contact 4 input
15	REF/GEN	GND
16	DRM0/COM	/
21	BOX-EN+	Backup box identification signal
22	BOX-EN-	
23	RS485A4	Backup box communication
24	RS485B4	
27	RS485A2	Battery communication port 2
28	RS485B2	
29	BAT-EN+	Battery wake-up signal 2
30	BAT-EN-	

No.	RRCR Description	Active Power
11	K1-out	0%
12	K2-out	30%
13	K3-out	60%
14	K4-out	100%
15	Relays common node	/
16	/	/

2) Chint Single Phase smart meter configuration to set COM address, baud rate.

6.2 Button operation

There is one button on the panel: 

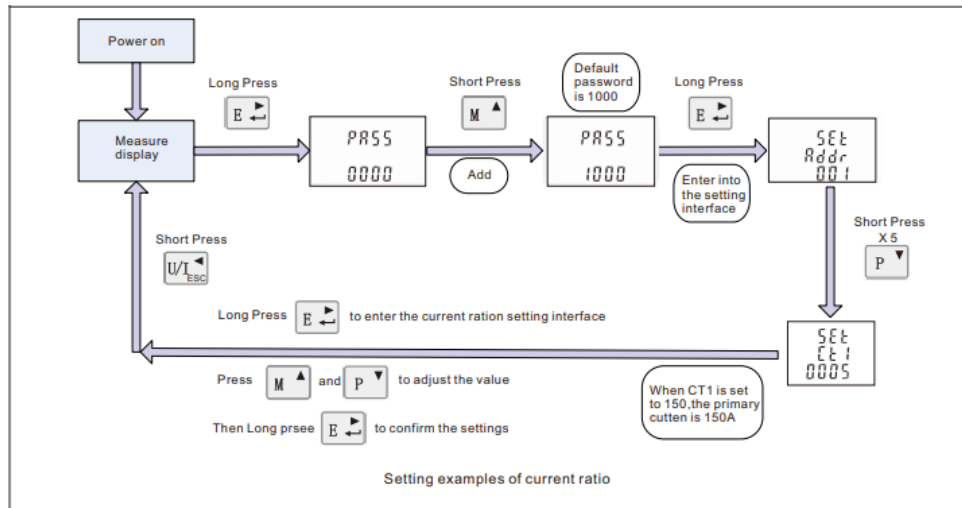
Button operation is divided into long press and short press:

1. Long press: Press the button for more than three seconds. Long press visible "SET" to enter the setting mode (normal users do not need to enter this mode).

-SET-

2. Short press: Release within one second after pressing the button, it is a short press. Short press can turn the screen to display power parameters.

3) Eastron Three Phase smart meter configuration to set COM address, Baudrate and CT ratio.



4) Eastron Single Phase smart meter configuration to set COM address, Baudrate.

6.2 Button operation

There is one button on the panel: 

Button operation is divided into long press and short press:

1. Long press: Press the button for more than three seconds. Long press visible "SET" to enter the setting mode (normal users do not need to enter this mode).

-SET-

2. Short press: Release within one second after pressing the button, it is a short press. Short press can turn the screen to display power parameters.