Changeover switch——Blackout protection (Backup) unit

For the backup function of the inverter, a question arises: what happens to the backup circuit if the inverter fails?

If the inverter fails, the backup circuit will also switch off, which means that the backup circuit will switch off even if it is connected to the grid power.

For this purpose, we only need to install a changeover switch.

1. Introduction

In both on-grid and off-grid situations, the Changeover switch control the supply of power to critical loads, i.e. EPS emergency power loads. If the inverter fails and the backup is shutdown, the Changeover switch should connect to the grid power. This approach allows the home critical continuously to be supplied.

2. Changeover switch

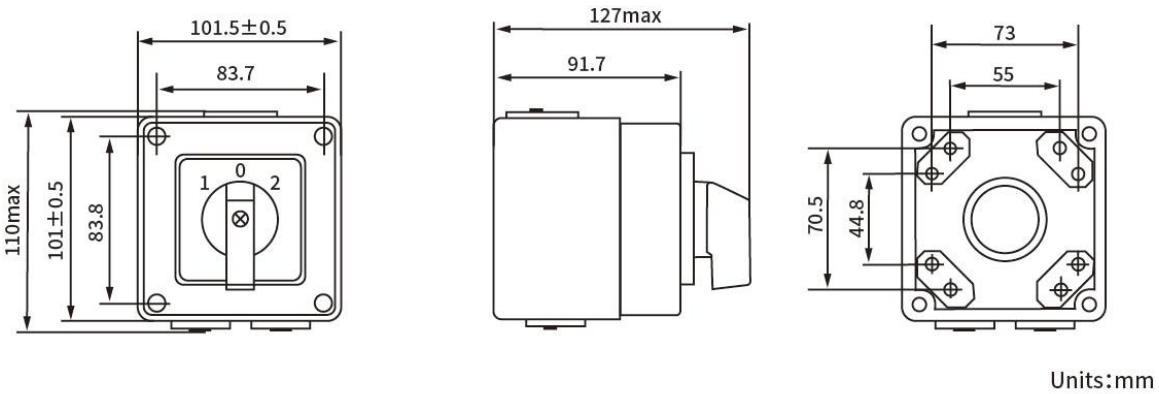
2.1. Technical characteristics

- Impact and Chemical Resistant
- Silicone Based Seals
- Ample Conduit Entries
- Screw Caps Included

2.2. Technical Parameters

- Rated Current: 32A
- Rated Voltage: 500V
- Rated Frequency: 50Hz
- Operating Temperature: -25℃ ~ +105℃
- Waterproof Rate: IP66
- Conduit Entries: 1*32mm, 2*25mm
- Complies with: IEC 60947-3、IEC 60947-5-1

2.3. Dimensions



Units:mm

Note：

1. Select the appropriate diverter switch according to the rated current value of the inverter backup circuit.

2. Accepted house loads for critical side: TV, Computer, Fridge, Fan, illumination lamps, microwave oven, electric rice cooker, small power air conditioner,routers etc.

3. Unaccepted house loads for critical side: air conditioner, water pump, heaters, washmachine, electromagnetic oven, compression engine, hair drier, dust cleaner etc. with high power and other loads with high inrush current at start-up.

3. Changeover switch and inverter system connection

For the wiring diagrams in the document, the changeover switch ports are defined as follows:

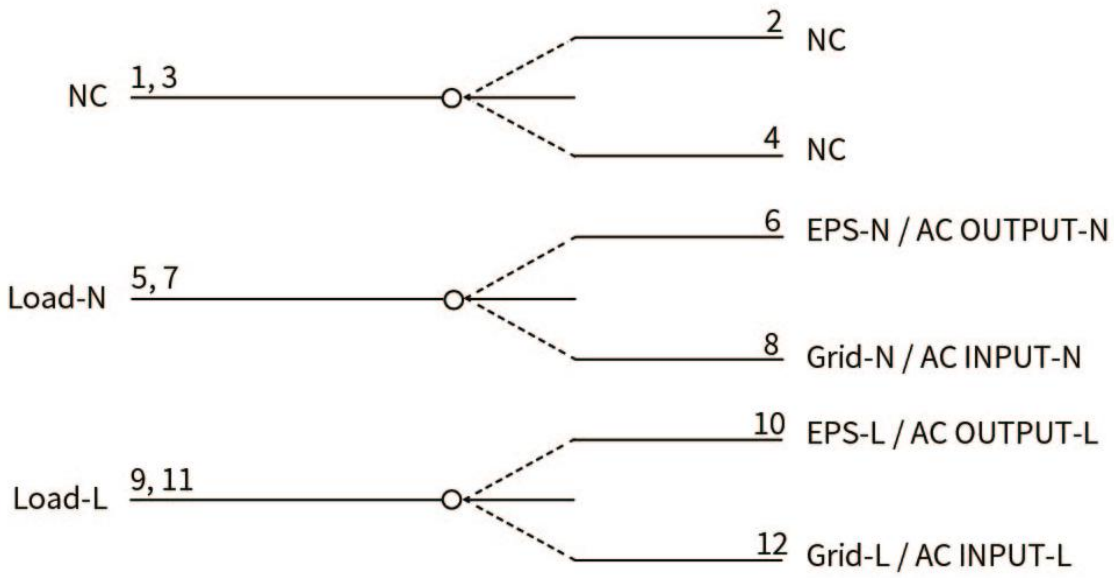
0：The critical load is isolated.

1：The critical load is powered by the off-grid side.

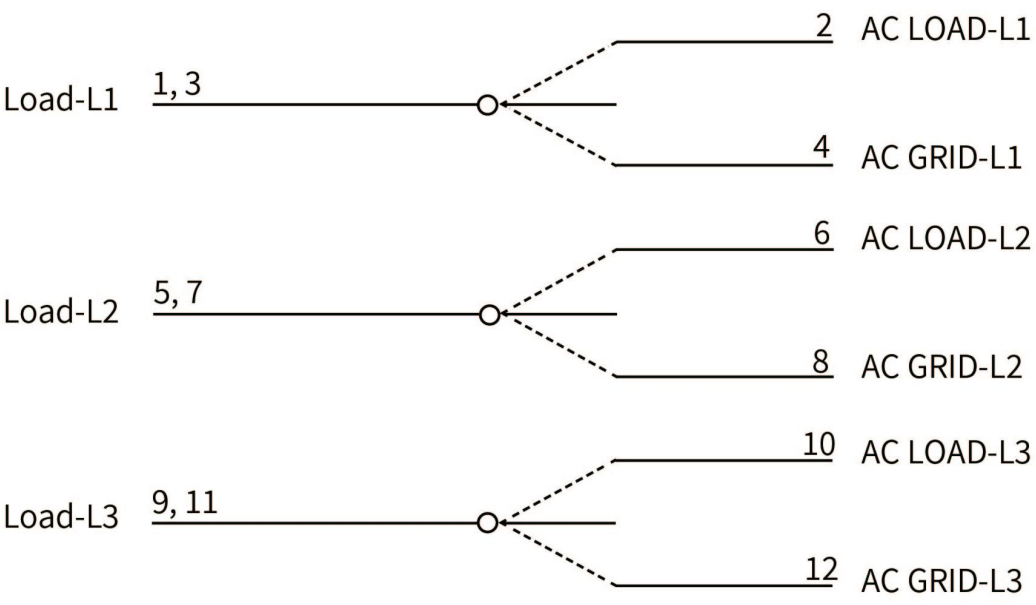
2：The critical load is powered by the grid-connected side.

When the inverter fails and the standby power supply is switched off, setting the changeover switch to 2 (grid-connected side) ensures that the critical loads can work normally.

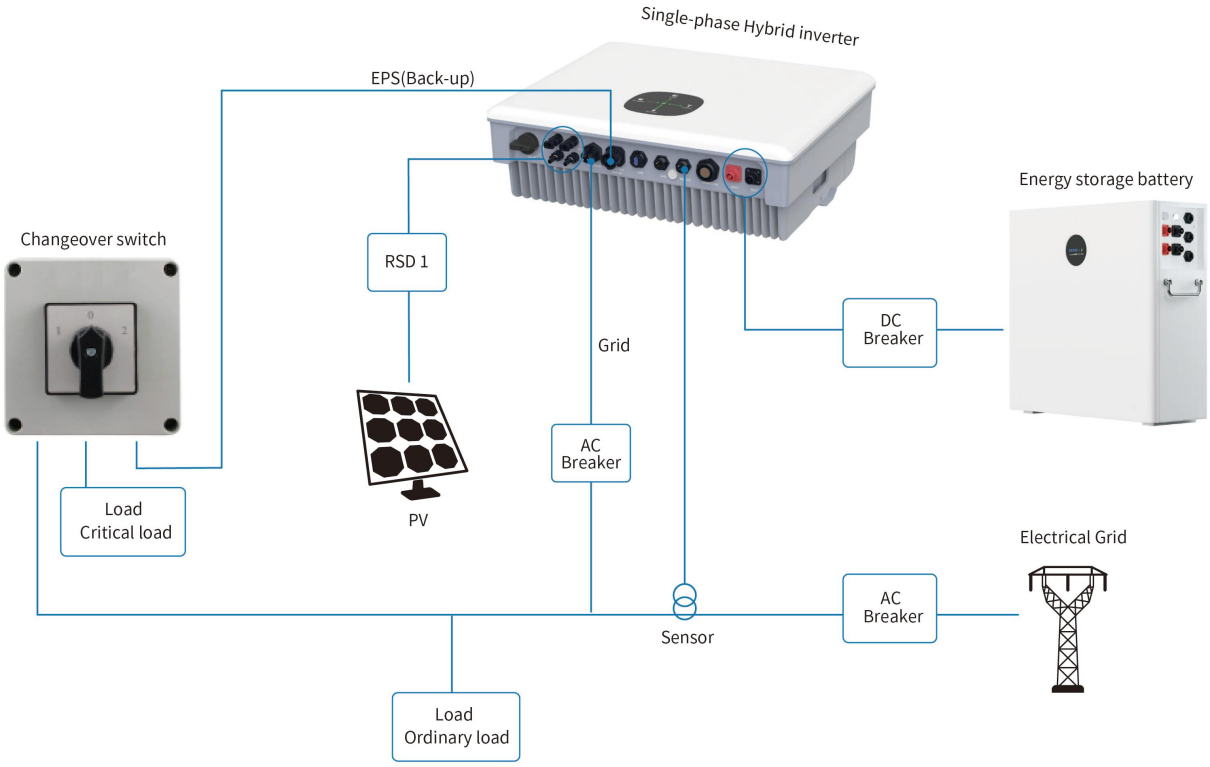
• For single-phase inverters, the changeover switch corresponds to the interface diagram:

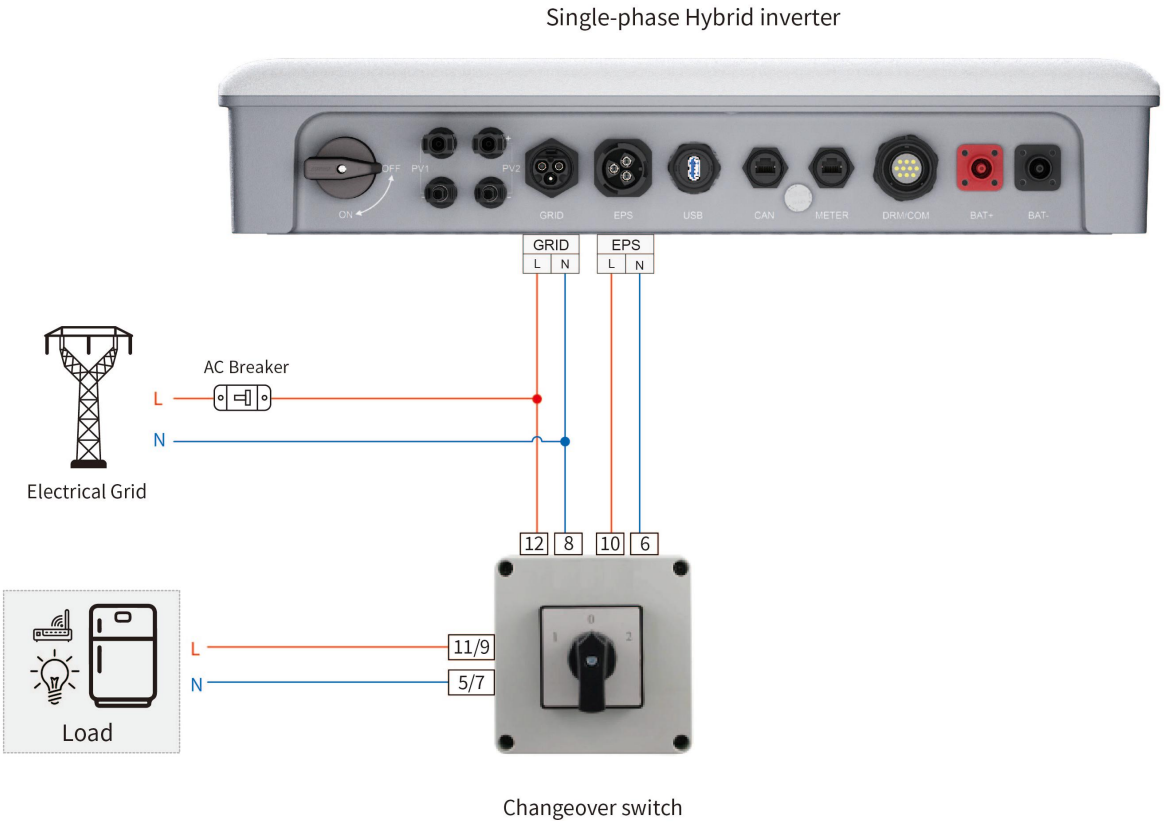


• For three-phase inverters, the changeover switch corresponds to the interface diagram:

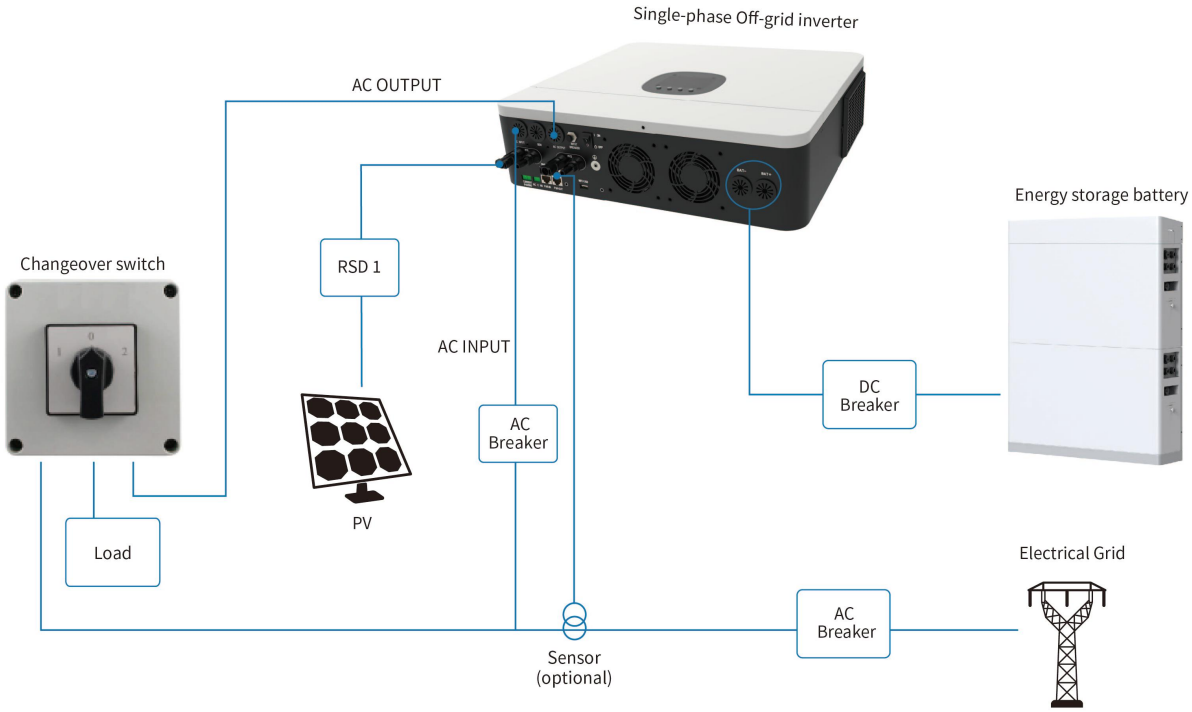


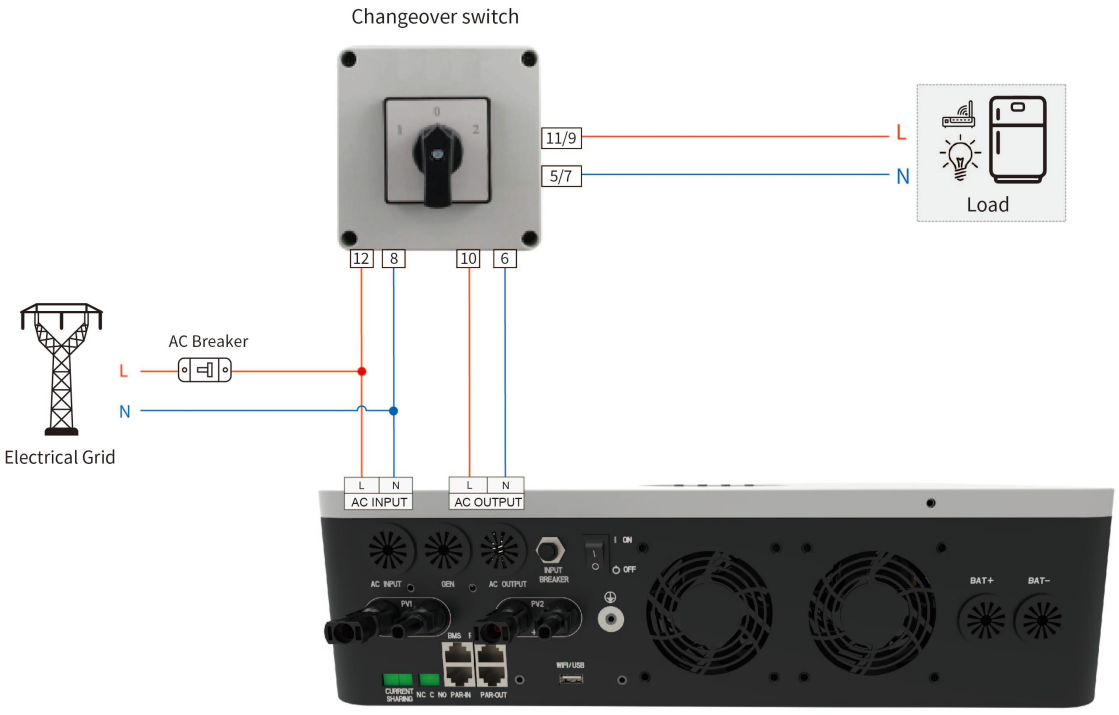
3.1. Changeover switch and HINEN single-phase hybrid inverter system wiring





3.2. Changeover switch and HINEN single-phase off-grid inverter system wiring





Single-phase Off-grid inverter

3.3. Changeover switch and HINEN three-phase hybrid inverter system wiring