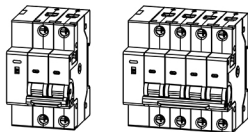


HYB1-100 photovoltaic grid-connected circuit breaker

(RS-485, Bluetooth)

Use instruction book



Safety alert

- 1, the product installation should not be live operation, to prevent electric shock;
 - 2, can not use the fire line to the ground short circuit or neutral line, fire line collision short circuit method to test product performance so as not to affect personal safety;
 - 3, installation, wiring screws should be tightened, so that the wire is not loose, N, L (zero, fire) line can not be reversed;
 - 4, it is strictly prohibited to operate the circuit breaker with wet hands, otherwise an electric shock accident may occur;
 - 5, the protection characteristics of the circuit breaker is set by the manufacturer, and it is not allowed to disassemble or adjust the circuit breaker at will;
 - 6, the day circuit breaker can not protect the personal electric shock and equipment leakage;
- Installation and test steps**
1. Before installation, check whether the sign content of the circuit breaker is consistent with the working conditions used;
 2. Before installation, the rated current of the selected circuit breaker should be matched with the actual line used;
 3. Before installation, first confirm that the state of [hand automatic switch] is in the [manual] position, and the [handle] is placed in the opening position, manual closing cannot be closed;
 - 4, install the product on the guide rail, pay attention to N, L (zero, fire) line can not be reversed when wiring, after the completion of power supply;
 5. After power supply, switch [manual automatic switching switch] to [automatic] position, the circuit breaker will automatically close, and the indicator light will be red on after automatic closing;
 - 6, if conditions, can adjust the input voltage to overvoltage or undervoltage state, test, if unconditional, the installation is finished, the equipment into normal operation.
1. Scope of application

HYB1-100 photovoltaic grid-connected circuit breaker has overvoltage protection, undervoltage protection, phase break protection, power failure trip, automatic closing function after the voltage returns to normal. The product is suitable for AC 50Hz or 60Hz, rated working voltage is AC230V/400V, rated current 6A to 100A in the line, while the line plays the role of overload and short circuit protection, can also be used as the line of infrequent operation conversion. The product realizes automatic grid-connection for undistributed photovoltaic power grid.

Through such as RS-485, Bluetooth and other communication technology, the circuit breaker in the line can be remotely controlled and automatically switched off.

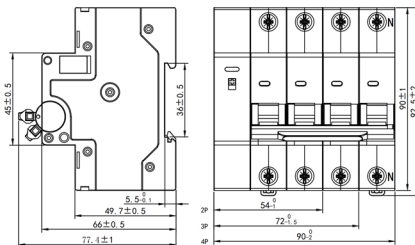
Product features

- 1, modular structure combined into a whole, 35mm standard guide rail fixed, easy to quickly install, repair or replace;
- 2, with manual/automatic switch, safe and reliable;
- 3, circuit breaker built-in pole handle linkage shaft, closing synchronization is good;
- 4, low standby power consumption, energy saving, low carbon environmental protection;
- 5, the selection of C65 small circuit breaker platform, energy storage free trip mechanism, quick contact closure; The energy storage structure is optimized, the closing force is small, the opening and closing synchronization is reliable, and the electrical life is high;
6. Over and under voltage, no traps, no phase protection function is integrated with the operating mechanism.

★ Please check whether there is a load equipment fault, such as overload or short circuit fault can not be closed, after troubleshooting manual closing. Or the power supply over and under voltage fault has not been eliminated, the product will automatically close when the voltage is normal after the fault is eliminated.

★ When the load end is repaired, the [manual automatic switching switch] should be switched to the [manual] position first, and the handle should be manually operated for opening.

7. Shape and mounting ruler (see Figure 1)



7. Instructions for ordering

The following points should be marked when ordering:

- ☐ Product model and name: such as HYB1-100 photovoltaic grid-connected circuit breaker;
- ☐ Instantaneous trip type and rated current: such as C63 (type C, rated current is 63A);
- ☐ Circuit breaker pole number: such as 4P;

3. Use of conditions

- 1, the ambient air temperature
- 2, Ambient air temperature -25 °C ~ +65 °C; Limit working temperature -40 °C ~ +70 °C
3. Altitude

The altitude of the installation site is generally not more than 2000m.

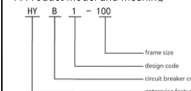
3.1. Installation form

The standard guide rail is used for installation, and the guide rail should meet the requirements of A.1.1: TH35-75 steel mounting rail of GB/T19334.

3.2. Installation conditions

The circuit breaker should generally be installed vertically, the tilt Angle should not exceed 5°, the handle up for the power position, the installation should have no significant impact and vibration.

4. Product model and meaning



5. Main specifications and technical parameters

- 1, rated voltage Un: 230V AC (1P+N, 2P), 50Hz;
- 400V AC (3P, 3P+N), 50Hz;
- 2, rated current In: 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A, 80A, 100A;
- 3, the number of poles: single phase 1P+N, 2P;

Three phase 4P

Three-phase four-pole 3P+N, 4P:

- 1, short circuit protection: type C (5In<In<=10In), type D (10In<In<=14In);
- 5, rated operation short-circuit breaking capacity: Icn=45-6kA;
- 6, overvoltage protection value: 230V 10V trip, recovery voltage 260V 10V;
- 7, undervoltage protection value: 160V 10V trip, recovery voltage 190V 10V;
- 8, undervoltage opening delay (seconds): 3 seconds (can be set according to customer demand 0 seconds ~4 seconds);
- 9, Undervoltage, pressure-loss opening delay (seconds): 2 seconds ~10 seconds (can be set according to customer demand 0 seconds ~10 seconds);

☐ Overvoltage parameters are different from the factory default Settings, need to be explained, such as overvoltage 310V;

☐ With RS-485 or Bluetooth communication: such as with RS-485 communication;

☐ Order quantity;

☐ Order examples:

Mouth-mouth-100 photovoltaic grid-connected circuit breaker with RS-485 communication C63 4P overvoltage 310V 50 sets

The company offers a 12-month warranty for this product. During the warranty period, if the product can not be used normally due to quality reasons, the company is responsible for free repair or replacement. If due to improper use or self-modification, more than the standard specification requirements of use, fall or installation in the process of damage, even within the warranty period also paid repair or replacement.

10, under voltage, loss of pressure opening delay (seconds): 2 seconds ~6 seconds (can be set according to customer demand 0 seconds ~10 seconds);

11, action time: <0.5 seconds (excluding delay);

12, working temperature: -25 °C ~ +65 °C; Limit working temperature -40 °C ~ +70 °C

13, dielectric strength: AC2500V/1 minute;

14, rated impact withstand voltage Uimp: 4000V;

15, mechanical and electrical life: 10000 times;

16, pollution level: 2;

17, protection level: IP20;

18, tightening torque: 3.5Nm;

19, air relative humidity: <=90% (20 °C);

See Figure 1 for overall dimensions and installation dimensions;

Installation category: Class II and Class III;

6. See Table 1 for the function description

function description	explanation
overload protection	The circuit breaker trips within a predetermined time when the current exceeds the rated value by a preset amount
short circuit protection	The circuit breaker trips within the preset time when the fault current exceeds the rated value
manual mode	Control of tripping from undervoltage, overvoltage, inrush of voltage, low voltage, undervoltage, overvoltage, undervoltage
automatic mode	Equipped with undervoltage, overvoltage, and loss of voltage tripping, with remote control and automatic
undervoltage protection	When the voltage exceeds the preset value, the circuit breaker will open within the preset time
overvoltage protection	When the voltage lower the preset value, the circuit breaker will open within the preset time
broken rail protection	When the incoming line is disconnected or disconnected, the circuit breaker will trip within the preset time
undervoltage/overvoltage protection	When the voltage exceeds the preset value, the circuit breaker will automatically close within the preset
remote control	When the control signal is received, the circuit breaker will automatically open or close through communication network
Red light	Red light constantly on: The circuit breaker is in the closed position when power on
indicator light	Light goes out: The circuit breaker trips due to overvoltage, undervoltage, or loss of voltage
Reset	Reset button: After the circuit breaker trips, the reset button is pressed to reset the circuit breaker
Indicator light	Indicator light: The indicator light is lit when the circuit breaker is in the closed position

2. Common problems and solutions

If it does not work properly

- ★ Please check whether automatic hand switch is not in the [automatic] position;
- ★ Please check whether the power supply wire is correctly connected according to the product regulations;