Three Phase Hybrid Inverter

Power-Box TH5K
Power-Box TH6K
Power-Box TH8K
Power-Box TH10K
Power-Box TH12K
Power-Box TH15K

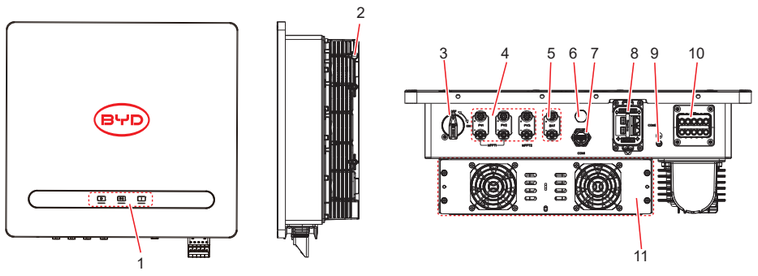


Quick Start Guide

NOTICE

- The information contained in this document is subject to change without prior notice. While every effort has been made to ensure the accuracy of its contents, all statements, information, and recommendations herein do not constitute any form of warranty, either expressed or implied.
- Prior to installing the device, please read the user manual thoroughly to familiarize yourself with the product information and safety precautions.
- Only certified electricians are permitted to operate the device. Personnel must wear appropriate personal protective equipment (PPE) at all times.
- Before installation, verify that the package contents are complete and undamaged, as per the packing list. Should you discover any damage or missing components, please contact your dealer immediately.
- Any damage to the device resulting from non-compliance with the instructions provided in this document will not be covered under warranty.
- The cable colors referenced in this document are for illustrative purposes only. Please select cables in accordance with local electrical standards and regulations.

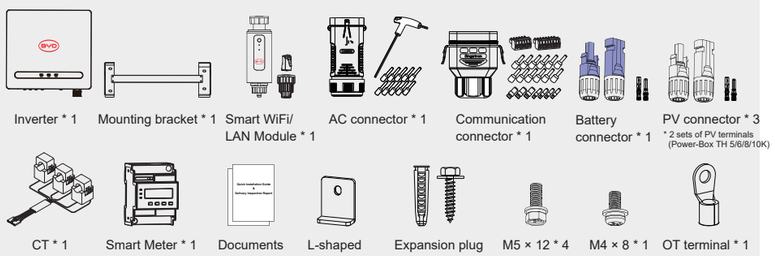
1 Overview



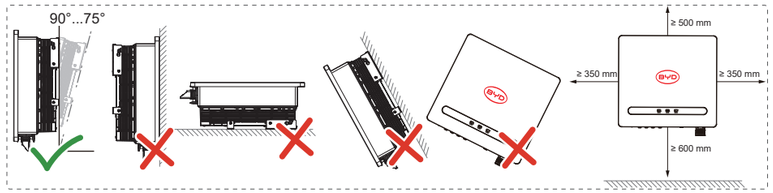
1	Indicator light	7	Communication module interface (WiFi / Bluetooth / LAN)
2	Hangers	8	Communication port
3	DC switch	9	Protective ground terminal
4	PV input port	10	Grid-connected / Off-grid terminal
5	BAT input port	*11	Cooling fan (Power-Box TH12 / 15K)
6	SRV-Safety relief valve		

2 Installation

2.1 Unboxing

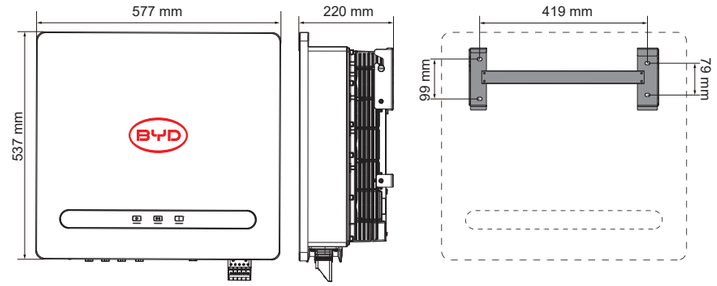


2.2 Installation requirements

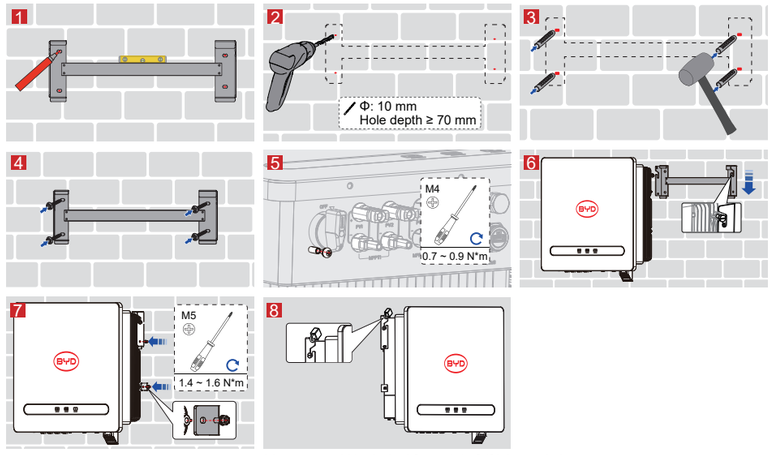


2.3 Installation

2.3.1 Mounting hole



2.3.2 Install the mounting bracket



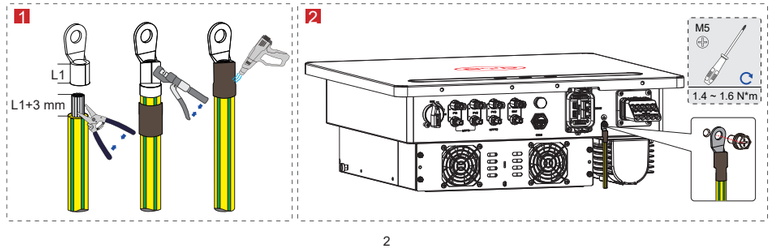
* Inverter could be locked for anti-theft if it is needed.

3 Electrical Connection

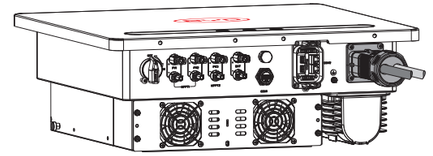
3.1 Cables preparation

Cable	Type	Conductor	Tightening torque
Grounding cable	Outdoor copper core cable	6 mm²	1.4 ~ 1.6 N*m
AC cable (On-grid)	Outdoor copper core cable (5-core)	6 mm²	1.9 ~ 2.0 N*m
AC cable (Off-grid)	Outdoor copper core cable (5-core)	6 mm²	1.9 ~ 2.0 N*m
DC input cable	Meet the standard for 1000 V	4 ~ 6 mm²	\
Battery input cable	Meet the standard for 1000 V	6 ~ 10 mm²	\
Communication cable	Shielded twisted pair	0.5 mm²	\
	CAT 5E outdoor shielded network cable	0.2 mm²	\

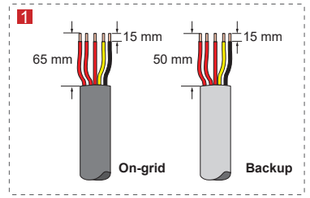
3.2 PE cable

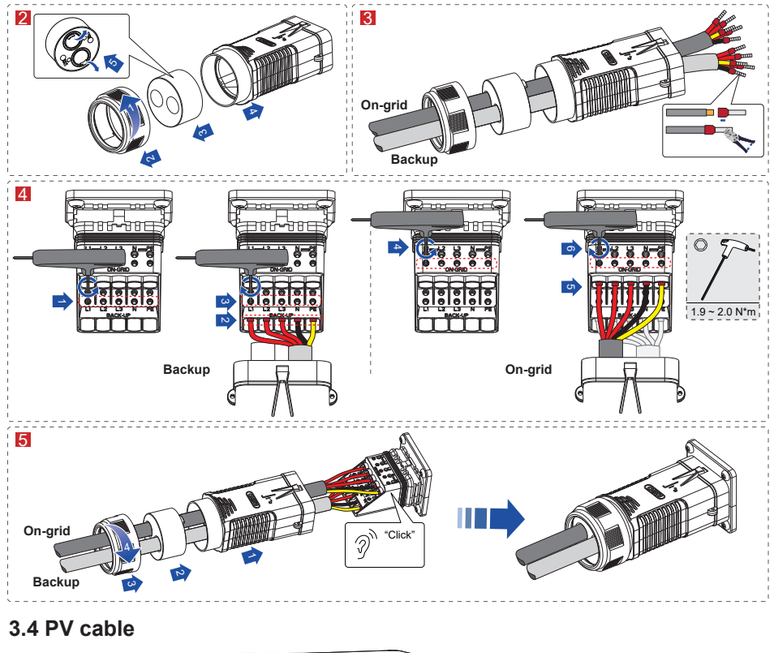


3.3 AC cable (On-grid and off-grid)

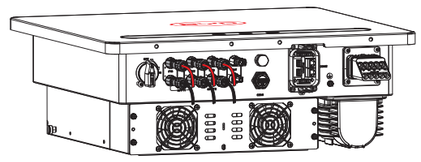


⚠ Before connecting the cables, disconnect the circuit breaker between the power grid and the inverter.

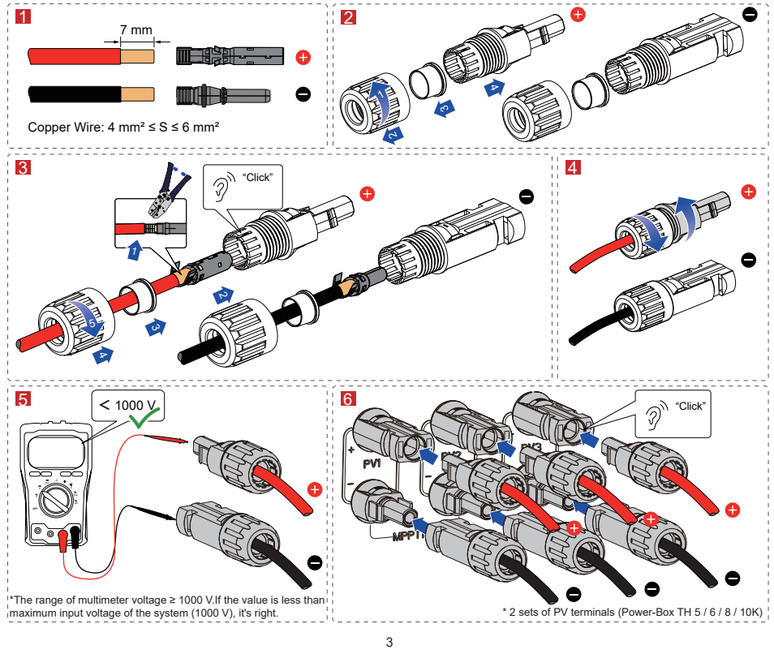




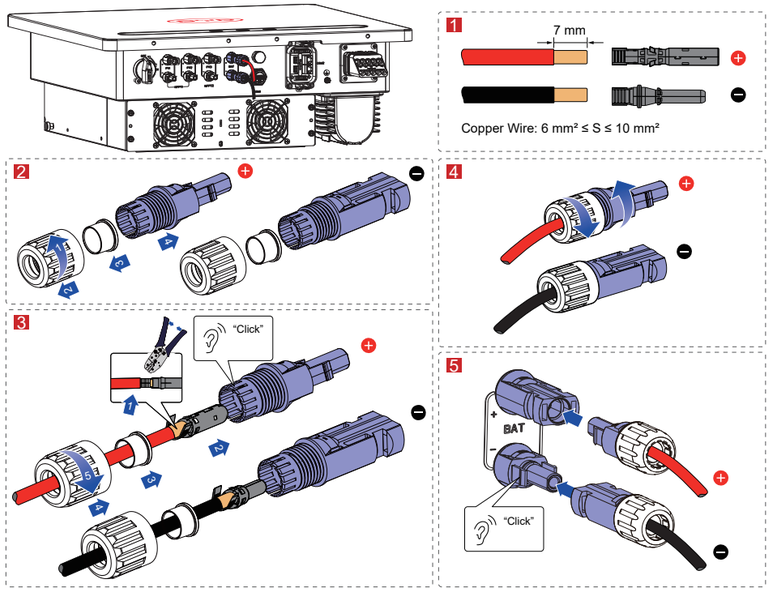
3.4 PV cable



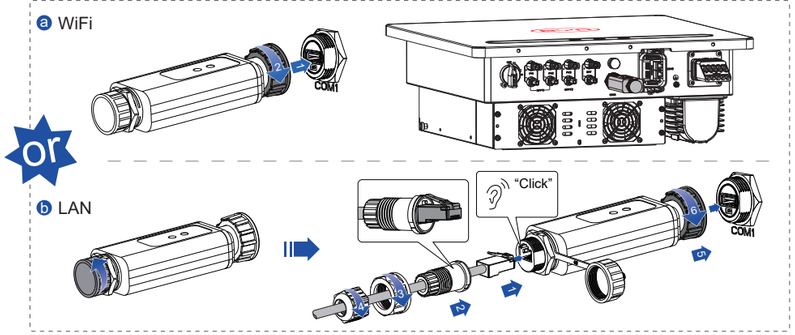
⚠ Pay attention to the current from the PV panels.



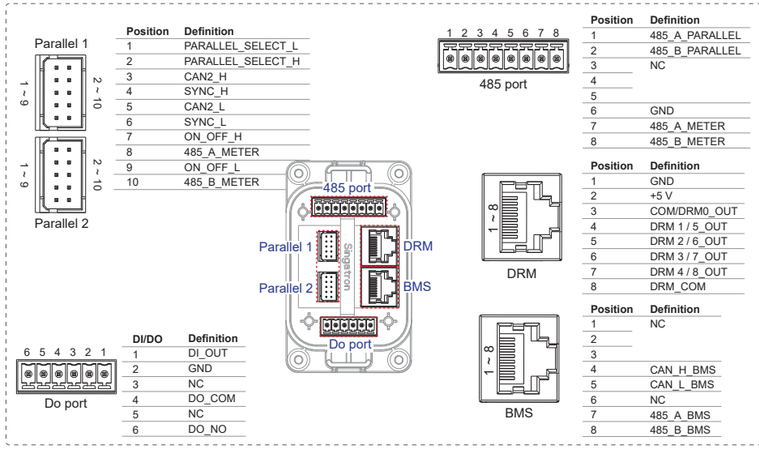
3.5 Battery input cable



3.6 Connection of Smart WiFi/LAN Module



3.7 Communication cable



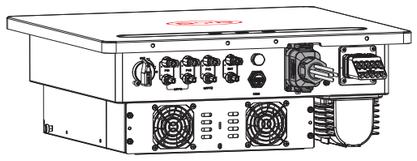
Position	Definition
1	PARALLEL_SELECT_L
2	PARALLEL_SELECT_H
3	CAN2_H
4	SYNC_H
5	CAN2_L
6	SYNC_L
7	ON_OFF_H
8	485_A_METER
9	ON_OFF_L
10	485_B_METER

Position	Definition
1	485_A_PARALLEL
2	485_B_PARALLEL
3	NC
4	
5	
6	GND
7	485_A_METER
8	485_B_METER

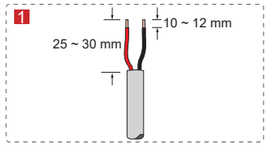
Position	Definition
1	GND
2	+5 V
3	COM/DRM0_OUT
4	DRM 1 / 5_OUT
5	DRM 2 / 6_OUT
6	DRM 3 / 7_OUT
7	DRM 4 / 8_OUT
8	DRM_COM

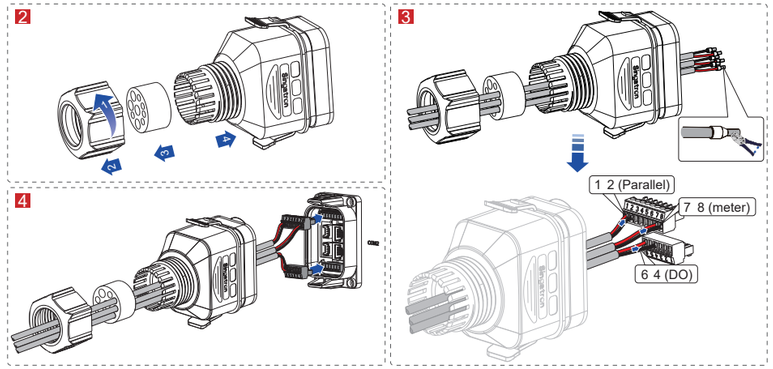
Position	Definition
1	NC
2	
3	
4	CAN_H_BMS
5	CAN_L_BMS
6	NC
7	485_A_BMS
8	485_B_BMS

DI/DO	Definition
1	DI_OUT
2	GND
3	NC
4	DO_COM
5	NC
6	DO_NO

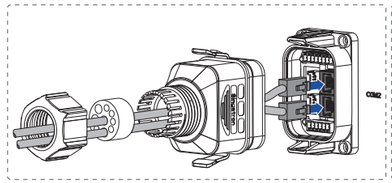


1 Meter & DO

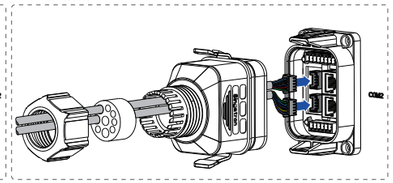


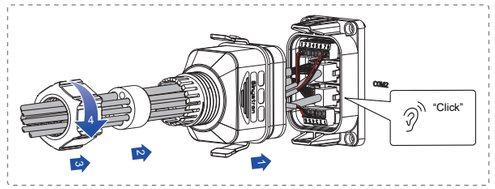


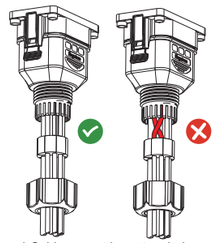
2 DRM & BMS



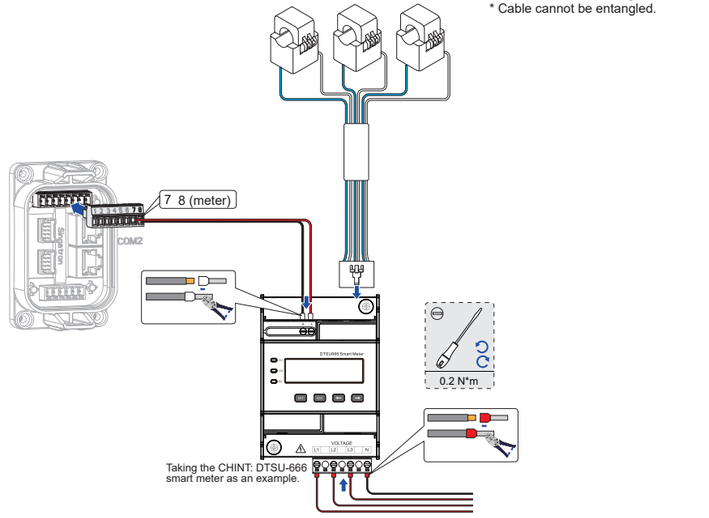
3 Parallel

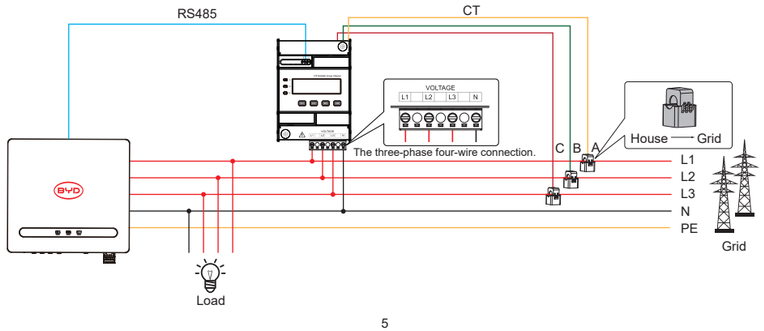


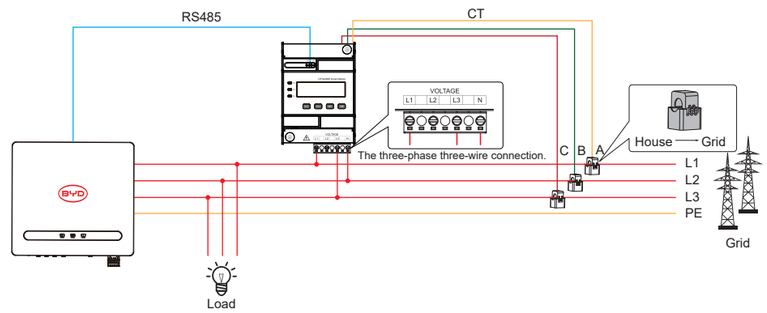




3.8 Smart Meter and CT connection







4 Commissioning

4.1 Check before power on

No.	Checking item	Inspection result Yes √ \ No ×
1	Check whether the DC switch of the inverter is in the "OFF" position.	☐
2	The product is firmly installed at a clean place that is well-ventilated and easy-to operate.	☐
3	The PE, DC input, AC output, and communication cables are connected correctly and securely.	☐
4	Cable ties are intact, routed properly and evenly.	☐
5	Unused cable holes are fitted using the waterproof nuts.	☐
6	The electrical conduit holes are sealed.	☐
7	The voltage and frequency at the connection point meet the inverter grid connection requirements.	☐
8	Check whether the Smart WiFi/LAN Module is installed correctly.	☐

4.2 Power on / off

Step 1: Turn on the AC breaker on the on-gird side of the inverter.
Step 2: Turn on the AC breaker on the backup side of the inverter.
Step 3: Turn on the battery breaker between the inverter and the battery.
Step 4: Turn on the DC switch of the inverter and observe the status of the indicator panel.
Step 5: If the indicator remains green, it indicates normal operation. Otherwise, please check the user manual or contact BYD Authorized Service Partner.
Step 6: The shutdown steps are opposite to the above order.

Category	Symbol	Status	Definition
Operation light		Green light-on	On-grid operation
		Green light-flash quickly (0.5 s on, 0.5 s off)	Standby mode
		Green light-flash slowly (1 s on, 1 s off)	Off-grid operation
Communication light		Blue light-on	Normal communication (battery / meter)
		Blue light-flash	Abnormal / disconnected communication (battery / meter)
Fault light		Red light-on	Serious fault, need to stop for inspection

4.3 Setting inverter parameters via BYD Energy App

Please set the inverter parameters first via BYD Energy App to ensure its normal operation.
BYD Energy App is a smart phone application used to communicate with the inverter via Smart WiFi/LAN Module.
Commonly used functions:
1. Check the operating data, software version, alarms, etc.
2. Set grid parameters, communication parameters, etc.
3. Maintain the equipment.
4. Upgrade the software version of the inverter.

You can scan the QR code or visit the provided link (http://www.bydenergy.com/smartEnergy?locale=EN) to download the BYD Energy App and access the user manual.

iOS Android