

WMC SERIES



» FEATURES

- It has the ability to withstand various climatic environments, including rain, snow, hail, wind, ice, salt fog, sandstorm, lightning, electromagnetic compatibility, and different levels of solar radiation. Comply with GB4208-1993 enclosure protection grade IP55 (air conditioning type and heat exchange type).
- The cabinet is made of sandwich plates with a thickness greater than 45mm. The thickness of the color steel plate of the outer panel shall not be less than 0.5mm, and the thickness of the color steel plate of the inner panel shall be more than 0.5mm. The core material shall be a polyurethane plate with good heat insulation, strength, and stability.
- Reasonable design, compact structure, small floor area, saving station site cost.
- Full standard 19-inch design, suitable for installing various 19-inch equipment.
- Cabinet door opening angle is greater than 100°.
- Switch power supply and lithium iron phosphate battery can be configured in the cabinet.
- Professional production and testing equipment and technical team to ensure product performance superiority and reliability, and timely and quickly ensure the supply cycle.
- Beautiful appearance, strong corrosion-resistance, service life of more than 20 years.
- Lightweight, high integration, convenient for transportation and installation, short installation and opening cycle, convenient for rapid station construction.

- The power consumption is significantly lower than that of traditional base stations, meeting the requirements of energy conservation and emission reduction.
- Due to its reasonable structure and high integration, it is especially convenient for centralized maintenance and management.
- It can be used in both macro base stations and distributed base stations.
- Compared with traditional base stations, the outdoor cabinet of mobile base stations has unparalleled advantages and is an ideal choice for operators to build stations quickly and economically.

» ENVIRONMENT CONDITION

External environmental conditions:

- Operating temperature range: -40°C ~ +55°C.
- Storage temperature range: -25°C ~ +55°C.
- Transport temperature range: -40°C ~ +70°C.
- Relative humidity: 5%~100%.
- Atmospheric pressure: 62kpa~101kpa (approximate to altitude 0m~5000m).
- Total radiation intensity: 1120×(1±10%)W/m².

Internal environmental conditions:

- Equipment cabinet: -5°C ~ +45°C.
- Relative humidity in cabinet: 5%~80%.

» WARRANTY

25 Years warranty. 2Years warranty for AC Component.



Temperature control system:

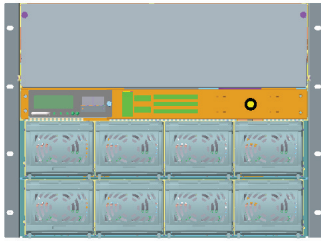
- Compressor air conditioner: 48V DC power supply is adopted, nominal voltage and variation range: 48V DC (-10% ~+20%). The service life of the air conditioner is more than 5 years, and the MTBF is more than 30000 hours. The fan operates continuously for more than 40000 hours at 40 °C. Air conditioners with different refrigerating capacities shall be provided according to the calorific value in the cabinet and the heat transfer outside the cabinet to ensure that the temperature in the cabinet is not higher than 30 °C.

Input voltage:

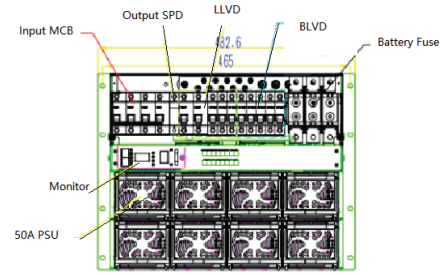
- AC220V

» COMPLETE INTEGRATION SET

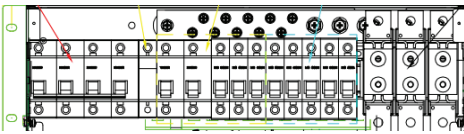
Switch power supply:



Product Outline:



Distribution Component Details:



Weight:

- Less than 30KG

- Input MCB, 1*4P 100AMCB
- DC SPD, 1*1P 15KVA
- LLVD 2*1P 80AMCB, 2*1P 63A MCB
- BLVD 1x63A MCB, 4x32AMCB, 2x16AMCB
- Battery Input 3*160A fuse

System Configuration:

1	Monitoring module	Rectifier module	Load Channel	Battery Channel
FO-REP/WMC	1	N (max 8)*50A	Min 1 channel	Min 1 channel

» TECHNICAL SPECIFICATIONS

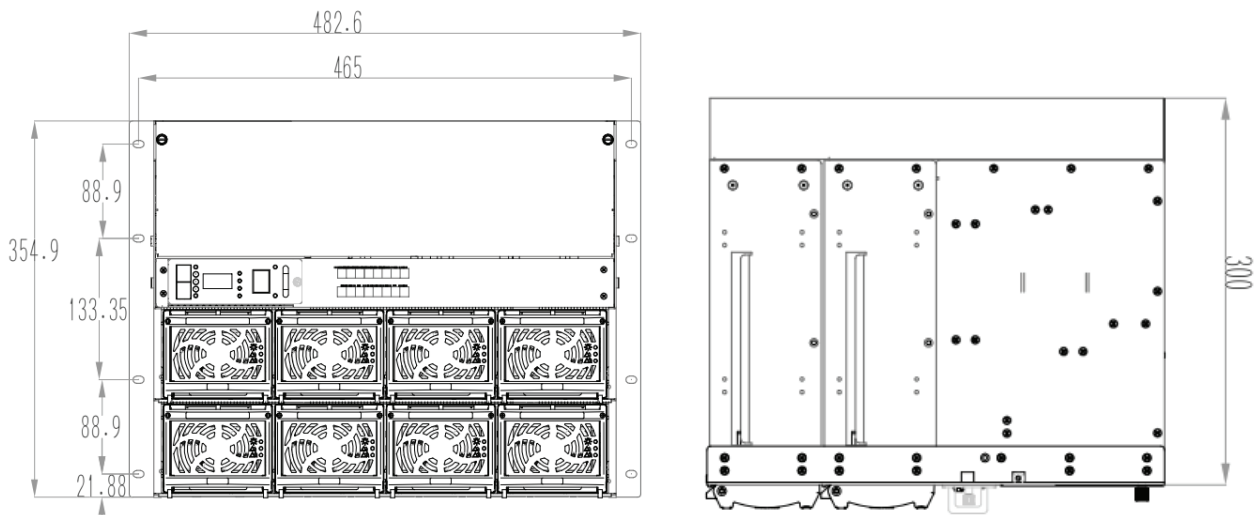
AC Input					
Parameter	Min.	Typical	Max.	Unit	Description
Input voltage range	90	220	280	Vac	/
Input frequency	45	50	65	Hz	/
Power factor	0.98	/	/	/	/
Output					
Parameter	Min.	Typical	Max.	Unit	Description
Output voltage range	42	53.5	58	Vdc	/
Ripple	0	/	400	A	176-280VAC
	0	/	180	A	90-175VAC
	/	/	200	mv	(peak-to-peak value)
Accuracy of voltage stabilization	≥94	95	/	%	220Vac input
	≥90	/	/	%	110Vac input
Load regulation	/	/	≤±1	%	/
Line regulation	/	/	≤±1	%	/

Insulation Level					
Parameter	Max.			Description	
Input-output	3000Vdc/10mA//1min			/	
Input-enclosure	2500Vdc/10mA//1min			/	
Output-enclosure	700Vdc/10mA//1min			/	
Insulation resistance	The insulation resistance between power input and output, input and ground, output and ground terminals must be no lower than 10MΩ with a leakage current of less than 3.5mA when the relative humidity is 90% and test voltage is 500Vac under normal atmospheric pressure.				

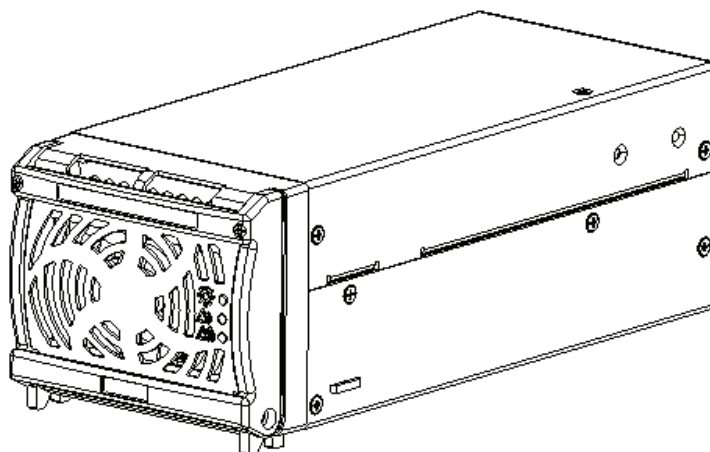
Environment					
Parameter	Min.	Typical	Max.	Unit	Description
Operating temperature	-25		55	°C	≥55°C: down rating
Storage temperature	-40	/	80	°C	
Relative humidity (RH)	10	/	90	%	Relative humidity, non-condensing
Atmospheric pressure	70	/	100	KPa	
Altitude	0	95	3000	m	
Cooling mode	Forced air cooling				

» DIMENSION

- 482.6mm(W)*300mm(D)*354.0mm(H)



» RECTIFIER MODULES



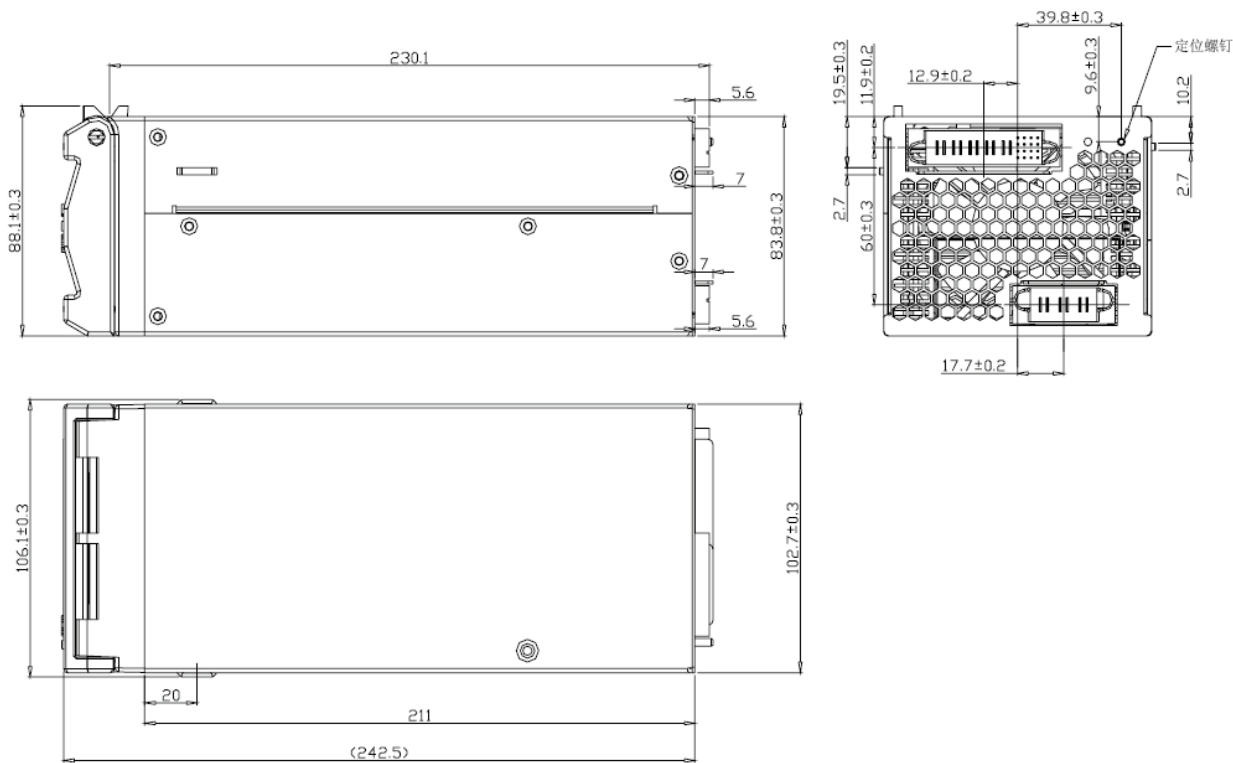
» RECTIFIER MODULE PARAMETER EXPLANATION

EMC and others	
Parameter	Standard requirements
Radiated emission (CE)	EN55022 – Class B (requires 6dB margin)
Conducted Emissions (RE)	Input: EN55022 – Class B Output: Class A (requires 6dB margin)
Electrostatic Discharge	EN/IEC 61000-4-2 contact discharge±6KV,air discharge±8KV, judgment basis B; Contact discharge±8KV,air discharge±10KV, judgment basis R. contact discharge±2KV, judgment basis R.
Harmonic emission	EN/IEC61000-3-2 CLASS A
Radiated anti-jamming	EN/IEC 61000-4-3 Level 3 (10 V/m).
Conducted anti-jamming	EN/IEC 61000-4-6 Level 3 (10 V/m).
Quick instantly burst	EN/IEC 61000-4-4 Level 3 (2 kV, 5 kHz repeat)
Surge	EN/IEC 61000-4-5 Level 3 Criterion B, wire-wire: ±2KV, wire-ground: ±4KV
Lightning impulse No failure No damage	EN/IEC61000-4-5 Level 4 (common mode 4kV, differential mode 2kV) ANSI C62.41 Level A3 (common mode and differential 6kV)
Voltage dips and short interruptions immunity(DIP)	EN/IEC61000-4-11 dropped to 70%, 40%, 0%Ut, duration 100ms, 20ms, 10ms, at 0°, 45°, 90°, 135°, 180°, 225°, 270°, 315°each phase drop, meet the judgment basis B
Voltage fluctuations and flicker	EN/IEC61000-3-3 Pst≤1.0 ; P1t≤0.65; dcs≤3%; dmax≤4%; d(t) value exceeds 3% time ≤200ms
Reliability (Calculating)	≤250,000 Hours
In parallel function	Support N +1 redundancy when used in parallel to ensure average current ,average current imbalance within ± 5%
Vibration	Sinusoidal vibration:5- 9Hz; Amplitude 3.5mm; 9-200Hz;Acceleration spectral density:10m2/s3; 3 axis directions, each direction sweep vibration 5 times,1 time octave/min Random vibration:2-10Hz,10m2/s3; 10-200Hz:3m2/s3; 200-500Hz: 1m2/s3 ; 3 axis directions, each axis direction 30min
Impact	Half-sine wave, peak acceleration:250m/S2; 400m/S2 pulse width 6ms; impact axis direction:6 direction; impact times : three times in each direction

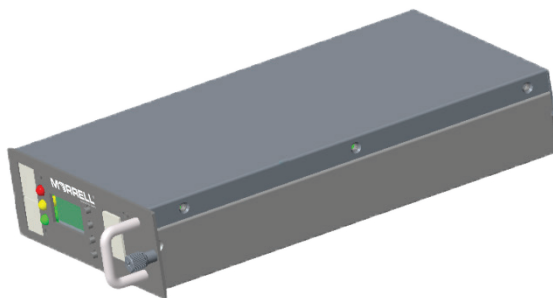
Insulation Level		
Parameter	Standard requirements	Note
Input-output	1500Vac/10mA//1min	No arcing,no breakdown,remove the discharge tube when testing
Input-enclosure	1500Vac/10mA//1min	
	1500Vac/10mA//1min	
Output-enclosure	≤3.5 mA	264Vac input 50HZ input
Insulation resistance	≥10MΩ	At normal atmospheric pressure, the relative humidity is 90%, test voltage is 500V DC, power input to the output , input to ground , the output to ground insulation resistance not less than 10MΩ

» INDEX

Mechanical Characteristic	
Parameter	Standard requirements
L*W*H	242.5*106*88.1mm
Weight	≤2.2Kg



» MONITORING MODULES



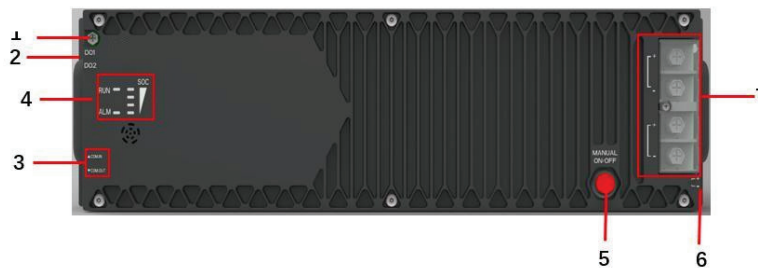
Technical specifications and parameters are as follows:

Parameter	Description
Outline	213.4mm ×126mm×41.6mm
Weight	≤1Kg
Operation Temp	-30 ~ 55°C
Storage Temp	-40 ~ 70°C
Humidity	0 ~ 80% (40±2°C)
Input Voltage	40 ~ 60VDC
RS485	1 channel, supporting standard general electric protocol and Modbus communication protocol
Ethernet communication	1-way, supporting TCP-MODBUS and web pages
Switching value input	6(access control / smoke / lightning protection / flooding / air conditioning / impact)
Relay output	6 (emergency alarm / non emergency alarm / custom)
AC detection	Single phase / three-phase can be set, with AC voltage, current, frequency, power and electrical degree detection functions
Battery current check	Maximum 2-way, diverter and contactor can be configured
Shunt output	Up to 4 channels, diverter and contactor can be configured
Fuse detection	Battery fuse status, load fuse status
Temperature detection	2-way (battery temperature, ambient temperature), 10k-NTC temperature sensor
Number of rectifiers	Max 16
Battery management	AAutomatic floating charging, charging current limiting, manual charging, manual fast charging Cycle equalization, temperature compensation, battery test function

Technical specifications and parameters

Power down management	Primary power down (4-way load can be powered down independently)
Secondary power down (battery power down)	2-way (battery temperature, ambient temperature), 10k-NTC temperature sensor
Rectifier module management	Module status detection, voltage regulation, current limiting, energy saving management
Metering function	AC metering and load shunt metering (with total / monthly / daily power consumption statistics function)
Event record	1000 Max

» LITHIUM BATTERY



S/N	Silk Screen	Item	Description
1	PE	Ground protection	M4 screw
2	DO1	2	2
3	DO2	Dry contact output	Alarm output dry contact (disconnect alarm by default)
4	COM IN	Communication port	/
	COM OUT	Communication port	
	RUN	Run indicator	
	ALM	Alarm indicator	/
	SOC	SOC indicator	
5	Manual ON/OFF	Button for manual power on/off	The external voltage of 43.2V-58V of the PWR terminal can activate the interspace digital energy BS series lithium battery.
6	PWR	Port for connecting to an external power source	The BS series Li-ion battery anode and cathode interface
7	+	Positive terminal	Positive and negative ports are secured by M6 screws. suitable OT terminals should be used.
	-	Negative terminal	

» PRODUCT FEATURE

- Standard rack-mounted installation design (3U), high energy density
- Integrated with high-efficiency BDC allowing for active charge and discharge control
- Modular & lightweight design for easy operation and maintenance
- Long cycle life
- Support for mixed-use of lithium and lead-acid batteries, support for parallel connection of new and old lithium batteries
- Support high current charge/discharge
- Support multiple working modes

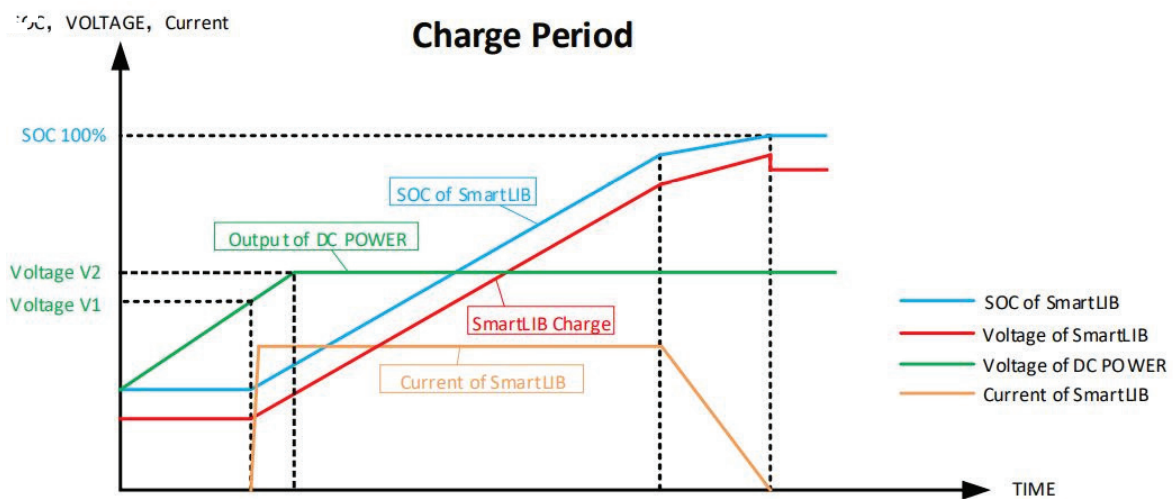
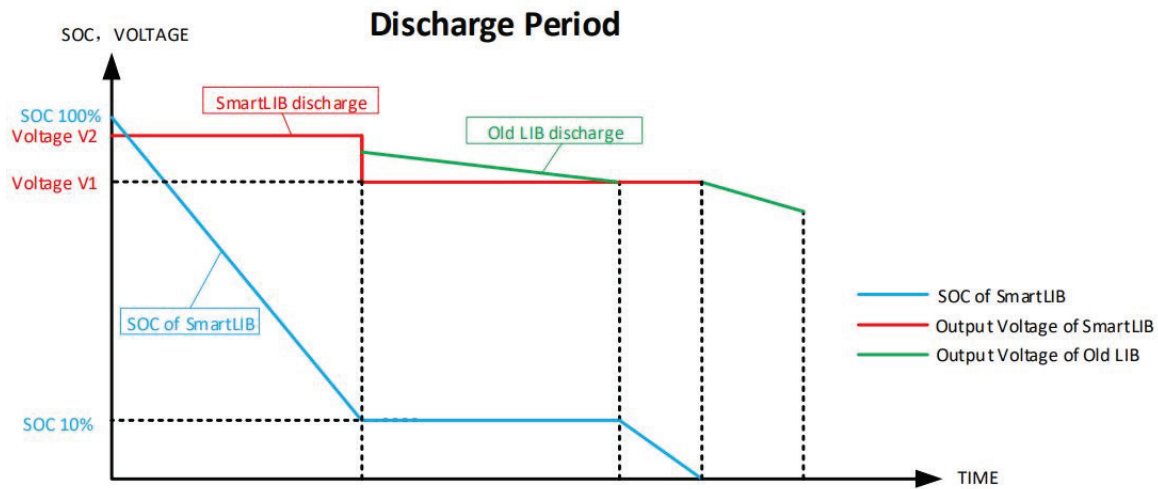
» APPLICATION SCENARIOS

- 5G communication base station power.
- 5G remote power supply scenario.
- 5G base station renovation site.
- Low-voltage household energy storage.
- 48V other scenarios.

Product Parameter	
Parameter	Standard requirements
Cell Type	LFP
Rated Voltage	48V
Rated Capacity	100Ah @0.5C, 25 °C
Size (W*D*H)	442*400*133mm (not including
Rated Output Voltage	56.4V
Output Voltage Range	40~58V (supporting constant voltage output)
Output Power	4800W
Max Charge/Discharge Current	100A
Weight (kg)	46
Cycle	4000 times (25 °C, 0.5C,80%DOD, 80% EOL)
Communication Interface	RS485*1, CAN*1, Dry Contacts*2
Maximum Parallel Number	32 pcs (CAN Communication), 16 pcs (RS485 Communication)
Balancing Method	Passive Balancing
Balancing Current	100mA
Cooling Method	Natural Cooling
Working Temperature	Charge: 0~45 °C; Discharge: -20~45 °C
Storage Temperature	0~40 °C
Relative Humidity	5%~95%
Protection/Alarm	Overtemperature, Overcurrent, Short circuit, Over-charge, Overdischarge, etc.
Designed Life	10 years
Work Mode	Follow bus voltage mode, Constant voltage output mode, Battery characteristic discharge output mode, Peak clipping mode, Peak shifting mode, etc
Anti-theft Option	Gyroscope

» PERFORMANCE CURVE

Constant Voltage Discharge Curve



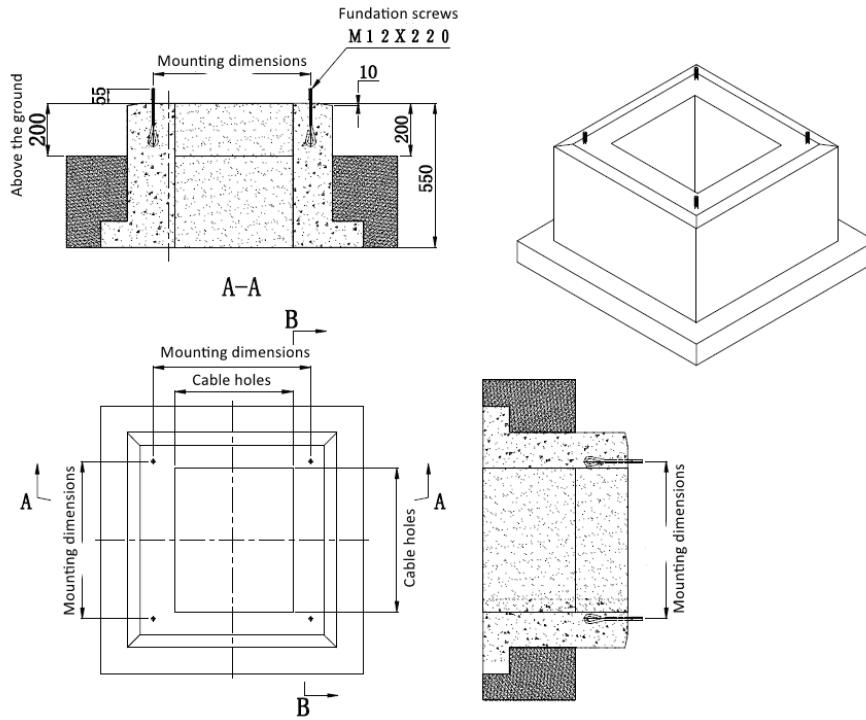
» INSTALLATION

Installation tools

- Movable wrench, 14mm sleeve wrench, 14mm mechanical wrench, 17mm sleeve wrench, 17mm mechanical wrench, 19mm sleeve wrench, 19mm mechanical wrench, 12 impact drill, impact drill, cross screwdriver, slotted screwdriver, pliers, crimping pliers, stripping pliers, hammer, insulating tape, etc.

Fabrication of cement base

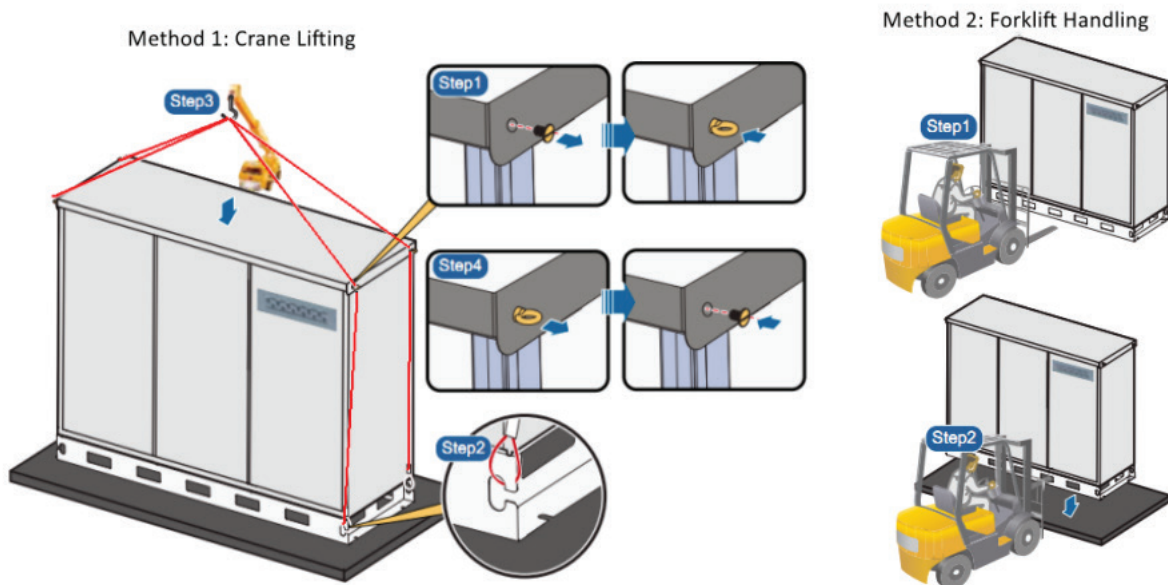
- It is made of reinforced concrete with specific dimensions (see Fig. 1).
- The foundation screw is M12, with an exposed height of at least 50mm, and the rest is embedded in the reinforced concrete foundation base.
- Put the corresponding anchor holes on the cabinet through the anchor screws and onto the foundation base, then install the flat and spring washers one by one, and finally tighten the nuts with force. The installation of the cabinet is completed.



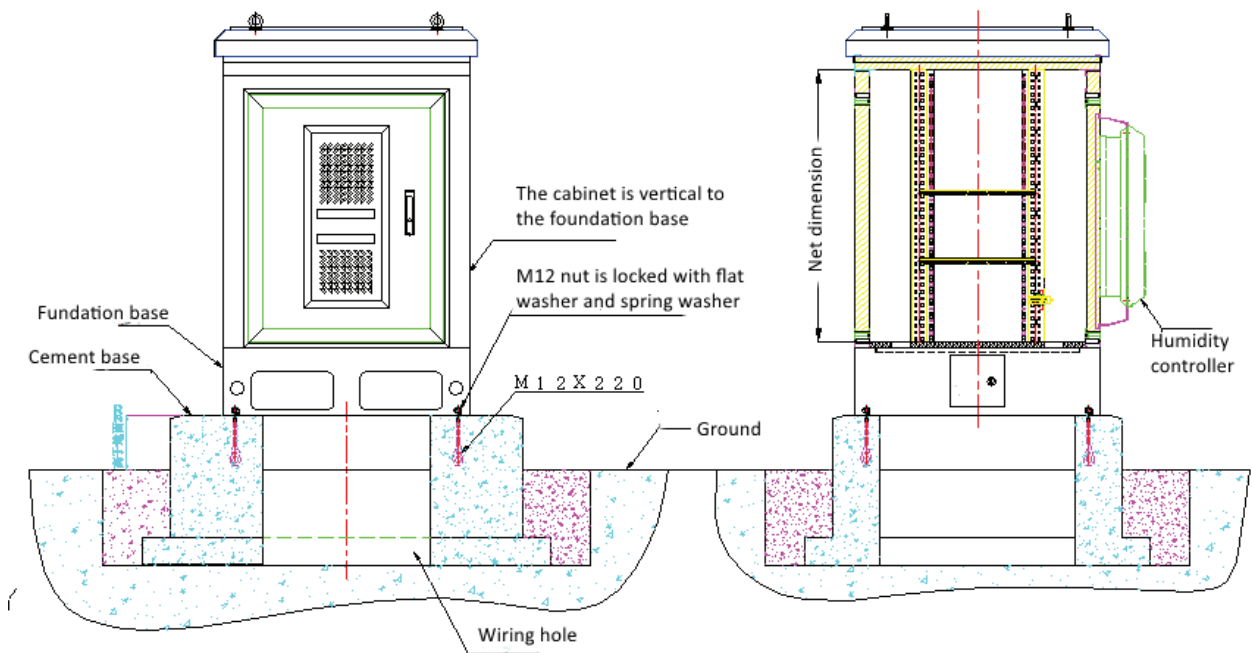
Mobile cabinet installation steps:

(1) Overall installation steps of cabinet:

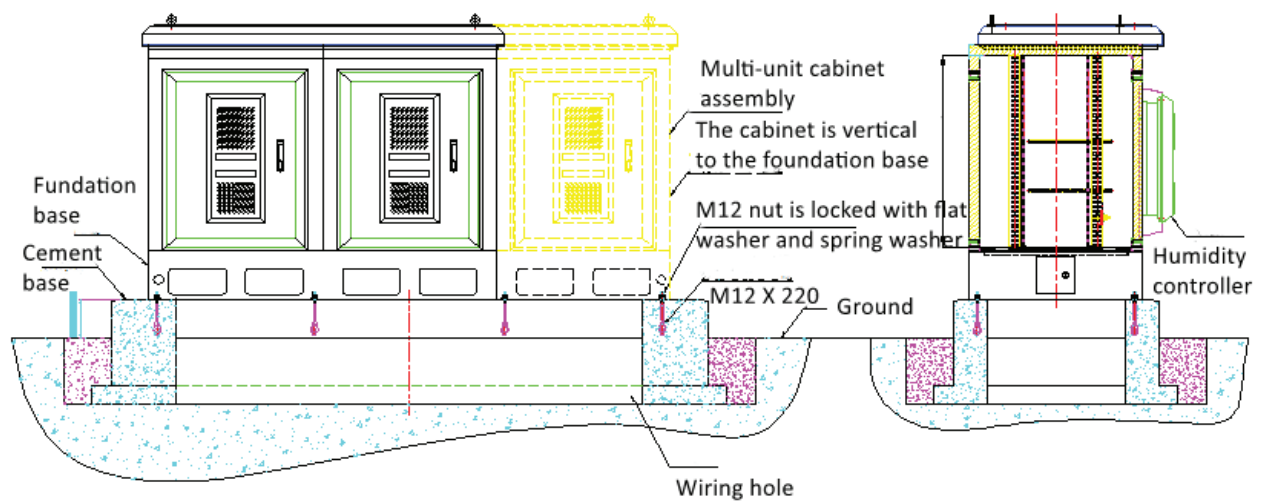
- Lifting Instructions:
- The cabinet is installed and transported before delivery. After arriving at the construction site, remove the outer packing, install the cabinet on the cement base with a lifting device, connect the cabinet to the anchor bolts, and lock the cabinet with nuts. The lifting method is shown below.
- Method 1: Put the steel wire rope through the lug and fix it at the bottom, and lift the cabinet to the installation position with a crane.
- Method 2: Fork up the cabinet from the hole at the bottom of the cabinet with a forklift and carry the cabinet to the installation position.
- When lifting the cabinet, the steel wire rope shall not rub with the Mini-shelter to damage the Mini-shelter. If the cabinet is scratched during transportation, please spray or glue it for repair.



(2) One unit cabinet shall be completely installed and transported before leaving the factory. After arriving at the construction site, first remove the outer packaging, then install the cabinet on the cement base with a lifting device, connect it with the anchor bolts, and finally lock it with nuts. The structure is shown in Fig. 2.



(3) The multi-unit cabinet shall be installed and transported as separated units before leaving the factory. After arriving at the construction site, first, remove the outer packaging, then install the cabinet base on the cement base with a lifting device, connect it with the anchor bolts, lock it with nuts, and fix each unit with the base connecting holes according to the drawing requirements. Finally, install the top cover structure as shown in Fig. 3.



Marking, Packaging, Transportation and Storage

1. The packaging and transportation of the equipment cabinet shall comply with industry standards. It shall be stored in a ventilated and dry warehouse free of acid, alkali, sulfur compounds and other toxic gases. It is not allowed to be stored in the open air;

2. This package is packed according to the product packaging specifications, with moisture-proof and dust-proof measures. Accessories and spare parts are packed separately and then put into the packaging box. This box is sealed with plastic bags, and cartons are used outside; Waterproof, moisture-proof and direction signs are painted on the outside of the carton;

3. Transportation: this cabinet can be used for transportation by various means of transportation. During the transportation of packaged products, the ambient temperature is required to be between -15 °C and 55 °C, and the relative humidity is not greater than 90%. There shall be a canopy above 40 °C, and the product shall not be exposed to rain, soaking and sunlight. Loading, unloading and handling shall be carried out in accordance with the transportation marks painted on the package. Products shall not be placed upside down, sideways or overturned.

4. Storage: heavy objects shall not be piled up above the box, and the acid, alkaline or other harmful gases in the air in the warehouse shall meet the requirements of environmental protection regulations. The indoor temperature is between -5 °C and °C 40 °C, and the relative humidity is not greater than 75%.

» THE CONFIGURATION

Name	Specification	Unit	Qty.	Remark
Cabinet	Outer dimension: 905×905×2113mm(W×D×H, including size of air conditioning part and base); Inner dimension: 800*800*1800mm; Base height: 200mm	set	1	The cabinet frame is made of galvanized steel plate, the insulation board is made of PU color steel plate, the inner and outer steel plates are 0.5mm, the cabinet is installed in a 19-inch model of 40U, equipped with lightning protection ground row, protective ground row, L-type equipment fixing bracket *2, L-type battery fixing bracket *4, and the surface is sprayed with outdoor powder RAL7035
Air conditioner	DC compressor air conditioner 1500W	set	1	DC48
Switch power supply	Input MCB,1*4P 100AMCB DC SPD,1*1P 15KVA LLVD 2*1P 80AMCB,2*1P 63A MCB BLVD 1x63AMCB,4x32AMCB,2x16AMCB Battery Input 3*160A fuse	set	1	
DC LED lamp + limit switch	T5-48V	set	1	DC48V
Packing	Steel strip wooden case	set	1	Export standard
Battery	Smart lithium battery 48V100	set	4	