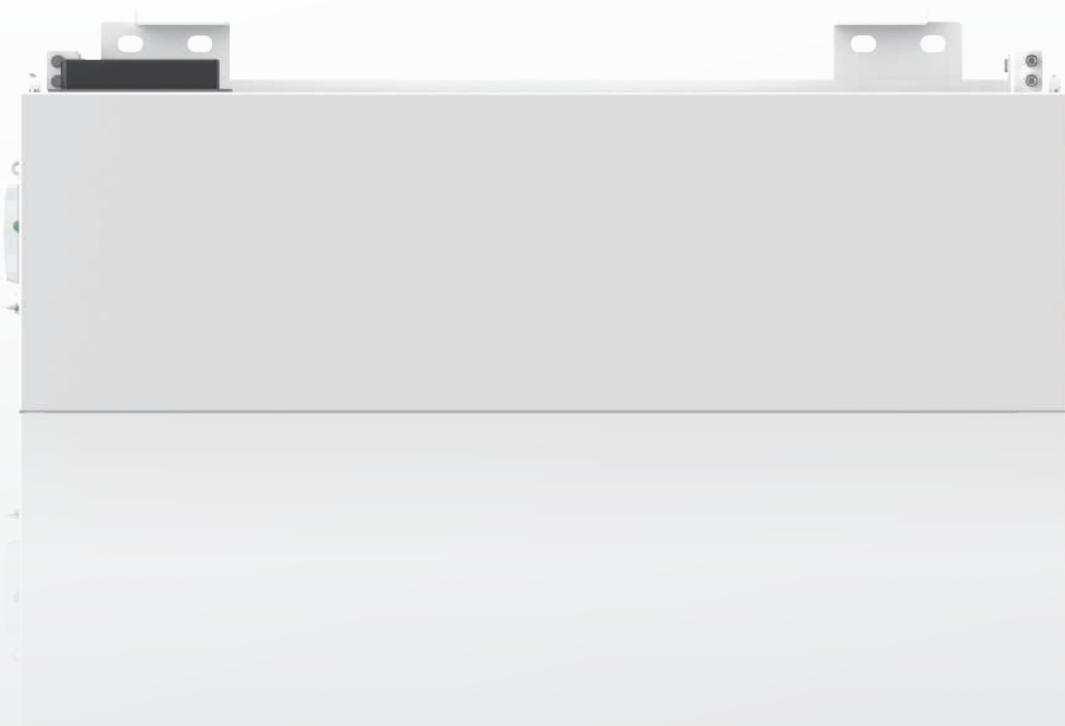




Cygni Battery Hub

BTH-15

Quick Installation Guide

1 Important Safety Instruction

Save these instructions

You shall follow all the safety precautions mentioned in this manual when working on the device.

Notice

The product is designed and tested strictly complies with related safety rules. Read and follow all the safety instructions and cautions before any operations. Improper operations might cause personal injury or property damage as the device is electrical equipment.

Symbol Definition

Different levels of warning messages in this manual are defined as follows:

DANGER	
Indicates a high-level hazard that, if not avoided, will result in death or serious injury.	
WARNING	
Indicates a medium-level hazard that, if not avoided, could result in death or serious injury.	
CAUTION	
Indicates a low-level hazard that, if not avoided, could result in minor or moderate injury.	
NOTICE	
Highlight and supplement the texts. Or some skills and methods to solve product-related problems to save time.	

General safety

Notice

The information in this manual is subject to change due to product updates or other reasons. This guide cannot replace the product labels or other safety precautions unless otherwise specified. All descriptions here are for guidance only.

Before installations, read through this manual to learn about the product and the precautions.

All operations should be performed by trained and knowledgeable technicians who are

familiar with local standards and safety regulations.

Use insulating tools and wear personal protective equipment when operating the device to ensure personal safety. Wear anti-static gloves, cloths, and wrist strips when touching electron devices to protect the device from damage.

Strictly follow the installation, Operation and configuration instructions in this manual.the manufacturer shall notbe liable for device damage or persona l injury if you do not follow the instructions. Visit the official website to get more information about product warranty.

Device safety

WARNING



The voltage and frequency at the connecting point should meet the on-grid requirements. Make sure that the rated current of the product main breaker meets the specifications of the household power distribution unit.

PE cable of the device must be connected firmly.

you are recommended to use copper cables as AC cables.

DANGER



All labels and warning marks should be visible after the installation. Do not scrawl,damage,or cover any label on the device.

unauthorized dismantling or modification may damage the equipment, the damage is not covered under the warranty.

Warning labels on the device are as follows:



DANGER High voltage hazard. Disconnect all incoming power and turn off the product before working on it.



Delayed discharge. wait 5 minutes after power off until the components are completely discharged



Read through the user manual before working on this device.

	potential risks exist. wear proper PPE before any operations.
	High-temperature hazard. Do not touch the product under operation to avoid being burnt.
	Grounding point.
	Do not dispose of the device as household waste. Discard the product in compliance with local laws and regulations, or send it back to the manufacturer.
	TUV mark

Table1-1 Symbol Definition

Personal Requirements

Notice

Personnel who install or maintain the device must be strictly trained, learn about safety precautions and correct operations.

Only qualified professionals or trained personnel are allowed to install, operate, maintain, and replace the device or parts.

2 Product Introduction

Function Description

The Cygni Battery Hub is a product specifically designed for expanding the battery capacity of the Cygni inverter. It is used to manage each battery pack cluster independently. This device can add up to 12 batteries at most to form three battery clusters, and at least one Cygni Battery Hub should be used for every four batteries.

Electrical connection

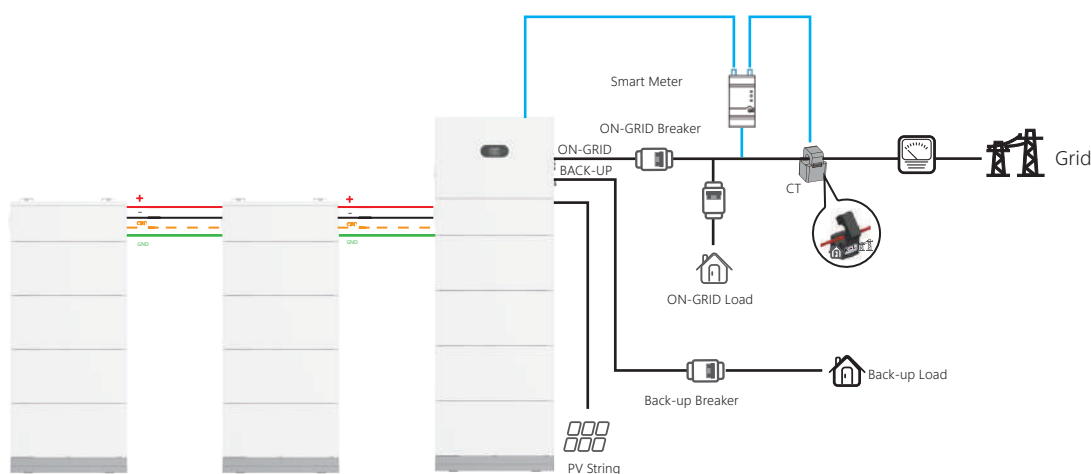


Figure 2-1 Electrical connection

Electrical connection

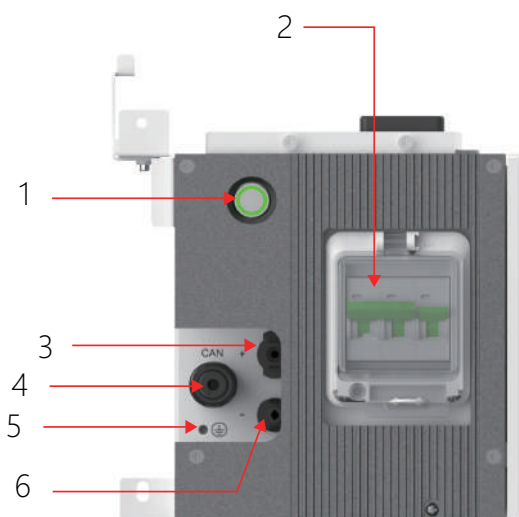


Figure 2-2 Left interface

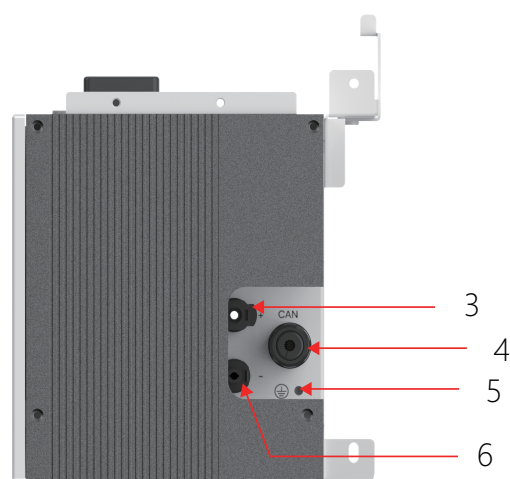


Figure 2-3 Right interface

NO.	PART	NO	PART
1	Push-button switch	4	Communication terminal
2	Micro-breaker switch	5	GND
3	BAT+	6	BAT-

Table 2-1 Interface definition

Dimensions

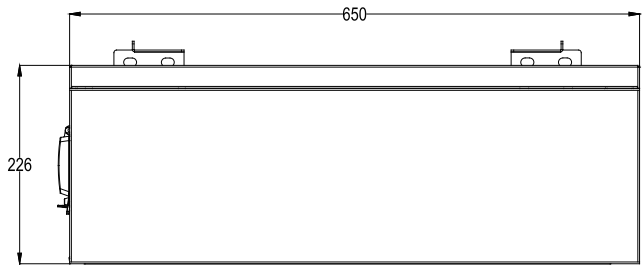


Figure 2-5 Front view size

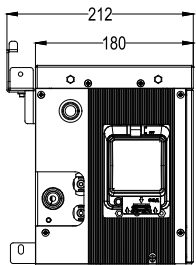


Figure 2-6 Left view size

Deliverables

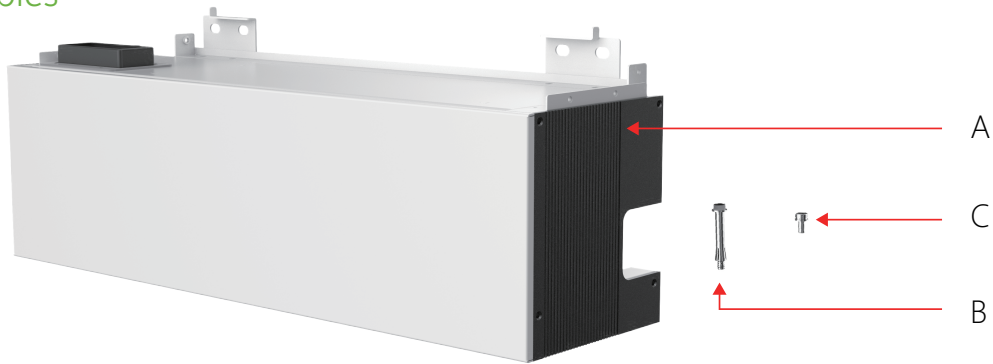


Figure 2-7 Deliverables accessories

NO.	PART	Quantity
A	Cygni Battery Hub	1PCS
B	Expansion bolts	4PCS
C	M5x10 screw	2PCS

Table 2-1 Deliverables accessories list

Notice

The number of expansion bolts, pin terminals, and communication terminal are various depending on different devices. The actual accessories may differ.

3 Installation

Installation illustration

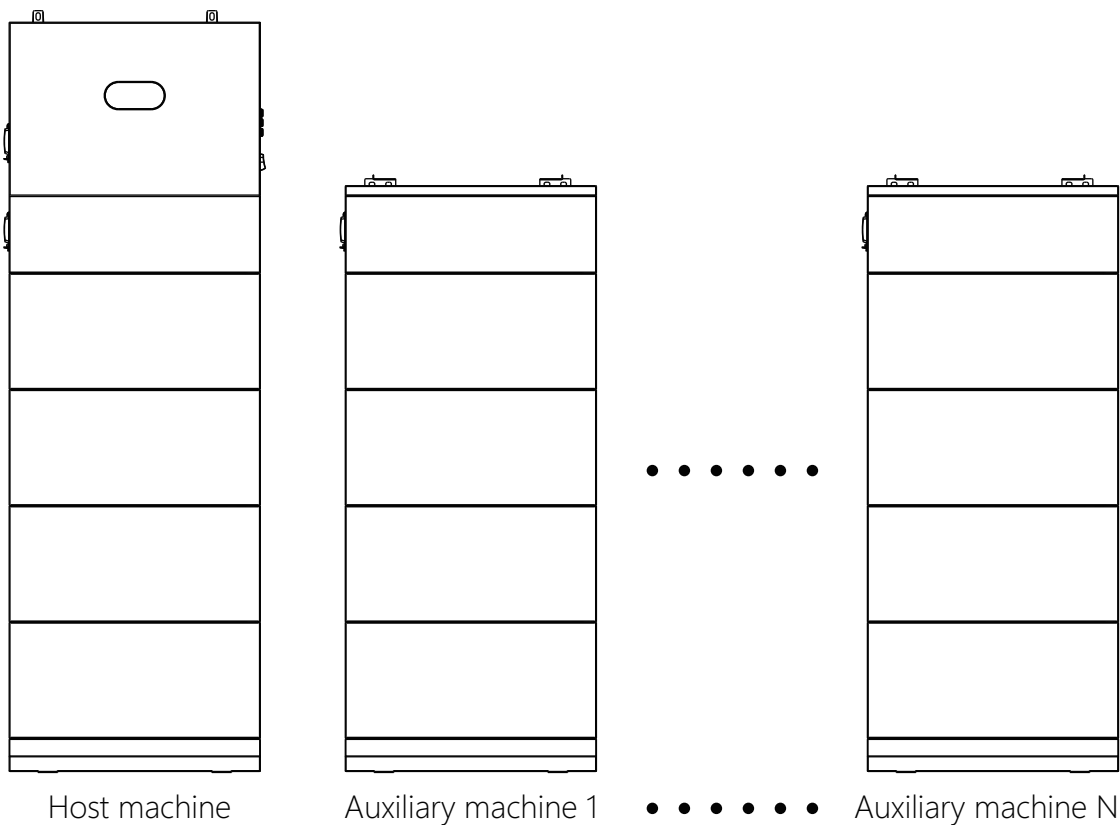


Figure 3-1 Installation illustration

Device installation

Notice

Avoid the water pipes and cables buried in the wall when drilling holes.
Wear goggles and a dust mask to prevent the dust from being inhaled or contacting eyes when drilling holes.

The cover plate needs to be removed first, when installing the Host machine.

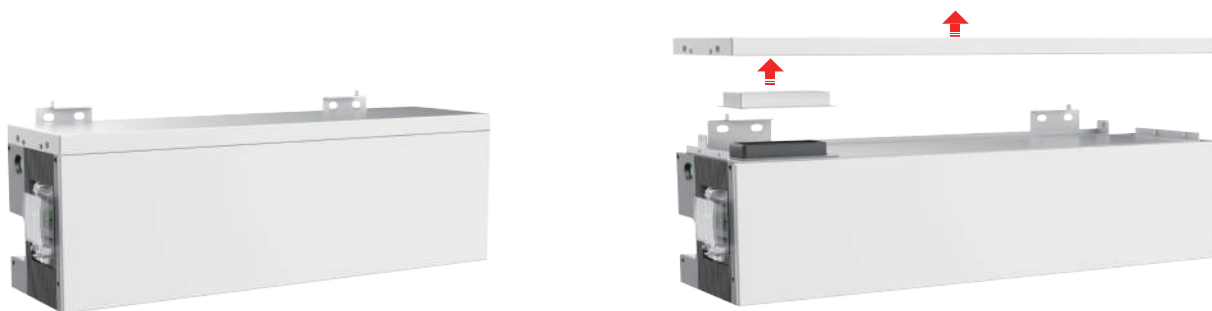


Figure 3-2 Remove the cover plate

Step1: Install the product on the battery pack



Figure 3-3 Equipment placement

Step2: Side screw installation



Figure 3-4 Left side screw installation



Figure 3-5 Right side screw installation

Step3: Expansion bolts

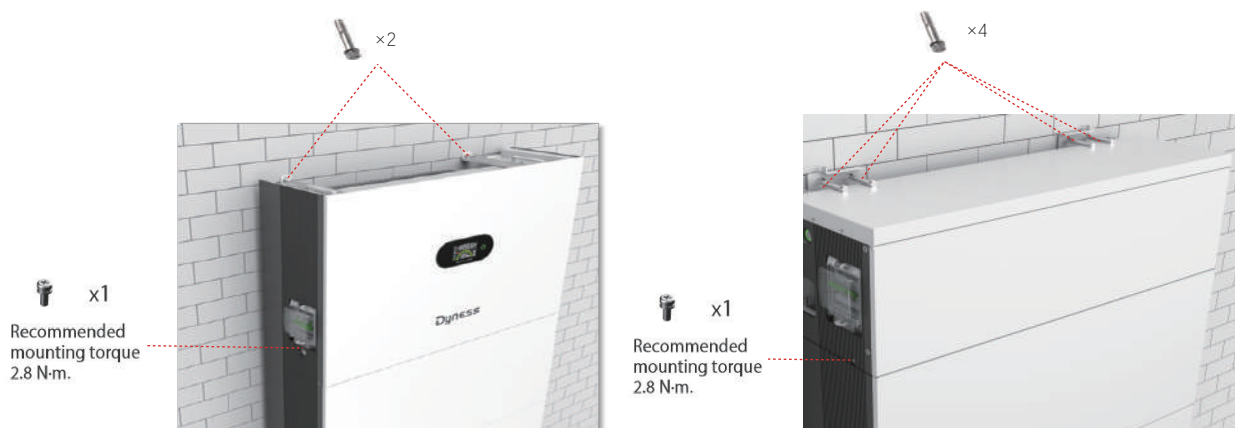


Figure 3-6 Expansion bolts

4 Electrical connection

Safety Precaution

DANGER



INSTRUCTIONS PERTAINING TO A RISK OF FIRE OR ELECTRIC SHOCK

- ◆ Perform electrical connections, including operations, cables, and component specifications in compliance with local laws and regulations EN/IEC62477-1.
- ◆ The input and output circuits are isolated from the enclosure and that system grounding, if required by the National Electric Code, EN/IEC62477-1, is the responsibility of the installer.
- ◆ Power off the device before any electrical connections. Otherwise, an electric shock may occur.

Tie the cables of the same type together, and place cables of different types apart. Do not place the cables entangled or crossed.

- ◆ If the tension is too large, the cable may be poorly connected, You have to reserve a certain length of the cable before connecting it to the device cable port.
- ◆ Make sure that the cable conductor is in full contact with the terminal and the cable insulation part is not crimped with the terminal when crimping the terminal. Otherwise, the device may not be able to work properly, or the connection may be unreliable during working, which may cause terminal block damage, etc.

Notice

Cable colors in this document are for reference only. The cable specifications shall meet local laws and regulations.

Preparing Cables

Cable hole Introduction

WARNING



- ◆ Wiring conduits are additionally required, not included in the scope of delivery. The conduit must be UL514B listed and meet the specifications of the waterproof nut.
- ◆ To avoid influencing the protection class or damaging the equipment, check the wiring conduit to make sure that the conduit is installed properly and the holes are sealed.

External ground Connection of the PGND cable

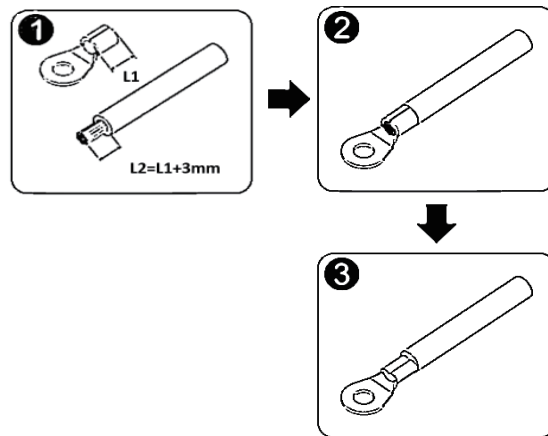
Procedure 1 Get ready of ground cable using the OT terminal connector

Precautions:

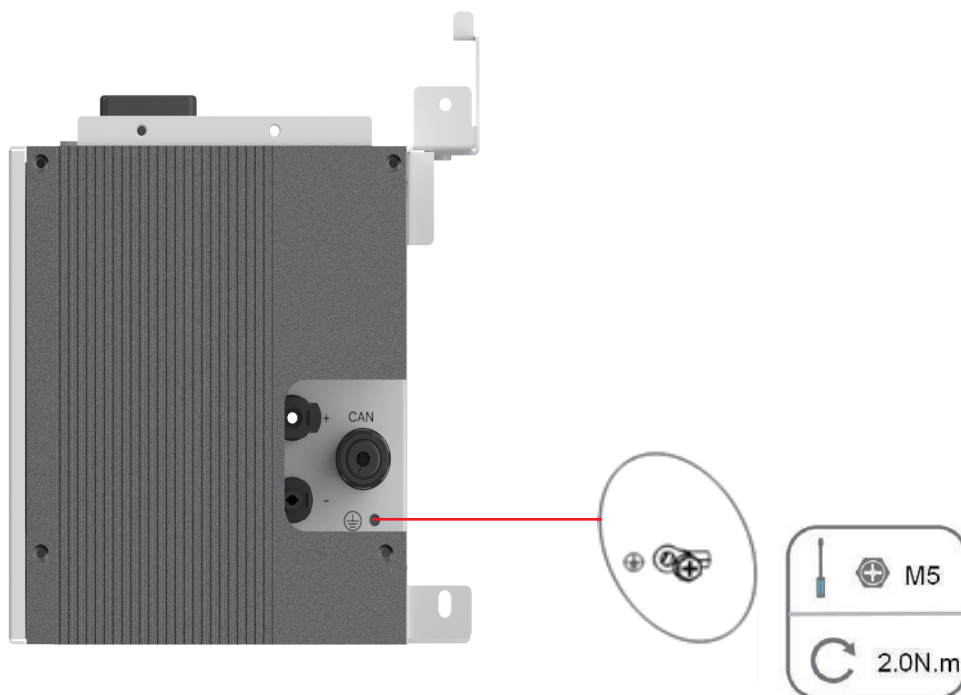
Use the Yellow-green cable.

When stripping the cable, do not scratch the core of the cable.

Make sure the cable conductor is not exposed.



Procedure 2 connect the premade ground cable to the right position (shown on the following picture) and make it is fixed tightly.



NO.	Cable	Recommended specifications
1	Power cable	$\geq 8.0\text{mm}^2$
2	Communication cable	1.5mm^2
3	GND cable	$\geq 4\text{mm}^2$

Table 4-1 Cable List

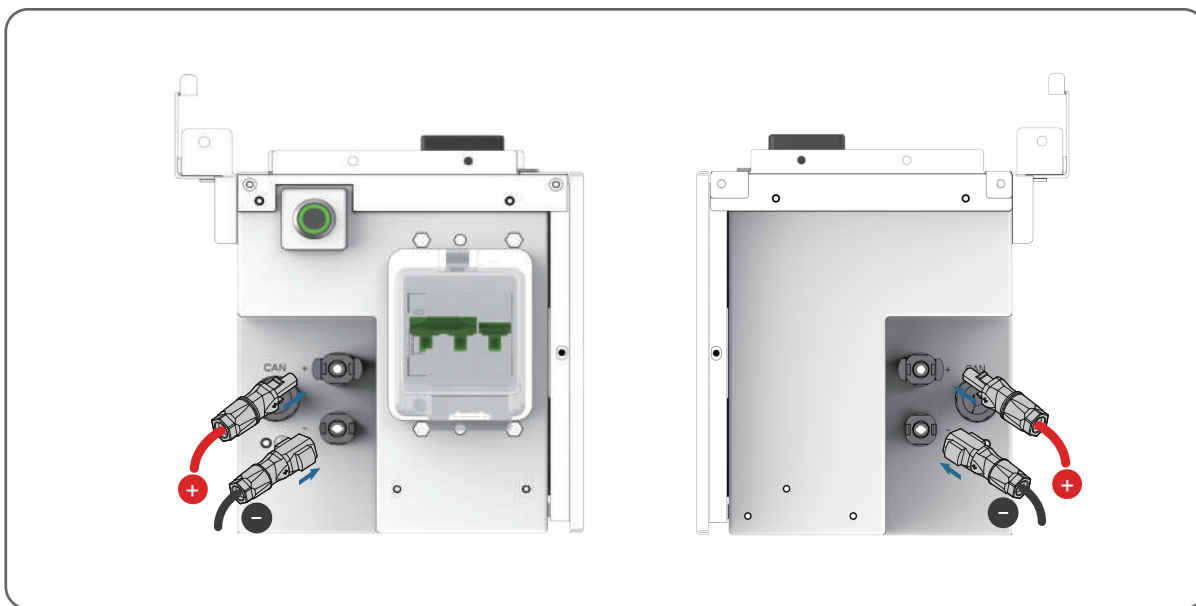


Figure 4-1 Interface Connection Diagram

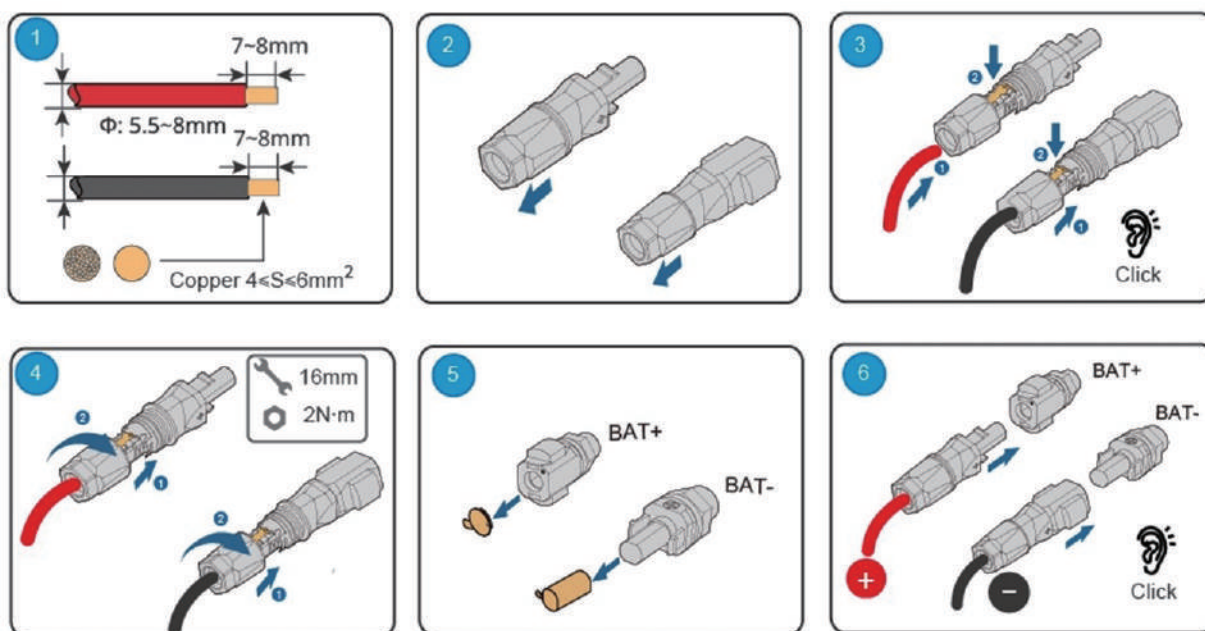


Figure 4-2 Wiring diagram of terminal blocks

METER/CT Connection

Put the RJ45 cable through communication connector

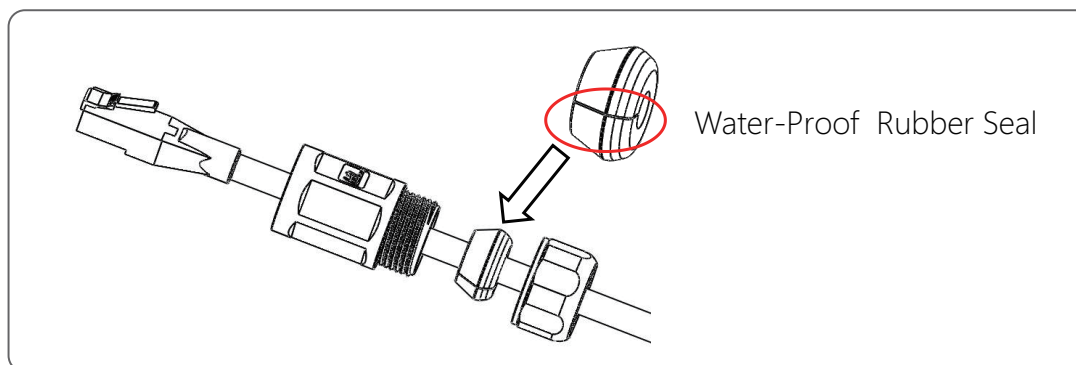


Figure 4-3 Sealing plug stuck in

Connect to Battery Hub and tighten the cover.

A click sound means the RJ45 connector is positioned rightly

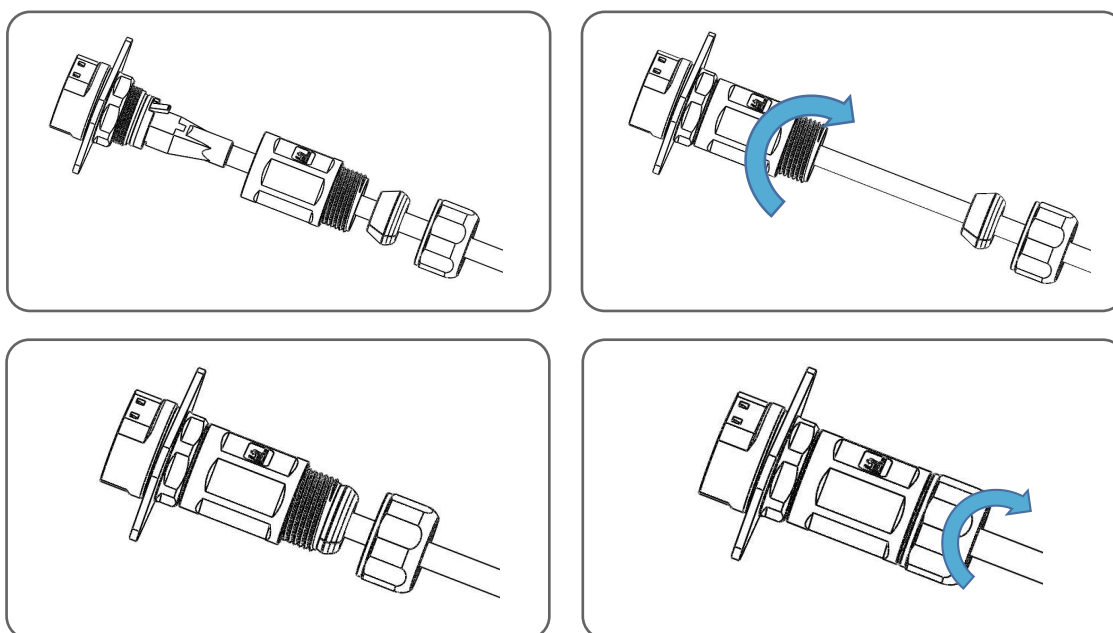


Figure 4-4 Ethernet interface connection

Note: Make sure the Meter communication cable is to the right position.

Preparing Cables

Cable hole Introduction

NO.	Check Item
1	The product is firmly installed at a clean place that is well-ventilated and easy-to-operate.
2	The power, and communication cables are connected correctly and securely.
3	Cable ties are intact, routed properly and evenly. Unused ports and terminals are fitted using the waterproof caps.

4	Unused ports and terminals are fitted using the waterproof caps.
5	The insulation board is installed properly.
6	The voltage and frequency at the connection point meet the grid connection requirements.
7	The electrical conduit holes are sealed.

Table 2-1 Cable hole Introduction List

Power ON the Device

- Step 1: Turn on the main breaker of the device.
- Step 2: Press and hold the button switch until the light on the button changes from flashing to constantly on.
- Step 3: Turn on the inverter.

Maintenance

DANGER



INSTRUCTIONS PERTAINING TO A RISK OF FIRE OR ELECTRIC SHOCK

power off the device before operations and maintenance. otherwise, the device maybe damaged or electric shocks may occur.

Delayed discharge. wait until the components are discharged after power off.

- Step 1: Turn off the main breaker of the device.
- Step 2: Turn off the inverter breaker of the device.
- Step 3: Wait for professionals to repair or replace the new equipment.

5 Technical parameters

Cygni Battery Hub Technical Parameters

Model		BTH-15				
Electrical Data						
Input/Output Voltage(V) (connect to the inverter)	168-438					
Input/Output Voltage(V) (connect to the battery)	168-438					
Input/Output Voltage(V) (connect to the battery hub)	168-438					
Maximum Output Current(A)	39A					
Maximum Input Current(A)	39A					
General Data						
Operating Temperature Range (°C)	-10-50 °C					
Max. operating Altitude (m)	3000m					
Cooling Method	Natural convection					
Communication with Inverter	CAN					
Weight (kg)	6.5kg					
Dimension (WXHXD mm)	650*180*230					
Mounting Method	Wall Hanging & Floor Type					
Ingress protection Rating	IP66					
Certification						
Safety Regulation	IEC 62477-1					
Battery Expansion Method	2/2	2/2/2	3/3	3/3/3	4/4	4/4/4
Capacity(k Wh)	15.36	23.04	23.04	34.56	30.72	46.08



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