

SDM630MCT

40mA

DIN Rail Energy Meter for Three Phase
KSTAR Electrical Systems



USER MANUAL V1.3

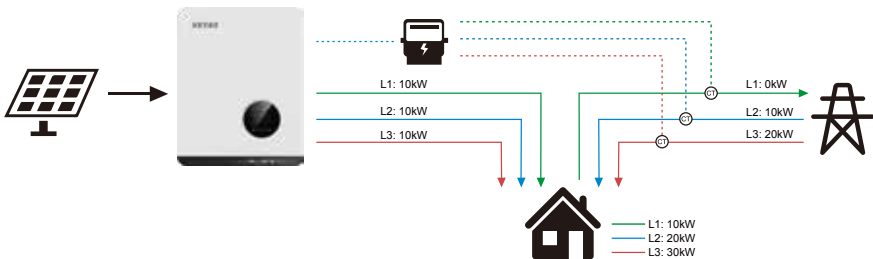
- ▶ Measures kWh kVArh, kW, kVA, P, F, PF, Hz, dmd, V, A, THD, etc.
- ▶ Bi-directional measurement IMP & EXP
- ▶ Two pulse outputs
- ▶ RS485 Modbus
- ▶ Din rail mounting 35mm
- ▶ 40mA CT connection
- ▶ Better than Class 1 / B accuracy

Three-Phase Power Meter For Kstar Three phase inverter

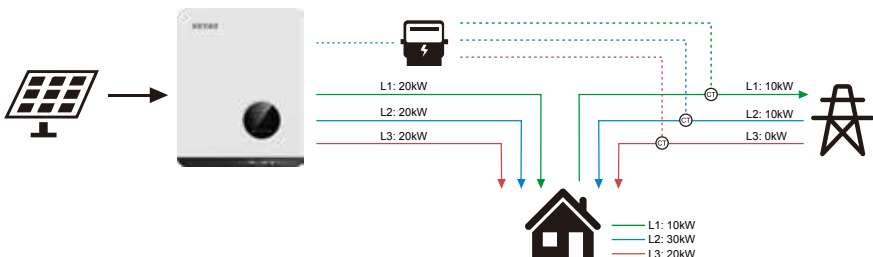
► **Solution:**

KSTAR three phase inverters can fulfil the requirement of zero export function with a smart meter and three CTs. The system can implement data-driven decisions to control the inverter's output. There are two different methods of achieving zero export function, which are phase-level zero export and system-level zero export. The system configuration diagram below illustrates these two different methods and how it works.

Method 1 (phase-level zero export): The inverter's three phase outputs are balanced, and the output will be determined based on the phase which has the minimum power flowing through among the three phases. For example, if the load is 10kW/20kW/30kW for phase A/B/C respectively, then the limit power for the inverter is 10kW each phase. The rest of required power will be drawn from the grid.

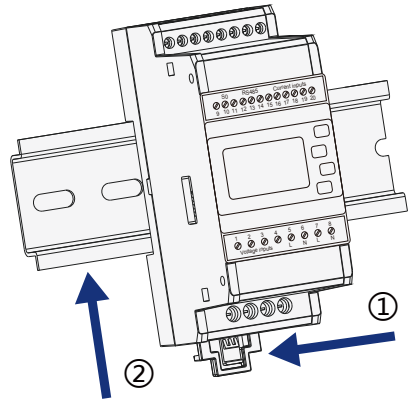


Method 2 (system-level zero export): The inverter's three phase outputs are balanced, and the output will be determined based on the total load. For example, if the load is 10kW/20kW/30kW for phase A/B/C respectively, then the limit power for the inverter is 20kW each phase. For phases that requires less power than 20kW, there will be phase-level injections to the grid. For phases that requires more power than 20kW, there will be power drawn from the grid to support the load.



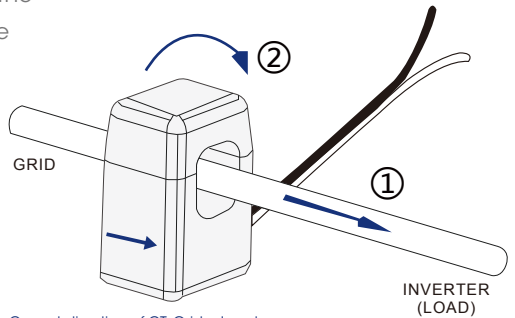
► Meter & CT Installation:

- ① Pull to release the retaining clip.
- ② Mount the Meter on the DIN track and push the retaining clip up (a clicksound indicates it is installed well).



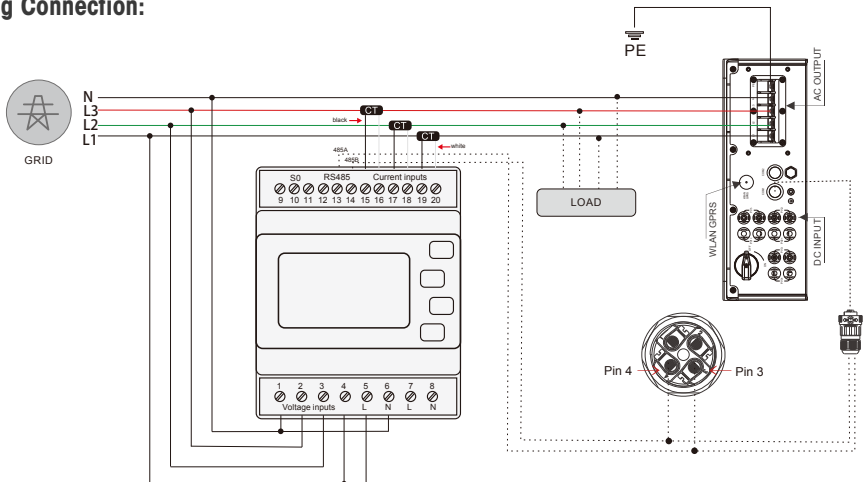
- ① The current should be consistent with the direction of the arrow, which is from the grid to the inverter.

- ② Buckle the CT in the direction of the arrow.



- Correct direction of CT: Grid → Inverter.

► Wiring Connection:



- Ensure CT and corresponding supply cable are connected to the same phase.
- ⚠ Incorrect connection or direction will cause incorrect data and may damage the meter.

▶ Inverter Setting:

After wiring connection ,all the setting can be done on the inverter. It means there is no need to set the meter. Setting steps of set meter mode and zero export function are as follows:



A: Return Button Escape from current interface or function.

B: Up button: Move cursor to upside or increase value.

C: Down Button: Move cursor to downside or decrease value.

D: ENTER Button: Conÿrm the selection.Press ENTER to enter the selected menu.

```
--USER--
→ 1: SETUP
   2: INQUIRE
   3: STATISTIC
```

step1: Press Return button to enter user setting interface. Then select the "1.SETUP" menu item and confirm your selection with the Enter button.(Press Up button or down button to select different options)

```
--PASSWORD--
INPUT: XXXXX
```

step1(2): Before entering the setup interface, enter the password "00000" and confirm the entry by pressing the Enter button.(Press Up button or down button to change the number, and press Enter button to input the next number)

```
--SETUP--
→ 2: GRID STD
   3: REMOTE CTRL
   4: RUN SETTING
```

step2:
Press Down button to find the option "4: RUN SETTING" and confirm the entry by pressing the Enter button.

```
--RUN SETTING--
16: Anti Rev-I
 1: VPV START
 2: DELAY START
```

step3:
Press Down button to find the option "16: Anti Rev-I" and confirm the entry by pressing the Enter button.

```
--Anti-Rev Current--
1: Enab/Disab
2: Meter type
3: Anti Method
```

step4:

After entering "Anti Rev-I", press Down button to find the option "1: Enab/Disab" and confirm the entry by pressing the Enter button. Change the settings to Enable or Disable as required. Note that the "meter type" in step 5 can not be changed if this setting is "Enabled".

```
--Meter Type--
1: Acrel
2: Estron
```

step5:

Press Down button to find the option "2: Meter type" and confirm the entry by pressing the Enter button. Select the correct meter type "Acrel" or "Estron". The meter type is screen printed on the meter. If the "meter type" needs to be changed, please make sure the "Anti Rev-I" function is "Disabled".

```
-- Anti R-I Metho --
1: SinglePhase
2: R-S-T Sum
```

step6:

Press Return button to "Anti-Rev Current" interface and press Down button to find the option "3: Anti Method" and confirm the entry by pressing the Enter button. Select the required method.

1.SinglePhase: Adjust the inverter's output based on the phase that has the lowest output and ensure there is no export power on the phase level
R-S-T Sum: Adjust the inverter's output according to all three phases' output and ensure there is no export power on the system level.

```
-- Amended value --
INPUT: +00000
UNIT: W
RANGE: +/- 32767
```

step7:

Press Return button to "Anti-Rev Current" interface and press Down button to find the option "4: Anti Amend" and confirm the entry by pressing the Enter button. Set the required Amended value.

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