

Smart Meter Manual

Model: APM-CT-G
SPM-CT-G
LPM-CT-G
TPM-CT-G



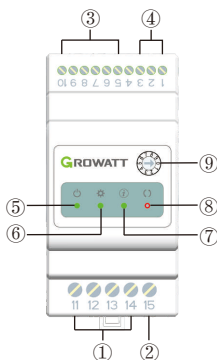
Model	Description
APM-CT-G	Supports single-phase, three-phase, and split phase working modes
SPM-CT-G	Supports single-phase working mode
LPM-CT-G	Supports split-phase working mode
TPM-CT-G	Supports single-phase and three-phase working modes

1. Product Overview

The smart meter supports single-phase, three-phase and split-phase working modes, featuring small volume, high accuracy and easy installation. It is capable of identifying the working mode automatically based on the wiring method. The meter is used for real-time measurement and display of parameters, including the voltage, current and power. For the energy storage system in single-phase working mode, it supports dual CT inputs, allowing simultaneous measurement of voltage and current at two points on the same power line through L1 and L3.

2. Product Image

2.1 Appearance of the Meter



① Power Cable Port (L、N)

② PE Port

③ CT Port

④ RS485 Port

⑤ Power LED

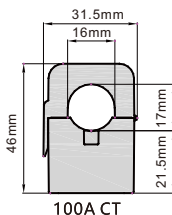
⑥ Mode LED

⑦ Status LED

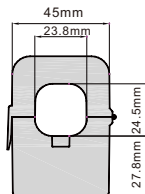
⑧ KEY

⑨ RS485 Address

2.2 Dimensions of the CT



100A CT




250A CT

Note: Please connect the white line to CT+ and the black one to CT-.

3. Technical Parameters

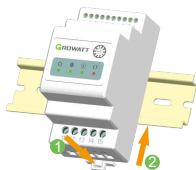
Model		APM-CT-G
Size		90*45*65mm (Without buckle)
Protection Degree		IP20(for indoor use)
Supported System		Single Phase, Split Phase, 3W3P, 3W4P
Supported Parameters		Voltage/Current/Active Power/Reactive Power/PF/Frequency
Single Phase (SPM-CT-G)	Rated Voltage	230Vac
	Phase Voltage Range	100Vac - 416Vac
3P4W (TPM-CT-G)	Rated Voltage	230Vac/400Vac
	Phase Voltage Range	100Vac - 416Vac
3P3W (TPM-CT-G)	Rated Voltage	230Vac/400Vac
	Phase Voltage Range	100Vac - 240Vac
	Line Voltage Range	173Vac - 416Vac
Split Phase -- North America (LPM-CT-G)	Rated Voltage	120Vac/240Vac
	Phase Voltage Range	100Vac - 150Vac
Measured Frequency		45-65Hz
CT		40mA
Power Consumption (MAX)		1W (2W)
Working Temperature		-30~65°C
Operating Humidity		<85%RH
Communication Method / Distance		RS485/200m
Communication address		10+ ⑨*
Communication Protocol		MODBUS-RTU
Baud Rate		19200bps

-  1. The limited voltage range between L and N of the meter is 80Vac-500Vac. Please ensure that the maximum grid voltage does not exceed the limit.
2. * denotes the value the arrow is pointing to. For instance, in Section 2.1, the arrow points to 0, indicating that the communication address is 10.

4. Installation Introduction

4.1 Installation

- ① Press and pull the buckle.
- ② Install the meter on the din-rail, and push the buckle to fix it.



! This product is intended to be installed behind the main energy meter, which is installed at the point where the power lines enter the building, and the circuit breaker, which is used to disconnect the smart meter. The meter should be easily accessible for operation personnel.

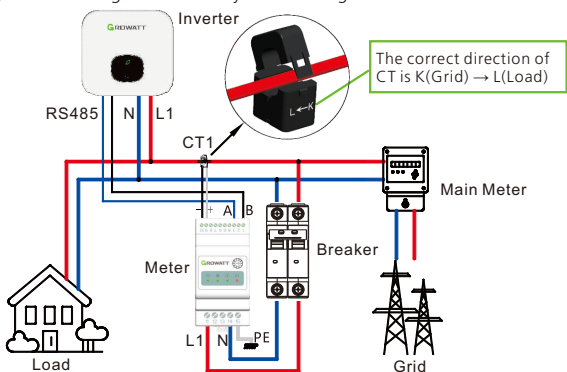
4.2 Wiring

Users are allowed to select the wiring method aligned with their needs. The meter can automatically detect the operating mode based on the wiring method.

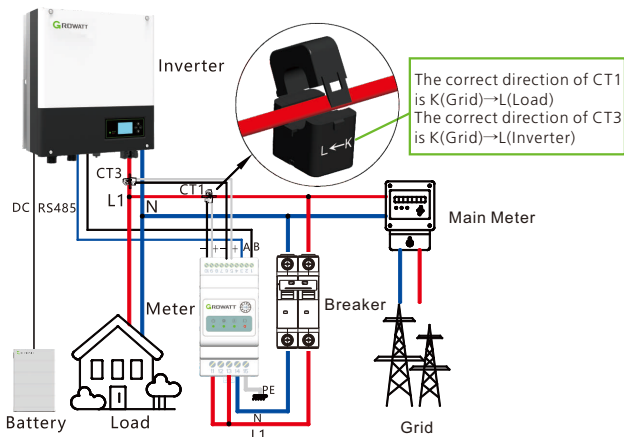
- !** It is recommended to use a single-strand wire. If multi-strand wires are selected, the matching crimp terminals must be used. Recommended cable specification (AWG): 16-22.
- !** The GROUND signal of the RS485 interface must be connected to the shielding layer of the RS485 cable, and the shielding layer should be grounded.
- !** Before performing any operations, please ensure that the voltage input and the power supply are isolated. The secondary windings of all CTs should be be short-circuited to prevent severe injuries.

4.2.1 The Wiring of Single Phase System

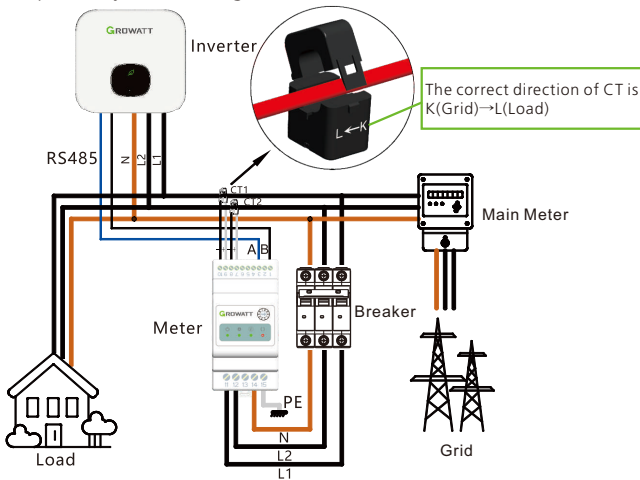
4.2.1.1 Single Phase On-grid Inverter System Wiring



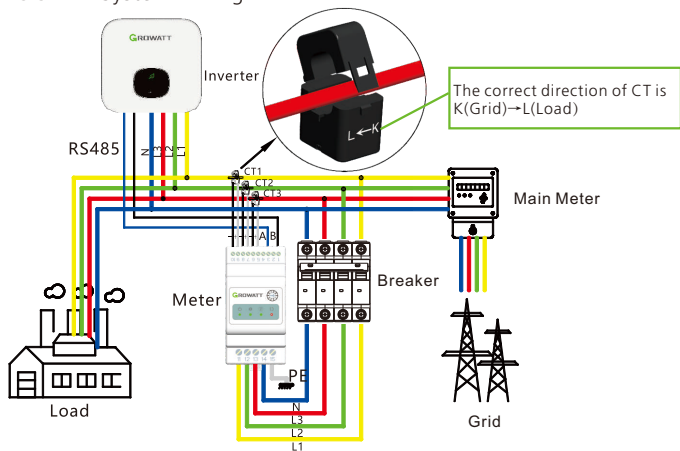
4.2.1.2 Energy Storage System Wiring



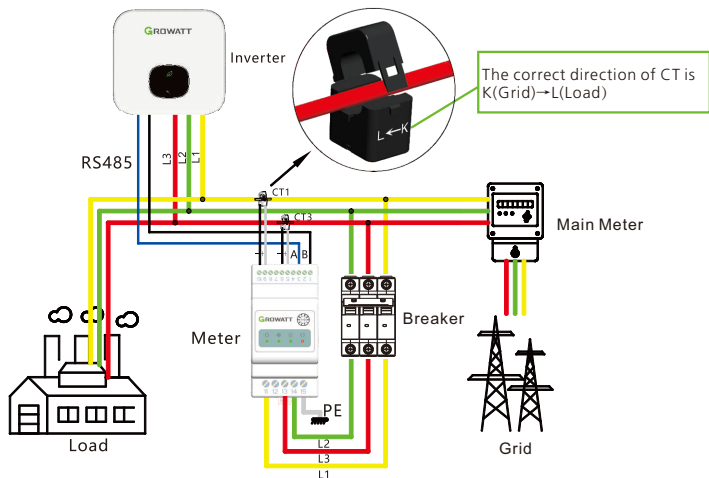
4.2.2 Split-phase System Wiring (For North America)



4.2.3 3P4W System Wiring



4.2.4 3P3W System Wiring



4.3 Post-installation Check

Check whether the CT is closed before powering on the system. After the system is powered on, check if the color of the Mode LED matches the corresponding color.

Color of the Mode LED	Indication	
Green	Single Phase Mode	If the Mode LED is blinking, it indicates that the RS485 communication has failed.
Purple	Split Phase Mode	
White	3P3W Mode	
Blue	3P4W Mode	

5. Display and Setting

5.1 LED Status Description

Indicator	LED status		Device Status
Power LED	Always on		Power Indicator
	Flash per 1.0s		Software Updating
Mode LED	Always on	Green	Single Phase Mode, and the RS485 Communication is OK
		Purple	Split Phase Mode, and the RS485 Communication is OK
		White	3P3W Mode, and the RS485 Communication is OK
		Blue	3P4W Mode, and the RS485 Communication is OK
Status LED	Always on	Green	Initializing
		Blue	Running Normally

5.2 Setting

Operation of the KEY button	
Short press once	Baud Rate Display (only for factory debugging)
Long press for 6s (Until Mode LED and Status LED are red)	System Reset

5.3 Troubleshooting

Indicator	LED status		Device status	Troubleshooting
Mode	OFF		Working mode recognition	The meter is identifying the working mode. Please wait until the recognition is successful
	Flash per 1.0s	Green	Single Phase Mode, RS485 communication failed	1. Check whether the RS485 wiring is correct 2. Check whether the RS485 line is broken or open
		Purple	Split Phase Mode, RS485 communication failed	
		White	3P3W Mode, RS485 communication failed	
		Blue	3P4W Mode, RS485 communication failed	
	Flash per 0.5s	Red	Wiring Error. Work mode recognition failed	Please check whether the meter wiring is correct according to the 4.2 wiring diagram
Status LED	Flash per 0.5s	Red	Phase Voltage Loss	1. Check whether there is a loose connection in the meter wiring of L1, L2, L3 2. Please check whether the meter wiring is correct according to the 4.2 wiring diagram
		Green	Work mode recognition failed	Please check whether the meter wiring is correct according to the wiring diagram in 4.2

6. Service and Contact

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For local after-sales support, please visit:
<https://www.ginverter.com/support/contact>.



User Manual



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