

LNA SERIES HYBRID INVERTER

WITH BREAKER | R5KLNA R6KLNA R7K6LNA R8KLNA R10KLNA



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About this manual

This manual is a component of the hybrid inverter, providing detailed information on the size, specification parameters and installation steps of the hybrid inverter. Please read carefully before installation.

For specific function descriptions and usage tutorials, please scan the QR code at the end of the text to obtain the latest version of the user manual.

R5KLNA

R6KLNA

R7K6LNA

R8KLNA

R10KLNA

Naming rules, for example: R7K6LNA.

- "R": means "Company product internal identification symbol".
- "7K6": means "output power 7.6kW".
- "L": means "low battery voltage".
- "NA": means "North America".

Store this manual where it will be always accessible.

1 Safety introductions

This manual is for qualified electricians. The tasks described in this manual only can be performed by qualified electricians.

1.1 Symbols used

The following types of safety instructions and general information appear in this document as described below:



- "Danger" indicates a hazardous situation which, if not avoided, will result in death or serious injury.



- "Warning" indicates a hazardous situation which, if not avoided, could result in death or serious injury.



- "Caution" indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



- "Note" provides tips that are valuable for the optimal operation of ours.

1.2 Important safety instructions



- Danger to life due to high voltages in the inverter!
- All work must be carried out by qualified electrician.
- The appliance is not to be used by children or persons with reduced physical sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.
- Children should be supervised to ensure that they do not play with the appliance.



- Danger of burn injuries due to hot enclosure parts!
- During operation, the upper lid of the enclosure and the enclosure body may become hot.
- Only touch the lower enclosure lid during operation.



- Possible damage to health as a result of the effects of radiation!
- Do not stay closer than 20cm to inverter for any length of time.



- Grounding the PV generator.
- Comply with the local requirements for grounding the PV modules and the PV generator. It is recommended connecting the generator frame and other electrically conductive surfaces in a manner which ensures continuous conduction and ground these in order to have optimal protection of system and persons.



- Ensure input DC voltage \leq Max. DC voltage. Over voltage may cause damage.
- Permanent damage to inverter or other losses, which will not be included in warranty!



- Authorized service personnel must disconnect both AC and DC power from inverter before attempting any maintenance, cleaning or working on any circuits connected to inverter.
- Do not operate the inverter when the device is running.
- Risk of electric shock!

- Please keep the user manual properly. When operating equipment, in addition to following the general precautions in this document, follow the specific safety instructions. We will not be liable for any consequence caused by the violation of the safety operation regulations and design, production, and usage standards.
- Only accessories shipped with the inverter are recommended for use, Otherwise, it may result in a risk of fire, electric shock, or injury to person.
- Make sure the existing wiring is in good condition and the wire is not undersized. Do not disassemble any parts of the inverter which are not mentioned in the installation guide. It contains no user-serviceable parts. See warranty for instructions on obtaining service. Attempting to service the inverter yourself may result in a risk of electric shock or fire and will void your warranty.
- Keep away from flammable, explosive materials to avoid fire disaster.
- The installation place should be away from humid or corrosive substance.
- Authorized service personnel must use insulated tools when installing or working with this equipment.
- Never touch either the positive or negative pole of the PV connecting device. It's strictly prohibited touching both at the same time.
- The unit contains capacitors that remain charged to a potentially lethal voltage after the MAINS, battery and PV supply has been disconnected.
- Hazardous voltage will present for up to 5 minutes after disconnection from power supply.
- CAUTION-RISK of electric shock from energy stored in capacitor, never operate on the inverter couplers, the MAINS cables, Battery cables, PV cables or the PV generator when power is applied. After switching off the PV, battery, and mains, always wait for 5 minutes to let the intermediate circuit capacitors discharge before unplugging DC, battery in plug and MAINS couplers.



- When accessing the internal circuit of inverter, it is very important to wait 5 minutes before operating the power circuit or demounting the electrolyte capacitors inside the device. Do not open the device beforehand since the capacitors require time to sufficiently discharge!
- Surge protection devices (SPDs) for PV installation.

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- Over-voltage protection with surge arresters should be provided when the PV power system is installed.
 - The grid connected inverter is not fitted with SPDs in both PV input side and MAINS side.
-
-

- Lightning will cause a damage either from a direct strike or from surges due to a nearby strike.
 - Induced surges are the most likely cause of lightning damage in majority or installations, especially in rural areas where electricity is usually provided by long overhead lines. Surge may be included on both the PV array conduction and the AC cables leading to the building.
 - Specialists in lightning protection should be consulted during the end use application. Using appropriate external lightning protection, the effect of a direct lightning strike into a building can be mitigated in a controlled way, and the lightning current can be discharged into the ground.
 - Installation of SPDs to protect the inverter against mechanical damage and excessive stress include a surge arrester in case of a building with external lightning protection system (LPS) when separation distance is kept.
 - To protect the DC system, surge suppression device (SPD type2) should be fitted at the inverter end of the DC cabling and at the array located between the inverter and the PV generator, if the voltage protection level (VP) of the surge arresters is greater than 1100V, an additional SPD type3 required for surge protection for electrical devices.
 - To protect the AC system, surge suppression devices (SPD type2) should be fitted at the main incoming point of AC supply (at the consumers cutout), located between the inverter and the meter/distribution system.
 - All DC cables should be installed to provide as short a run as possible, and positive and negative cables of the string or main DC supply should be bundled together. Avoiding the creation of loops in the system.
 - Spark gap devices are not suitable to be used in DC circuits once conducting, they won't stop conducting until the voltage across their terminals is typically more than 30 volts.
-
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Anti-islanding effect

- Islanding effect is a special phenomenon that grid-connected PV system still supply power to the nearby grid when the voltage loss has happened in the power system. It is dangerous for maintenance personnel and the public.
- Hybrid series inverter provide active frequency drift (AFD) to prevent islanding effect.

PE connection and leakage current

- The end-use application shall monitor the protective conductor by residual current operated protective device (RCD) with rated fault current $I_{fn} \leq 240\text{mA}$ which automatically disconnects the device in case of a fault.
- The device is intended to connect to a PV generator with a capacitance limit of approx. 700nf.
- Incorrect grounding can cause physical injury, death or equipment malfunction and increase electromagnetic.



- High leakage current!
- Earth connection essential before connecting supply.

Battery safety instructions



- Hybrid series inverter should be worked with low voltage battery, for the specific parameters such as battery type, nominal voltage and nominal capacity etc, please refer to user manual.
- As accumulator batteries may contain potential electric shock and short-circuit current danger, to avoid accidents that might be thus resulted, the following warnings should be observed during battery replacement:
 1. Do not wear watches, rings or similar metallic items.
 2. Use insulated tools.
 3. Put on rubber shoes and gloves.
 4. Do not place metallic tools and similar metallic parts on the batteries.
 5. Switch offload connected to the batteries before dismantling battery connection terminals.
 6. Only personal with proper expertise can carry out the maintenance of accumulator batteries.










1.3 Explanation of symbol

This section gives an explanation of all the symbols shown on the inverter and on the type label.

Table 1-1

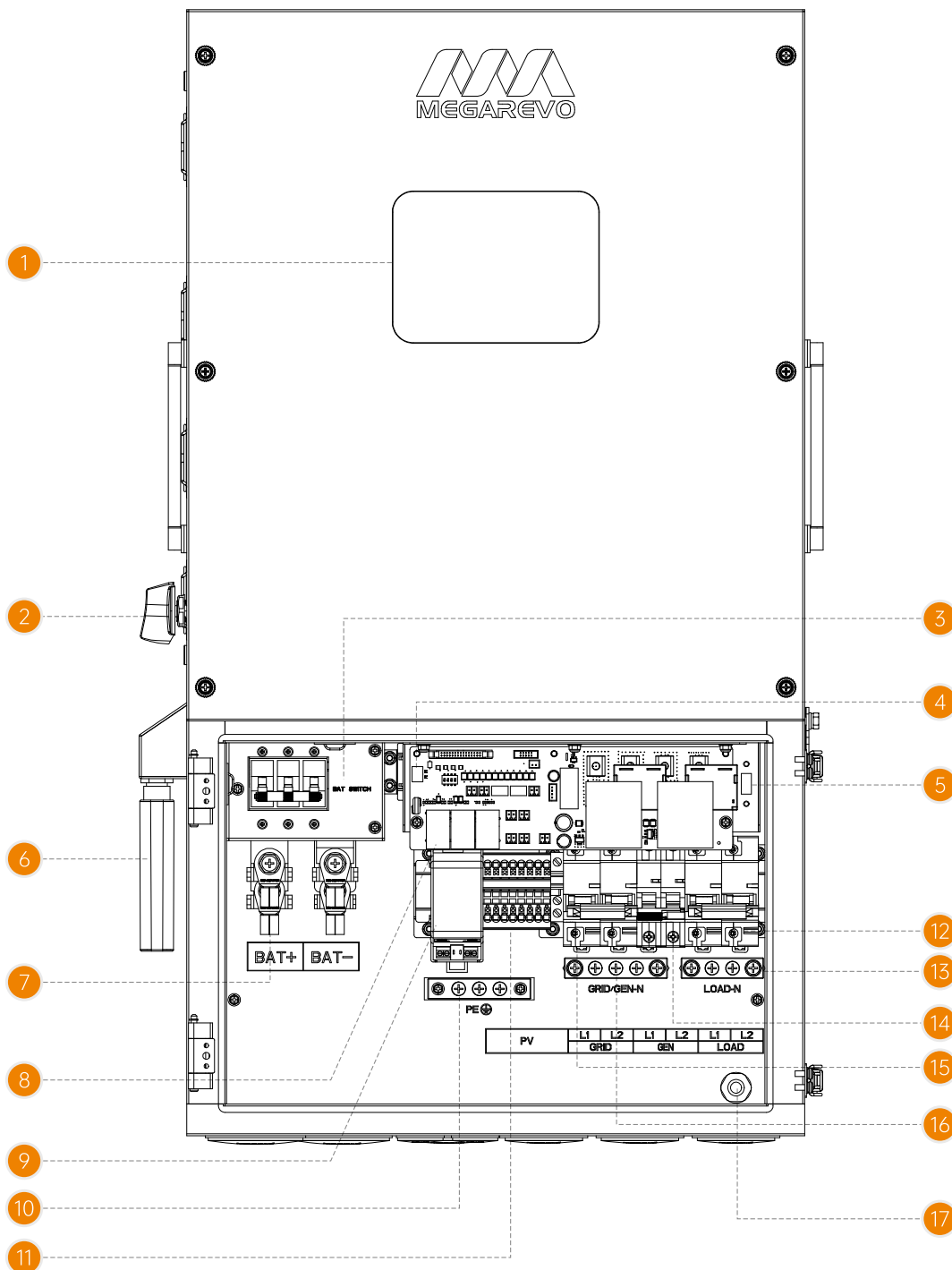
Symbols on the type label

Symbols	Symbols on the type label
	UL certified.
	This symbol indicates that you should wait at least 5mins after disconnecting the inverter from the utility grid and from the PV panel before touching any inner live parts.

Symbols	Symbols on the type label
	Keep dry! The package/product must be protected from excessive humidity and must be stored under cover.
	Refer to the operating instructions.
	Fragile - The package/product should be handled carefully and never be tipped over or slung.
	Products should not be disposed as household waste.
	No more than six (6) identical packages being stacked on each other.
	Components of the product can be recycled.
	Danger of hot surface!
	Danger of high voltage and electric shock!
	Caution! Failure to observe a warning indicated in this manual may result in injury.

2 Product introduction

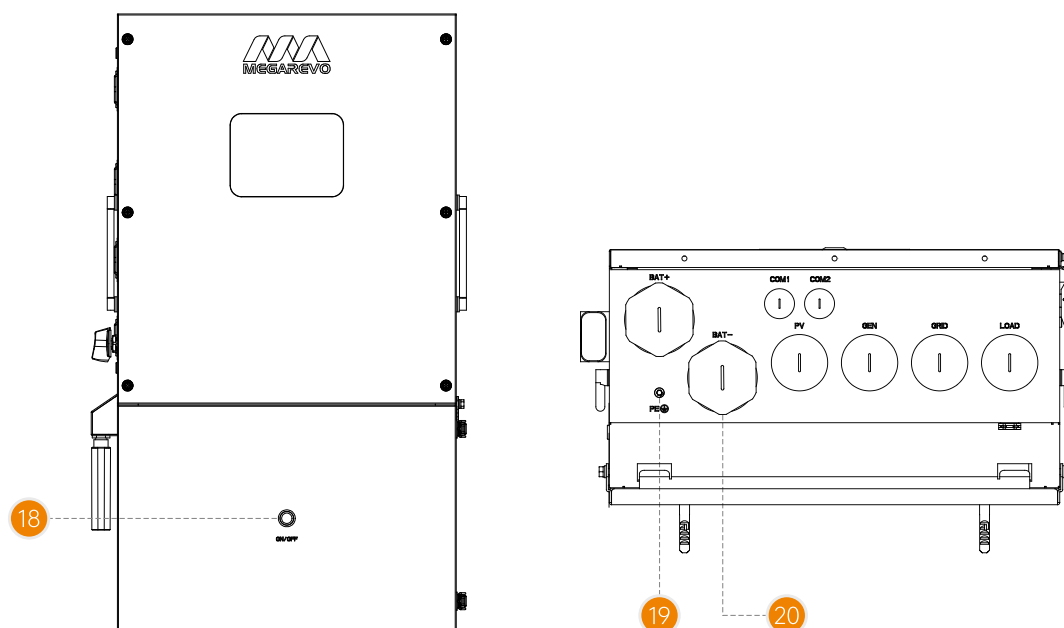
2.1 Product overview



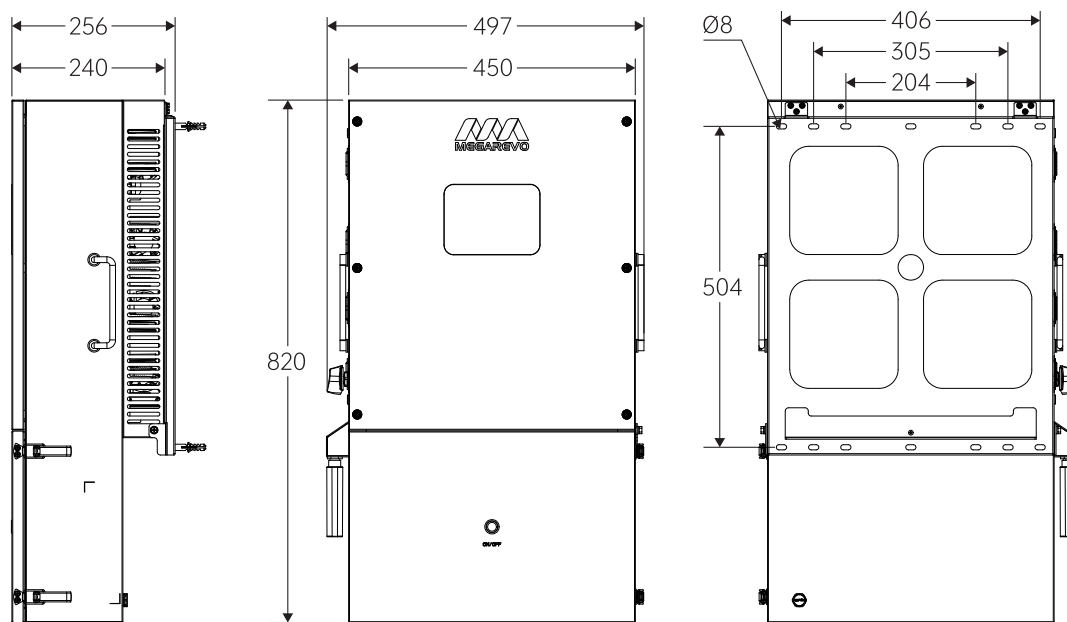
Product overview

- | | | |
|------------------------|----------------------------|--------------------------|
| 1. LCD touch screen | 2. PV DC-switch | 3. BAT DC-switch |
| 4. Type-C upgrade port | 5. USB screen upgrade port | 6. Wi-Fi/GPRS (optional) |

7. BAT input	8. Parallel/BMS/CT/Meter/ Display port	9. Ti-go RSD (optional)
10. PE port	11. PV input	12. Load L1/L2 input
13. Load-N copper bar	14. Generator input	15. Grid L1/L2 input
16. Grid/Gen-N port	17. Vent hole	18. On/Off button
19. PE screw	20. Rubber waterproof plug	



2.2 Product size



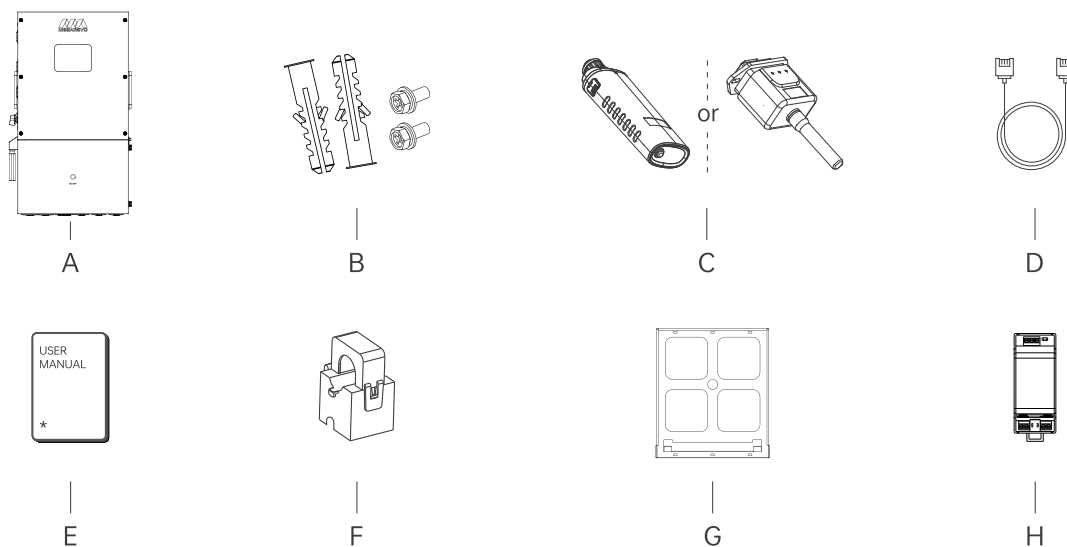
3 Installation

3.1 Check for physical damage

Make sure the inverter is intact during transportation. If there is any visible damage, such as cracks, please contact your dealer immediately.

3.2 Packing list

Open the package and take out the product, please check the accessories first. The packing list shown as below.



Object	Description
A	Hybrid inverter
B	M6 expansion screw M4*12 hanger screw M6-12 hanger screw
C	Wi-Fi/GPRS plug(optional)
D	Parallel communication cable
E	User manual
F	Current transformers
G	Hanging rack
H	Ti-go RSD transmitter(optional)

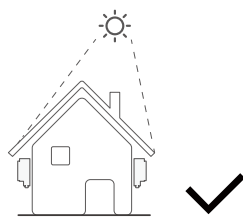
3.3 Mounting

Installation precaution:

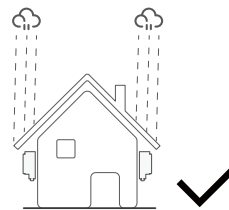
Inverter is designed for outdoor installation (IP65). Make sure the installation site meets the following conditions:

- Not in direct sunlight.
- Not in areas where highly flammable materials are stored.
- Not in potential explosive areas.
- Not in the cool air directly.
- Not near the television antenna or antenna cable.
- Not higher than altitude of about 2000m above sea level.
- Not in environment of precipitation or humidity (> 95%).
- Under good ventilation condition.
- The ambient temperature in the range of -20°C to +60°C .
- The slope of the wall should be within $\pm 5^\circ$.
- The wall hanging the inverter should meet conditions below:
 1. Solid brick/concrete, or strength equivalent mounting surface.
 2. Inverter must be supported or strengthened if the wall's strength isn't enough (such as wooden wall, the wall covered by thick layer of decoration).

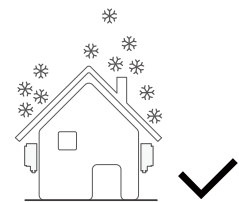
Please AVOID direct sunlight, rain exposure, snow laying up during installation and operation.



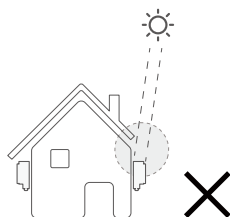
No direct sunlight



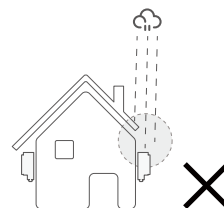
No rain exposure



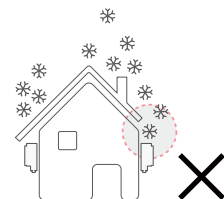
No snow lay up



Direct sunlight

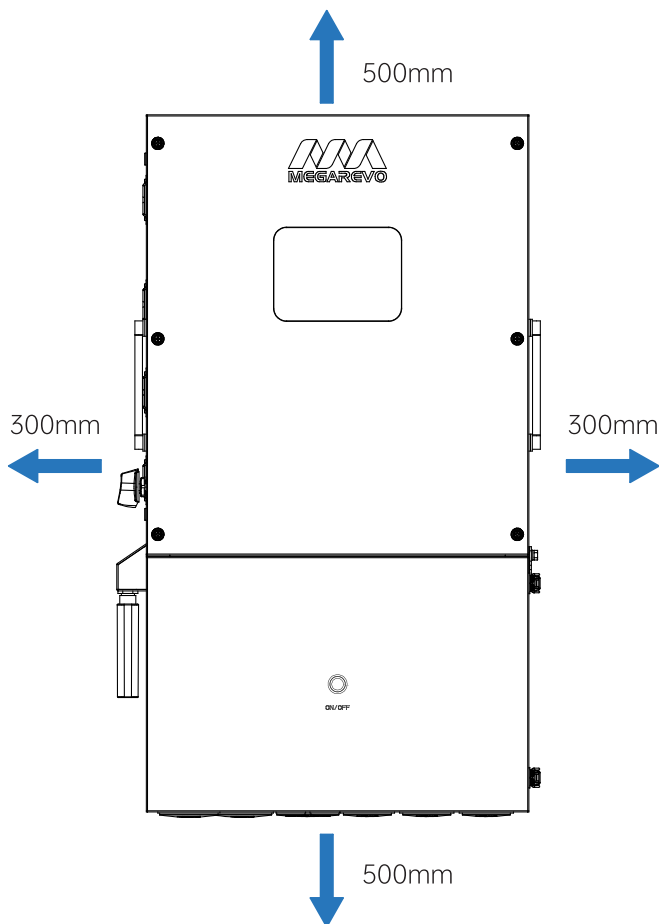


Rain exposure



Snow lay up

Space requirement

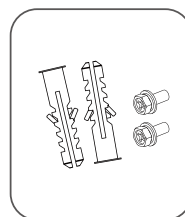
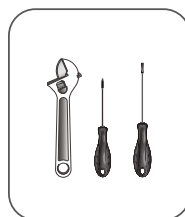
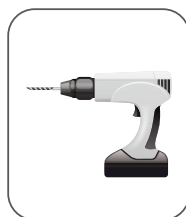


Position	Min. size
Left (Air inlet)	300mm
Right (Air outlet)	300mm
Top (Heat dissipation)	500mm
Bottom (Prevent water immersion)	500mm
Front (Operation and maintenance)	1000mm

Mounting the inverter

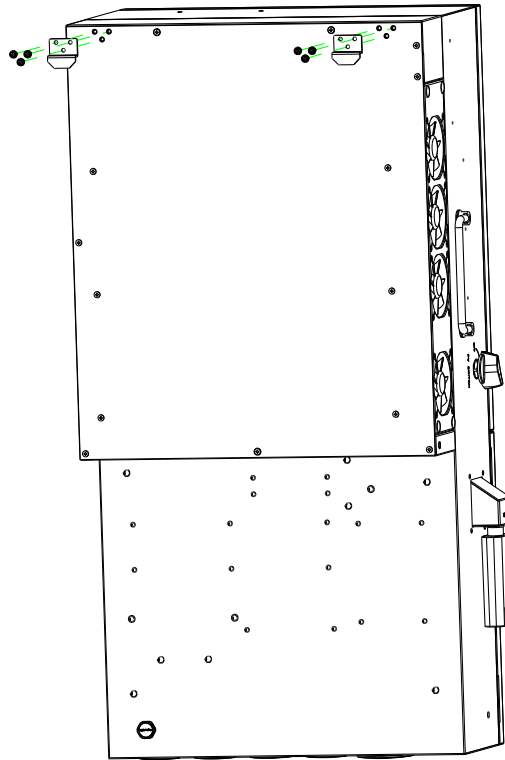
Tools required for installation.

Installation tools: crimping pliers for binding post and RJ45, screwdriver, manual wrench etc.

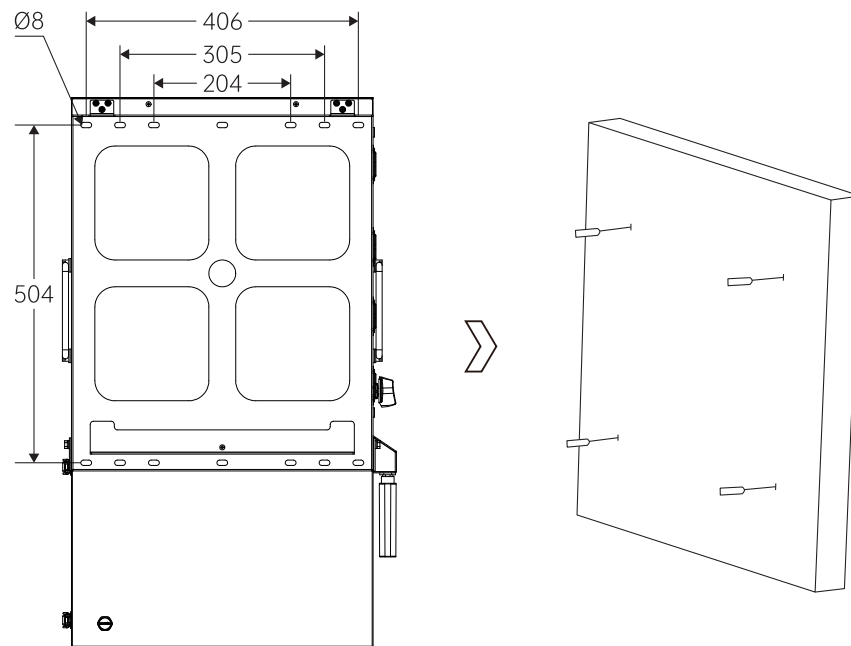


Step1: Mounting the hanging rack on the inverter.

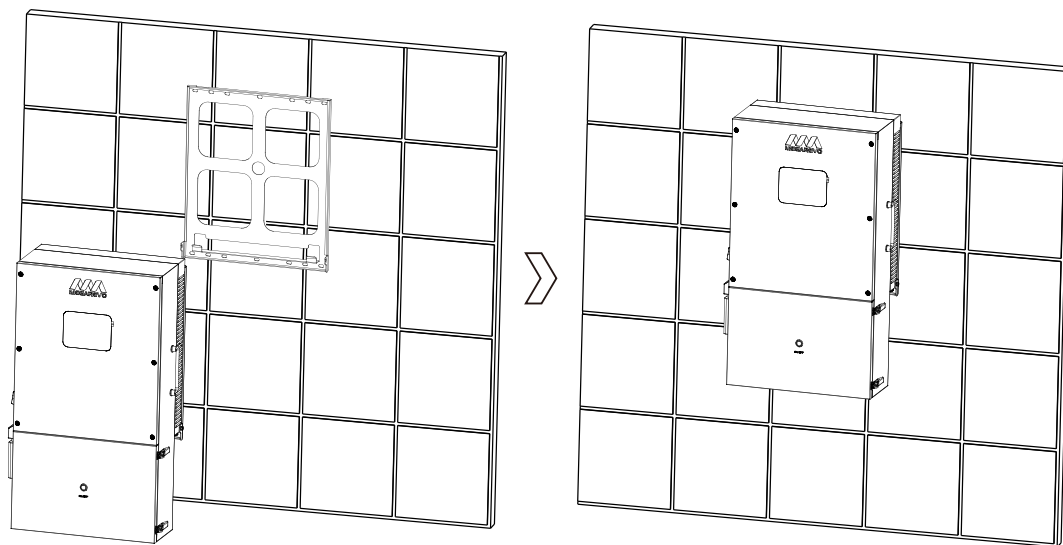
1. Place the hanging rack on the back of the inverter.
2. Then install the Hex head bolt into the inverter.



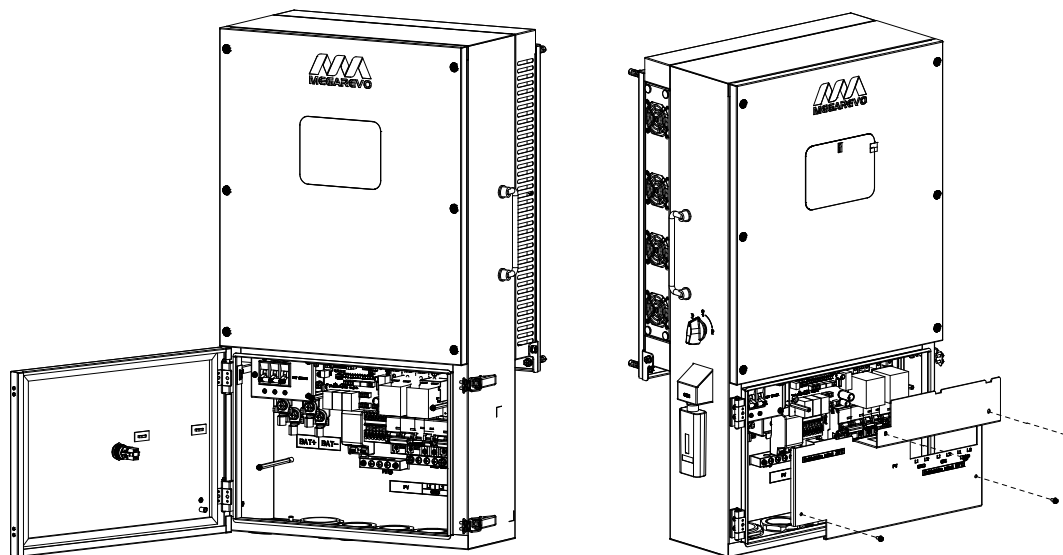
Step2: We provide three different spacing of the mounting holes, please choose the corresponding aperture according to the actual situation to install the inverter. Drill 4 holes in the wall according to the following distance dimensions, 50~60mm depth. Then use a proper hammer to fit the expansion bolt into the holes.

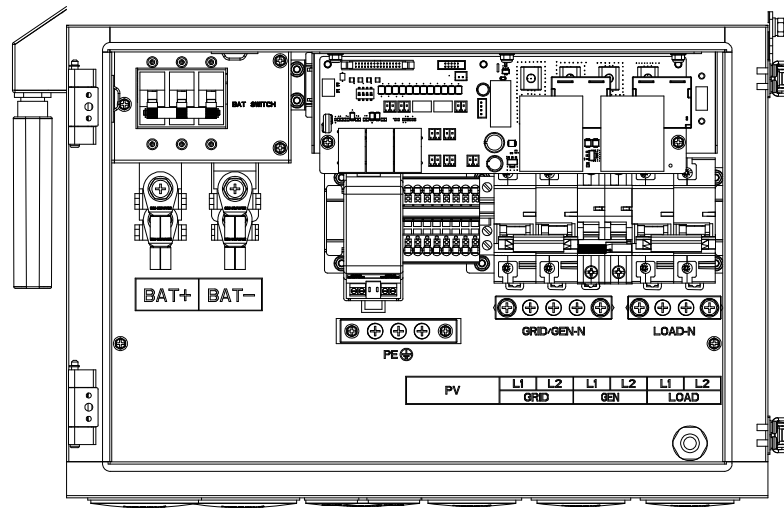


Step3: Lift the inverter and ensure that the four hooks on the back of the inverter are aligned with the four depressions of the hanging rack to fix it to the Hanging rack. Use 2 M6x12 hanger screws to fix the left and right sides of the bottom.



Step4: The two latches on the lower right of the inverter open upward to open the waterproof cover. Remove the four screws fixing the transparent protective cover with a cross screwdriver, and remove the transparent protective cover. After the line is installed, install the transparent protective cover plate back.





3.4 Battery connection

For safe operation and compliance, a separate DC over-current protector or disconnect device is required between the battery and the inverter. The positive battery port of the inverter is already pre-installed with a 250A DC circuit breaker, so there is no need to repeat the installation.

Model	Current (A)	Wire size/cable (4PCS)	Torque value (max)
5/6kW	130	5AWG/18mm ² (2+,2-)	24.5Nm
7.6/8kW	190	4AWG/22mm ² (2+,2-)	
10kW	210	2AWG/35mm ² (2+,2-)	

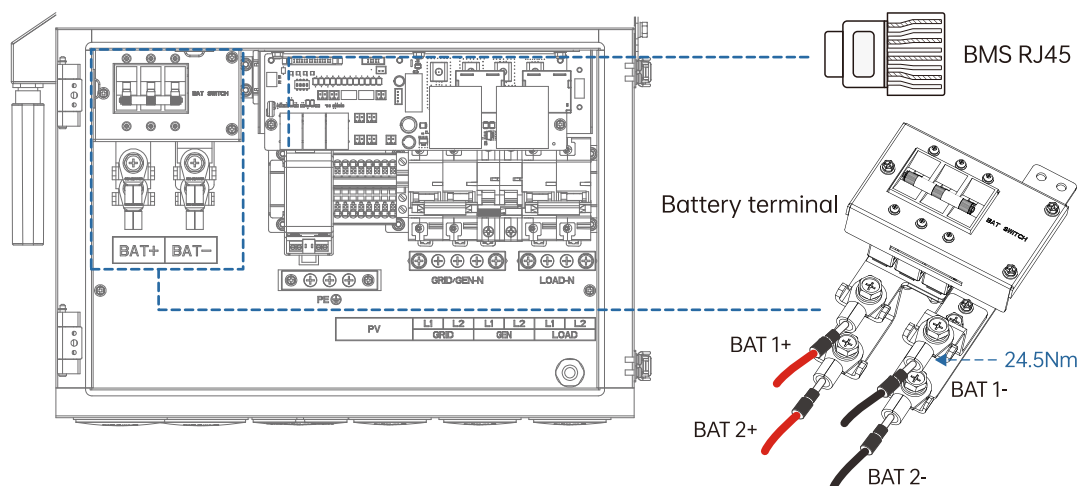
The battery port provides four terminals for connection. As shown in the table above, users can connect according to the actual situation of the battery.

Power connection battery

Step1: Select the cable of the correct diameter and strip the front end of the cable for 15mm. Select 4 O-terminals with an aperture of M8. Insert the wire into the O-terminal and clamp it with crimping pliers. Fasten with heat shrinkable sleeve to ensure insulation reliability.



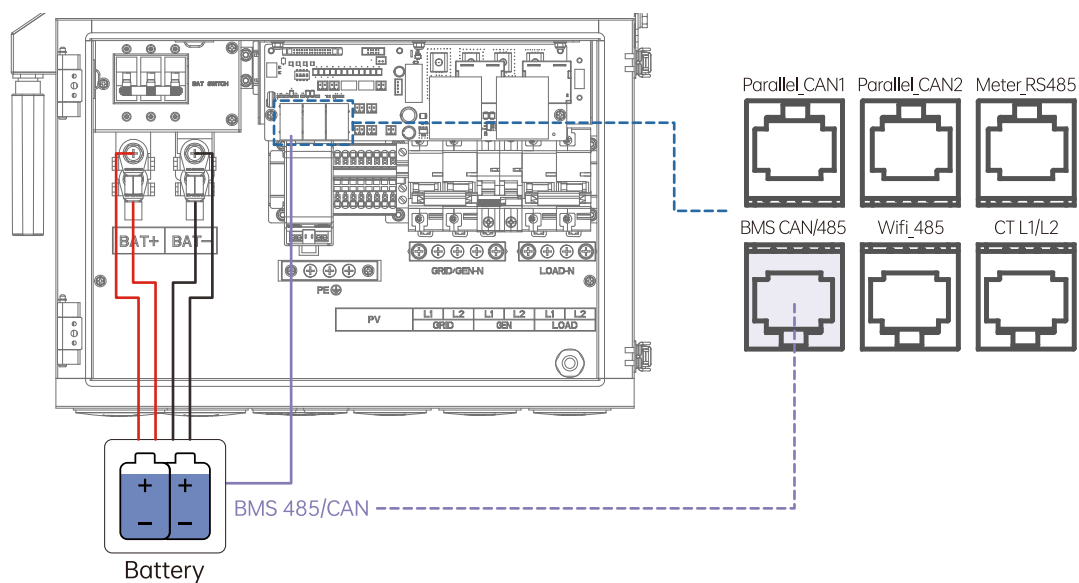
Step2: Insert the battery cable into the inverter battery port and tighten the setting screws with a maximum torque of 24.5Nm. Make sure the positive and negative terminals are connected correctly.



Step3: Connect the BMS communication line of the lithium battery to the BMS communication input interface of the inverter. If the battery BMS communication cable distinguishes the direction of the network port, adjust the connection direction correctly.

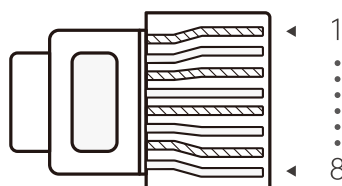
When the lead-acid battery is used, the battery BMS communication cable is not required.

Battery connection diagram



BMS PIN definition

Communication interface between inverter and battery is RS485 or CAN with a RJ45 connector.



	PIN	1	2	3	4	5	6	7	8
CAN	Definition	X	X	X	BMS_CANH	BMS_CANL	X	X	X
RS485	Definition	X	X	X	X	X	GND	BMS_485A	BMS_485B

When using RS485 protocol, please note that PIN2 must be disconnected!



- The battery communication can only work when the battery BMS is compatible with the inverter.

3.5 PV connection

Before connecting the PV, install a separate DC circuit breaker between the inverter and the PV. Based on the inverter design requirements, the following recommended cable sizes are recommended for PV connections.

Model	R5KLNA	R6KLNA	R7K6LNA	R8KLNA	R10KLNA
PV Max. DC input power (kW)	7.5	9	12	12	15
Wire size (AWG)	12				
Cable (mm ²)	4				

PV module selection

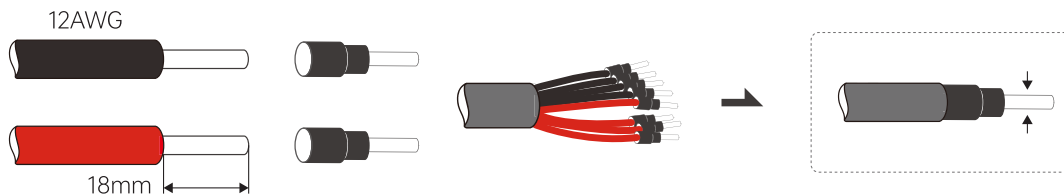
Please select the appropriate PV module input parameters according to the following parameters.

- The open circuit voltage (VOC) of the PV string cannot exceed the maximum PV input voltage of the inverter.
- The open-circuit voltage (VOC) of the PV string cannot be lower than minimum input voltage of the inverter PV.
- The input power of each MPPT shall not exceed 3.6kW, and the input current shall not exceed 14A.
- Use PV modules that meet international standards.

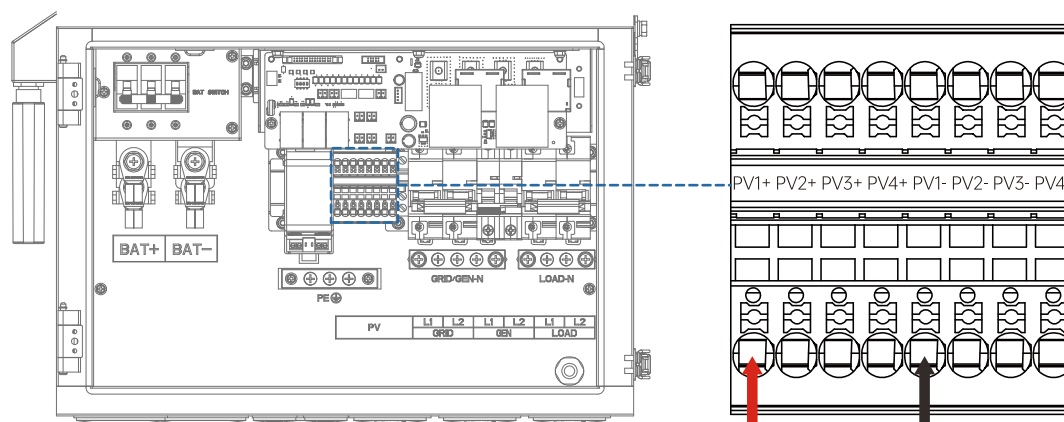
Model	R5KLNA	R6KLNA	R7K6LNA	R8KLNA	R10KLNA
PV Max. DC input power (kW)	7.5	9	12	12	15
NO. MPPT tracker	4				
PV input voltage range (V)	120 - 500				
Full power operating voltage range (V)	120 - 430				
Max. input current (A)	14				
Max. short circuit current (A)	22				

PV wire connection

Step1: Remove 18mm of insulation from the end of the 12AWG cable and connect its cold rolled terminals to the with crimping pliers.



Step2: Route the cable through the PV interface and insert the cable into the hole on the PV terminal.



WARNING

- PV module voltage is very high, which already achieve dangerous voltage range, please comply with electric safety rules when connecting.
- Please do not make PV positive or negative ground!



- The following requirements of PV modules need to be applied for each input area.
- Please do not make PV positive or negative ground!
- In order to save cable and reduce the DC loss, we suggest installing the inverter near PV modules.

3.6 Grid/GEN connection and backup load connection

For safety reasons, a separate AC circuit breaker must be installed between the inverter and the grid and the standby load. The inverter already has 3 AC breakers built in, so the customer doesn't need to install them again. The circuit breakers are GRID, GEN, and backup load from left to right. Please connect AC input and output at the correct position!

All wiring must be performed by qualified personnel. The use of appropriate cables for AC input connections is important for safe and efficient operation of the system. Use the correct cable recommended below.

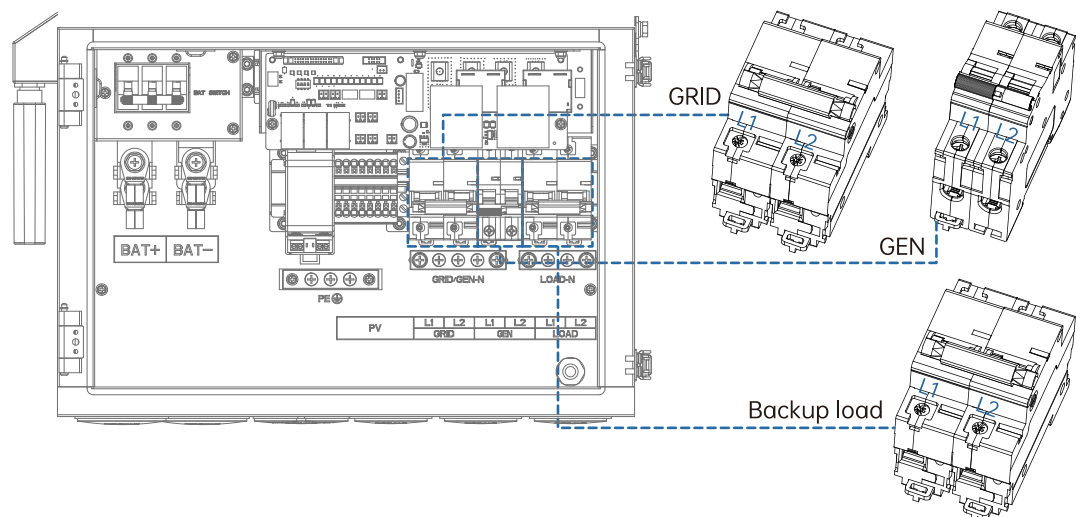
Model	R5KLNA	R6KLNA	R7K6LNA	R8KLNA	R10KLNA
Cable (AWG)	8		6		5



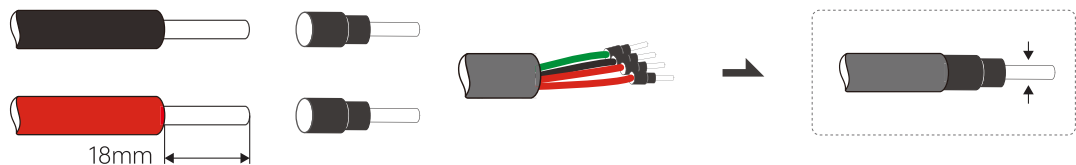
- The inverter is designed for a maximum bypass current of 100A. If this is required, a 2AWG cable must be used for connection.

AC wire connection

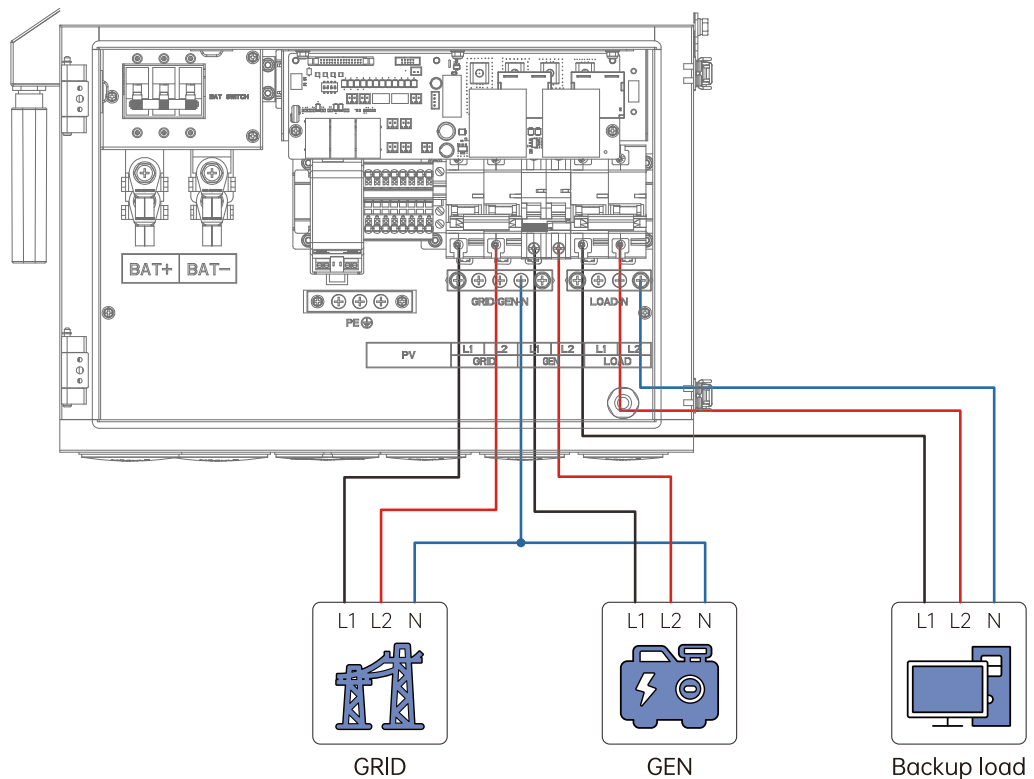
- Before connecting the GRID, Backup load, and GEN port, turn off the AC circuit breaker or isolation switch.
- Pay attention to distinguish between GRID, Backup, and GEN interfaces, and do not connect them incorrectly.
- Note that GRID-N cannot be short-circuited with LOAD-N, they have separate copper bars.



Step1: Select the appropriate wire and remove the 18mm insulation layer from the end of the wire. Connect the wire to the cord end terminal using crimping pliers.



Step2: Route the cable through the bottom wiring port and connect the cable to the AC terminal. Tighten the screw with a maximum torque of 1.2Nm.



WARNING

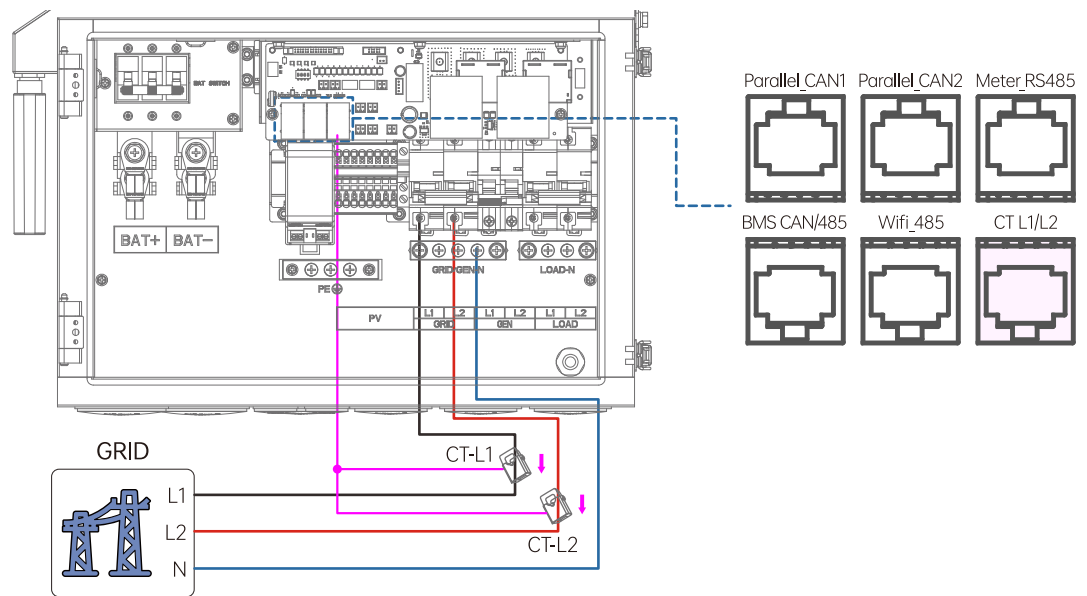
- We have a common mode filter inductance between the GRID port and the LOAD port, short GRID-N and LOAD-N outside will damage this filter inductance.
- If using this interface to support load, please ensure that the N line of the load is connected to the "LOAD-N" port. DO NOT connect "Load-N" to "GRID-N" directly.
- Make sure the BACK-UP load power rating is within BACK-UP output rating, otherwise the inverter will shut down with an "over load" warning.
- When an "over load" appears, adjust the load power to make sure it is within the BACK-UP output power range, then turn the inverter back on.
- For the nonlinear load, please make sure the inrush power should be within the BACK-UP output power range.

3.7 CT connection

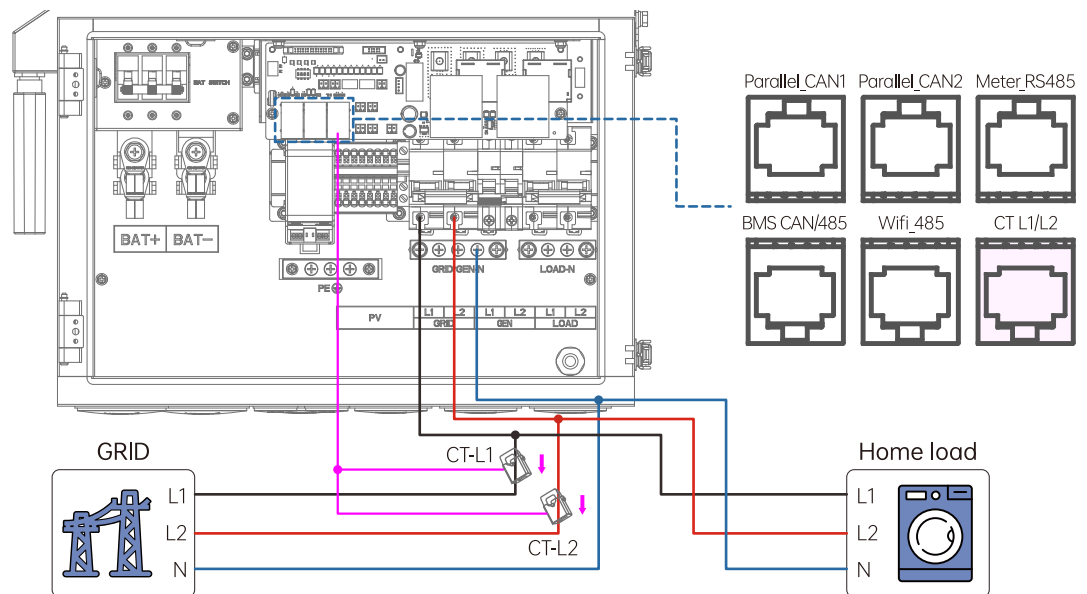
CT is short for "current transformer" and is used to detect the current of the grid.

The CT device is printed with black silk screen, please pay attention to distinguish L1 and L2.

If the customer uses a third-party CT device, it is necessary to connect the CT signal input to the reserved CT sampling input port of the inverter. Ensure that the third-party CT meets the standard of UL2808.



When the customer is connected to the home load, the CT location needs to be connected to the following location.

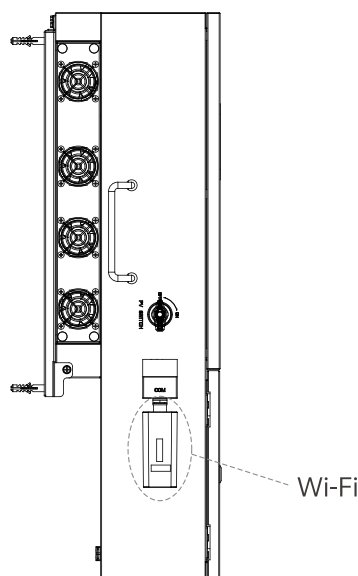


- If CT is not installed or installed reversely, the functions of "self-disable", "self-use", "peak-shift" ... will not be realized.
- The direction of the arrow on the CT, points from this inverter to the GRID!

3.8 Wi-Fi/GPRS connection

The Wi-Fi/GPRS connection port is in the lower left corner of the inverter. Insert the Wi-Fi device into the reserved port of the inverter, pay attention to the holes between them, and turn clockwise to tighten.

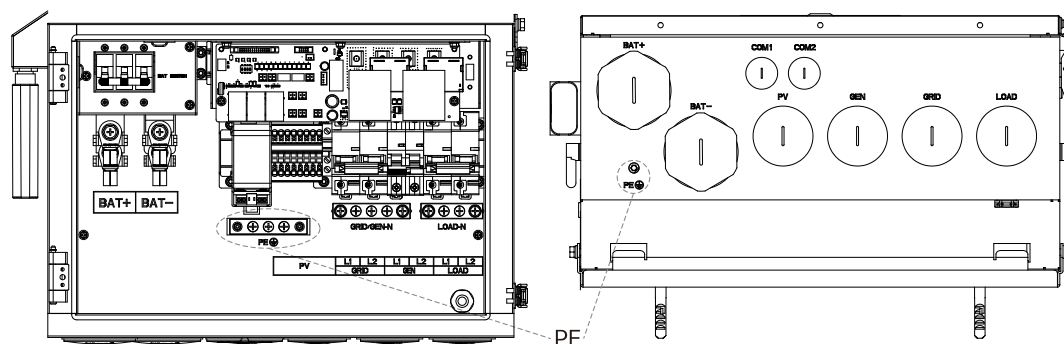
For the configuration of Wi-Fi plug, please refer to illustrations of the Wi-Fi plug.



3.9 Earth connection

The ground cable should be connected to the ground cable of the power distribution box to prevent the original ground conductor from failing in emergencies.

Please connect the grounding wire of the distribution box to the grounding screw at the bottom of the inverter or the PE copper bar inside. When installing the grounding wire, it is not allowed to use multi-point grounding.



3.10 RSD (ON / OFF) installation

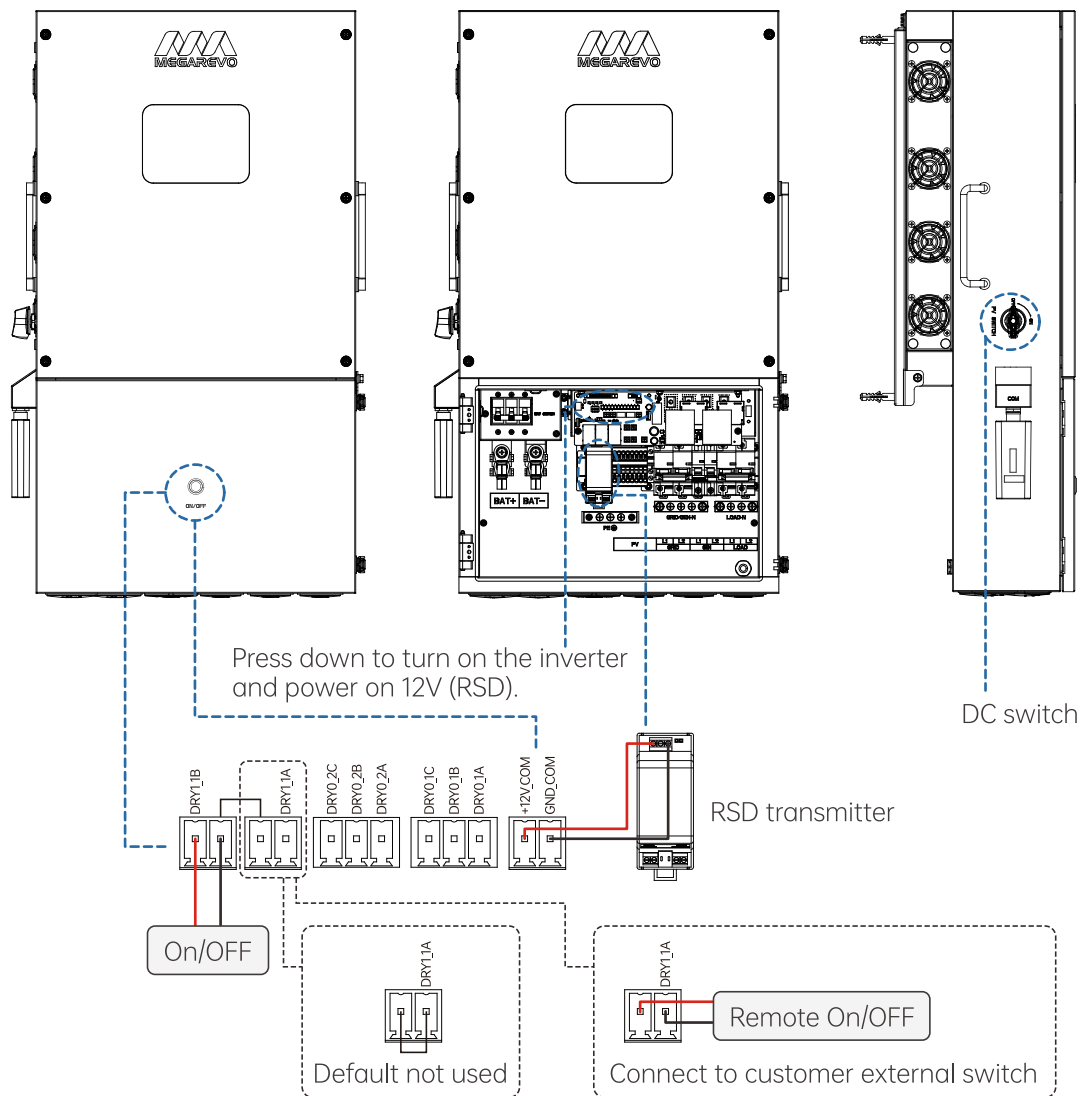
RSD function and ON / OFF function are the same button.

ON / OFF: The button is connected to dry contacts "DRY1_1B" and "DRY1_1A" through two terminals, if the two terminals are both shorted, the inverter will power on. In addition, the inverter reserves a remote power off terminals. The contact has been shorted before delivery. If necessary, customers can connect a external switch to control the inverter ON and OFF.

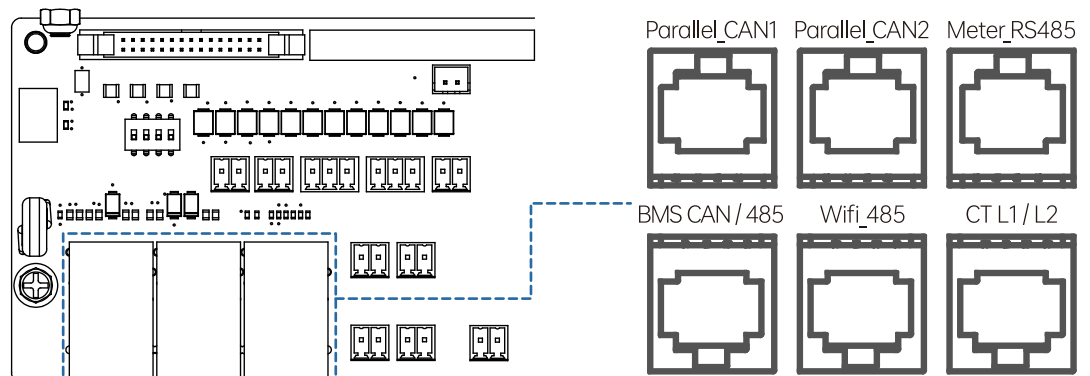
RSD: short for "rapid shutdown". PV system circuits installed on or in buildings include a rapid shutdown function to reduce shock hazard for emergency responders.

Release the button to disconnect 12V (12V_COM) output. The RSD transmitter is powered off, and the input of all PV modules is disconnected.

DC switch: PV input switch.



3.11 Function port definition



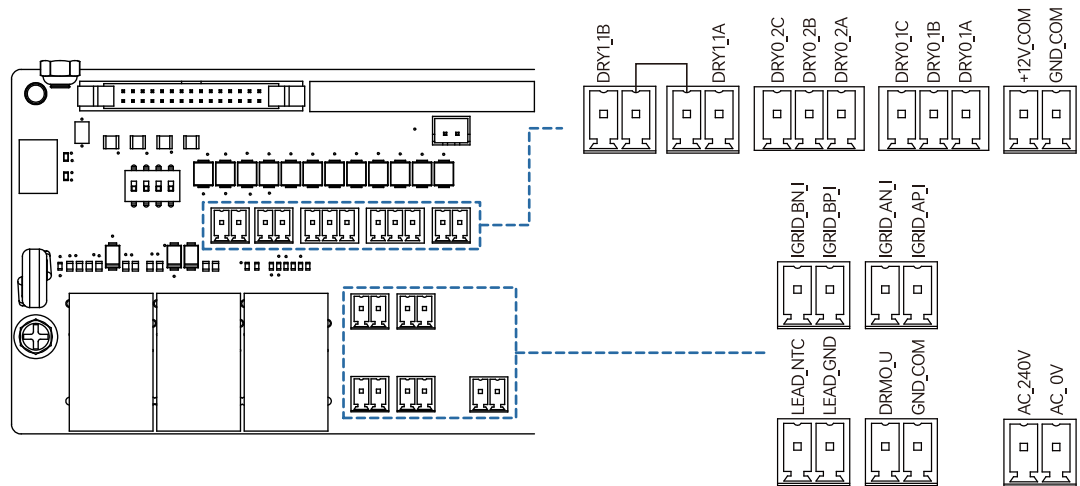
Parallel CAN1 / CAN2: Communication interface for connecting inverters.

Meter_RS485: Read the inverter data and send it to the display screen.

BMS-485 / BMS-CAN: BMS communication for lithium battery.

Wi-Fi_485: Standby crystal port for the Wi-Fi module.

CT L1 / L2: For external grid side CT to detect current size.



DRY1_1B / DRY1_1A: Used to start or stop the inverter. Two contacts are connected to the external complete system shutdown button.

DRY0_2A (common): Reserved dry contact port.

DRY0_2B (normally open): Reserved dry contact port.

DRY0_2C (normally closed): Reserved dry contact port.

DRY0_1A (common): Together with the other two contacts, the switch function is formed.

DRY0_1B (normally open): In the generator automatic mode, the contact is closed when starting.

DRY0_1C (normally closed): In the generator automatic mode, the contact is disconnected when starting.

+12V_COM / GND_COM: Used to connect Rapid Solar Shutdown (RSS).

GRID_AN_I / IGRID_AP_I: CT-L1 standby signal port.

IGRID_BN_I / IGRID_BP_I: CT-L2 standby signal port.

LEAD_NTC / LEAD_GND: Lead-acid battery temperature sampling input interface.

DRMO_U / GND_COM: Reserved dry contact port.

AC_240V / AV-0V: AC240V reserved output port.

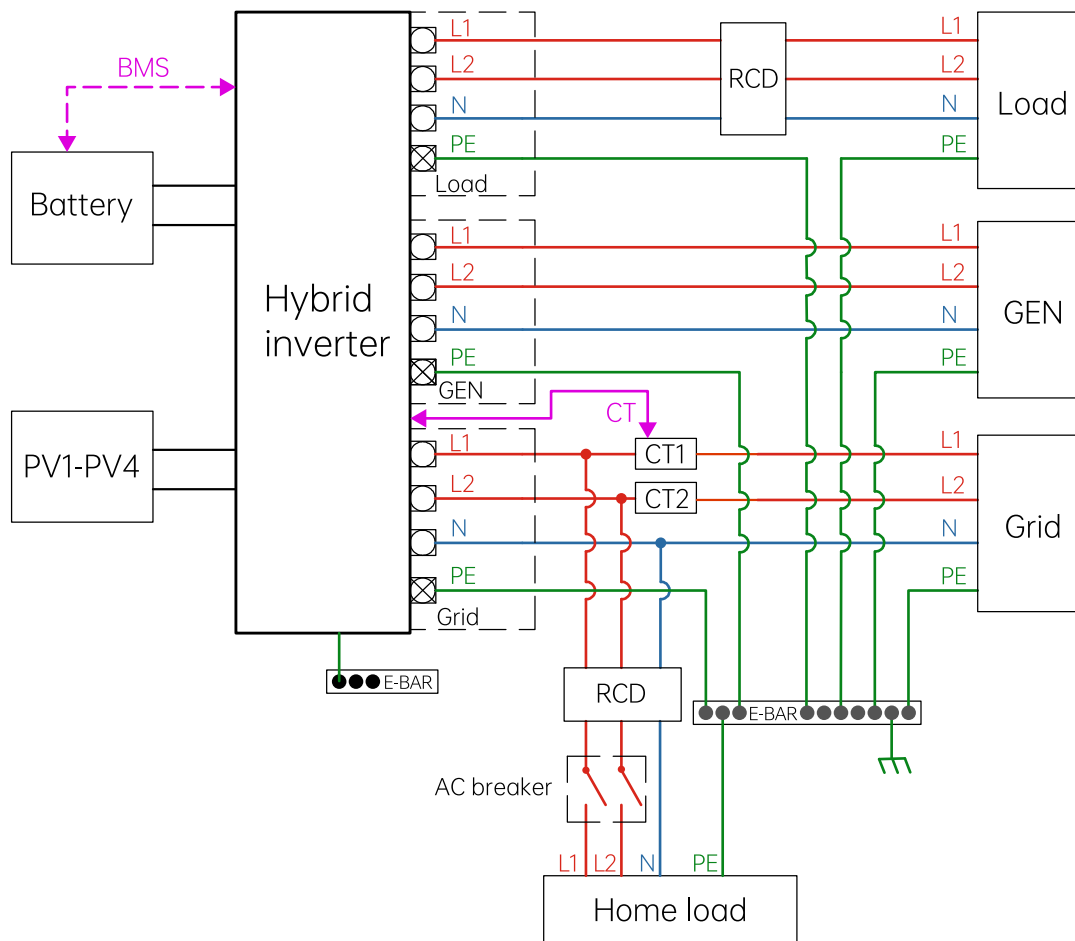


- Qualified electrician will be required for the installation.

3.12 Wiring system for inverter

Figure 3-1

Wiring system for inverter



3.13 Generator application scenario wiring diagram

Figure 3-2

Connect to generator port

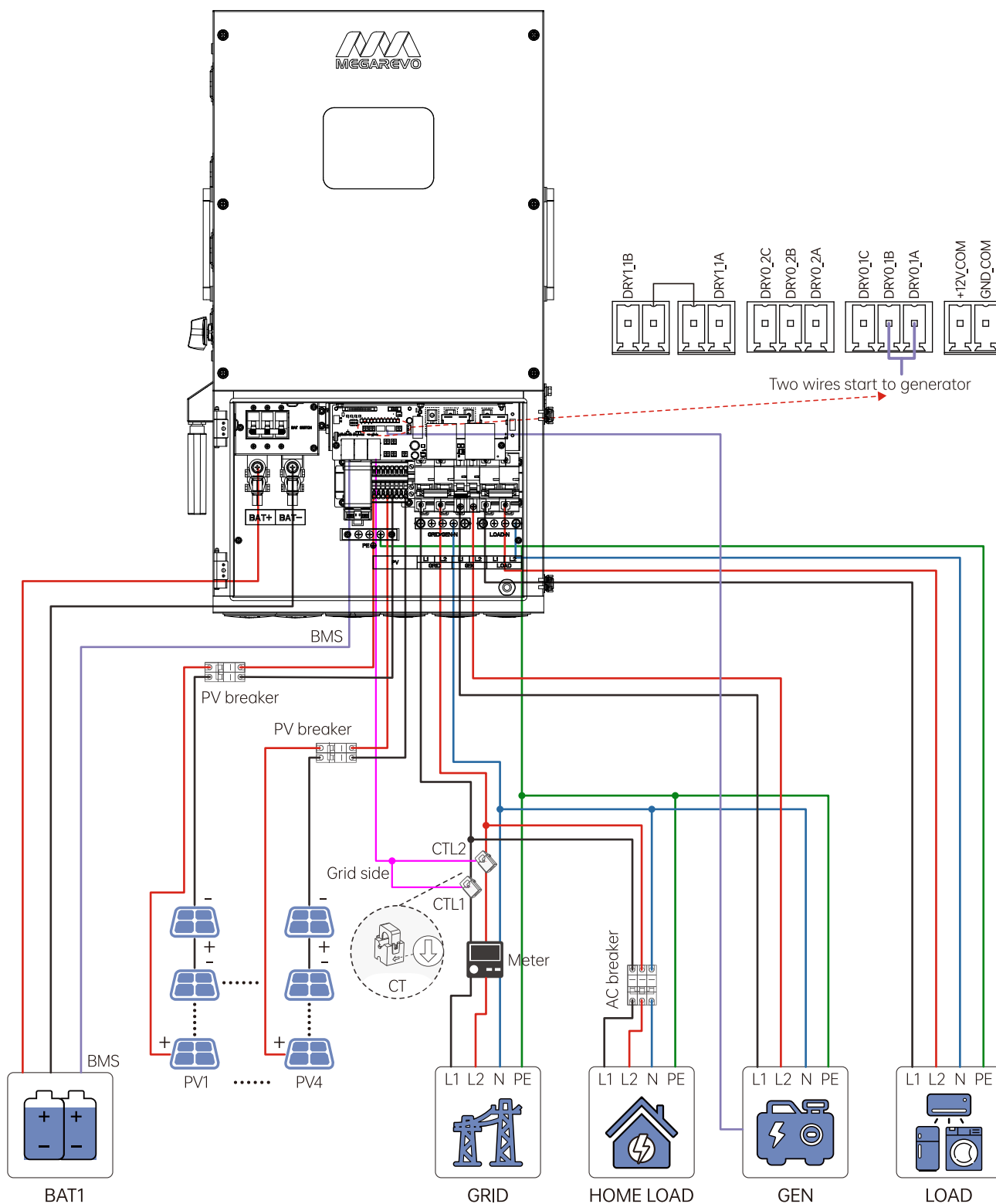
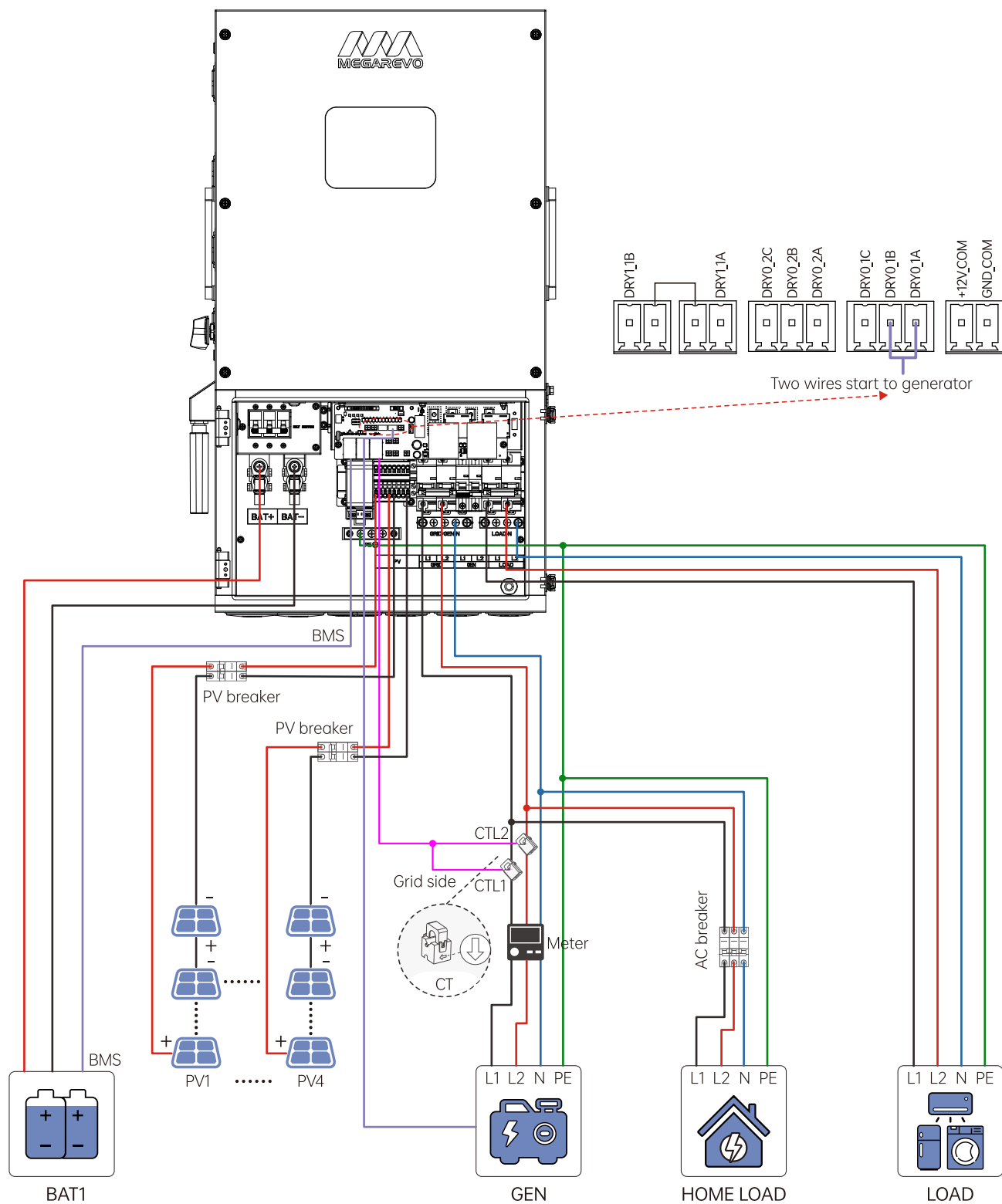


Figure 3-3 Connect to grid port



3.14 Split phase (120/240Vac) parallel connection diagram

GRID standard: US
GRID set: 120V/240V

Parallel set:
Master set:
parallel num: 3 parallel adr: 1
Master/slave: Master Common CT: Yes
Parallel en: Enable
Charge curr: xx A Discharge curr: xx A

Slave 1 set:
parallel num: 3 parallel adr: 2
Master/slave: Slave Common CT: Yes
Parallel en: Enable

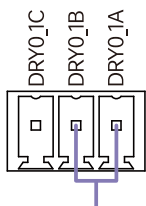
Slave 2 set:
parallel num: 3 parallel adr: 3
Master/slave: Slave Common CT: Yes
Parallel en: Enable

GEN set:
Start SOC: xx% Stop SOC: xx%
Charge curr: xx A MAX run time: xx hour
Cooldown: xx hour

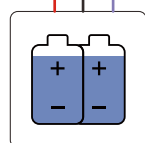
Manual contrl:
GEN en: enable Gen charge: enable
Auto start: disable Manual start: enable
Connect to grid: disable

Auto contrl:
GEN en: enable Gen charge: enable
Auto start: enable Manual start: disable
Connect to grid: disable

Note: Set the master and slave at same time



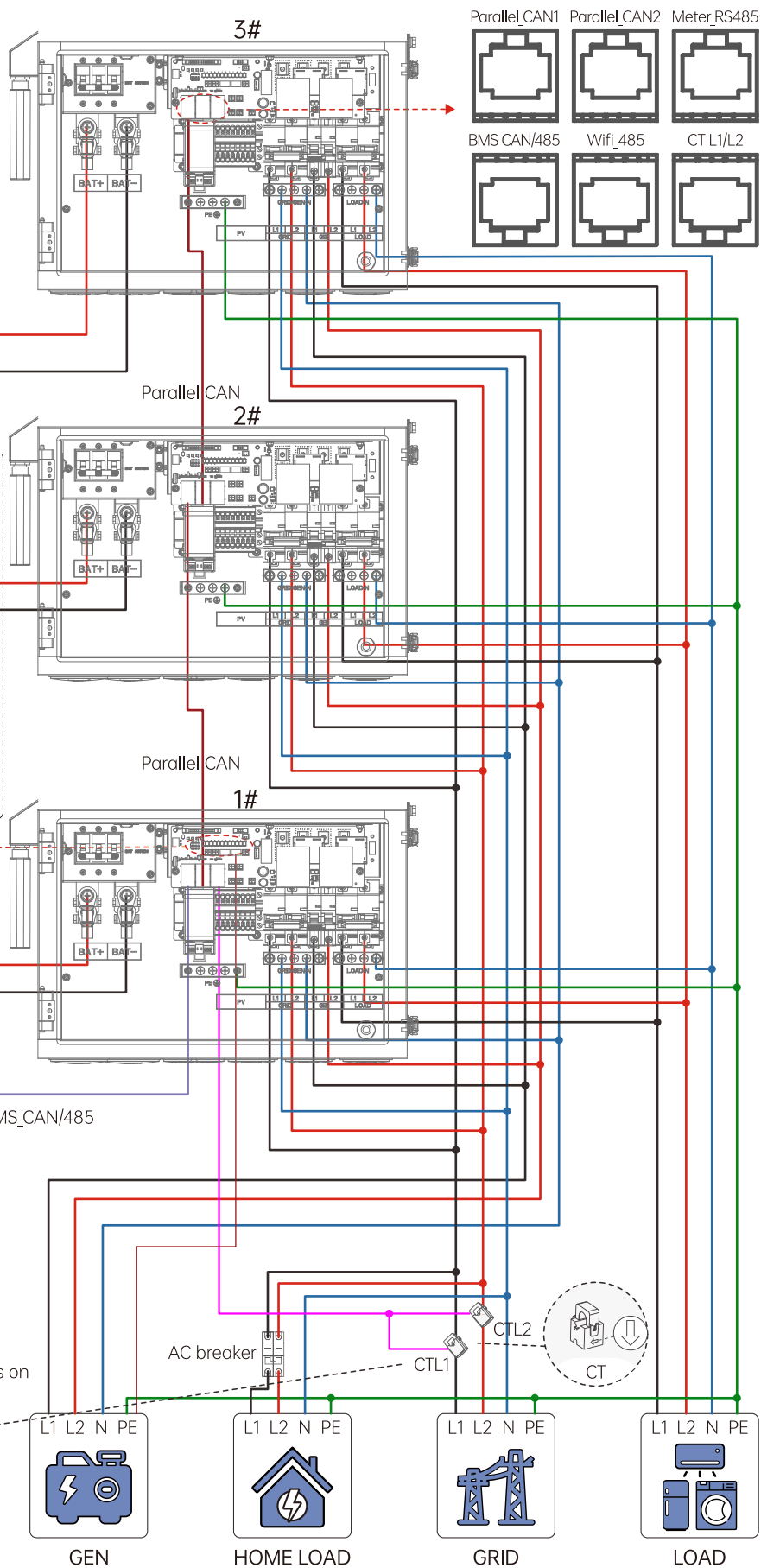
Two wires start to generator



BATTERY

AC breaker depends on home load current.

The CT arrow points in the directions of the grid.



3.15 Parallel connection for 120/208 three phase

GRID standard: US
GRID set: 120V/208V

Parallel set:
Master set:
parallel num: 3 parallel adr: 1
Master/slave: Master Common CT: Yes
Parallel en: Enable
Charge curr: xx A Discharge curr: xx A
Phase set: A 3Phase en: enable

Slave 1 set:
parallel num: 3 parallel adr: 2
Master/slave: Slave Common CT: Yes
Parallel en: Enable
Phase set: B 3Phase en: enable

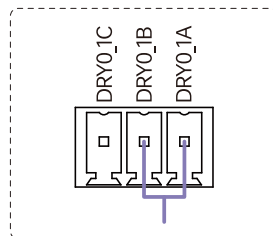
Slave 2 set:
parallel num: 3 parallel adr: 3
Master/slave: Slave Common CT: Yes
Parallel en: Enable
Phase set: C 3Phase en: enable

GEN set:
Start SOC: xx% Stop SOC: xx%
Charge curr: xx A MAX run time: xx hour
Cooldown: xx hour

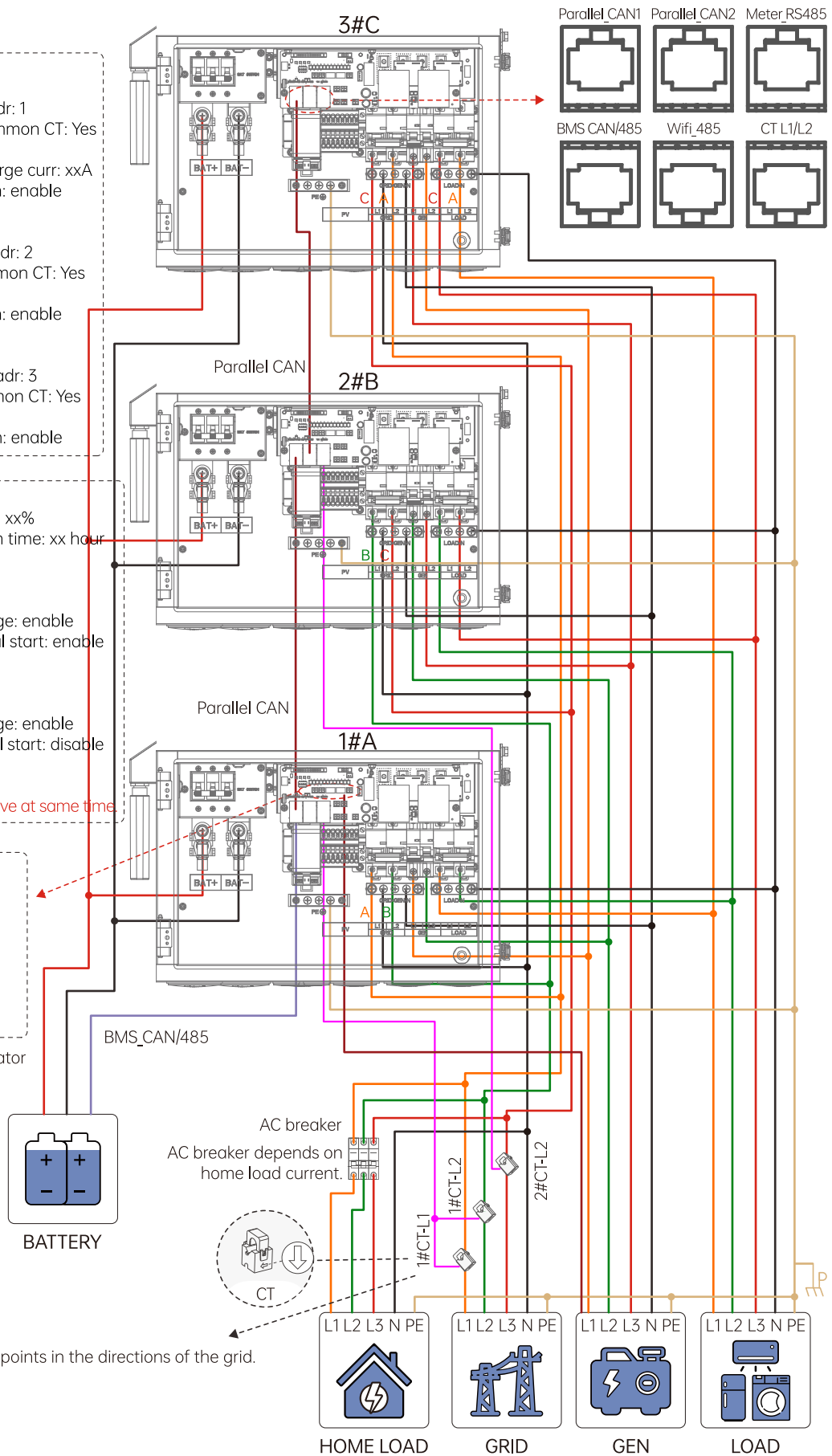
Manual contrl:
GEN en: enable Gen charge: enable
Auto start: disable Manual start: enable
Connect to grid: disable

Auto contrl:
GEN en: enable Gen charge: enable
Auto start: enable Manual start: disable
Connect to grid: disable

Note: Set the master and slave at same time



Two wires start to generator



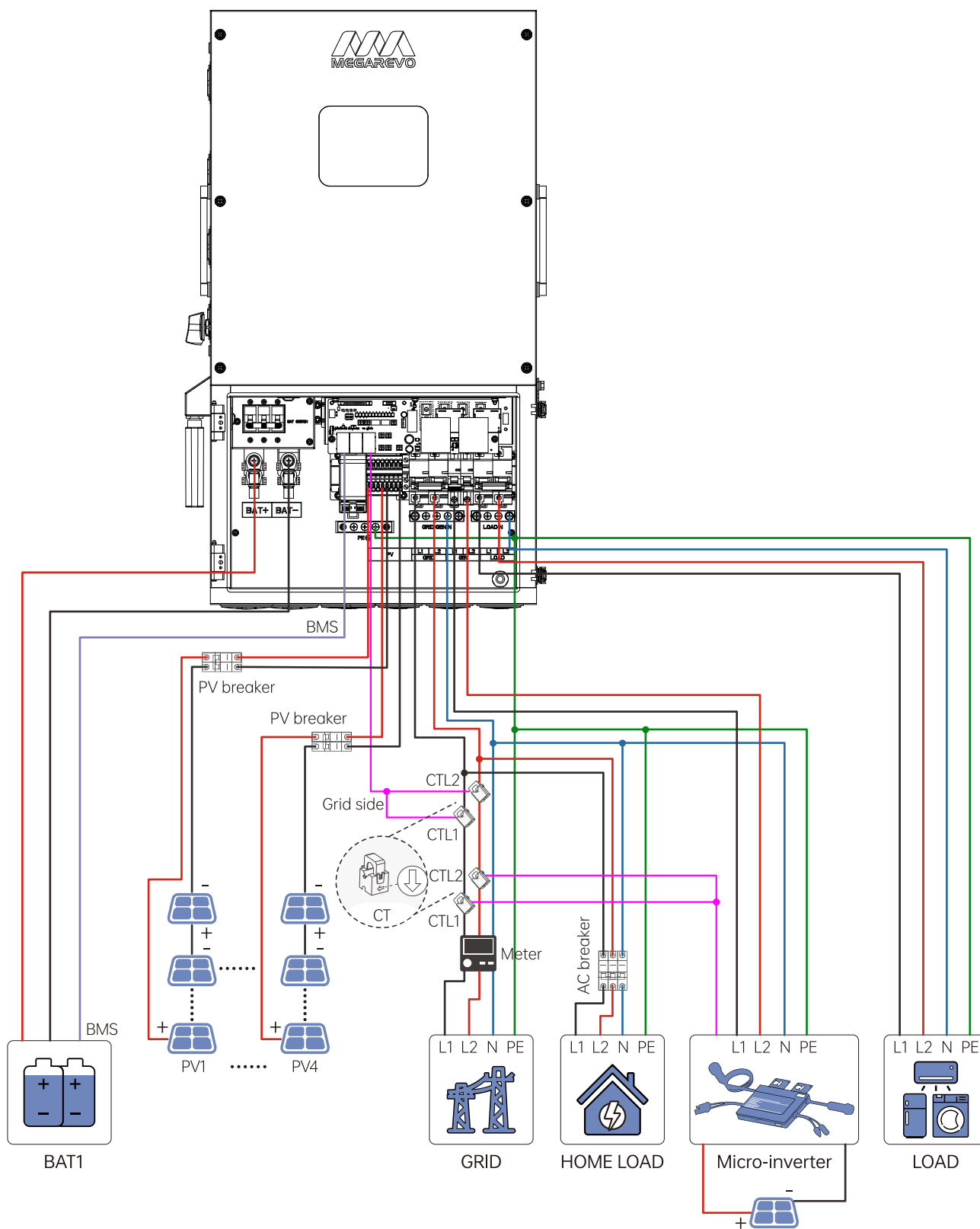
The CT arrow points in the directions of the grid.

3.16 AC couple (micro-inverter) connection

In the occasion without generator use, we recommend the user to use the generator terminal to be connected. The power of PV inverters or micro inverters can be measured by the internal sensor of the hybrid inverter.

Figure 3-4

Connect to generator port



4 Technical parameters

Table 4-1 Technical parameter

PV input data

Model	R5KLNA	R6KLNA	R7K6LNA	R8KLNA	R10KLNA
Max. DC input power (kW)	7.5	9	12	12	15
No. MPPT tracker	4				
MPPT range (V)	120 - 500				
Max. DC input voltage (V)	500				
Full power operating voltage range (V)	120-430				
Max. input current (A)	14				
Max. short circuit current (A)	22				

Battery input data

Model	R5KLNA	R6KLNA	R7K6LNA	R8KLNA	R10KLNA
Nominal voltage (Vdc) (V)	48				
Max. charging /discharging current (A)	120/120	135/135	190/190	190/190	190/210
Battery voltage range (V)	40-60				
Battery recommended voltage range (V)	40-58				
Battery type	Lithium and lead acid battery				
Charging strategy for li-Ion battery	Self-adaption to BMS				

AC output data (on-grid)

Model	R5KLNA	R6KLNA	R7K6LNA	R8KLNA	R10KLNA
Nominal output power to grid (kVA)	5	6	7.6	8	10
Max. apparent power output to grid (kVA)	5.5	6.6	8.4	8.8	11
Output voltage range	110-120/220-240V split phase, 1Ø, 230 1 phase				
Output frequency (Hz)	50/60 (45 to 54.9 / 55 to 65)				
Nominal AC current output to grid (A)	20.8	25	31.7	33.3	41.7
Max. AC current output to grid (A)	22.9	27.5	35	36.7	45.8
Output power factor	0.8leading...0.8lagging				

Model	R5KLNA	R6KLNA	R7K6LNA	R8KLNA	R10KLNA
Output THDI			< 2%		
Max. grid passthrough current (A)			100		

AC output data (back-up)

Model	R5KLNA	R6KLNA	R7K6LNA	R8KLNA	R10KLNA
Nominal. apparent power output (kVA)	5	6	7.6	8	10
Max. apparent power output (kVA)	5.5	6.6	8.4	8.8	11
Nominal output voltage L-N/ L1-L2 (V)			120/240		
Nominal output frequency (Hz)			60		
Output THDU			< 2%		

Efficiency

Model	R5KLNA	R6KLNA	R7K6LNA	R8KLNA	R10KLNA
Europe efficiency			≥ 97.8%		
Max. battery to load efficiency			≥ 97.2%		

Protection

Model	R5KLNA	R6KLNA	R7K6LNA	R8KLNA	R10KLNA
Grounding detection			YES		
Arc fault protection			YES		
Island protection			YES		
Insulation resistor detection			YES		
Residual current monitoring unit			YES		
Output over current protection			YES		
Back-up output short protection			YES		
Output over voltage protection			YES		
Output under voltage protection			YES		

General data

Model	R5KLNA	R6KLNA	R7K6LNA	R8KLNA	R10KLNA
Output conduit (mm)			25.4		
PV input conduit (mm)			25.4		
BAT input conduit (mm)			34.5		
Operating temperature range (°C)			-25 ~ +60 (> 45derating)		
Relative humidity			0-95%		
Operating altitude (m)			0~4000		
Ingress protection			IP65/Type 3R		
Weight (kg)			48		
Size (width*height*depth) (mm)			450 * 820 * 240		
Cooling			Natural convection		
Noise emission (dB)			<48		
Display			LCD touch screen		
Communication with BMS/ meter/EMS			RS485, CAN		
Supported communication interface			RS485, WLAN, 4G (optional)		
Self-consumption (W)			< 25		
Safety			UL1741SA all options, UL1699B, CSA 22.2		
EMC			FCC part 15 class		
Grid connection standards			IEEE 1547, IEEE 2030.5, Hawaii rule 14H, Rule 21 phase I, II, III		

Table 4-2 Abbreviated noun interpretation

Abbreviation	Full name	Abbreviation	Full name
RSD	Rapid shutdown	TOU	Time-of-use
CV	Constant voltage	Aux load SOC	Auxiliary load SOC
EPS	EMERGENCY POWER SYSTEM	GRID HYST	GRID hysteresis
Zero export P	Zero export power	DOD	Depth of discharge
BAT COM	Battery communication	E-TODAY	Energy-today

Other information

For screen parameter settings and other additional information (including maintenance, installation, grounding, WIFI/GPRS connection, Italy self-testing, paralleling and 3-phase grouping), please scan the QR code shown below.





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