

ADW300 Wireless Metering Meter

Installation and Use Manual V1.2

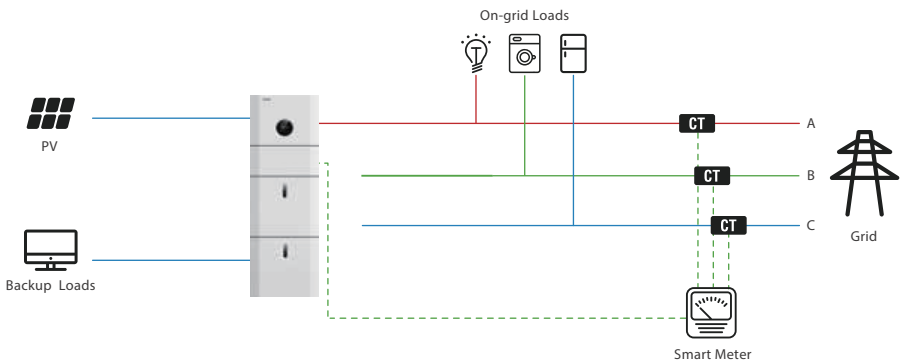


www.kstar.com

Three-Phase Power Meter For Kstar BluE ESS

► Solution:

KSTAR single-phase hybrid inverters(BluE ESS)can work on three-phase grid systems where a three-phase smart meter is adopted to monitor load consumption on all three phases (net zero). The system can implement data-driven decisions to control battery charge or discharge power. This solution is applicable in three-phase home connections where there is no phase-level zero export requirement.The overall wiring diagram is shown as below.



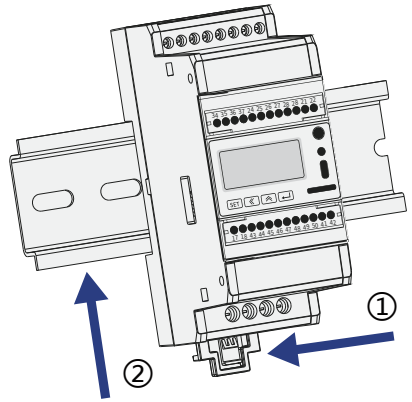
► Meter Introduction:

The three-phase meter is designed with high precision small dimensions, simple and convenient wiring and high efficiency for working with inverters. It integrates the measurement of all power parameters, harmonic analysis and electric energy monitoring and assessment management. At the same time, it has a variety of peripheral interface for user to choose, which is very suitable for real-time power monitoring system.



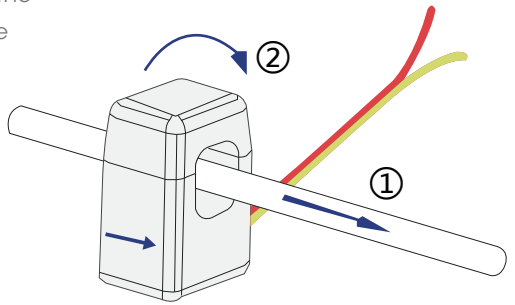
► Meter & Ct Installation:

- 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).

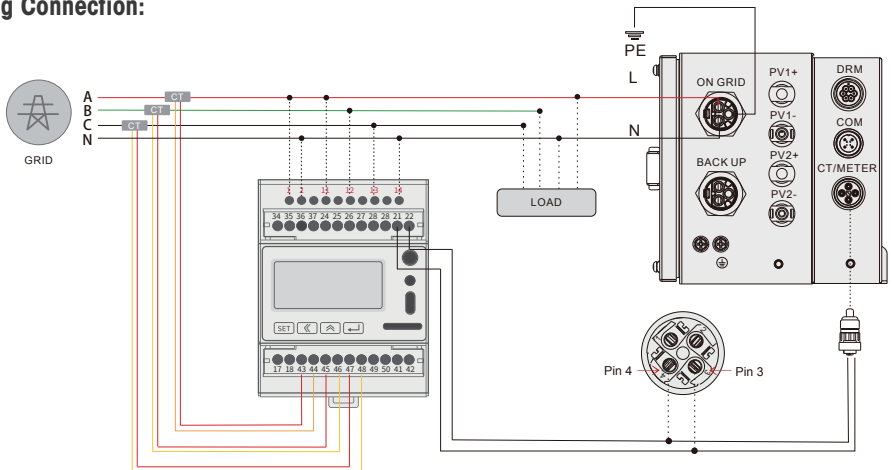


- ① The current should be consistent with the direction of the arrow, which is from the inverter to the grid.

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



► Wiring Connection:



- Correct direction of CT: Inverter→Grid.
- 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.

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

Before entering the setup interface, enter the password "00000" and confirm the entry by pressing the Enter button.

```
--SETUP--
→ 1: SYS SETTING
  2: BAT SETTING
  3: GRID STD
```

step2: In" SETUP "interface , select the "1.SYS SETTING" menu item and confirm your selection with the Enter button.

```
--SYS SETTING--
  1: WORK MODE
  2: PV INPUT
→ 3: ZERO EXPORT
  4: DRM ENABLE
  5: EPS ENABLE
  6: REMOTE CTRL
  7: START DELAY
  8:CFI SPI CYRL
  9:CFGCHK ENB
 10:DISC MODE
 11:DISCHG DEPTH
 12:GENERATOR
→13:CT OR METER
```

In "SYS SETTING"there are 13 options in total as shown below.

step3: Select the "13.CT OR METER " menu item and confirm your selection with the Enter button to change to CT mode.

```
-- CT OR METER --
  1: CT
→ 2: METER
```

Enter"13. CT OR METER". The default is CT .Select "2. METER" and enter it.

step4: (optional) Select the " 3.ZERO EXPORT " menu item and confirm your selection with the Enter button to set zero export.

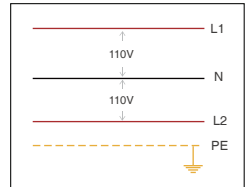
```
-- ZERO EXPORT --
  1: DISABLE
→ 2: ENABLE
```

Enter"3. ZERO EXPORT". The default is DISABLE. Select"2:ENABLE"and enter it for anti-current function.

Kstar System in Split Grid

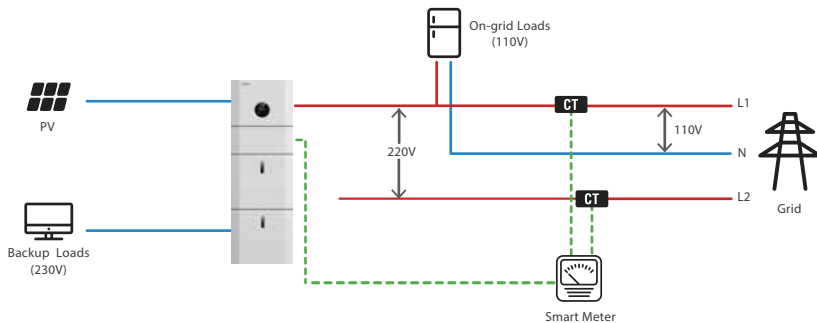
Application

Instead of a common-used grid type around the world, which is originally designed and used for 230V (L - N) grid type ,there exists also SPLIT grid type(as shown in right figure) like in North America, with the grid voltage as: L1-L2 220V , L1-N or L2-N 110V. Normally, household loads consume power from 110V or 220V SPLIT grid. Therefore, it needs a solution to use the single-phase hybrid inverters in this grid system.



Solution

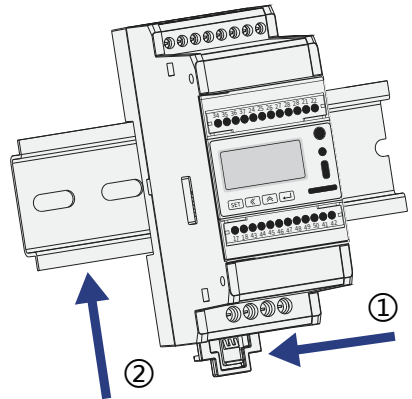
The smart meter is powered by 110V source (LA / LB against N),For details refer to the following overall wiring diagram: BluE ESS With SPLIT Grid.



- **Current and voltage detection:** CT1 and CT2 detect separated currents on L1 and L2.Voltage on each phase is detected by power cables LA and LB.Then power consumption status on each phase will be calculated.
- **110V loads:** The total load power on both phases is calculated, and all controlling logic is based on the total power consumption on both phases together.
- **230V on-grid loads:**Current through two CTs will be accumulated and then calculate the power consumption condition.

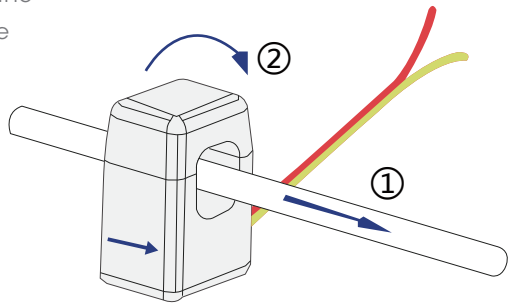
▶ Meter & Ct Installation:

- 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).

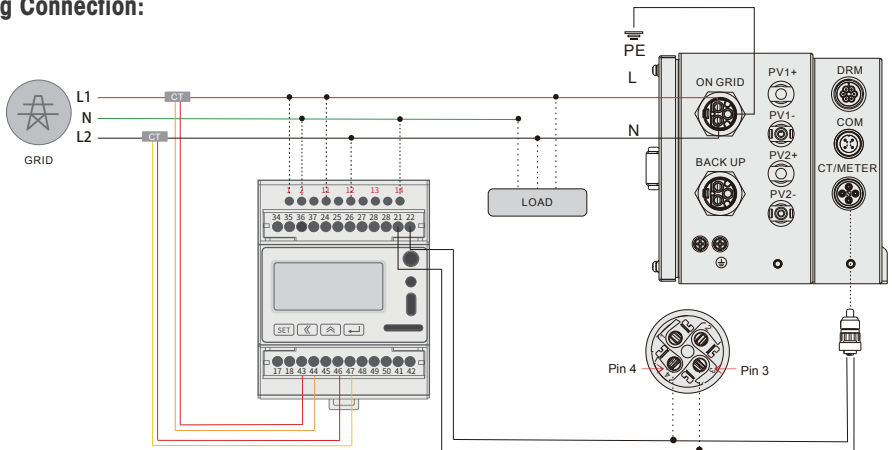


- ① The current should be consistent with the direction of the arrow, which is from the inverter to the grid.

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



▶ Wiring Connection:



- Correct direction of CT: Inverter → Grid.
- 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: Conŷrm 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.

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

Before entering the setup interface, enter the password "00000" and confirm the entry by pressing the Enter button.

```
--SETUP--
→ 1: SYS SETTING
  2: BAT SETTING
  3: GRID STD
```

step2: In" SETUP "interface , select the "1.SYS SETTING" menu item and confirm your selection with the Enter button.

```
--SYS SETTING--
 1: WORK MODE
 2: PV INPUT
→3: ZERO EXPORT
 4: DRM ENABLE
 5: EPS ENABLE
 6: REMOTE CTRL
 7: START DELAY
 8:CFI SPI CYRL
 9:CFCICHK ENB
10:DISC MODE
11:DISCHG DEPTH
12:GENERATOR
→13:CT OR METER
```

In "SYS SETTING" There are 13 options in total as shown below.

step3: Select the "13.CT OR METER " menu item and confirm your selection with the Enter button to change to CT mode.

```
-- CT OR METER --
 1: CT
→ 2: METER
```

Enter"13. CT OR METER". The default is CT. Select "2. METER" and enter it.

step4: (optional) Select the " 3.ZERO EXPORT " menu item and confirm your selection with the Enter button to set zero export.

```
-- ZERO EXPORT --
 1: DISABLE
→ 2: ENABLE
```

Enter"3. ZERO EXPORT". The default is DISABLE. Select"2.ENABLE"and enter it for anti-current function.

KSTAR
www.kstar.com