

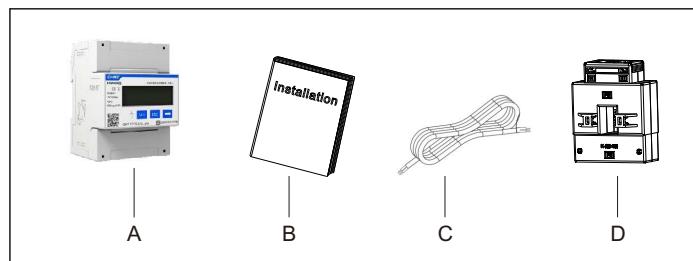
1. Overview

DTSU666 series three phase four wire electronic energy meter (din-rail) is designed based on power monitoring and energy metering demands for electric power system, communication industry, construction industry, etc. as a new generation of intelligent instrument combining measurement and communication function, mainly applied into the measurement and display for the electric parameters in the electric circuit including three voltage, three current, active power, reactive power, frequency, positive&negative energy, four-quadrant energy, etc. Adopting the standard DIN35mm din rail mounting and modular design, it is characterized with small volume, easy installation and easy networking. It is compatible with Growatt Three-phase Storage/Hybrid Inverters.

2. Technical Parameters

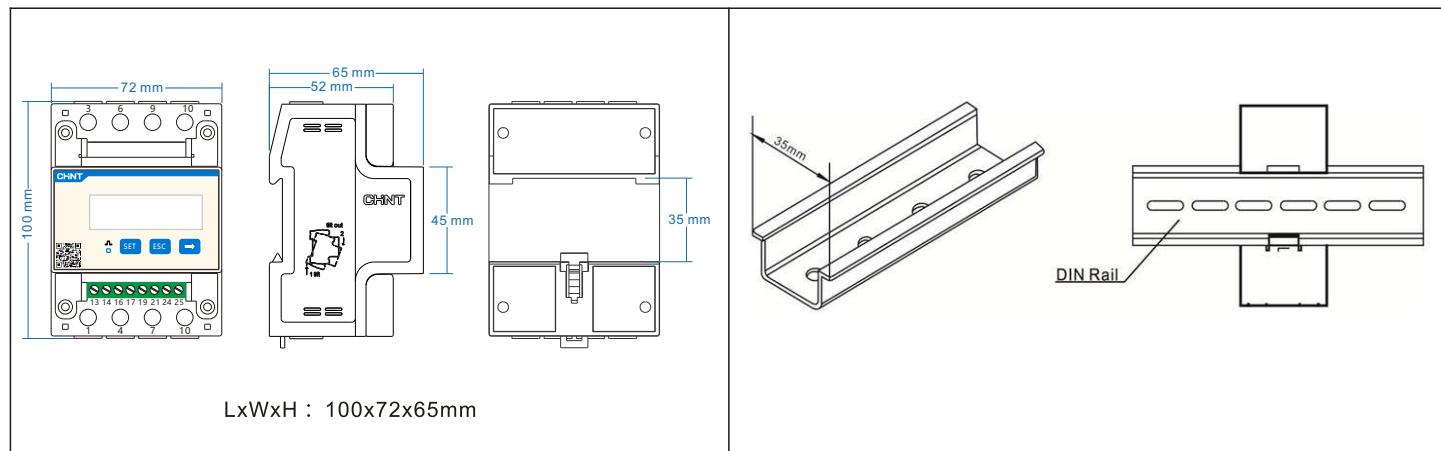
General Specifications		Enviroment	
Rated voltage	3×230/400Vac	Rated temperature	-10°C～+45°C
Reference frequency	50Hz/60Hz	Limit temperature	-25°C～+70°C
Specified operating voltage range	0.9Un～1.1Un	Relative humidity(average annual)	<75%
Extended operating voltage range	0.8Un～1.15Un	Atmosphere	63.0kPa～106.0kPa
Voltage line power consumption	≤1.5W/6VA	Installation category	CAT III
Input current	1.5(6)A	Degree of pollution	Conform to RoHS
Starting current	0.015A	Communication	
AC voltage withstand	2KV /5mA for 1 minute	Communication	RS485 output for Modbus RTU
Impulse voltage withstand	4KV-1.2/50uS waveform	Baud rate	9600
Max. Reading	9999999kWh	Pulse	400imp/kWh
Accuracy		Mechanics	
Active power	0.5% of range maximum	Din rail dimensions	100x72x65(LxWxH)
Reactive power	2% of range maximum	Mounting	DIN rail 35mm
		Sealing	IP51 (indoor)

3. Unpacking



Item	Number	Description
A	1	Three phase meter
B	1	User Manual
C	1	RS485 cable (standard length 15m)
D	3	Current Transformer

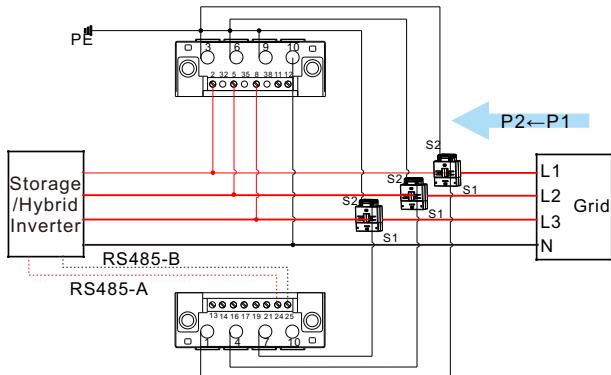
4. Dimension (Unit: mm)



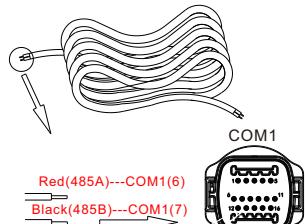
5. Installation

⚠ Note:

1. The Growatt Storage Inverter and the Hybrid Inverter are hereinafter collectively 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).



E. When connecting the smart meter to WIT, 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.



A. Voltage sampling and power supply wiring

Wiring of the L1 voltage sampling line: corresponding to meter Pin 2;
Wiring of the L2 voltage sampling line: corresponding to meter Pin 5;
Wiring of the L3 voltage sampling line: corresponding to meter Pin 8;
Wiring of the N voltage sampling line: corresponding to meter Pin 10.

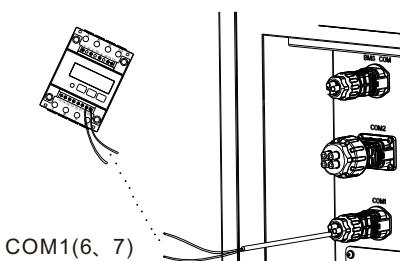
B. Current transformer wiring

Please refer to the diagram above. The grid is on the right and the current flows from P1 to P2 (from the grid to the load).
Wiring of the L1 CT: S1 Line corresponding to meter Pin 1, S2 Line corresponding to meter Pin 3;
Wiring of the L2 CT: S1 Line corresponding to meter Pin 4, S2 Line corresponding to meter Pin 6;
Wiring of the L3 CT: S1 Line corresponding to meter Pin 7, S2 Line corresponding to meter Pin 9.

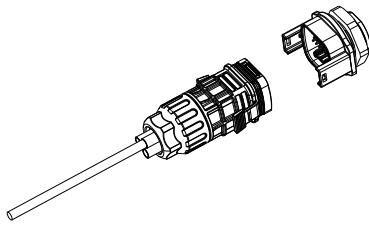
C. RS485 cable wiring

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.)

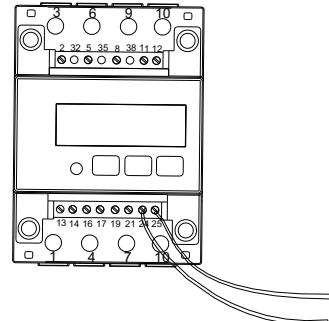
D. Connecting the meter to the Storage/Hybrid Inverter



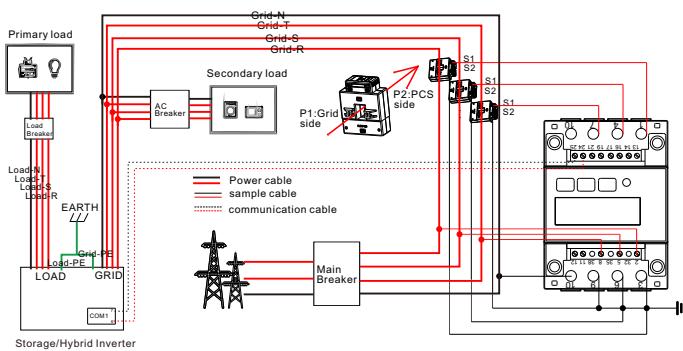
F. Dismantle the 16-pin connector delivered with WIT and set aside the water-proof plug. Route the cables through each part sequentially, then connect them to Pin 6 and Pin 7. Finally, connect the connector to the COM1 port of the inverter.



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).



The system wiring diagram is shown as follows. In case that the meter is not operating properly, you can refer to it to check the wiring. For the Growatt Storage/Hybrid Inverter, please connect the meter to the COM1 port.



⚠ Note:

1. Connect the L/N input and output cables correctly. Please ensure that the input voltage and input current are within the permissible range; otherwise the meter will be damaged.
2. The input and output wires of the meter should be correctly connected; otherwise, the meter will not be able to operate properly.

6. Display

The displayed interfacial electrical parameter and power data are both primary-side data (which is calculated based on the value of the current and the voltage). The energy measurement value is displayed in seven bits, with the display range from 0.00kWh to 999999.9 kWh.



Diagram 1 Liquid crystal display

NO	Display interface	Instruction	NO	Display interface	Instruction
1	Imp. 100000.00 kWh	Imported active energy =10000.00KWh	10	I C 5.002 A	Phase C current =5.002A
2	Exp. 2345.67 kWh	Exported active energy =2345.67KWh	11	PE 3.291 kW	Combined phase active power =3.291KW
3	NO n 1-9600	Communication protocol is ModBus-RTU. N1 indicates none parity, 1 stop bit. 9600 indicates that the baud rate is 9600bps.	12	PA 1.090 kW	Phase A active power =1.090KW
4	NO ---004	004 indicates that the meter default address is 04.	13	Pb 1.101 kW	Phase B active power =1.101KW
5	UA 220.0 V	Phase A voltage =220.0V	14	PC 1.100 kW	Phase C active power =1.100KW
6	Ub 220.1 V	Phase B voltage =220.1V	15	PFt 0.500 L	Combined phase power factor PFt=0.500L
7	UC 220.2 V	Phase C voltage =220.2V	16	FA 1.000 L	Phase A power factor Pfa=1.000L
8	IA 5.000 A	Phase A current =5.000A	17	Fb 0.500 L	Phase B power factor Pfb=0.500L
9	IB 5.001 A	Phase B current =5.001A	18	FC -0.500 L	Phase C power factor Pfc =-0.500L

Note: The communication address of the meter and the Growatt Three-phase Storage/Hybrid inverter is 04 by default, the baud rate is 9600. If the meter fails to communicate with the inverter, you can check the parameter settings by following the instructions:

Button description: "SET" button represents "confirmation", or "cursor shift" (when entering digits), "ESC" button represents "exit", "→" (↗) button represents "add". The password is 701 by default.

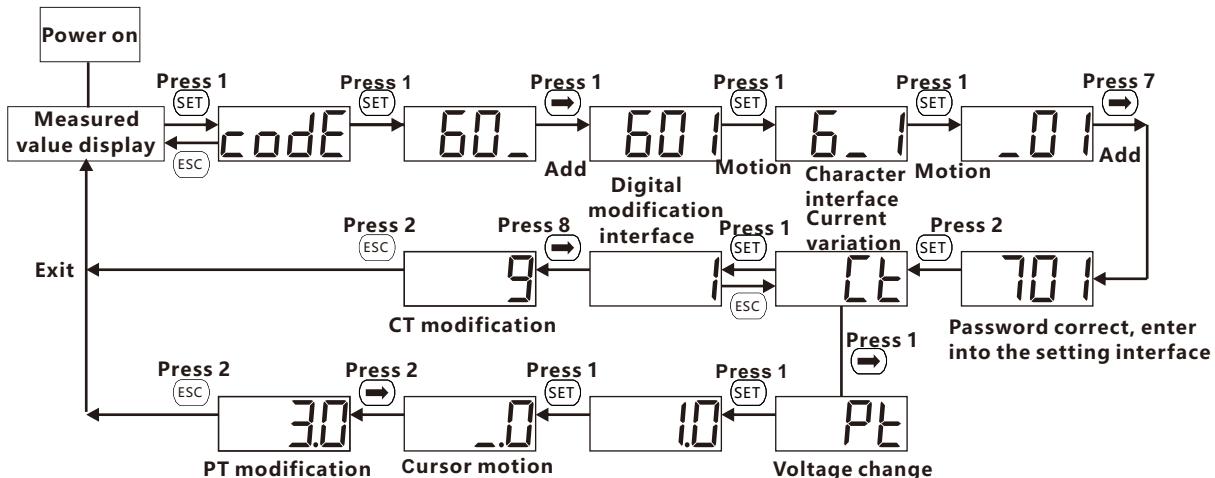


Diagram 2 Setting examples for modifying current ratio

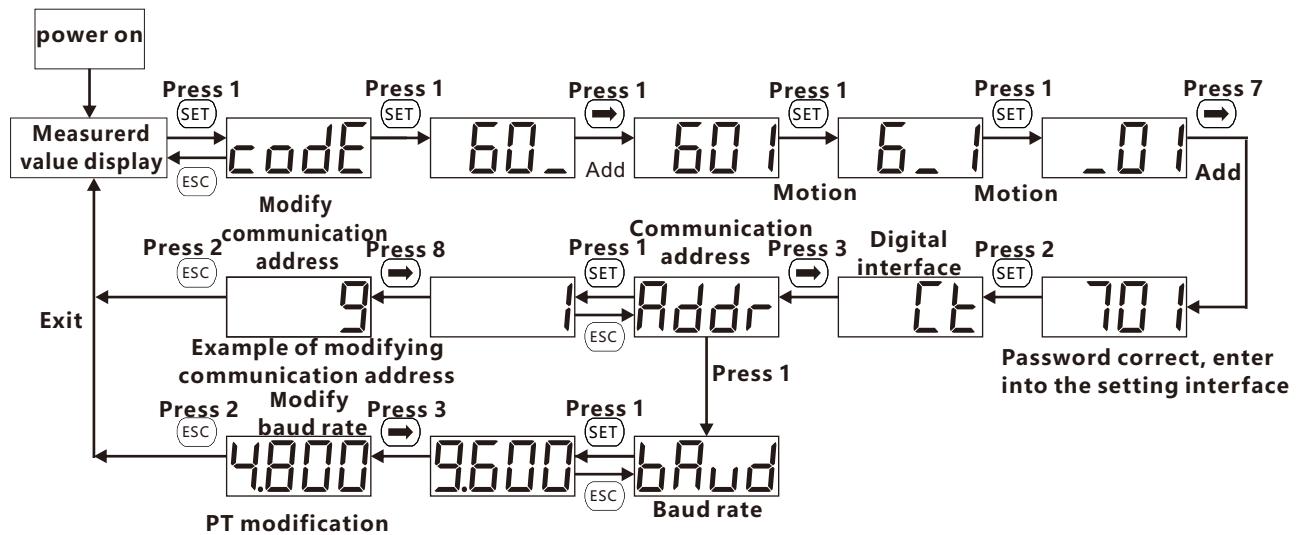


Diagram 3 Setting examples for modifying communication address and baud rate

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.

8. Service and contact

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