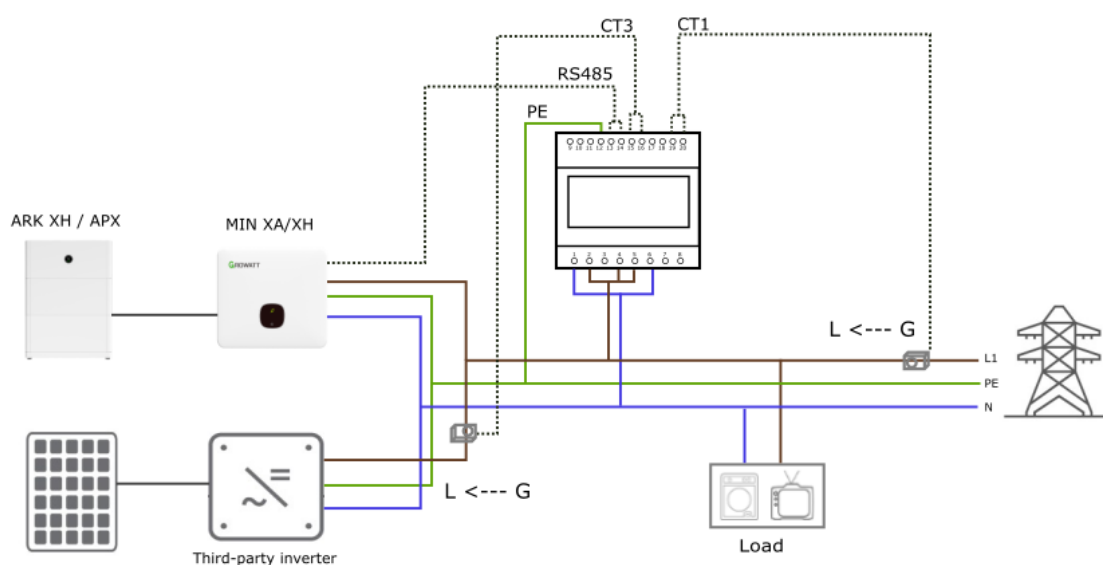


Growatt Smart Meter For Flexible System Retrofit - Single Phase

Growatt offers flexible retrofit solutions to upgrade existing PV systems and expand energy storage. The TPM-CT-E (SDM630 MCT-MA) smart meter enables Growatt's single-phase battery inverters (MIN-XH and MIN-XA) and ARK-HV / APX batteries for AC-coupled retrofits. Accurately measure power with multi-function monitoring. Easy installation with current transformers and RS485 communication. Switch between on-grid and off-grid modes by adding a SYN Box for backup power supply. Ideal for residential and commercial systems seeking more storage capacity, energy independence, and futureproofing.

GROWATT SMART METER FOR FLEXIBLE SYSTEM RETROFIT



For the users who already have a PV system installed, Growatt offers solutions for retrofitting existing systems and expanding energy storage capacity. With Growatt Smart Meter TPM-CT-E, Growatt single-phase battery ready inverters MIN 2500-6000TL-XH/XA with ARK-XH or APX battery (with power module P0) can be used

in AC-Couple application scenarios, which provide great flexibility for upgrading existing PV systems.

Attention! When retrofitting a single-phase system, please use an Growatt three-phase smart meter TPM-CT-E and set the COM address to 2. **The export limitation function is not supported in the case of a retrofit**, as there is no way to control third-party inverters. MIN 2500-6000TL-XH is shipped in Default Mode, and when applied to a retrofit scene, it needs to be set to System Retrofit Mode on OLED, ShineTools or OSS and the grid type selected. If there is not the option to change the system working mode to 'retrofit system', a firmware update is needed. MIN 2500-6000TL-XA is AC coupled inverter and is already set to System Retrofit Mode by default.

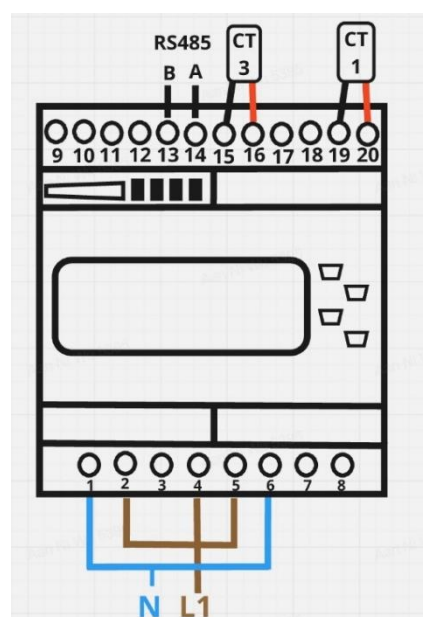
Specifications of TPM-CT-E

CT3 will detect the third-party inverters' production, CT1 will detect the grid connection point import and export power.

Attention! The direction of the CT's needs to be always from Grid to Load, see the figure above for reference, $L \leftarrow G$. L = load, G = grid.

In a retrofit system, the key steps are establishing communication between TPM-CT-E and the inverter, installing the meter and CTs.

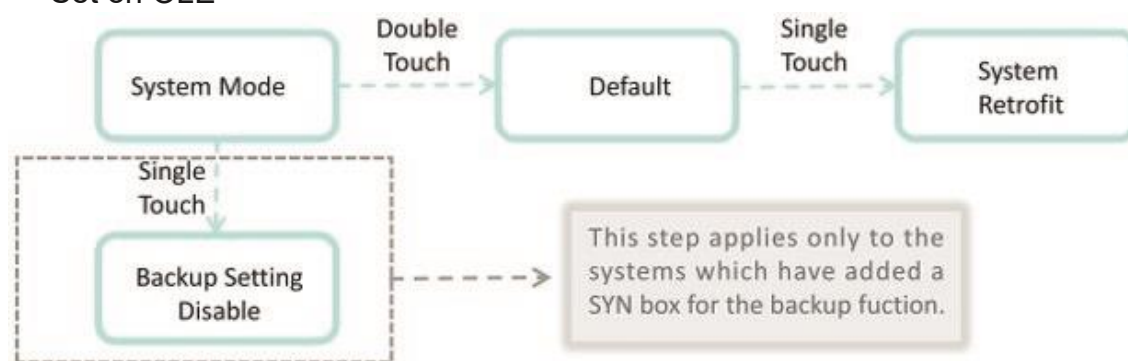
Pin	Meter
1	N
2	L1
4	L1
5	L1
6	NA
12	GROUND
13	RS485-B (SYS COM PIN 6)
14	RS485-A (SYS COM PIN 5)
15	S2 (CT3) Black wire
16	S1 (CT3) White wire
19	S2 (CT1) Black wire
20	S1 (CT1) White wire



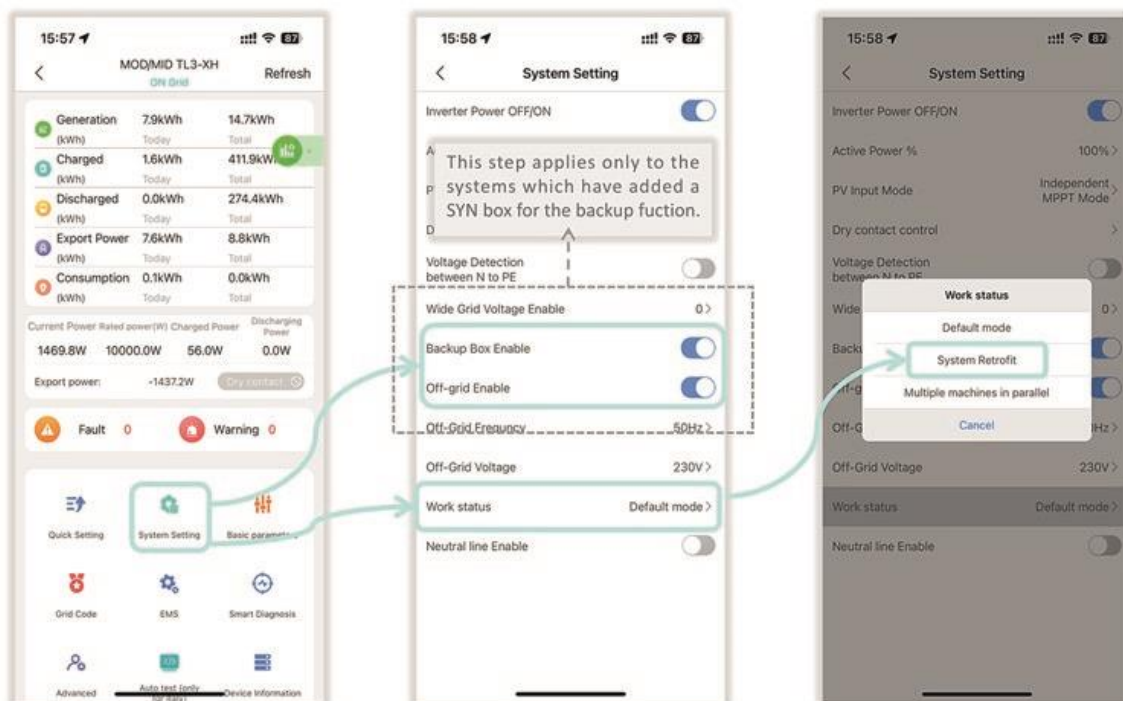
3 SYSTEM SETTINGS

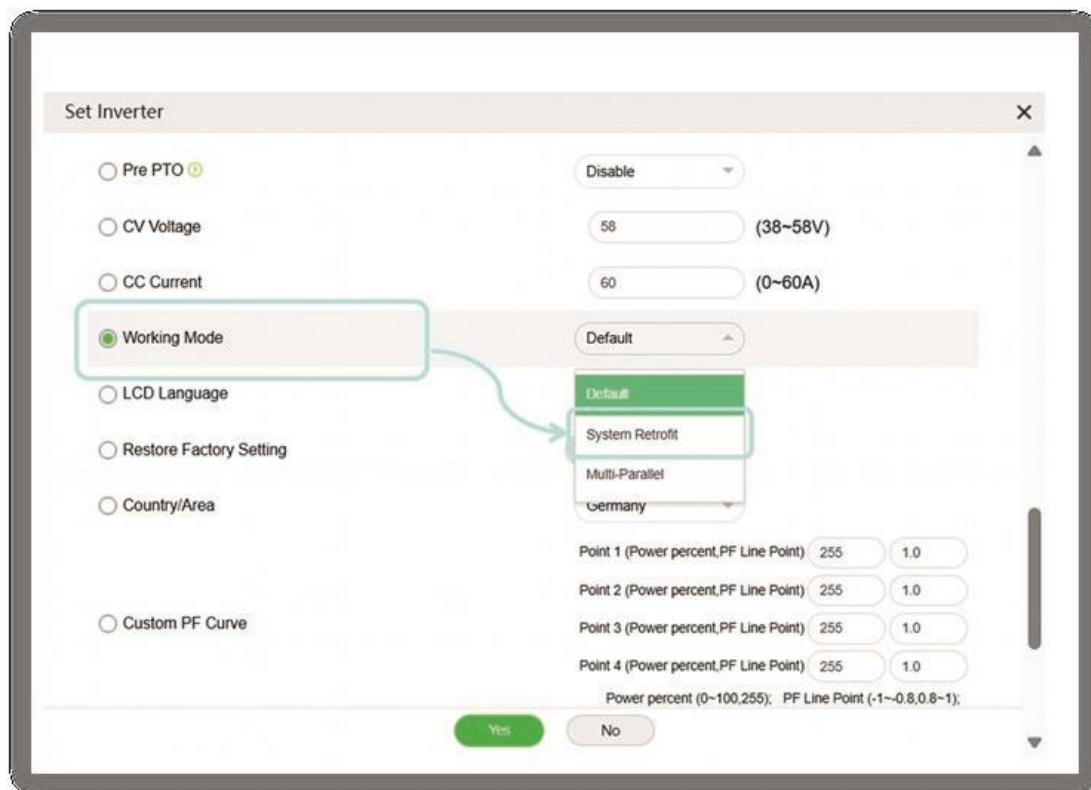
After the system is properly installed, the Growatt inverter needs to be set to System Retrofit mode via the inverter's OLED, ShineTools, or OSS platform. If the system has a SYN box installed and needs to be switched from on-grid to off-grid, the Backup Mode also needs to be enabled.

- Set on OLE



- Set on ShineTools APP





- Set on OSS

