

DTSU666-H 250 A/ 50mA Smart Power Sensor

Quick Guide

Issue: 01
Date: 2022-11-28

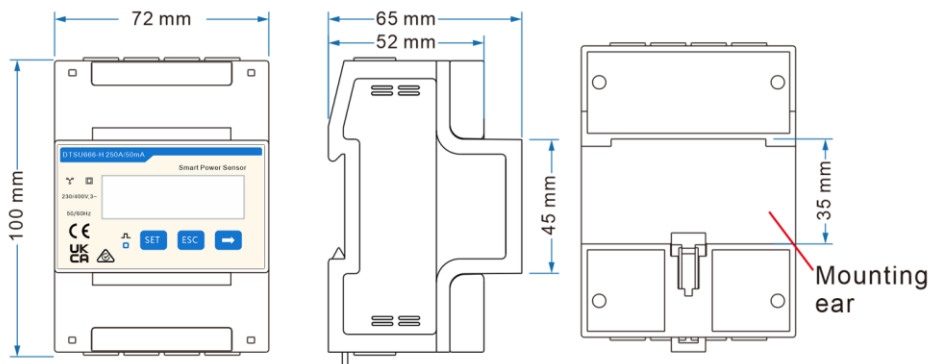


ZTY0.464.1584

1 Overview

1.1 Dimensions

DTSU666-H 250 A/50 mA: with three 250 A/50 mA CT.

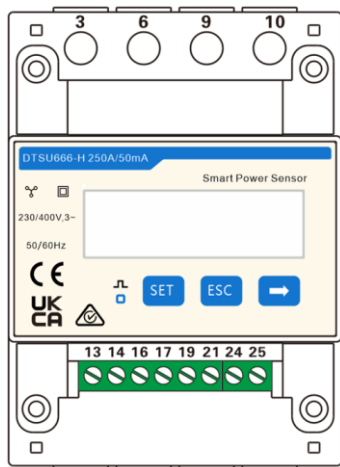


NOTE

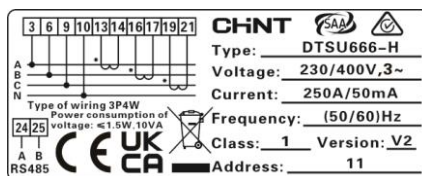
The dimensional tolerance is ± 1 mm.

1.2 Appearance

Specifications on the front panel



Nameplate

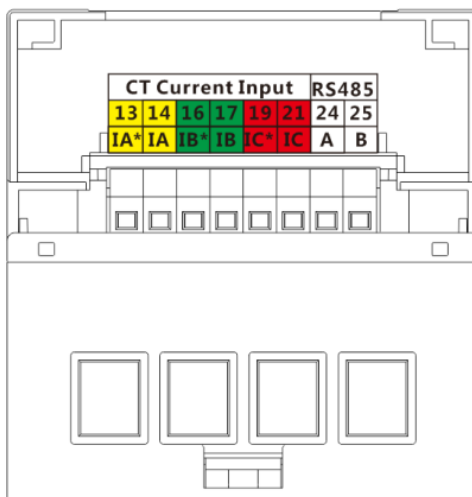
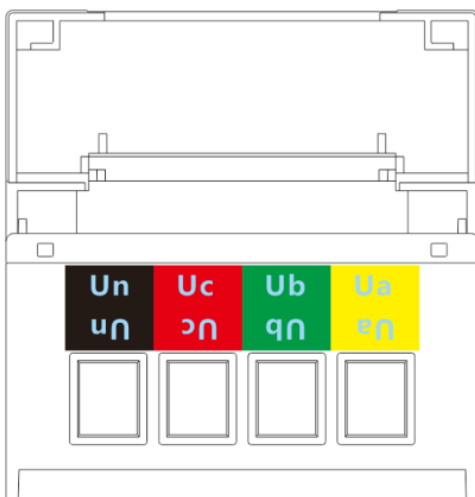


1.3 Key Specifications

Category	DTSU666-H 250 A/50 mA
Nominal voltage	230 V AC/400 V AC, 50Hz/60Hz
Current measurement range	0–250 A
Electricity metering accuracy	Class 1 (Accuracy within $\pm 1\%$)
Power grid system	Three-phase four-wire or three-phase three-wire
Baud rate	1200/2400/4800/9600/19200/115200 bps (Default Baud rate: 9600 bps)
Operating temperature	–25°C to +60°C
Installation mode	Guide rail-mounted
Certification	CE, RCM, and UKCA

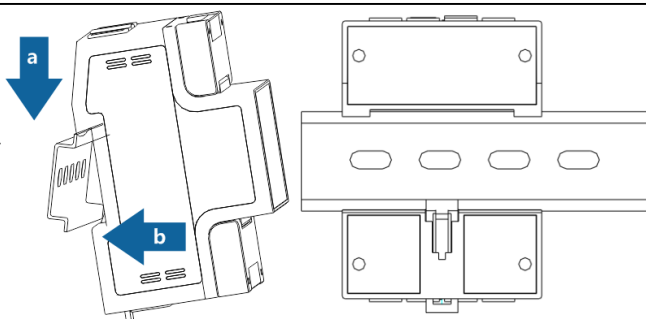
1.4 Port Definition

- Input voltage: 3 × 230/400 V or 3 × 400 V
- Input current: Current Transformer (CT), 250 A/50 mA



2 Installing the DTSU666-H 250 A/50 mA

1. Install the Smart Power Sensor on the standard guide rail of DIN35mm.
2. Press the Smart Power Sensor downwards onto the guide rail, and then push it in place along the guide rail.



3 Installing Cables

3.1 Preparing Cables

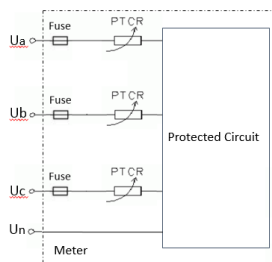
Cable	Port	Type	Conductor Cross-sectional Area Range	Outer Diameter	Source
AC power cable	Ua-3	Four-core outdoor copper cable	4-6 mm ²	10-21 mm	Prepared by the customer
	Ub-6				
	Uc-9				
	Un-10				
CT cable	IA*-13	/	/	/	Supplied by the Manufacturer
	IA-14	/	/	/	
	IB*-16	/	/	/	
	IB-17	/	/	/	
	IC*-19	/	/	/	
	IC-21	/	/	/	
Communications cable	RS485A-24	Two-core outdoor shielded twisted pair copper cable	0.25–1.5 mm ²	4–11 mm	Supplied by the manufacturer
	RS485B-25				

NOTE

The CT direction must be consistent with the arrow direction as shown in the preceding figure. The maximum torque of 3, 6, 9 and 10 terminal screws is 1.7N.m, and the recommended torque is (1.0 ± 0.1) N.m; The maximum torque of 13, 14, 16, 17, 19, 21, 24 and 25 terminal screws is 0.4N.m, and the recommended torque is (0.20 ± 0.05) N.m.

 NOTE

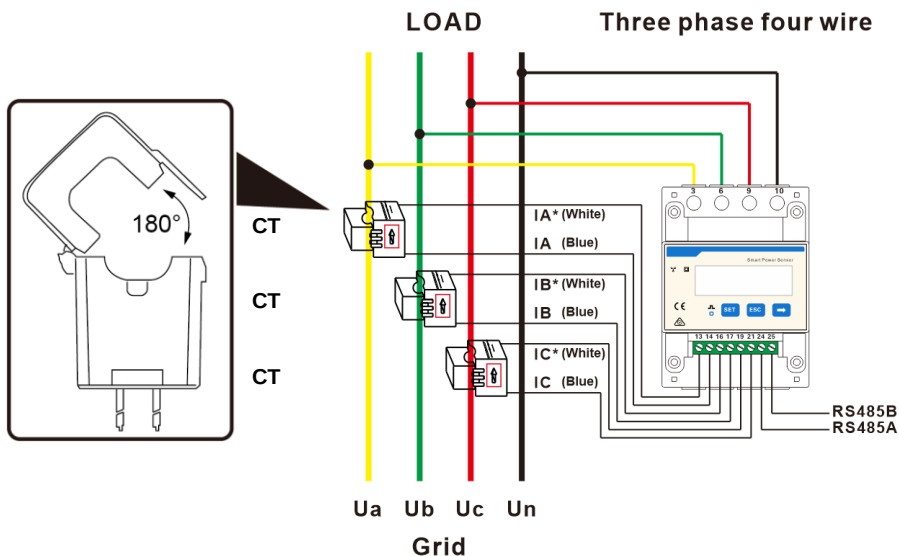
Each phase of UA, UB, and UC in the Smart Power Sensor is connected with a fuse and a thermistor to prevent damage caused by external short circuits. UA, UB, and UC do not need external fuse protection.



3.2 Wiring Scenarios -- Three Phase Four Wire

Three Phase Four Wire

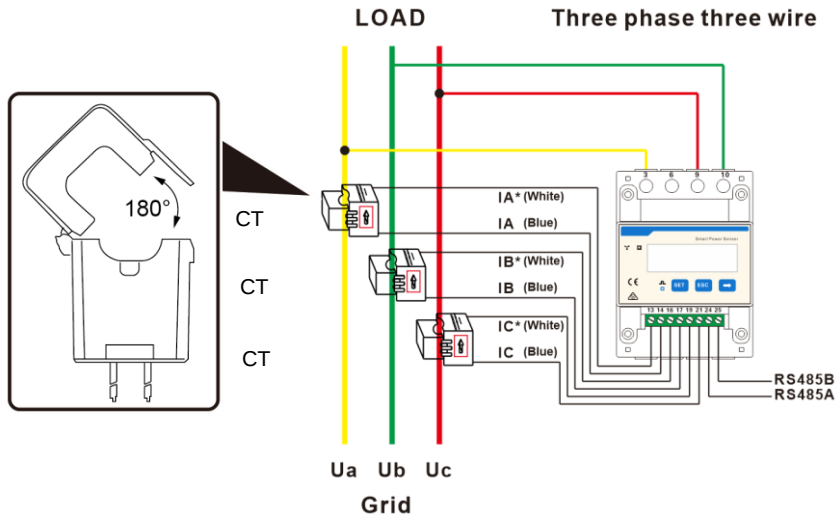
1. Three phase four wire: Connect the Ua, Ub, Uc, Un voltage lines to the 3, 6, 9 and 10 terminals of the collector. Connect current transformer outlets IA*, IA, IB*, IB, IC*, IC to terminals 13, 14, 16, 17, 19, 21 of the collector.
2. Connect RS485A and RS485B to the communication host.
3. Operating voltage: 0.7–1.3 Un.



3.3 Wiring Scenarios -- Three Phase Three Wire

Three Phase Three Wire

1. Three phase three wire: Connect the Ua, Uc, Ub voltage lines to the 3, 9 and 10 terminals of the collector. Connect current transformer outlets IA*, IA, IB*, IB, IC*, IC to terminals 13, 14, 16, 17, 19, 21 of the collector.
2. Connect RS485A and RS485B to the communication host.
3. Operating voltage: 0.7–1.3 Un.



NOTE

The CT direction must be consistent with the arrow direction as shown in the preceding figure.

4 Display and Parameter Settings

4.1 Display

Display (Auto loop)

If no button is pressed for 60 seconds, the backlight turns off. Auto loop Switch time = 5s.

No.	Display interface	Description	No.	Display interface	Description
1		Imp. active energy =10000.0 kWh	2		Exp. active energy =2345.67 kWh
3		Total Active power = 3.291 kW	4		Phase A voltage = 220.0 V
5		Phase B voltage = 220.1 V	6		Phase C voltage = 220.2 V
7		Phase A current = 5.000 A	8		Phase B current = 5.001 A
9		Phase C current = 5.002 A	10		Frequency Freq = 50.00 Hz



NOTE

1. The status bar will flash “” when the Sensor is in the communication
2. The status bar will show “3” when the Sensor is in three-phase three wire mode



No.	Display interface	Description	No.	Display interface	Description
1		Comb. active energy = 7654.33 kWh	2		Imp. active energy = 10000.0 kWh
3		Exp. active energy = 2345.67 kWh	4		None parity, 1 stop bit, Baud = 9600 bps
5		011 represents address	6		Phase A voltage = 220.0 V
7		Phase B voltage = 220.1 V	8		Phase C voltage = 220.2 V
9		Phase A current = 5.000 A	10		Phase B current = 5.001 A
11		Phase C current = 5.002 A	12		Total active power = 3.291 kW
13		Phase A active power = 1.090 kW	14		Phase B active power = 1.101 kW
15		Phase C active power = 1.100 kW	16		Total Power factor PFT = 0.500 L
17		Phase A power factor Pfa = 1.000 L	18		Phase B power factor PFb = 0.500 L
19		Phase C power factor PFC = 0.500 C	20		Frequency Freq = 50.00 Hz

**NOTE**

Comb. active energy = Imp. active energy - Exp. active energy

4.2 Parameter Settings

No.	Parameter	Value range	Description
1	<i>Prot</i>	1: 645; 2: n.2; 3: n.1; 4: E.1; 5: o.1;	Settings for communication stop bit and Parity bits: 1: Factory mode; 2: None parity, 2 stop bits, n.2; 3: None parity, 1 stop bit, n.1; 4: Even parity, 1 stop bit, E.1; 5: Odd parity, 1 stop bit, o.1;
2	<i>Addr</i>	11–19	Communication address
3	<i>bAud</i>	0: 1.200; 1: 2.400; 2: 4.800; 3: 9.600; 4: 19.20; 5: 115.2;	Communication baud rate: 0: 1200bps; 1: 2400bps; 2: 4800bps; 3: 9600bps; 4: 19200bps; 5: 115200bps。

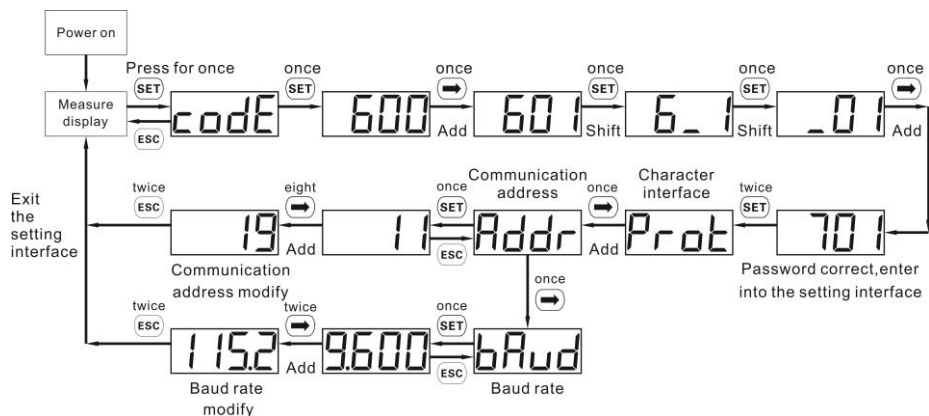
4.3 Parameter Setting Operations



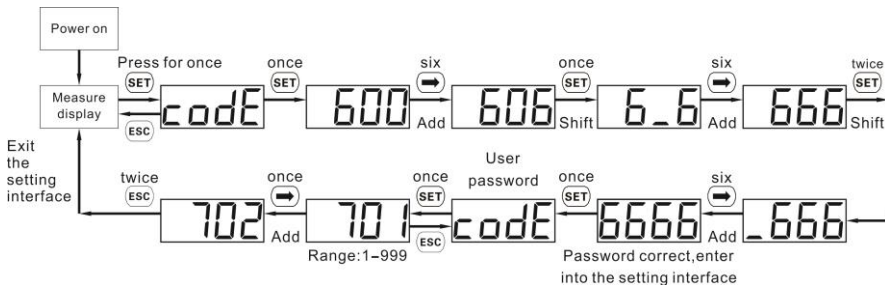
NOTE

Communications parameters have been configured for the power sensor before delivery. If the communication is abnormal, check and set the parameters.

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



- Modify user password:



5 Troubleshooting

Symptom	Cause Analysis	Troubleshooting Method
No display after power-on	1. The cable connection is incorrect. 2. The voltage supplied to the meter is abnormal.	1. Connect the cables correctly (see wiring diagrams). 2. Supply the correct voltage based on the specifications.
Abnormal RS485 communication	1. The RS485 communication cable is disconnected, short-circuited, or reversely connected. 2. The communication address, baud rate, data bit, and parity bit of the meter do not match those of the inverter.	1. If the communication cable is faulty, replace it. 2. Set the communication address, baud rate, data bit, and parity bit of the meter to be the same as those of the inverter by pressing buttons. For details, see "Parameter Settings".
Inaccurate metering	1. The cable connection is incorrect. Check whether the corresponding phase sequence of voltage and current is correct. 2. Check whether the high and low ends of the current transformer inlet are reversely connected. If the values Pa, Pb, and Pc are negative, the high and low ends are connected incorrectly.	1. Connect the cables correctly (see wiring diagrams). 2. If a negative value is displayed, change the cable connection for the current transformer to ensure that the high and low ends are connected correctly.

6 Installation Verification

1. Check that all mounting brackets are securely installed and all screws are tightened.
2. Check that all cables are reliably connected in correct polarity without short circuit.

7 Customer Service Contact

Customer Service Contact			
Region	Country	Email	Tel
Europe	France	eu_inverter_support@huawei.com	0080033888888
	Germany		
	Spain		
	Italy		
	UK		
	Netherlands		
	Other countries	For details, see solar.huawei.com.	
Asia Pacific	Australia	eu_inverter_support@huawei.com	1800046639
	Turkey	eu_inverter_support@huawei.com	-
	Malaysia	apsupport@huawei.com	0080021686868 /1800220036
	Thailand		(+66) 26542662 (local call rates) 1800290055 (free in Thailand)
	China		solarservice@huawei.com
	Other countries	apsupport@huawei.com	0060-3-21686868
	Japan	Japan	Japan_ESC@ms.huawei.com
India	India	indiaenterprise_TAC@huawei.com	1800 103 8009
South Korea	South Korea	Japan_ESC@ms.huawei.com	-
North America	USA	eu_inverter_support@huawei.com	1-877-948-2934
	Canada	eu_inverter_support@huawei.com	1-855-482-9343
Latin America	Mexico	la_inverter_support@huawei.com	018007703456 /0052-442-4288288
	Argentina		0-8009993456
	Brazil		0-8005953456
	Chile		800201866 (fixed-line only)
	Other countries		0052-442-4288288
Middle East and Africa	Egypt	eu_inverter_support@huawei.com	08002229000/0020235353900
	UAE		08002229000
	South Africa		0800222900
	Saudi Arabia		8001161177
	Pakistan		0092512800019
	Morocco		0800009900
	Other countries		0020235353900