

GOODWE HYBRID SYSTEM IN SPLIT GRID

VER: 01, UPDATED ON JULY 05TH, 2019

WHY IS IT USED?

For GoodWe single-phase hybrid inverters (ES / EM / EH series), it is originally designed and used for 230V(L - N) grid type (as shown in Figure 1). And GoodWe Smart Meter is also powered by 230V(L - N) AC source.

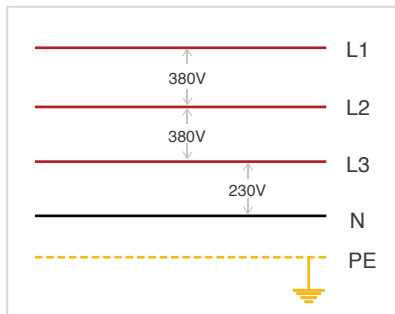


Figure 1.

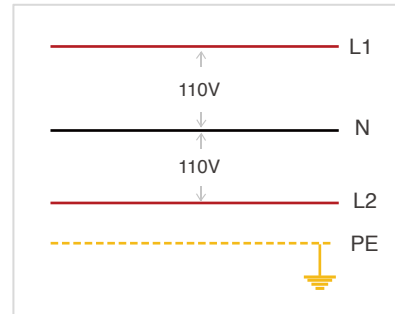


Figure 2.

Except for a common-used grid type around the world, there exists also SPLIT grid type (as shown in Figure 2) like in Taiwan and Japan, 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.

WHAT IS THE SOLUTION?

DEVICES: 3-phase Smart Meter & CTs (All only from GoodWe)



▶ SMART METER (3 PHASE)



▶ 2* CT

HOW IS IT USED?

● **OVERALL WIRING DIAGRAM**

(Here we take ES series as an example, whose diagram is same with that of EM and EH series)

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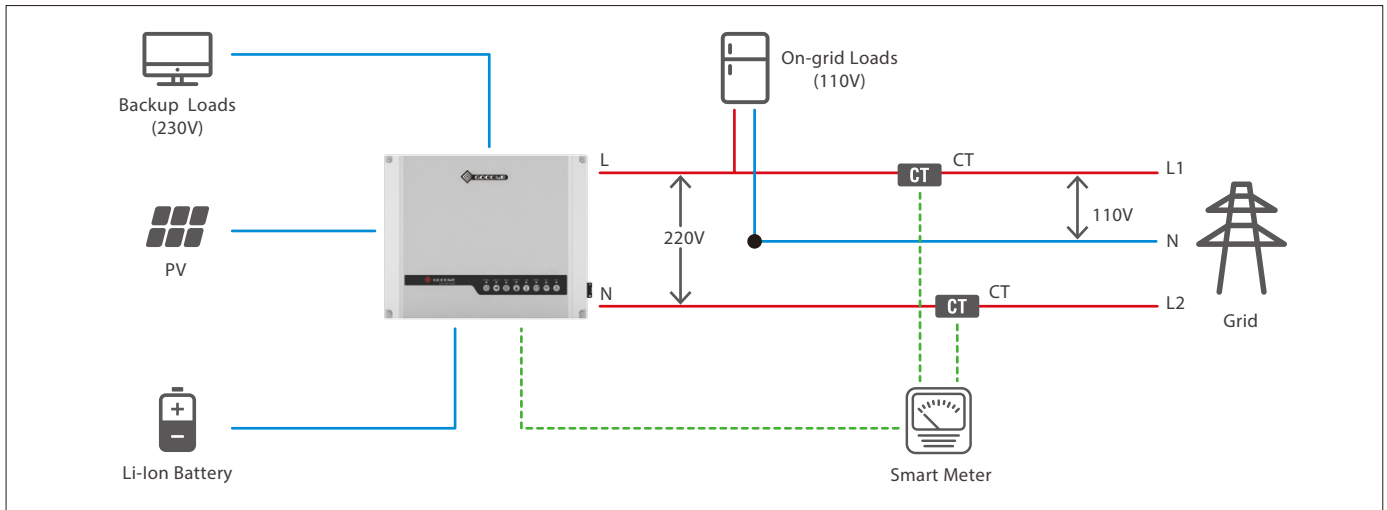
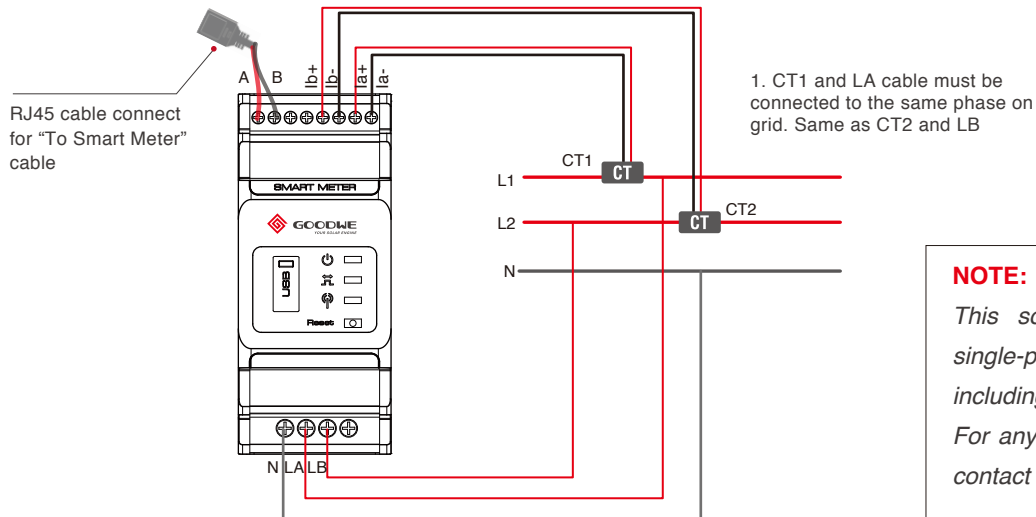


Diagram : ES, EH or EM Series With SPLIT Grid

NOTE:

1. CTs have already been connected on Smart Meter rightly from GoodWe factory.
2. L & N ports on inverter should be connected to L1 & L2 on the grid side.
3. On Smart Meter, LA must be connected to the same phase with CT1, so does LB with CT2.

● **WIRING FOR SMART METER**



NOTE:

This solution is for GoodWe single-phase hybrid inverters including ES, EM and EH series. For any other operation, please contact GoodWe first.

HOW DOES IT WORK?

Smart Meter is powered by 110V source (LA / LB against N)

DETECTION

- **Current:** CT1 and CT2 detect separated currents on L1 and L2
 - **Voltage:** Voltage on each phase is detected by power cables LA and LB
- Then power consumption status on each phase will be calculated.

CONTROL

- **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.