

Smart Meter User Manual

(V-TM03)

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Made in China

CE RoHS

Meter: DTSD3366M-4-W1

CTs: CTF16L-2k5-100

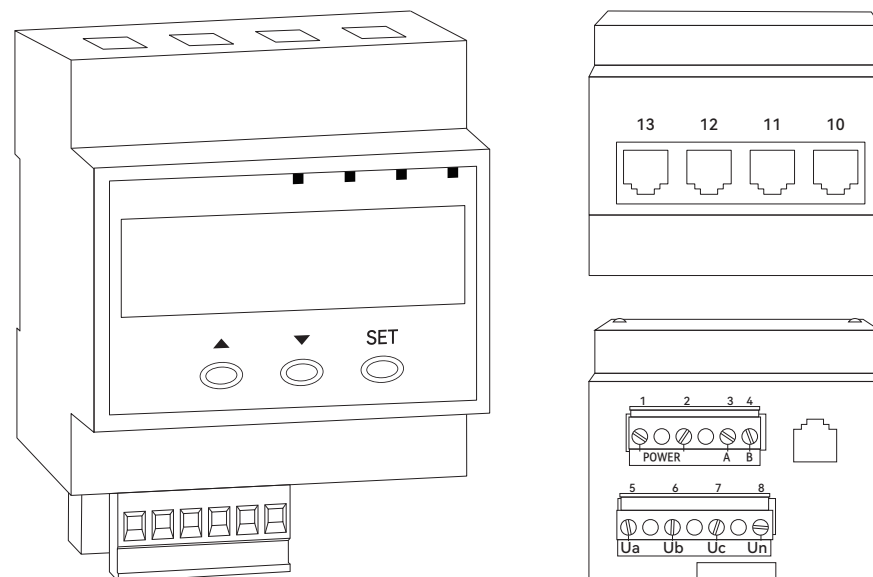
Applicable inverters: HM6 Hybrid Inverter Series, D-6K Hybrid Inverter Series

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1. Smart Meter Overview

1.1 Smart Meter Appearance



1.2 Smart Meter Parameters

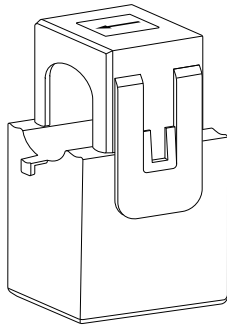
DTSD3366M-4-W1	
Rated voltage	3×220 V/380 V
Accuracy level	Active power: Class 1; Reactive power: Class 2
Power consumption	Each voltage circuit ≤1.5 W/2 VA
Current measurement range	0~120 A
Rated frequency	50 Hz
Power supply	AC 85~265 V
Reference temperature	23°C±2°C
Reference humidity	40% RH~60% RH
Operating temperature	-10°C~50°C
Temperature for transport & storage	-40°C~70°C
Relative humidity	≤85% RH
Altitude	≤4000 m
Dimension (L×W×D)	76.5±0.5 mm×72±0.5 mm×63.5±0.5 mm
Weight	0.2 kg

1.3 Smart Meter Port Description

DTSD3366M-4-W1		
Port No.	Label	Definition
1/2	POWER	POWER L(AC 85 V~256 V or DC 85 V~330 V)
3/4	RS485 A/B	Communication port with the inverter
5	Ua	A phase voltage(AV 22 V~264 V, 45 Hz~65 Hz)
6	Ub	B phase voltage(AV 22 V~264 V, 45 Hz~65 Hz)
7	Uc	C phase voltage(AV 22 V~264 V, 45 Hz~65 Hz)
8	Un	Neutral
9	9	Reserved interface
10	10	Grid CT port
11	11	PV CT port
12	12	CT port. Reserved interface
13	13	CT port. Reserved interface

2. Current Transformer Overview

2.1 Current Transformer Appearance

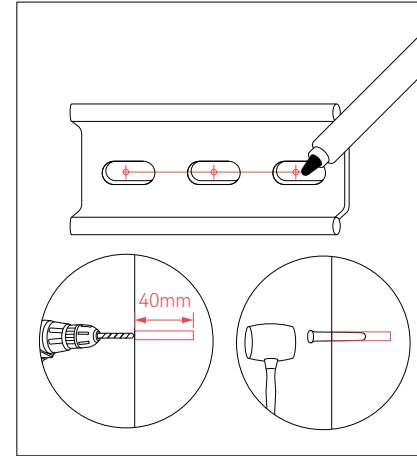


2.2 Current Transformer Parameters

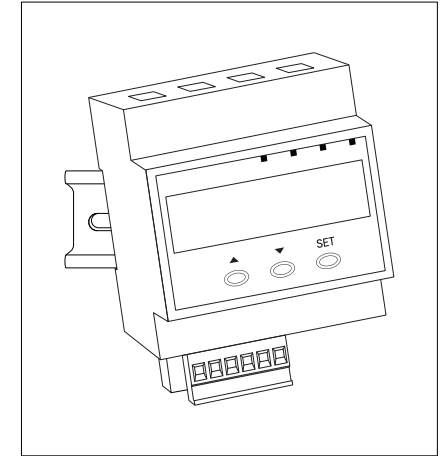
CTF16L-2k5-100	
Rated input/output	100 A/40 mA
Non-linearity	0.2%
Insulation resistance	≥100 Mohm
Angle difference	≤60'
Load resistance	≤30 Ω
Isolated withstand voltage	3.0 kV
Threading aperture	Φ16 mm
Operating temperature	-20°C~50°C
Storage temperature	-40°C~75°C
Relative humidity	10%~95% RH

3. Smart Meter Connection

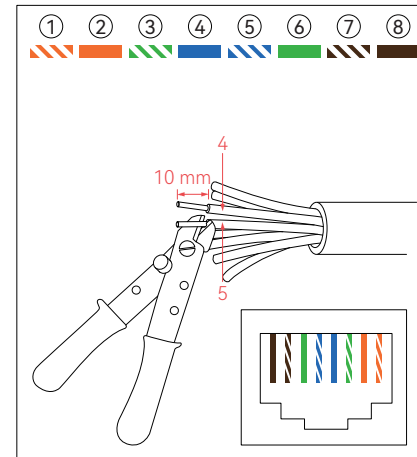
3.1 Electricity Meter Installation



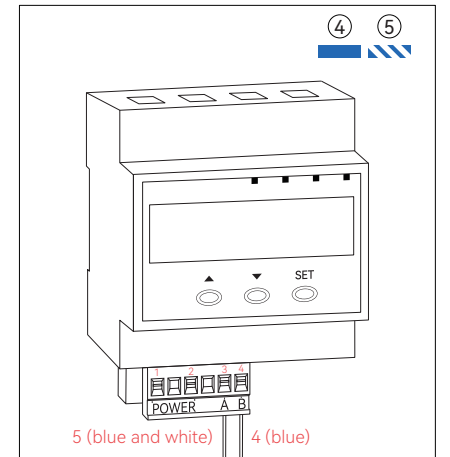
Choose the installation location for the electric meter and mark it based on the screw holes on the DIN rail. Utilize a power drill to create holes and insert expansion pins.



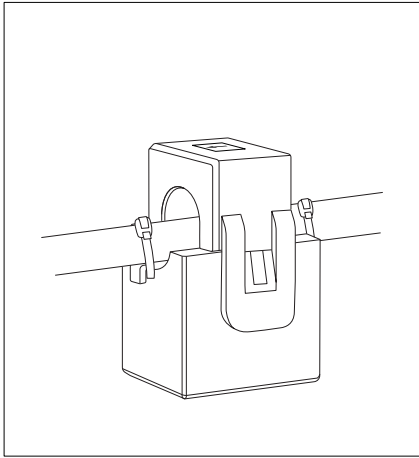
Affix the meter onto the DIN rail. (Electricity meter guide rail: DIN 35mm, provided in the package of the inverter.)



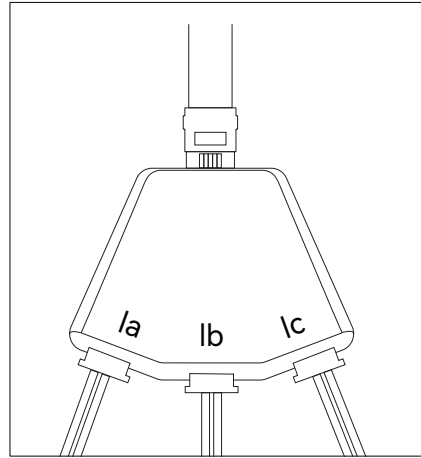
Remove the insulation from the #4 (blue) and #5 (blue and white) wires on the end of the network cable, leaving approximately 10 mm exposed.



Insert the #4 (blue) wire into Port B of the smart meter, and the #5 (blue and white) wire into Port A of the smart meter. Securely tighten the screws and verify the stability of the network cable.



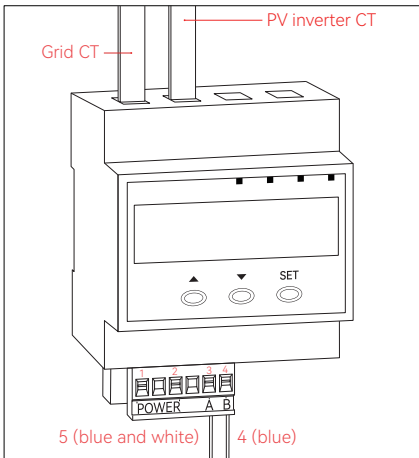
Place the CT clamp around the live wire where current measurement is required, and secure it with cable ties.



Insert the CT terminals into the 1-to-3 adapter, with the A-phase CT plug in the 'la' port, the B-phase CT plug in the 'lb' port, and the C-phase CT plug in the 'lc' port.

NOTE

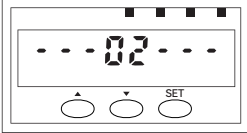
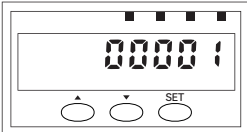
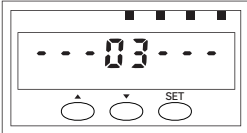
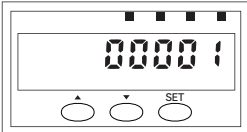
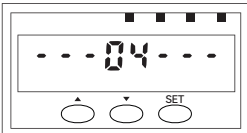
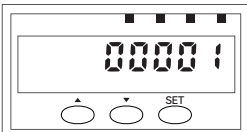
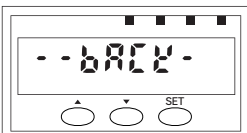
Please be mindful of the current direction when employing the CTs.

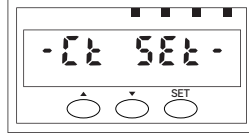
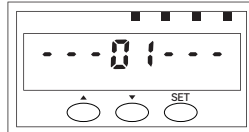
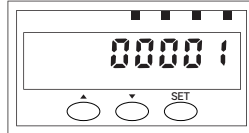
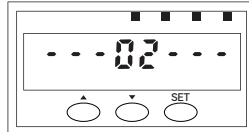
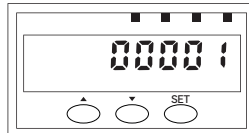
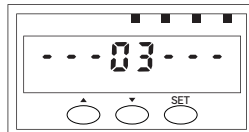
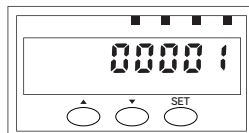


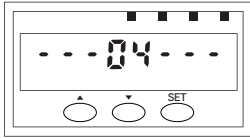
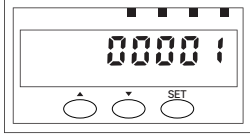
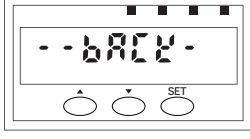
Refer to Chapter 1.3 for the Smart Meter Port Description, and connect the 1-to-3 adapter to the CT ports of the smart meter.

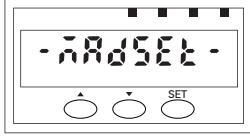
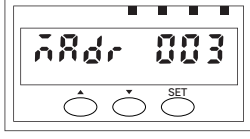
3.2 Electricity Meter Configuration

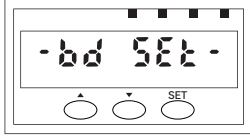
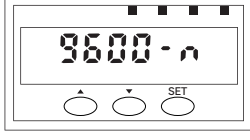
Password Setting	Schematic Diagram
<p>Press and hold the "SET" button for 3 seconds to access the password page. Use the "▲" button to adjust the numerical value and the "▼" button to cycle through the numbers. Set the PSD as 3366. Press "SET" to save the changes and enter the settings page.</p>	
Device Address Setting	Schematic Diagram
<p>In the settings page, press "▲" or "▼" to select "AD SET". Press the "SET" button to enter the Device Address settings page.</p>	
<p>Press "▲" to adjust the value and "▼" to switch the numbers. Set the low 6 bits of the device address as "L 000003". Press "SET" to save.</p>	
<p>Press "▲" to adjust the value and "▼" to switch the numbers. Set the high 6 bits of the device address as "H 000000". Press "SET" to save.</p>	
PT Setting	Schematic Diagram
<p>In the settings page, press "▲" or "▼" to select "PT SET". Press the "SET" button to enter the PT settings page.</p>	
<p>In the PT settings page, press "▲" or "▼" to select "---01---". Press the "SET" button to enter the 1st PT settings page.</p>	
<p>Press "▲" to adjust the value and "▼" to switch the numbers. Set the 1st PT as "00001". Press "SET" to save.</p>	

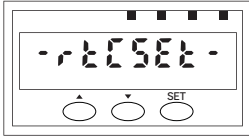
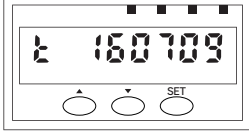
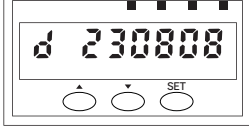
PT Setting	Schematic Diagram
<p>In the PT settings page, press "▲" or "▼" to select "--02--". Press the "SET" button to enter the 2nd PT settings page.</p>	
<p>Press "▲" to adjust the value and "▼" to switch the numbers. Set the 2nd PT as "00001". Press "SET" to save.</p>	
<p>In the PT settings page, press "▲" or "▼" to select "--03--". Press the "SET" button to enter the 3rd PT settings page.</p>	
<p>Press "▲" to adjust the value and "▼" to switch the numbers. Set the 3rd PT as "00001". Press "SET" to save.</p>	
<p>In the PT settings page, press "▲" or "▼" to select "--04--". Press the "SET" button to enter the 4th PT settings page.</p>	
<p>Press "▲" to adjust the value and "▼" to switch the numbers. Set the 4th PT as "00001". Press "SET" to save.</p>	
<p>In the PT settings page, press "▲" or "▼" to select "--BACK--". Press the "SET" button to return to the settings page.</p>	

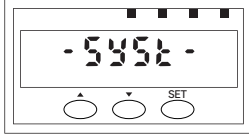
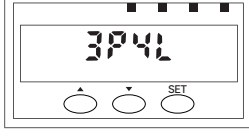
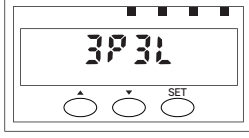
CT Setting	Schematic Diagram
<p>In the settings page, press "▲" or "▼" to select "CT SET". Press the "SET" button to enter the CT settings page.</p>	
<p>In the CT settings page, press "▲" or "▼" to select "--01--". Press the "SET" button to enter the 1st CT settings page.</p>	
<p>Press "▲" to adjust the value and "▼" to switch the numbers. Set the 1st CT as "00001". Press "SET" to save.</p>	
<p>In the CT settings page, press "▲" or "▼" to select "--02--". Press the "SET" button to enter the 2nd CT settings page.</p>	
<p>Press "▲" to adjust the value and "▼" to switch the numbers. Set the 2nd CT as "00001". Press "SET" to save.</p>	
<p>In the CT settings page, press "▲" or "▼" to select "--03--". Press the "SET" button to enter the 3rd CT settings page.</p>	
<p>Press "▲" to adjust the value and "▼" to switch the numbers. Set the 3rd CT as "00001". Press "SET" to save.</p>	

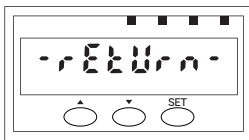
CT Setting	Schematic Diagram
In the CT settings page, press "▲" or "▼" to select "--04--" Press the "SET" button to enter the 4th CT settings page.	
Press "▲" to adjust the value and "▼" to switch the numbers. Set the the 4th CT as "00001" Press "SET" to save.	
In the the CT settings page, press "▲" or "▼" to select "--BACK--" Press the "SET" button to return to the settings page.	

Modbus Address	Schematic Diagram
In the settings page, press "▲" or "▼" to select "MAD SET". Press the "SET" button to enter the Modbus Address settings page.	
In the Modbus Address settings page, press "▲" or "▼" to select "MADR 003". Press "SET" to save and return to the settings page.	

Baud Rate Setting	Schematic Diagram
In the settings page, press "▲" or "▼" to select "BD SET". Press the "SET" button to enter the Baud rate settings page.	
In the Baud rate settings page, press "▲" or "▼" to select "9600-n" Press "SET" to save and return to the settings page.	

Clock Setting	Schematic Diagram
In the settings page, press "▲" or "▼" to select "RTC SET". Press the "SET" button to enter the Clock setting page.	
In the Clock settings page, press "▲" or "▼" to select the time like "T hhmss". Press "SET" to save.	
In the Clock settings page, press "▲" or "▼" to select the date like "D yymmdd". Press "SET" to save and return to the settings page.	

Connection Mode Setting	Schematic Diagram
In the settings page, press "▲" or "▼" to select "SYST" Press the "SET" button to enter the Connection Mode settings page.	
In the Connection Mode settings page, press "▲" or "▼" to select "3P4L". Press "set" to save.	
	

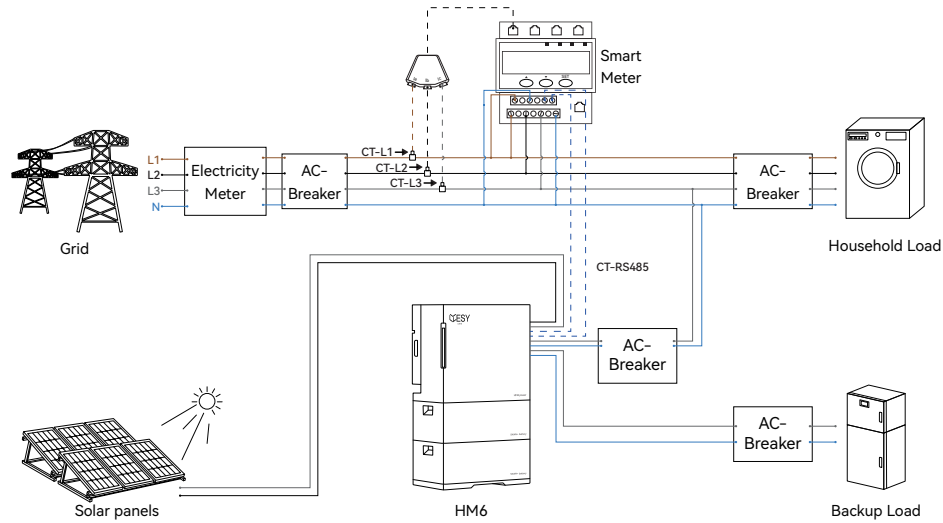
Baud Rate Setting	Schematic Diagram
In the settings page, press "▲" or "▼" to select "RETURN". Press "SET" to save and return to the main menu display.	

4. Installation Guide

4.1 New Installation

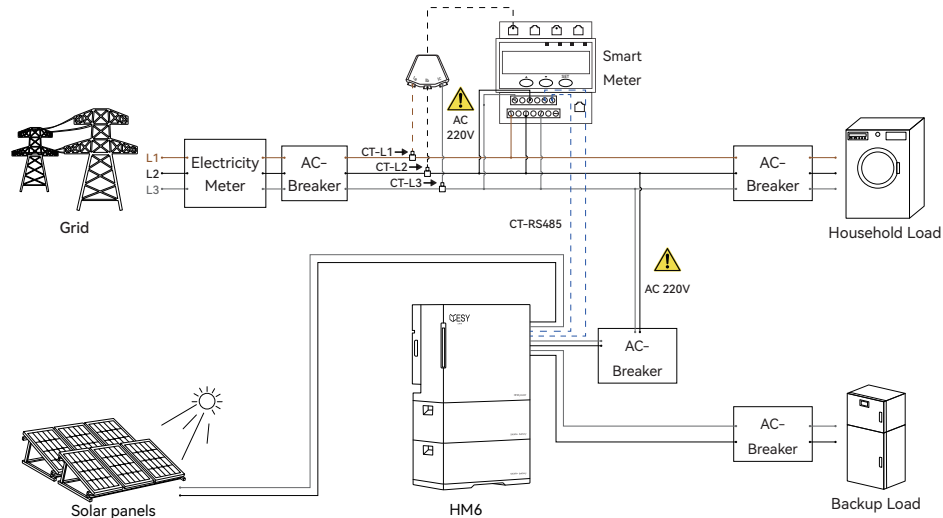
4.1.1 Scenario 1

New installation in 3L-N:



4.1.2 Scenario 2

New installation in 3L-NO Neutral:



4.2 Installation with Existing Solar Inverter

NOTE

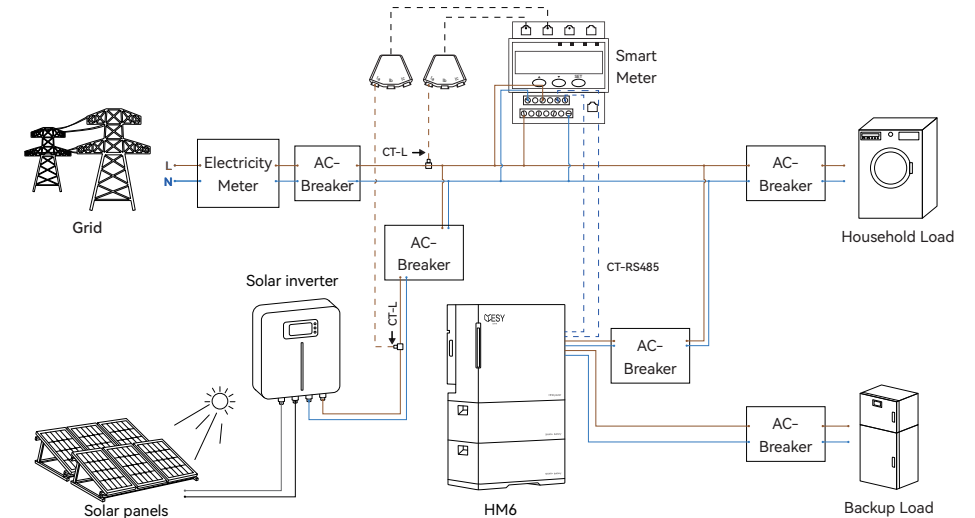
In scenarios involving PV inverters, HM6 hybrid inverter automatically transitions between Regular Mode and Emergency Mode by monitoring the total grid power from the smart meter.

During periods when the energy storage system draws energy from the grid, HM6 hybrid inverter operates in Regular Mode to offset the power consumed by the energy storage system.

Conversely, when the energy storage system exports energy to the grid, the hybrid inverter operates in Emergency Mode to charge the battery.

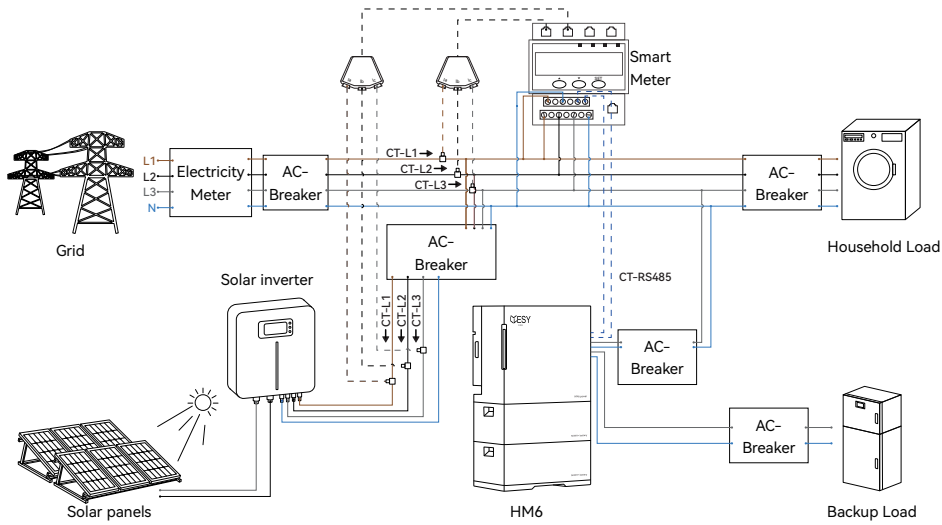
4.2.1 Scenario 3

Installation with existing single-phase solar inverter in L-N:



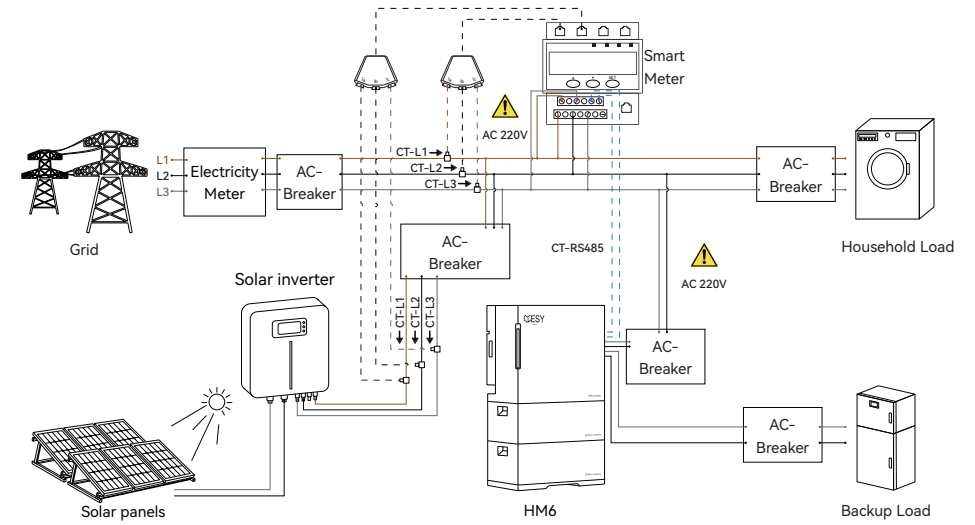
4.2.2 Scenario 4

Installation with existing three-phase solar inverter in 3L-N:



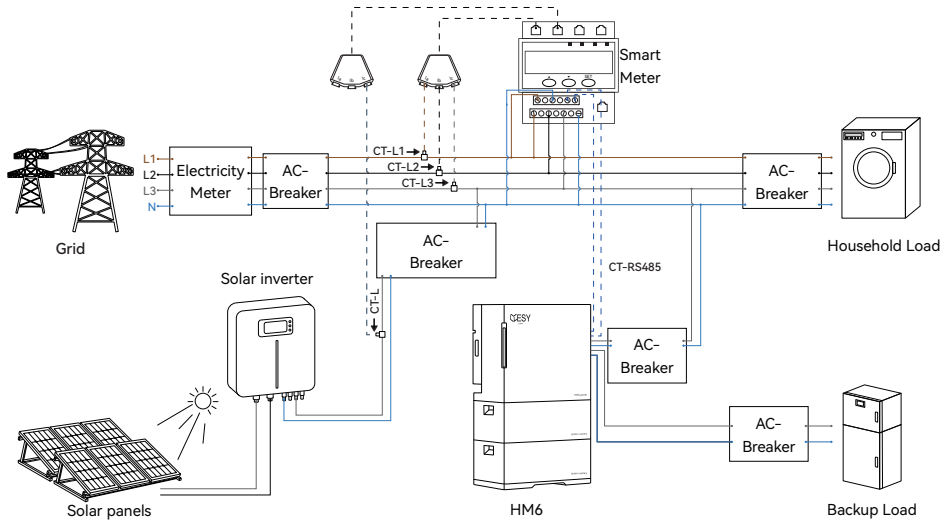
4.2.4 Scenario 6

Installation with existing three-phase solar inverter in 3L-NO Neutral:



4.2.3 Scenario 5

Installation with existing single-phase solar inverter in 3L-N:



4.2.5 Scenario 7

The voltage between L1 and L2=480 Va.c.

The voltage between L1 and N=240 Va.c.

The voltage between L2 and N=240 Va.c.

