Grid-connected PV Inverter

SUN-120K-G01P3-EU-BM8

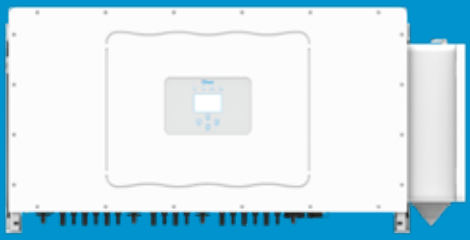
SUN-125K-G01P3-EU-BM8

SUN-130K-G01P3-EU-BM8

SUN-135K-G01P3-EU-BM8

SUN-136K-G01P3-EU-BM8

User Manual



Contents

1. Introduction ..... - 1 -

1.1 Appearance Introduction ..... - 1 -

1.2 Labels description ..... - 2 -

1.3 Parts list ..... - 2 -

1.4 Product handling requirements ..... - 3 -

2. Safety warnings and instructions ..... - 4 -

2.1 Safety signs ..... - 4 -

2.2 Safety instructions ..... - 5 -

2.3 Notes for using ..... - 5 -

3. Operation Interface ..... - 6 -

3.1 Interface View ..... - 6 -

3.2 Status Indicator ..... - 6 -

3.3 Buttons ..... - 6 -

3.4 LCD Display ..... - 6 -

4. Product installation ..... - 7 -

4.1 Select installation location ..... - 7 -

4.2 Mounting bracket of inverter ..... - 9 -

4.3 Installations Tools ..... - 10 -

4.4 Inverter Installation ..... - 10 -

5. Electrical Connection ..... - 11 -

5.1 PV Module Selection ..... - 11 -

5.2 DC input terminal connection ..... - 11 -

5.3 AC input terminal connection ..... - 13 -

5.4 The inverter monitoring connection ..... - 16 -

6. Startup and Shutdown ..... - 18 -

6.1 Start up the inverter ..... - 18 -

6.2 Inverter Shutdown ..... - 18 -

6.3 Anti-PID Function(Optional) ..... - 18 -

6.4 DRM(RCR)-Schaltplan(Optional) ..... - 19 -

6.5 LCD night power supply(Optional) ..... - 20 -

6.6 String intelligent monitor(optional) ..... - 20 -

7. Zero-export function via energy meter ..... - 20 -
7.1 Multiple strings and parallel connection meters ..... - 30 -
7.2 How to browse the load power of your PV grid-tieplant on monitoring platform? - 40 -
8. General Operation ..... - 42 -
8.1 The initial interface ..... - 45 -
8.2 Statistics information ..... - 47 -
8.3 Fault Record ..... - 49 -
8.4 ON/OFF setting ..... - 50 -
8.5 Parameter setting ..... - 51 -
9. Repair and Maintenance ..... - 57 -
10. Error information and processing ..... - 57 -
10.1 Error code ..... - 57 -
11. Specification ..... - 62 -
12. EU Declaration of Conformity ..... - 65 -

About This Manual

The manual mainly describes the product information, guidelines for installation, operation and maintenance. The manual cannot include complete information about the photovoltaic (PV) system.

Security Declaration

For detailed information regarding the product's network security vulnerability response procedures and the disclosure of related vulnerabilities, please refer to the Deye Security Center at https://sec.deyecloud.com.

How to Use This Manual

Read the manual and other related documents before performing any operation on the inverter. Documents must be stored carefully and be available at all times. **Contents may be periodically updated or revised due to product development. The information in this manual is subject to change without notice.**The latest manual can be acquired via service@deye.com.cn

Photovoltaic Grid-connected System

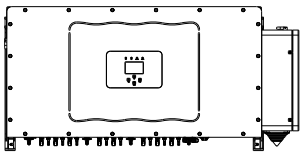


Application of inverter in photovoltaic power system

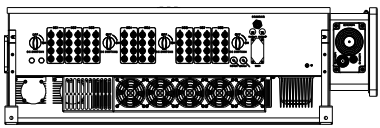
1. Introduction

1.1 Appearance Introduction

On-grid inverter can convert solar panel DC power into AC power which can directly input to the grid. Its appearance is shown below. These models contain SUN-120K-G01P3-EU-BM8, SUN-125K-G01P3-EU-BM8, SUN-130K-G01P3-EU-BM8, SUN-135K-G01P3-EU-BM8, SUN-136K-G01P3-EU-BM8.
The following is collectively referred to as “inverter”.



Pic 1.1 Front view



Pic 1.2 Bottom view

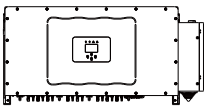
*Demand Response Modes / Ripple Control Receiver (Optional)

1.2 Labels description

Label	Description
	Caution, risk of electric shock symbol indicates important safety instructions, which if not correctly followed, could result in electric shock.
	The DC input terminals of the inverter must not be grounded.
	CE mark of conformity
	Please read the instructions carefully before use.
	Symbol for the marking of electrical and electronics devices according to Directive 2002/96/EC. Indicates that the device, accessories and the packaging must not be disposed as unsorted municipal waste and must be collected separately at the end of the usage. Please follow Local Ordinances or Regulations for disposal or contact an authorized representative of the manufacturer for information concerning the decommissioning of equipment.

1.3 Parts list

Please check the following table, to see whether all the parts are included in the package:



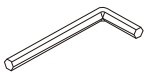
Grid-tied PV String Inverter x 1



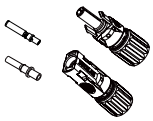
Wall mounting bracket x 1



Mounting stainless steel screws M4×12 x 11



Wrench x 1



DC+/DC- Plug connectors including metal terminal x N pairs



Stainless steel anti-collision bolt M12×60 x 4



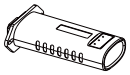
DRM connector (optional) x1



Installation screws M5× 16 x 8



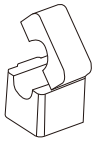
O-Type cold-pressed terminal (RNB38-12 copper) Ground terminal ×1



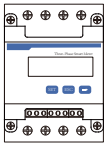
Datalogger (optional) x1



socket wrench x 1



*Sensor Clamp(optional) x 3



Meter(optional) x 1



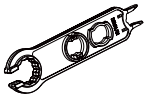
HJA4 Core Wire Female Connector - Screw Crimp x2



O-Type cold-pressed terminal (RNB70-12 copper) Ground terminal ×4

User manual

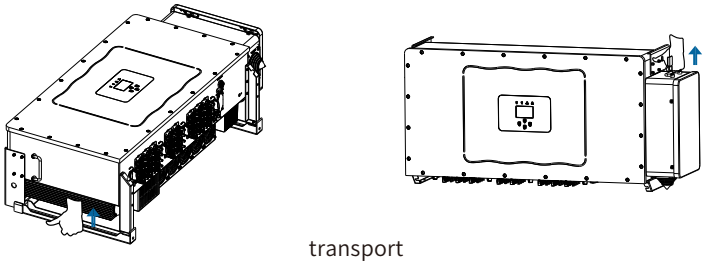
User manual x1



Solar Photovoltaic Connector Special Spanner x1

1.4 Product handling requirements

Lift the inverter out of the packing box and transport it to designated installation location.



transport

CAUTION:

Improper handling may cause personal injury!

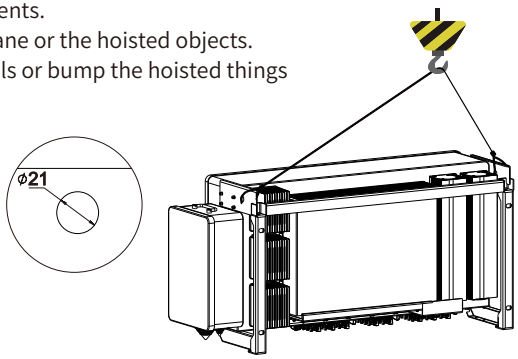
- Arrange an appropriate number of personnel to carry the inverter according to its weight, and installation personnel should wear protective equipment such as anti-impact shoes and gloves.
- Placing the inverter directly on a hard ground may cause damage to its metal enclosure. Protective materials such as sponge pad or foam cushion should be placed underneath the inverter.
- Move the inverter by one or two people or by using a proper transport tool.
- Move the inverter by holding the handles on it. Do not move the inverter by holding the terminals.

Hoisting Notes

If the inverter is installed in a high position, you can hung it up.

Only trained and approved personnel are allowed to perform hoisting operations.

- Install temporary warning signs or fences to far away the hoisting area.
- Make sure that the foundation where hoisting is performed on meets the load bearing requirements.
- Before hoisting objects, make sure that hoisting tools are firmly secured onto a fixed object or wall that meets the load-bearing requirements.
- When hoisting, do not stay under the crane or the hoisted objects.
- Do not drag steel ropes and hoisting tools or bump the hoisted things against hard things when hoisting.



2. Safety warnings and instructions

Improper use may result in potential electric shock hazards or burns. This manual contains important instructions that should be followed during installation and maintenance. Please read these instructions carefully before use and keep them for future reference.

2.1 Safety signs

Safety symbols used in this manual, which highlight potential safety risks and important safety information, are listed as follows:



Warning:
Warning symbol indicates important safety instructions, which if not correctly followed, could result in serious injury or death.



Shock Hazard:
Caution, risk of electric shock symbol indicates important safety instructions, which if not correctly followed, could result in electric shock.



Safety Hint:
Note symbol indicates important safety instructions, which if not correctly followed, could result in some damage or the destruction of the inverter.



High Temperature Hazard:
Caution, hot surface symbol indicates safety instructions, which if not correctly followed, could result in burns.

2.2 Safety instructions



Warning:
Electrical installation of the inverter must conform to the safety operation rules of the country or local area.



Warning:
Inverter adopts non-isolated topology structure, hence must insure DC input and AC output are electrical isolated before operating the inverter.



Shock Hazard:
Prohibit disassembling inverter case, there existing shock hazard, which may cause serious injury or death, please ask qualified person to repair.



Shock Hazard:
When PV module is exposed to sunlight, the output will generate DC voltage. Prohibit touching to avoid shock hazard.



Shock Hazard:
While disconnect the input and output of the inverter for maintenance, please waits for at least 5 mins until the inverter discharge the remnant electricity.



High Temperature Hazard:
Local temperature of inverter may exceed 80°C while under operating. Please do not touch the inverter case.

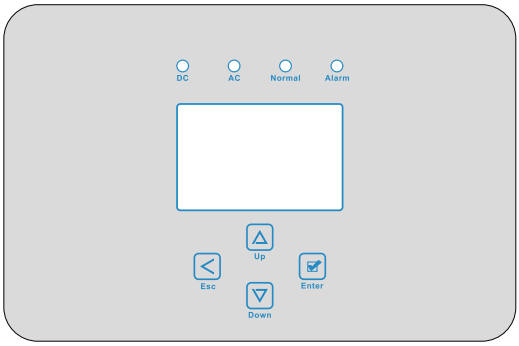
2.3 Notes for using

The three phase string power inverter is designed and tested under related safety regulations. It can ensure the personal safety of the user. But as a electric device, it may cause shock or injury by incorrect operation. Please operate the unit under below requirements:

1. Inverter should be installed and maintained by qualified person under local standard regulations.
2. Must disconnect the AC side first, then disconnect DC side while doing installation and maintenance, after that, please wait at least 5 mins to avoid getting shocked.
3. Local temperature of the inverter may exceed 80 °C while under operating.Do not touch to avoid getting injured.
4. All electrical installation must be in accord with local electrical standards, and after obtaining the permission of the local power supply department, the professionals can connect the inverter to the grid.
5. Please take appropriate anti-static measure.
6. Please install where children can not touch.
7. The steps to start the inverter：1) switch on the AC side circuit breaker, 2) Switch on the DC side circuit breaker of the PV panel. 3) Turn on the DC switch of the inverter.
The steps to stop the inverter：1) switch off the AC side circuit breaker, 2) switch off the DC side circuit breaker of the PV panel. 3) Turn off the DC switch of the inverter.
8. Don’t insert or remove AC and DC terminals when the inverter is in normal operation.
9. The DC input voltage of the inverter must not exceed the maximum value of the model.

3. Operation Interface

3.1 Interface View



Pic 3.1 Front panel display

3.2 Status Indicator

The inverter panel has 4 indicators, the left one is dc output indicators, green indicates normal DC input. Beside is the AC indicator, green indicating normal ac connection. Beside the AC indicator is the operating indicator, green indicating normal output. The right indicator is alarm. red indicates alarming.

Indicator	status	Explanation
DC	on	Inverter detects DC input
	off	Low DC input voltage
AC	on	Grid Connected
	off	Grid Unavailable
NORMAL	on	Under normal operating
	off	Stop operating
ALARM	on	Detected faults or report faults
	off	Under normal operating

Table 3.1 Status indicator lights

3.3 Buttons

There are four buttons on the inverter panel: Above is Up and increase button(UP), Below is down and decrease button(DOWN), Left is ESC button(ESC), Right is Enter button(ENTER). Achieving below functions by the four buttons:

- Page turning (use UP and DOWN button)
- Modify adjustable parameters (use ESC and ENTER button)

3.4 LCD Display

Three phase string inverter use 256*128 dot formation display, Display below content:

- Inverter operation status and information;
- Operating information;
- Warning message and malfunction display.

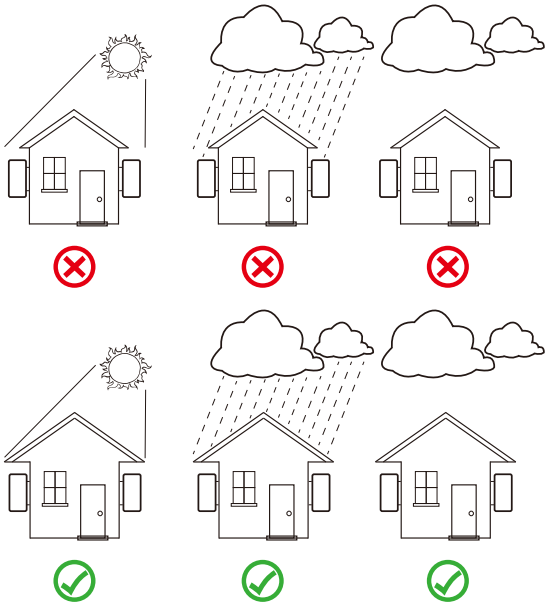
4. Product installation

4.1 Select installation location

To select a location for the inverter, the following criteria should be considered:

WARNING: Risk of fire

- Do not install the inverter in areas containing highly flammable materials or gases.
- Do not install the inverter in potentially explosive atmospheres.
- Do not install in small closed spaces where air can not circulate freely. To avoid overheating, always make sure the flow of air around the inverter is not blocked.
- Exposure to direct sunlight will increase the operational temperature of the inverter and may cause output power limiting. It is recommended that inverter installed to avoid direct sunlight or raining.
- To avoid overheating ambient air temperature must be considered when choosing the inverter installation location. It is recommended that using a sun shade minimizing direct sunlight when the ambient air temperature around the unit exceeds 104°F/40°C.



Pic 4.1 Recommended installation place

● Install on a wall or strong structure capable of bearing the weight.

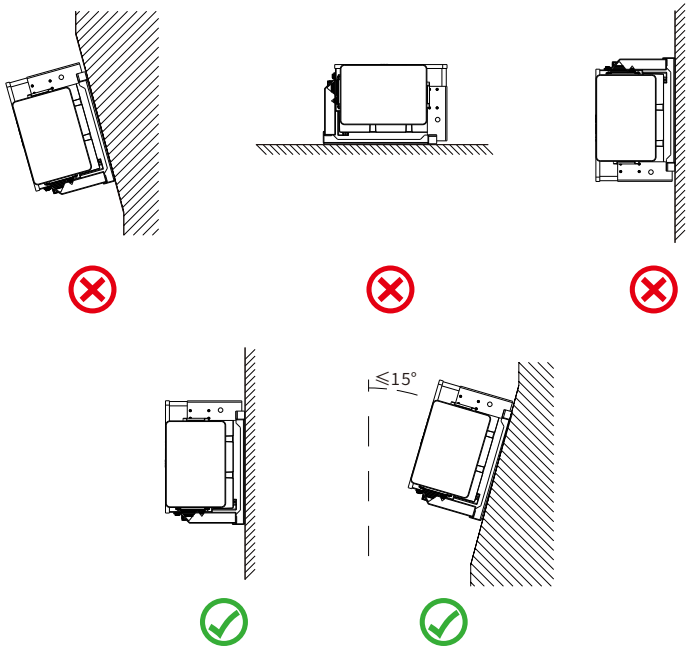
● Install vertically with a maximum incline of +15°. If the mounted inverter is tilted to an angle greater than the maximum noted, heat dissipation can be inhibited, and may result in less than expected output power.

● If install more than one inverter, must leave at least 500mm gap between each inverter. And each inverter must be at least 500mm above and below.And must install the inverter at the place where children cannot touch. Please see picture 4.3.

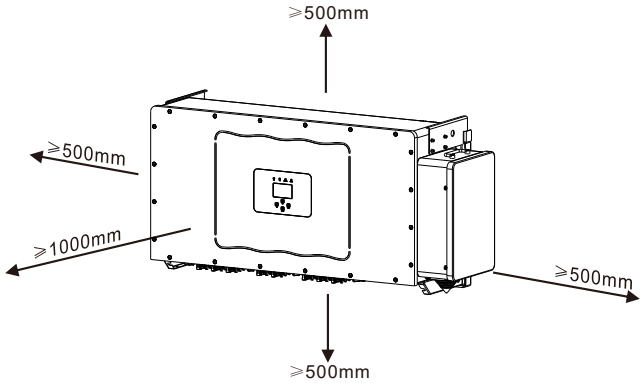
● Consider whether the installation environment is helpful to see the inverter LCD display and indicator status clearly.

● Must offer a ventilate environment if inverter installed in the airtight house.

Safety Hint:
Do not place or store any items next to the inverter.

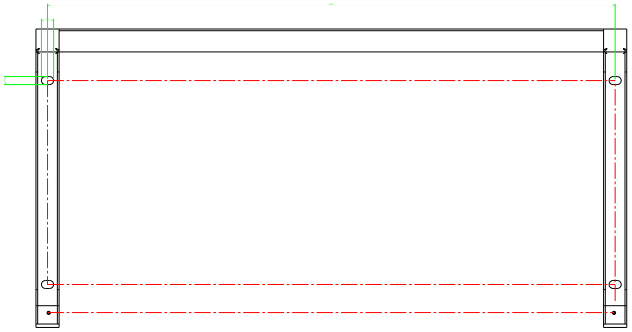


Pic 4.2 Installation Angle



Pic 4.3 Installation Gap

4.2 Mounting bracket of inverter



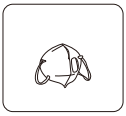
Pic 4.4 Mounting bracket dimensions

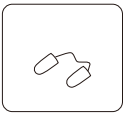
4.3 Installations Tools

Installation tools can refer to the following recommended ones. Also, use other auxiliary tools on site.

table 4-1 Tool specification

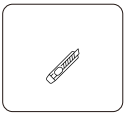

Protective goggles

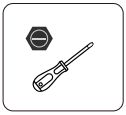

Anti-dust mask


Earplugs

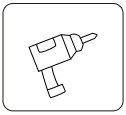

Work gloves

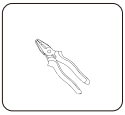

Work shoes

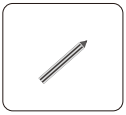

Utlity Knife


Slotted screwdriver


Cross screwdriver

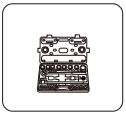

Percussion drill

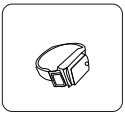

Pliers

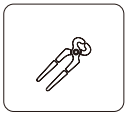

Marker

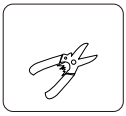

Level

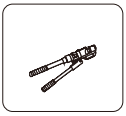

Rubber hammer

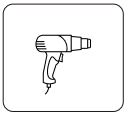

socket wrenches set

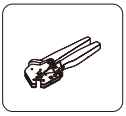

Anti-static wrist strap

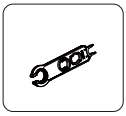

Wire cutter


Wire stripper

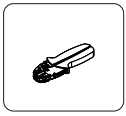

Hydraulic pliers


Heat gun

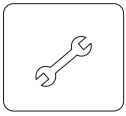

Crimping tool4-6mm²


Solar connector wrench


Multimeter ⩾1100 Vdc


RJ45 crimping plier

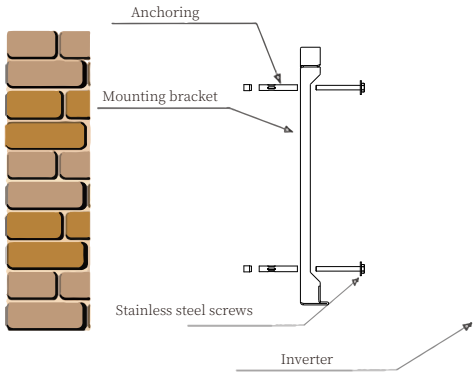

Cleaner


Spanner

4.4 Inverter Installation

The inverter should be mounted in a vertical position. The steps of mounting are as follows

1. For brick walls, the position of the holes should be suitable for the expansion bolts.
2. Make sure the bracket is horizontal and the mounting holes are in the correct points. Drilling the holes on the wall according the marks.
3. Using the expansion bolts to fix the bracket to the wall.



Pic 4.5 Inverter Installation

5. Electrical Connection

5.1 PV Module Selection:

When selecting proper PV modules, please be sure to consider below parameters:

1) Open circuit Voltage (Voc) of PV modules not exceeds max. PV array open circuit voltage of inverter.
2) Open circuit Voltage (Voc) of PV modules should be higher than min. start voltage.
3) The PV modules used to connected to this inverter shall be Class A rating certified according to lEC 61730.

Inverter Model	SUN-120/125/130/135/136K-G01P3-EU-BM8
PV Input Voltage	600V (250V-1100V)
PV Array MPPT Voltage Range	200V-1000V
No. of MPP Trackers	8
No. of Strings per MPP Tracker	4+4+4+4+4+4+4+4

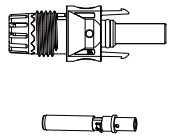
5.2 DC input terminal connection

1. Switch the Grid Supply Main Switch(AC)OFF.
2. Switch the DC lsolator OFF.
3. Assemble PV input connector to the inverter.

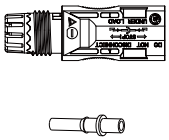
Warning:
When using PV modules, please ensure the PV+ & PV- of solar panel is not connected to the system ground bar.

Safety Hint:
Before connection, please make sure the polarity of the output voltage of PV array matches the “DC+” and “DC-” symbols.

Warning:
Before connecting inverter, please make sure the PV array open circuit voltage is within the 1100V of the inverter.



Pic 5.1 DC+ male connector



Pic 5.2 DC- female connector

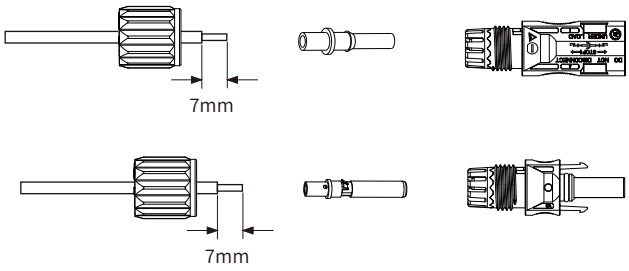
Safety Hint:
Please use approved DC cable for PV system.

Cable type	Cross section (mm^2)	
	Range	Recommended value
Industry generic PV cable (model: PV1-F)	2.5-4.0 (12-10AWG)	2.5(12AWG)

Table 5.1 DC Cable Specifications

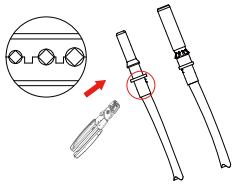
The steps to assemble the DC connectors are listed as follows:

a) Strip off the DC wire about 7mm, disassemble the connector cap nut (see picture 5.3).



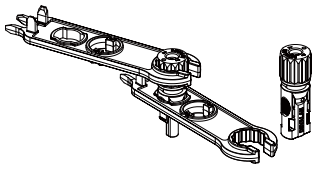
Pic 5.3 Disassemble the connector cap nut

b) Crimping metal terminals with crimping pliers as shown in picture 5.4.



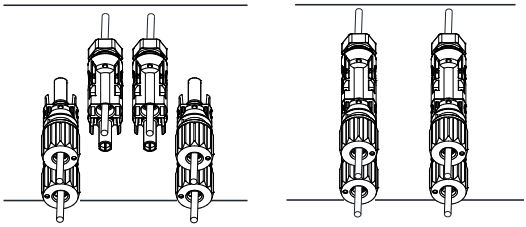
Pic 5.4 Crimp the contact pin to the wire

c) Insert the contact pin to the top part of the connector and screw up the cap nut to the top part of the connector. (as shown in picture 5.5).



Pic 5.5 connector with cap nut screwed on

d) Finally insert the DC connector into the positive and negative input of the inverter, shown as picture 5.6



Pic 5.6 DC input connection

Warning:
Sunlight shines on the panel will generate voltage, high voltage in series may cause danger to life. Therefore, before connecting the DC input line, the solar panel needs to be blocked by the opaque material and the DC switch should be 'OFF', otherwise, the high voltage of the inverter may lead to life-threatening conditions.

Warning:
Please use its own DC power connector from the inverter accessories. Do not interconnect the connectors of different manufacturers.Max. DC input current should be 20A. if exceeds, it may damage the inverter and it is not covered by Deye warranty.

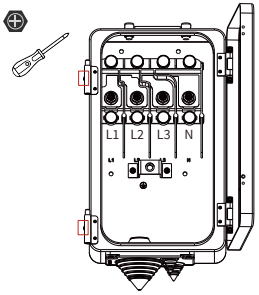
5.3 AC input terminal connection

Model	Wire Size	Recommend copper cable(mm^2)	Torque value(max)	Max cable length
SUN-120K-G01P3-EU-BM8	4/0AWG	95	28.2N·m	Outside cable (3L+N)20m
SUN-125K-G01P3-EU-BM8	4/0AWG	95	28.2N·m	
SUN-130K-G01P3-EU-BM8	4/0AWG	95	28.2N·m	
SUN-135K-G01P3-EU-BM8	4/0AWG	95	28.2N·m	
SUN-136K-G01P3-EU-BM8	4/0AWG	95	28.2N·m	

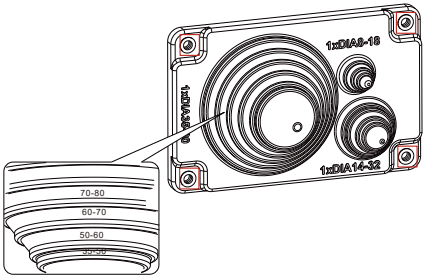
Table 5.2 Recommened cable specifications

Warning:
The AC cable line L1 is connected to socket 1; L2 is connected to socket 2; L3 is connected to socket 3, the PE line is connected to the earth , the N wire is connected to the socket of N.

AC wire installation method:
1) Disconnect the AC side circuit breaker and prevent it from inadvertent reconnection.
2) Loosen the 2 screws on the side cover plate of the junction box with a cross screwdriver and open the cover plate. (See Fig. 5.7).
3) Loosen the screws on the bottom sealing plate with a cross screwdriver and remove the sealing plate.
4) According to the AC cable specifications, select 1 to 3 sealing rings on the sealing plate for use. Cut off the excess part of the sealing ring(s) and lead the AC cable through the sealing ring(s). (as shown in picture 5.8).

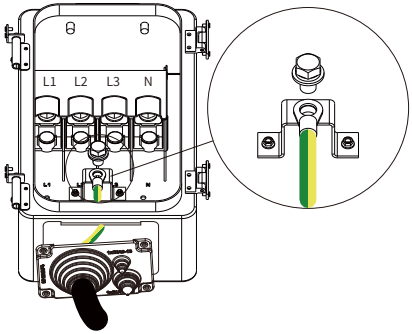


Pic 5.7 AC junction box

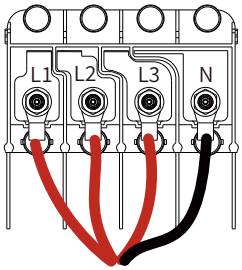


Pic 5.8 sealing ring

5) For the PE wire, crimp it with an RNB38-12 terminal, strip 14-16 mm of insulation from the end of PE wire before crimping(as shown in picture 5.9).
Route the AC cable into the junction box through the bottom opening. Strip 40 cm of the outer protective sheath from the AC cable. For the 5-core wires (3L+N+PE wires), crimp 3L+N with RNB70-12 terminals, strip 19-22 mm of insulation from the ends of the 3L+N wires before crimping (as shown in picture 5.10).
According to the polarity indicators below the terminals inside the junction box, connect the 3L+N+PE wires to the corresponding terminals respectively, and tighten them with a torque wrench (Recommended torque: 42 N・m).



Pic 5.9 Ground cable connection to the terminal



Pic 5.10 Tightening the AC connection cable

Note: Proper grounding is essential for withstanding surge voltage shocks and improving EMI performance. Therefore, the inverter must be grounded prior to making AC, DC, or communication connections. For a single-unit system, simply ground the PE cable. For multiple-unit systems, the PE cables of all inverters must be connected to a common grounding busbar to ensure equipotential bonding.

Model	Wire Size	Recommend copper cable(mm^2)	Torque value(max)
SUN-120K-G01P3-EU-BM8	0AWG	50	20.3N·m
SUN-125K-G01P3-EU-BM8	0AWG	50	20.3N·m
SUN-130K-G01P3-EU-BM8	0AWG	50	20.3N·m
SUN-135K-G01P3-EU-BM8	0AWG	50	20.3N·m
SUN-136K-G01P3-EU-BM8	0AWG	50	20.3N·m

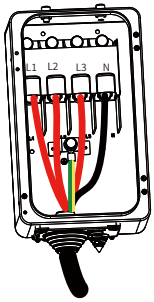
Table 5.3 Recommended Ground Cable Specifications

Warning:

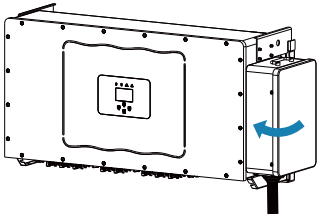
Inverter has built-in leakage current detection circuit, The type A RCD can be connected to the inverter for protection according to the local laws and regulations. If an external leakage current protection device is connected to the grid port of the inverter, its operating current must be equal to 10mA/kVA or higher. For this series of inverters, it should be 1360mA or higher, otherwise the inverter may not work properly.

6) Put the sealing plate (which is now on the cable) back to its original position at the bottom of the junction box and secure it with the original screws (Recommended torque: 3.0 N・m)(as shown in picture 5.11).

7) Close the cover plate of the junction box and tighten the 2 screws on the side cover with a cross screwdriver.(as shown in Pic 5.12).



Pic 5.11 AC Cable and Ground (PE) Connection Diagram



Pic 5.12 Tighten the AC junction box

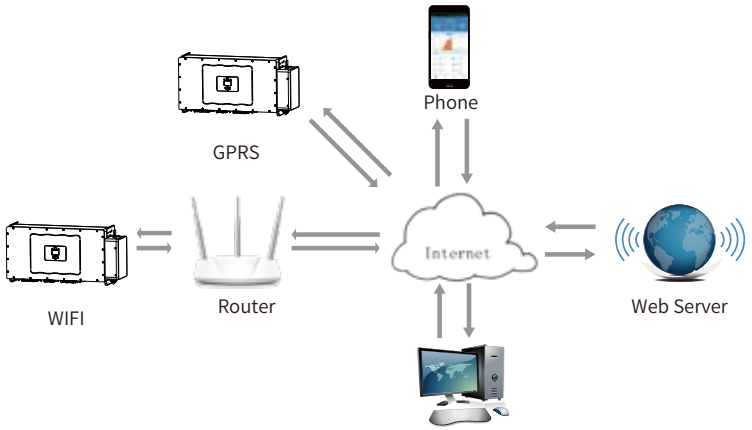
5.3.1 Recommended current protector specifications

Inverter	Rated voltage	Rated output power(KW)	Current protection device(A)
SUN-120K-G01P3-EU-BM8	220/380, 230/400	120	260
SUN-125K-G01P3-EU-BM8	220/380, 230/400	125	270
SUN-130K-G01P3-EU-BM8	220/380, 230/400	130	270
SUN-135K-G01P3-EU-BM8	220/380, 230/400	135	270
SUN-136K-G01P3-EU-BM8	220/380, 230/400	136	270

Table 5.3 Recommended current protector specifications

5.4 The inverter monitoring connection

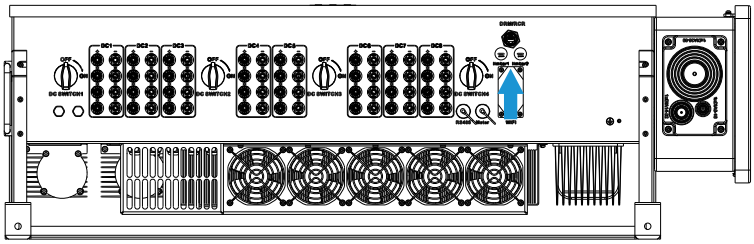
Inverter has the function of wireless remote monitoring inverter. The inverter has Wifi function and Wifi Plug in the accessories is used to realize the connection between the inverter and the network. The operation, installation, networking, APP download are detailed in the WIFI PLUG instructions. Figure 5.13 is the Internet monitoring solution.



Pic 5.13 Internet monitoring solution

5.4.1 Installation of datalogger

When installing the WiFi stick, tear off the sealing strip on the inverter. Insert the datalogger into the interface and fix it with a screw. The configuration of the datalogger needs to be performed after various electrical connections have been completed and the inverter DC power on. When the inverter is on the DC power, it is determined whether the datalogger is normally electrified (The LED light shines out of the shell).



Pic 5.14 datalogger installation diagram

5.4.2 Configuration of datalogger

For the configuration of datalogger, please refer to illustrations of the datalogger.

6. Start up and Shut off

Ensure that the inverter meets the following conditions before starting the inverter, otherwise it may cause fire or damage to the inverter without quality assurance, at the same time the situation on our company does not undertake any responsibility. At the same time, to optimize the system configuration, it is recommended that the two inputs be connected to the same number of PV modules.

a). The maximum open circuit voltage of each set of PV modules shall not exceed 1100Vdc under any conditions.

b). Each input of the inverter better use the same type of PV module in series.

c). Total output power of PV shall not exceed the maximum input power of inverter, each PV modules shall not exceed the rated power of each channel.

6.1 Start up the inverter

When starting up the inverter, should fellow steps below:

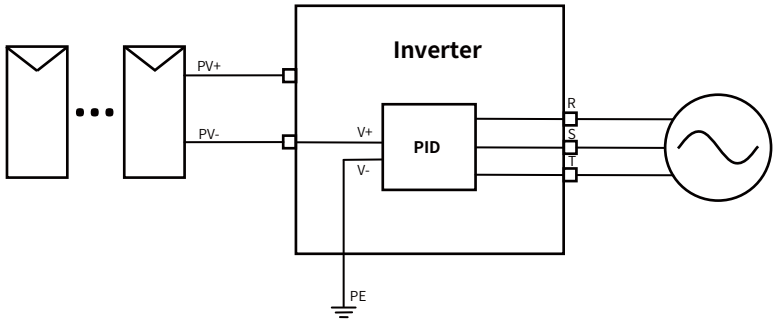
1. Starting switch on the AC breaker.
2. Turn on the DC switch of the PV module, and if the panel provides sufficient starting voltage and power, the inverter will start.
3. The inverter will first check the internal parameters and the grid parameters, while the liquid crystal will show that the inverter is self-checking.
4. If the parameter is within acceptable range, the inverter will generate energy. NORMAL indicator light is on.

6.2 Shut off the inverter

Must follow below steps while Shutting down the inverter:

1. Switch off the AC breaker.
2. Wait for 30 seconds, turn off the dc switch (if any), or simply disconnect the dc input connector. The inverter will close the LCD and all led within two minutes.

6.3 Anti-PID Function(Optional)



The Anti-PID module repairs the PID effect of the PV module at night.The PID module always runs when connected to AC.

If maintenance is required and turn off the AC switch can disable the Anti-PID function.

Notes: Anti-PID feature not support running with LCD night power supply feature.

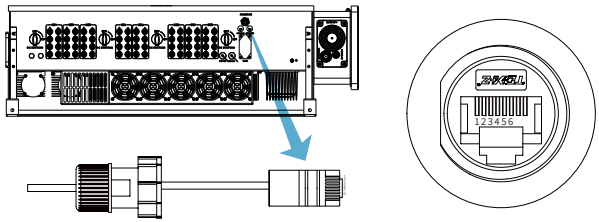
Warning:

The PID functionality is automatic.When the DC bus voltage is below 50VDC, the PID module will create 450VDC between the PV and ground.No control and equipment are required.

Warning:

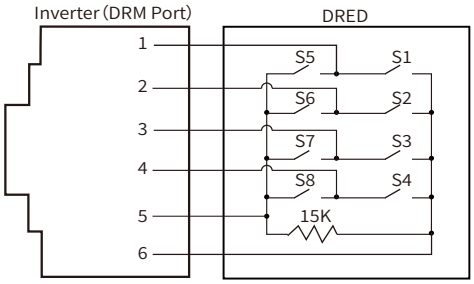
If you need to maintain the inverter, Please turn off the AC switch first,then turn off the DC switch, and wait 5 minutes before you do other operations.

6.4 DRM(RCR)-Schaltplan(Optional)



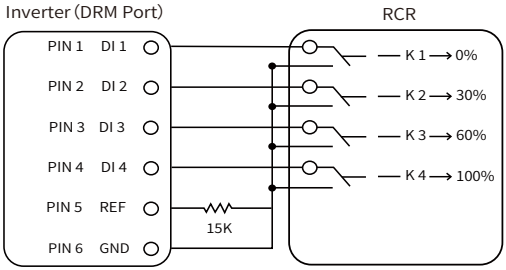
\"AU\"/\"NZ\": Demand Response Modes (DRMs)
In Australien und Neuseeland unterstützt der Wechselrichter den im AS/NZS 4777.2-Standard spezifizierten Demand-Response-Modus, wie in Abbildung 6.1 dargestellt.

\"DE\": Rundsteuerempfänger (RCR)
In Deutschland verwendet die Netzgesellschaft den Rundsteuerempfänger, um Netzeinspeisungssignale in eine trockene Kontaktsignalübertragung umzuwandeln. Der Wechselrichter kann die Ausgangsleistung gemäß den in Abbildung 6.2 gezeigten lokalen voreingestellten Befehlen steuern.



Pic 6.1

Pin	Definition
1	DRM1/5
2	DRM2/6
3	DRM3/7
4	DRM4/8
5	REF GEN/0
6	GND



Pic 6.2

Pin	Definition	Note
1	K1	0% Output Power
2	K2	30% Output Power
3	K3	60% Output Power
4	K4	100% Output Power
6	GND	Signal

6.5 LCD night power supply(optional)

This function need adding night power PCB board which using AC power to supply the LCD screen and data logger,then the inverter can upload consumption power data to the cloud platform during night. This feature is optional.

Notes: LCD night power supply feature not support running with Anti-PID feature.

6.6 String intelligent monitor(optional)

Usually,inverter cannot show each PV string's data of each MPPT,only display each MPPT data.Through adding this string intelligent monitor board.It will monitor each PV string's data.

7. Zero-export function via energy meter

There're several usable models of smart meters for this series inverter.Pic 7.6,7.8,7.14,7.16 is CT Type meters,this Type meter can measure large current on each phase.For example,SDM630MCT 40mA(grid each phase current ＜ 200A),DTSU666 250A/50mA(grid each phase current ＜ 250A).If your local current is big,please buy CT type meter. First model is Eastron SDM630-Modbus V2 which is able to measure the Max. 100A current directly, More details please refer to Pic7.1 & 7.4. For the Eastron SDM630 MCT 40mA, it needs external CT with a 40mA secondary output current. More details about the Eastron SDM630 MCT, please refer toPic 7.5 & 7.8. Also, the CHINT meter DTSU666 5(80) A is also supported, it can measure the Max. 80A current directly. More usable models of DTSU666 series , please refer to Pic 7.9-7.16. Suggest purchasing smart meters from authorized distributors of Deye or directly from Deye.

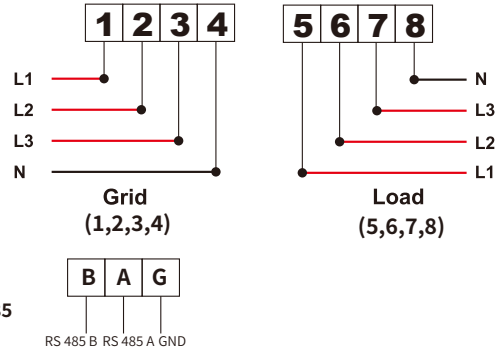
When you are reading this, we believe that you have completed the connection according to the requirements of chapter 5, if you have been running your inverter at this time, and you want to use the zero-export function, please turn off AC and DC switch of the inverter, and wait for 5 minutes until the inverter completely discharged.Please follow below Picture 7.1 to connect the energy meter.

For system wiring diagram, the red line refers to L line (L1, L2, L3), the black line refers to the neutral line (N). Connecting energy meter RS485 cable to inverter's RS485 port. It's recommended to install an AC switch between the inverter and the utility grid, the specs of the AC switch are determined by the power of load.

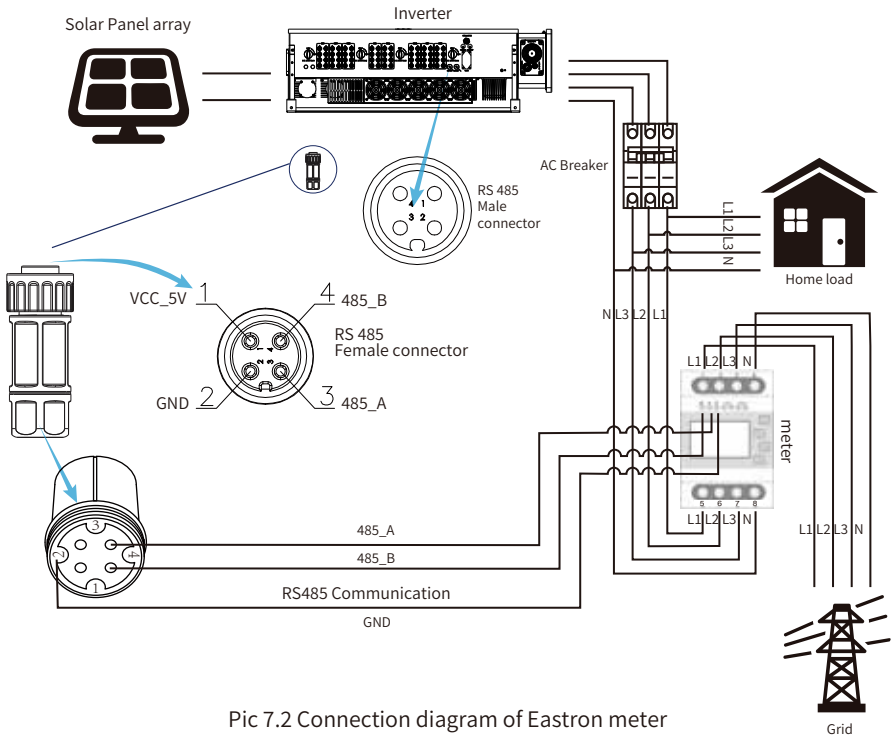
If there is no integrated DC switch inside the inverter you purchased, we commend you to connect the DC switch. The voltage and current of the switch depend on the PV array you access.



Eastron SDM630-Modbus V2



Pic 7.1 Eastron meter

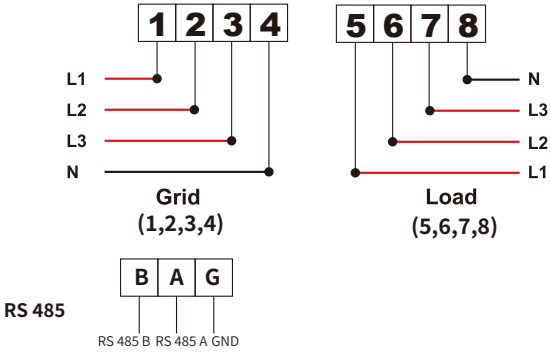


Pic 7.2 Connection diagram of Eastron meter

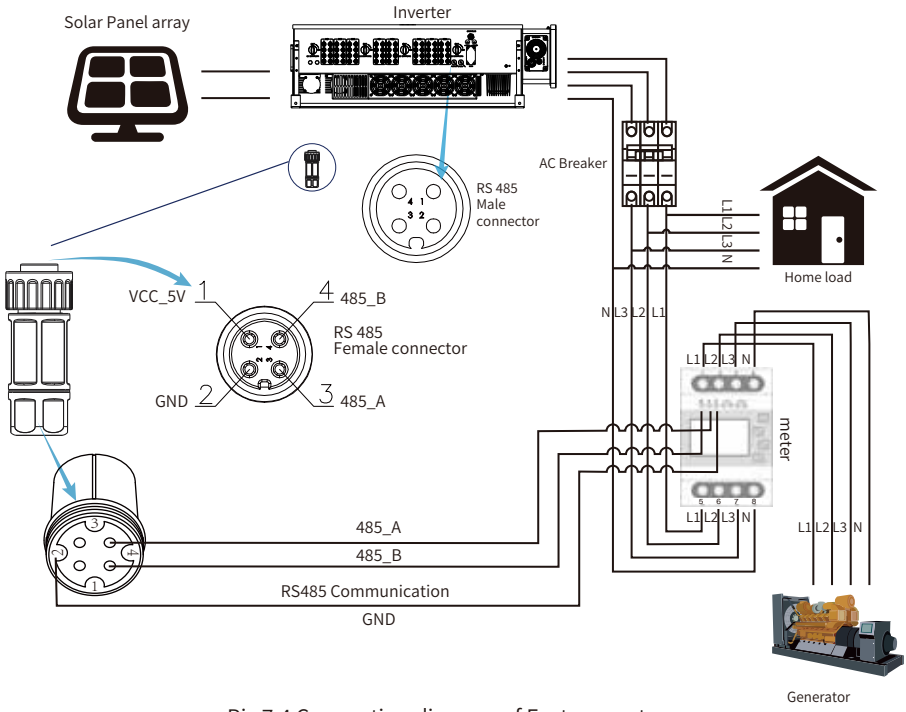
Warning:
In final installation, breaker certified according to IEC 60947-1 and IEC 60947-2 shall be installed with the equipment.



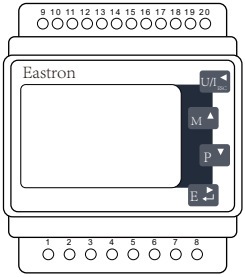
Eastron SDM630-Modbus V2

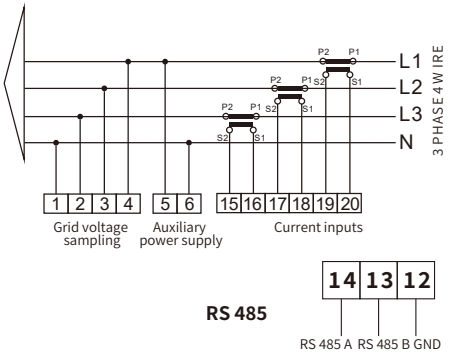


Pic 7.3 Eastron meter



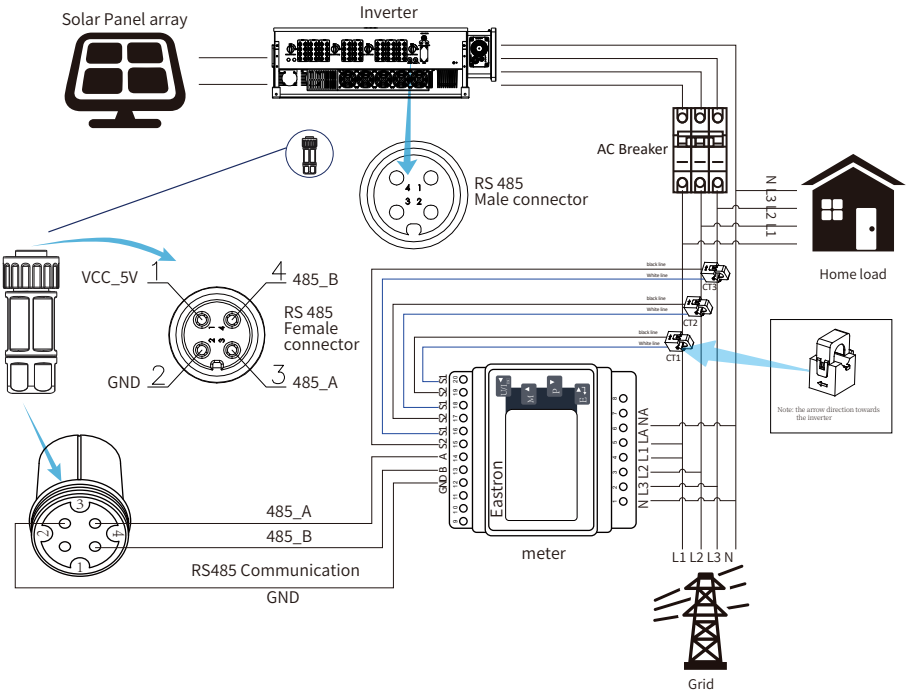
Pic 7.4 Connection diagram of Eastron meter



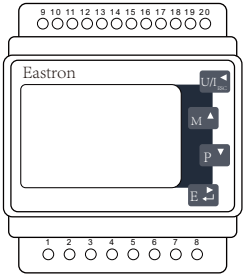


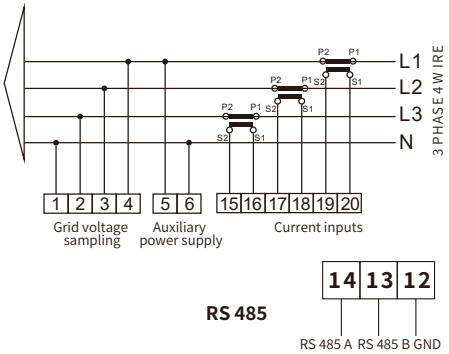
Eastron SDM630MCT

Pic 7.5 Eastron meter



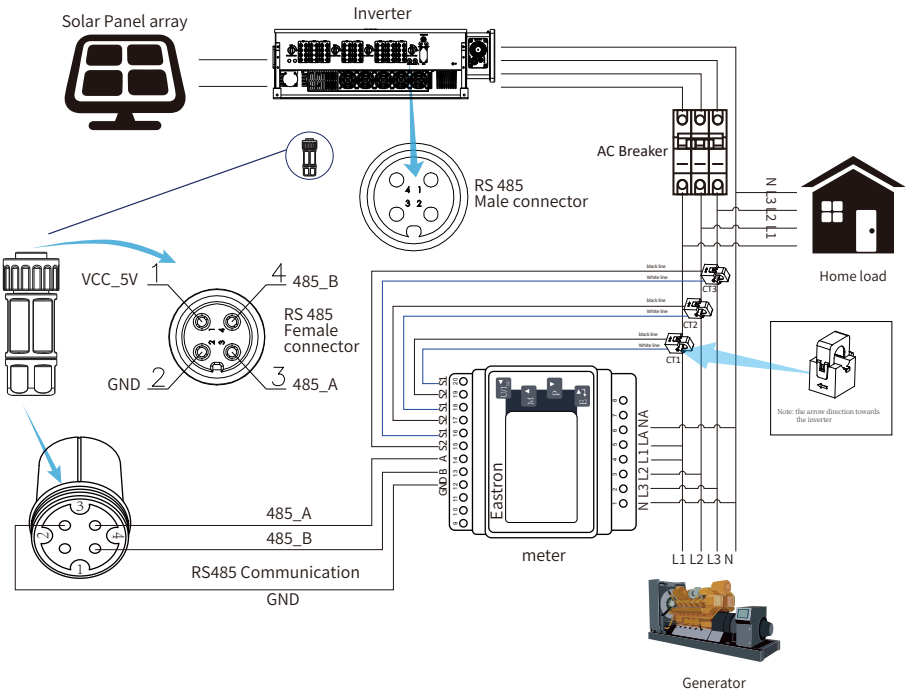
Pic 7.6 Connection diagram of Eastron meter



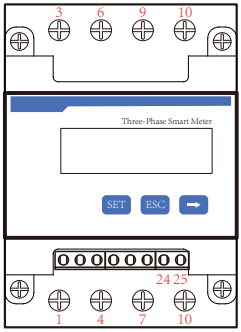


Eastron SDM630MCT

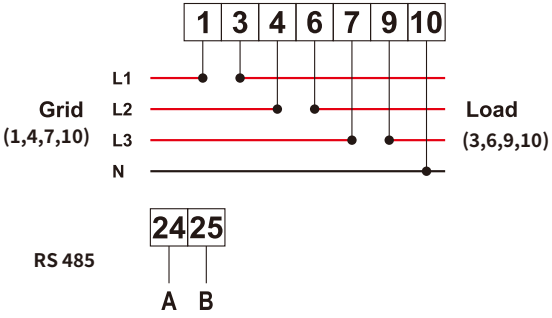
Pic 7.7 Eastron meter



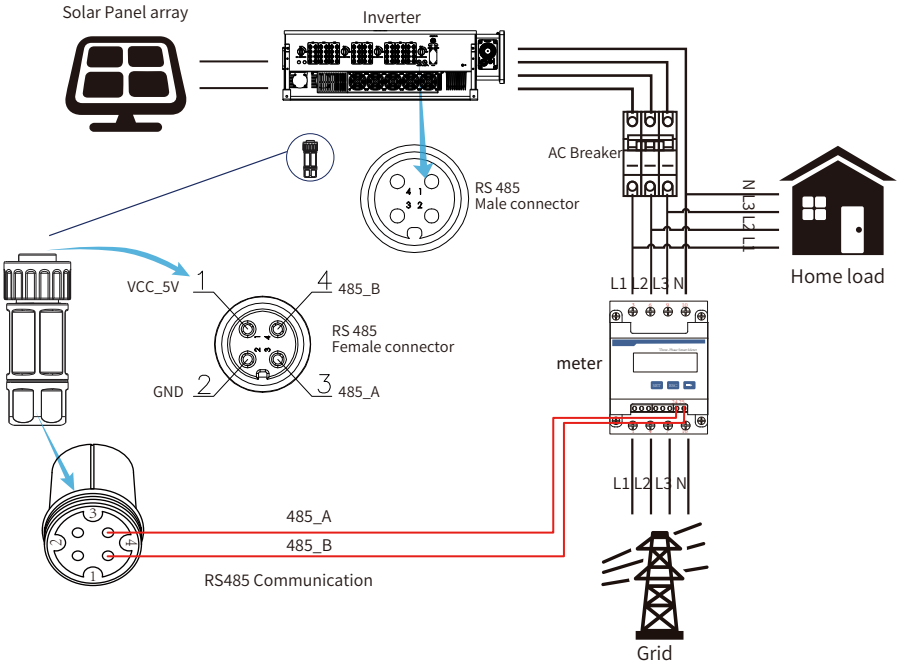
Pic 7.8 Connection diagram of Eastron meter



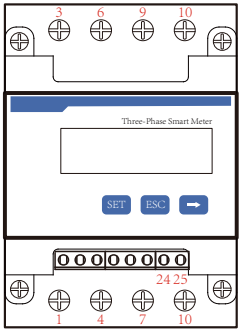
CHINT DTSU666 5(80)A



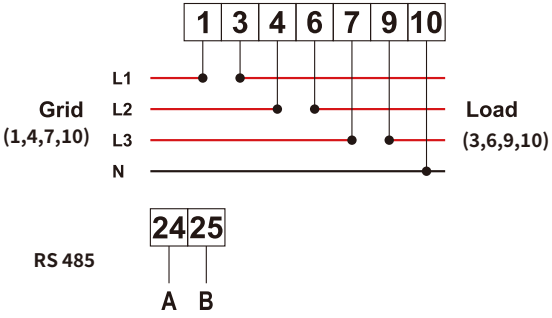
Pic 7.9 CHINT meter



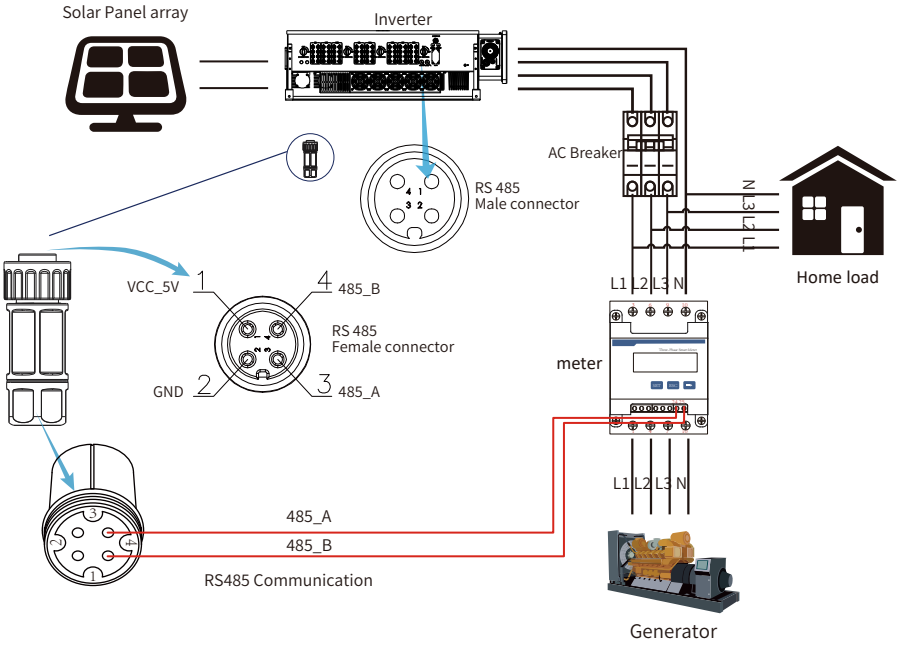
Pic 7.10 Connection diagram of CHINT meter



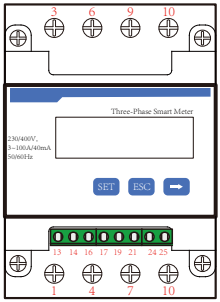
CHINT DTSU666 5(80)A



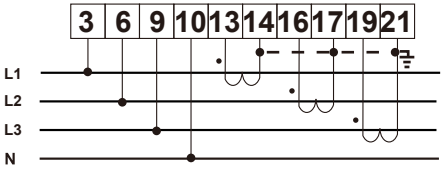
Pic 7.11 CHINT meter



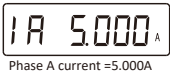
Pic 7.12 Connection diagram of CHINT meter



CHINT DTSU666
3x230/400V
3~100A/40mA







Phase A current =5.000A

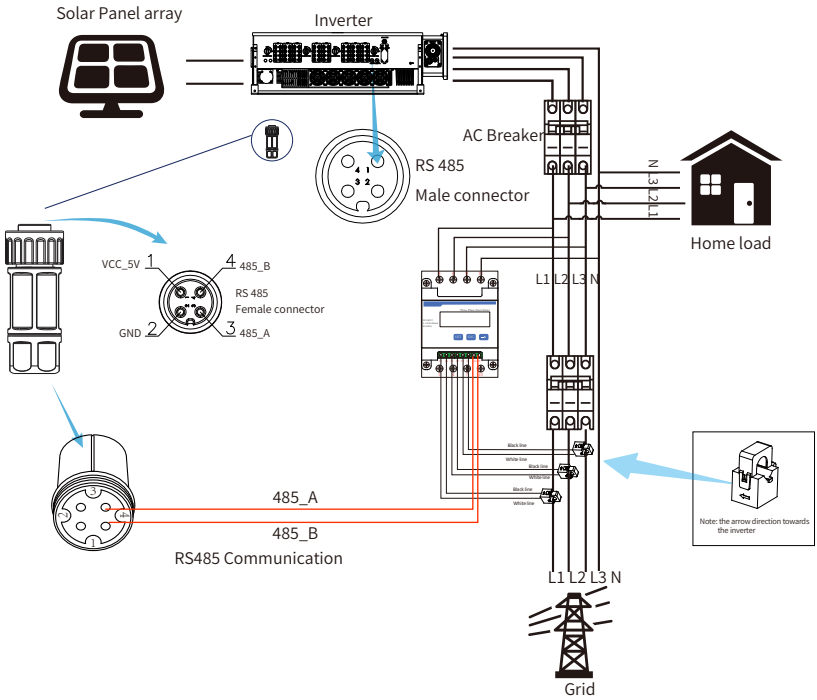


Phase B current =5.001A

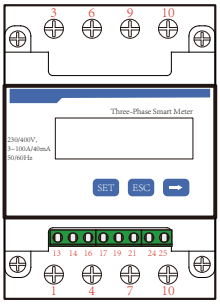


Phase C current =5.002A

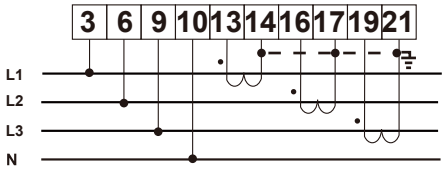
Pic 7.13 CHINT meter



Pic 7.14 Connection diagram of CHINT meter



CHINT DTSU666
3x230/400V
3~100A/40mA







Phase A current =5.000A

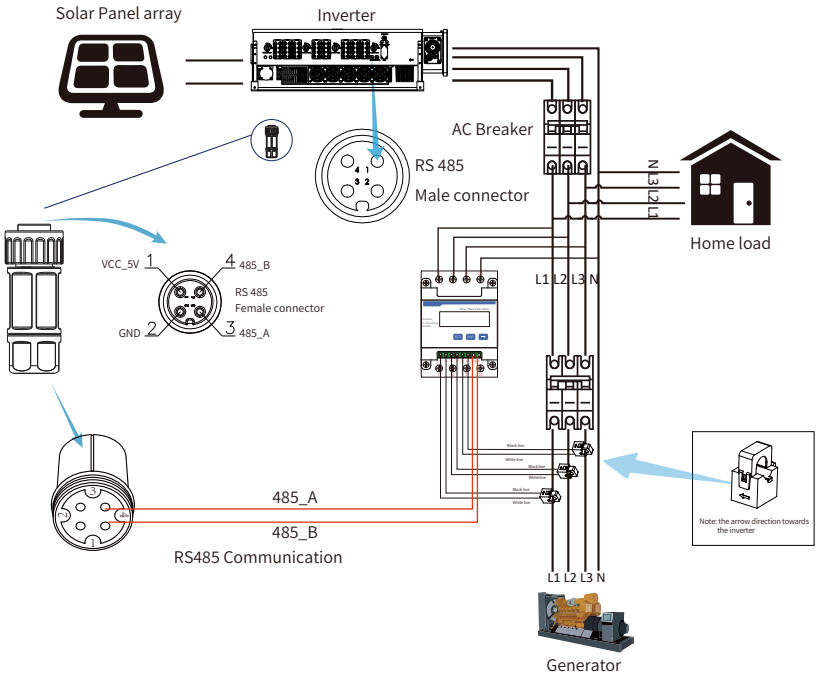


Phase B current =5.001A



Phase C current =5.002A

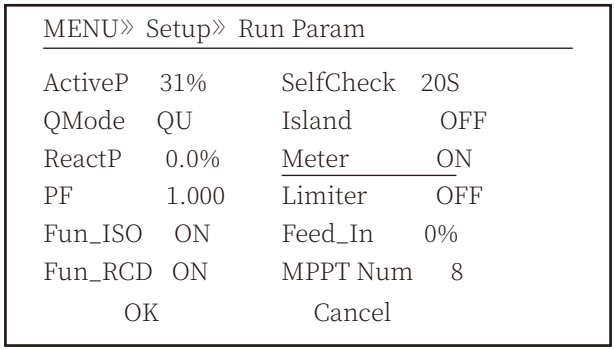
Pic 7.15 CHINT meter



Pic 7.16 Connection diagram of CHINT meter

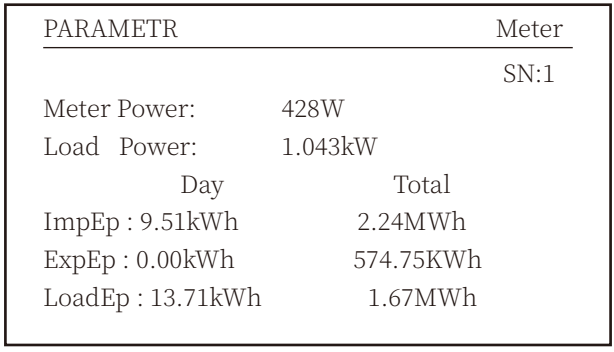
Safety Hint:
Ensuring grid input cables connect 1/4/7/10 port of energy meter, and inverter AC output cables connect 3/6/9/10 port of energy meter when connecting.

1. Press Enter button on the LCD panel in the main interface into the menu options, select [parameter setting] to enter setup submenu, and then select [run param], at this time please input the default password 1234 through pressing the button [up down, enter], enter the operation parameter setting interface, shown as picture 7.17.



Pic 7.17 Zero-export function via meter setting interface

2. Operate the button [up down], move setting cursor to energy meter and press the button [enter]. At this time you can turn on the energy meter by choosing [up down] button, please press [enter] button to confirm when setting done.
3. Move the cursor to [OK], press [enter] to save the settings and exit the running parameters page, otherwise the settings are invalid.
4. If set up successfully, you can return to the menu interface, and display the LCD to [home page] by press the [up down] button. If it displays [meter power XXW], the zero-export function setting is completed. Shown as picture 7.18.



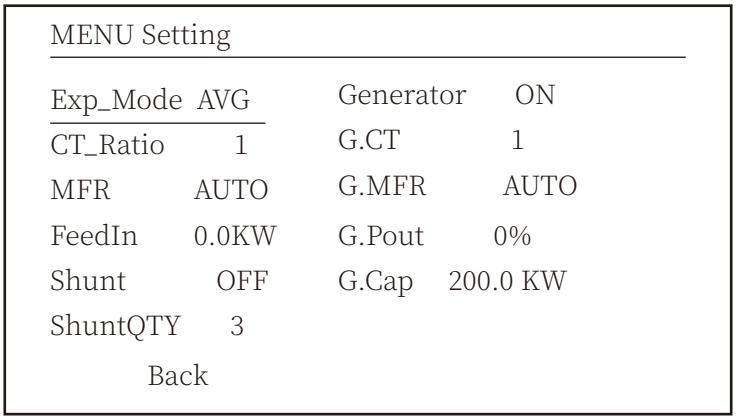
Pic 7.18 Zero-export function via energy meter turn on

5. Meter power 428W shows positive means grid is supplying the load, and no power fed into grid. if meter power shows negative, it means PV energy is being sold to grid or energy meter wiring conncetion has problem.
6. After properly connection is done, wait for inverter starting. If the power of the PV array meets the current power consumption, the inverter will keep a certain output to counteract the power of the grid without backflow .

7.1 Multiple strings and parallel connection meters

This application is that when the string inverters work in parallel, there is only one power grid and one load, and only one meter can be connected to prevent reverse current, so only this many-to-one anti-reverse current connection can be connected.

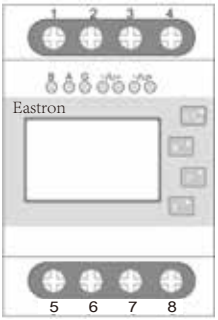
If there're several inverters parallelling operation in a plant, also it can use 1pcs meter to realize zero export function.For example, if there're 3pcs inverters parallelling operation in the system with 1pcs meter.We need to setup 1pcs inverteras the master and others setup as slaves. And, all of them need to connect to the meter via RS485.Below is the system diagram and configuration of the system.

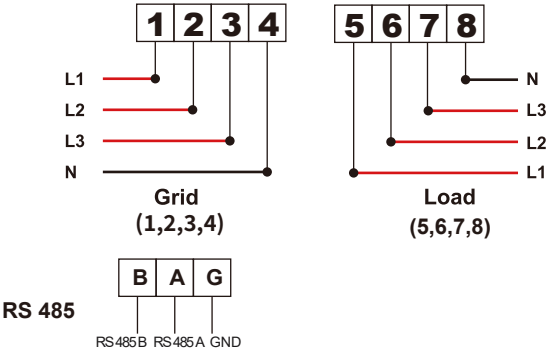


Pic 7.19 Meter function

Name	Description	Range
Exp_Mode	AVG: Average power of three phase is zero exported. MIN: Phase with minimum load power is zero exported, while the other two phase may be in purchase mode.	AVG/MIN
CT_Ratio	CT ratio of power grid side meter when extern CT is applied.	1-1000
MFR	Manufacturer of the grid side meter. Modbus Address of it should be set as 01.	AUTO/CHNT/ EASTRON
Feedin	Percentage of the Feed in power exported to the grid.	0-110%
Shunt	Parallel mode. Set one inverter as Master, others are Slave. ONLY need to set the master, Slave will follow the settings in the master.	OFF/Master/ Slave
ShuntQTY	Number of inverters in parallel	1-16
Generator	DG side meter function Enable/Disable	ON/OFF
G.CT	CT ratio of power DG side meter when extern CT is applied.	1-1000
G.MFR	Manufacturer of the DG side meter. Modbus Address of it should be set as 02.	AUTO/CHNT/ EASTRON
G.Pout	Output power percentage of the DG.	0-110%
G.Cap	Capacity of the DG.	1-999kW

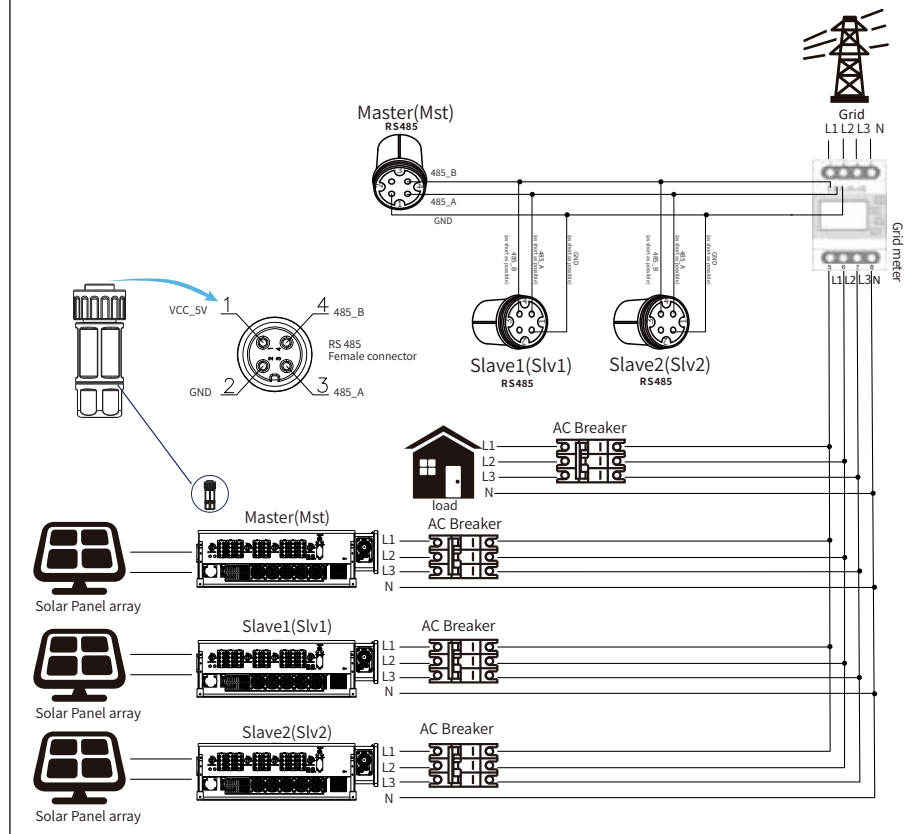
Note: Select Meter option in Run Param and long press ENTER button to enter this Meter Setting page.



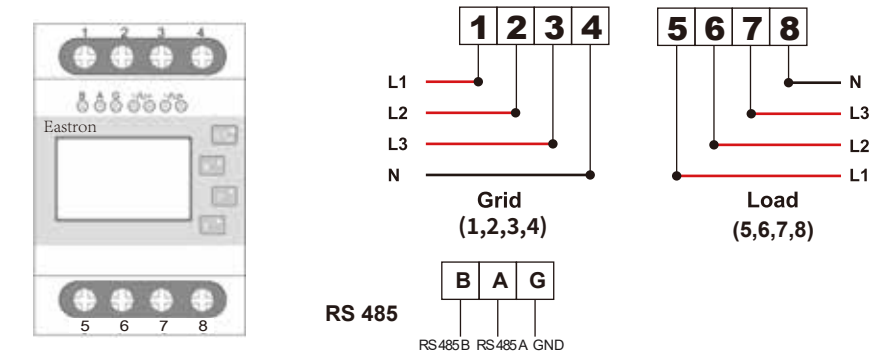


Eastron SDM630-Modbus V2

Pic 7.20 Eastron meter

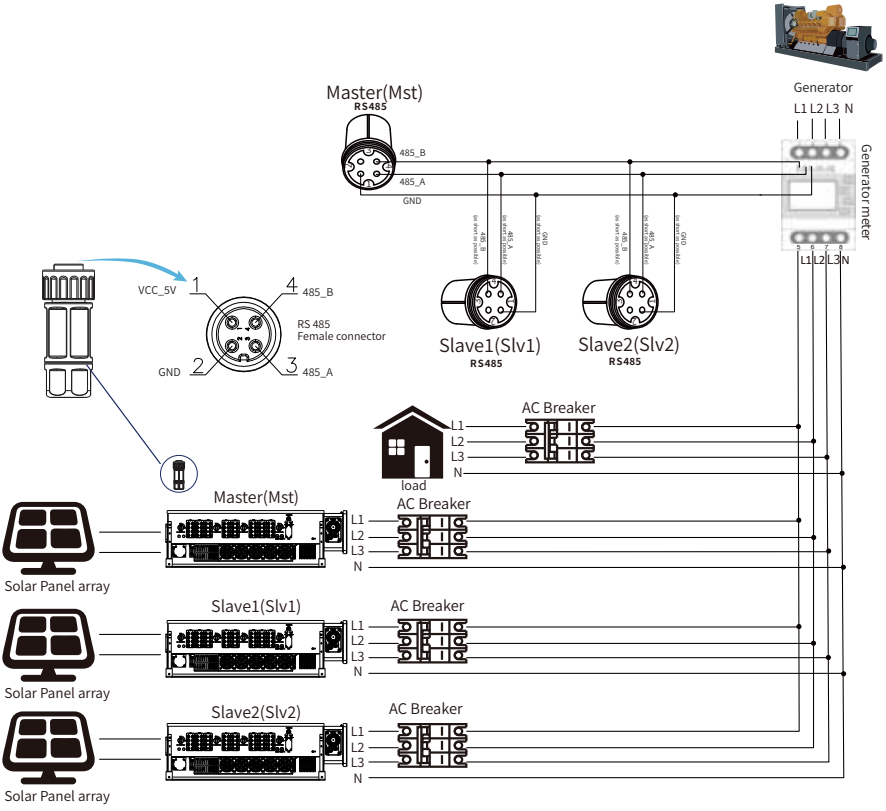


Pic 7.21 Eastron Connection diagram(The pass-through table)

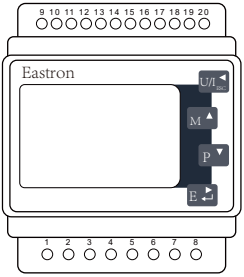


Eastron SDM630-Modbus V2

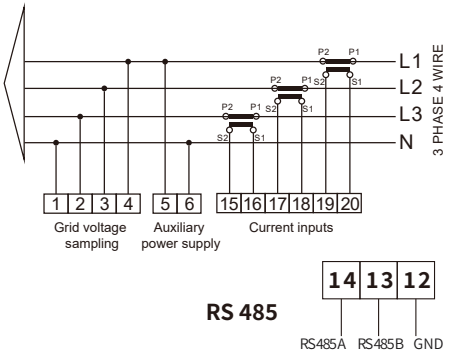
Pic 7.22 Eastron meter



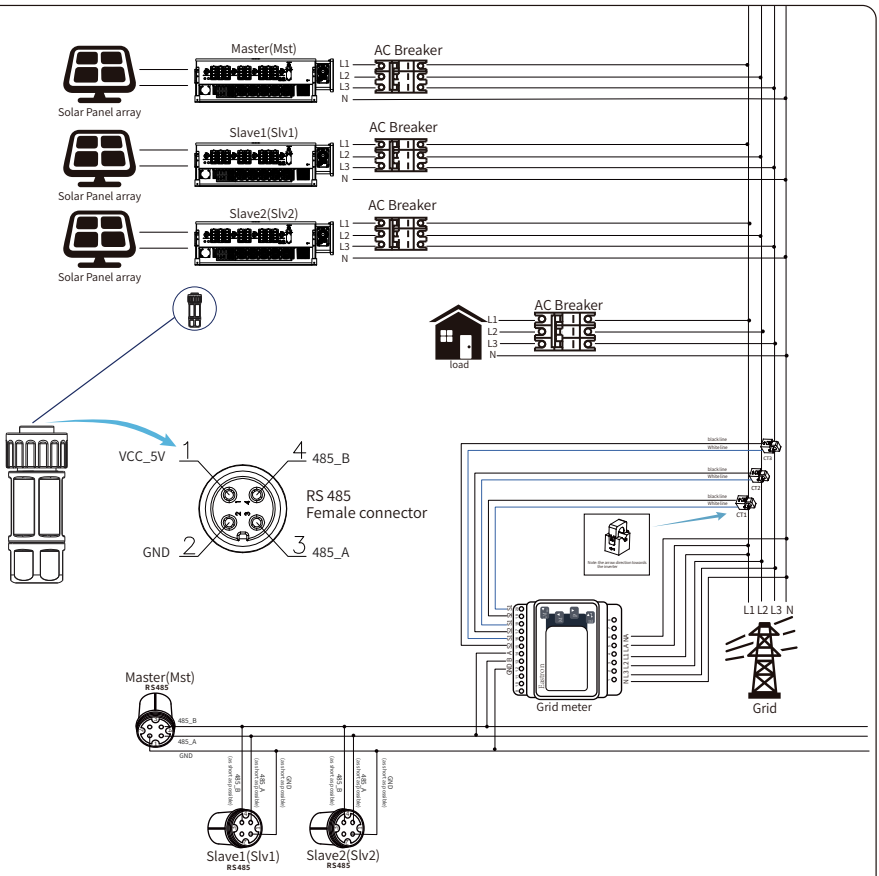
Pic 7.23 Eastron Connection diagram(The pass-through table)



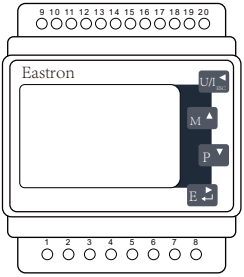
Eastron SDM630MCT



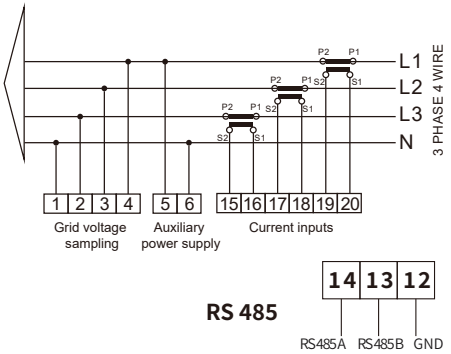
Pic 7.24 Eastron meter



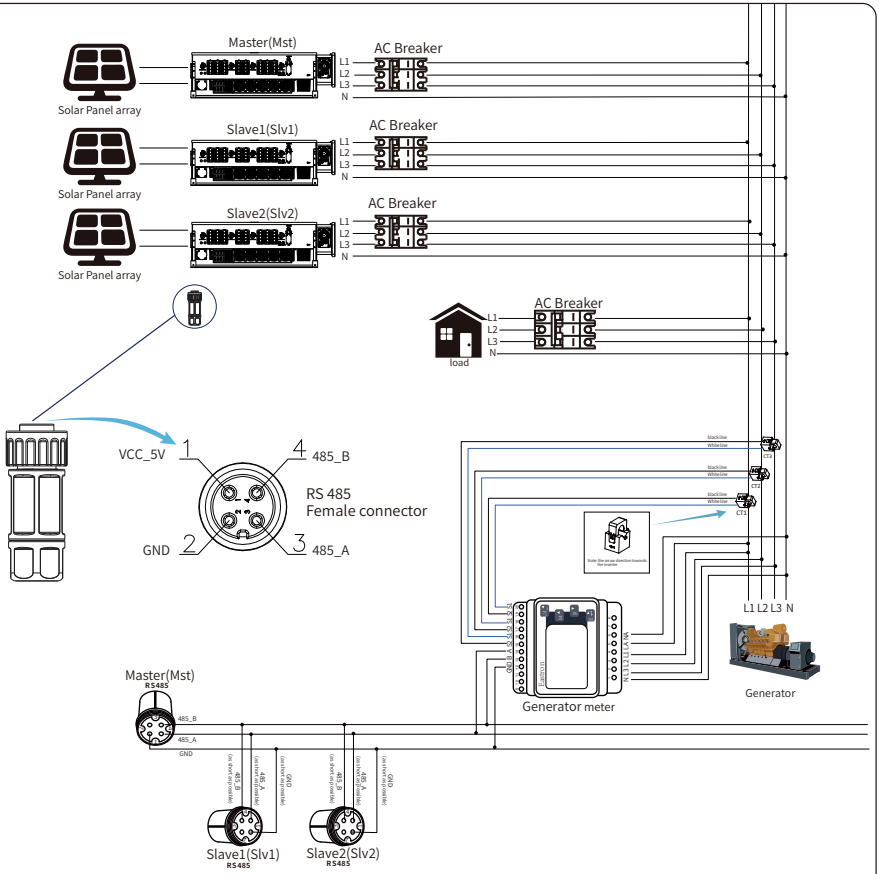
Pic 7.25 Connection diagram(Three-phase electricity)



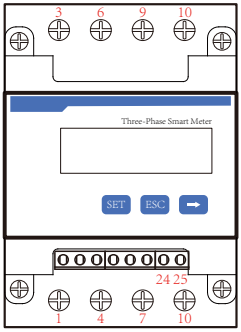
Eastron SDM630MCT



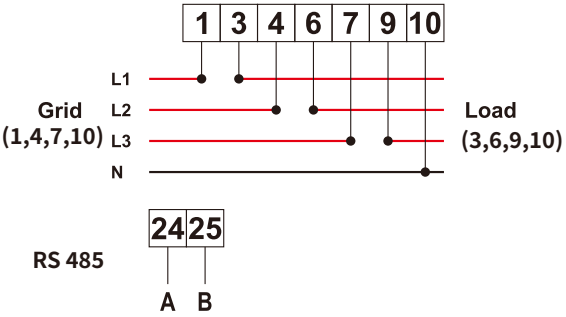
Pic 7.26 Eastron meter



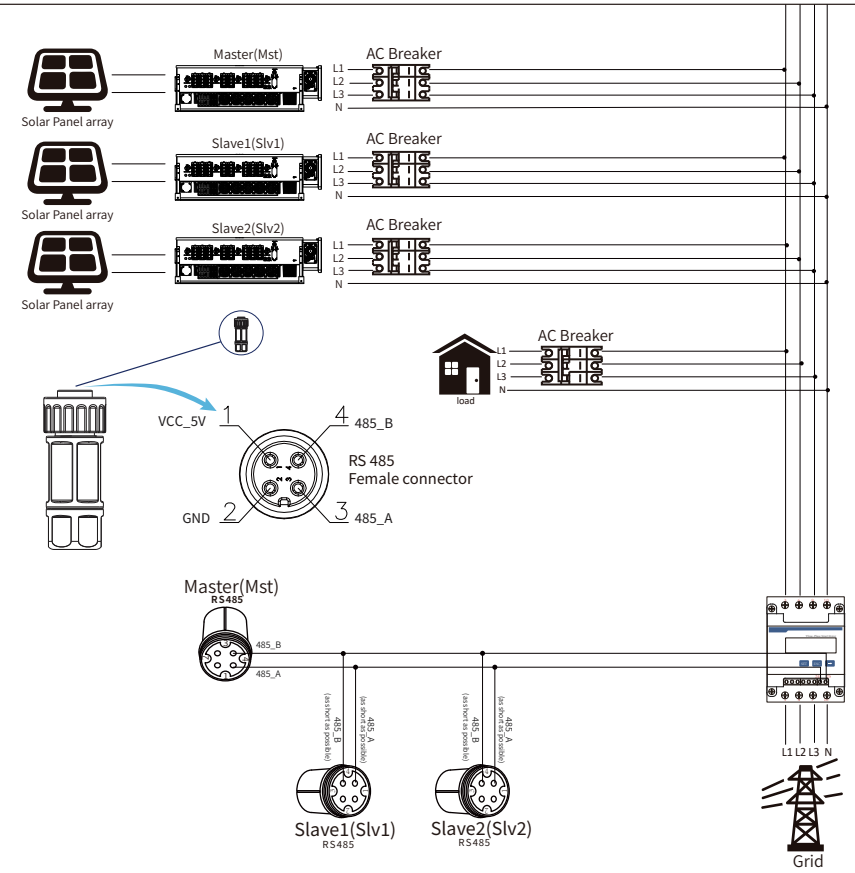
Pic 7.27 Connection diagram(Three-phase electricity)



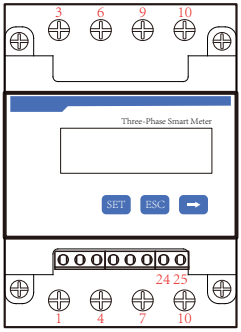
CHINT DTSU666 5(80)A



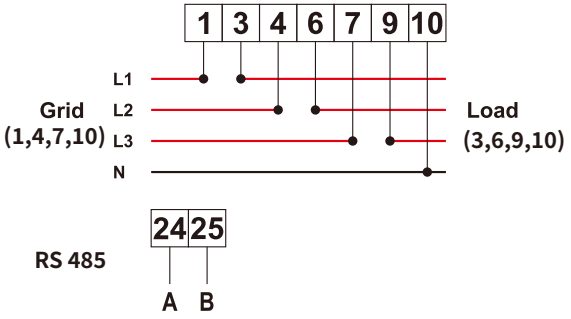
Pic 7.28 CHINT meter



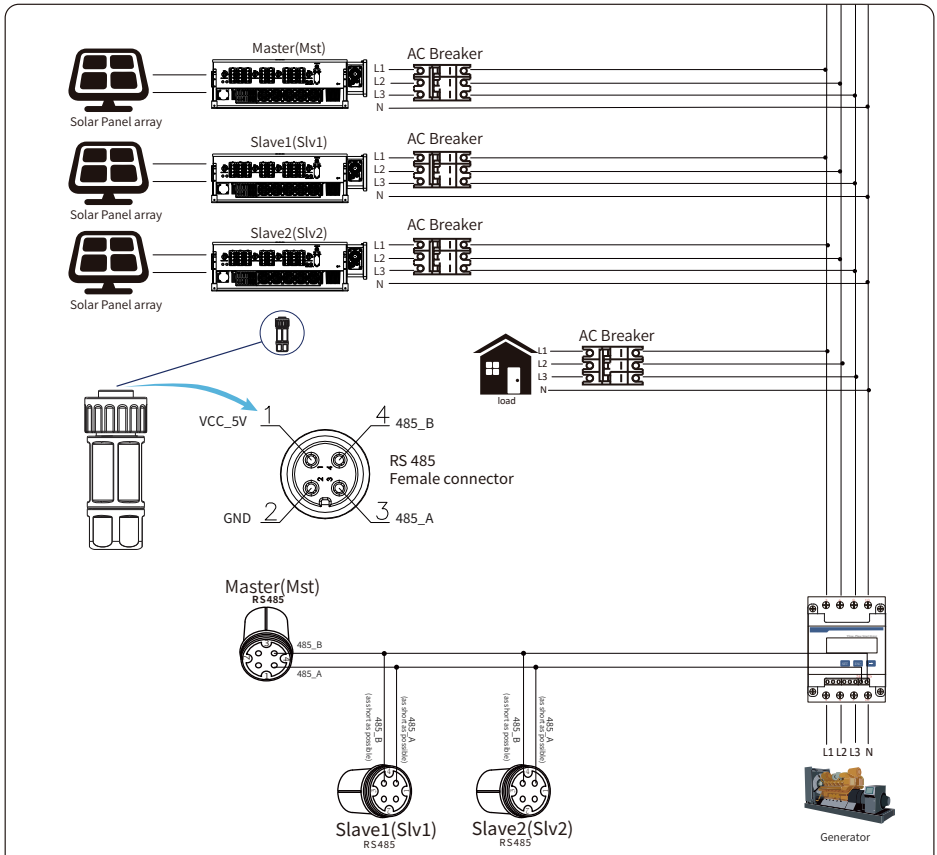
Pic 7.29 CHINT Connection diagram(The pass-through table)



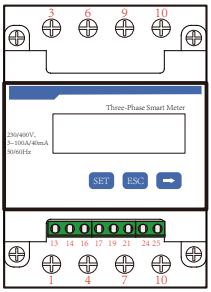
CHINT DTSU666 5(80)A



Pic 7.30 CHINT meter



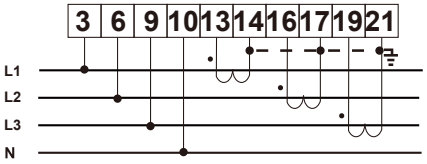
Pic 7.31 CHINT Connection diagram(The pass-through table)



CHINT DTSU666

3x230/400V

3~100A/40mA







Phase A current =5.000A

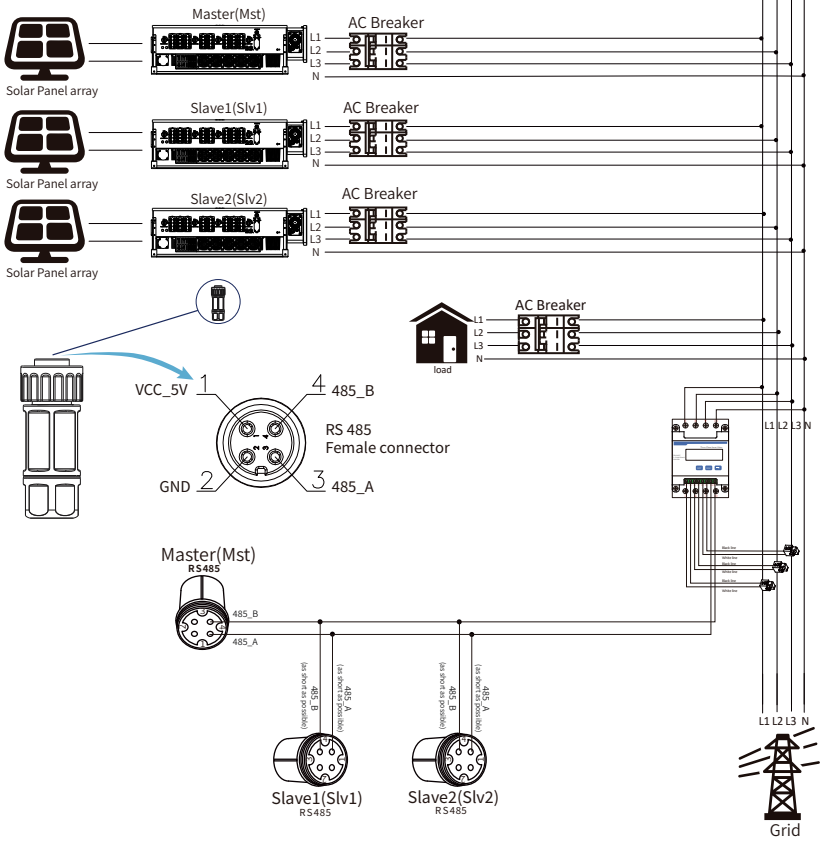


Phase B current =5.001A

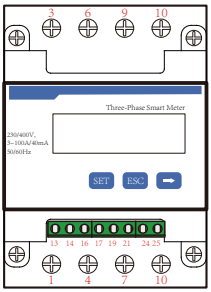


Phase C current =5.002A

Pic 7.32 CHINT meter



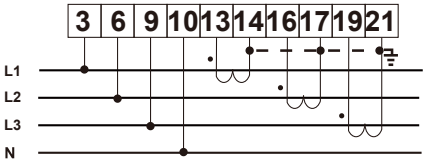
Pic 7.33 CHINT Connection diagram(The pass-through table)



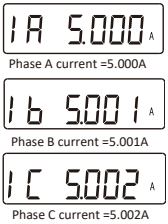
CHINT DTSU666

3x230/400V

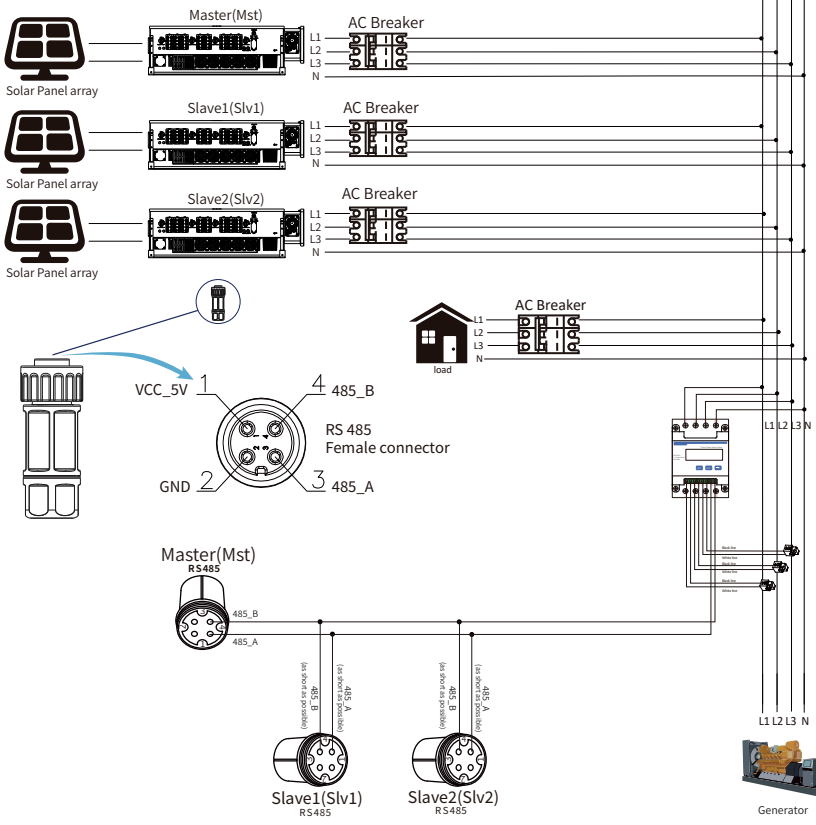
3~100A/40mA







Pic 7.34 CHINT meter

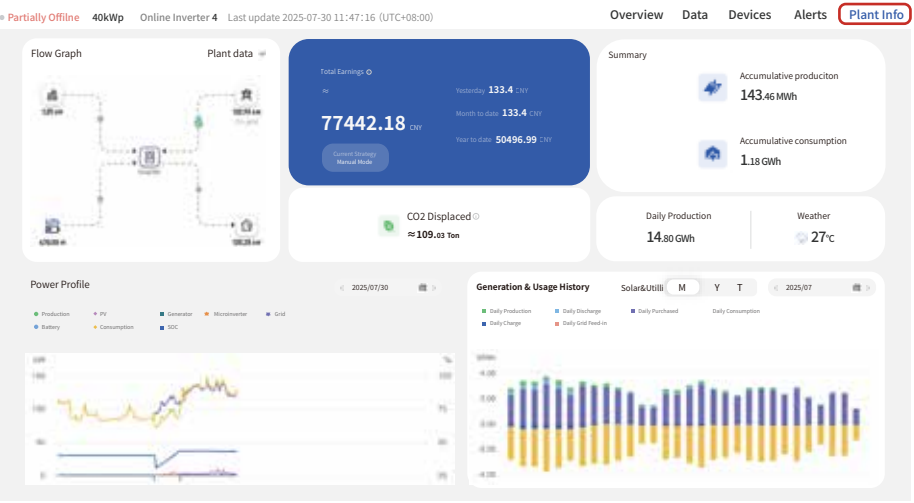


Pic 7.35 CHINT Connection diagram(The pass-through table)

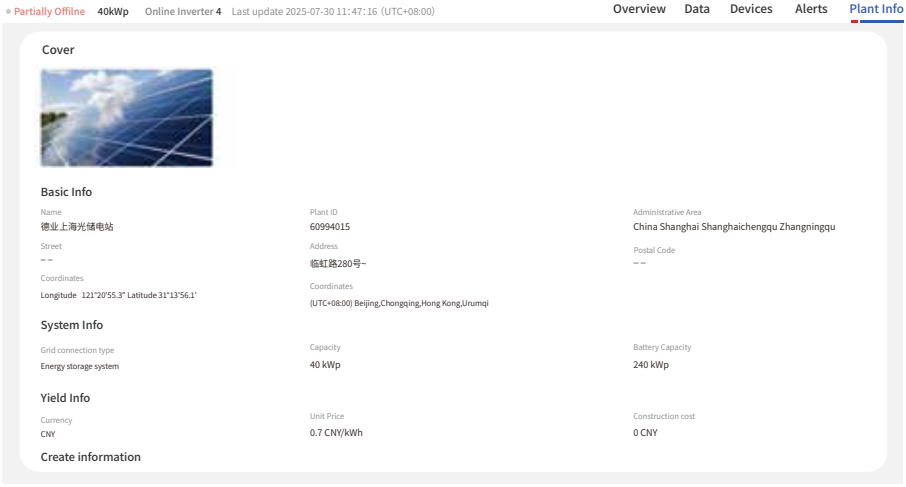
7.2 How to browse the load power of your PV grid-tie plant on monitoring platform?

If you want to browse load power of the system and how much energy (KWH) does it export to grid(inverter output power is used to power the load firstly and then the surplus energy will feed into grid). You also need to connect the meter according to Pic 7.12. After the connection completed successfully, the inverter will show the load power on the LCD. **But please don't setup "Meter ON"**. Also, you will be able to browse the load power on the monitoring platform. The plant setting method as below description.

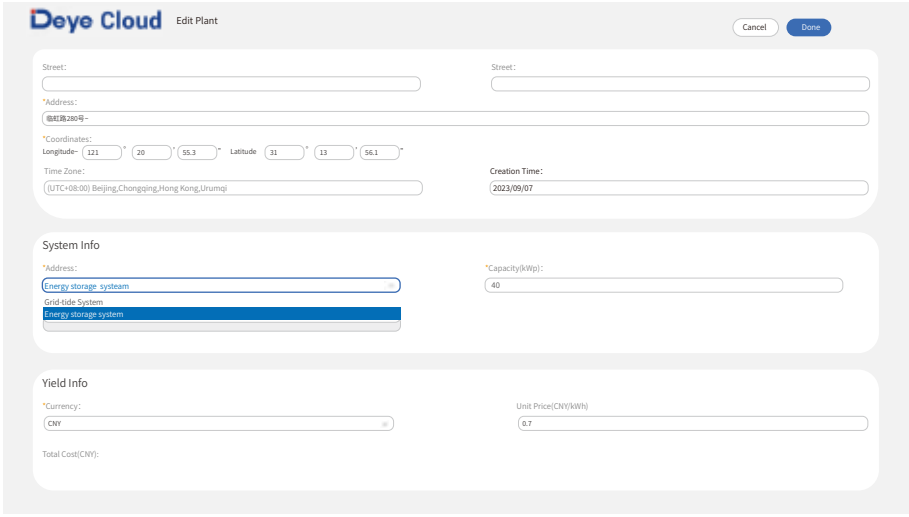
Firstly, go to the DeyeCloud platform(https://www.deyecloud.com/) plant home page and click "Plant Info";



Secondly, go to plant Info detials page, click "Edit".



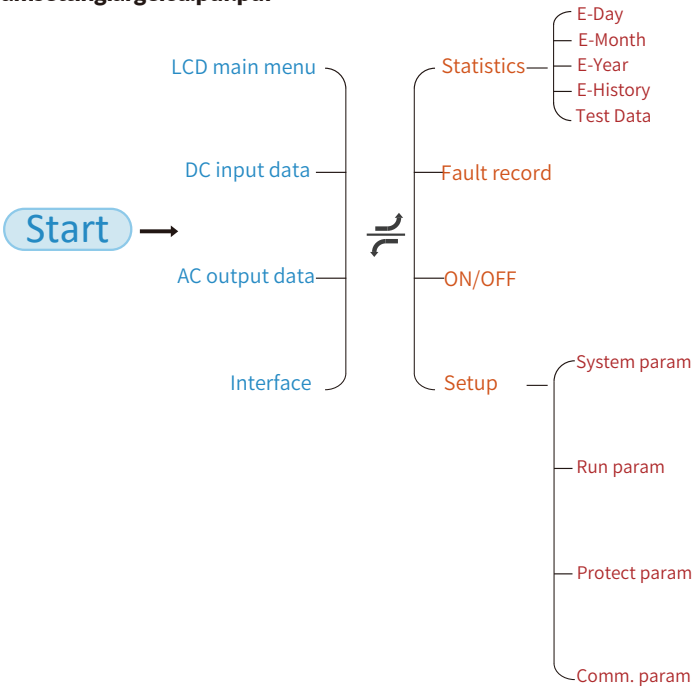
Thirdly, set "Grid connection type" as "Grid-tied system". Configuration is done.

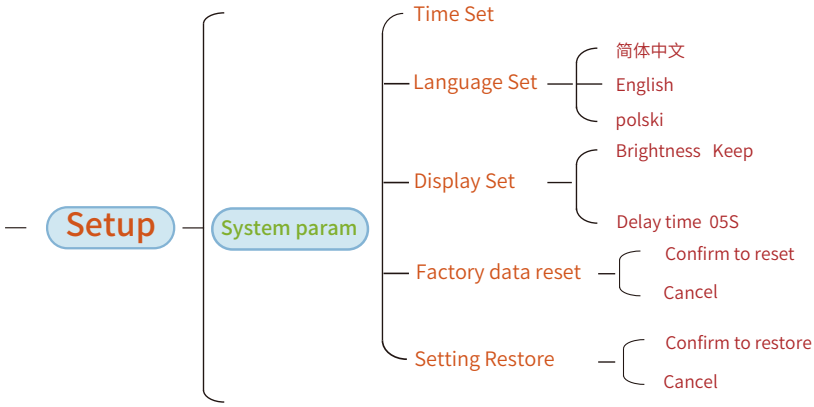


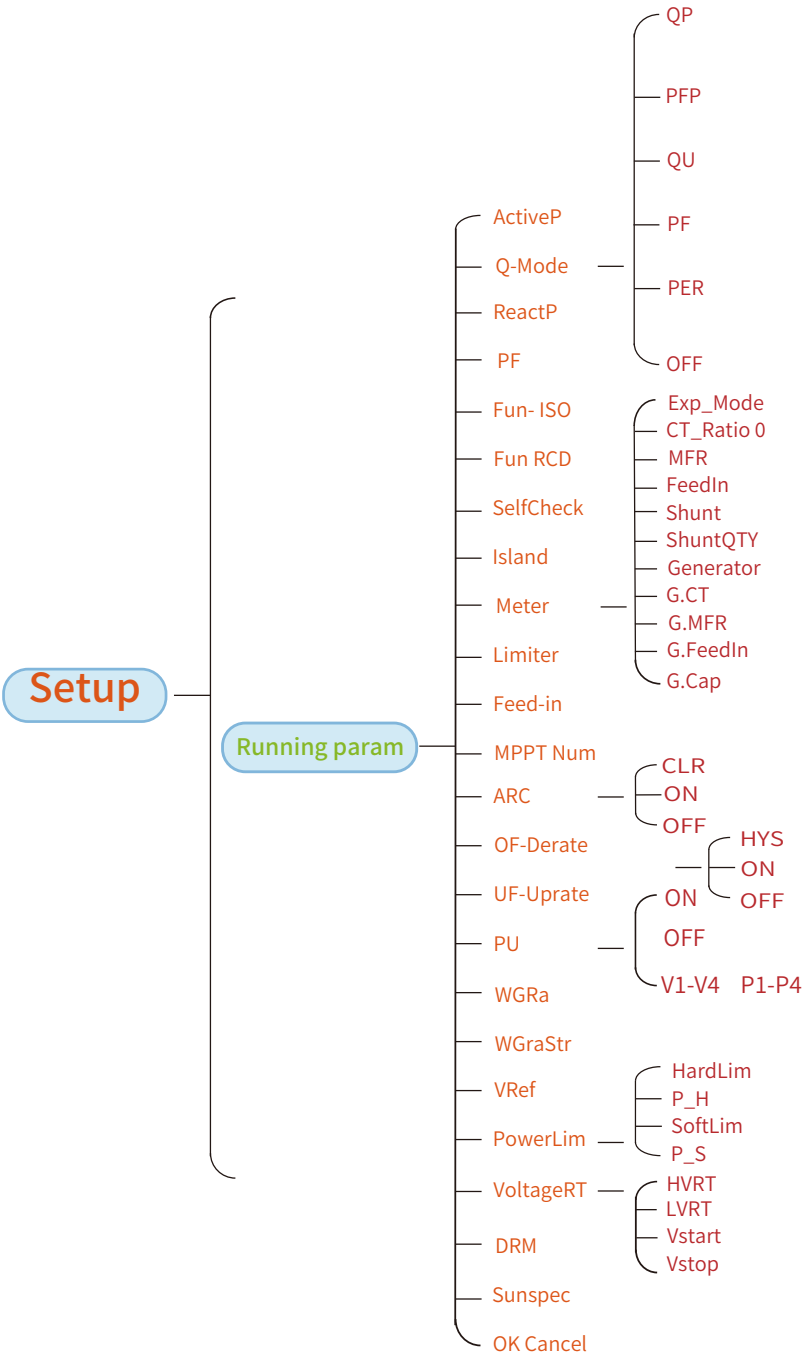
8. General Operation

During normal operation, the LCD shows the current status of the inverter, including the current power, total generation, a bar chart of power operation and inverter ID, etc. Press the Up key and the Down key to see the current DC voltage, DC current, AC voltage, AC current, inverter radiator temperature, software version number and Wifi connection state of the inverter.

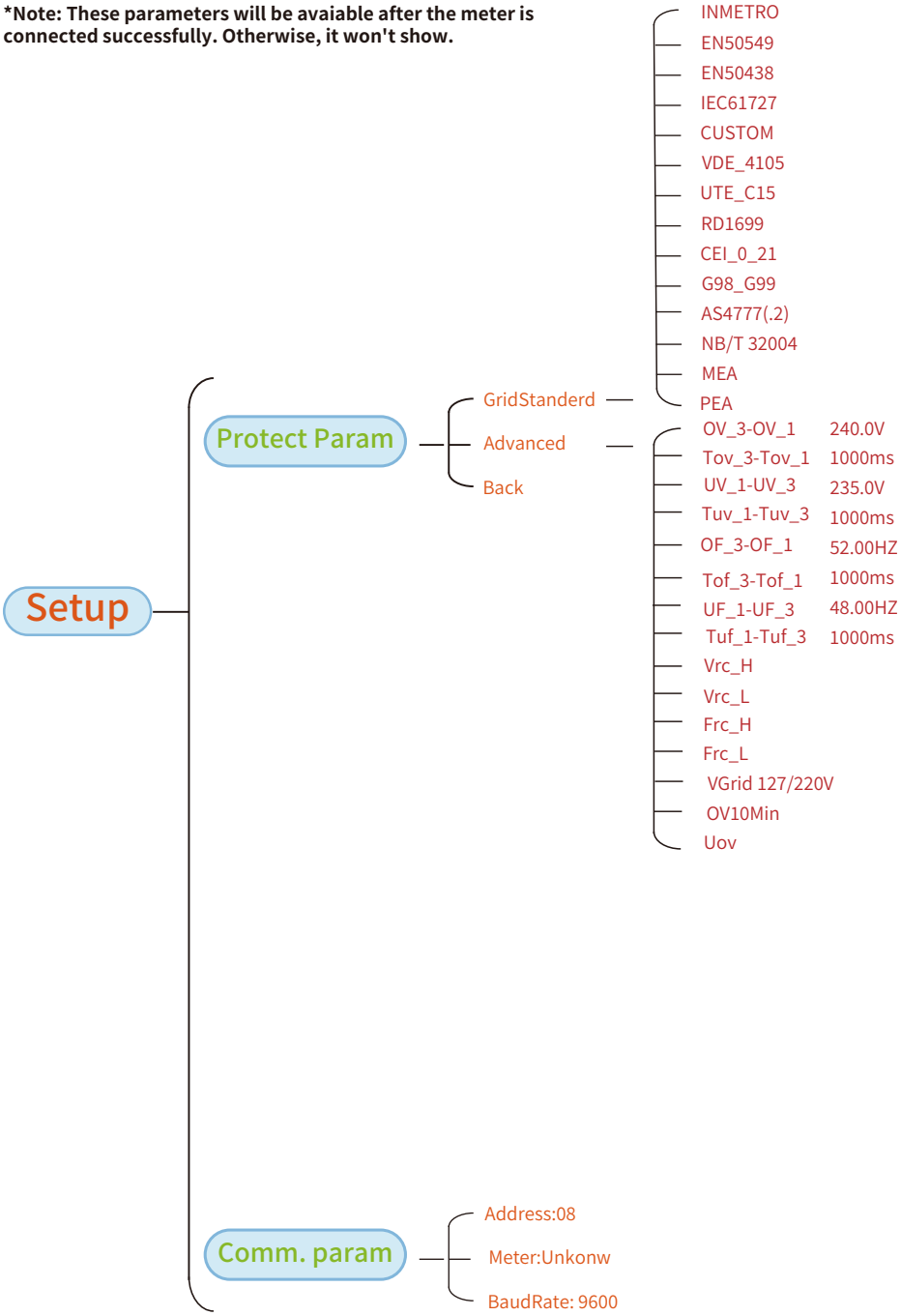
Attention: For running param detail on the LCD display, please refer to the official Deye website https://hqcdn.hqsmartcloud.com/deyeinverter/2025/04/24/threephasestringinverter-runningparamsettinglargelcd.pdf.pdf





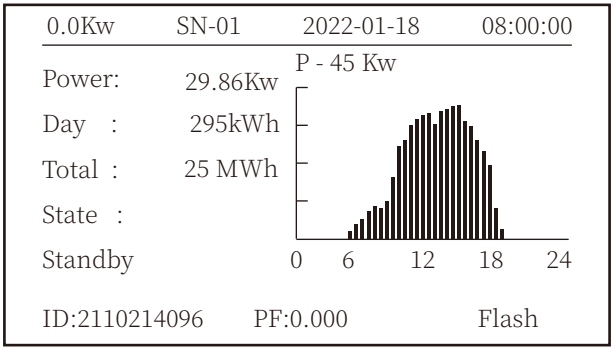

Setup
Running param
ActiveP
Q-Mode
ReactP
PF
Fun- ISO
Fun RCD
SelfCheck
Island
Meter
Limiter
Feed-in
MPPT Num
ARC
OF-Derate
UF-Uprate
PU
WGRa
WGraStr
VRef
PowerLim
VoltageRT
DRM
Sunspec
OK Cancel
QP
PFP
QU
PF
PER
OFF
Exp_Mode
CT_Ratio 0
MFR
FeedIn
Shunt
ShuntQTY
Generator
G.CT
G.MFR
G.FeedIn
G.Cap
CLR
ON
OFF
HYS
ON
OFF
ON
OFF
V1-V4 P1-P4
HardLim
P_H
SoftLim
P_S
HVRT
LVRT
Vstart
Vstop

***Note: These parameters will be avaiable after the meter is connected successfully. Otherwise, it won't show.**



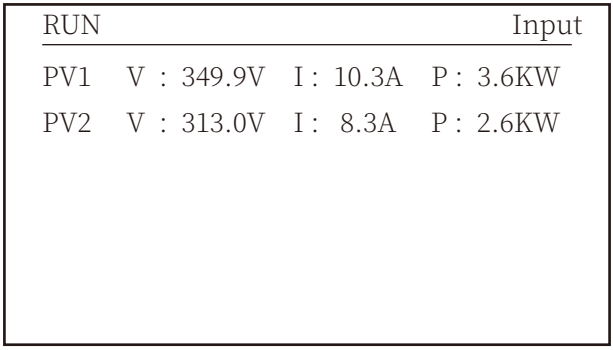
8.1 The initial interface

From the initial interface, you can check power, daily generation, gross generation, invertert ID , model and time.



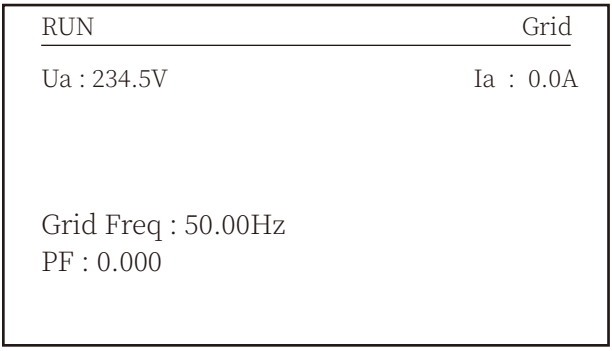
Pic 8.1 The initial interface

Press UP or Down you can check inverter DC voltage, DC current, AC voltage, AC current, inverter temperature, software version information.



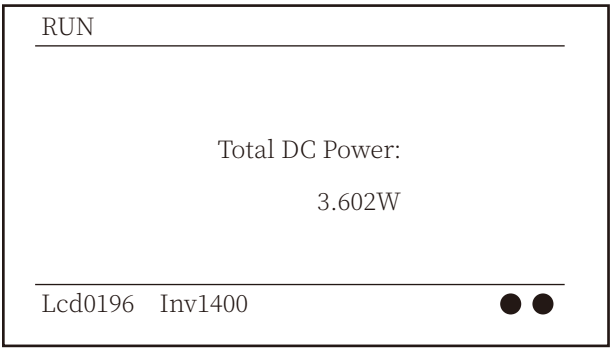
Pic 8.2 PV input and DC current information

You can check the PV information, the number of strings input, MPPT voltage and MPPT current.



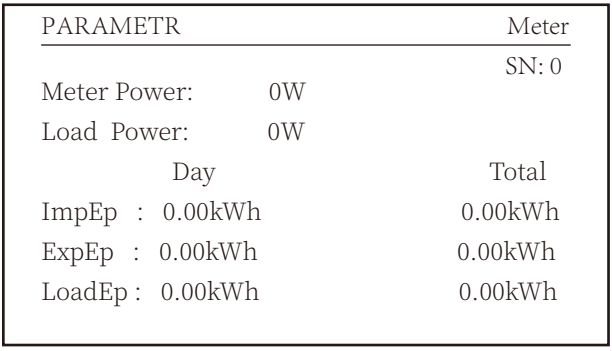
Pic 8.3 AC running state information

You can check the three phase voltage, current, and grid frequency.



Pic 8.4 Inverter firmware version

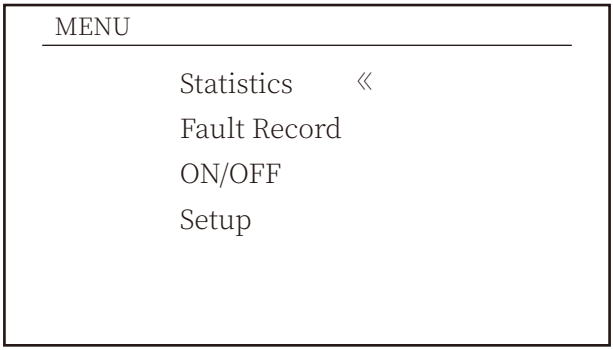
You can check the inverter LCD software Ver0196 and Control Software Version Ver1400. There are two black spot in the bottom right corner. The first flash means inverter is communicating with LCD. The second flash means LCD is communicating with wifi plug.



Pic 8.5 Meter power and load power

8.1.1 Main Menu

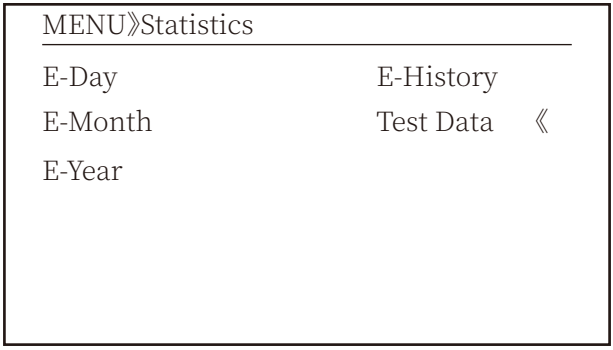
There are four submenu in the Main Menu.



Pic 8.6 Main Menu

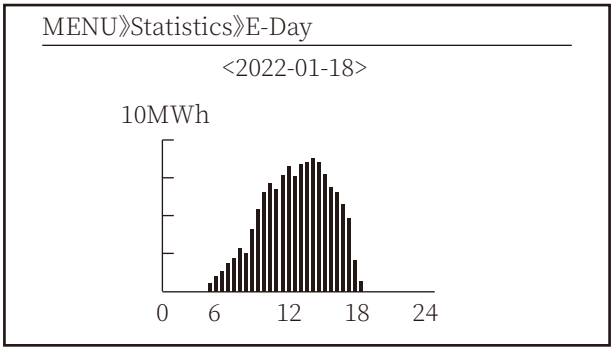
8.2 Statistics information

There are five submenu in the statistics.

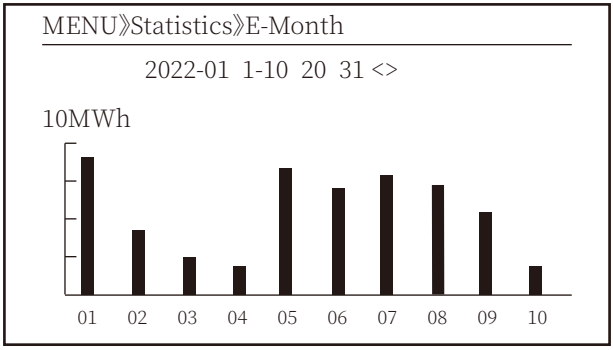


Pic 8.7 Statistics

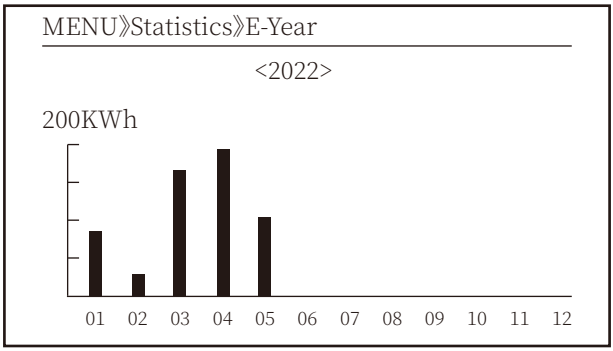
Into each submenu through cursor.



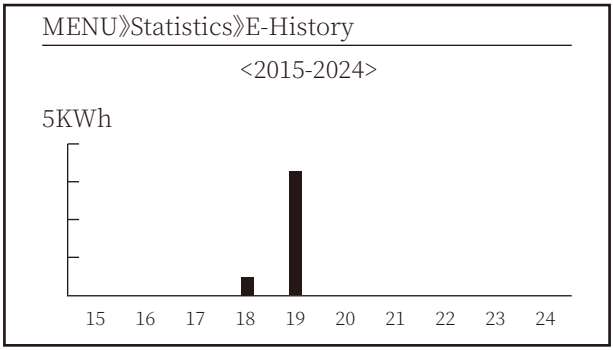
Pic 8.8 E-Day



Pic 8.9 E-Month



Pic 8.10 E-Year



Pic 8.11 E-History

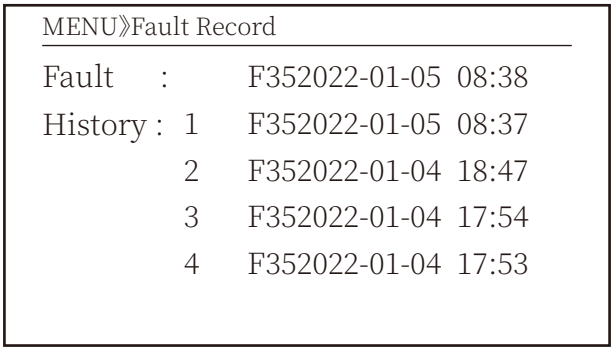
This information is for technician’s reference.

PV1	:	19186	1k3	:	11126	ofC	:	2057
PV2	:	19198	1k4	:	11140	137	:	2145
HV	:	24362	1k5	:	16666	138	:	2248
GFD	:	9119	1k6	:	2927	139	:	1497
DiL	:	36	vHV	:	24362	140	:	0
AVL	:	-2	BSn	:	12218	141	:	0
126	:	287	ofA	:	2065	142	:	0
1k2	:	6	ofB	:	2653	143	:	0
146	:	0	148	:	0	144	:	0
147	:	0	149	:	0	145	:	0

Pic 8.12 Test Data

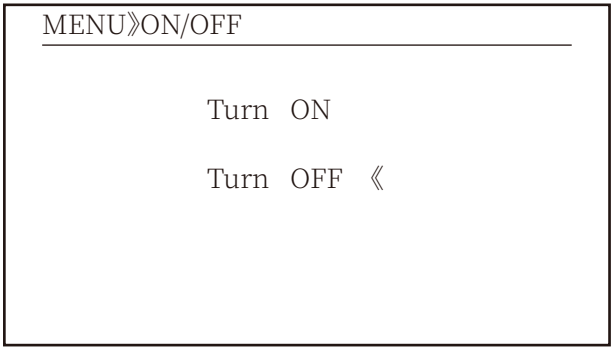
8.3 Fault Record

Only can keep four fault record in the menu include time, customer can deal with it depends on the error code.



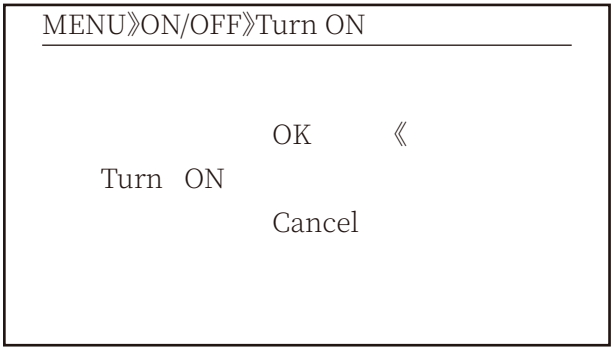
Pic 8.13 Fault Record

8.4 ON/OFF setting

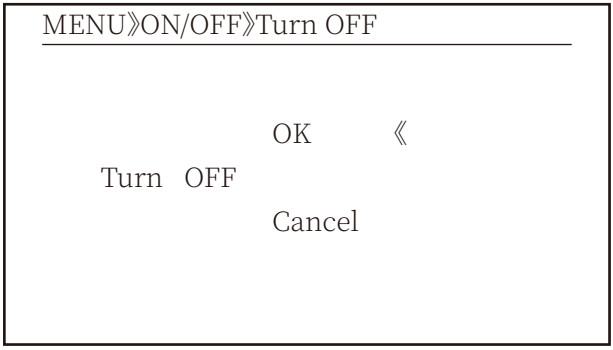


Pic 8.14 ON/OFF setting

Into each submenu through cursor.



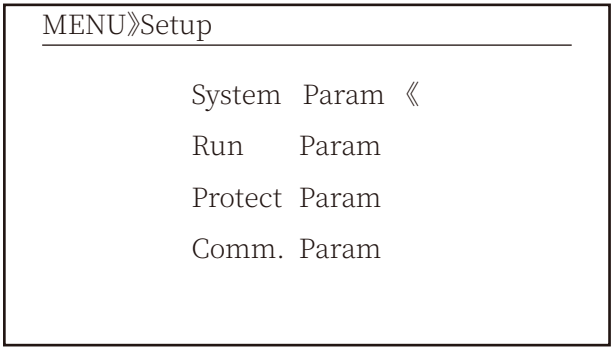
Pic 8.15 ON set



Pic 8.16 OFF set

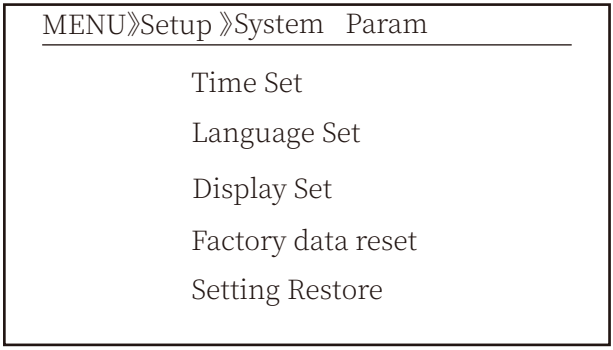
8.5 Parameter setting

Setting includes system param, run param, protect param, comm.. param. All of these information for maintenance reference.



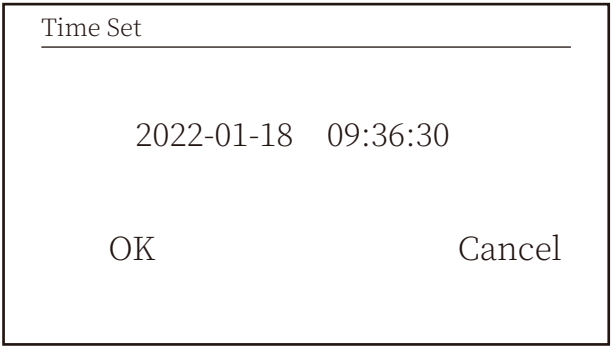
Pic 8.17 Setting

8.5.1 System Param



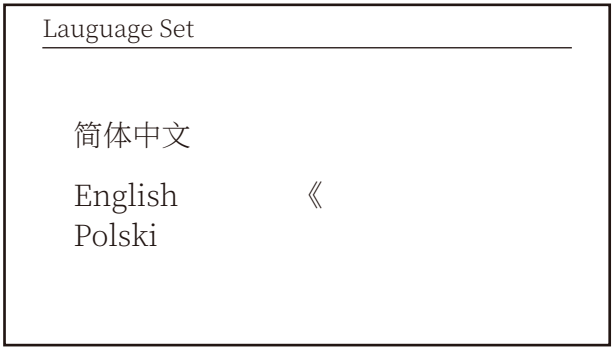
Pic 8.17.1 System Param Setting

8.5.1.1 Time Set



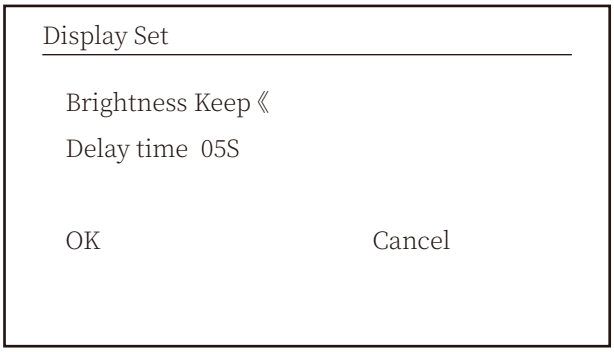
Pic 8.18 System Param

8.5.1.2 Language Set



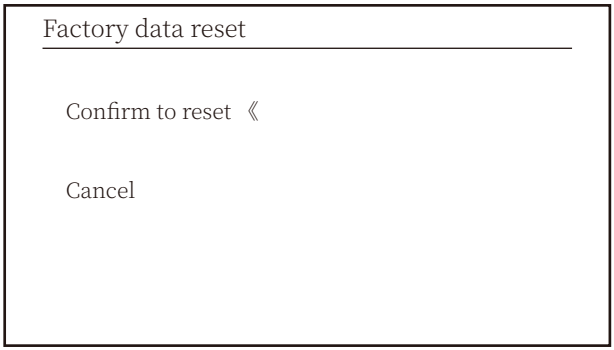
Pic 8.19 Lauguage set

8.5.1.3 Display Set



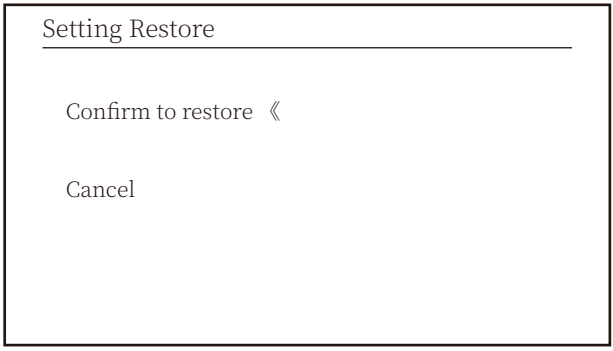
Pic 8.20 Display set

8.5.1.4 Factory data reset



Pic 8.21 Factory data reset set

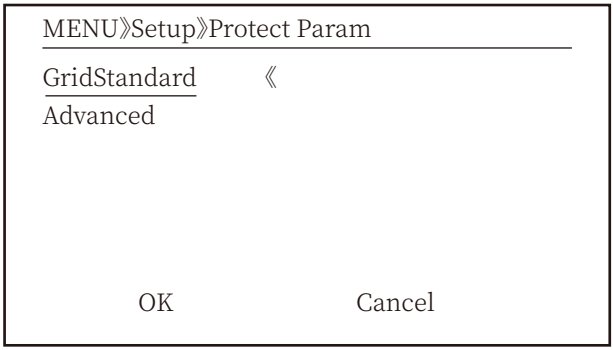
8.5.1.5 Setting Restore



Pic 8.22 Factory data reset set

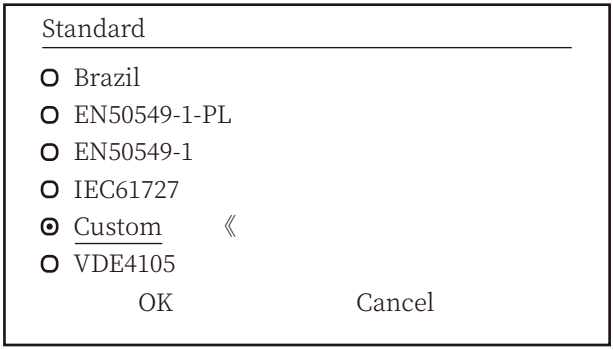
Warning:
Password required-- only for access-authorized engineer. Un-authorized access may avoid the warranty. The initial password is 1234.

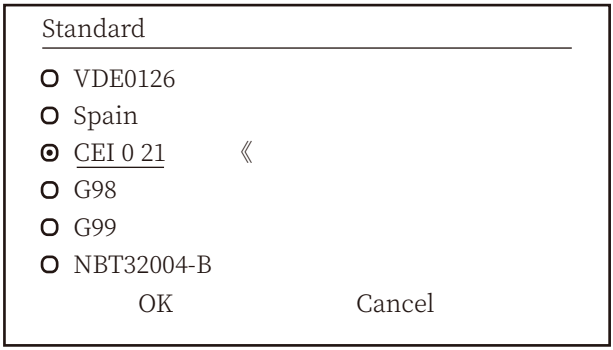
8.5.2 Protect Param



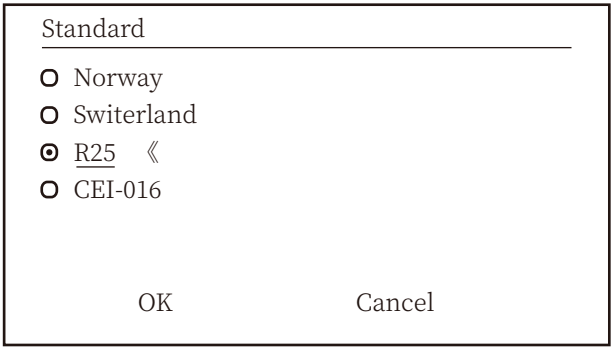
Pic 8.23 Protect Param

Warning:
Engineer only.

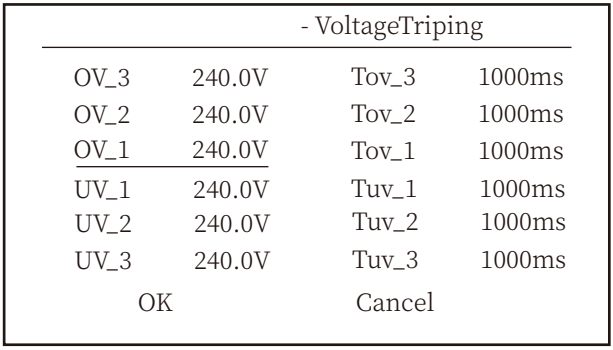

Standard
Brazil
EN50549-1-PL
EN50549-1
IEC61727
Custom
VDE4105
OK
Cancel


Standard
VDE0126
Spain
CEI 0 21
G98
G99
NBT32004-B
OK
Cancel

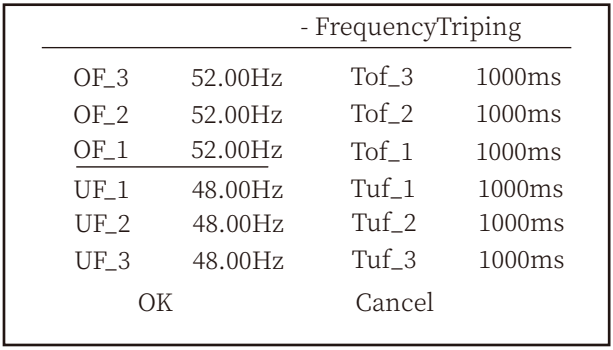

Standard
Australia-A
Australia-B
Australia-C
New Zealand
MEA
PEA
OK
Cancel

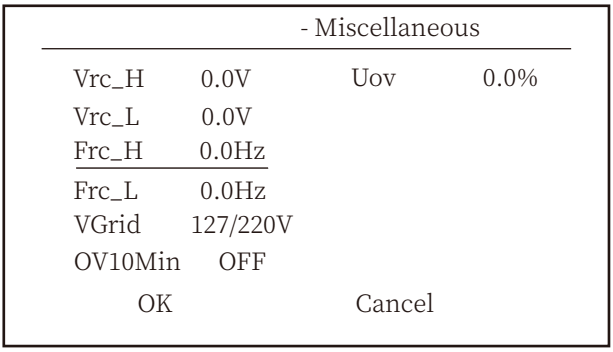


Pic 8.24 “Standard”



Overvoltage Setting:
The threshold voltage value set to trigger an overvoltage protection response when the input voltage exceeds this level.
Undervoltage Setting:
The threshold voltage value defined to activate undervoltage protection when the input voltage drops below this level.
Overvoltage Time Setting:
The duration for which the voltage must remain above the overvoltage threshold before the protection mechanism is triggered.
Undervoltage Time Setting:
The time period during which the voltage must stay below the undervoltage threshold before the protection function is initiated.
Overfrequency Setting:
The specified frequency limit above which the system will trigger an overfrequency protection action.
Underfrequency Setting:
The defined frequency threshold below which the system will activate underfrequency protection.



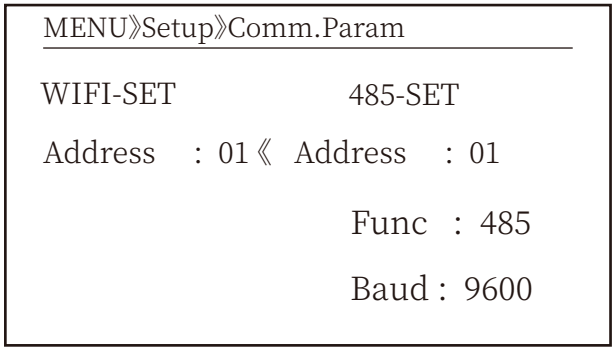


Pic 8.25 “Advanced”

Over/Undervoltage Reconnection:
The function that enables the system to automatically reconnect or resume operation after an overvoltage or undervoltage fault condition has been resolved and the voltage returns to the normal range.

Over/Underfrequency Reconnection:
The mechanism allowing the system to automatically reconnect or restart after an overfrequency or underfrequency fault has been cleared and the frequency returns to the acceptable range.

8.5.3 Comm. Param



Pic 8.26 Communication param

9. Repair and Maintenance

String type inverter doesn’ t need regular maintenance. However, debris or dust will affect heat sink’ s thermal performance. It is better to clean it with a soft brush. If the surface is too dirty and affect the reading of LCD and LED lamp, you can use wet cloth to clean it up.



High Temperature Hazard:
When the device is running, the local temperature is too high and the touch can cause burns. Turn off the inverter and wait for it cooling, then you can clean and maintain.



Safety Hint:
No solvent, abrasive materials or corrosive materials can be used for cleaning any parts of the inverter.

10.Error information and processing

Inverter has been designed in accordance with international grid tied standards for safety, and electromagnetic compatibility requirements. Before delivering to the customer the inverter has been subjected to several tests to ensure its optimal operation and reliability.

10.1 Error code

If there is any failure,the LCD screen will display an alarm message. In this case, the inverter may stop feeding energy into the grid. The alarm description and their corresponding alarm messages are listed Table 10.1.

Error code	Description	Ongrid - Three Phase
W03	Arc warning	Arc error indicates that the PV side of the inverter has caused an arc issue. It is necessary to check the connection of the PV and then clear this fault through the ARC function in the operating parameters,then it can resume operation.
W05	Upgrade error warning	Firmware was upgraded incorrectly. Please upgrade to the correct firmware.
W13	Fan warning	Usually, due to one or more fan cables are not properly connected or fan is broken, the solution is to check whether all fan cables are properly connected or not,or replace the faulty fan.
W15	Prefix error	Version upgrade error, need to contact after-sales engineer to send command to fix.

Error code	Description	Ongrid - Three Phase
F01	DC input polarity reverse fault	Check the PV input polarity.
F02	DC insulation impedance permanent fault	Check the grounding cable of inverter.
F03	DC leakage current fault	Hardly appear the code. Never ever happened so far.
F04	Ground fault GFDI	Check the solar panel output connection.
F05	Read the memory error	Failure in reading memory (EEPROM). Restart the inverter if the fault still exists, contact your installer or Deye service.
F06	Write the memory error	Failure in writing memory (EEPROM). Restart the inverter if the fault still exists, contact your installer or Deye service.
F07	GFDI blown fuse	Hardly appear the code. Never ever happened so far.
F08	GFDI grounding touch failure	Hardly appear the code. Never ever happened so far.
F09	IGBT damaged by excessive drop voltage	Hardly appear the code. Never ever happened so far.
F10	Auxiliary switch power supply failure	1. It tells the DC 12V is not existed. 2. Restart the inverter, if the fault still exists, please contact your installer.
F11	AC main contactor errors	Hardly appear the code. Never ever happened so far.
F12	AC auxiliary contactor errors	Hardly appear the code. Never ever happened so far.
F13	reserved	1. Loss of one phase or AC voltage detection part failure or relays not closed. 2. Restart the inverter, if the error still exists, please contact your installer or Deye service.
F14	DC firmware over current	Hardly appear the code. Never ever happened so far.
F15	AC firmware over current	1. The internal AC sensor or detection circuit on control board or connection wire may loose. 2. Restart the inverter, if the error still exists, please contact your installer or Deye service.
F16	GFCI(RCD) Ac leakage current fault	1. This fault means the average leakage current is over 300mA. Check whether DC power supply or solar panels is ok, then check 'Test data'-> 'diL'value is about 40; Then check the leakage current sensor or circuit (the following picture). Checking test data needs using big LCD. 2. Restart the inverter, if the error still exists, please contact your installer or Deye service.
F17	Three phase current, over-current fault	Hardly appear the code. Never ever happened so far.
F18	AC over current fault of hardware	1. Check AC sensor or detection circuit on control board or connection wire. 2. Restart the inverter or factory reset, if the error still exists, please contact your installer or Deye service.
F19	All hardware failure synthesis	Hardly appear the code. Never ever happened so far.
F20	DC over current fault of the hardware	1. Check whether solar panel output current is within the allowed range. 2. Check DC current sensor and its detection circuit. 3. Check if the inverter FW version is suitable for the hardware. 4. Restart the inverter, if the error still exists, please contact your installer or Deye service.

Error code	Description	Ongrid - Three Phase
F21	DC leakage flow fault	Hardly appear the code. Never ever happened so far.
F22	Crash stop (if there is a stop button)	Contact your installer for help.
F23	AC leakage current is transient over current	1. This fault means the leakage current is above 30mA suddenly. Check whether DC power supply or solar panels is ok, then check 'Test data'-> 'diL'value is about 40; Then check the leakage current sensor or circuit. Check test data needs using big LCD. 2. Restart the inverter, if the fault still exists, contact your installer or Deye service.
F24	DC insulation impedance failure	1. Check Vpe resistance on main board or detection on control board. Check PV panels is OK. Many times this issue is the PV problem. 2. Check whether the PV panel (aluminum frame) is grounded well and inverter is grounded well. Open the cover of inverter and then check the inside ground cable is fixed well on the shell. 3. Check if the AC/DC cable, terminal block are shorted to ground or the insulation is damaged. 4. Restart the inverter, if the fault still exists, contact your installer or Deye service.
F25	DC feedback fault	Hardly appear the code. Never ever happened so far.
F26	The DC busbar is unbalanced	1. Check whether the 'BUSN' cable or driver board power supply cable is loose. 2. Restart the inverter, if the fault still exists, contact your installer or Deye service.
F27	DC end insulation error	Hardly appear the code. Never ever happened so far.
F28	Inverter 1 DC high fault	Hardly appear the code. Never ever happened so far.
F29	AC load switch failure	Hardly appear the code. Never ever happened so far.
F30	AC main contactor failure	1. Check relays and AC voltage of relays. 2. Check relays driver circuit. Check if the software is not suitable for this inverter. (Old inverter not have relays detection function) 3. Restart the inverter, if the fault still exists, contact your installer or Deye service.
F31	Relay open circuit fault	1. At least one Relay can't be closed. Check relays and its driver signal. (Old inverter not have relays detection function) 2. Restart the inverter, if the fault still exists, contact your installer or Deye service.
F32	Inverter 2 dc high fault	Hardly appear the code. Never ever happened so far.
F33	AC over current	Hardly appear the code. Never ever happened so far.
F34	AC current over load	Hardly appear the code. Never ever happened so far.
F35	No AC grid	1. Check AC grid voltage. Check AC voltage detection circuit. Check if the AC connector in good condition. Check whether the AC grid is normal in voltage. 2. Restart the inverter, if the fault still exists, contact your installer or Deye service.
F36	AC grid phase error	Hardly appear the code. Never ever happened so far.
F37	AC three-phase voltage unbalance failure	Hardly appear the code. Never ever happened so far.
F38	AC three-phase current unbalance failure	Hardly appear the code. Never ever happened so far.

Error code	Description	Ongrid - Three Phase
F39	AC over current(one cycle)	1. Check AC current sensor and its circuit. 2. Restart the inverter, if the fault still exists, contact your installer or Deye service.
F40	DC over current	Hardly appear the code. Never ever happened so far.
F41	AC Line W,U over voltage	Check the AC voltage protection setting. And Check if the AC cable is too thin.Check the voltage difference between LCD and meter.
F42	AC Line W,U low voltage	Check the AC voltage protection setting. Check the voltage difference between LCD and meter. Also need to check whether AC cables are all firmly and correctly connected.
F43	AC Line V,W over voltage	Check the AC voltage protection setting.And Check if the AC cable is too thin.Check the voltage difference between LCD and meter.
F44	AC Line V,W low voltage	Check the AC voltage protection setting. Check the voltage difference between LCD and meter. Also need to check whether AC cables are all firmly and correctly connected.
F45	AC Line U,V over voltage	Check the AC voltage protection setting.And Check if the AC cable is too thin.Check the voltage difference between LCD and meter.
F46	AC Line U,V low voltage	Check the AC voltage protection setting.
F47	AC Over frequency	Check the frequency protection setting.
F48	AC lower frequency	Check the frequency protection setting.
F49	U phase grid current DC component over current	Hardly appear the code. Never ever happened so far.
F50	V phase grid current DC component over current	Hardly appear the code. Never ever happened so far.
F51	W phase grid current DC component over current	Hardly appear the code. Never ever happened so far.
F52	AC inductor A, phase current DC current high	Hardly appear the code. Never ever happened so far.
F53	AC inductor B, phase current DC current high	Hardly appear the code. Never ever happened so far.
F54	AC inductor C, phase current DC current high	Hardly appear the code. Never ever happened so far.
F55	DC busbar voltage is too high	1. Check PV voltage and Ubus voltage and its detection circuit. If the PV input voltage exceeds the limit, please reduce the number of solar panels in series. 2. For Ubus voltage, please check the LCD display.
F56	DC busbar voltage is too low	1. It tells the PV input voltage is low and it always happens in the early morning. 2. Check PV voltage and Ubus voltage. When inverter is running, then showing F56, maybe Loss of driver or need update firmware. 3. Restart the inverter, if the fault still exists, contact your installer or Deye service.
F57	AC reverse irrigation	AC reverse irrigation.
F58	AC grid U over current	Hardly appear the code. Never ever happened so far.

Error code	Description	Ongrid - Three Phase
F59	AC grid V over current	Hardly appear the code. Never ever happened so far.
F60	AC grid W over current	Hardly appear the code. Never ever happened so far.
F61	Reactor A phase over current	Hardly appear the code. Never ever happened so far.
F62	Reactor B phase over current	Hardly appear the code. Never ever happened so far.
F63	ARC fault	1. Check PV module cable connection and clear the fault; 2. Seek help from us, if can not go back to normal state.
F64	IGBT heat sink high temperature	1. Check temperature sensor. Check if firmware is suitable for the hardware. Check if the inverter is its right model. 2. Restart the inverter, if the fault still exists, contact your installer.

Table10.1 Error codes and their solutions



Safety Hint:

If your string inverter has any of the fault information shown in Table 10-1, and when you reset the machine and still don’ t solve the problem, please contact our distributor and provide the below details:

1. Serial number of the inverter;
2. The distributor/dealer of the inverter(if available);
3. Installation date;
4. The discription of problem(include LCD'error code and LED starus indicator lights);
5. Your contact details.

11.Specification

Model	SUN-120K-G01P3-EU-BM8	SUN-125K-G01P3-EU-BM8	SUN-130K-G01P3-EU-BM8
PV String Input Data			
Max. PV Input Power(kW)	180	187.5	195
Max. PV Input Voltage(V)		1100	
Start-up Voltage(V)		250	
PV Input Voltage Range(V)		250-1100	
MPPT Voltage Range(V)		200-1000	
Rated PV Input Voltage(V)		600	
Full Load MPPT Voltage Range(V)		550-850	
Max. Input Short Circuit Current (A)		60+60+60+60+60+60+60+60	
Max. Operating PV Input Current(A)		40+40+40+40+40+40+40+40	
No. of MPP Trackers/No. of Strings MPP Tracker		8/4+4+4+4+4+4+4+4	
Max. Inverter Backfeed Current To the Array		0	
AC Output Data			
Rated AC Output Active Power(kW)	120	125	130
Max.AC Output Apparent Power(kVA)	132	135	135
Rated AC Output current (A)	181.9/174.0	189.4/181.2	197/188.5
Max.AC Output Current(A)	200/191.4	204.6/195.7	204.6/195.7
Max. Output Fault Current (A)	348	362.4	377
Max. Output Overcurrent Protection (A)	398	398	398
Rated Output voltage/range (V)		220/380V 230/400V 0.85Un-1.1Un	
Grid Connection Form		3L+N+PE	
Rated Output Grid Frequency/range(Hz)		50Hz/45Hz-55Hz, 60Hz/55Hz-65Hz	
Power Factor Adjustment Range		0.8 leading-0.8lagging	
Total Current Harmonic Distortion THDi		<3%	
DC Injection Current		<0.5%In	
Efficiency			
Max.Efficiency		98.8%	
Euro Efficiency		98.2%	
MPPT Efficiency		>99%	
Equipment Protection			
DC reverse polarity protection		yes	
AC Output Overcurrent Protection		yes	
AC Output Overvoltage Protection		yes	
AC Output Short Circuit Protection		yes	
Thermal Protection		yes	
Insulation Impedance detection		yes	
DC Component Monitoring		yes	
Arc fault circuit interrupter (AFCI)		Optional	
Anti-islanding protection		yes	
DC Switch		yes	
Residual Current Detection		yes	
Surge Protection Level		TYPE II(DC),TYPE II(AC)	

Interface	
Communication Interface	RS485/RS232
Monitor Mode	GPRS/WIFI/Bluetooth/4G/LAN(optional)
Display	LCD+LED
General Data	
Operating Temperature Range (℃)	-25℃ to +60℃,>45℃ derating
Permissible Ambient Humidity	0-100%
Permissible Altitude (m)	4000m
Noise (dB)	⩽ 65dB
Ingress Protection(IP) Rating	IP 65
Inverter Topology	Non-Isolated
Over Voltage Category	OVC II(DC),OVC III(AC)
Cabinet Size（W*H*D）[mm]	1153×516×325.5（Excluding connectors and brackets）
Weight [kg]	107.7
Warranty [year]	Standard 5 years, extended warranty
Type Of Cooling	Intelligent air cooling
Grid Regulation	IEC 61727, IEC 62116, CEI 0-21, CEI 0-16,EN 50549, NRS 097, RD 140, UNE 217002, OVE-Richtlinie R25, G99, VDE-AR-N 4105, VDE-AR-N 4110
Safety EMC/Standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2

Model	SUN-135K-G01P3-EU-BM8	SUN-136K-G01P3-EU-BM8
PV String Input Data		
Max. PV Input Power(kW)	202.5	204
Max. PV Input Voltage(V)	1100	
Start-up Voltage(V)	250	
PV Input Voltage Range(V)	250-1100	
MPPT Voltage Range(V)	200-1000	
Rated PV Input Voltage(V)	600	
Full Load MPPT Voltage Range(V)	550-850	
Max. Input Short Circuit Current (A)	60+60+60+60+60+60+60+60	
Max. Operating PV Input Current(A)	40+40+40+40+40+40+40+40	
No. of MPP Trackers/No. of Strings MPP Tracker	8/4+4+4+4+4+4+4+4	
Max. Inverter Backfeed Current To the Array	0	
AC Output Data		
Rated AC Output Active Power(kW)	135	136
Max.AC Output Apparent Power(kVA)	135	136
Rated AC Output current (A)	204.6/195.7	206.1/197.2
Max.AC Output Current(A)	204.6/195.7	206.1/197.2
Max. Output Fault Current (A)	391.4	394.4
Max. Output Overcurrent Protection (A)	398	398
Rated Output voltage/range (V)	220/380V 230/400V 0.85Un-1.1Un	
Grid Connection Form	3L+N+PE	
Rated Output Grid Frequency/range(Hz)	50Hz/45Hz-55Hz, 60Hz/55Hz-65Hz	
Power Factor Adjustment Range	0.8 leading-0.8lagging	
Total Current Harmonic Distortion THDi	<3%	
DC Injection Current	<0.5%In	
Efficiency		
Max.Efficiency	98.8%	
Euro Efficiency	98.2%	
MPPT Efficiency	>99%	
Equipment Protection		
DC reverse polarity protection	yes	
AC Output Overcurrent Protection	yes	
AC Output Overvoltage Protection	yes	
AC Output Short Circuit Protection	yes	
Thermal Protection	yes	
Insulation Impedance detection	yes	
DC Component Monitoring	yes	
Arc fault circuit interrupter (AFCI)	Optional	
Anti-islanding protection	yes	
DC Switch	yes	
Residual Current Detection	yes	
Surge Protection Level	TYPE II(DC),TYPE II(AC)	

Interface	
Communication Interface	RS485/RS232
Monitor Mode	GPRS/WIFI/Bluetooth/4G/LAN(optional)
Display	LCD+LED
General Data	
Operating Temperature Range (℃)	-25℃ to +60℃,>45℃ derating
Permissible Ambient Humidity	0-100%
Permissible Altitude (m)	4000m
Noise (dB)	⩽ 65dB
Ingress Protection(IP) Rating	IP 65
Inverter Topology	Non-Isolated
Over Voltage Category	OVC II(DC),OVC III(AC)
Cabinet Size（W*H*D）[mm]	1153×516×325.5（Excluding connectors and brackets）
Weight [kg]	107.7
Warranty [year]	Standard 5 years, extended warranty
Type Of Cooling	Intelligent air cooling
Grid Regulation	IEC 61727, IEC 62116, CEI 0-21, CEI 0-16,EN 50549, NRS 097, RD 140, UNE 217002, OVE-Richtlinie R25, G99, VDE-AR-N 4105, VDE-AR-N 4110
Safety EMC/Standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2

12. EU Declaration of Conformity

within the scope of the EU directives
- Radio Equipment Directive 2014/53/EU (RED)
- Restriction of the use of certain hazardous substances 2011/65/EU(RoHS)

NINGBO DEYE INVERTER TECHNOLOGY CO., LTD. confirms herewith that the products described in this document are in compliance with the fundamental requirements and other relevant provisions of the above mentioned directives. The entire EU Declaration of Conformity and certificate can be found at https://www.deyeinverter.com/download/#string-inverter.

EU Declaration of Conformity

Product: **Grid-connected PV Inverter**
Models:SUN-120K-G01P3-EU-BM8;SUN-125K-G01P3-EU-BM8;SUN-130K-G01P3-EU-BM8;
SUN-135K-G01P3-EU-BM8;SUN-136K-G01P3-EU-BM8;
Name and address of the manufacturer: Ningbo Deye Inverter Technology Co., Ltd.
No. 26 South YongJiang Road, Daqi, Beilun, NingBo, China

This declaration of conformity is issued under the sole responsibility of the manufacturer. Also this product is under manufacturer's warranty.
This declaration of conformity is not valid any longer: if the product is modified, supplemented or changed in any other way, as well as in case the product is used or installed improperly.

The object of the declaration described above is in conformity with the relevant Union harmonization legislation: The Low Voltage Directive (LVD) 2014/35/EU;the Electromagnetic Compatibility (EMC) Directive 2014/30/EU;the restriction of the use of certain hazardous substances (RoHS) Directive 2011/65/EU.

References to the relevant harmonized standards used or references to the other technical specifications in relation to which conformity is declared:

LVD:	
EN 62109-1:2010	●
EN 62109-2:2011	●
EMC:	
EN IEC 61000-6-1:2019	●
EN IEC 61000-6-2:2019	●
EN IEC 61000-6-3:2021	●
EN IEC 61000-6-4:2019	●
EN IEC 61000-3-2:2019+A1:2021	●
EN 61000-3-3:2013/A2:2021/AC:2022-01	●
EN IEC 61000-3-11:2019	●
EN 61000-3-12:2011	●
EN 55011:2016/A2:2021	●

Nom et Titre / Name and Title: Bard Dai
Senior Standard and Certification Engineer

Au nom de / On behalf of: Ningbo Deye Inverter Technology Co., Ltd.
Date / Date (yyyy-mm-dd): 2024-07-23
A / Place: Ningbo, China

NINGBO DEYE INVERTER TECHNOLOGY CO., LTD.

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