GROWATT

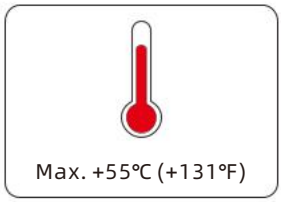


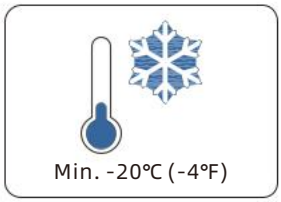
MINA 3-10kTL-HU

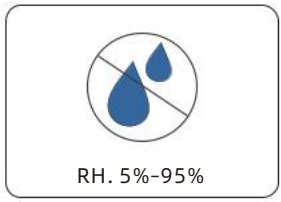
Quick Guide

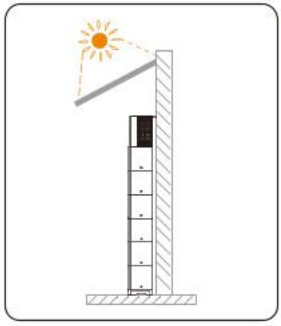
1. Installation requirements

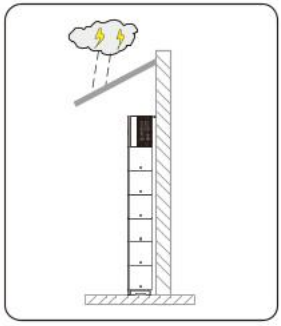
1-1 Installation environment requirements

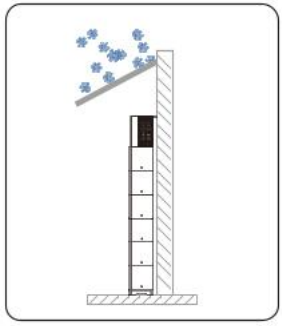








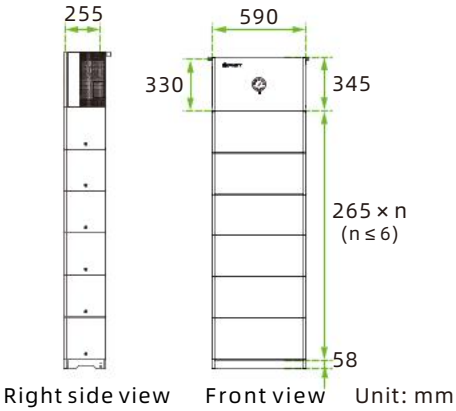




NOTE:

- If the equipment is installed outdoors, avoid direct sunlight, rain and snow.
- If the equipment is installed indoors, please ensure proper ventilation.
- Keep the equipment far away from heat sources and the flammable, explosive materials.

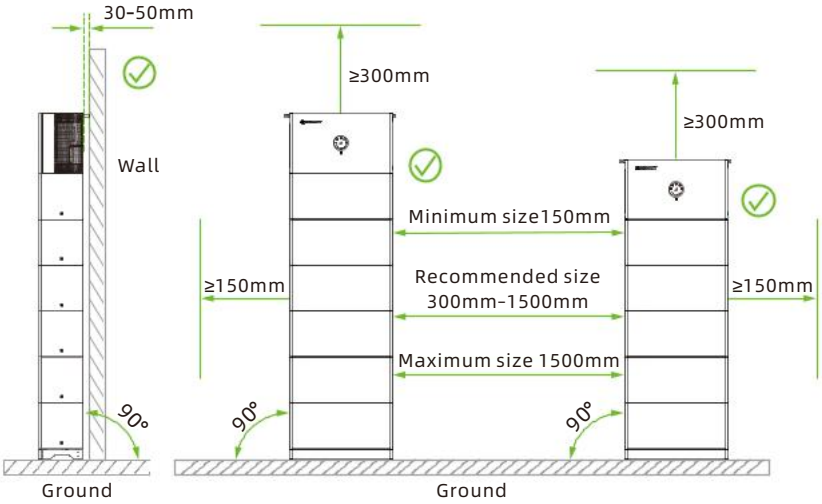
1-2 Dimensions



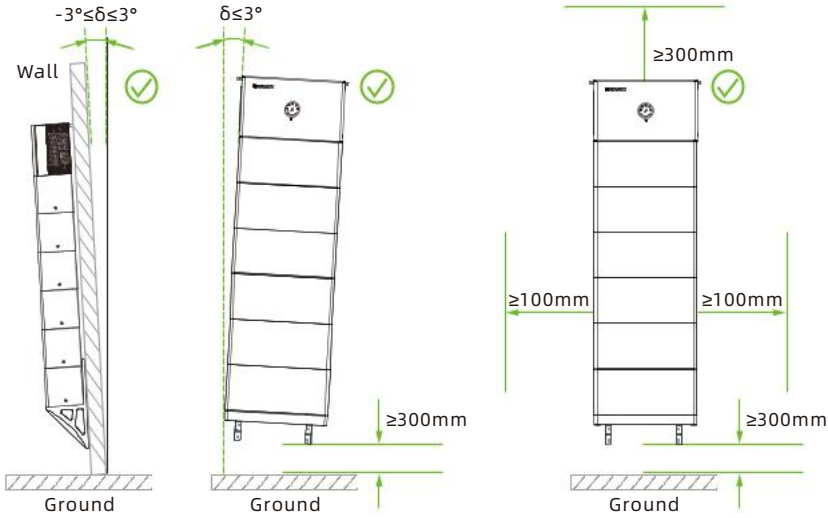
Number of battery(pcs)	Height (mm)
1	668
2	933
3	1198
4	1463
5	1728
6	1993

1-3 Installation location requirements

Floor mounting



Wall mounting



⚠ NOTE:

A single column can be configured with up to seven modules (1 inverter + 6 batteries).

2. Installation

2-1 Installation tools


Safety gloves


Goggles


Mask


Safety shoes


Helmet



Hammer drill


Hammer


Level


Measuring tape


Marker


Socket Wrench


Cross-head screwdriver


Wire strippers


Hydraulic pliers


Tube terminal crimping tool


PV terminal crimping tool


Multimeter


RJ45 crimping tool

2-2 Packing list

Inverter


Inverter × 1


Base × 1


Decorative cover × 1


M4×16 screw × 2


Anti-tipping plate × 2


M6 expansion bolt × 2


1mm shim × 4


2mm shim × 4



Quick guide × 1



Warranty card × 1



Commissioning guide × 1



OT terminal × 1



M6×16 screw × 1



PV terminal core (+/-) × 3



PV terminal (+/-) × 3



Connector wrench × 1



Tubular terminal × 6



8-pin terminal × 1



10-pin terminal × 1



Allen wrench × 1



Network cable × 1

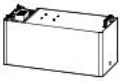


CT × 1



Datalogger × 1

Battery



Battery × 1



Warranty card × 1



M4×16 screw × 2

Wall bracket (optional)



Wall bracket × 1



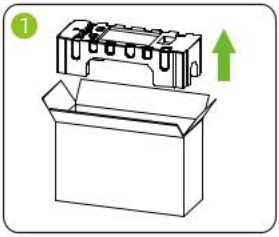
M8×80 expansion bolt × 8

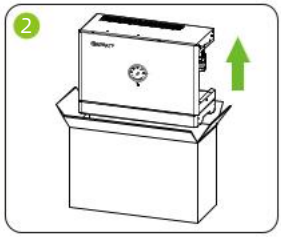


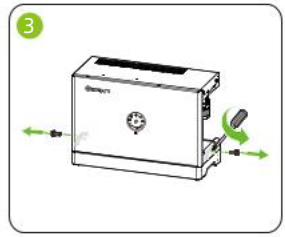
M6×20 screw × 4

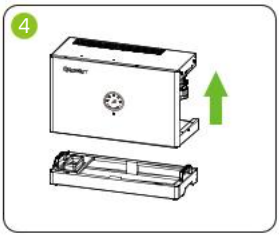
2-3 Preparation work before installation

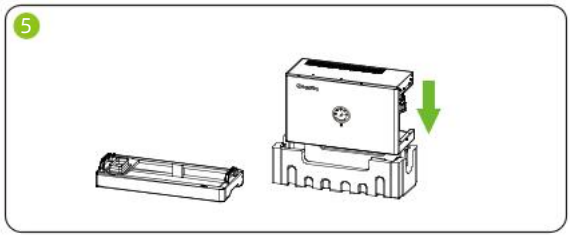
Before shipment, the inverter and base are pre-installed together. The base must first be removed. Follow these steps:





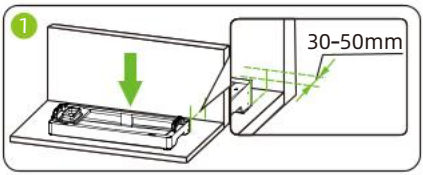


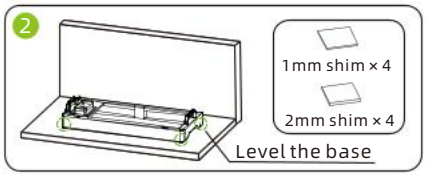




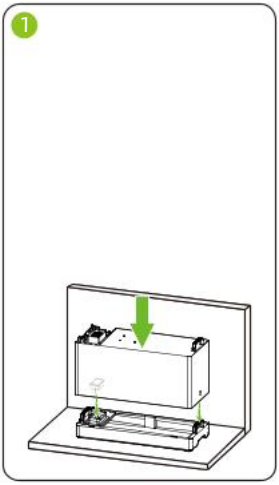
2-4 Floor-mounted installation

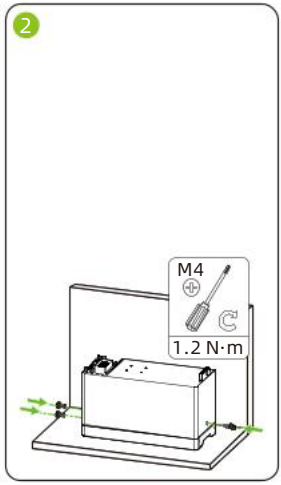
Mounting base

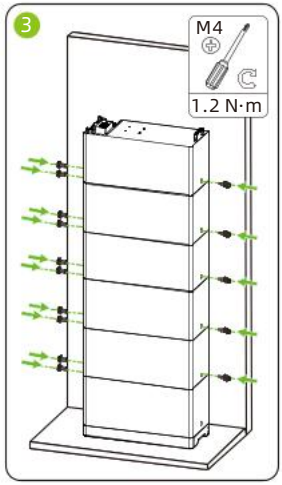




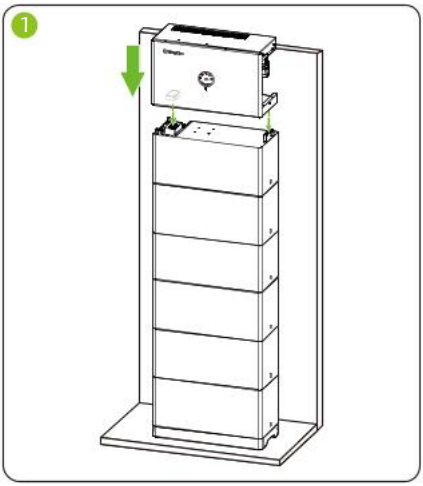
Mounting battery

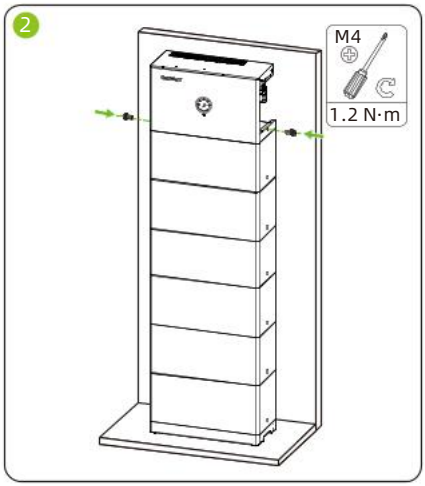




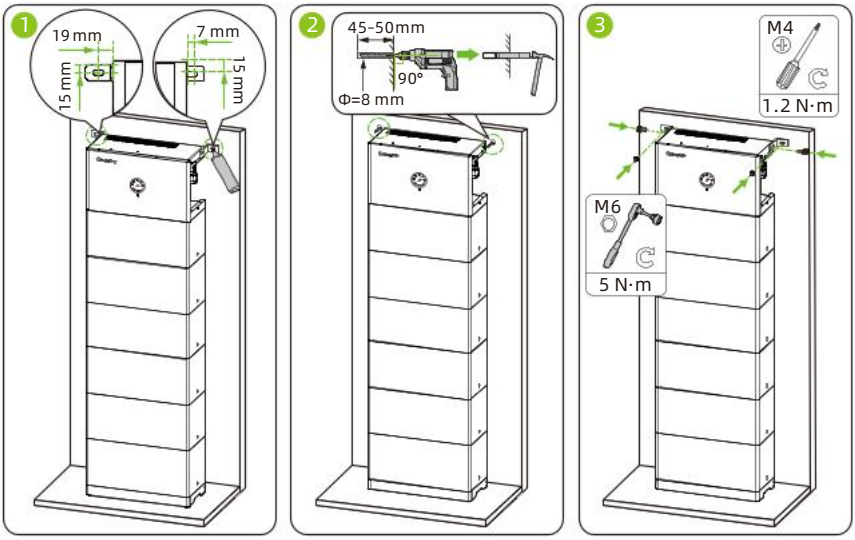


Mounting inverter



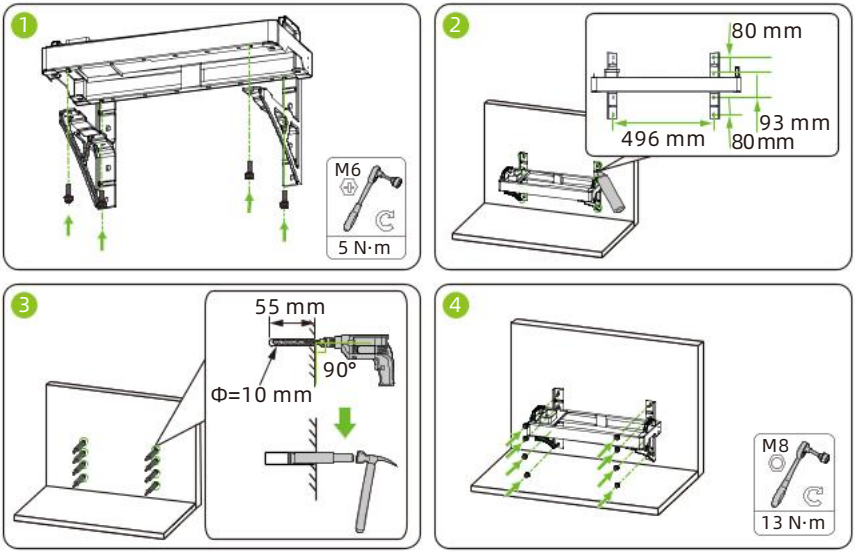


Mounting Anti-tipping plates

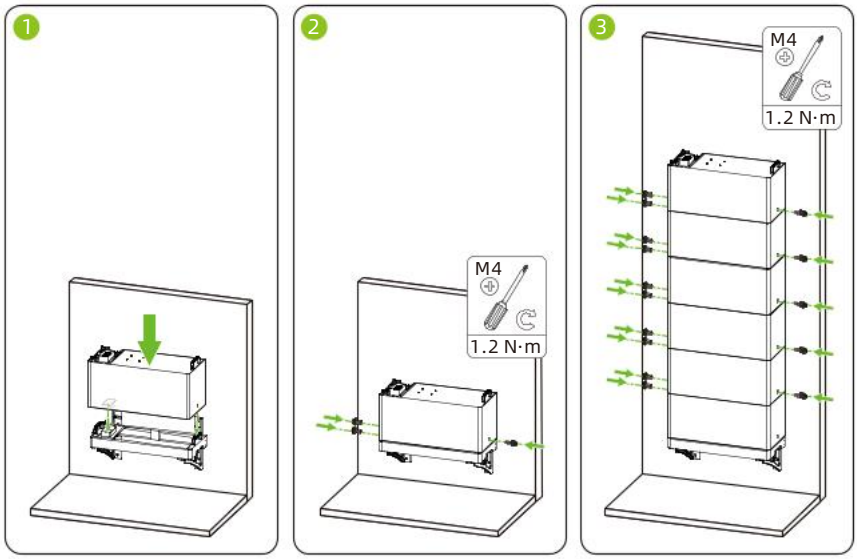


2-5 Wall-mounted installation

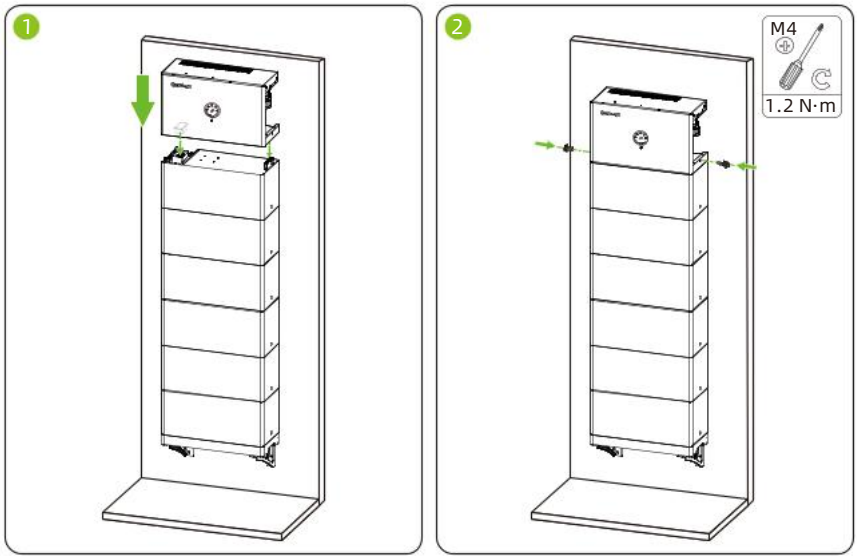
Install the wall bracket



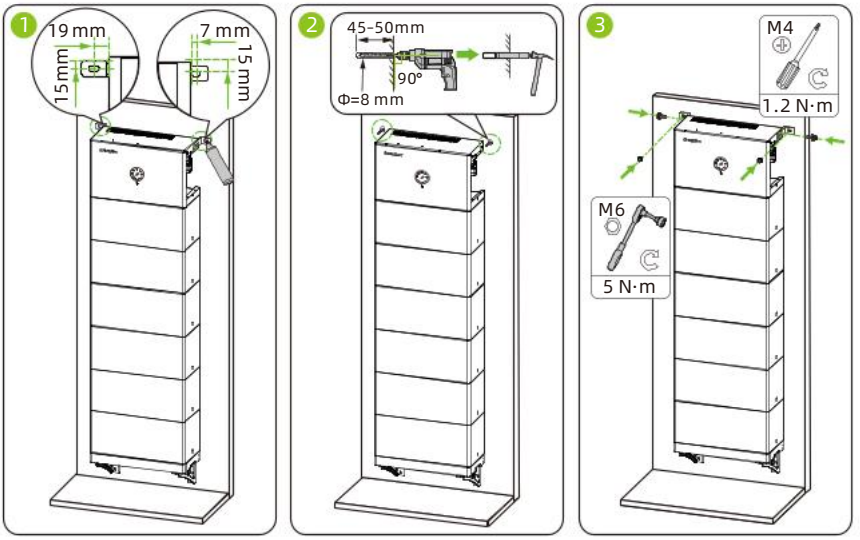
Mounting battery



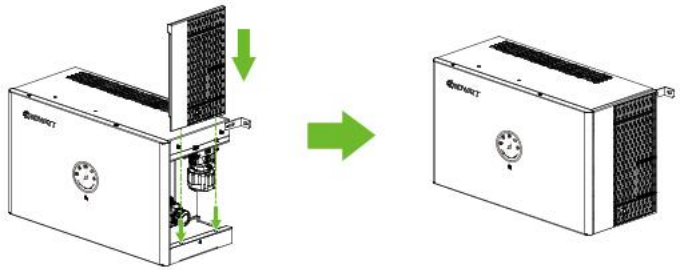
Mounting inverter



Mounting Anti-tipping plates



2-6 Protective cover installation



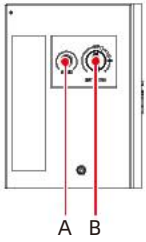
3. Electrical connection

3-1 Cable dimensions

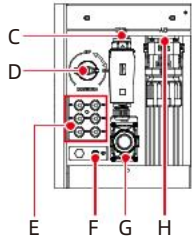
No.	Cable	Recommended Specifications		
		MINA 3-4.6kTL-HU	MINA 5-8kTL-HU	MINA 10kTL-HU
1	Ground cable	4-6 mm²	6-10 mm²	10-16 mm²
2	AC cable			
3	PV input cable	4-6 mm²		
4	Communication cable	0.32-0.52 mm²		

3-2 Connection area and terminal introduction

Inverter



Left side view



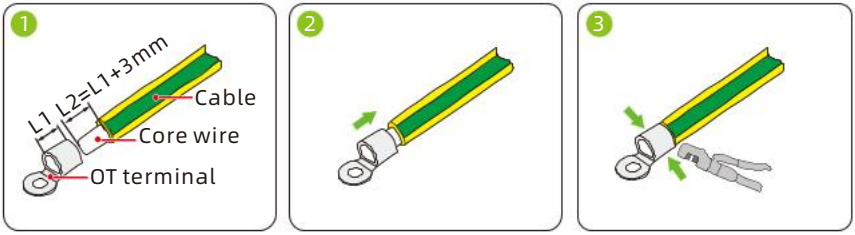
Right side view

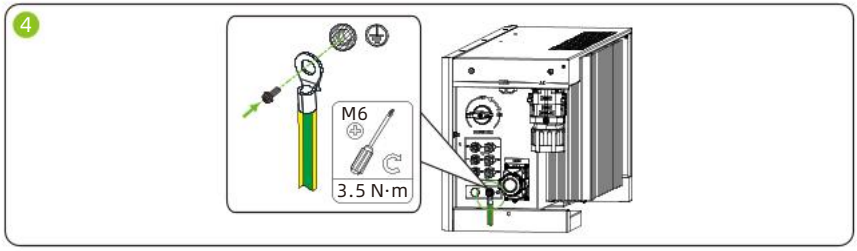
(A) Black start button (B) BAT switch (C) USB

(D) DC switch (E) PV connector (F) Safety grounding

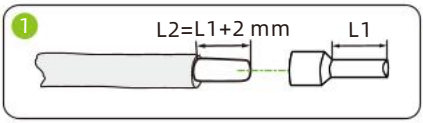
(G) AC connector (H) Communication connector

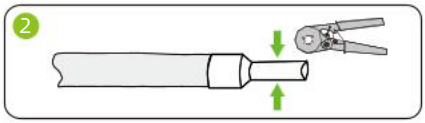
3-3 Safety grounding connection

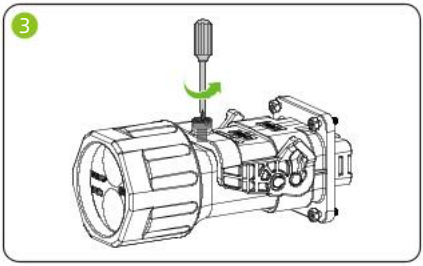


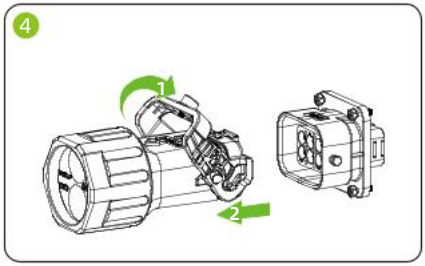


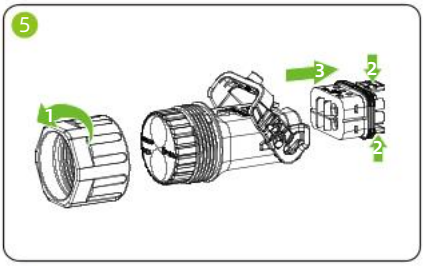
3-4 AC connection

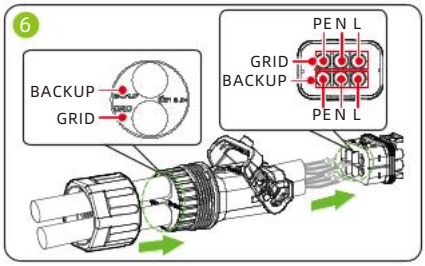


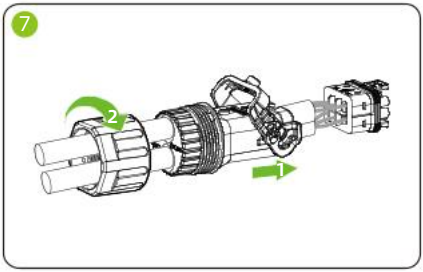


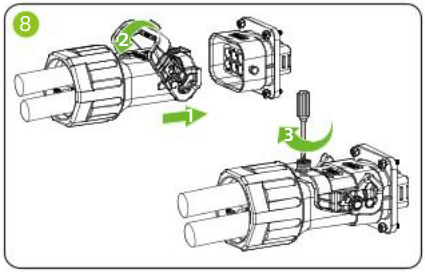








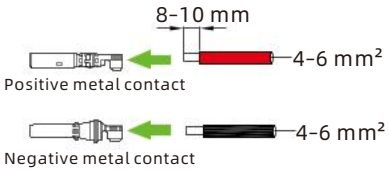




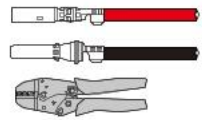
3-5 PV connection

Install

1



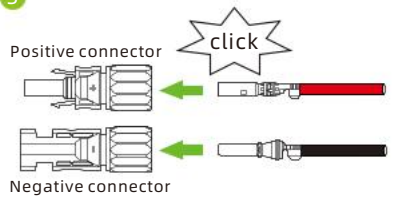
2



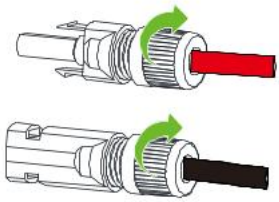
⚠ NOTE:

Ensure that the cable cannot be pulled out after being crimped.

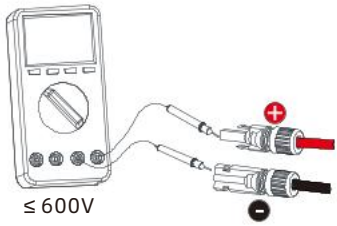
3



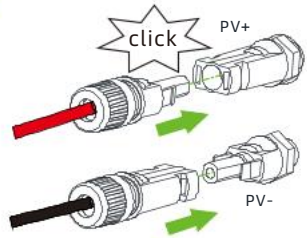
4



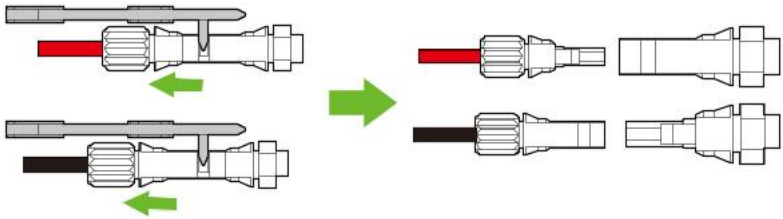
5



6

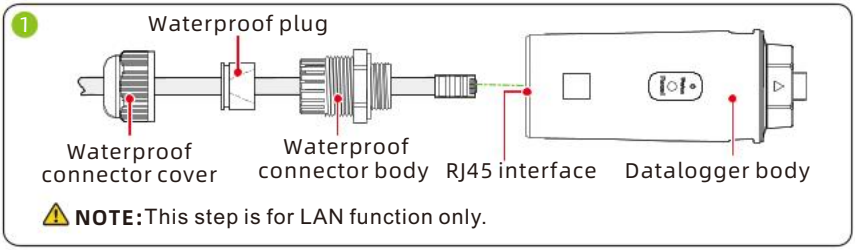


Remove

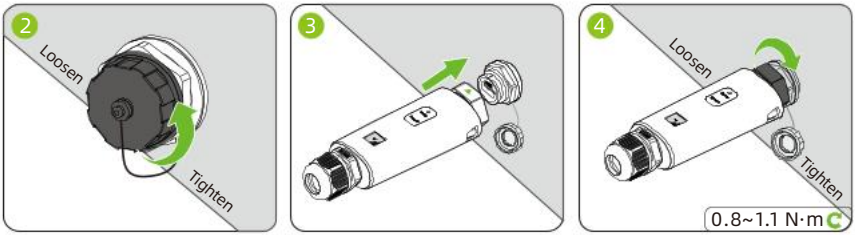


3-6 Datalogger connection

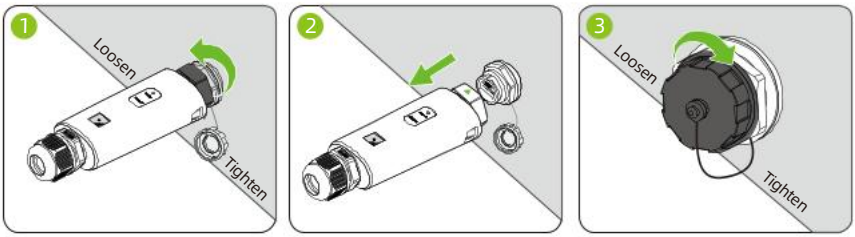
Install



⚠ **NOTE:** This step is for LAN function only.

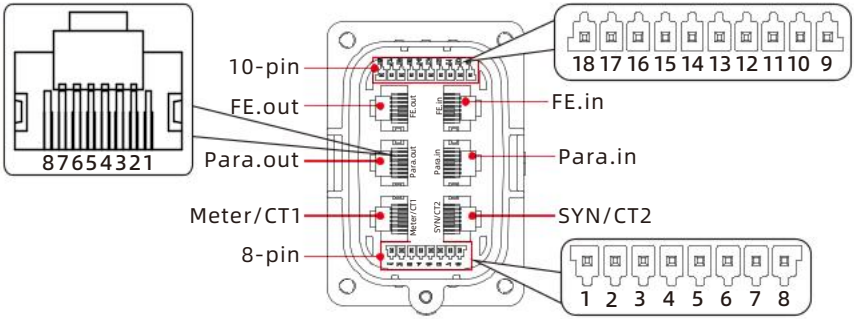


Remove



3-7 Communication connection

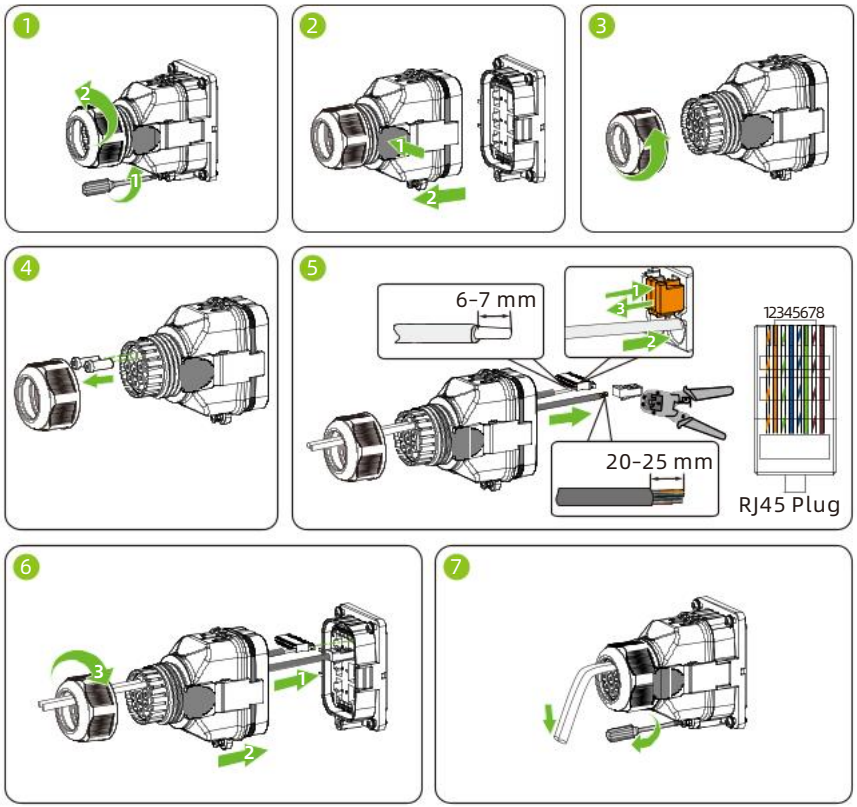
Terminal Definition



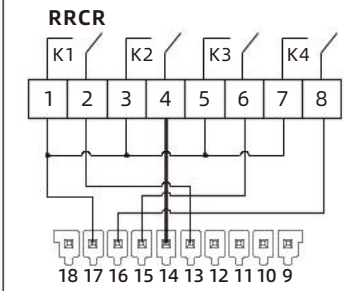
Port	PIN	Signal	Function
10-pin terminal	9	12V.Para	Inverter parallel
	10	GND.S	
	11	DRY12V.S	Dry contact
	12	DRY	
	13	DRM1/5	RRCR connection
	14	DRM2/6	
	15	DRM3/7	
	16	DRM4/8	
	17	REF	
	18	COM	
Para.out	1	Shinebus485A	External communication
	2	Shinebus485B	
	3	GND.S	GND
	6	NC	/
	4	SC_SYN_CANH	Inverter parallel
	5	SC_SYN_CANL	
	7	CANH_Parallel	
	8	CANL_Parallel	

Port	PIN	Signal	Function
Para.in	1	Shinebus485A	External communication
	2	Shinebus485B	
	3	GND.S	GND
	6	NC	/
	4	SC_SYN_CANH	Inverter parallel
	5	SC_SYN_CANL	
	7	CANH_Parallel	
	8	CANL_Parallel	
Meter/CT1	1/4	Meter485B	Meter communication
	2/6	GND.S	
	3	5V.S	
	5	Meter485A	
	7	IGRID.LoadP1	Grid current sampling
	8	IGRID.LoadN1	
SYN/CT2	1	IO+	SYN identification
	2	IO-	
	4	Meter485A	SYN communication
	5	Meter485B	
	3	Shinebus485A	External communication
	6	Shinebus485B	
	7	IGRID.LoadP2	Third-party inverter current sampling
	8	IGRID.LoadN2	
8-pin terminal	1/2/3/4	NC	/
	5	VPP485A	VPP RS485 communication
	6	VPP485B	
	7	IGRID.LoadP2	Third-party inverter current sampling
	8	IGRID.LoadN2	

Install



RRCR connection



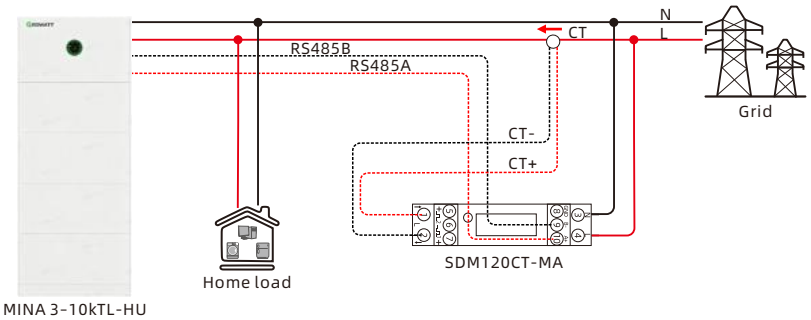
PIN	Description	Connect to RRCR
13	Relay contact 1 input	K1 - Relay output
14	Relay contact 2 input	K2 - Relay output
15	Relay contact 3 input	K3 - Relay output
16	Relay contact 4 input	K4 - Relay output
17	GND	Relays common node

The inverter is preconfigured to the following RRCR power levels. Active power control and reactive power control are enabled separately.

PCI Connector (10pin terminal)				Active power	Cos(ϕ)
Pin13	Pin14	Pin15	Pin16		
Short circuit with Pin17				0%	1
	Short circuit with Pin17			30%	1
		Short circuit with Pin17		60%	1
			Short circuit with Pin17	100%	1

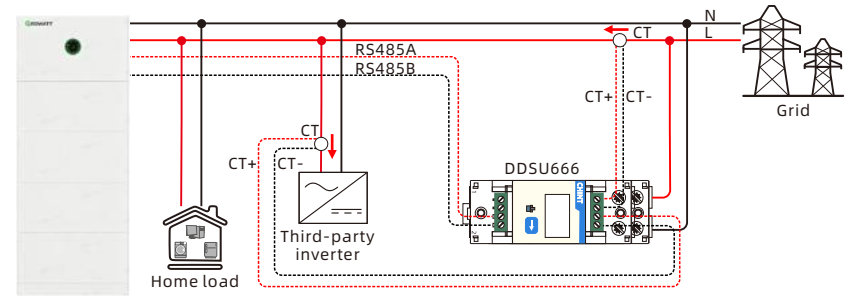
RS485 connection

- System wiring with Eastron meter (SDM120CT-MA: with one CT)



Meter Pin	Description	Connection
1	CT+	CT-white line
2	CT-	CT-black line
3	N	Grid-N
4	L	Grid-L
9	RS485B	METER/CT1 RJ45 port_pin 4
10	RS485A	METER/CT1 RJ45 port_pin 5

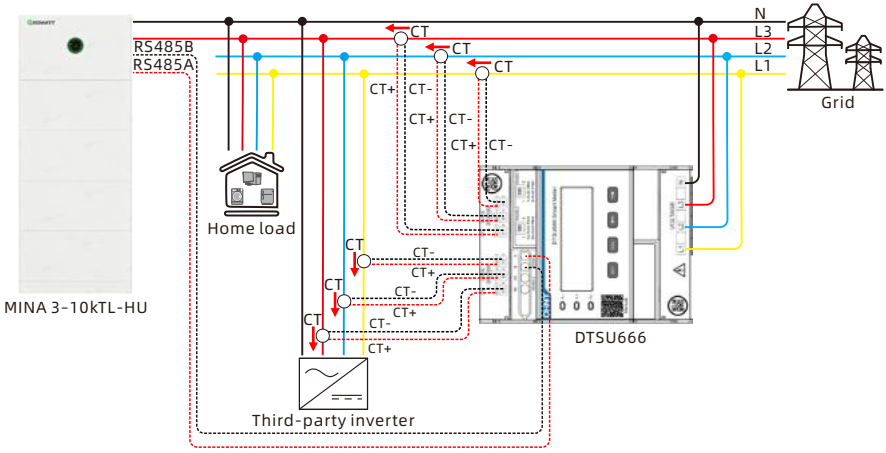
• System wiring with CHINT meter (DDSU666: with two CT)



MINA 3-10kTL-HU

Meter Pin	Description	Connection
3	L	Grid-L
4	N	Grid-N
9	CT+	CT-white line to Grid
10	CT-	CT-blue line to Grid
11	CT+	CT-white line to Third-party inverter
12	CT-	CT-blue line to Third-party inverter
24	RS485B	METER/CT1 RJ45 port_pin4
25	RS485A	METER/CT1 RJ45 port_pin5

• System wiring with CHINT meter (DTSU666: up to six CT)



MINA 3-10kTL-HU

Meter Pin	Description	Connection
L1	L1	Grid-L1
L2	L2	Grid-L2
L3	L3	Grid-L3
N	N	Grid-N
IA1*	CT+	CT-white line to Grid-L1
IA1	CT-	CT-blue line to Grid-L1
IB1*	CT+	CT-white line to Grid-L2
IB1	CT-	CT-blue line to Grid-L2
IC1*	CT+	CT-white line to Grid-L3
IC1	CT-	CT-blue line to Grid-L3
IA2*	CT+	CT-white line to L1 of Third-party inverter
IA2	CT-	CT-blue line to L1 of Third-party inverter
IB2*	CT+	CT-white line to L2 of Third-party inverter
IB2	CT-	CT-blue line to L2 of Third-party inverter
IC2*	CT+	CT-white line to L3 of Third-party inverter
IC2	CT-	CT-blue line to L3 of Third-party inverter
B	RS485B	METER/CT1 RJ45 port_pin4
A	RS485A	METER/CT1 RJ45 port_pin5

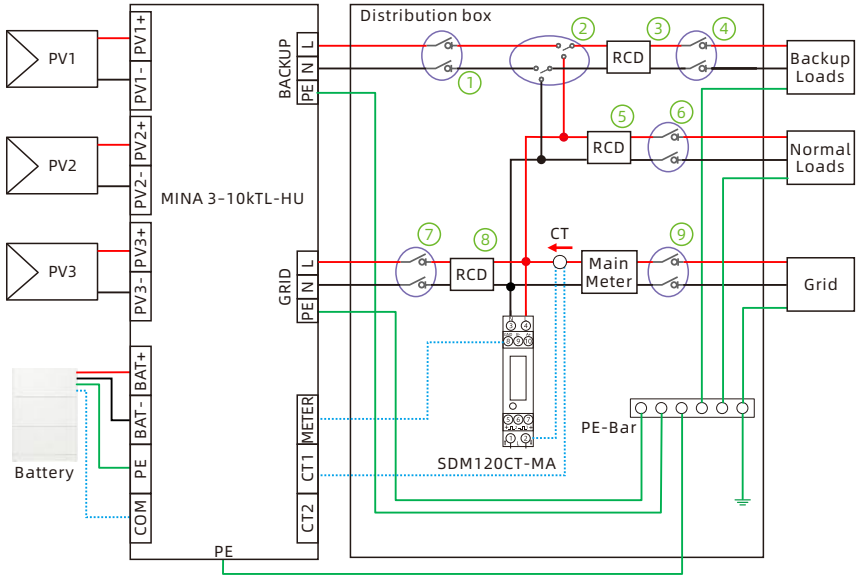
4. Wiring diagram

⚠ NOTE:

- The recommended values in the table are for reference only. The actual values must comply with local standard and actual conditions.
- The rated current of breaker ⑦ is suggested to lower than that of breaker ⑨.
- If the rated current of on-site power cables are lower than those recommended above, the breakers specification should be considered to match the power cables in first priority.
- The AC port takes power from the grid and should be set according to the grid circuit breaker.

4-1 Single Phase Partial Home Backup Wiring

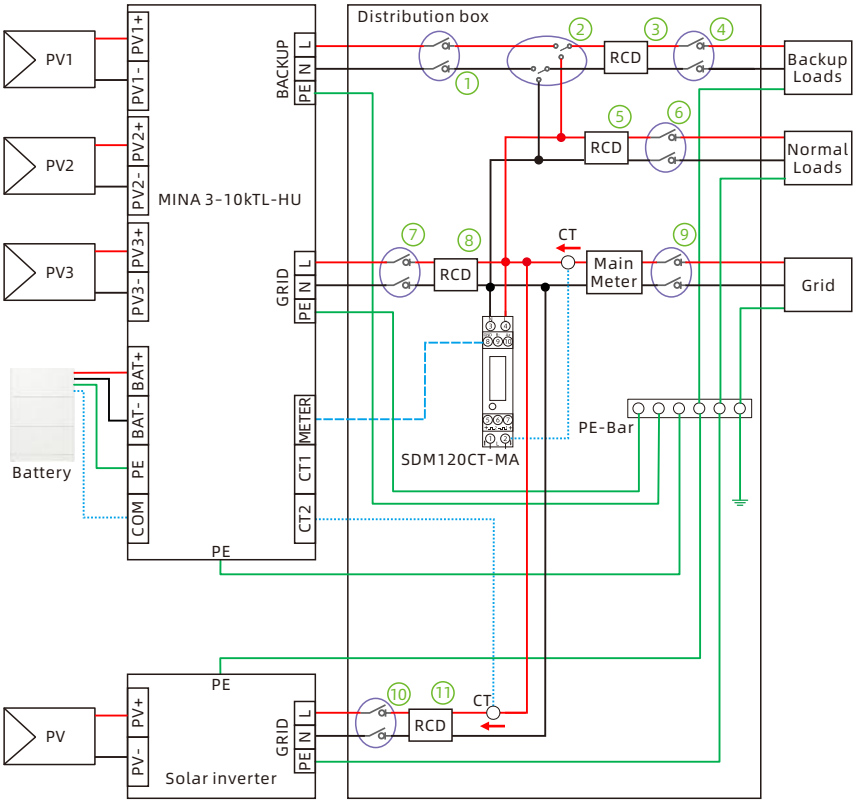
Model	①⑦	③⑤	⑧	②④⑥	⑨
MINA 3-3.6kTL-HU	20A/230V/400V TypeC AC breaker	30mA RCD (recommended)	300mA RCD (recommended)	Depends on loads	Depends on household loads and inverter capacity
MINA 4.2-4.6kTL-HU	25A/230V/400V TypeC AC breaker				
MINA 5kTL-HU	32A/230V/400V TypeC AC breaker				
MINA 6-7kTL-HU	40A/230V/400V TypeC AC breaker				
MINA 8-10kTL-HU	63A/230V/400V TypeC AC breaker				



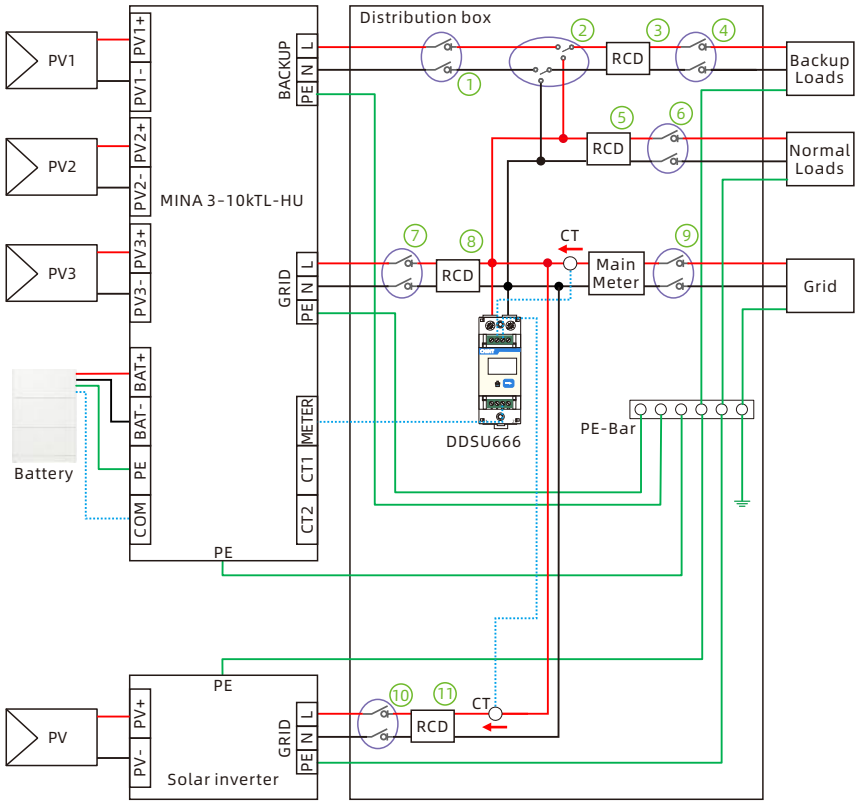
4-2 Single Phase Partial Home Backup AC Couple Wiring

Model	① ⑦	③ ⑤ ⑧ ⑪	② ④ ⑥	⑨	⑩
MINA 3-3.6kTL-HU	20A/230V/400V TypeC AC breaker	30mA RCD (Comply with local regulation)	Depends on loads	Depends on household loads and inverter capacity	Depends on the specifications of Solar inverter
MINA 4.2-4.6kTL-HU	25A/230V/400V TypeC AC breaker				
MINA 5kTL-HU	32A/230V/400V TypeC AC breaker				
MINA 6-7kTL-HU	40A/230V/400V TypeC AC breaker				
MINA 8-10kTL-HU	63A/230V/400V TypeC AC breaker				

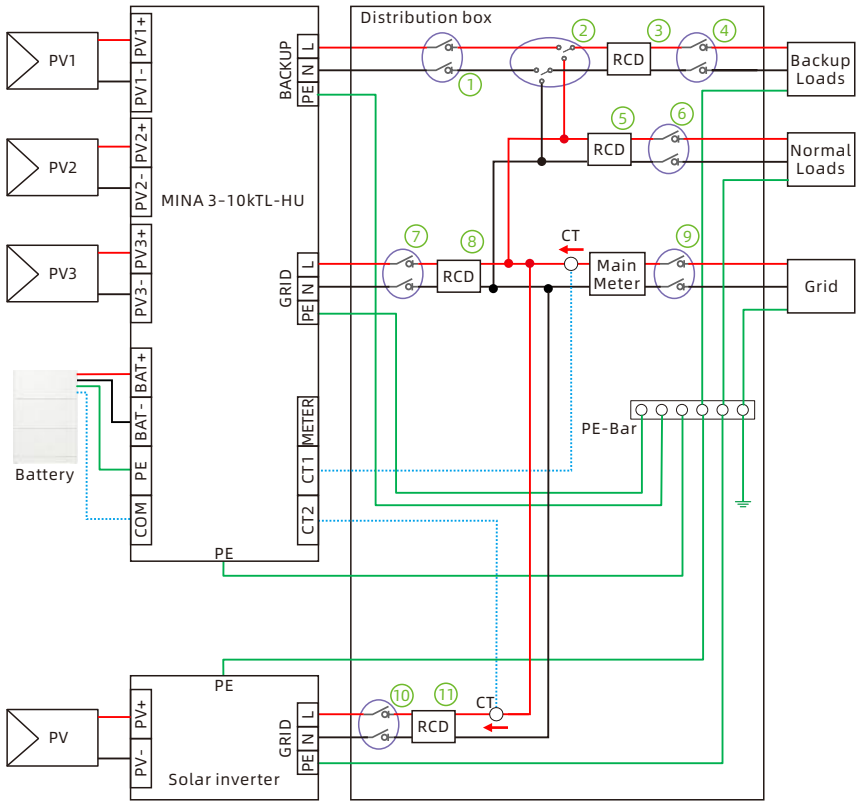
Single Phase Partial Home Backup AC Couple Wiring- Meter with one CT



Single Phase Partial Home Backup AC Couple Wiring-Meter with two CT



Single Phase Partial Home Backup AC Couple Wiring-Dual CT



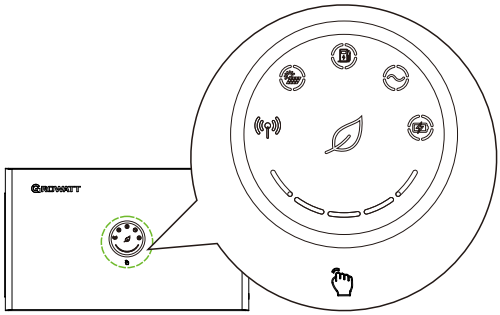
5. Power on/off the system

5-1 Power on

1. Check if all cables are properly connected as required.
2. Check if the PV and grid voltage are within the specified range.
3. Turn on the BAT switch, then turn on the PV switch.
4. Turn on the ON-GRID circuit breaker, then turn on the Backup circuit breaker.
5. When MINA 3-10kTL-HU indicator is green, it indicates that the system is powered on successfully.

5-2 Indicator

Inverter

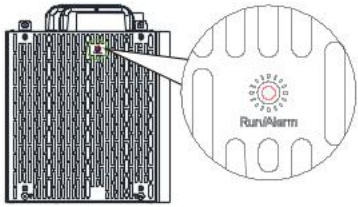


Indicator	Color	Status	Description
		On	Communication normal
		On	Cloud platform disconnected
		Off	Datalogger disconnected
		Off	PV disconnected
		On	PV normal operation
		Flash	PV reverse polarity
		On	PV side fault
		Off	DC charger disconnected
		On	DC charger normal operation
		On	DC charger fault

Indicator	Color	Status	Description
		Off	Grid disconnected
		On	Grid connected standby
		On	Grid connected running
		On	Off-grid running
		Flash	Off-grid overload
		Flash	Grid abnormality
		On	Inverter AC side fault
		On	Battery normal
		On	Battery hibernation
		Flash	Partial battery fault
		On	All battery fault
		Off	Battery has no power
		ON or Flash	• 0% <SOC≤ 20% • Battery neither charging nor discharging is ON/Battery charging and discharging is flashing
		ON or Flash	• 20% <SOC≤ 40% • Battery neither charging nor discharging is ON/Battery charging and discharging is flashing
		ON or Flash	• 40% <SOC≤ 60% • Battery neither charging nor discharging is ON/Battery charging and discharging is flashing
		ON or Flash	• 60% <SOC≤ 80% • Battery neither charging nor discharging is ON/Battery charging and discharging is flashing
		ON or Flash	• 80% <SOC≤ 100% • Battery neither charging nor discharging is ON/Battery charging and discharging is flashing

Indicator	Color	Status	Description
		On	System normal
	/	/	/
		Light up clockwise	System upgrade
		On	System failure
	/	Color rotation	Power on init
	/	/	Wake indicator

Battery



Indicator	Color	Status	Description
Run/Alarm		On	Normal
		Flash	Upgrade
		On	Fault
		Off	Hibernation

5-3 Power off

1. Turn off the Backup circuit breaker, then turn off the ON-GRID circuit breaker.
2. Turn off the PV switch, then turn off the BAT switch.

Download Manual

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