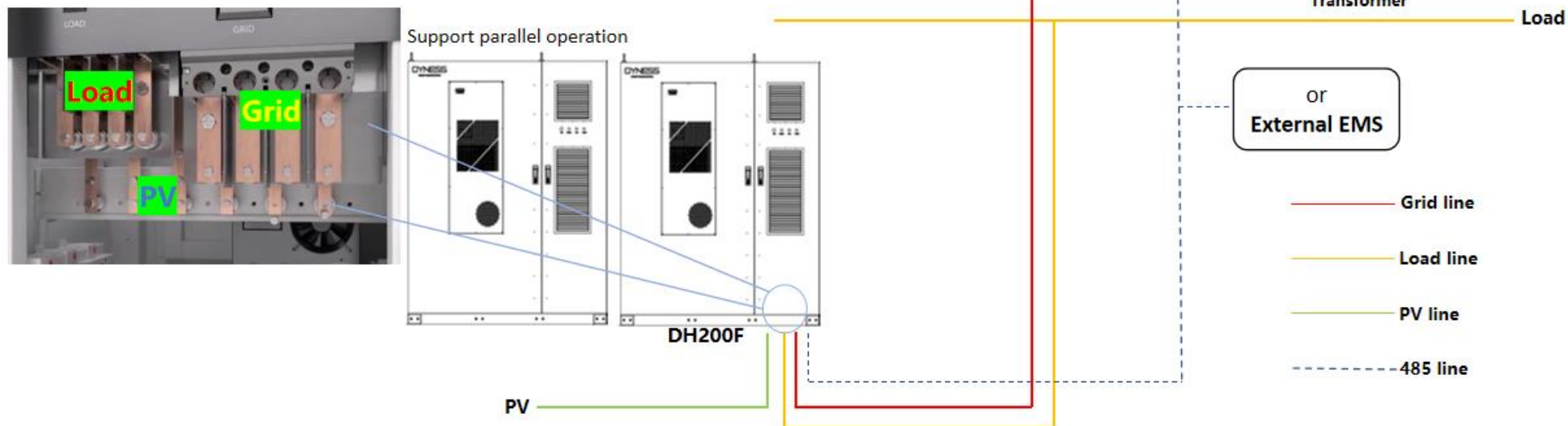
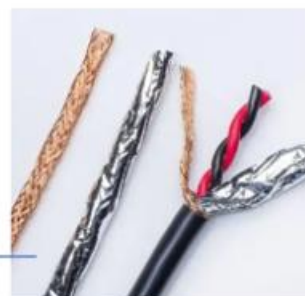


System topology diagram



Serial number	Type	Wiring harness specification	Terminal specification
1	GRID	无STS: ZR-YJV 50mm ² (1/0 AWG 53.5mm ²)	DT50-8
2		有STS: ZR-YJV 95mm ²	DT95-10
3	LOAD (Optional)	ZR-YJV 50mm ² (1/0 AWG 53.5mm ²)	DT50-8
4	PV(Optional)	ZR-YJV 25mm ²	DT25-8
5	PE	ZR-YJV 25mm ²	DT25-8
6	Communication line	Shielded Twisted Pair 2mm ²	
7	Ethernet Cable	Category 6A	RJ45 Connector



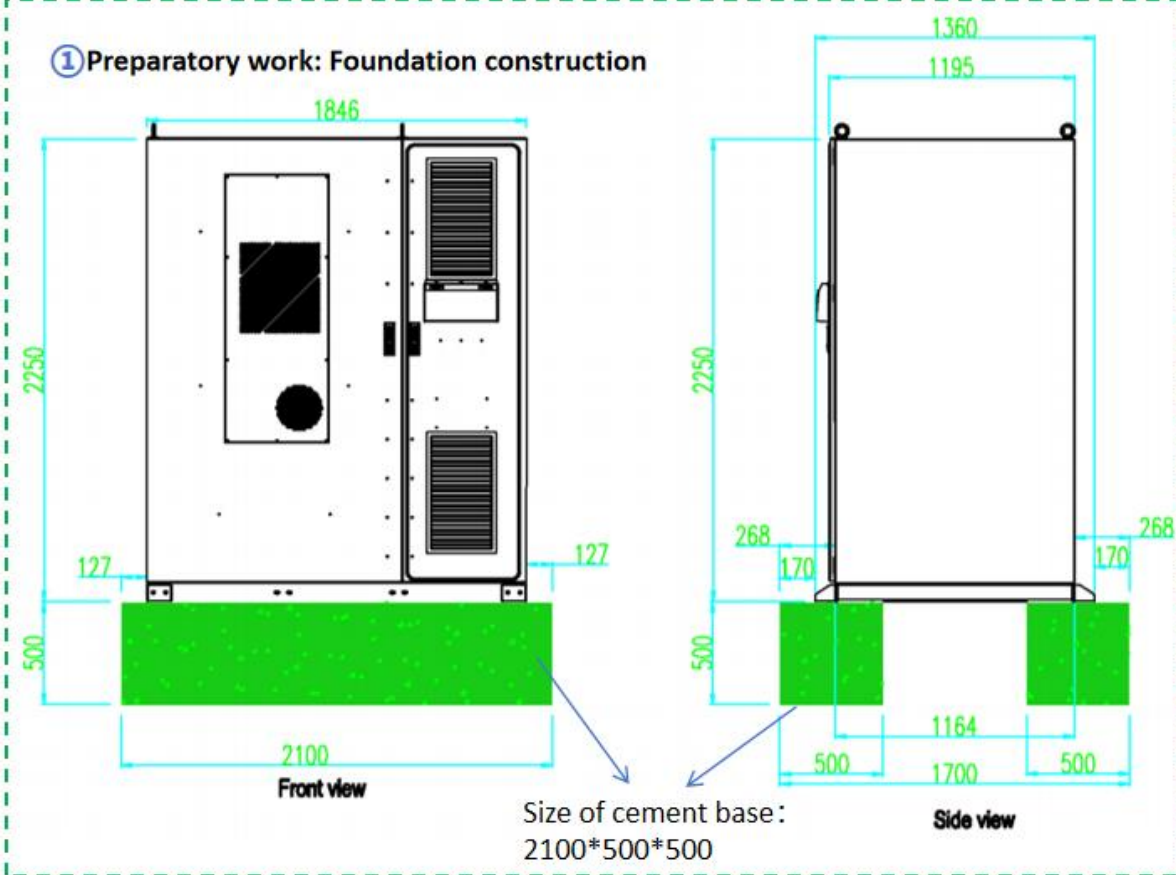
Selection of communication lines

work mode	Communication method	Communication line type
Automatic mode	RS485 (with meter)	Shielded Twisted Pair 2mm ²
Remote mode	MODBUS TCP	Ethernet Cable (Category 6A)
	RS485(with external EMS)	Shielded Twisted Pair 2mm ²

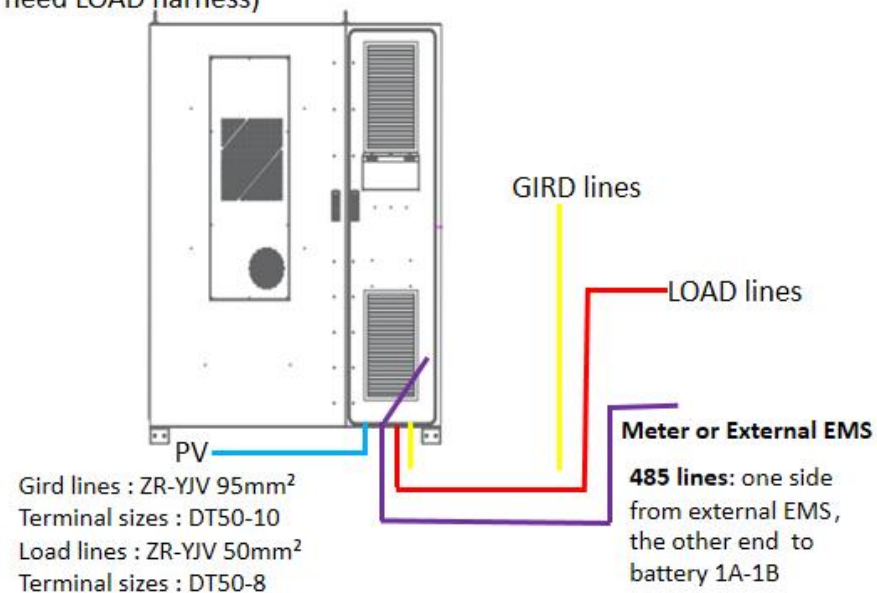
Install **one cabinet with STS**, which enables the battery to be used off-grid

Applicable product models: DH200F- S150L01; DH200F-S100L01; DH200F-S050L01; DH200F- S000L01

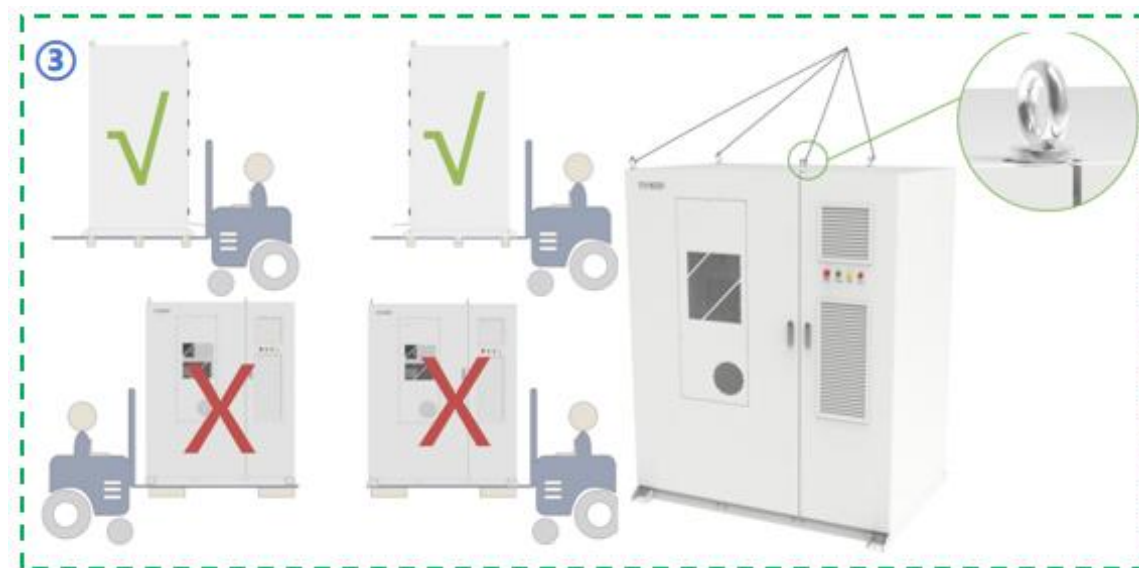
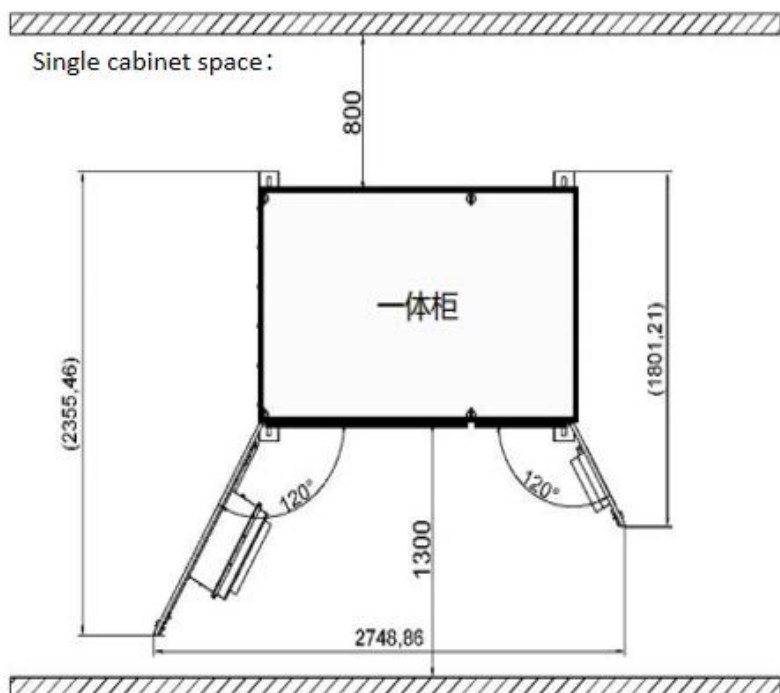
① Preparatory work: Foundation construction



② Prepare the power and communication lines(battery has STS, need LOAD harness)



The operation mode supports **automatic** mode (electricity meter installation required) and **remote** mode (**MODBUS and RS485**, electricity meter installation not required).

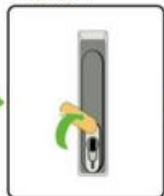




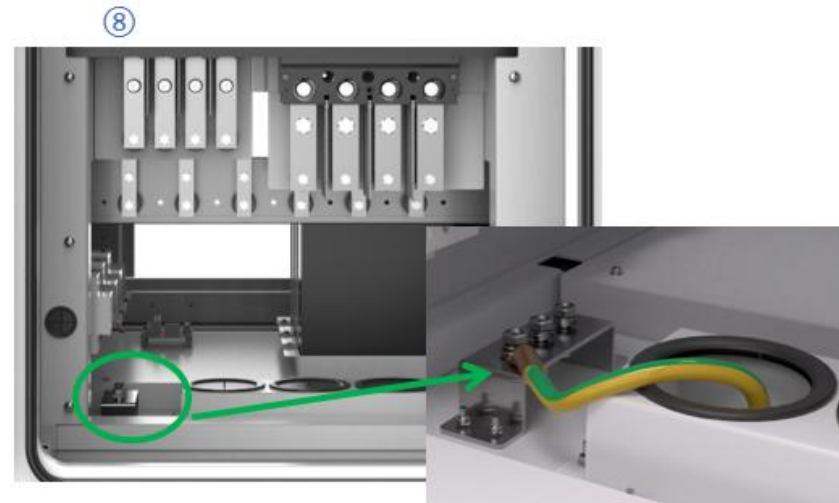
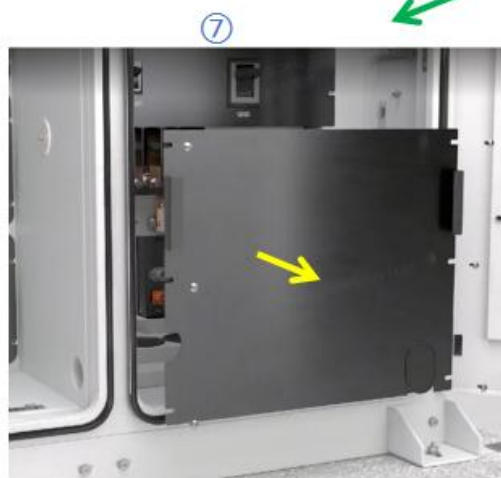
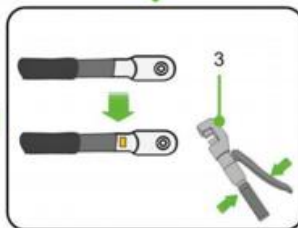
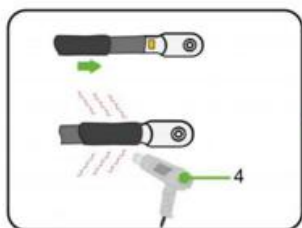
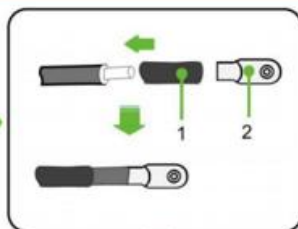
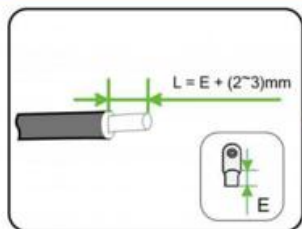
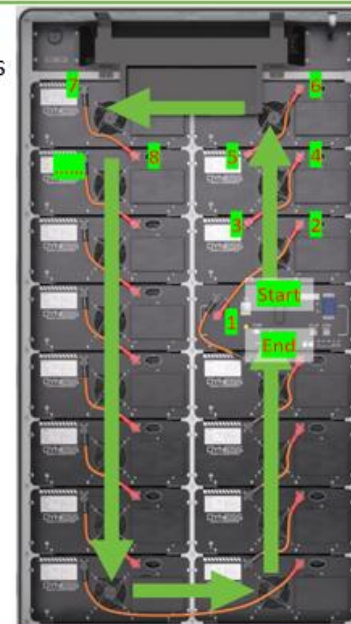
④ Fix the expansion screws



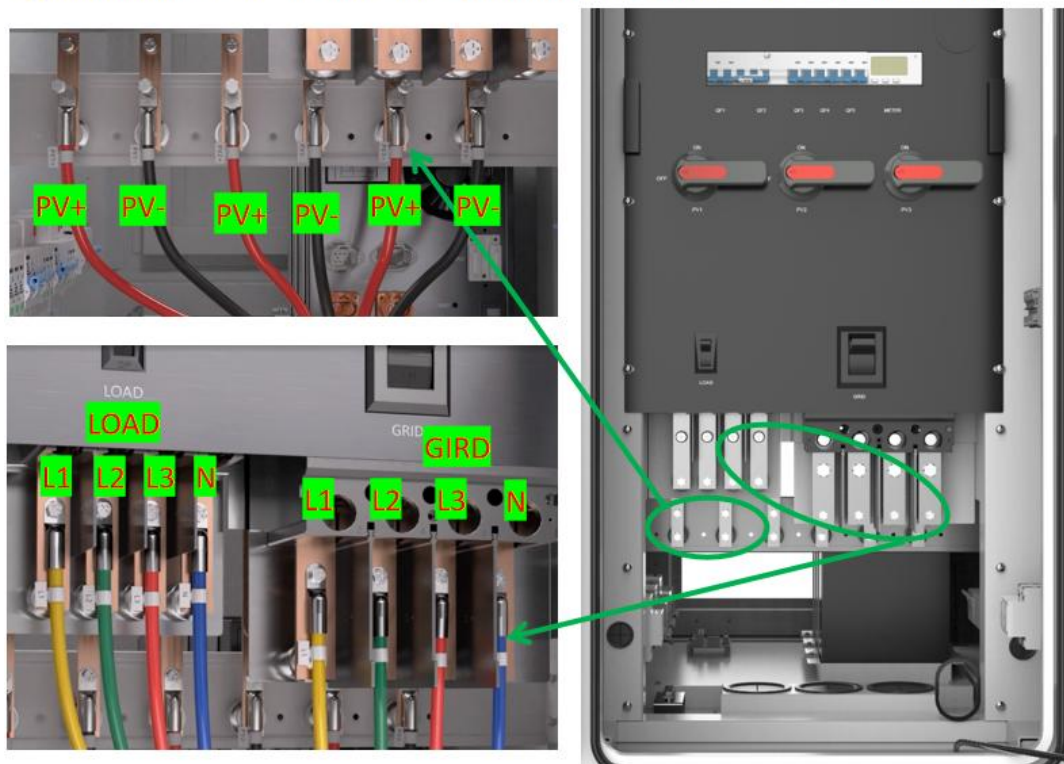
⑤ Open the cabinet door



⑥ Series the battery packs



⑨ Connect the photovoltaic wiring harness (optional), LOAD port and GRID port wiring harnesses



DZ2:EMS 信号转接端子		
EMS:1A	1	上位机
EMS:1B	2	上位机
EMS:CAN2_H	3	并机通讯
EMS:CAN2_L	4	并机通讯
EMS:3A	5	防逆流电表
EMS:3B	6	防逆流电表
	7	

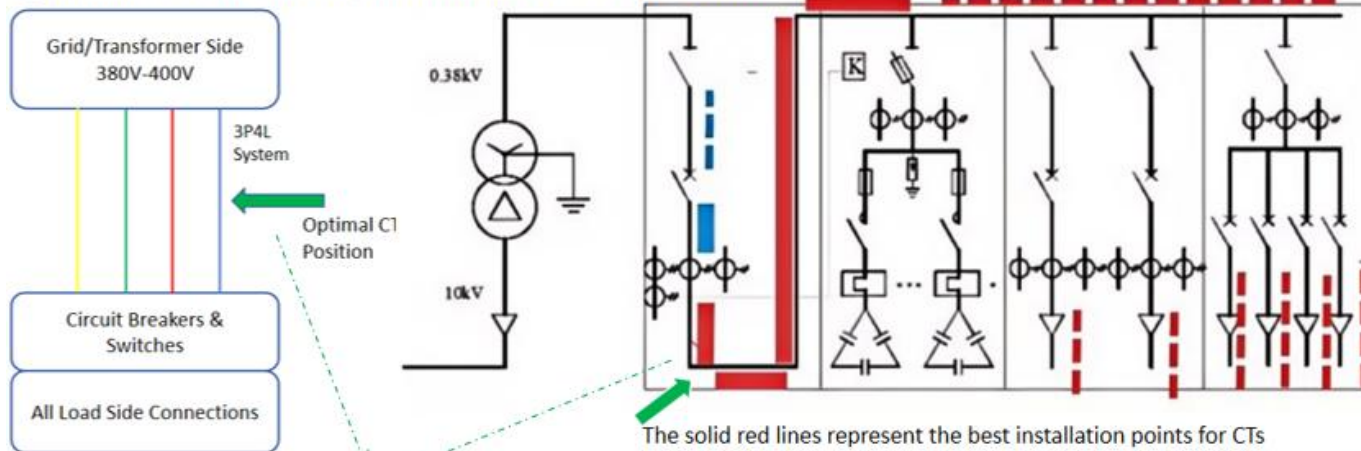
Terminal block
inside the battery

Shielded Twisted Pair 2mm²

Ua	Ub	Uc	Un	21	22
ADL-400					
Ia*	Ia	Ib*	Ib	Ic*	Ic

Meter

⑩ Install CTs and meter(Automatic mode is required)



Installation position:

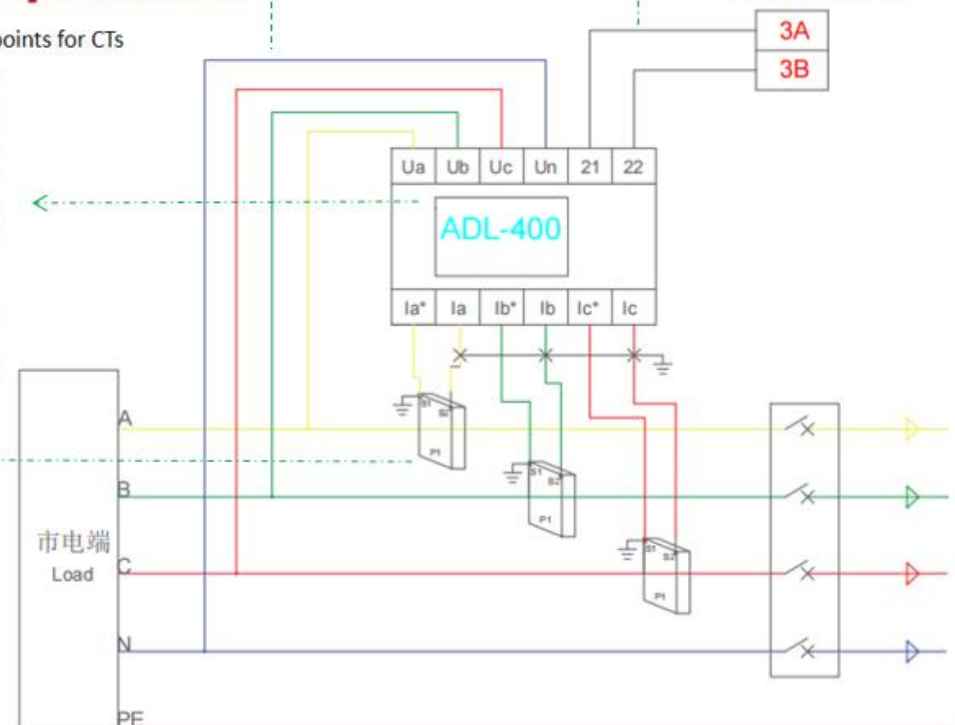
CTs must be installed at the upstream of all loads to monitor the grid transformer's real-time power (i.e., total load-side power consumption).

Need to purchase **3 CTs** of different sizes and ratios by Customer (**The secondary current is 5A**)
P1 side → Grid-facing
P2 side → Load-facing



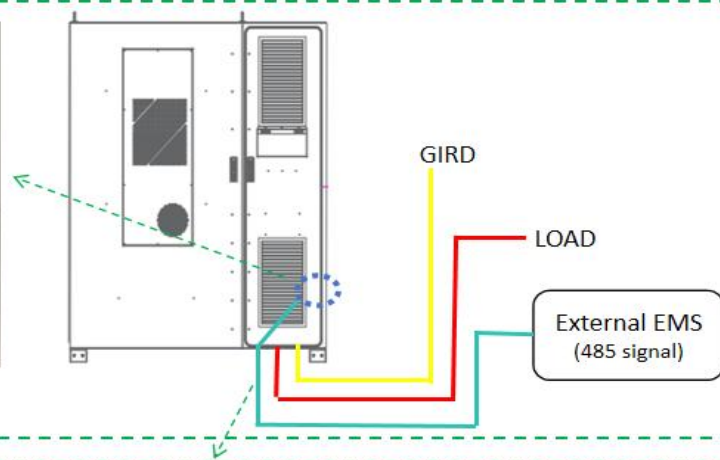
electricity meter(21, 22 ports) connect to battery (3A, 3B ports) via Shielded Twisted Pair.

DYNESS battery terminal block
储能柜端子排



485 signal control

Remote mode (controlled by an external EMS),
there is **no need** to connect electricity meter



Communication illustration

Terminal block
inside the battery

DZ2:EMS 信号转接端子		
EMS:1A	1	上位机
EMS:1B	2	上位机
EMS:CAN2_H	3	并机通讯
EMS:CAN2_L	4	并机通讯
EMS:3A	5	防逆流电表
EMS:3B	6	防逆流电表
	7	

Shielded Twisted Pair 2mm²

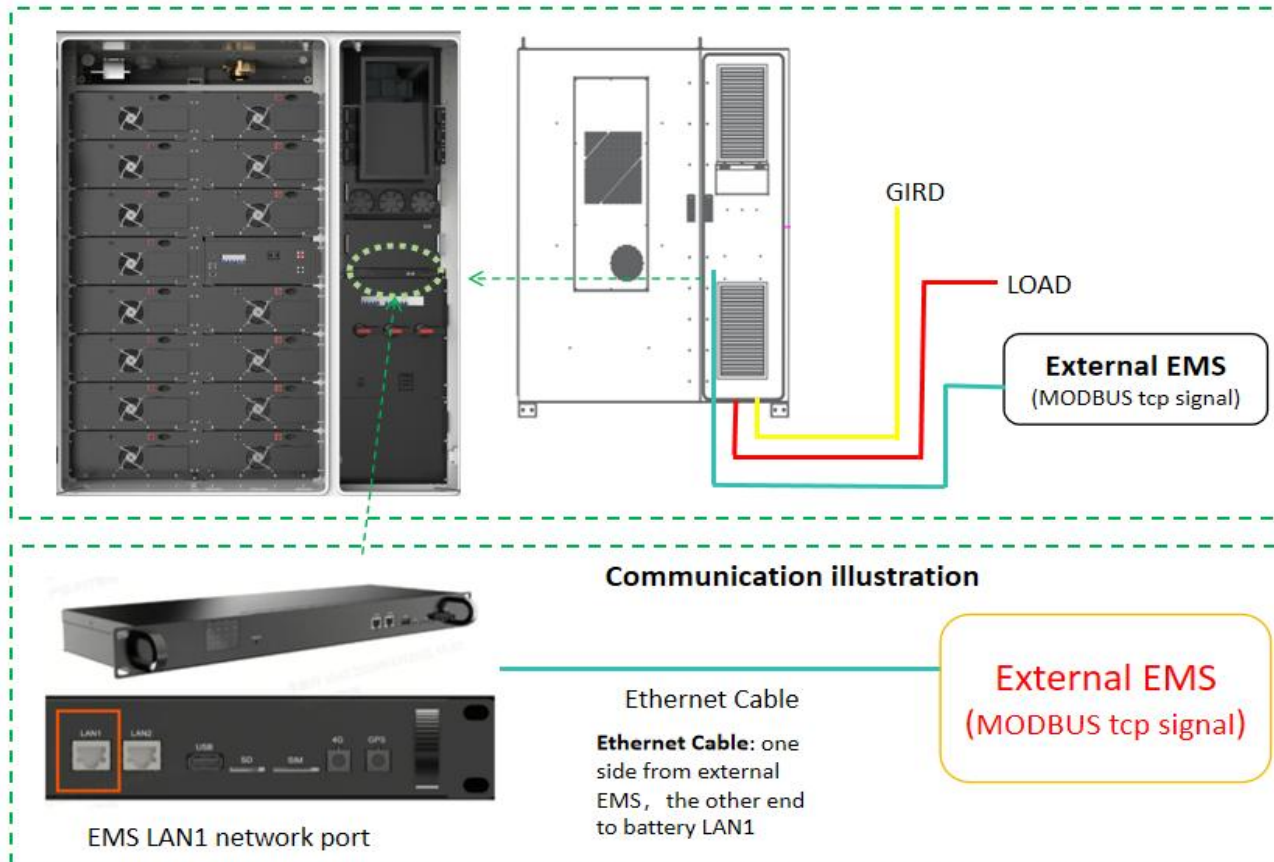
485 lines: one side
from external EMS,
the other end to
battery 1A-1B

R485 +
R485 -

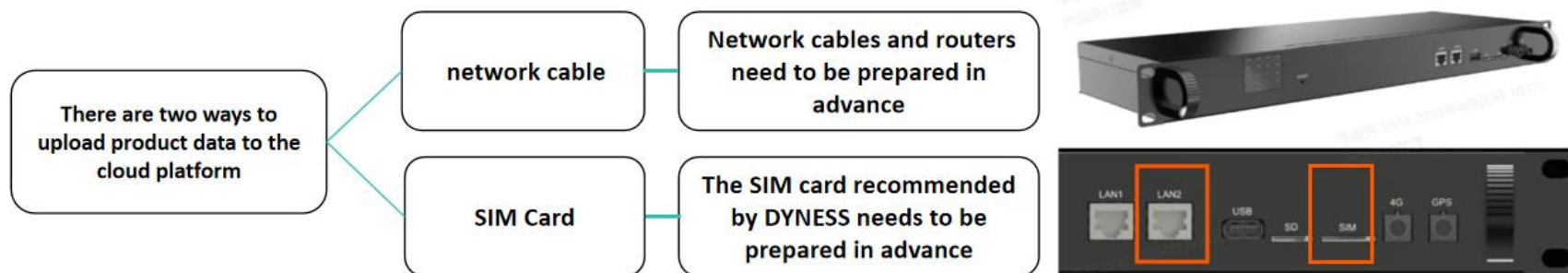
**External EMS
(485 signal)**

MODBUS tcp signal control

Remote mode (controlled by an external EMS),
there is **no need** to connect electricity meter



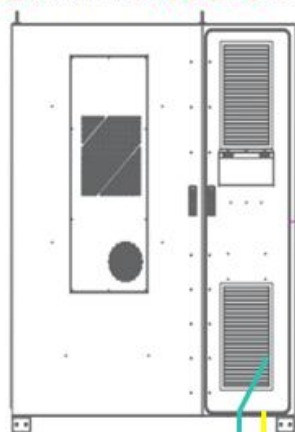
11. The product uploads data to the cloud platform



Install **one cabinet NO STS**, the battery can not be used off-grid

Applicable product models: DH200F-S150L01;
DH200F-S100L01; DH200F-S050L01; DH200F-S000L01

only **1 cabinet: NO STS** Terminal specification



GIRD

Communication lines

Gird lines : ZR-YJV 50mm²
(1/0 AWG 53.5mm²)
Terminal sizes : DT50-8

Installation sequence:

Like the installation process of products with STS:

- ① build the base;
- ② Prepare the power and communication harnesses (**no load harness**);
- ③ Install and fix the expansion screws;
- ④ Series the power wiring harnesses in sequence;
- ⑤ Install the grounding wire;
- ⑥ Install the electricity meter (or external EMS) and communication lines;
- ⑦ Install the power wiring harness;
- ⑧ Install the network cable or SIM card for Internet access.

Communication illustration



Meter



EMS:3A

EMS:3B

Shielded Twisted Pair

21

22

DZ2:EMS 信号转接端子		
EMS:1A	1	上位机
EMS:1B	2	上位机
EMS:CAN2_H	3	并机通讯
EMS:CAN2_L	4	并机通讯
EMS:3A	5	防逆流电表
EMS:3B	6	防逆流电表
	7	

Shielded Twisted Pair 2mm²

485 lines: one side from external EMS, the other end to battery 1A-1B

R485 +
R485 -

External EMS
(485 signal)



EMS LAN1 network port

Ethernet Cable

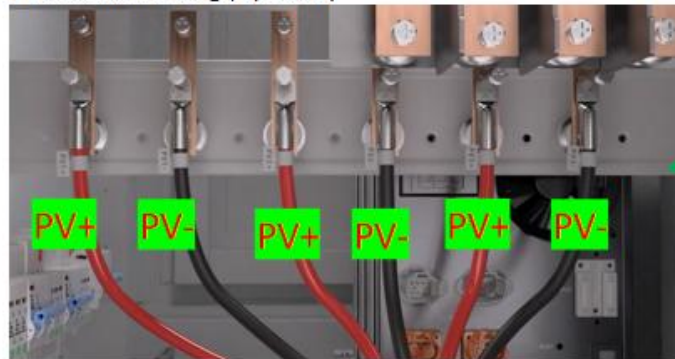
Ethernet Cable: one side from external EMS, the other end to battery LAN1

External EMS
(MODBUS tcp signal)

Connect the **photovoltaic** wiring harness (**optional**) and **GIRD** port wiring harnesses



Photovoltaic wiring (Optional)



Install **multiple cabinets**

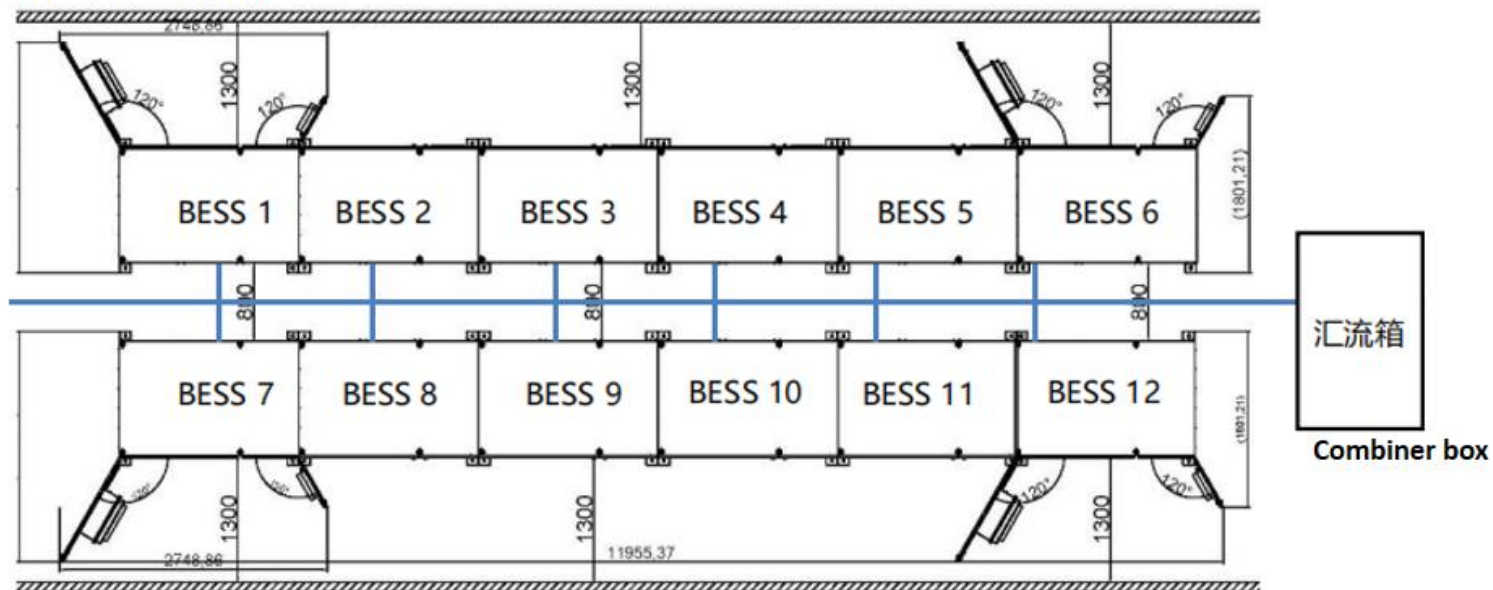
The wiring methods for parallel operation

pure **on-grid connected** product parallel operation

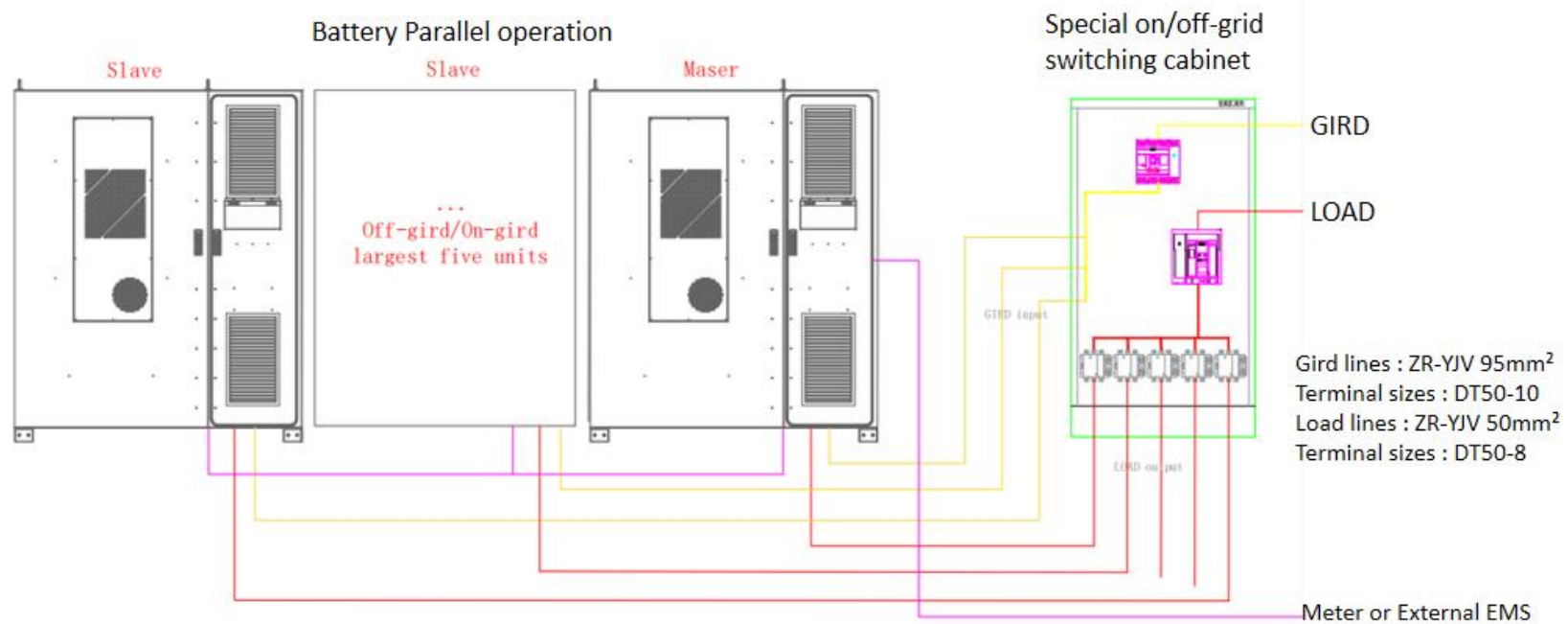
on-grid/ off-grid connected product parallel operation

The operation mode supports **automatic** mode (electricity meter installation required) and **remote** mode (**MODBUS and RS485**, electricity meter installation not required).

Multiple units space:



Install **more than 1 cabinets with STS**(Parallel Operation), which enables the battery to be used off-grid

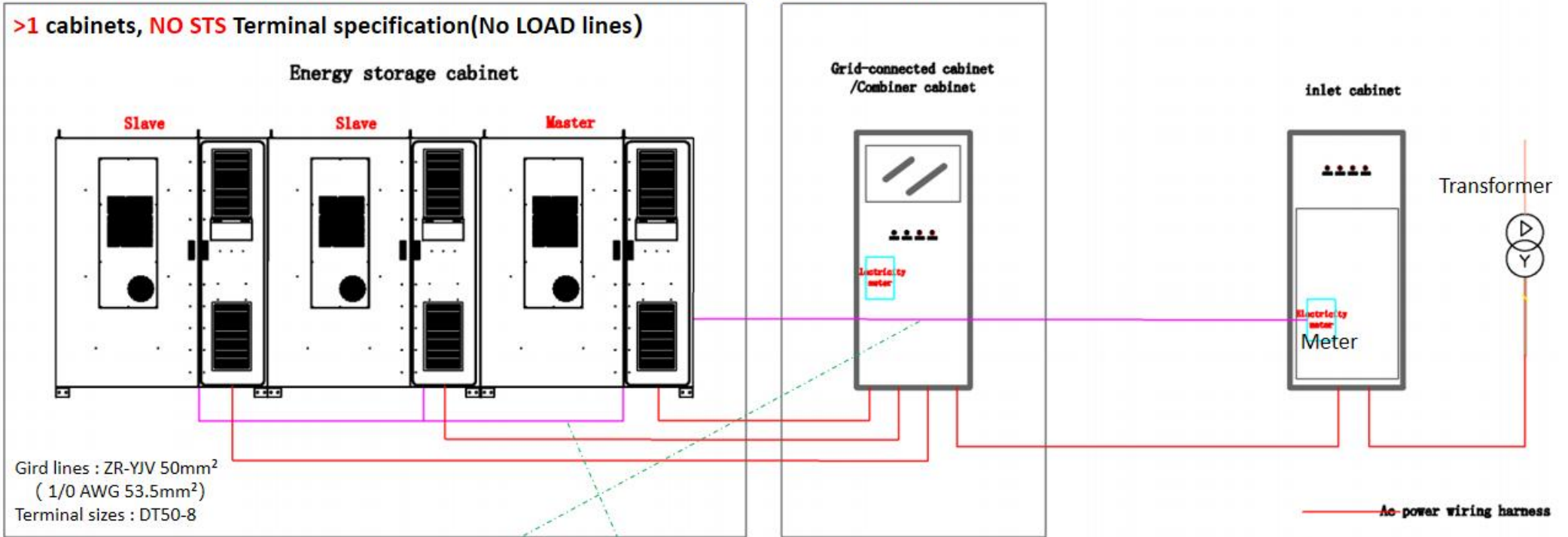


Communication lines connected to each cabinet



Install **more than 1 cabinets no STS**(Parallel Operation), the battery can not be used off-grid

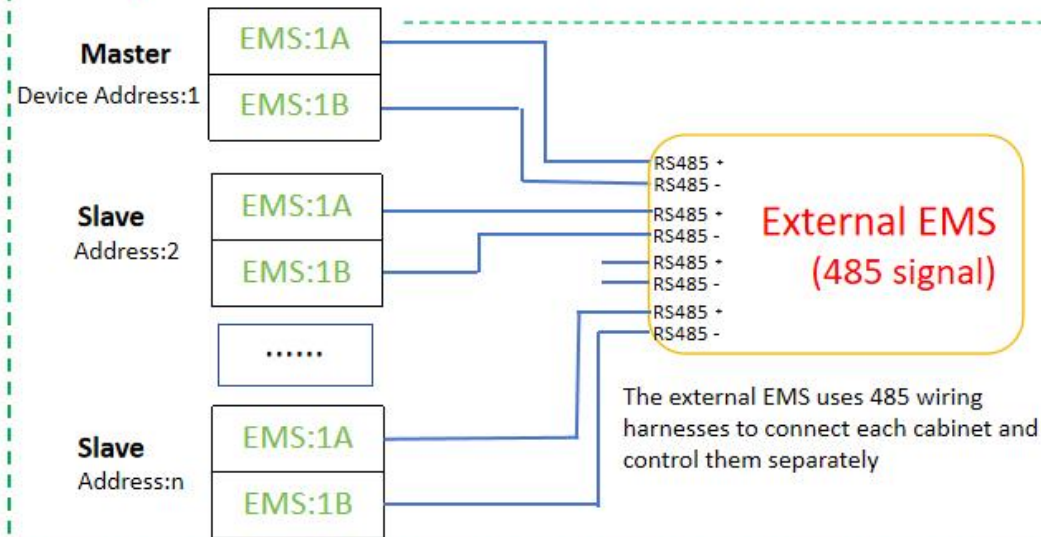
>1 cabinets, **NO STS** Terminal specification(No LOAD lines)



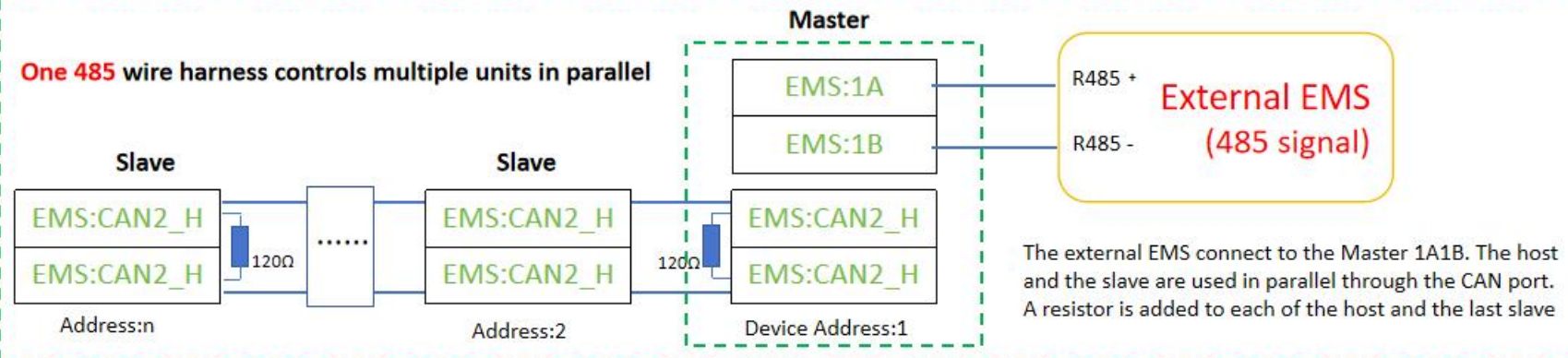
Communication line connection



Multiple 485 wire harnesses control multiple units respectively

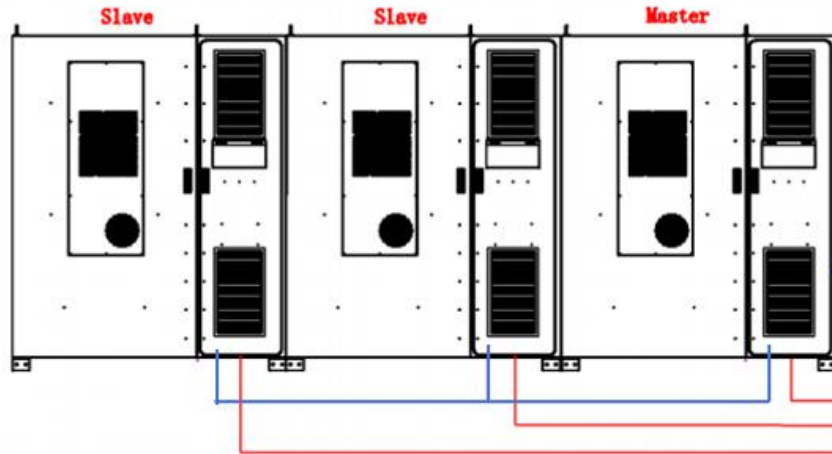


One 485 wire harness controls multiple units in parallel



485 signal control >1 cabinet, NO STS Terminal specification

Energy storage cabinet



Grid-connected cabinet
/Combiner cabinet

inlet cabinet

Gird lines : ZR-YJV 50mm²
Terminal sizes : DT50-8

— Ac-power wiring harness
— Communication line

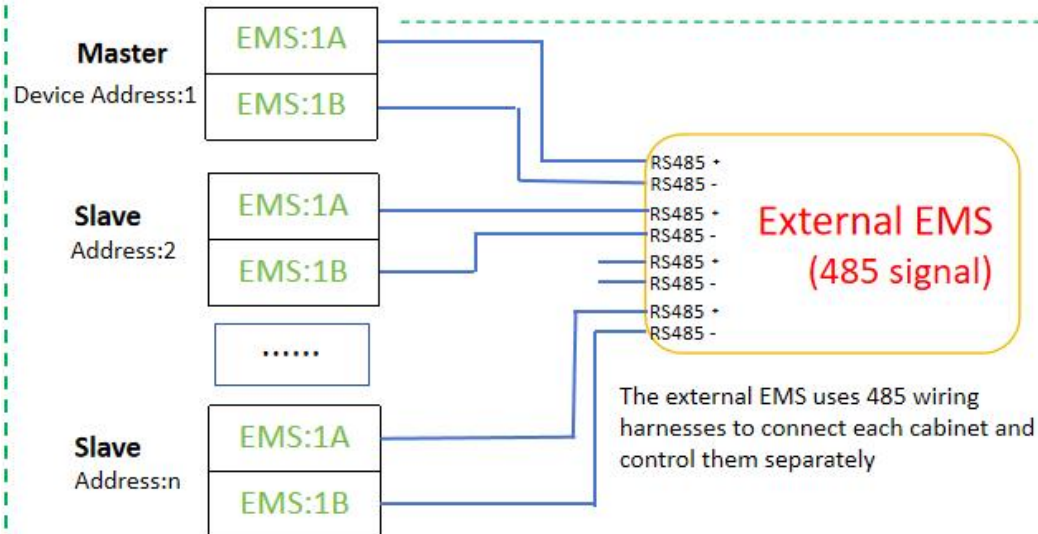
One 485 wire harness controls multiple units



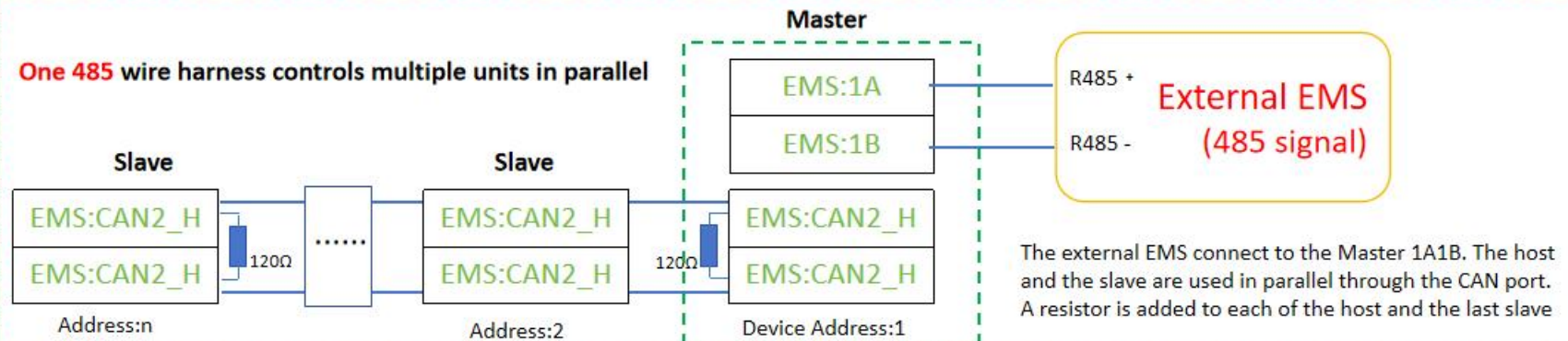
The external EMS connect to the 1A1B port of the Master, and at the same time, the master and the slaves are connected in parallel. A 120Ω resistor is connected in parallel to each of the 1A1B ports of the Master and the last Slave



Multiple 485 wire harnesses control multiple units respectively

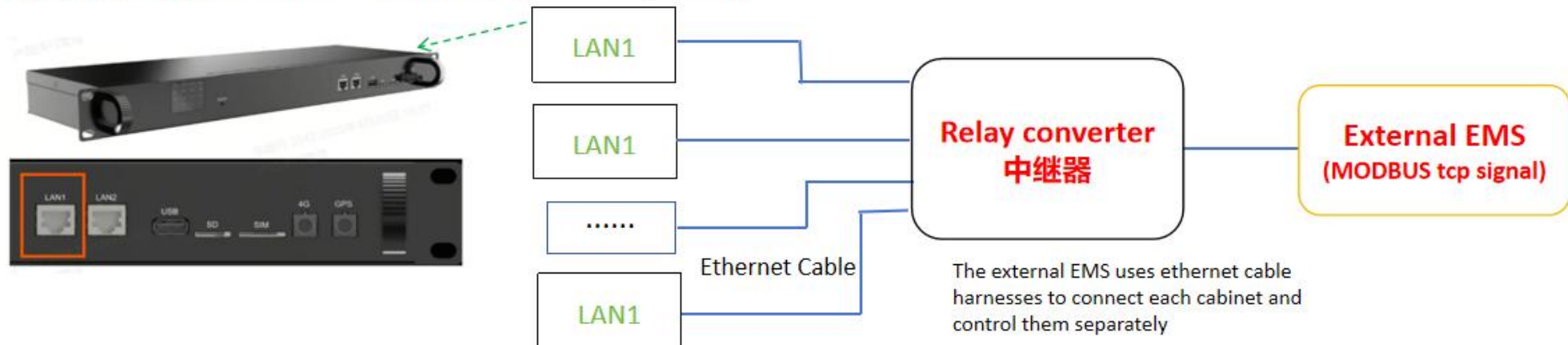


One 485 wire harness controls multiple units in parallel

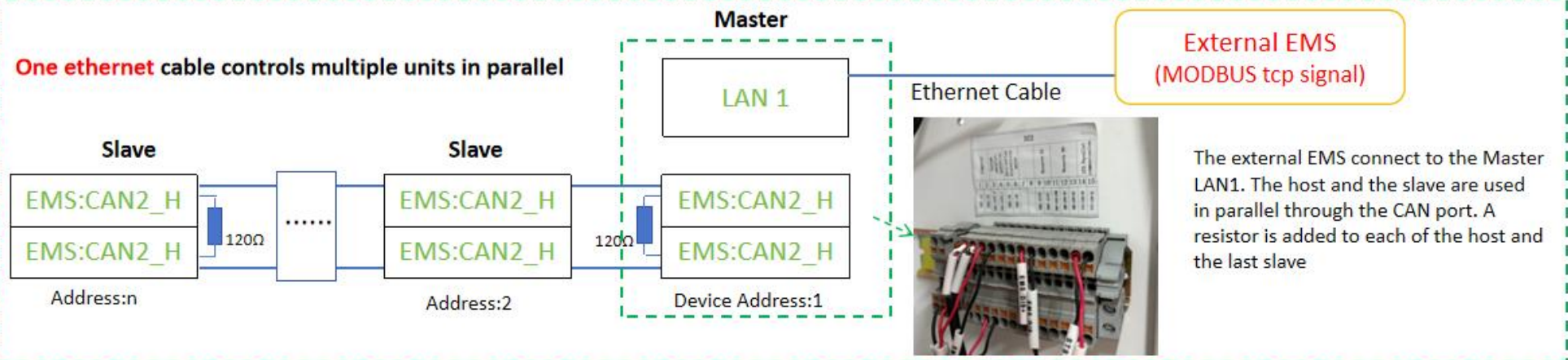


MODBUS tcp signal control

Multiple Ethernet cable harnesses control multiple units respectively



One ethernet cable controls multiple units in parallel



Generator control wiring harness

The engine start command is **always on**



DZ2:EMS 信号转接端子		
EMS:1A	1	上位机
EMS:1B	2	上位机
EMS:CAN2_H	3	并机通讯
EMS:CAN2_L	4	并机通讯
EMS:3A	5	防逆流电表
EMS:3B	6	防逆流电表
	7	
	8	
EMS:DI9+	9	预留输入信号
EMS:DI9-	10	预留输入信号
EMS:D09-COM	11	预留-COM
EMS:D09-NO	12	预留-NO
EMS:D09-NC	13	预留-NC
STS:CAN-2H	14	并机通讯
STS:CAN-2L	15	并机通讯

EMS:D09-COM

EMS:D09-NO

EMS:D09-NC

Generator

The engine control wiring harness is connected to the terminal block inside the cabinet COM\NO

The engine start command is **always off**



DZ2:EMS 信号转接端子		
EMS:1A	1	上位机
EMS:1B	2	上位机
EMS:CAN2_H	3	并机通讯
EMS:CAN2_L	4	并机通讯
EMS:3A	5	防逆流电表
EMS:3B	6	防逆流电表
	7	
	8	
EMS:DI9+	9	预留输入信号
EMS:DI9-	10	预留输入信号
EMS:D09-COM	11	预留-COM
EMS:D09-NO	12	预留-NO
EMS:D09-NC	13	预留-NC
STS:CAN-2H	14	并机通讯
STS:CAN-2L	15	并机通讯

EMS:D09-COM

EMS:D09-NO

EMS:D09-NC

Generator

The engine control wiring harness is connected to the terminal block inside the cabinet COM\NC