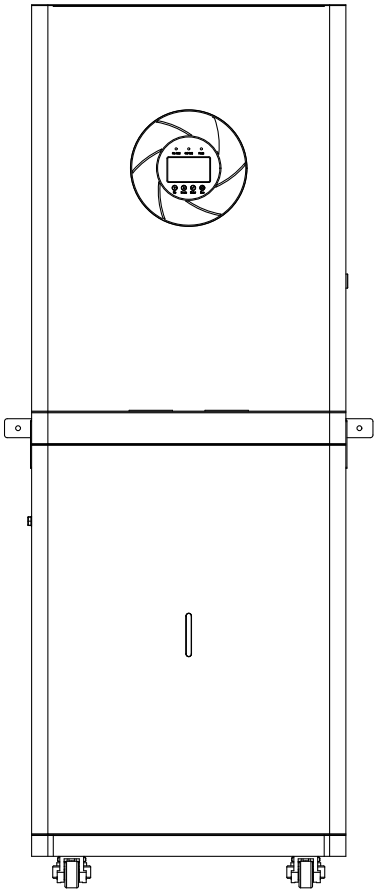
USER MANUAL

All-in-one system

DOH01-5K_XFM15K-EU



Document version: 01

Copyright Notice

Revision History

Version	Date	Revisions

Preamble

Overview
This document focuses on product introduction, system operation and maintenance of equipment in single-phase systems.

Target Audience
This document is intended for product users and professionals.

Contents Preface

1. Safety Precautions

Icon Definition

Graphic	Definition
 Manual	Manual: Please read the manual carefully!
 Danger	Danger: indicates a dangerous situation that, if not avoided, will result in death or serious injury.
 Warning	WARNING: Indicates a dangerous situation which, if not avoided, will result in death or serious injury.
 Caution	Warning: indicates a dangerous condition which, if not avoided, may cause minor or moderate injuries.
 Note	Note: Failure to observe this warning may result in damage.
Tips	Hints: highlights or key information, additional how-to tips, etc.

The following icons may be used in this document to indicate safety precautions or critical information. Please familiarize yourself with the icons and their definitions before installation and operation.

Basic Information

Please familiarize yourself with the contents of this manual before installing, operating, and maintaining the equipment. The "CAUTION"/'WARNING'/"DANGER" items described in this manual are intended only as a supplement to all precautions. We are not responsible for any damage to the equipment or loss of property caused by the following:

- Failure to obtain permission from the national or regional electric power authority.
-The environment in which the equipment is installed does not comply with relevant international, national or regional standards.
-Operating and maintaining the equipment without complying with local laws, regulations and codes.
-Installation in an area that does not meet the requirements of the equipment.
-Failure to follow the operating instructions and precautions in the documentation.

-Failure to follow the warning labels on the equipment or tools.
-Negligence, improper operation, or willful damage.
-Loss of battery capacity or irreversible damage due to your failure to charge the device in time.
Damage caused by you or a third-party company that replaces the battery itself in a scenario where the device is used. (e.g. mixing our battery packs with other batteries, using our battery packs with other brands of inverters or converters, etc.).
-Damage to the equipment caused by the customer or a third party company, neither using the accessories supplied with the box nor purchasing and installing the same type of accessories.
-Damage to the equipment due to unauthorized disassembly, replacement of the equipment or improper operation such as modification of the software code.
-Damage to the equipment caused by force majeure (e.g. war, earthquake, fire, windstorm, lightning, flood, mudslide, etc.).
-Damage due to the actual operation of the equipment, the natural environment or external power parameters can not meet the standard requirements for the operation of the equipment (such as the actual operation of the equipment temperature is too high or too low, etc.).
-Theft of the equipment.
-Damage to the equipment after the warranty period has passed.

safety requirement

Danger

- Overheating of the equipment may cause fire, explosion, etc. It is prohibited to expose the equipment to high temperatures for a long period of time or to have the heat source around the equipment for a long period of time (e.g., sunlight, fire, heaters, etc.).
- It is prohibited to clean or soak the equipment with water, alcohol, oil, etc., so as not to cause leakage of the equipment, leakage of the battery pack, etc.
- Prohibit knocking and impacting the equipment. If accidental impact occurs, please immediately stop using the equipment and promptly your installer, the equipment can only continue to be used after inspection and evaluation by professional personnel.

Warning

- When the equipment is running, the temperature at the heat sink is high, please do not touch it.
- When the equipment is running, do not cover the decorative cover and keep 300 -600mm heat dissipation channel to avoid high temperature fire.

Take Note of

- It is prohibited to use the equipment with malfunction. In the event of an abnormality with the equipment (e.g. battery pack leakage, cosmetic deformation, etc.), please contact your installer promptly for treatment.
- Carbon dioxide fire extinguishers and ABC dry powder fire extinguishers are recommended for your home.
- Contact your installer if the unit fails to enter the charging state.

It is prohibited to use the device for the following scenarios!
-Connecting public infrastructure system facilities.
-Connecting emergency medical facilities.
-Connecting control equipment such as elevators.
-Any other similar scenes, etc.

2. Products

2.1 Product Description

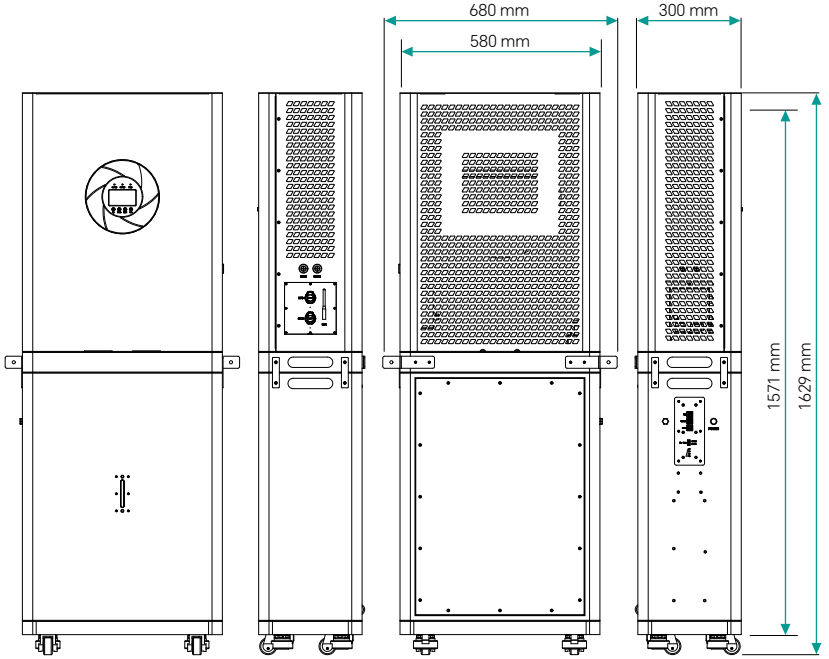
This product is an integrated new type of energy storage with a battery energy of 15.36KWh and a rated output power of 5000W (off-grid output of 4500W). The product has a built-in lithium iron phosphate battery with excellent safety. The product has bi-directional inverter function. The AC output voltage is 210V~230V (50/60Hz) pure sine wave, utility charging and energy storage in one new energy storage inverter control inverter. It adopts DSP control, through advanced control algorithms, with high response speed, reliability and industrial standards. It is easy to move with pulleys and so on.

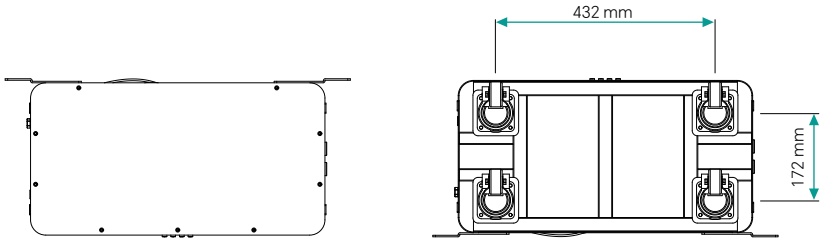
Product Features

◎Fast heating function in cold conditions. Heating rated total power: 408W~700W under the core low-temperature heating rate of about 20C/H, to ensure stable operation and long-term life.
◎Supports single-phase pure sine wave output.
◎LCD+Wi-Fi enables real-time tracking and remote fault alerts for proactive monitoring.
◎97.8% conversion rate and 95% battery to AC efficiency significantly reduces losses.
◎With two output modes, utility bypass and inverter output, the UPS delivers uninterrupted power, switching within <20ms (capacitive) and <10ms (resistive) to ensure stable operation during fluctuations.
◎LCD large screen dynamic flow chart design, easy to understand the system data and operation status.
◎Operating noise is below 40dB, suitable for both residential and commercial use, enhancing user comfort.
◎Constructed design reduces installation cost, supports expansion and multiple interfaces.
◎360°protection with complete short-circuit protection, over-current protection, over-under-voltage protection and overload protection.

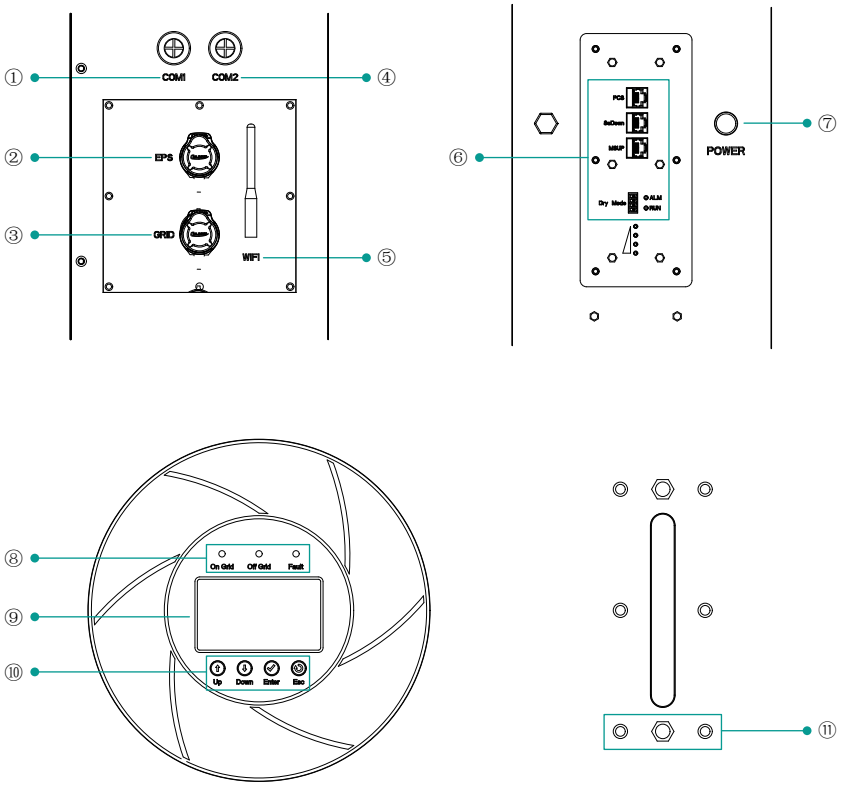
2.2 Product Appearance

Appearance and Dimensions





Product Definition Introduction



1. COM1	2. AC Output Port	3. AC Input	4. COM2	5. WiFi Connection Port	6. Battery Communication Interface
7. Battery Switch	8. Inverter Status Indicator	9. LCD Screen	10. Function Buttons	11. Battery Level Indicator/Status Indicator	

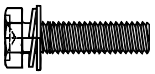
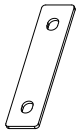
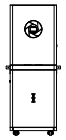
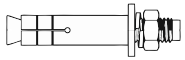
3. Installation

3.1 Unpacking and Inspection

Ensure that the product is in good condition during transportation. If there is any visible damage, such as cracks, dents, and missing parts, please contact your dealer immediately.

3.2 Packing List

Packing List To open the package and remove the product, please check the accessories first. The packing list is shown below.

			
user manual ×1	M6*10X8 pcs	M6*12X4 pcs	2mm inverter box fixing piece X4
			
Hexagonal Wrench ×1	All-in-One Nativex1	M8*100 Expansion Screwdriver X2	Positioning steel pin ϕ 10*80mmx2
			
AC input/output plug X1 each	3mm fixing gainst the wall x 2	DN Certificate of Conformity/Warranty Card X1	

3.3 Installation Precautions

Before selecting an installation location, users are requested to consider the following factors:
- Sufficient space must be provided for the product to dissipate heat.
-Ambient temperature should be between 0~55°C (14~131°F) to ensure optimal operation.

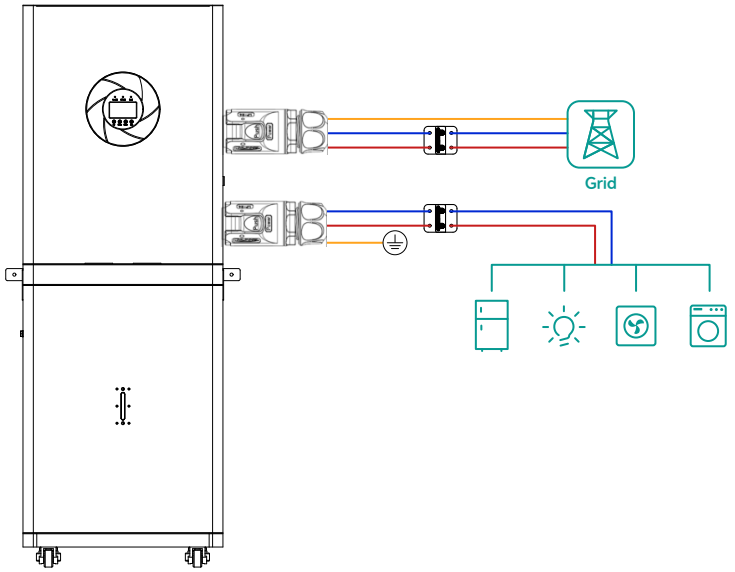
Danger

- Do not install the product near highly flammable materials .
- Do not install the product in potentially explosive areas .
- Do not install the product in confined spaces

Warning

- Do not install the product in direct sunlight.
- Do not install or use the product in a damp environment.

3.4 Schematic diagram of electrical connections



3.5 Cable and Circuit Breaker Adaptation Recommendations

System Component Units	Description	G5K 15K-XCLE
AC Inputs & Outputs	Wire Diameter	4.0-6.0mm²(L/N)
	Circuit Breaker Specifications	32A

Caution

- Before connecting the AC inputs and outputs, the circuit breaker must be disconnected to avoid the risk of electric shock and must not be operated with electricity.
- Check that the cables used are sufficient for the requirements, too thin and poor quality cables can be a serious safety hazard.

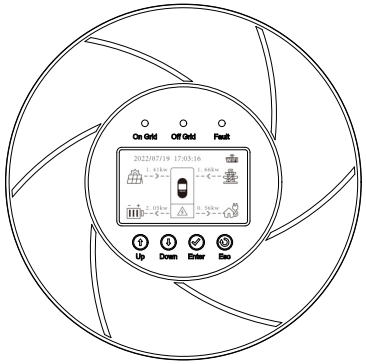
3.6 Post-Installation Inspection

After ensuring reliable wiring, correct wire sequence, etc.

4. Operational instructions

4.1 Operation and Display Interface

The operation and display interface of the
inverter consists of one LCD display (indicating the operating status and input/output power information), three LED indicators, and four function keys.



Introduction to Function Keys

Key	Function Description
ESC	Exit Current Screen
UP	Page Up
DOWN	Page Down
ENTER	Confirm Button

LED Indicator

LED indicator			Clarification
On Grid	Blue	Always on	Normal grid connection and entering utility operation
		Blinking	Waiting for grid connection to enter utility operation
		Out	Abnormal utility operation
Off Grid	Blue	Always on	Operating in battery mode
		Blinking	Waiting to enter battery mode
Fault	Red	Always on	Inverter failure
		Blinking	Upgrade status
		Out	Normal inverter

4.2 Starting up the unit

Step 1: Press the left battery switch for 3-5S - After starting the battery, the screen and indicator lights come on for successful startup.
Step 2: Turn on the circuit breakers for AC input and AC output.

Battery switch

POWER

4.3 Shutting Down the Inverter

When the system is in battery mode, press and hold the battery switch for 3-5S battery off, the system will shut down.

4.4 Operations Performed in Alarm Status

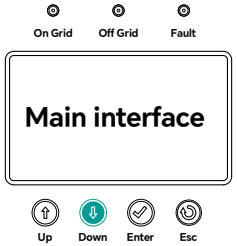
If there is an alarm sound and the LED fault indicator flashes, the unit is in alarm status. You can find the cause of the alarm or contact the supplier based on the alarm information.

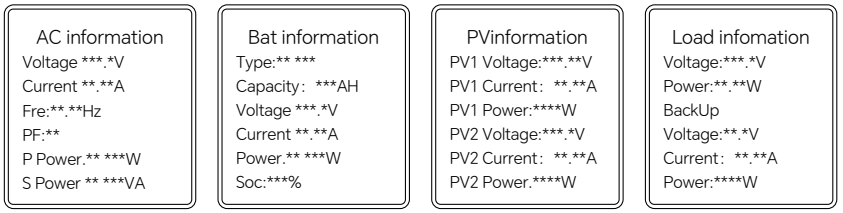
4.5 Operation in Fault Mode

When the device buzzer always sounds and the LED fault indicator is always on, it means that the device is operating in fault mode. Contact the supplier or maintenance personnel for information about the fault alarm and help with troubleshooting.

4.6 Parameter Query Operation

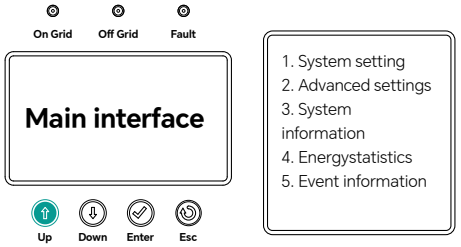
From the main screen, press Down ↓ to access the Grid, Battery, PV and Load Information screens.





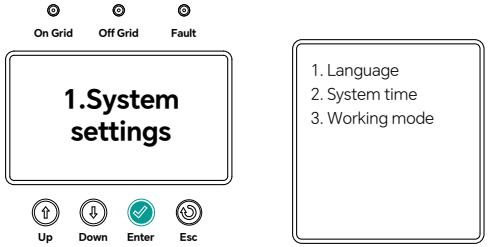
4.7 Function Setting Operations

Enter the Function Setting Manual, the detailed operation is as follows:
In the main interface, press “Up ↑” key to enter the main menu interface, there are the following 5 options in the main menu
1.System Setting 2.Advanced Setting 3.System Information 4.Energy Statistics 5.Event Information

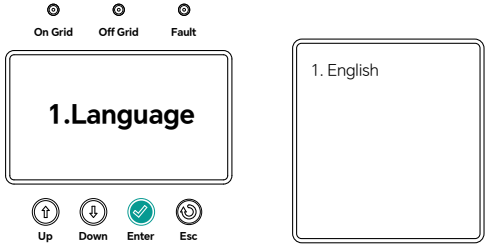


4.7.1 System settings

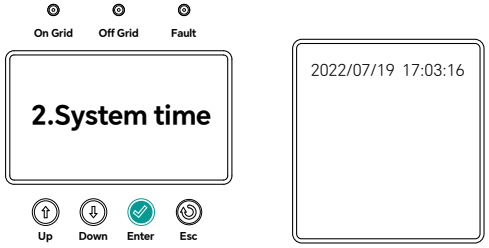
In the function setting interface, select System settings and press “Enter ✔” to enter the sub-menu interface.The sub-menu interface displays the following three options.
1.Language setting 2.System time setting 3.Working mode setting



1.Language settings Currently the options support English only

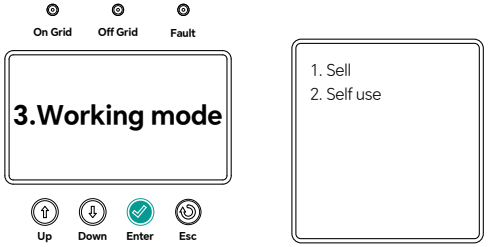


2.System time setting Can set or calibrate the system current time



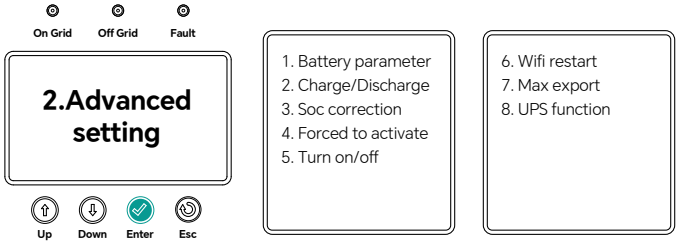
3.Working Mode Working Mode Setting

1) Sell mode: Storage batteries and PV can be fed into the grid for a set period of time _ Priority: Load > Grid > Battery.
2) Self use: PV will be prioritized for load and battery. When the PV cannot meet the load demand, the battery discharges to supply energy. When the PV meets the load, the excess energy will be stored in the battery. Priority: Load > Battery > Grid.

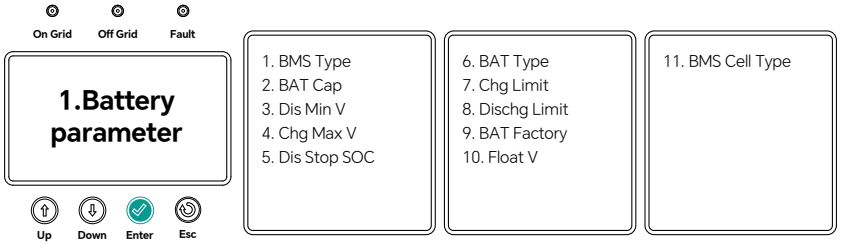


4.7.2 Advanced setting

In the function setting interface, select Advanced setting and press "Enter ✔" to enter the sub-menu interface.
The sub-menu interface displays the following eight options, which are displayed in two pages.
1. battery parameter setting 2. charging and discharging time setting 3. SOC calibration 4. lithium battery forced activation
5. inverter switching setting 6. WiFi reboot setting 7. anti-reverse current limiting power setting 8. UPS function switch setting

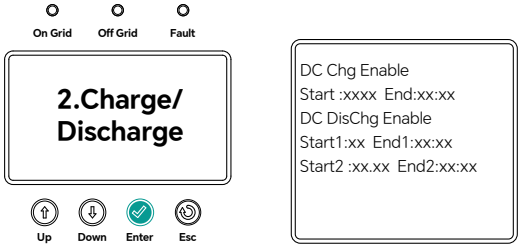


1.Battery parameter Battery parameter setting. This sub-menu screen has 11 options. It is divided into three pages.

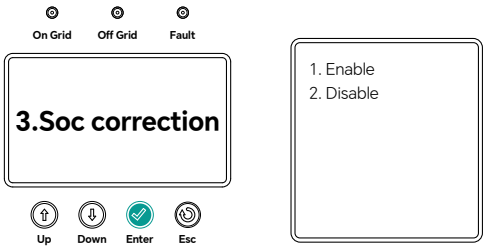


1. BMS Type: Battery charge and discharge maximum current mode (0: default 1: battery control charge maximum charge current; 2: battery control charge and discharge current maximum)
2. BAT Cap Setting: This parameter is used to set the capacity of the battery, AH (it is only set in lead-acid battery mode).
3. Dis Min V: This parameter is used to set the minimum discharge cut-off voltage
4. Chg Max V Setting: This parameter is used to set the maximum charge turn-off voltage
5. Dis Stop SOC Setting: This parameter is used to set the stop discharge SOC of the battery.
6. BAT Type: Set the battery type (0: lead-acid battery; 1: lithium battery).
7. Chg Limit: Set the maximum charge rate of the battery.
8. DisChg Limit: Set the maximum discharge rate of the battery.
9. BAT Factory: BMS protocol selection, which is used to set the battery communication protocol for the inverter(0: CAN 1: CAN).
10. Float V Setting. This parameter is used to set the floating charging voltage of the battery.
11. BMS cell type: set the number of battery cells (0: custom; 1:16 string; 2:15 string, the default is 16 string)

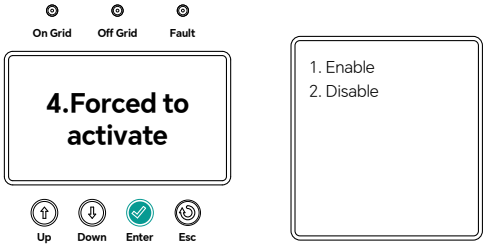
2. Charge/Dischargecharging and discharging time setting
1. charging time 2. discharging time



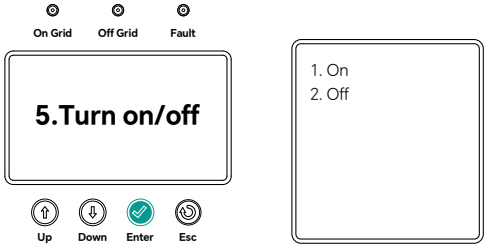
3. SOC Calibration Lithium battery SOC calibration, charge and discharge the battery once (can only be turned on with high privileges)



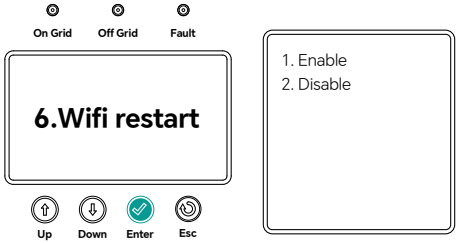
4. Forced to activate battery forced to activate (wake up the dormant lithium battery, PV voltage > 155V effective)



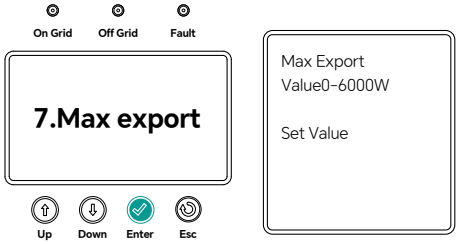
5. Inverter on/off setting



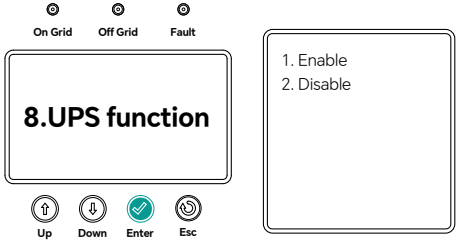
6. Restart WiFi WiFi Reboot Settings



7. Anti-Reverse Current Limit Setting

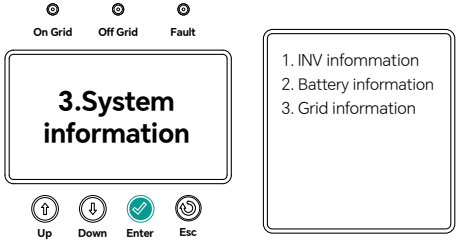


8. UPS function UPS Function switch setting

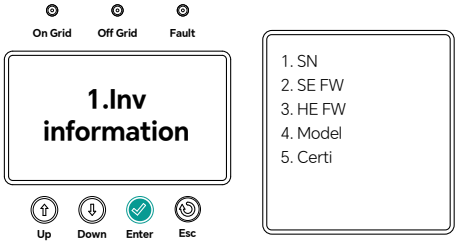


4.7.3 System information System Information

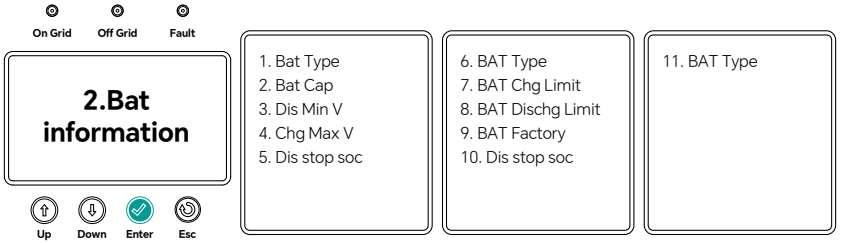
In the function setting interface, select System information and press “Enter” to enter the sub-menu interface.
The sub-menu interface displays the following three options
1.Inverter information 2.Battery information 3.Grid information



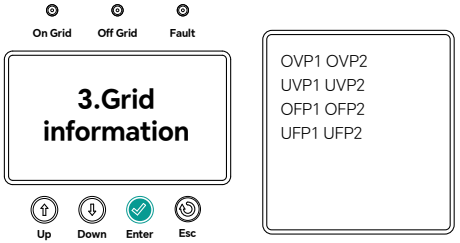
1. INV Information Inverter information



2. Battery information Battery information,
displayed in three pages. Press “Down” or “Up” key to switch pages. View battery related parameters.

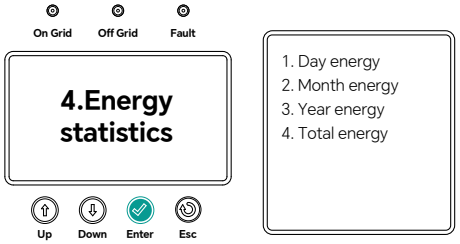


3. Grid Information Power grid information

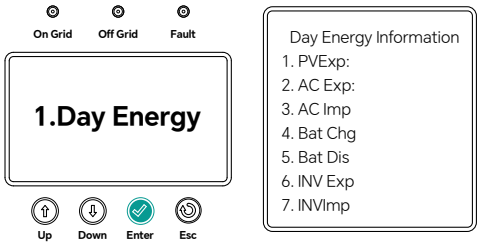


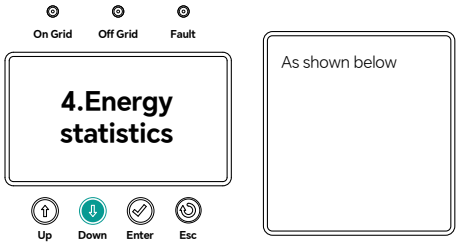
4.7.4 Energy statistics Energy statistics

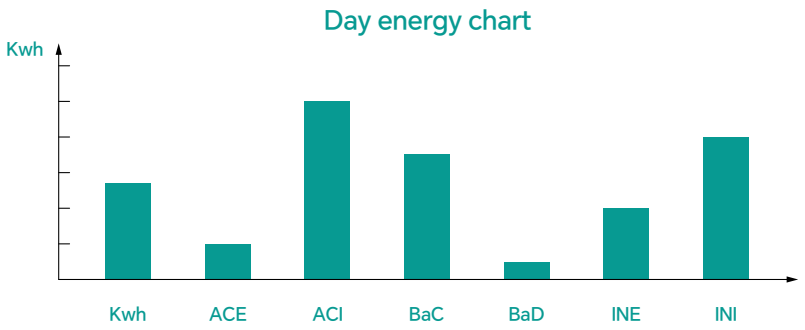
In the function setting interface, select Energy statistics and press “Enter ✔” to enter the sub-menu interface.
The sub-menu interface displays the following four options
1.Daily energy statistics 2.Monthly energy statistics 3.Annual energy statistics 3.Total energy statistics



Daily Energy Statistics: This page is used to display the daily energy production in the form of numerical values and bar graphs.
Remarks:
PV Exp --- Photovoltaic output energy
AC Exp --- AC output energy
AC Imp --- AC input energy
Bat Chg --- Battery charging energy
Bat Dis --- Battery discharging energy
INV Exp --- Inverter output energy
INV Imp ---- Inverter input energy



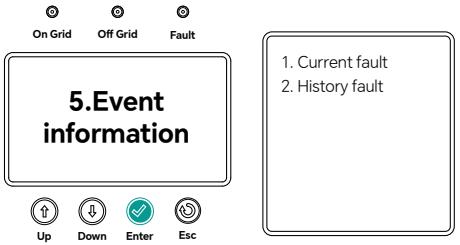




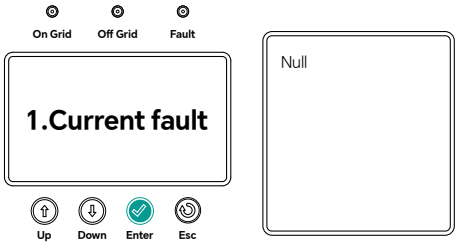
Monthly energy production, annual energy production and cumulative energy production are also displayed as numerical values and bar charts.

4.7.5 Event information Event Information

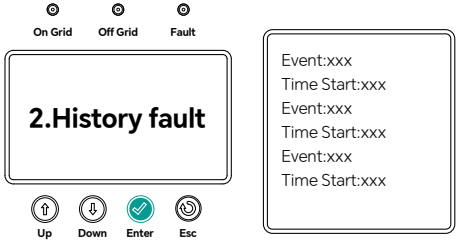
In the function setting interface, select Event information and press “Enter” to enter the sub-menu interface.
The sub-menu interface displays the following two options
1. current error message 2. historical error message



1.Current fault
Current error information: display the information of the current error report, when there is no error report is displayed as empty



2.History fault
Historical Error Reporting Information: Display historical error information. There are three pages, press "Down" or "Up" key to switch pages, each page displays 3 historical error messages
When there is no error report currently, the display is empty.



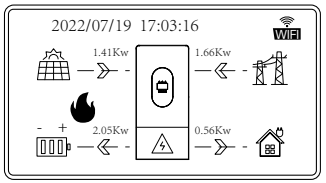
4.7.6 Automatic test function

1. Press and hold down the “Enter” and “ESC” keys at the same time for 3 seconds to enter the automatic test function. 2.

2. Wait for about 15 minutes, the inverter will be checked automatically and return to the main interface.

4.7.7 Automatic battery heating function

1. Battery charging mode: the battery recognizes that the battery cell is below 5℃, the inverter automatically turns on the heating function, and the LCD screen displays the flashing heating symbol. Battery temperature above 10℃, the heating function will be closed, and the inverter will be turned on to charge the battery (the battery can not be charged during the heating period).
2. Battery discharge mode: when the battery recognizes that the battery cell is below -15℃, the inverter will automatically start the heating function, and the LCD screen will display the flashing heating symbol. Battery temperature reaches 0℃ or above, the heating function is closed, the battery can supply power to the inverter (the battery can not be discharged during the heating period).



5. Maintenance and Cleaning

5.1 Heat dissipation check

If the product often reduces the output power due to high temperature, please check whether it is covered or clean the cooling fan and radiator in time to adjust the heat dissipation environment.

5.2 Cleaning

If you clean the cooling fan and heat sink, please turn off the power and wait for 20 minutes to cool down before cleaning.

DANGER

Risk of burns from running inverter housing parts!
After switching off, please wait 20 minutes for the housing to cool down before disassembling!

5.3 Long-term storage

Keep away from water, heat sources, and other conductive objects. Store in a dry place with an ambient temperature of -25℃ to 60℃. Charge and discharge the product every 3 months.

6.Product Technical Parameters

Model	DOH01-5K_XFM15K-EU
Battery parameters	
Battery Type	LiFePO4 lithium iron phosphate
Number of Strings	16S1P
Capacity	300Ah
Standard Voltage	51.2V
Energy	15.36KWh
Communication	CAN/RS485
Charge Cutoff Voltage	58.4V
Discharge Cutoff Voltage	44V
Maximum Charge Current	100A
Maximum Discharge Current	100A
Cycle Life	≥6,000 times (25±2℃, initial clamping force 300Kgf, Standard charge mode/Standard discharge mode, residual energy≥672Wh)
Internal Resistance	≤20mΩ
AC Input/Output	
Rated Power W (Charging)	5000W
Rated Power W (Discharging)	5000W
Maximum Output Apparent Power (VA)	5500VA
Maximum Input Current (A)	25A
Rated Voltage	230V
Rated Frequency	50Hz
Current Distortion Rate	<3% (rated power)
DC Component	<0.5%In
Power Factor Range	±0.8 (adjustable range 0.8 ahead ~0.8 lag)
Off-Grid Output	
Maximum Output Power (W)	4500W
Rated Output Voltage (V)	230V
Rated Output Frequency	50Hz (60Hz customizable)
Backup Power Switching Time	<20ms (capacitive loads); <10ms (resistive loads)
Total Harmonic Distortion (Linear Load)	<3%
Overload Capability	110% 30s / 120% 10s / 150% 80ms
Efficiency	
Maximum efficiency	97.8%
European efficiency	97%
Maximum discharge efficiency	95%
Standby power	<10W (no load mode, battery disconnected)
Other Parameters	
IP Protection Rating	IP65
Noise	<40dB
Heating Function	Supported
WiFi	Supported
Operating Temperature Range	-15℃to55℃
Ambient Humidity	5-95% (no condensation)
Display	LCD&LED
Quality Assurance	Battery 5 years, inverter board 2 years
Operating Altitude	<2000m
Cooling Method	Natural Convection
Weight	Approx. 169KG
Dimensions (W/D/H) (mm)	680×300×1630(mm)