Beijing Guoguang Xingda TechnologyCo.,Ltd.

北京国光兴达科技有限公司

Room 701, Building 7, Courtyard 7, Cuifeng Road, Fangshan District, Beijing, China.

Web: www.ggxdtelecom.com

https://ggxd.en.alibaba.com

CONTENT

Chapter I : Introduction

Shenzhen Xingda Shidai Technology Co., LTD., founded in 2021, is located in Shenzhen, China. Our headquarter is set up in Beijing, and has cooperative organizations throughout the country.

Our Solutions

We are a power specialist that develops, manufactures, sells and distributes cutting-edge power solutions and services.

Our solutions provide power and backup power required for efficient and stab operation of essential infrasture that makes the world work, such as Telecom Power Utilities, Data Centers, Railway & Metro, Marine & Offshore and Rural Electrification.

Our Vision

Powering a greener tomorrow

The concept of “green” is becoming more and more important in the world at large. The consumption of power contributes to climate change – therefore, high efficiency power conversion with minimum loss is key to a greener tomorrow. As a power solution designer and manufacturer, we can make an important contribution in our field.s.

Our solutions provide power and backup power required for efficient and stable operation of essential infrasture that makes the world work, such as Telecom, Power Utilities, Data Centers, Railway & Metro, Marine & Offshore and Rural Electrification.

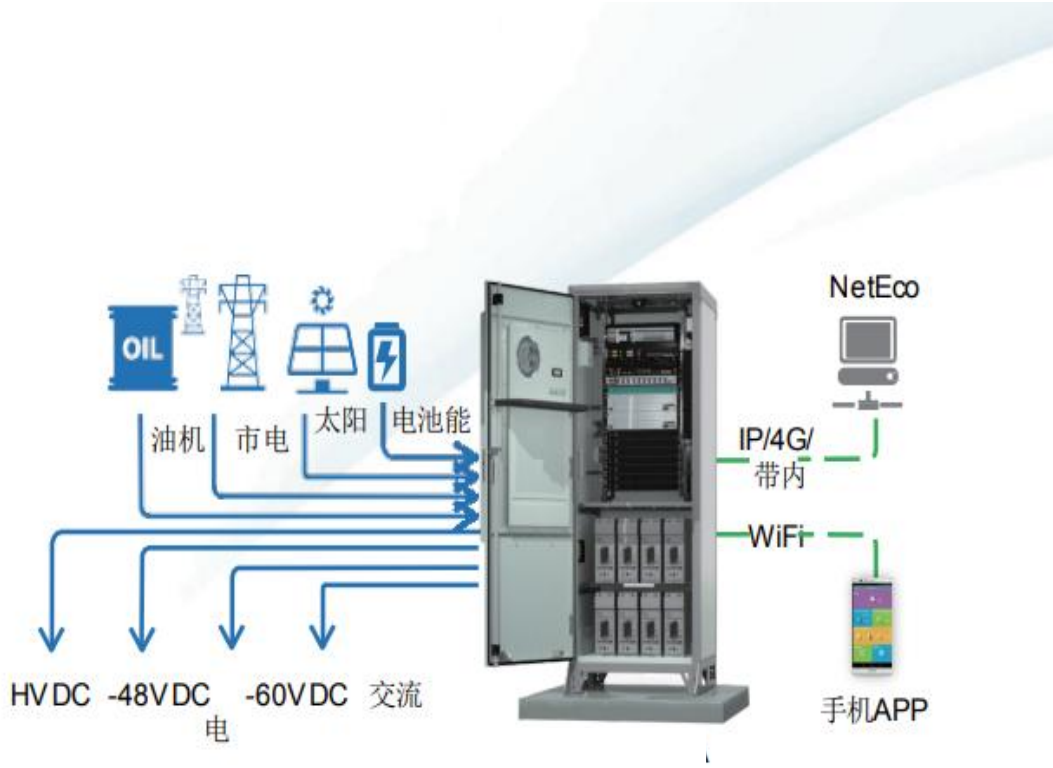
Our Expertise

Our expertise lies in power conversion, i.e. the process of converting one type of current, i.e. AC, to another, DC, and in the process adjusting the voltage, making it suitable for specific delicate electronic equipment. This core functionality is combined with battery backup, distribution and advanced monitoring and control in complete power systems for industrial applications where the efficiency and reliability of power supply is business critical.

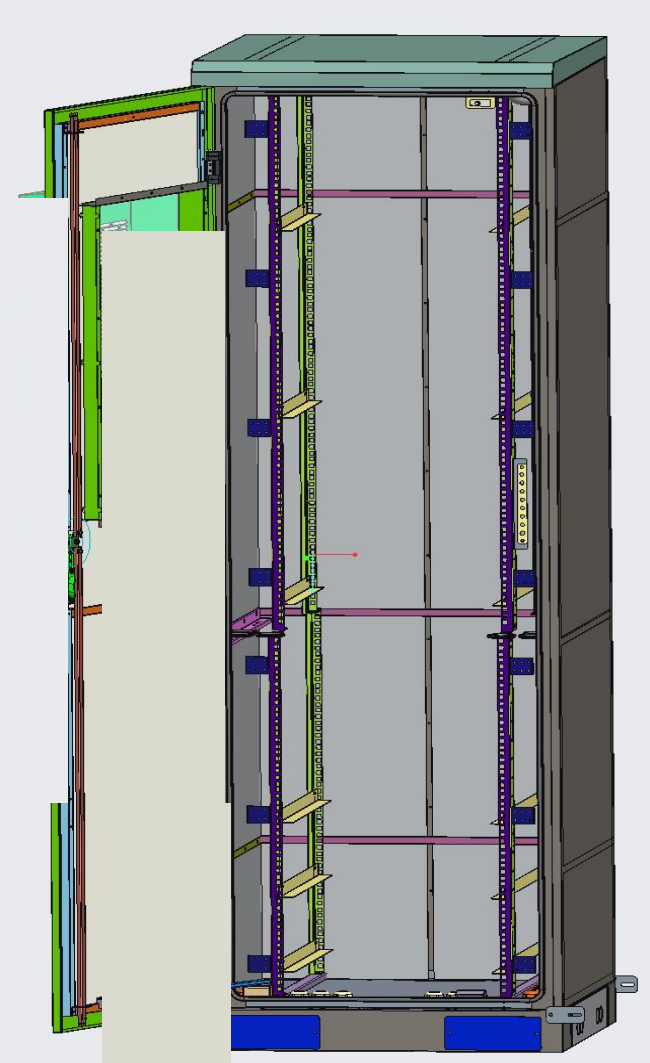
ChapterⅡ: Outdoor Network cabinet

Outdoor ODC cabinet(Mini-shelter)

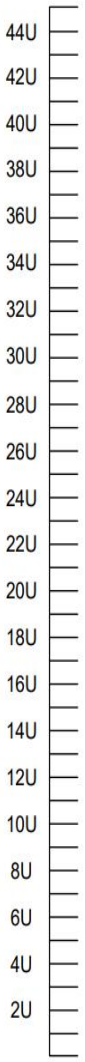
The new generation communication energy solution is famous for its simplicity,
Intelligent and efficient features help carriers achieve simple and complete network deployment
Network energy saving, efficient operation and smooth future evolution.
The solution is highly integrated with power supply system, temperature control system and station monitoring
The system and reception system provide safe and reliable energy supply for the main equipment And the working environment.

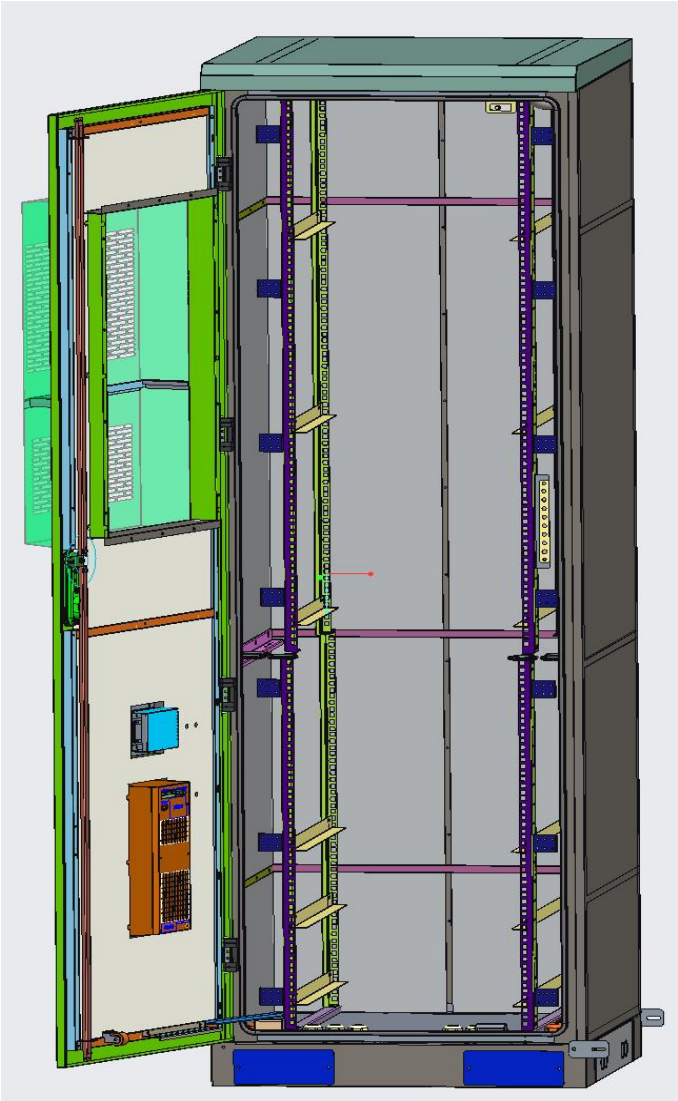


ODC cabinets can be customized according to customer requirements

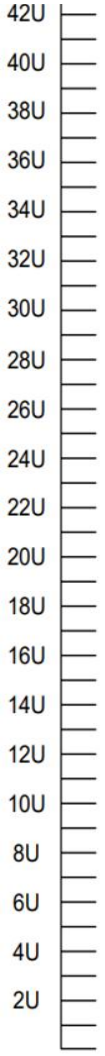


2200*700*700mm





2000*700*700mm



NOTE:

1、Cabinet dimensions 30U-44U （Optional）

2、Cabinet width 600mm to 1200mm (optional)

3、Cabinet cooling Fans, air conditioners, and heat exchangers (optional)

4、Cabinet protection level,IP55\IP65\IP66(optional)

5、The cabinet wall panel can be PU or rockwool

Xingda can provide for customers

The cost competitive price in industry, save building cost of station

- The same price, the cost competitive price in industry
- Automated mold production, first-grade quality

Customized rapidly, solve building-station problem

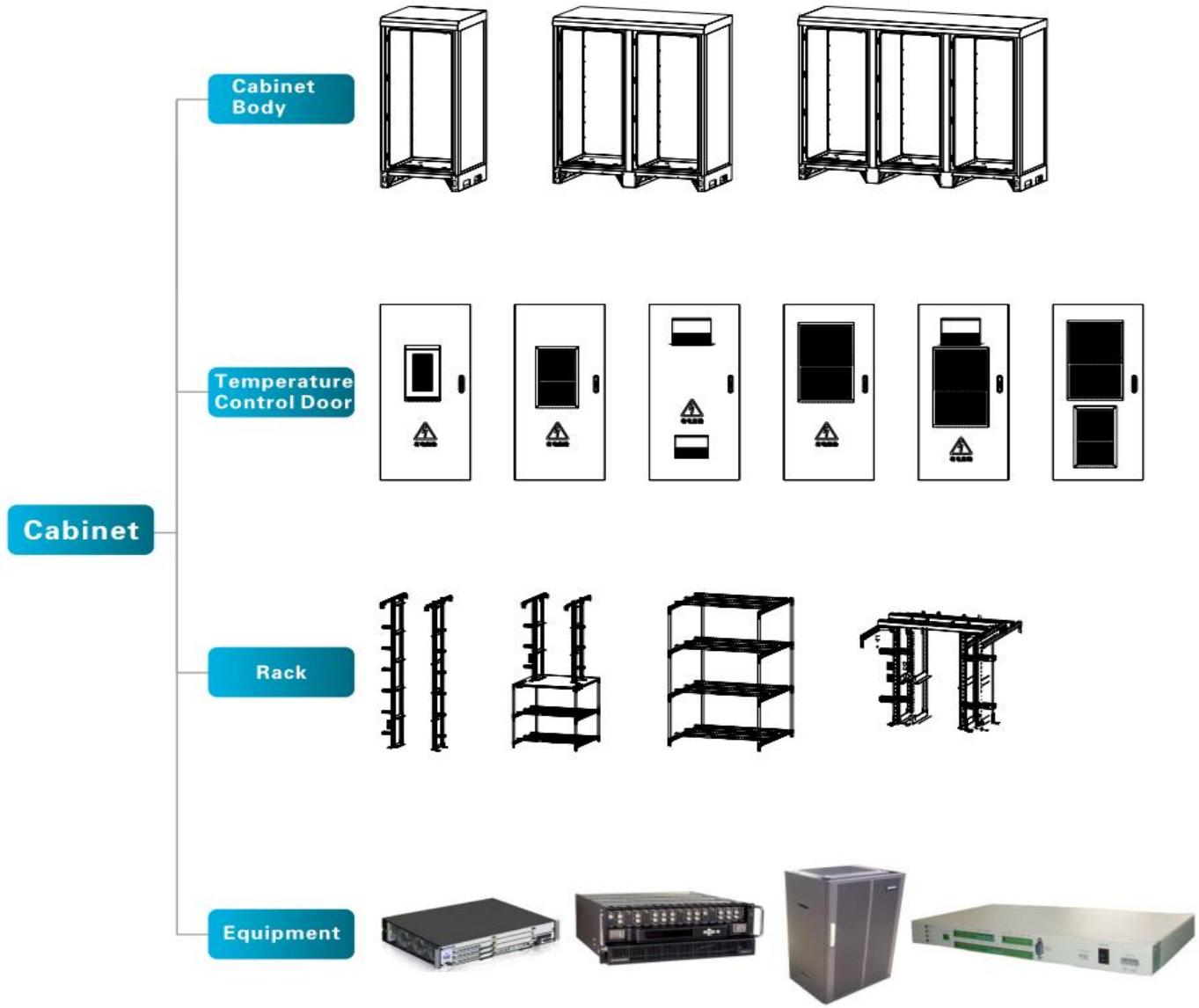
- Modular architecture design
- Component reuse rate is as high as 90%
- Participate in china mobile, china unicom mini room standard drafting, Rich experience in outdoor integration station and system design

Large scale and quick supply, help to win 4G

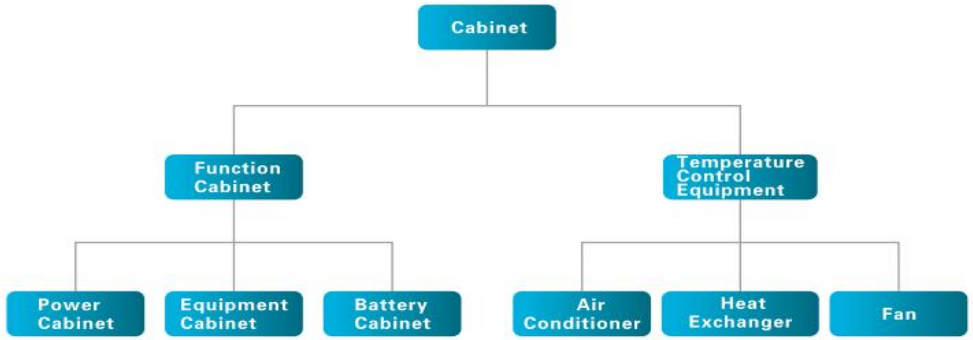
- 5 Days delivery for standard product
- Compete mold line production

Provide end-to-end product outsourcing service, complementary advantages and win-win cooperation

- Provide downstream design, platform, product manufacture, product service
- End-to-end cabinet solution, product support, bidding support



Classification of cabinet

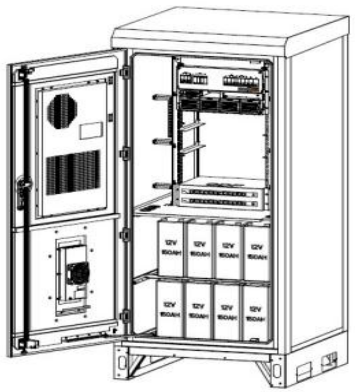


Air Conditioner

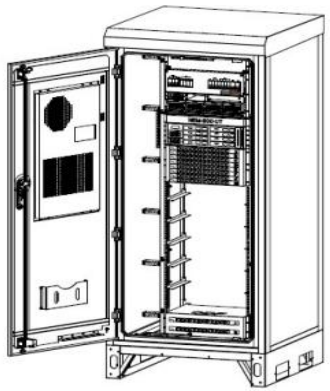
Heat Exchanger

Empty Heat Integrated Machine

Power Cabinet

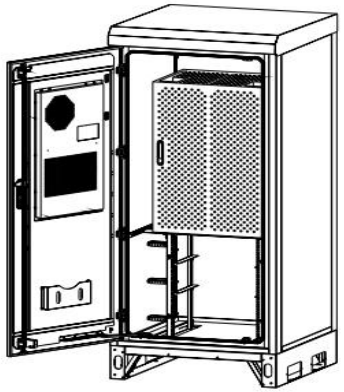


Equipment Cabinet

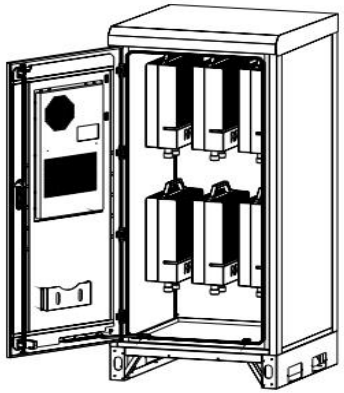


Battery Cabinet

1 Unit (Outdoor Macro Station)

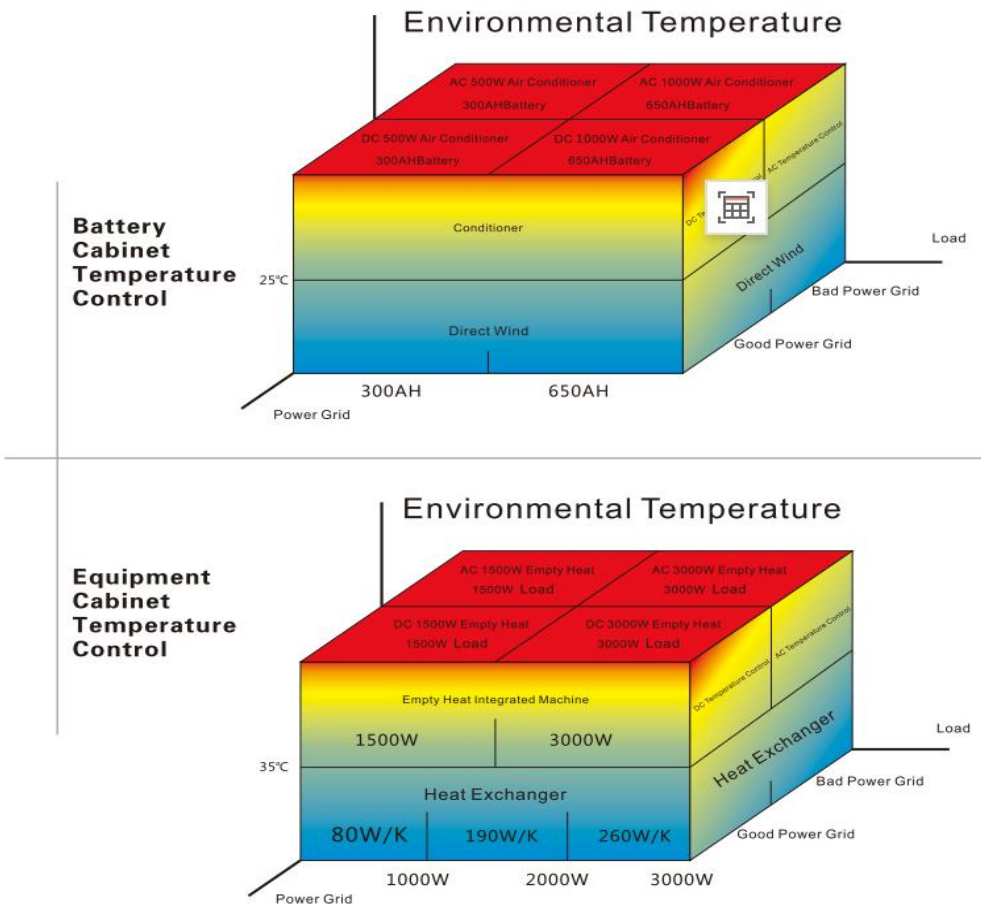


1 Unit (RRU)



Temperature control panorama

Based on Subdivision Temperature Control of Environmental Temperature, Grid and Load



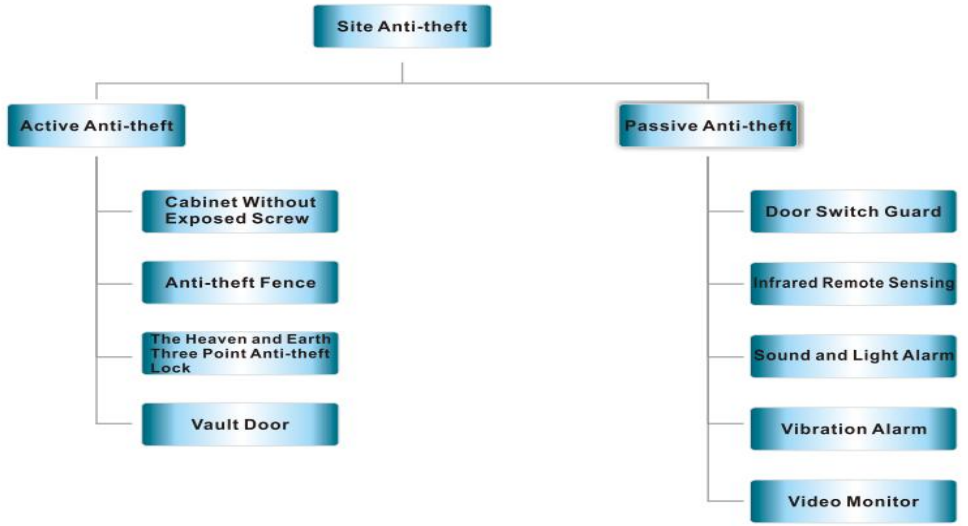
	Temperature Control Solution	Power	Cooling Capacity	Heat Dissipation Capacity	COP	Environmental Temperature	Inner Cabinet Temperature	MTBF(h)
Active Temperature Control	TEC(IP55)	300W	200W	/	0.7	<40℃	<30℃	2,500,000
	PC500(IP55)	200W	500W	/	2.5	<55℃	<30℃	1,300,000
	PC500D(IP55)	250W	500W	/	2	<55℃	<30℃	1,300,000
Passive Temperature Control	IP34Direct Wind (RRU Cabinet)	50W	2500W	250W/K	50	<40℃	Ta+3℃	2,920,000
	IP55Direct Wind (Equipment Cabinet)	50W	1500W	150W/K	30	<40℃	Ta+3℃	2,920,000
	HX08(IP55)	50W	1000W	80W/K	7	<40℃	Ta+10℃	2,920,000
	HX20(IP55)	130W	2000W	200W/K	12	<40℃	Ta+10℃	2,920,000
	HX26(IP55)	260W	3000W	260W/K	12	<40℃	Ta+10℃	2,190,000
Intelligent Temperature Control	AH1500 (IP55)	620W	1500W	75W/K	2~15	<55℃	<40℃	1,300,000
	AH3000 (IP55)	850W	3000W	120W/K	2~15	<55℃	<40℃	1,300,000
	AH1500D(IP55)	560W	1500W	80W/K	2~15	<55℃	<40℃	1,300,000
	AH3000D(IP55)	1050W	3000W	120W/K	2~15	<55℃	<40℃	1,300,000

Heat Exchanger

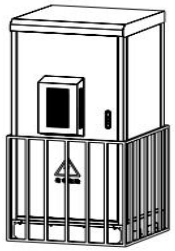
Conditioner

TEC Conditioner

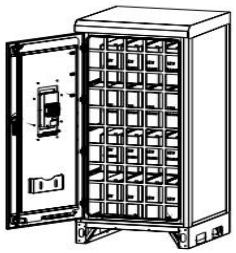
Station Anti-theft



Vault Door



External Anti-Theft Fence



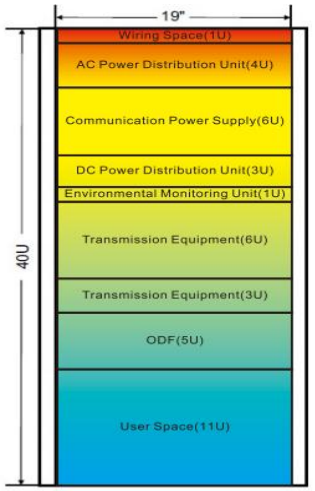
Built-in Anti-theft Fence

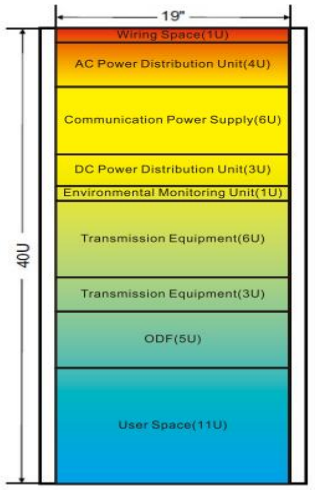
Station Monitor

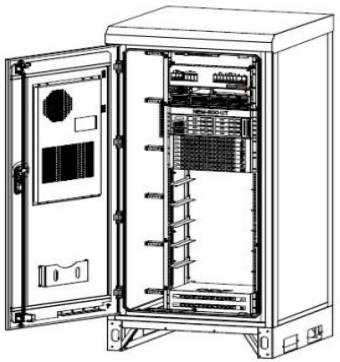
Equipment cabinet(40U)

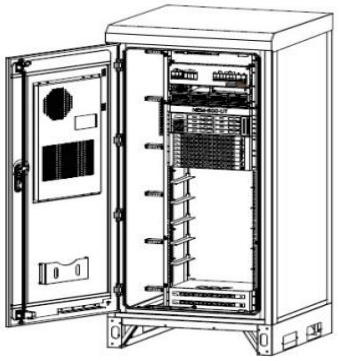
1.8M Equipment Cabinet

Serial Number	Project	Parameter
1	**Basic information**	
	Inner Size of Cabinet	800mm(Width)*800mm(Depth)*1800mm(Height)
	Outer Size of Cabinet	905mm(Width)*1180mm(Depth)*2105mm(Height)
	Covering Area	905mm(Width)*905mm(Depth)
	Height of Base	200mm
	Weight	120kg (Excluding the equipment and battery)
	User Space	40U
	Framematerial	Galvanized Steel Sheet
	Wallboard Material	Pre-painted Galvanized Steel Sandwich Board: Color Steel +Polystyrene (Polyurethane is optional)
	Wall Thickness	45mm
	Lock	Three Point Anti-theft Lock, Europe Standard Lock Core,can change by itself, canmatch padlock by itself
	Protection Grade	IP55
	Specifications of Bottom Wiring Hole	8*Φ50mm
	Delivery Mode	Full Shipment Delivery
	Cabinet Storage Temperature	-40℃~+70℃
	Relative Humidity of Outer Cabinet	5%~100%
2	**Temperature Control Information**	
	Equipment Cabinet Temperature Control	PC1500
	PC1500Power	600W @L35/L35
	PC1500Cooling Capacity	1500W @L35/L35
	Heater Power Consumption (optional)	1000W
3	**Other Information**	
	Lighting (optional)	DC-48V LED Light
4	**Certification & Standard**	
	Product Certification	Pass TLC Certificate
	Industry Standard	YD/T 1537-2015









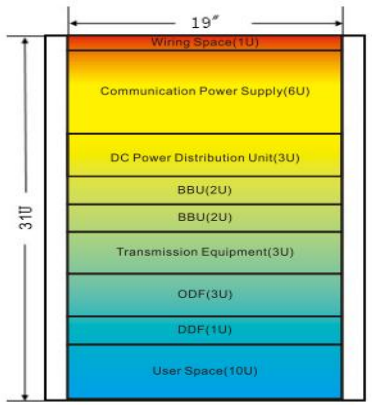
1.8M Equipment Cabinet

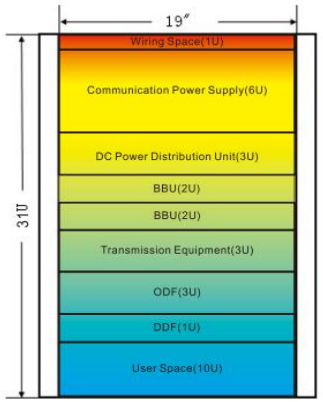
Serial Number	Project	Parameter
1	**Basic information**	
	Inner Size of Cabinet	800mm(Width)*800mm(Depth)*1800mm(Height)
	Outer Size of Cabinet	905mm(Width)*1080mm(Depth)*2105mm(Height)
	Covering Area	905mm(Width)*905mm(Depth)
	Height and Weight of Base	200mm
	Weight	108kg (Excluding the equipment and battery)
	User Space	40U
	Framework	Galvanized Steel Sheet
	Wallboard Material	Color Steel Sandwich Board: Color Steel + Polystyrene (Polyurethane is optional)
	Wall Thickness	45mm
	Lock	The Heaven and Earth Three Point Anti-theft Lock, Europe Standard Lock Core, can change by itself, can match padlock by itself
	Protection Grade	IP55
	Specifications of Bottom Wiring Hole	8*Φ50mm
	Delivery Mode	Full Shipment Delivery
	Cabinet Storage Temperature	-40℃~+70℃
	Relative Humidity of Outer Cabinet	5%~100%
2	**Temperature Control Information**	
	Equipment Cabinet Temperature Control	HX08
	HX08 Power	70W
	HX08 Heat Transfer coefficient	80W/K
	Heater Power Consumption (optional)	400W
3	**Other Information**	
	Lighting (optional)	DC-48V LED Light
4	**Certification & Standard**	
	Product Certification	Pass TLC Certificate
	Industry Standard	YD/T 1537-2015

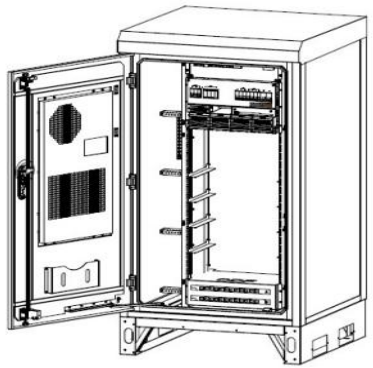
Equipment cabinet(31U)

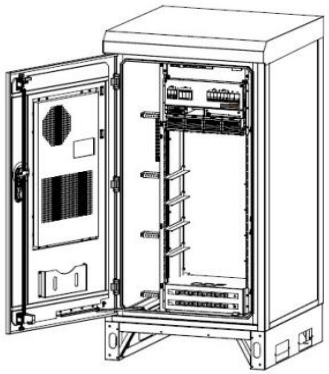
1.4M Equipment Cabinet

Serial Number	Project	Parameter
1	**Basic information**	
	Inner Size of Cabinet	800mm(Width)*800mm(Depth)*1400mm(Height)
	Outer Size of Cabinet	905mm(Width)*1080mm(Depth)*1705mm(Height)
	Covering Area	905mm(Width)*905mm(Depth)
	Height Base	200mm
	Weight	95kg (Excluding the equipment and battery)
	User Space	31U
	Framematerial	Galvanized Steel Sheet
	Wallboard Material	Pre-painted Galvanized Steel Sandwich Board: Color Steel + Polystyrene (Polyurethane is optional)
	Wall Thickness	45mm
	Lock	Three Point Anti-theft Lock, Europe Standard Lock Core, can change by itself, canmatch padlock by itself
	Protection Grade	IP55
	Specifications of Bottom Wiring Hole	8*Φ50mm
	Delivery Mode	Full Shipment Delivery
	Cabinet Storage Temperature	-40℃ ~ +70℃
	Relative Humidity of Outer Cabinet	5% ~ 100%
2	**Temperature Control Information**	
	Equipment Cabinet Temperature Control	PC1500
	PC1500Power	600W @L35/L35
	PC1500Cooling Capacity	1500W @L35/L35
	Heater Power Consumption (optional)	1000W
3	**Other Information**	
	Lighting (optional)	DC-48V LED Light
4	**Certification & Standard**	
	Product Certification	Pass TLC Certificate
	Industry Standard	YD/T 1537-2015









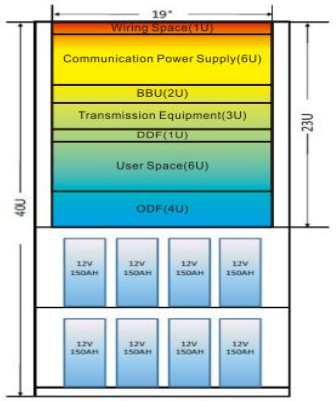
1.4M Equipment Cabinet

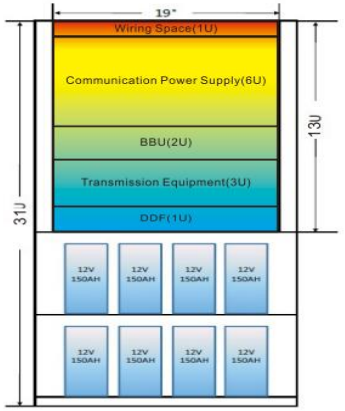
Serial Number	Project	Parameter
1	**Basic information**	
	Inner Size of Cabinet	800mm(Width)*800mm(Depth)*1400mm(Height)
	Outer Size of Cabinet	905mm(Width)*1080mm(Depth)*1705mm(Height)
	Covering Area	905mm(Width)*905mm(Depth)
	Height and Weight of Base	200mm
	Weight	85kg (Excluding the equipment and battery)
	User Space	31U
	Framework	Galvanized Steel Sheet
	Wallboard Material	Color Steel Sandwich Board: Color Steel + Polystyrene (Polyurethane is optional)
	Wall Thickness	45mm
	Lock	The Heaven and Earth Three Point Anti-theft Lock, Europe Standard Lock Core, can change by itself, can match padlock by itself
	Protection Grade	IP55
	Specifications of Bottom Wiring Hole	8*Φ50mm
	Delivery Mode	Full Shipment Delivery
	Cabinet Storage Temperature	-40℃ ~ +70℃
	Relative Humidity of Outer Cabinet	5% ~ 100%
2	**Temperature Control Information**	
	Equipment Cabinet Temperature Control	HX08
	HX08 Power	70W
	HX08 Heat Transfer coefficient	80W/K
	Heater Power Consumption (optional)	400W
3	**Other Information**	
	Lighting (optional)	DC-48V LED Light
4	**Certification & Standard**	
	Product Certification	Pass TLC Certificate
	Industry Standard	YD/T 1537-2015

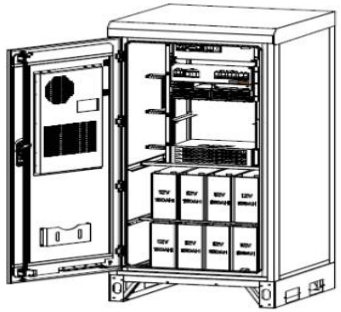
Equipment cabinet(31-40U)

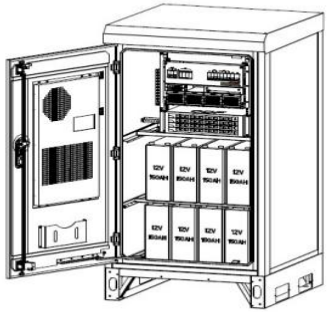
1.8M Power Cabinet

Serial Number	Project	Parameter
1	**Basic information**	
	Inner Size of Cabinet	800mm(Width)*800mm(Depth)*1800mm(Height)
	Outer Size of Cabinet	905mm(Width)*1080mm(Depth)*2105mm(Height)
	Covering Area	905mm(Width)*905mm(Depth)
	Height of Base	200mm
	Weight	125kg (Excluding the equipment and battery)
	User Space	40U
	Framematerial	Galvanized Steel Sheet
	Wallboard Material	Pre-painted Galvanized Steel Sandwich Board: Color Steel + Polystyrene (Polyurethane is optional)
	Wall Thickness	45mm
	Lock	Three Point Anti-theft Lock, Europe Standard Lock Core,can change by itself, can match padlock by itself
	Protection Grade	IP55
	Specifications of Bottom Wiring Hole	8*Φ50mm
	Delivery Mode	Full Shipment Delivery
	Cabinet Storage Temperature	-40℃ ~ +70℃
	Relative Humidity of Outer Cabinet	5% ~ 100%
2	**Temperature Control Information**	
	Equipment Cabinet Temperature Control	PC1500
	PC1500Power	600W
	PC1500Cooling Capacity	1500W @L35/L35
	Heater Power Consumption (optional)	1000W
	Battery Cabinet Temperature Control	PC300
	PC300 Power	230W @L35/L35
	PC300 Cooling Capacity	400W @L35/L35
	Heater Power Consumption (optional)	400W
3	Battery Information (optional)	
	Battery Specifications	150Ah 12V AGM Battery
	Battery Capacity	300Ah
	Battery Groups	2 Groups
4	**Other Information**	
	Lighting (optional)	DC-48V LED Light
5	**Certification & Standard**	
	Product Certification	Pass TLC Certificate
	Industry Standard	YD/T 1537-2015









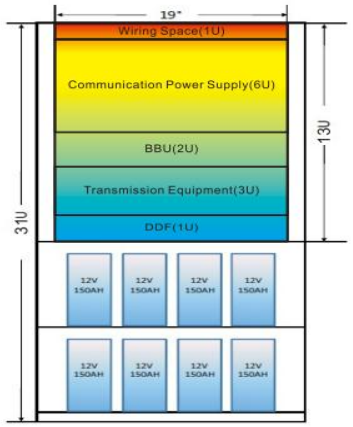
1.4M Power Cabinet

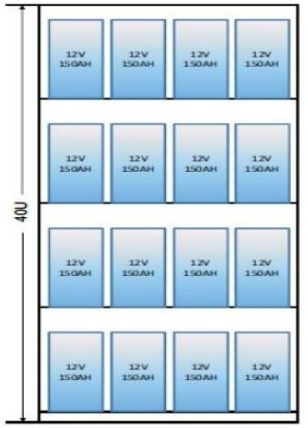
Serial Number	Project	Parameter
1	**Basic information**	
	Inner Size of Cabinet	800mm(Width)*800mm(Depth)*1400mm(Height)
	Outer Size of Cabinet	905mm(Width)*1080mm(Depth)*1705mm(Height)
	Covering Area	905mm(Width)*905mm(Depth)
	Height of Base	200mm
	Weight	95kg (Excluding the equipment and battery)
	User Space	31U
	Framematerial	Galvanized Steel Sheet
	Wallboard Material	Pre-painted Galvanized Steel Sandwich Board: Color Steel + Polystyrene (Polyurethane is optional)
	Wall Thickness	45mm
	Lock	Three Point Anti-theft Lock,Europe Standard Lock Core, can change by itself, can match padlock by itself
	Protection Grade	IP55
	Specifications of Bottom Wiring Hole	8*Φ50mm
	Delivery Mode	Full Shipment Delivery
	Cabinet Storage Temperature	- 40℃ ~ +70℃
	Relative Humidity of Outer Cabinet	5% ~ 100%
2	**Temperature Control Information**	
	Equipment Cabinet Temperature Control	PC1500
	PC1500Power	600W @L35/L35
	PC1500Cooling Capacity	1500W @L35/L35
	Heater Power Consumption (optional)	1000W
3	Battery Information (optional)	
	Battery Specifications	150Ah 12V AGM Battery
	Battery Capacity	300Ah
	Battery Groups	2 Groups
4	**Other Information**	
	Lighting (optional)	DC-48V LED Light
5	**Certification & Standard**	
	Product Certification	Pass TLC Certificate
	Industry Standard	YD/T 1537-2015

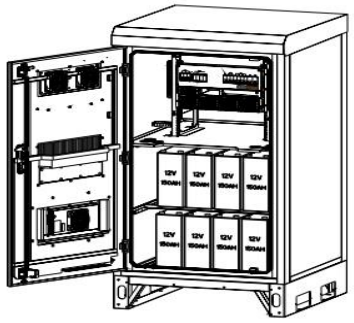
Equipment cabinet(31-40U)

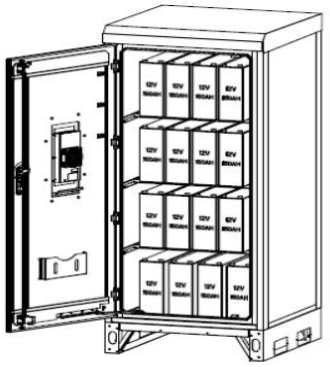
1.4M Power Cabinet

Serial Number	Project	Parameter
1	**Basic information**	
	Inner Size of Cabinet	650mm(Width)*650mm(Depth)*1400mm(Height)
	Outer Size of Cabinet	760mm(Width)*930mm(Depth)*1705mm(Height)
	Covering Area	750mm(Width)*750mm(Depth)
	Height and Weight of Base	200mm
	Weight	90kg (Excluding the equipment and battery)
	User Space	31U
	Framework	Galvanized Steel Sheet
	Wallboard Material	Color Steel Sandwich Board: Color Steel + Polystyrene (Polyurethane is optional)
	Wall Thickness	45mm
	Lock	The Heaven and Earth Three Point Anti-theft Lock, Europe Standard Lock Core, can change by itself, can match padlock by itself
	Protection Grade	IP55
	Specifications of Bottom Wiring Hole	8*Φ50mm
	Delivery Mode	Full Shipment Delivery
	Cabinet Storage Temperature	-40℃ ~ +70℃
	Relative Humidity of Outer Cabinet	5% ~ 100%
2	**Temperature Control Information**	
	Equipment Cabinet Temperature Control	HX08
	HX08Power	70W
	HX08Heat Transfer coefficient	80W/K
	Heater Power Consumption (optional)	400W
	Battery Cabinet Temperature Control	TC02
	TC02 Power	Typical:300W; Max:380W
	TC02 Cooling Capacity	200W
	Heater Power Consumption (optional)	400W
3	Battery Information (optional)	
	Battery Specifications	150Ah 12V AGM Battery
	Battery Capacity	300Ah
	Battery Groups	2 Groups
4	**Other Information**	
	Lighting (optional)	DC-48V LED Light
5	**Certification & Standard**	
	Product Certification	Pass TLC Certificate
	Industry Standard	YD/T 1537-2015









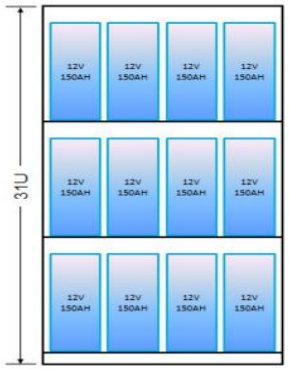
1.8M Battery Cabinet

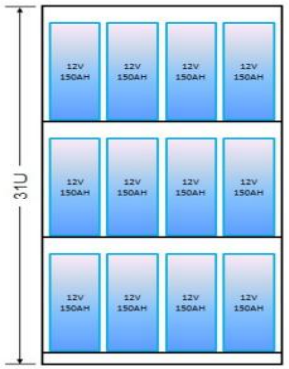
Serial Number	Project	Parameter
1	**Basic information**	
	Inner Size of Cabinet	800mm(Width)*800mm(Depth)*1800mm(Height)
	Outer Size of Cabinet	905mm(Width)*1080mm(Depth)*2105mm(Height)
	Covering Area	905mm(Width)*905mm(Depth)
	Height of Base	200mm
	Weight	108kg (Excluding the equipment and battery)
	User Space	40U
	Framematerial	Galvanized Steel Sheet
	Wallboard Material	Pre-painted Galvanized Steel Sandwich Board: Color Steel + Polystyrene (Polyurethane is optional)
	Wall Thickness	45mm
	Lock	Three Point Anti-theft Lock,Europe Standard Lock Core, can change by itself, can match padlock by itself
	Protection Grade	IP55
	Specifications of Bottom Wiring Hole	8*Φ50mm
	Delivery Mode	Full Shipment Delivery
	Cabinet Storage Temperature	- 40℃ ~ +70℃
	Relative Humidity of Outer Cabinet	5% ~ 100%
2	**Temperature Control Information**	
	Equipment Cabinet Temperature Control	TC02
	TC02Power	Typical:300W; Max:380W
	TC02Cooling Capacity	200W
	Heater Power Consumption (optional)	400W
3	Battery Information (optional)	
	Battery Specifications	650Ah 2V/150Ah 12V AGM Battery
	Battery Capacity	650Ah/650Ah
	Battery Groups	1Groups/4Groups
4	**Other Information**	
	Lighting (optional)	DC-48V LED Light
5	**Certification & Standard**	
	Product Certification	Pass TLC Certificate
	Industry Standard	YD/T 1537-2015

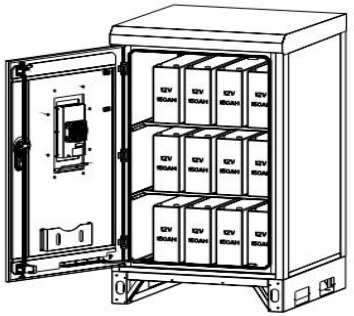
Equipment cabinet(31U)

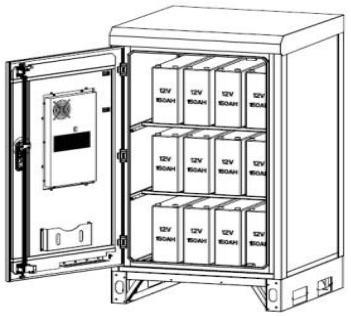
1.4M Battery Cabinet

Serial Number	Project	Parameter
1	**Basic information**	
	Inner Size of Cabinet	650mm(Width)*650mm(Depth)*1400mm(Height)
	Outer Size of Cabinet	760mm(Width)*930mm(Depth)*1705mm(Height)
	Covering Area	750mm(Width)*750mm(Depth)
	Height and Weight of Base	200mm
	Weight	70kg (Excluding the equipment and battery)
	User Space	31U
	Framework	Galvanized Steel Sheet
	Wallboard Material	Color Steel Sandwich Board: Color Steel + Polystyrene (Polyurethane is optional)
	Wall Thickness	45mm
	Lock	The Heaven and Earth Three Point Anti-theft Lock, Europe Standard Lock Core, can change by itself, can match padlock by itself
	Protection Grade	IP55
	Specifications of Bottom Wiring Hole	8*Φ50mm
	Delivery Mode	Full Shipment Delivery
	Cabinet Storage Temperature	- 40℃ ~ +70℃
	Relative Humidity of Outer Cabinet	5% ~ 100%
2	**Temperature Control Information**	
	Equipment Cabinet Temperature Control	DC300
	DC300 Power	Typical：300W；Max：300W
	DC300 Refrigerating Capacity	200W
	Heater Power Consumption (optional)	400W
3	Battery Information (optional)	
	Battery Specifications	400Ah 2V/150Ah 12V AGM Battery
	Battery Capacity	400Ah/450Ah
	Battery Groups	1Groups/3Groups
4	**Other Information**	
	Lighting (optional)	DC-48V LED Light
5	**Certification & Standard**	
	Product Certification	Pass TLC Certificate
	Industry Standard	YD/T 1537-2015









1.4M Battery Cabinet

Serial Number	Project	Parameter
1	**Basic information**	
	Inner Size of Cabinet	800mm(Width)*800mm(Depth)*1400mm(Height)
	Outer Size of Cabinet	905mm(Width)*1080mm(Depth)*1705mm(Height)
	Covering Area	905mm(Width)*905mm(Depth)
	Height and Weight of Base	200mm
	Weight	90kg (Excluding the equipment and battery)
	User Space	31U
	Framework	Galvanized Steel Sheet
	Wallboard Material	Color Steel Sandwich Board: Color Steel + Polystyrene (Polyurethane is optional)
	Wall Thickness	45mm
	Lock	The Heaven and Earth Three Point Anti-theft Lock, Europe Standard Lock Core, can change by itself, can match padlock by itself
	Protection Grade	IP55
	Specifications of Bottom Wiring Hole	8*Φ50mm
	Delivery Mode	Full Shipment Delivery
	Cabinet Storage Temperature	- 40℃ ~ +70℃
	Relative Humidity of Outer Cabinet	5% ~ 100%
2	**Temperature Control Information**	
	Equipment Cabinet Temperature Control	PC300
	PC300Power	230W @L35/L35
	PC300Cooling Capacity	400W @L35/L35
	Heater Power Consumption (optional)	400W
3	Battery Information (optional)	
	Battery Specifications	400Ah 2V/150Ah 12V AGM Battery
	Battery Capacity	400Ah/450Ah
	Battery Groups	1Groups/3Groups
4	**Other Information**	
	Lighting (optional)	DC-48V LED Light
5	**Certification & Standard**	
	Product Certification	Pass TLC Certificate
	Industry Standard	YD/T 1537-2015

Outdoor Network cabinet (HIGH-END TYPE2-TYPE4)

OUTDOOR CABINET

Model	15U	22U
PHYSICAL SPECIFICATIONS		
Exterior Height	743mm (29,3")	1047,5mm (41,2")
Exterior Width	586mm (23,1")	586mm (23,1")
Exterior Depth *	543mm (21,4")	543mm (21,4")
Net weight *	20kg (44,1lbs)	24kg (52,9lbs)
Usable Mounting Height	12U (533mm / 21,0")	19U (844mm / 33")
* info does not contain thermal management option		
THERMAL MANAGEMENT OPTIONS		
Fan and Filter Solution		
- Cooling capacity (at ΔT=10°C)	700W	
- Fan specification	48Vdc / 76W / IP44	
- Fan speed control	Temperature regulated	
- Filter specification	Progressive dump filter; 0,1m². Filter class F5 (EN 779)	
- Physical information	Adds 53mm (2,1") to cabinet depth, adds 8,4kg (18.5lbs) to cabinet weight.	
Air Conditioning unit (AC powered)		
- Cooling capacity (at 35C/35C)	570W at 50Hz / 645W at 60Hz	
- Heating capacity	500W built-in	
- Power input	230V_{AC} +/- 10%, 50/60Hz	
- Physical information	Adds 263mm (10,4") to cabinet depth, adds 28,4kg (62,6lbs) to cabinet weight.	
Air Conditioning unit (DC powered)		
- Cooling capacity (at 35C/35C)	520W	
- Heating capacity	500W built-in	
- Power input	48V_{DC} nominal (46V_{DC} – 56V_{DC})	
- Physical information	Adds 212mm (8,3") to cabinet depth, adds 23kg (50,7lbs) to cabinet weight.	
All Models		
CONSTRUCTION SPECIFICATIONS		
Skin material	1,5mm (0,06") thick aluminum (lightweight, corrosion-resistant)	
Frame Material	Galvanized Steel	
Powder-Coat Paint	Outdoor Polyester light gray RAL 7035 coating	
Insulation	Closed Cell Insulation (optional)	
Rail mounting Pattern	EIA Standard with holes for Cage nuts	
Orientation	19" mount	
DOOR SPECIFICATIONS		
Latches	Two point latch, with optional euro lock cylinder	
Gasket	UL rated for outdoor use	
Door Stop / Door Stay	Wind latch to hold door during maintenance (120°)	
MISCELLANEOUS SPECIFICATIONS AND OPTIONS		
Cable Glands	Bottom Cable Access through 1x FL21 cut out	Different options available
Battery trays	19" tray(s) Space (W x D): 448,5mm x 398mm (17,6" x 15,6") Max. 150kg (330 lbs) weight load	Each Tray weighs 2,1kg (4,6lbs)
Ground Bar	4xM6 inserts on 19" rails, left/right	
Heater	Optional 500W	Kit weighs 1,3kg (2,9lbs)
Plinth	Optional 152mm (6") high plinth. Foot Print (W x D): 579mm x 517mm (22,8" x 20,4")	Weighs 7,6kg (16,7lbs)
Mounting Brackets	Stainless Steel wall or pole Pole diameter Ø 60-115mm Max 200Kg (441lbs) weight load	Weighs 11kg (24,2lbs)
Lifting Ears	4 detachable sheet metal ears connected with 4x M8 bolts	
Packaging Information	Shipments made in an upright position on a wooden pallet	Weighs 7kg (15,4lbs)
DESIGN STANDARDS		
Electrical	IEC 60950, UL 60950*, CAN CSA-C22.2 No. 60950-1-03 (Depending on Equipment Installed)	
EMC	ETSI EN 300 386 V.1.3.1, EN 61000-6-3, EN 61000-6-2	
Environment	ETS 300 019, Ingress Protection: EN 60529 IP55	

Outdoor power cabinet

The Type 2 cabinet platform is designed for a variety of applications and can be tailored to fit your specific needs. The cabinet is well suited for power, batteries and telecom/industrial equipment, all integrated into a robust package.

KEY FEATURES

- 19" EQUIPMENT SPACE
- OPTIONAL THERMAL INSULATION
- DC POWER, TELECOM/INDUSTRIAL EQUIPMENT AND BATTERY BACKUP
- ALUMINUM CONSTRUCTION
- DOOR MOUNTED THERMAL MANAGEMENT OPTIONS:
  - FAN / FILTER
  - AIR-CONDITIONER
- FLOOR, WALL OR POLE MOUNT
- 3U SECTION FOR A DIN RAIL AC DISTRIBUTION
- UL 50
- IP55, NEMA 3R
- CLOGGED FILTER DETECTION
- EASY INSTALLATION
- EASY FILTER CHANGE
- EASY MAINTENANCE

Outdoor Network cabinet (HIGH-END TYPE2-TYPE4)

SINGLE BAY CABINET

Single bay cabinet works very well as s stand-alone power / battery backup solution. Can be as well used as expansion cabinet for telecom / industrial equipment or battery backup expansion cabinet.

Single bay cabinet is economical solution in applications where single climate zone in cabinet is required.

THERMAL MANAGEMENT SPECIFICATION

Various options	- Fan and filter - Air-conditioner - Heat exchanger - Hybrid
Heater(s)	Depend on selected thermal management
Cooling capacity	Depend on selected thermal management

CONSTRUCTION

Rack space	From 21U to 44U (depend on selected model)
Insulation	Optional

SINGLE BAY CABINET

Outdoor Network cabinet (HIGH-END TYPE2-TYPE4)

DUAL CHAMBER CABINET

Dual Chamber Cabinet splits the cabinet into to two climate zones. Top zone cools the electrical equipment with a fan and filter, while the bottom zone cools the batteries with a small air-conditioner.

With its unique feature of cooling the batteries only with an air-conditioner, you will save capital cost as well as operating cost

TOP CHAMBER SPECIFICATION

Thermal management	Fan and filter
Fan voltage	48Vdc
Fan speed control	Temp. regulated
Cooling capacity	700W
19" space	10U

BOTTOM CHAMBER SPECIFICATIONS

Thermal management	Air-conditioner
Insulation	Dual layer

DUAL CHAMBER CABINET

Outdoor Network cabinet (HIGH-END TYPE2-TYPE4)

CABINET VARIANTS

DUAL BAY CABINET

With a dual bay cabinet you are able to combine power, batteries, telecom equipment and even an Indoor BTS in one cabinet stand. This unique solution gives you the best flexibility and provides easy use of indoor BTS's used in an Outdoor Cabinet.

The right bay can also be equipped with high capacity batteries for hybrid sites for cyclic gen sets or solar/wind powered sites.

THERMAL MANAGEMENT SPECIFICATIONS

Thermal management	Fan and filter
Fan Voltage	48Vdc
Fan speed control	Temp. regulated
Heater	Optional
Thermally separated left and right bay	

OPTIONS

Anti-vandal security feature	
Top cable entry for RF cables	
Battery shelf space in Right Bay: (W x D x H)	700mm x 516mm x 180mm (27,5" x 20,3" x 7")

DIMENSIONAL SPECIFICATIONS

Cabinet height	2200mm (86,6")
Cabinet depth	901mm (35,5")
Cabinet width	1462mm (57,6")

DUAL BAY CABINET

Outdoor Network cabinet (HIGH-END TYPE2-TYPE4)

OUTDOOR CABINET

Model	1,2m	1,5m	1,8m	2,0m	2,2m
PHYSICAL SPECIFICATIONS					
Exterior Width (mm)	700 (27,5")	700 (27,5")	700 (27,5")	700 (27,5")	700 (27,5")
Exterior Depth (mm)*	770 (30,3")	770 (30,3")	770 (30,3")	770 (30,3")	770 (30,3")
Weight*	68,6Kg (151 lbs)	94kg (207 lbs)	100kg (220 lbs)	102,5kg (226 lbs)	105Kg (231 lbs)
Rack space	21U	28U	34U	39U	44U
*Info does not contain cooling options					
THERMAL MANAGEMENT OPTIONS					
Fan and Filter	See page 4 for details				
Heat Exchanger	See page 4 for details				
Air Conditioning unit	AC-ACU, 0.57kW	AC-ACU , 2kW	DC-ACU, 0.52kW	DC-AC, 2kW	
- Power input	230V_{AC} ±10%, 50/60Hz	230V_{AC} ±10%, 50/60Hz	48V_{DC} nominal	48V_{DC} nominal	
- Cooling capacity (at 35C/35C)	570W at 50Hz	2000W	520W	2000W	
- Heating capacity (built-in)	500W	1000W	500W	600W	
- Adds to cabinet depth	253mm (10")	163mm (6.4")	223mm (8.8")	213mm (8.4")	
- Adds to cabinet weight	34.1kg (75lbs)	57.1kg (126lbs)	40.1kg (88lbs)	60.1kg (132lb)	
	All units are IP55 rated for outdoor use				
Hybrid Cooling Unit (see contact for more information)	Active cooling/Free cooling solution (AC/FC) Active cooling/Heat Exchanger (AC/HEX)				
Dual chamber solution	See page 2 for details				
CONSTRUCTION SPECIFICATIONS					
Skin Material	1.5mm (0.06") thick electro-galvanized steel (corrosion-resistant)				
Frame Material	Galvanized Steel				
Powder-Coat Paint	Outdoor Polyester Light gray RAL 7035 coating				
Insulation	Closed Cell Insulation				
DOOR SPECIFICATIONS					
Latches	Four-point latched, available with an optional lock				
Gasket	UL rated for outdoor use				
Door Stop / Door Stay	Wind latch to hold door during maintenance (120°)				
RAIL SPECIFICATIONS					
Construction	Galvanized Steel				
Mounting Pattern	EIA Standard with holes for cage nuts			Optional M5 or M6 kits available	
Mounting	19" mount - Available kits from 5U			23" versions available upon request	
MISCELLANEOUS SPECIFICATIONS AND OPTIONS					
Cable Entry	Bottom Cable Access through a 2x FL21 cut outs			Various glands available upon request	
Battery trays	Optional 23" tray(s) capable of holding a string of batteries up to 260kg (572 lbs)			Each tray weighs 5.6kg (12.3lbs)	
Ground Bar	11 position M6 pressnut				
Heater	Optional 500W, can install up to 2 heaters			Each kit weighs 1.3Kg (2.86lbs)	
Plinth	Foot Print (W x D) 698mm x 743mm (27,5" x 29")				
Lifting Ears	4 lifting ears located under top cover				
Zone 4 (see contact for more information)	Special Cabinets available to handle Zone 4 Seismic activity				
Shipping Pallet	Shipments made in an upright position on a wood pallet			Weight of packing 14kg (30lbs)	
DESIGN STANDARDS					
Electrical	IEC 60950, UL 60950*, CAN CSA-C22.2 No. 60950-1-03 (Depending on Equipment Installed)				
EMC	ETSI EN 300 386 V.1.3.1, EN 61000-6-3, EN 61000-6-2				
Environment	ETS 300 019, Ingress Protection: EN 60529 IP55				

Outdoor power cabinet

The Type 3 cabinet platform is designed for a variety of applications and can be tailored to fit your specific needs. The cabinet is well suited for power, batteries and telecom/industrial equipment, all integrated into a robust package. This solution has a unique cube design that give flexibility to easily have various heights of cabinets.

CARACTERISTICAS PRINCIPALES

- ESPACIO PARA EQUIPO DE 19"
- OPCIONAL: AISLAMIENTO TERMICO
- PLANTA DE RECTIFICADORES DE DC Y TIEMPO DE RESPALDO PARA EQUIPO DE TELEFONIA
- CONSTRUIDO CON ACERO GALVANIZADO (O DE ALUMINIO BAJO PEDIDO)
- CONTROL DE TEMPERATURA MONTADO EN LA PUERTA:
  - VENTILADORES
  - AIRE ACONDICIONADO
  - INTERCAMBIADOR DE CALOR
  - HIBRIDO
  - CALEFACCION
- VARIANTE DE GABINETES:
  - GABINETE SENCILLO
  - GABINETE DUAL
  - GABINETE CON DOS CAMARAS
- KIT ANTIVANDALISMO
- UL 50,IP55, NEMA 3R
- FACIL INSTALACION
- FACIL MANTENIMIENTO

Outdoor Network cabinet (HIGH-END TYPE2-TYPE4)

MODEL	1.5m	2.0m
PHYSICAL SPECIFICATIONS		
Exterior Width	705mm	705mm
Exterior Depth *	772mm	772mm
Exterior Height	1456mm	2068mm
Weight *	61kg	67kg
Rack space	27U	39U
* Info does not contain thermal management system options		
THERMAL MANAGEMENT SYSTEM		
Fan and Filter	See page 2 for details	
CONSTRUCTION SPECIFICATION		
Skin Material	1.0mm thick electro-galvanized steel (corrosion-resistant)	
Frame Material	2.0mm galvanized steel	
Powder Coat paint	Outdoor Polyester coating, Light grey RAL 7035	
DOOR SPECIFICATION		
Locking	Multi-point latched, available with an optional euro lock cylinder	
Gasket	Door gasket rated for outdoor use	
Door stop	Wind latch to hold door during maintenance (120°)	
OTHER SPECIFICATIONS		
Thermal insulation	Optional closed cell thermal insulation	
Cable entry	Bottom Front cable access through 2x FL-21 cut-outs Various glands available upon request	
Battery trays	Optional battery tray(s) capable of holding a set of batteries up to 280kg	
Plinth	Footprint (WxD): 692x742mm, Height: 104mm Optional plinth covers (front, rear, sides)	
Shipping	Shipments made in an upright position on pallet	
Other general options	Door switch, Document folder, Smoke detector, AC service socket, Service light (48VDC), PC shelf	
DESIGN STANDARDS		
Electrical safety	IEC 60950 -1 /-22	
EMC	ETSI EN 300 386:V2.1.1 EN 61000-6-1 /-2 /-3 /-4 FCC CFR 47 Part 15	
Environment	ETSI EN 300 019-1-1, Class 1.3 ETSI EN 300 019-1-2, Class 2.3 ETSI EN 300 019-1-4, Class 4.1 Ingress Protection EN 60529, IP55	
ORDERING INFORMATION		

PART NUMBER	DESCRIPTION	MOQ
CTxxxxxx.nnnn	Power system configured with Type 4 cabinet	1 pc

RELIABILITY

Reliability within the outdoor plan depends upon a cool, dry and secure environment for the electronics such as the DC power and Telecon equipment.

The Type 4 Outdoor Power Cabine more than accomplishes this with its Thermal Management that will keep sensitive electronics functioning in extreme environments.

KEY FEATURES

- SINGLE BAY CABINET SUITABLE FOR:
  - DC POWER
  - BATTERY BACKUP
  - TELECOM EQUIPMENT

  or combination of above
- 19" EQUIPMENT SPACE
- GALVANIZED STEEL CONSTRUCTION
- DOOR MOUNTED THERMAL MANAGEMENT SYSTEM
- WIDE RANGE OF OPTIONS
  - THERMAL INSULATION
  - DOOR SWITCH
  - DOCUMENT FOLDER
  - SMOKE DETECTOR
  - AC SERVICE SOCKET
  - SERVICE LIGHT

  and more
- GLOBAL APPROVALS
- IP55

ChapterIII: Indoor Network Cabinets

19”SPCC or SGCC 18U 22U 27U 32U 42U 47U Network Cabinet Server Rack

Product Description

Feature:
Exquisite design with precise craftsmanship;
Nine-folded profiled, welded frame with high intensity;
High-density perforated front door (single open) with over 180 turning degree;
High-density perforated rear door (dual open) enable quipment ventilation and reliable operation with ventilation rate above 50%
Removable side panel, easy to install and maintain(lock optional)
Connected by four-corner to ensure the strength and stability
Adjustable feet and castors sre available at the same time
Adjustable cable entry with dust-proof on the top cover and bottom panel
Advanced moon-shaped locks
Metal cable ring on the mounting profile for cable management;
Efficient baying kit of cabinet, Earthing kit
Supplied as welded structure, also supplied as a flat packing, which is about 2/5 of the assembled volume, easy to shipping and
assemble
Optional Accessories for common using
Standard:
Comply with ANS/EIA RS-310-D, IEC297-2, DIN41491, PART1, DIN41491 Standard
Material:
Frame: Nine-folded profiled (SPCC)
Others: SPCC quality cold rolled steel
Thickness: Mounting profile: 2.0mm; mounting angle: 1.5mm; other: 1.2mm
Loading Capacity:
Static loading: 1000kg
Degree of protection:
IP20
Surface finish:
Degreaseing, Pickling, Phosphating, Powder Coated

Overview

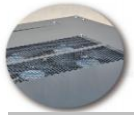
Essential details

Products Status:	Stock
Material:	SPCC Cold Rolled Steel, SPCC Cold Rolled Steel
Place of Origin:	shanghai
Model Number:	6U, 9U, 24U
Structure:	double-wall
certification:	CE,ISO,ROHS,GS
Mounting method:	Floor mounted
IP Degree:	IP20 ,IP30
Certification:	FCC, ce, CSA, RoHS

Cabinet Standard:	conventional
Size:	6-47U
Brand Name:	Huijue
Dimension:	6-47U
Board thickness:	1.5mm/2.0mm
Loading Capacity:	Static loading:1000KGS
Color:	RAl9004,RAL7035,RAL1013,etc
Product Name:	Data Center Server Rack 42U Floor Standing Glass Do...

Indoor Cabinet

Cabinet stents



DC /AC Fan

PDU power

Mesh door

wheel

Baseplate

Mesh door

Glass door cabinet

Baseplate

PDU power

Glass front door

trundle

Indoor Cabinet

Network Cabinets

19inch racks cabinet data wall box 22u 19inch 8u standard mounted enclosure server cabinet rack wall mount 6u network cabinet

Basic Information	
1)Standard	Comply with ANSI/EIARS-310-D,DIN41491;PART1,IEC297-2,DIN41494;PART7,GB/T3047.2-92 standard.Compatible with metric ETSI and 19 inch international standard
2)Material	Zinc plated mounting profiles,SPCC Cold rolled steel
3)Thickness	Mounting profile:1.0mm,others:0.6mm
4)Surface Finish	Degreasing,Picking,Phosphating,Powder coating
5)Protection Degree	IP20
6)Loading Capacity	50kgs
7)Color	RAL9004(Black),RAL7035(Grey white)

Rack Cabinet Features

1) Zinc Plated mounting profile
2) Secure,firm and reliable
3) Easy to maintain equipment
4) Two Packing Ways:
Assembly packing to save labour cost, ready to resell or use
Disassembly packing to save space and transport cost, easy to assemble
5) Various optional accessories: PDU, fan, shelf, bracket, cable tray, etc..
6) Certification: ISO 9001:2000
7) OEM/ODM service available

Cabinet Applications:

Small, Medium and Large Servers
DVR, Security Equipment and Routers
Patch Panels and Switches
Telephone Systems and PABX
Network and Communications Equipment
UPS Equipment
Other Rack Mount Equipment

Indoor Cabinet

Cabinet stents

Cabinet posts

front door

Cabinet framework

mechanical lock

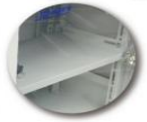
DC /AC Fan

DC /AC Fan

Cabinet anti-theft lock

Glass front door

Glass front door



Cabinet stents

Cabinet posts

Indoor Network Cabinets

Doc 900241.DS3 – rev6

MODEL	0,7m W600xD400	1,0m W600xD400	1,2m W600xD600	1,5m W600xD600	1,8m W600xD400 W600xD600	2,0m W600xD400 W600xD600	2,2m W600xD600
PHYSICAL SPECIFICATION							
Height	714mm	1025mm	1203mm	1465mm	1780mm	1960mm	2180mm
Width	596mm	596mm	596mm	596mm	596mm	596mm	596mm
Depth without the door [1]	407mm	407mm	607mm	607mm	407 / 607mm	407 / 607mm	607mm
Weight [2]	14kg	19kg	25kg	28kg	24,5 / 31,5kg	25,5 / 34kg	36,5kg
Rack space	13U (wall mount) 14U (floor mount)	21U	25U	31U	38U	43U	47U
ALL MODELS							
CONSTRUCTION							
Material	Galvanized steel 0,7mm thickness, self-bearing construction						
Finish	Steel finish (not painted) Black colour powder coated, RAL 9005						
Top knock-outs	5x PG21 5x PG28						
Rack installation width	23inch						
Adjustable feet	Adjustable feet, to easily level the cabinet.						
Cabinet grounding	Cabinet grounding is provided via two M6 grounding point.						
Toolbox	Cabinet comes with toolbox feature located at bottom under battery shelf; it includes lifting ears, wall fixing brackets and other necessities						
Weight capacity	Maximum weight capacity of cabinet is 1350kg per cabinet.						
FRONT COVER OPTIONS							
Door	Fully vented door, hinged on left or right side of the cabinet secured with two locks allowing 150 degree opening for good access during installation						
Battery cover	Easily detachable battery section cover						
Front panels	Various vented and blind front section panels						
MISCELLANEOUS OPTIONS							
19inch mounting rails	23 to 19inch mounting rails in various lengths						
Support shelf	Equipment support shelf						
Battery shelf	Battery shelf to hold a string of batteries with maximum configuration of five (5) battery shelves per cabinet Maximum weight load 270kg per battery shelf						
Seismic option	Meets Zone 4 seismic requirements with optional add-on kits						
DESIGN STANDARDS							
Safety	IEC 60950-1:2005 , EN 60950-1:2006+A11:2009						
Transportation	ETSI EN 300-019-2						
Ingress Protection	IP20 when proper panels are installed						

ORDERING INFORMATION

Part No.	Description	MOQ
Cxxxxxx.nnnn	Cabinet with power system (to be ordered through Creator or Custom project)	1

1) Door adds additional 28mm to cabinet depth.
2) Excluding door, front covers and options.

APPLICATIONS

The cabinets are designed to meet challenging requirements for indoor Telecom applications, with special focus on cable management, with or without back up batteries.

PRODUCT DESCRIPTION

The indoor IFC cabinet platform offers flexible, modular assembly, using a selection of various options. The range consists of several cabinet variants, enabling multifunctional use.

AVAILABLE MODELS:

- 0,7m Cabinet, W600 x D400
- 1,0m Cabinet, W600 x D400
- 1,2m Cabinet, W600 x D600
- 1,5m Cabinet, W600 x D600
- 1,8m Cabinet, W600 x D400 / D600
- 2,0m Cabinet, W600 x D400 / D600
- 2,2m Cabinet, W600 x D600

KEY FEATURES

- LIGHT WEIGHT (<50KG)
- VERY FLEXIBLE
- FEW BASE ELEMENTS
  - Side wall (identical left and right)
  - Top cover
  - Rear wall
  - Bottom including “toolbox”
  - Battery shelves
  - Adjustable legs
- STEEL OR PAINT FINISH
- FLEXIBLE SHIPMENT
  - Shipped assembled
  - Optionally flat-packed to the site
- QUICK ASSEMBLY
  - Assembly time under 20 minutes
- SEISMIC RESISTANCE
  - Meets Zone 4 seismic requirements with optional add-on kits

Indoor Network Cabinets

Flatpack2 IBB system

The Industrial IBB system is designed for 24-220 Vdc output, from 2-16kW output power

OVERVIEW	
Input	
Max input AC Voltage	275 VAC
Max input AC Voltage	230/400VAC 3 phase (Y)
DC Output	
Max Power	16000 W
Current (maximum)	300 ADC
Max voltage	297 VDC
Max power	16 kW
Other	
Operating temperature	-40 – 45 °C
Dimensions	
Dimensions WxHxD (mm)	600 x 2000 x 600 mm
Dimensions WxHxD (inch)	23.62 x 78.74 x 23.62 “
Mounting dimensions	23” / 44U / 600 Width (Inch) / Height (U) / Depth (mm)
Design Standards	
Ingress Protection (IP)	21

High Efficiency Industrial Power solutions

IBB Systems includes the Flatpack2 High Efficiency rectifier for DC power supply facilities and can be used with or without battery. All in all this gives the Industrial Building Blocks (IBB) superior flexibility and can be used in a various kind of application

Features

- Compact design
- Simple installation
- 85-300 Vac input
- House up to 8 rectifiers
- 2-16kW output
- DC distribution
- Max 300A dc output
- Graphical 3,2 tft display
- Ethernet for remote
- 6 digital inputs
- 6 relay outputs
- SNMP protocol with trap
- Hot pluggable

Chapter IV: Power Supply System

Flatpack2 Solar Autonomous power core

Eltek's Solar Autonomous power core is based on the Flatpack2 product family, fully integrated into complete and flexible solutions with one single Smartpack2 controller

OVERVIEW	
Input	
Current (maximum)	20 ADC
Voltage DC (operating range)	85 – 420 VDC
Max input DC Voltage	420 VDC
DC Output	
Current (maximum)	500 ADC
Max voltage	48 VDC
Max power	24 kW
Battery Distribution	
Breaker positions up to	8
Breaker rating up to	250 A
DC Load Distribution	
Breaker positions up to	18
Breaker rating up to	125 A
LVLD	Yes
Other	
Operating temperature	-40 – 70 °C
Dimensions	
Dimensions WxHxD (mm)	482 x 311 x 384 mm
Dimensions WxHxD (inch)	19 x 12.3 x 15.1 “
Weight	12 kg

Benefits

The power core has integrated battery distribution, DC load distribution, solar chargers with PV connection panel. The power core is flexible and can easily be upgraded to meet changing demands.

Solar Autonomous site is powered from PV panels and with a combination of cycling batteries supply all required power during the whole day.

Flatpack2 Solar Autonomous power core

Features

- Complete system
- Smartpack2 Touch controller
- Advanced control and monitoring
- through ethernet port
- HE FP2 solar with MPPT
- Max PV capacity 24kw
- PV connection panel with DC SPD (option)
- Hot pluggable modules
- 19”/4U distribution chassis
- Up to 8x battery breaker positions
- LVBD
- Up to 18x load breakers positions
- LVLD1
- LVLD2 (optional)
- Global approvals

Power Supply System

Flatpack2 Hybrid power core

Eltek's Hybrid power core is based on the Flatpack2 product family, fully integrated into complete and flexible solutions with one single Smartpack2 controller monitoring all energy sources, flow and storage.

OVERVIEW	
Input	
Current (maximum)	20 ADC
Voltage AC (operating range)	85 – 300 VAC
Voltage DC (operating range)	85 – 420 VDC
Max input AC Voltage	300 VAC
Max input DC Voltage	420 VDC
Mains configuration	230/400VAC 3 phase (Y);230VAC 3 phase (Δ);230VAC Single phase
DC Output	
Current (maximum)	500 ADC
Max voltage	48 VDC
Max power	24 kW
Battery Distribution	
Breaker positions up to	8
Breaker rating up to	250 A
LVBD	Yes
DC Load Distribution	
Breaker positions up to	18
Breaker rating up to	125 A
LVLD	Yes
Other	
Operating temperature	-40 – 70 °C
Dimensions	
Dimensions WxHxD (mm)	482 x 384 x 356 mm
Dimensions WxHxD (inch)	19 x 15.1 x 17 “
Weight	13 kg

Benefits

The Hybrid power core has integrated battery distribution, DC load distribution, rectifiers and solar chargers with PV connection panel. The power core is flexible and can easily be upgraded to meet changing demands.
A typical hybrid site is powered from PV panels in addition to Gen-set and/or mains connection.

Flatpack2 Hybrid power core

Features

- Complete system
- Smartpack2 Touch controller
- Advanced control and monitoring through ethernet port
- SHE FP2 rectifiers
- HE FP2 solar with MPPT
- Max PV capacity 24kw
- PV connection panel with DC SPD (option)
- Hot pluggable modules
- 19”/4U distribution chassis
- Up to 8x battery breaker positions
- LVBD
- Up to 18x load breakers positions
- LVLD1
- LVLD2 (optional)
- Global approvals

Power Supply System

Flatpack2 5U-7U Integrated

Flatpack2 5U-7U Integrated

The combination of high efficiency, power density and reliability makes the Flatpack2 a product family that truly stands out and provides unparalleled network availability.The versatility of the Flatpack2 rectifier in combination with advanced control and monitoring means that it can be used in a wide variety of DC telecom applications, both for fixed grid and alternative energy across the globe.

OVERVIEW	
Input	
Max input AC Voltage	305 VAC
Mains configuration	230VAC Single phase;230VAC 3 phase (Δ);230/400VAC 3 phase (Y)
DC Output	
Current (maximum)	500 ADC
Max voltage	60 VDC
Max power	24 kW
Battery Distribution	
Breaker positions up to	8
Breaker rating up to	250 A
LVBD	Yes
DC Load Distribution	
Breaker positions up to	20
Breaker rating up to	125 A
LVLD	Yes
Other	
Operating temperature	-40 – 70 °C
Mounting Type	Rack 19”
Dimensions	
Dimensions WxHxD (mm)	482 x 380 x 311 mm
Dimensions WxHxD (inch)	19 x 14.96 x 12.3 “
Weight	6 kg
Design Standards	
Ingress Protection (IP)	20

Benefits

The 4U distribution is designed to meet the demand for compact and flexible DC power solutions. It is based on building blocks and has a variety of configurations depending on power, controller, battery section and load section.

Pluggable battery breakers and DIN mounted load breakers ensures easy configurability as well as “in field” replacement. The power system has two controller options, Smartpack2 or Smartpack S which both has all the functionality required in present and future applications.

Features

- Complete system
- Smartpack2 or Smartpack S controller
- Hot pluggable modules
- 19”/4U distribution chassis with hinged front door
- Upto 8x battery breakers
- LVBD
- Upto 20x load breaker positions
- LVLD (optional)
- Global approvals

Power Supply System

Rectiverter Power Core Flexible AC input 6kVA AC + 16-24kW DC

The Rectiverter building block combines both AC and DC feed into one common unit. Simultaneously it provides AC backup power for 230 Vac loads, and 48 Vdc power for DC loads and battery charging.

OVERVIEW	
Input	
Current (maximum)	128 ADC
Max input AC Voltage	475 VAC
Max input DC Voltage	58 VDC
Mains configuration	230/400VAC 3 phase (Y)
AC Output	
Max Output AC Voltage	240 VAC
Max power (kVA/kW)	6 / 4.8
DC Output	
Max Power	24000 W
Current (maximum)	500 ADC
Max voltage	58 VDC
Max power	24 kW
Battery Distribution	
Breaker positions up to	2
Breaker rating up to	250 A
LVBD	Yes
DC Load Distribution	
Breaker positions up to	14
Breaker rating up to	63 A
LVLD	Yes
AC Load Distribution	
Number of breakers	10
Breaker rating, up to	10:00 AM
Other	
Operating temperature	-40 – 55 °C
Dimensions	
Dimensions WxHxD (mm)	482 x 311 x 432 mm
Dimensions WxHxD (inch)	18.98 x 12.24 x 17.01 “
Mounting dimensions	19” / 7U / 432 Width (Inch) / Height (U) / Depth (mm)
Design Standards	
Ingress Protection (IP)	20

Benefits

The total DC output can be configured up to 24kW DC load where the limitation for AC load is set to max 6kVA.

The flexible AC input can be configured as 1 phase or 3 phase, booth for IT and TN network, where the AC output is limited to 1phase TN network. With this configuration a galvanic isolation between AC input/output is secured.

Features

- 230 Vac single phase input
- 400 Vac three phase input
- 48 Vdc input/output
- Single phase output
- Max 6kVA AC output
- Max 24kW DC output
- 1 pole AC distribution option
- 2 pole AC distribution option
- -48 Vdc distribution option
- Built in transfer technology
- 150% overload capability, 15s
- 600% quick trip current, 20ms
- Hot pluggable
- Smartpack2 controller
- Smartpack S controller

Power Supply System

Rectiverter Power Core 6kVA AC 16,8kW DC

The Rectiverter building block combines both AC and DC feed into one common unit. Simultaneously it provides AC backup power for 230 Vac loads, and 48 Vdc power for DC loads and battery charging.

OVERVIEW	
Input	
Current (maximum)	128 ADC
Max input AC Voltage	475 VAC
Max input DC Voltage	58 VDC
Mains configuration	230/400VAC 3 phase (Y)
AC Output	
Max Output AC Voltage	240 VAC
Max power (kVA/kW)	6 / 4.8
DC Output	
Max Power	16800 W
Current (maximum)	350 ADC
Max voltage	58 VDC
Max power	16.8 kW
Battery Distribution	
Breaker positions up to	2
Breaker rating up to	200 A
LVBD	Yes
DC Load Distribution	
Breaker positions up to	14
Breaker rating up to	63 A
LVLD	Yes
AC Load Distribution	
Number of breakers	10
Breaker rating, up to	10:00 AM
Other	
Operating temperature	-40 – 55 °C
Dimensions	
Dimensions WxHxD (mm)	482 x 267 x 432 mm
Dimensions WxHxD (inch)	18.98 x 10.51 x 17.01 “
Mounting dimensions	19” / 6U / 432 Width (Inch) / Height (U) / Depth (mm)
Design Standards	
Ingress Protection (IP)	20

Benefits

The total DC output can be configured up to 16,8kW DC load where the limitation for AC load is set to max 6 kVA. The 3phase TN network input balance the load between DC output and 1phase AC output to reduce the input circuit breaker for the system.

Features

- 400 Vac three phase input
- 48 Vdc input/output
- Single phase output
- Max 6kVA AC output
- Max 16,8kW dc output
- 1 pole AC distribution option
- 2 pole AC distribution option
- -48 Vdc distribution option
- Built in transfer technology150%
- overload capability, 15s
- 600% quick trip current, 20ms
- Hot pluggable
- Smartpack2 controller
- Smartpack S controller

Power Supply System

Flatpack2 Integrated power system

The combination of cost-effective design, power density and reliability makes the Flatpack2 a product family that truly stands out and provides unparalleled network availability.

OVERVIEW	
Input	
Max input AC Voltage	300 VAC
Mains configuration	230VAC Single phase;230VAC 3 phase (Δ);230/400VAC 3 phase (Y)
DC Output	
Current (maximum)	600 ADC
Max voltage	48 VDC
Max power	32 kW
Battery Distribution	
Breaker positions up to	6
Breaker rating up to	250 A
LVBD	Yes
DC Load Distribution	
Breaker positions up to	18
Breaker rating up to	125 A
LVLD	Yes
Other	
Operating temperature	-40 – 60 °C
Storing temperature	-40 – 85 °C
Dimensions	
Dimensions WxHxD (mm)	482 x 267 x 380 mm
Dimensions WxHxD (inch)	18,98 x 10,5 x 14,96 “
Weight	5 kg

Benefits

The versatility of the Flatpack2 rectifier means that it can be used in a wide variety of 48 Vdc and 24 Vdc applications across the globe

Features

- Highest efficiency in minimum space
- Digital controllers
- Heat management
- Unique connection
- Global approvals

Power Supply System

Rectiverter Integrated/Standalone 3kVA 1phase, 48 VDC

The Rectiverter integration/standalone system can be used in applications where a 230/115 Vac backup is needed in parallel with the 48 Vdc backup.

OVERVIEW	
Input	
Current (maximum)	64 ADC
Max input AC Voltage	240 VAC
Max input DC Voltage	58 VDC
Mains configuration	230VAC Single phase
AC Output	
Max Output AC Voltage	240 VAC
Max power (kVA/kW)	3 / 2.4
DC Output	
Voltage (adjustable range)	43 – 58 VDC
Current (maximum)	50 ADC
Max voltage	58 VDC
Max power	2.4 kW
DC Load Distribution	
LVLD	No
AC Load Distribution	
Number of breakers	3
Breaker rating, up to	10:00 AM
Other	
Operating temperature	-40 – 55 °C
Dimensions	
Dimensions WxHxD (mm)	482 x 44 x 395 mm
Dimensions WxHxD (inch)	18.98 x 1.73 x 15.55 “
Mounting dimensions	19” / 1U / 395 Width (Inch) / Height (U) / Depth (mm)
Weight	6 kg
Design Standards	
Ingress Protection (IP)	20

Benefits

It can also be used as a standalone system connected to any available 48 Vdc. The system can be integrated into an Eltek DC system and connected to the same controller as the 48 Vdc system.

The total output power for both AC and DC output is limited to max 4kW AC and DC output limits can be set according to the attached load, where the limitation for AC load is set to max 3kVA.

Features

- 230 Vac single phase input
- 48Vdc input/output
- Single phase output
- Max 3kVA AC output
- Max 2,4kW DC output
- 2 pole AC distribution
- 3*IEC sockets on front
- Built in transfer technology
- 150% overload capability, 15s
- 600% quick trip current, 20ms
- Operates in parallell with Flatpack2

Power Supply System

Rectiverter Integrated 2U, 48VDC 6kVA 1ph

The Rectiverter 2U 19” Integrated System can be used as a standalone system with bulk AC & DC outputs in telecom applications where a 230/115 VAC and 48 VDC backup is needed.

OVERVIEW	
Input	
Current (maximum)	128 ADC
Max input AC Voltage	275 VAC
Max input DC Voltage	58 VDC
Mains configuration	230VAC Single phase
AC Output	
Max Output AC Voltage	240 VAC
Max power (kVA/kW)	6 / 4.8
DC Output	
Max Power	4800 W
Voltage (adjustable range)	43 – 58 VDC
Current (maximum)	100 ADC
Max voltage	58 VDC
Max power	4.8 kW
Other	
Cooling	Single fan
Operating temperature	-40 – 55 °C
Dimensions	
Dimensions WxHxD (mm)	482 x 89 x 400 mm
Dimensions WxHxD (inch)	19 x 3.5 x 15.7 “
Mounting dimensions	19” / 2U / 400 Width (Inch) / Height (U) / Depth (mm)
Weight	9.4 kg

Benefits

The total output power for both AC and DC is limited to a total 8 kW. AC and DC output limits can be set according to the connected load, where the limitation for AC load is set to max 6 kVA and for DC load to max 4,8 kW.As additional options, the measuring and signaling can be widely extended with the I/O Monitor CAN node.

Features

- Compact design and simple installation
- Single phase 230 or 115 VAC input/output
- 48 VDC input/output
- House up to 4 rectiverter modules
- 8kW total AC + DC output
- Max 6 kVA AC output
- Max 4,8 kW DC output
- Bulk feed outputs AC + DC
- Built in transfer technology
- 150% overload capability, 15s
- 600% quick trip current, 20ms
- Hot pluggable
- Smartpack2 touch controller
- Programmable multipurpose inputs and outputs

Power Supply System

Flatpack S 24V 2U 3R 2-pole

This small power dense system is purely based on pluggable breakers and rectifiers and can easily be configured to fit your required application, even in field. The combination of Flatpack S HE rectifiers and Smartpack S controller ensures safe, reliable and environmental friendly operation. With its shallow depth and flexibility the Flatpack S 2U 2-pole system fits most cabinets and is thereby excellent as replacement unit.

Input	
Max input AC Voltage	305 VAC
Max input DC Voltage	300 VDC
Mains configuration	230VAC Single phase;230VAC 3 phase (Δ);230/400VAC 3 phase (Y)
DC Output	
Current (maximum)	125 ADC
Max voltage	24 VDC
Max power	3 kW
Battery Distribution	
Breaker positions up to	1
Breaker rating up to	100 A
LVBD	Yes
DC Load Distribution	
Breaker positions up to	10
Breaker rating up to	20 A
Other	
Operating temperature	-40 – 65 °C
Dimensions	
Dimensions WxHxD (mm)	482.5 x 89 x 250 mm
Dimensions WxHxD (inch)	19 x 3.5 x 9.84 “
Weight	7 kg
Design Standards	
Ingress Protection (IP)	20

Features

- Complete system
- Smartpack S controller hot pluggable
- High efficiency rectifiers hot pluggable
- 2-pole battery distribution
- Pluggable breakers
- Optional LVBD
- 2-pole load distribution
- 10 x 20A MCB positions
- Pluggable breakers
- Adv. control and monitoring
- Embedded ethernet port
- 260mm system depth
- Perfect as replacment unit
- 2U height
- Including distribution
- 19” wide
- Fit standard racks and cabinets
- Global approvals

2-Pole HE Power System

Power Supply System

Solar Extension Kit - 3U shelf solution

The Solar Extension Kit is a compact solution to house up to 4x Solar chargers and for use innew or existing Eltek power systems.

MODEL	2U SOLAR EXT. KIT	3U SOLAR EXT. KIT
Part number	CTZ00000.1358	CTZ00000.1255
POWER MODULES		
Flatpack2 Solar Charger [1]	Flatpack2 48/3200 HE Solar	
Peak efficiency	97 %	
Max no. of modules	Up to 2pcs	Up to 4pcs
INPUT DATA (SOLAR CHARGER)		
Voltage (operating range)	85-420 V_{DC}	
Voltage (MPPT range) [2]	100-380 V_{DC}	
Voltage (start-up)	150 V_{DC}	
Maximum current	20.3 A_{DC}	
Protection	Fuse, varistor for transient protection, reversed polarity, shutdown when V_{IN} is too low, earth fault check during start-up	
PV CONNECTION PANEL		
Service switches for PV arrays	2 pcs 2-pole	4 pcs 2-pole
MC4 connectors	4 pcs (2 pcs per one PV array)	8 pcs (2 pcs per one PV array)
DC SPD (option)	Up to 2 pcs (Type 1+2)	Up to 4 pcs (Type 2)
OUTPUT DATA		
Voltage (default)	53.5 V_{DC}	
Voltage (adjustable range)	42 [3] - 57.6 VDC	
Max power, $V_{IN} \geq 170$ V_{DC}	6400 W	12800 W
Max current, @V_{OUT} = 48 V_{DC}	133 A	266 A
Protection	Overvoltage shutdown, short circuit proof, high temperature, hot plug-in inrush current limiting	
OTHER SPECIFICATIONS		
Alarms (Red LED)	High and low temperature shutdown, Converter Failure, Overvoltage shutdown on output, Fan failure, Low voltage alarm, CAN bus failure	
Warnings (Yellow LED)	Low input voltage, Converter in power derate mode, Remote current limit activated, Input voltage out of range, flashing at overvoltage	
Normal (Green LED)	Input and output ok	
Operating temperature	-40 to +75 °C [-40 to +167 °F] [3]	
Storage temperature	-40 to +85 °C [-40 to +185 °F]	
Dimensions (W x D x H) [5]	482 x 384 x 89 (2U) mm [19 x 15.1 x 3.5 inch]	482 x 384 x 133 (3U) mm [19 x 15.1 x 5.3 inch]
Weight (excluding modules)	Approximately 7 kg [15 lbs]	Approximately 10 kg [22 lbs]
DESIGN STANDARDS		
Electrical safety	EN 60950-1:2006/A2:2013, EN 62368-1:2020/A11:2020, EN 62109-1:2010/-2:2011	
EMC	ETSI EN 300 386 v1.3.2 EN 61000-6-1:2019, EN 61000-6-2:2019, EN 61000-6-3:2007/A1:2011/AC:2012, EN 61000-6-4:2019	
Environment	ETSI EN 300 019-2-1 v2.3.1:2017 (Class 1.2) ETSI EN 300 019-2-2 v2.4.1:2017 (Class 2.3) ETSI EN 300 019-2-3 v2.4.1:2015 (Class 3.2) ETSI EN 300 132-2 v2.6.1:2019 Normal operating conditions as per IEC 62040-5-3:2016 clause 4.2. Other operating conditions as per IEC 62040-5-3:2016 clause 4.3, must be advised	

Solar extension kit - 2U/3U shelf solution

The Solar extension kit is a compact solution to house up to 4x Solar chargers and to be use for new/existing Eltek power systems.

Specially designed with the MC4 connectors for cables from PV panels, service switches and optionally SPDs. The front and rear MC4 connection mechanism enables easy on-site installation into both outdoor and indoor enclosures.

Typical applications are Solar Autonomous and Hybrid power systems.

Power Supply System

NetSure 502 Full DC Power System

Vertiv The NetSure 502 Series, a compact -48 volt 600 A DC power solution, features an advanced control unit, up to (17) positions for 2000 W high-efficiency eSure rectifiers, and a single or dual row distribution cabinet. [Spec #582136800]

OVERVIEW	
PRODUCT OVERVIEW	
Power Capacity	18 – 28.8 kW
Current Capacity	40 – 600 A
System Type	System
INPUT	
Input Voltage, Nominal	Single phase: 120 VAC, 208 VAC to 240 VAC
Input Voltage, Operational	Rectifier: (Single Phase) 85 VAC to 300 VAC
Input Connections	Molex for AC cords or hardwiring
Equipment Dimensions (H x W x D)	Distribution cabinet: 4U x 19" x 13.19" or 8U x 23" x 13.19", Module shelf: 2U x (19" or 23") x 13.19"
Access	Top or rear cabled with front and top access
OUTPUT	
Output Voltage, Nominal	-48V DC
Output Voltage, Operational	Rectifier: -42 VDC to -58 VDC
Output Capacity	Up to 600 amps at -48 VDC plus redundancy
Peak Efficiency	Rectifier: 96.5%
Load Circuit Breakers / Fuses	1-250 A E/M or E bullet nose breakers, 3-100 A TPS/TLS fuses, 18/100 A to 15 A GMT fuses
PHYSICAL CHARACTERISTICS	
Battery Circuit Breakers / Fuses	1A to 250 A E/M or E breakers, 50A to 2,00A GJ Breakers, 3A to 100A TPS/TLS fuses
Options	Optional Battery Trays, SM-Temp, BAU, Relay racks
ENVIRONMETAL & STANDARD COMPLIANCE	
Control and Monitoring	NCU with remote access via web browsers, TCP/IP & SNMP as standard
Operating Temperature	-40 °C to +65 °C (40 °F to +149 °F)
Safety Compliance	UL Listed (cUL)
EMC Compliance	Conforms to FCC rules Part 15, Subpart B, Class B; EN55022 Class B, radiated and conducted; GR-1089 Issue 4

Benefits

- Minimize total cost of ownership with high efficiency eSure rectifiers
- Reduce the need for specialized cooling with rectifier high temperature operation
- Deploy the power system where 120VAC is the only input option
- Keep your network power source secure with encrypted controller communication
- Extend the life of your batteries with the available battery management tools
- Achieve energy savings with ECO mode, even at low loads
- Have peace of mind with this UL and NEBS power system
- Minimize installation time and drive planned network conformity with customer configuration files

Features

- High efficiency – 96.5% efficient eSure rectifiers
- NetSure™ rectifiers are designed to operate from -40 °C to +80 °C, providing a minimum 1750 W output at 65 °C
- Selectable AC Input – 120 VAC, 208 to 240 VAC
- Supports Ethernet, SNMP V2 & SNMP V3, ModBus and RS485 communication interfaces
- Battery Management Capability
- ECO Energy Savings Mode
- NEBS Level 3 compliance and UL Listed
- Custom configuration file capability

Power Supply System

NetSure 5100 582137100

The NetSure 5100 Series, a compact -48/+24 volt 600 A DC power solution, features an advanced control unit, up to (29) positions for 2000 W high-efficiency eSure rectifiers or 1500 W -48 V to +24 V converters or 2000 W solar converters.

PRODUCT OVERVIEW	
Power Capacity	18 – 28.8 kW
Current Capacity	40 – 600 A
System Type	System
INPUT	
Input Voltage, Nominal	Single phase: 120 VAC, 208 VAC to 240 VAC
Input Voltage, Operational	Rectifier: (Single Phase) 85 VAC to 300 VAC
Input Connections	Molex for AC cords or hardwiring
Equipment Dimensions (H x W x D)	Distribution cabinet: 4U x 19″ x 13.19″ or 8U x 23″ x 13.19″, Module shelf: 2U x (19″ or 23″) x 13.19″
Access	Top or rear cabled with front and top access
OUTPUT	
Output Voltage, Nominal	-48V DC
Output Voltage, Operational	Rectifier: -42 VDC to -58 VDC
Output Capacity	Up to 600 amps at -48 VDC plus redundancy
Peak Efficiency	Rectifier: 96.5%
Load Circuit Breakers / Fuses	1-250 A E/M or E bullet nose breakers, 3-100 A TPS/TLS fuses, 18/100 A to 15 A GMT fuses
PHYSICAL CHARACTERISTICS	
Battery Circuit Breakers / Fuses	1A to 250 A E/M or E breakers, 50A to 2,00A GJ Breakers, 3A to 100A TPS/TLS fuses
Options	Optional Battery Trays, SM-Temp, BAU, Relay racks
ENVIRONMETAL & STANDARD COMPLIANCE	
Control and Monitoring	NCU with remote access via web browsers, TCP/IP & SNMP as standard
Operating Temperature	-40 °C to +65 °C (40 °F to +149 °F)
Safety Compliance	UL Listed (cUL)
EMC Compliance	Conforms to FCC rules Part 15, Subpart B, Class B; EN55022 Class B, radiated and conducted; GR-1089 Issue 4

Benefits

- Minimize total cost of ownership with high efficiency eSure rectifiers
- Reduce the need for specialized cooling with high temperature operation
- Deploy the power system where 120VAC is the only input option
- Keep your network power source secure with encrypted controller communication
- Extend the life of your batteries with the available battery management tools
- Achieve energy savings with ECO mode, even at low loads
- Have peace of mind with this UL and NEBS power system
- Minimize installation time and drive planned network conformity with custom configuration files
- Reduce your off-grid generator runtime with solar / hybrid input
- Optimize your battery capacity with priority and non priority load shedding
- Solar / hybrid capability – reduces grid dependency

Features

- High efficiency – 96.2% efficient eSure rectifiers
- Wide operating temperature range – rectifiers function at -40 °C to +80 °C (up to +65 °C without de-rating)
  Selectable AC input – 120VAC, 208 to 240 VAC
- Supports Ethernet, SNMP V2 & SNMP V3, ModBus and RS485 communication interfaces
- Battery management capability
- ECO energy savings mode
- NEBS Level 3 compliance and UL Listed
- Custom configuration file capability
- Solar / hybrid capability
- Up to two disconnect levels (LVD)

Power Supply System

NetSure 7100 Compact

19" wide Vertiv™ NetSure™ 7100 Compact systems are designed for rapid deployment in telecom access network applications requiring a reliable and high density power supply up to 500 A at -48 VDC. High operating temperature (350A system rating at +65°C) coupled with high operational efficiency has a positive impact on climate system dimensioning in outdoor enclosure applications.

PRODUCT OVERVIEW	
Power Capacity	24 kW
Current Capacity	500 A
System Type	Rack or cabinet mount
INPUT	
Input Voltage, Nominal	100 to 240 VAC
Input Voltage, Operational	120/208/240 VAC, single phase (operational)
Input Connections	Terminal block (up to 6 AWG) for individual rectifier feed
Access	Front and rear for installation, Front for operation and maintenance
OUTPUT	
Output Voltage, Nominal	-48 VDC
Output Capacity	350 A @ +65 °C; 500 A @ +40 °C
Load Circuit Breakers / Fuses	(21) (6 on Load 1 bus, 6 on Load 2 bus, 9 on Priority bus)
PHYSICAL CHARACTERISTICS	
Weight	19.1 to 24.5 kg
Height	6-8U (266 to 347 mm)
Width	483 mm
Depth	395 to 420 mm
ENVIRONMETAL & STANDARD COMPLIANCE	
Operating Temperature	-40°C to +65°C (-40°F to +149°F)
Safety Compliance	UL 62368 Recognized

Benefits

- Optimize total cost of ownership with high-efficiency eSure™ rectifiers that deliver efficiency up to 98% over a wide operating range
- Increase battery discharge time with priority or non-priority low voltage disconnect option
- Support colocation with (3) separate load branches
- Extend the life of your batteries with the available battery management tools
- Keep your network power source secure with optional encrypted controller communication
- Have peace of mind with this UL Listed and NEBS certified power system

Features

- High power density system – 19"W, 6RU high (outdoor), 8RU high (indoor)
- 120VAC, 208VAC, 240VAC individual single phase input per rectifier
- Priority based load shedding options
- DC output surge protection
- Remote communications via TCP/IP – security option available
- Mounts in an enclosure or relay rack with optional battery trays

Power Supply System

NetSure VMS Retrofit

High efficiency eSure™ rectifiers provide dramatic reductions in energy costs and advanced features for legacy Vortex Mini Series (VMS) DC power systems.

PRODUCT OVERVIEW	
Power Capacity	1000 W
Current Capacity	20.8A
INPUT	
Input Voltage, Nominal	85 VAC to 300 VAC operating range
Equipment Dimensions (H x W x D)	9.8 x 3.4 x 10.9 (inches) / 226 x 86 x 277 (mm)
OUTPUT	
Output Voltage, Nominal	-42.0 VDC to -58.0 VDC
PHYSICAL CHARACTERISTICS	
Weight	2.7 kgs
Height	226 mm
Width	86 mm
Depth	277 mm
ENVIRONMETAL & STANDARD COMPLIANCE	

Benefits

- Extend the life of legacy systems and improve efficiency to save cost
- Keep your plant up and running during installation and maintenance with hot swappable modules
- Compatible with or without original rectifiers in same system

Features

- Plugs into existing rectifier slots without any electrical or mechanical adjustments to existing shelf or system
- NetSure reliability improves mean time between failure (MTBF)
- Enhanced controller features including single point adjustment and remote access via Ethernet
- Enables connection to remote monitoring via SNMP and web

Power Supply System

NetSure 2100 Series

The NetSure 2100 Series is designed for wireless access and customer premise applications offering unmatched temperature performance and high power density.

PRODUCT OVERVIEW	
Power Capacity	3 kW
Current Capacity	48 A
System Type	Subrack
INPUT	
Input Voltage, Nominal	120, 208, 240 VAC
OUTPUT	
Output Voltage, Nominal	-48 VDC
PHYSICAL CHARACTERISTICS	
Weight	5
Height	43.6
Width	482
Depth	279
ENVIRONMETAL & STANDARD COMPLIANCE	
Operating Temperature	-40 °C to 70 °C (-40 °F to 158 °F)
Safety Compliance	UL 1801 Recognized
EMC Compliance	Conforms to FCC rules Part 15, Subpart B, Class B and EN55022 Class B, radiated and conducted

Benefits

- Easy to deploy in small spaces with a compact-sized 19″ wide shelf, less than 11″ deep
- Optimize total cost of ownership with >95% high-efficiency eSure™ rectifiers
- Save CapEx and OpEx on climate systems in outdoor applications with rectifiers that operate from -40°C to +70°C
- Reduce the need for costly site visits with intelligent remote access and monitoring over standard protocols

Features

- High density subrack delivers up to 3kW in 1U rack space
- Wide operating voltage range, 85-300VAC
- All breakers are accessible from the front side
- Integrated distribution
- Advanced intelligent battery management system
- Built-in communication & dry contact ports that enable remote monitoring

Power Supply System

NetSure 801 DC Power System

High-density power systems for core applications.

PRODUCT OVERVIEW	
Power Capacity	1 GW
Current Capacity	20,000 A
System Type	Systems
INPUT	
Input Voltage, Nominal	480 VAC, three phase
Input Voltage, Operational	304 VAC to 530 VAC
Equipment Dimensions (H x W x D)	Power bay (H x W x D): 7′ x 24.375″ x 30″, Distribution bay (H x W x D): 7′ x 30″ x 30″
Access	Front and rear
OUTPUT	
Output Voltage, Nominal	48 VDC
Output Voltage, Operational	42.0 VDC to 58.0 VDC
Output Capacity	5800 W rectifier
Peak Efficiency	93%
Load Circuit Breakers / Fuses	TPS/TLS, TPL Fuses or GJ/218-Style breakers
ENVIRONMETAL & STANDARD COMPLIANCE	
Control and Monitoring	MCA controller with remote control via Ethernet (Telnet, web page, SNMP and TL1)
Operating Temperature	-32 °F to 104 °F (-0 °C to 40 °C)
Safety Compliance	UL Listed 1801, cUL, NEBS Level 3
EMC Compliance	Comfors to FCC rules Part 15, Subpart B, Class A and EN55022 Class A

Benefits

- Save floor space with this high density, compact DC power system
- Modular design minimizes CapEx by allowing incremental system growth
- Get your site up and running quickly with easy installation and operation
- Reduce unnecessary travel to site with remote services that enable you to identify issues and take corrective actions
- Safely and easily adapt to new load requirements with live distribution and circuit breaker changes

Features

- Up to 20,000 amp plant capacity in a compact footprint
- High efficiency 3-phase rectifiers 93% peak, 92.6% at full load per bay
- Distribution bays are rated for 6000 amps in continuous operation
- Remote access using Ethernet (Telnet, web pages, SNMP and TL1)
- NEBS Level 3 compliance; UL Listed to UL 1801

Power Supply System

NetSure 8200 (582140000)

The NetSure™ 8200 Series offers compact combination bays, complementary distribution bays, and stand-alone power bays that integrate easily with existing AC infrastructure. Designed to provide reliable -48 VDC power and distribution at core facilities, the digital NetSure 8200 plant leverages high-efficiency 200 amp rectifiers powered from 480 VAC or 208 VAC. This series offers versatile solutions to meet the needs of your central office, mobile switching office, cable headend, or data center deployment.

PRODUCT OVERVIEW	
Power Capacity	1 MW
Current Capacity	20,000 A
System Type	Power Bay
INPUT	
Input Voltage, Nominal	208 or 480 VAC, 3-phase
Input Voltage, Operational	408-528 VAC to 176-264 VAC
Equipment Dimensions (H x W x D)	Combo Bay List 101 and List 111 93.5″x24″x30″,830 lbs., Combo Bay List 102 and List 112 84″x24″x 30″, 830 lbs., AC Distribution Bay (PDSC): 84″ x 1
Access	Front and rear
OUTPUT	
Output Voltage, Nominal	48 VDC
Output Voltage, Operational	42.0 VDC to 58.0 VDC
Output Capacity	12,000 W rectifier
Peak Efficiency	96.1% (480 VAC), 95.7% (208 VAC)
Load Circuit Breakers / Fuses	TPS/TLS, TPL Fuses or GJ/218-Style breakers
ENVIRONMETAL & STANDARD COMPLIANCE	
Control and Monitoring	NCU controller
Operating Temperature	0 °C to +40 °C (+32 °F to +104 °F)
Safety Compliance	UL Listed (UL1801), CSA 22.2 (No. 225), c UL, NEBS Level 3

Benefits

- Free up floor space with a design that delivers power conversion, distribution, and control and monitoring in a single bay
- Dedicate existing cabling and breakers to a single rectifier via an integrated AC distribution panel.
- Minimize installation time with built-in monitoring for all distribution devices
- Advanced security features available including HTTPS/SSL, complex login credentials, or Radius user authentication
- Numerous connectivity options support integration into a wide variety of networks – IPv4, IPv6, SNMP V2c and V3, Modbus, TL1 and multi-browser compatibility
- Easily monitor and adjust system parameters through an intuitive user interface available remotely and locally on a 10-in touchscreen display
- NEBS Level 3 certified

Features

- Single frame design provides power conversion, distribution, control and monitoring in a small footprint
- Modular distribution design includes built-in automatic monitoring for all distribution devices
- Integrated internal DC bus, in combination bays, eliminates costly overhead busses and eases plant expansion
- Optional integrated AC
- Power Distribution Service Cabinet (PDSC) for protected bulk AC service feeds with 22 or 65 kAIC breakers
- Supports distributed and bulk plant architectures

Power Supply System

NetSure 7100 Series

The modular NetSure™ 7100 Series power system with 3500 watt or 2000 watt rectifiers and 1500 watt DC to DC converters provides up to 4000 amps of current for -48 volt systems with up to 520 amps at +24 volts. The basic components of the power system include the NetSure Control Unit (NCU), module mounting shelf assemblies which house the rectifiers and converters, and a modular distribution cabinet.

INPUT	
Input Voltage, Nominal	208 VAC to 277/480 VAC
Input Voltage, Operational	176 VAC to 305/528 VAC
Input Connections	Terminal Blocks or Line Cords
Equipment Dimensions (H x W x D)	D Cabinet:12.2" (7RU) to 33.25" (19RU) x 23" x 20.1", R Shelves:1.7" (1RU) or 5.2" (3RU) x 23" x 20.1"
Access	Front for installation, operation and maintenance, Rear for multi-bay, rectifier shelf or battery tray expansion
OUTPUT	
Output Voltage, Nominal	-48 VDC
Output Voltage, Operational	42.0 VDC to 58.0 VDC
Output Capacity	Rectifier: 3500 W or 2000 W, Converter: 1500 W, Shelf: 21 kW or 12 kW @ 48 VDC, 4.5 kW @ 24 VDC, System: 200 kW @ 48 VDC, 12.5 kW @ 24 VDC
Peak Efficiency	96.50%
Load Circuit Breakers / Fuses	Up to (104) Bullet CBs, 1 to 300 A, Up to (24) GJ/218 CBs, 100 to 800 A, Up to (16) TPH Fuses, 70 to 600 A, Up to (16) TBL-B Fuses, 70 to 250 A
PHYSICAL CHARACTERISTICS	
Battery Circuit Breakers / Fuses	Up to (24) Bullet CBs, 1 to 300 A, Up to (4) GJ/218 CBs, 100 to 800 A, Up to (4) TPH Fuses, 70 to 600 A /up to 200A CB Disconnect mounted on each batt
Options	Low Voltage Load Disconnect, Low Voltage Batttery Disconnect, Battery Shunt, Battery Trays – Pre-cabled, Bulk Output Panel, Up to (68) Temp Sensors
Weight	90.9 to 295.5 kg
Height	2134 mm
Width	584.2 to 711.2 mm
Depth	510.5 to 711.2 mm
ENVIRONMETAL & STANDARD COMPLIANCE	
Control and Monitoring	Dual Ethernet, Embedded web pages, SNMP, Modbus, Battery Management, Programmable Relay Outputs and Binary Inputs, Energy Management
Operating Temperature	-40 °C to +40 °C (-40 °F to +104 °F)
Safety Compliance	UL 1801 Listed ("c UL"), NEBS Level 3
EMC Compliance	FCC Class B

Benefits

- Optimized total cost of ownership
- Safe and simple to install and operate
- Enhanced real-time visibility into what's powering your network
- Includes DHCP Ethernet connection and local access via an additional port with a default IP address
- Meets strict agency standards for safety and reliability
  Reduce energy cost with high-efficiency eSure rectifiers
- Low initial investment with scalable configuration that allows for incremental system growth
- High reliability with N+1 configuration redundancy

Features

- Advanced controller offers battery management, AC service monitoring, site monitoring and configuration management
- Remote access supports HTTPS with multiple browsers, network element management via Modbus or SNMP (v2 or v3)
- Dual Ethernet port option
- Modular design with hot-swappable rectifiers and distribution units
- High system efficiency over 96%
- Multi-bay configurations
- Multiple AC input configurations
- NEBS Level 3 certified and UL Listed to UL subject 1801

Power Supply System

NetSure 8100DB (582140600)

The NetSure 8100DB distribution bay features high capacity, modularity, and simplified installation.

PRODUCT OVERVIEW	
Power Capacity	240 kW (8 load) or 180 kW (6 load)
Current Capacity	4800 A (8 load) or 3600 A (6 load)
System Type	Distribution Bay
INPUT	
Input Voltage, Nominal	48 VDC
Input Voltage, Operational	42.0 VDC to 58.0 VDC
Access	Top and bottom
OUTPUT	
Output Voltage, Nominal	48 VDC
Output Voltage, Operational	42.0 VDC to 58.0 VDC
Load Circuit Breakers / Fuses	TPS/TLS, TPL, GMT Fuses or Bullet Circuit Breakers
PHYSICAL CHARACTERISTICS	
Weight	73 – 193
Height	2134
Width	660 – 762
Depth	406 -609
ENVIRONMETAL & STANDARD COMPLIANCE	
Control and Monitoring	Digital metering with remote control over Modbus or SNMP
Operating Temperature	0 °C to +40 °C (+32 °F to +104 °F)
Safety Compliance	NEBS level 3 compliance, meets or exceeds all relevant GR1089, GR63, UL, cUL specifications

Benefits

- Efficiently address power demand today and tomorrow with scalable power systems that can be safely adjusted during live operation
- Reduce unnecessary travel to site with remote services that enable you to identify issues and take corrective actions
- Safely and easily adapt to new load requirements with live distribution and circuit breaker changes

Features

- Power supply and load distribution optimization
- Safe system expansion with live distribution and circuit breaker changes
- NEBS Level 3 certified

Power Supply System

NetSure 802 DC Power System

The expanded NetSure™ 802 Series introduces separate, stand-alone power and distribution bays complementing the system's compact combination bays and integrating easily with existing AC infrastructure.

PRODUCT OVERVIEW	
Power Capacity	1 GW
Current Capacity	20,000 A
System Type	Power Bay
INPUT	
Input Voltage, Nominal	208 VAC to 480 VAC; three phase
Input Voltage, Operational	408-528 VAC to 176-264 VAC
Equipment Dimensions (H x W x D)	Combo Bay List 1 and List 11 93.5" x 24" x 30", 830 lbs., Combo Bay List 2 and List 12 84" x 24" x 30", 830 lbs., AC Distribution Bay (PDSC): 84" x 1
Access	Front and rear
OUTPUT	
Output Voltage, Nominal	48 VDC
Output Voltage, Operational	42.0 VDC to 58.0 VDC
Output Capacity	12,000 W rectifier
Peak Efficiency	96.1% (480 VAC), 95.7% (208 VAC)
Load Circuit Breakers / Fuses	TPS/TLS, TPL Fuses or GJ/218-Style breakers
ENVIRONMETAL & STANDARD COMPLIANCE	
Control and Monitoring	MAC controller with optional monitor LMS1000
Operating Temperature	0 °C to +40 °C (+32 °F to +104 °F)
Safety Compliance	UL Listed (UL1801), CSA 22.2 (No. 225), c UL, NEBS Level 3

Benefits

- Free up floor space with a design that delivers power conversion, distribution, and control and monitoring in a single bay
- Significantly reduce cabling and installation costs with an optional integrated internal DC bus
- Integrated AC Power Distribution Service Cabinet (PDSC) enables you to dedicate existing cabling and breakers to a single rectifier

Features

- Up to 20,000 amp plant capacity in a compact footprint
- 2000 amp rectification plus distribution in single bay
- Rectifier efficiency over 96%
- Built-in automatic monitoring for all distribution devices
- Internal/external equipment monitoring
- Protected bulk AC service feeds with 22 or 65 kAIC breakers
- Remote access using Ethernet (Telnet, web pages, SNMP and TL1)
- Supports distributed and bulk plant architectures
- NEBS Level 3 compliance; UL Listed to UL 1801

Chapter V: Rectifier module and controller

Flatpack S 36V/1000W HE UI

Applications in these markets demand state of the art, reliable and safe DC power systems. Flatpack S delivers an industry leading power density in its segment, many safety functions, wide operating temperature range and superb reliability in its small 217mm deep housing.

OVERVIEW	
Input	
Voltage AC (operating range)	85 – 305 VAC
Voltage DC (operating range)	85 – 400 VDC
DC Output	
Max Power	1000 W
Voltage (adjustable range)	33 – 45 VDC
Current (maximum)	27.8 ADC
Max voltage	45 VDC
Other	
Cooling	Single fan
Efficiency	95%
Operating temperature	-40 – 85 °C
Dimensions	
Dimensions WxHxD (mm)	72 x 41.5 x 217 mm
Dimensions WxHxD (inch)	2.83 x 1.63 x 8.54 “
Weight	0.85 kg
Design Standards	
Ingress Protection (IP)	20

Compact and reliable rectifier for rail and power utilities applications

Used in the 3U rack with Smartpack S controller, the Flatpack S rectifiers cover 2 to 8kW applications using a minimum of space, less than 18 liters, and low heat dissipation.

Features

- Small
- Short
- Power dense, 26 W/inch3
- High efficiency
- OR-ing protection on output
- Wide AC and DC input range
- Hot pluggable
- Voltage keying
- Rail EMC certification
- Global compliance (CE, UL)

Rectifier module and controller

Flatpack S 24V/1000W SIL3 OVP

Flatpack S delivers high power density, wide temperature range and superb reliability in its small 210 mm deep housing. The Flatpack S 24V/1000W SIL3 OVP is targeted Safety and Automation Systems (SAS) in offshore and process industry requiring SIL rated overvoltage protection on DC output.

OVERVIEW	
Input	
Voltage AC (operating range)	85 – 305 VAC
Voltage DC (operating range)	85 – 305 VDC
DC Output	
Max Power	1000 W
Voltage (adjustable range)	41.7 – 21.5 VDC
Current (maximum)	28 ADC
Max voltage	21.5 VDC
Other	
Cooling	Single fan
Efficiency	92.50%
Operating temperature	-40 – 85 °C
Dimensions	
Dimensions WxHxD (mm)	72 x 41.5 x 217 mm
Dimensions WxHxD (inch)	2.83 x 1.63 x 8.54 “
Weight	0.85 kg
Design Standards	
Ingress Protection (IP)	20

Compact high efficiency rectifiers for marine, offshore and process industry applications

Used in the 3U rack with Smartpack S controller, the Flatpack S rectifiers cover 2 to 8kW applications using a minimum of space, less than 18 liters, and low heat dissipation.

Features

- Small
- Short
- Power dense, 26 W/inch3
- High Efficiency (HE)
- OR-ing protection on output
- SIL3 rated overvoltage
- Protection on output
- Hot pluggable
- Voltage keying

Rectifier module and controller

Flatpack2 48V/3000W HE

The combination of innovative design, efficiency and reliability makes the Flatpack2 HE stand out. Increasing network speed demands flexible and expandable DC power solutions. The Flatpack2 HE rectifiers are your key building blocks for future needs.

OVERVIEW	
Input	
Voltage AC (operating range)	85 – 305 VAC
DC Output	
Max Power	3000 W
Voltage (adjustable range)	43.2 – 57.6 VDC
Current (maximum)	62.5 ADC
Max voltage	57.6 VDC
Other	
Cooling	Single fan
Efficiency	96.20%
Operating temperature	-40 – 75 °C
Dimensions	
Dimensions WxHxD (mm)	109 x 41.5 x 327 mm
Dimensions WxHxD (inch)	4.29 x 1.63 x 12.78 “
Weight	1.95 kg

The most reliable high efficieny rectifier in the industry!

With an efficiency up to 96.5%, the losses have been reduced by 50% compared to the current industry standard.In a global perspective, considering the high energy consumption in the telecom industry.

This technology breakthrough is not only reducing operational cost for the operators, but it can also have a significant environmental impact.

Features

- Power dense, up to 33 W/inch3
- High efficiency
- Proven reliability
- Application flexibility 2kW-3MW
- Global compliance
- Patented HE technology

Rectifier module and controller

Flatpack2 48/2000 HE

The combination of innovative design, efficiency and reliability makes the Flatpack2 HE stand out. Increasing network speed demands flexible and expandable DC power solutions. The Flatpack2 HE rectifiers are your key building blocks for future needs

OVERVIEW	
Input	
Voltage AC (operating range)	85 – 300 VAC
Voltage DC (operating range)	85 – 275 VDC
DC Output	
Max Power	2000 W
Voltage (adjustable range)	43.5 – 57.6 VDC
Current (maximum)	41.7 ADC
Max voltage	57.6 VDC
Other	
Cooling	Single fan
Efficiency	96.50%
Operating temperature	-40 – 75 °C
Dimensions	
Dimensions WxHxD (mm)	109 x 41.5 x 327 mm
Dimensions WxHxD (inch)	4.29 x 1.63 x 12.78 “
Weight	1.95 kg
Design Standards	
Ingress Protection (IP)	20
Certifications	
Marine	DNV 2.4 Valid for part no. 241115.105M

The most reliable High Efficieny rectifier in the industry!

With an efficiency up to 96.5%, the losses have been reduced by 50% compared to the current industry standard. In a global perspective, considering the high energy consumption in the telecom industry, this technology breakthrough is not only reducing operational cost for the operators, but it can also have a significant environmental impact.

Features

- Power dense, up to 33 W/inch3
- High efficiency
- Proven reliability
- Application flexibility 2KW-3MW
- Global compliance
- Patented HE technology

Rectifier module and controller

Flatpack2 48/2000 SHE

The Flatpack2 48/2000 Super HE is contributing to setting the new industry standard for efficiency in the DC power market. With an efficiency of 97.8% the Super HE is a premium rectifier particularly suitable for markets and applications where the energy is costly. In grid connected applications the payback time is down to 2 years compared to standard HE rectifiers, and in hybrid applications even faster.

OVERVIEW	
Input	
Voltage AC (operating range)	85 – 264 VAC
DC Output	
Max Power	2000 W
Voltage (adjustable range)	43.5 – 57.6 VDC
Current (maximum)	41.7 ADC
Max voltage	57.6 VDC
Other	
Cooling	Single fan
Efficiency	97.80%
Operating temperature	-13 – 167 °F
Dimensions	
Dimensions WxHxD (mm)	109 x 41.5 x 327 mm
Dimensions WxHxD (inch)	4.29 x 1.63 x 12.78 “
Weight	4.52 lbs
Design Standards	
Ingress Protection (IP)	20

Super High Efficiency (SHE) rectifier for Telecom Applications

The Flatpack2 2000/48 Super HE is fully compatible with Flatpack2 and Flatpack2 HE systems and can replace any 2kW Flatpack2 module.

Key features

Flatpack2 48/2000 SHE

- Super high efficiency – 97.8%
- High power density – 33 W/inch3
- Compatible with existing systems
- Global compliance
- Patented technology
- Hot pluggable

Rectifier module and controller

Flatpack2 60/3000 SHE

The Flatpack2 60/3000 Super HE is contributing to setting the new industry standard for efficiency in the DC power market.

OVERVIEW	
Input	
Voltage AC (operating range)	84 – 264 VAC
DC Output	
Other	
Cooling	Single fan
Efficiency	97.80%
Dimensions	
Dimensions WxHxD (mm)	109 x 44 x 327 mm
Dimensions WxHxD (inch)	4.29 x 1.61 x 12.78 “
Weight	2.05 kg
Design Standards	
Ingress Protection (IP)	20

Super High Efficiency (SHE) rectifier for Telecom applications

The Flatpack2 60/3000 Super HE is contributing to setting the new industry standard for efficiency in the DC power market.

With an efficiency up to 97.8% the Super HE is a premium rectifier particularly suitable for markets and applications where the energy is costly. In grid connected applications the payback time is down to 2 years compared to standard HE rectifiers, and in hybrid applications even faster.
The Flatpack2 60/3000 Super HE is fully compatible with Flatpack2 and Flatpack2 HE systems.

Features

- Super High Efficiency – up to 97.8%
- High power density – 33 w/in3
- Compatible with existing systems
- Global compliance
- Patented technology
- Hot pluggable

Flatpack2 60/3000 SHE

Rectifier module and controller

Flatpack S 48V/1000W HE

The Flatpack S rectifiers incorporate telecom specifications, high efficiency, OR-ing protection on output and high power in a small, 217 mm deep box.

OVERVIEW	
Voltage AC (operating range)	85 – 300 VAC
Voltage DC (operating range)	85 – 250 VDC
DC Output	
Max Power	1000 W
Voltage (adjustable range)	43.5 – 57.6 VDC
Current (maximum)	20.9 ADC
Max voltage	57.6 VDC
Other	
Cooling	Single fan
Efficiency	95.50%
Operating temperature	-45 – 185 °F
Dimensions	
Dimensions WxHxD (mm)	72 x 41.5 x 217 mm
Dimensions WxHxD (inch)	2.83 x 1.63 x 8.54 “
Weight	1.87 lbs
Design Standards	
Ingress Protection (IP)	20
Certifications	
Marine	DNV 2.4 Valid for part no. 241122.105M

Compact HE rectifiers for small to medium telecom applications

Used in the 1U high, 2 or 3 rectifier positions power rack with Smartpack S controller and battery and load distributions, the Flatpack S rectifiers cover 2 to 5.4kW applications using a minimum of space, less than 6 liters, and low heat dissipation.

Key features

- Small
- Short
- Power density – 26 W/inch3
- High efficiency
- OR-ing protection on output
- Hot pluggable
- Voltage and power keying

Rectifier module and controller

Flatpack2 48V/3000W

The Flatpack2 48V/3000W HE is installed in vast numbers all over the globe and has an unmatched proven field performance. This, in combination with an efficiency exceeding 95% and its high power density, provides a low total cost of ownership.

OVERVIEW	
DC Output	
Max Power	3000 W
Voltage (adjustable range)	43.2 – 57.6 VDC
Max voltage	57.6 VDC
Other	
Cooling	Single fan
Efficiency	95%
Dimensions	
Dimensions WxHxD (mm)	109 x 41.5 x 327 mm
Dimensions WxHxD (inch)	4.29 x 1.63 x 12.78 “
Weight	1.85 kg

Reliability, efficiency and power density

Power systems for the Flatpack2 48V/3000W HE can be designed with output power from 3kW to 3MW and can hence power any application in your network.

Features

- Power dense, up to 33 W/inch3
- High efficiency
- Proven reliability
- Application flexibility 2kW-3MW
- Global compliance
- Patented HE technology

Rectifier module and controller

Flatpack2 220V/10A HE

Since the launch the Flatpack2 family has expanded into a wide selection of power ratings and voltages. Power systems up to the MW-range can be realized using the 10A model addressing small and larger modular data centers' power needs.

OVERVIEW	
Input	
Voltage AC (operating range)	85 – 305 VAC
DC Output	
Max Power	2800 W
Voltage (adjustable range)	10 – 198 VDC
Current (maximum)	280 ADC
Max voltage	198 VDC
Other	
Cooling	Single fan
Efficiency	95.50%
Operating temperature	-40 – 167 °F
Dimensions	
Dimensions WxHxD (mm)	109 x 41.5 x 327 mm
Dimensions WxHxD (inch)	4.29 x 1.63 x 12.78 “
Weight	4.3 lbs
Design Standards	
Ingress Protection (IP)	20

Reliable high efficiency rectifier for industrial applications

220 Vdc power systems provide an excellent alternative to traditional AC UPS providing significant efficiency and reliability improvements.

With 220 Vdc, standard components, cables and distribution can be used andmost IT equipment designed for 208/230 Vac can be connected directly to the 220 Vdc bus.

Key features

- Proven reliability
- High power density
- High efficiency
- Application flexibility – 2kW to multicabinet installations
- Accepts DC input (DC/DC converter)
- Global compliance (CE, UL)
- Marine and offshore certifications
- Patented technology
- Digital controllers

Rectifier module and controller

Flatpack2 110-125/2000 HE

Since the launch the Flatpack2 family has expanded into a wide selection of power ratings and voltages.

OVERVIEW	
Input	
Voltage AC (operating range)	85 – 300 VAC
Voltage DC (operating range)	85 – 300 VDC
DC Output	
Max Power	2000 W
Voltage (adjustable range)	89.2 – 171.6 VDC
Current (maximum)	16.7 ADC
Max voltage	171.6 VDC
Other	
Cooling	Single fan
Efficiency	94%
Operating temperature	-40 – 167 °F
Dimensions	
Dimensions WxHxD (mm)	109 x 41.5 x 327 mm
Dimensions WxHxD (inch)	4.29 x 1.63 x 12.78 “
Weight	4.3 lbs
Certifications	
Marine	DNV 2.4 Valid for part no. 241115.805M

Reliable high efficiency rectifier for industrial applications

Key features

- Proven reliability
- High power density
- Application flexibility – 2kw to multicabinet installations
- Accepts DC input (DC/DC converter)
- Global compliance (CE, UL)
- Marineand offshore certifications
- Patented technology
- Digital controllers

Rectifier module and controller

Flatpack2 24V/1800W HE

The combination of innovative design, efficiency and reliability makes the Flatpack2 HE stand out. Compared to older technologies with even poorer efficiency an investment in a Flatpack2 HE system is repaid in a few years by the reduced operating cost.

OVERVIEW	
Input	
Voltage AC (operating range)	85 – 300 VAC
Voltage DC (operating range)	85 – 300 VDC
DC Output	
Max Power	1800 W
Voltage (adjustable range)	21.7 – 28.8 VDC
Current (maximum)	75 ADC
Max voltage	28.8 VDC
Other	
Cooling	Single fan
Efficiency	95%
Operating temperature	-40 – 167 °F
Dimensions	
Dimensions WxHxD (mm)	109 x 41.5 x 327 mm
Dimensions WxHxD (inch)	4.29 x 1.63 x 12.78 “
Weight	4.3 lbs
Design Standards	
Ingress Protection (IP)	20
Certifications	
Marine	DNV 2.4 Valid for part no. 241115.205M

Reliable high efficiency rectifier for industrial applications

The Flatpack2 modular concept has a lot of benefits compared to traditional solutions in the industry. It has high efficiency; less power consumption and heat dissipation. The overall Size and footprint of cabinet is 50% of Thyristor Controlled Size. Modular Hot Plug-in Construction allows redundancy, n+1, n+2 configurations.

It’s easy to do repairing with MTTR< 5 minutes.Very high MTBF > 350000 hours, wide input AC Voltage and frequency range.Possibility to build combined systems with rectifiers, DC/DC converters and inverters controlled by one controller.

Key features

- Digital controllers
- Heat management
- OR-ing protection on output unique connection
- Global approvals

Rectifier module and controller

Smartpack2 Touch

Distributed control system

New features and look on a well-tested control platform Eltek's new Smartpack2 Touch controller offers much more than its delicately designed exterior suggests. It will be for power system managers what the smart phone is for people
in general: so powerful and yet so simple to use it becomes an essential part of daily life.
The Smartpack2 Touch is the next generation controller, and its the only controller that you need. It supports all your equipment, Eltek, Delta or 3rd party, and it has the highest security rating.

Key features

- Touch screen – High contrast, high resolution color touch display for easy user-menu navigation
- 2x can bus for internal power system communication, 2x usb hosts, 2x ethernet, rs-232 &amp
- rs-485 serial ports for 3rd party equipment monitoring
- Visual leds and buzzer for local alarms (major, minor, power on)
- Monitoring and control via responsive web interface on ethernet ports
- SNMP protocol: Comprehensive content on set, get and traps
- 6 programmable outputs for "traditional" remote monitoring.
- Expandable outputs with I/O monitor can nodes
- 6 programmable multipurpose inputs ("digital inputs" or analog signals).
- Expandable inputs with i/o monitor can nodes
- Comprehensive logging
- Backup of critical control features in basic unit
- Automatic battery monitoring and test
- Battery lifetime indication
- Battery used and remaining capacity (ah or %)
- User defined alarm grouping(boolean logic for grouped alarms)
- Uploading and downloading of configuration files
- Comprehensive generator/hybrid/dc solar system control and monitoring features
- And much more..

Smartpack2 Touch

Rectifier module and controller

Smartpack S

The Smartpack S covers all control and monitoring needs of small to medium telecom and industrial DC power systems. Status and configuration is fully available through the display locally, or through the ethernet plug both remote or locally.

Compact, rich-featured, hot swappable, all-in-one controller

Designed for the Flatpack S system platform, the Smartpack S finds its way into many space restricted application. Used in the 1U high, 265mm deep power racks, Smartpack S offers comprehensive monitoring and control of a 2-3kW system occupying less than 6 liters.

Key features

- Graphical 2.2" tft high contrast, high resolution color display for easy navigation in user menu
- Ethernet for remote or local monitoring and control via web browser
- SNMP protocol with trap, set and get on ethernet. email of trap alarms
- 6 programmable relay outputs
- 6 programmable multi-purpose inputs ("digital inputs" or analog signals).
- Comprehensive logging
- Automatic battery monitoring and test
- Battery quality SoH based on test results and more

Rectifier module and controller

Smartpack R Controller

Future fit power. It is a simple idea with tremendous effect: Replace your old first-generation Smartpack controller with the Smartpack R to make your power system ready for a high-speed, high-capacity and connected tomorrow. This retrofit will bring your existing power system in line with current requirements, prolong its lifetime and thereby reduce both the lifetime operating costs and the need for new investments in power.

A smarter retrofit controller

The Smartpack R is a replacement for the first generation Smartpack 1 controllers, manufactured and sold between 2005 to 2018, meant first and foremost for retrofitting of mid-range Eltek power systems from that period. It has the same form factor, i.e. the same dimensions and connections as the original Smartpack 1 and is fully backwards compatible.

Key features

- Backwards compability
- Form, fit, function compatible with legacy eltek smartpack controllerEthernet
- IPv4/v6, responsive html5 web interface, snmpv3, modbus tcp, radius, security penetration testedSystem capabilities
- All eltek power modules, including rectiverters and can nodes such as fleximonitorTelecom site monitoring
- Serial ports/usb: usb b-type, usb a-type host for dongles, wifi, 4g modems, bluetooth, flash drives, etc. rj-11 w/rs-232/rs-485 w/ modbus rtu slave for scada and modbus rtu master for data collection from 3rd party equipment with generic configurable protocol for smartmeters, etc. and fixed protocols for li-ion batteries etc.

Rectifier module and controller

Micropack system

The Micropack system is convection cooled, designed for less power hungry applications, but still with system functionality options to match any requirements. Use as stand alone or in a flexible off the shelf configurable system. The Micropack Power System extends your network one step further. With load ranges typically between 120W and 1000W, and in 12, 24 and 48V options, the system is perfect for a great variety of applications.

Benefits

The Micropack system is convection cooled, designed for less power hungry applications, but still with system functionality options to match any requirements. Use as stand alone or in a flexible off the shelf configurable system.

The Micropack Power System extends your network one step further. With load ranges typically between 120W and 1000W, and in 12, 24 and 48V options, the system is perfect for a great variety of applications.

Features

- Compact and shallow (149 mm deep)
- Din rail mountable
- On-site configurable
- Off the shelf delivery
- Stand-alone option (w/alarm relay)
- Plug-in breakers or bulk output
- Accepts 85 – 300V AC/DC input
- 12, 24-30, 48 Vdc output versions
- Ethernet for remote and local monitoring and control via WEB Browser
- SNMP protocol with TRAP, SET and GET on Ethernet. Email of TRAP alarms
- 3 digital programmable relay outputs 3 programmable multipurpose inputs

Rectifier module and controller

Com pack

“All-in-one” plug-in controller. Comprehensive functionality in a small box designed for small range power systems.

“All-in-one” plug-in controller

“All-in-one” plug-in controller. Comprehensive functionality in a small box designed for small range power systems.

Key features

- Remote monitoring via ethernet
- SNMP (v3,v2c,v1)
- Web pages
- E-mail of logs and alarms3 configurable relays3 multipurpose inputs
- Temperature
- Symmetry
- Digital Input2 LVD controlls (lvbd+lvld)12V,24V,30V,48V &amp
- 60V SupportedBattery monitoring
- Auto/periodic test
- Capacity/quality estimationEltek software supported
- Eltek Network Utility (ENU)
- MultiSite Monitor
- Power Suite

Chapter VI: Industrial UPS

Vertiv Brand Liebert Online UPS GX4 5KVA 6KVA 8KVA 10KVA flexible solutions for protect rack mount equipment

Specification

item	value
Place of Origin	China
	Guangdong
Brand Name	Vertiv
Model Number	GXT 4 UPS
Output Power	5KW/6KW/8KW/10KW
Output Type	Triple
Input Voltage	120/208VAC at 120 degrees
Output Voltage	120/208VAC @ 120 degrees
Output Frequency	40/70HZ
Brand	Vertiv
Product Name	Online UPS
Model Number	GXT 4 series
Place of Origin	China
Warranty	24 months
Efficiency	99%
Power factor	0.8
Color	Black
Package	cartons
Weight	34kg

Industrial UPS

Model	N-2K
AC input	220V ~ 50/60HZ
AC Input	10.2A
DC output	220V
DC Output	9.1A 1600W
Efficiency	97%-99%
Dimensions (H*W*D)	190*320*390mm
Product Size	300*440*500mm
Weight	< 9kg
Operation temperature	-33 to 55°C
Storage temperature	-40 to 70°C
Altitude	< 3000m
Equalizing Charging Temp.Coefficient	built-in fan, forced convection

Industrial UPS

New Switching Netsure 731 CK2 48V, 1000A
DC power supply system with rectifier R48-3000A3 or R48-3000E3 ,controller :M522S

Essential details

Place of Origin:	Guangdong, China		
Model Number:	Netsure 731 CK2	Output Power:	>500W
Output Type:	Single	Input Voltage:	220V
Output Voltage:	48V	Output Frequency:	50/65HZ
Output Current:	1000A	Product Name:	Power Supply Cabinet
Certification:	CE ROHS	Warranty:	12 Months
Efficiency:	93%/96%	Size:	600*400*1600mm
Weight:	110kg	Model:	Netsure 731 CC2-X2
MOQ:	1 Pc	Input voltage:	80~300vac

NetSure 731 CK2

Industrial UPS

Hipulse U series 80-500KVA UPS

power	80KVA/72kW 100KVA/90kW 120KVA/108kW 6 pulses				160KVA/144kW		200KVA/180kW		300KVA/270kW		400KVA/360kW 500KVA/450kW		
	6 pulses		6 pulses 12 pulses	6 pulses 12 pulses	6 pulses 12 pulses	6 pulses 12 pulses	6 pulses 12 pulses	6 pulses 12 pulses					12 pulses
physical parameters													
Width (mm)	900	900	900	1540	1250	1640 1740 855×1900	1240 855×1900	855×1900	1640	2280	2280		2640
Depth × Height (mm)	855×1900	855×1900 855×1900	855×1900	855×1900	855×1900	855×1900					855×1900		855×1900
Weight (kg) Input	900	900	900	1400	1200	1750	1200	1850	1600	2550	2200 2400		2900
Characteristics (Rectifier)													
Rated input voltage	380/400/415VAC, three-phase three-wire												
Rated operating	50/60Hz												
frequency Input	±15% (25% adjustable)												
voltage range Input	45Hz~65Hz												
frequency range Input	Up to 0.99 (with harmonic filter)												
power factor Input current	<4.5% (with harmonic filter)												
harmonics (THDi) Input power	Yes, 5-300 seconds can be set												
Soft start function **Rectifier output characteristics**													
Charger output voltage regulation	1%												
accuracy DC ripple voltage	ÿ1%												
characteristics (inverter)													
Inverter output voltage	380/400/415VAC, three-phase four-wire												
output power factor	0.9 (output 90kW per 100KVA)												
voltage steady state stability	<±0.5% typical												
	<±5% typical												
Transient voltage transient recovery time Inverter overload	ÿ 20ms (peak method)												
	When the power factor is 0.9, 110% for 1 hour, 125% for 10 minutes, 150% for 60 seconds												
output electricity Uneven measure	capability with 100% equalization 100%	ÿ1%											
	unevenness under load 100% linear	ÿ1.5%											
total harmonics	load 100% non-	<1%											

Industrial UPS

High Frequency Online UPS HJ Series Three in Three Out online ups 220vac 40KVA 60KVA 80KVA 100KVA 200KVA 400KVA 600KVA UPS

technical

model	Black Gold HJ Series 40-800KVA												
Power, range	40	60	80	100	120	160	200	250	300	400	500	600	800
Lost, into													
Standard transmission, incoming voltage	380 / 400 / 415Vac, 3 phase 4 line												
input voltage range	325 - 478Va c												
Standard transmission, entry frequency	50/60Hz												
Input the frequency range	40-70Hz												
Input current distortion (THD i)	±3%												
Input power factor	=0.99												
DC function													
Number of batteries / group	12V batteries: 30 to 34 optional per group, default 32							12V batteries: 38 to 48 optional per group, with 40 by default					
DC ripple voltage	±1%												
Lost, out													
Standard transmission, outgoing voltage	380 / 400 / 415Vac, 3 phase 4 line												
Output power factor	0.9 / 1.0 (Optional)												
voltage adjustment	<1 Typical (steady state); <5% typical value (transient)												
Transient switching time	<20ms												
Phase voltage imbalance (balanced load)	+/- 1°												
Phase voltage imbalance (100% unbalanced load)	+/- 1.5°												
T HDv	<2% (100% linear load); <5% (100% nonlinear load)												
bypass													
Bypass input voltage	380 / 400 / 415Vac, 3 phase 4 line												
Bypass voltage range	-20% ~ + 15%, others can be set by the software												
Size / weight													
Wide X deep X high (mm)	300X750X850		350X850X1000			900X1000X1900				1200X1000X 1900		1400X1000X 1900	
weight (kg)	135	158	195	216	269	325	380	800	850	900	1050	1850	1950
Department, unified													
Frequency accuracy (internal clock)	±0.05%												
system effectiveness	> 96% (ECO: up to 99%)												
Ring, environment													
working temperature	0~40℃												
Storage temperature	-25 ~ 70℃ (with battery)												
relative humidity	0 ~ 95%, no condensation												
Maximum operating height	= At 1,000 m above sea level												
Noise (1m)	<55db							<60db				<65db	
IP levels of protection	IP 20												
standard	Compatible safety standards: C620401, UI1778, IEC609501, IE battery compatibility IEC62040 -2, design and test IEC62040-3												

Compliance with GB / IEC regulations: EMC: GB 7260.2/IEC 62040-2 GB / 17626.2~5 / IEC 61000-4-2~5 SAFETY: GB 4943

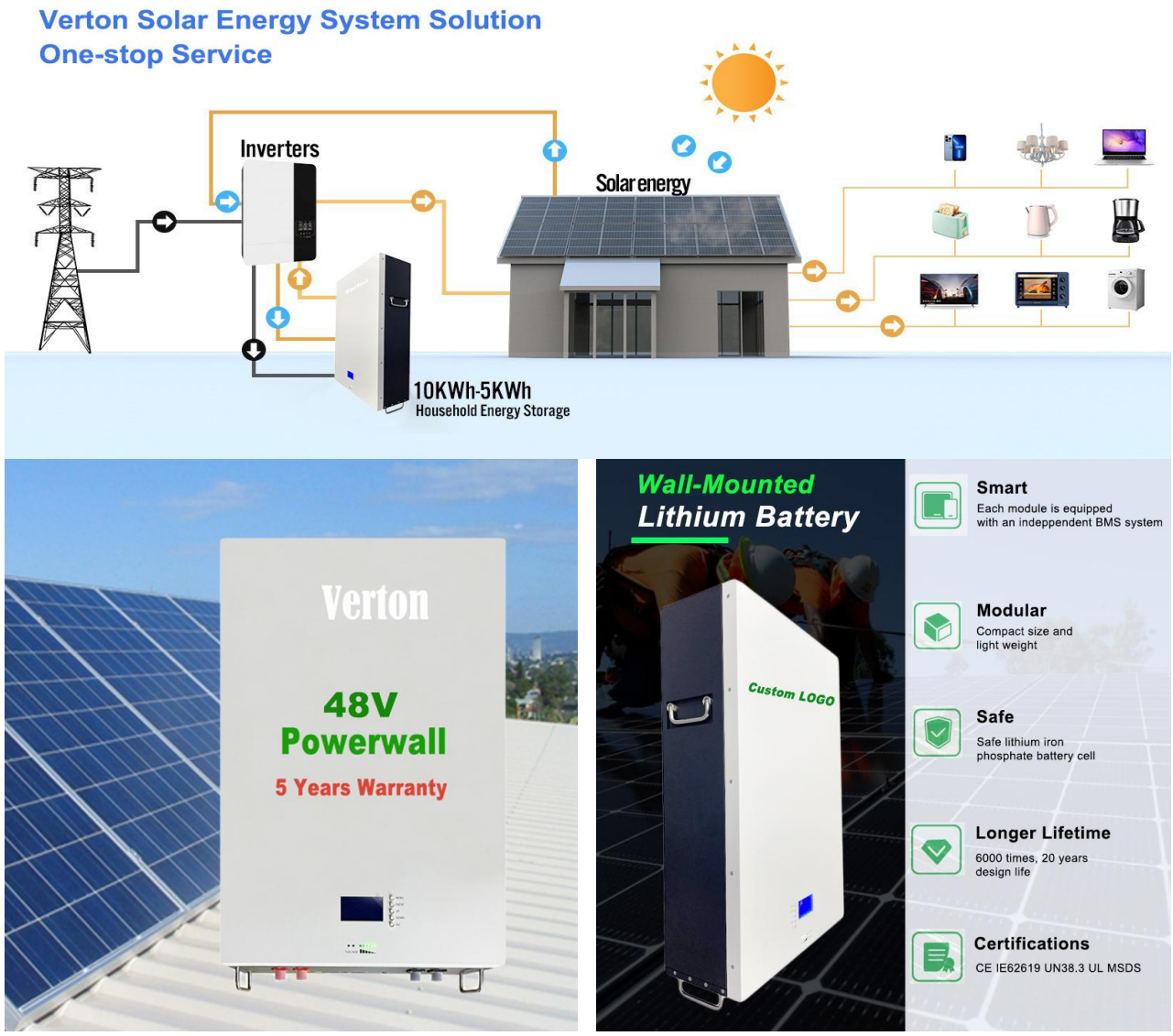
Note: If the product technical parameters are updated, please refer to the actual product or the latest parameters.Shenzhen Eleson Technology Co., LTD.

Chapter Ⅶ: Lithium-ion battery

Item	Specification		
	Li-Cube-48V 100AH	Li-Cube-48V 150AH	Li-Cube-48V 200AH
Battery Type	**LiFePO4-rack mounted**		
Normal Battery Voltage(Vdc)	51.2V	51.2V	51.2V
Normal Capacity(25℃, 0.2C(WH)	5120WH	7680WH	10240WH
Voltage window (Vdc)	44.8~58.4V	44.8~58.4V	44.8~58.4V
Float Charge Voltage(Vdc)	55.2V	55.2V	55.2V
Max.continue discharge current （A)	100	150	150
Max.pulse discharge current (A)	200A 30Sec.	200A 30Sec.	200A 30Sec.
Max.continue charge current (A)	50	75	100
Cycle life(+25℃ 0.2C 80% DOD)	＞3000Cycles		
Cell Equalizer Current(A)	1~5M Max.		
Terminal	M6		
Storage temperature	0℃~30℃		
Storage duration	6months at 25℃		
Safety standard	UN38.3, IEC62619, MSDS, CE		
IP degree	IP20		
Noise(dB)	＜40dB(1 meter)		
Working Temperature	-10℃~+50℃		
Humidity	0~95%（no condensation）		
Sea Level(m)	=1500		
L×W×H(products size)mm	L475*W440*H176mm	L535*W440*H176 mm	L590*W483*H178mm
Weight(NW Kg)	42.0Kg	56.0Kg	73.0Kg

Lithium ion Battery

Items	Specification			
	25F100T	25F200T	48100T	48200T
Battery Type	LiFePO4-wall mounted			
Typical Capacity (Ah)	100Ah	200Ah	100Ah	200Ah
Typical Voltage (V)	25.6V		48V	
Connection	8S1P	8S2P	15S1P	15S2P
Voltage Working Range (V)	22V-29V		41V-55V	
Working Temperature(°C)	Charge: 0°C~+45°C,Discharge: -20°C~+60°C			
Storage Temperature(°C)	-20°C~+35°C			
Nominal Capacity (kWh)	2.56kWh	5.12kWh	4.8kWh	9.6kWh
MAX.Charging Current(A)	100A	100A	100A	100A
Max. Discharge Current(A)	100A	100A	100A	100A
Cycle Life	≥5000			
SOC Accuracy	<8%			
Weight(kg)	32kg	54kg	42kg	86kg
Dimensions(mm)	630x400x160mm		630x400x160mm	770x500x160mm
IP Grade	IP54			
Transportation SOC	60%			
Cooling	Nature			



Lithium ion Battery

Item	Specification				
	12v 100AH	12V 200AH	12V 300AH	24V 100AH	48V 50AH
Battery Type	**LiFePo4 pack**				
Normal Battery Voltage(Vdc)	12.8v	12.8v	12.8v	25.6v	51.2v
Normal Capacity(WH)	1280WH	2560WH	3600WH	2400WH	2400WH
Float Charging Voltage(Vdc)	13.8V	13.8V	13.8V	27.6V	55.2V
Terminal	M8				
Temp. for Discharging	-30℃~60℃				
Storage Duration	6 months at 25℃				
Safety Standard	UN38.3, EC62619, MSDS, CE				
IP degree	IP20				
Protection	Overcharge protection^ Overdischarge protection^ Overcurrent protection^ Shortciruiit protection、Over-temperatire protection				
Noise(dB)	< 40dB(1 meter)				
Working Temperature	-10~+50℃				
Humidity	0-95%(no condensation)				
Sea Level(m)	=1500				
DIMENSION	330*173*220mm	522*240*218mm	522*269*220mm	522*240*218mm	522*240*218mm

Chapter Ⅷ:Lead acid batteries

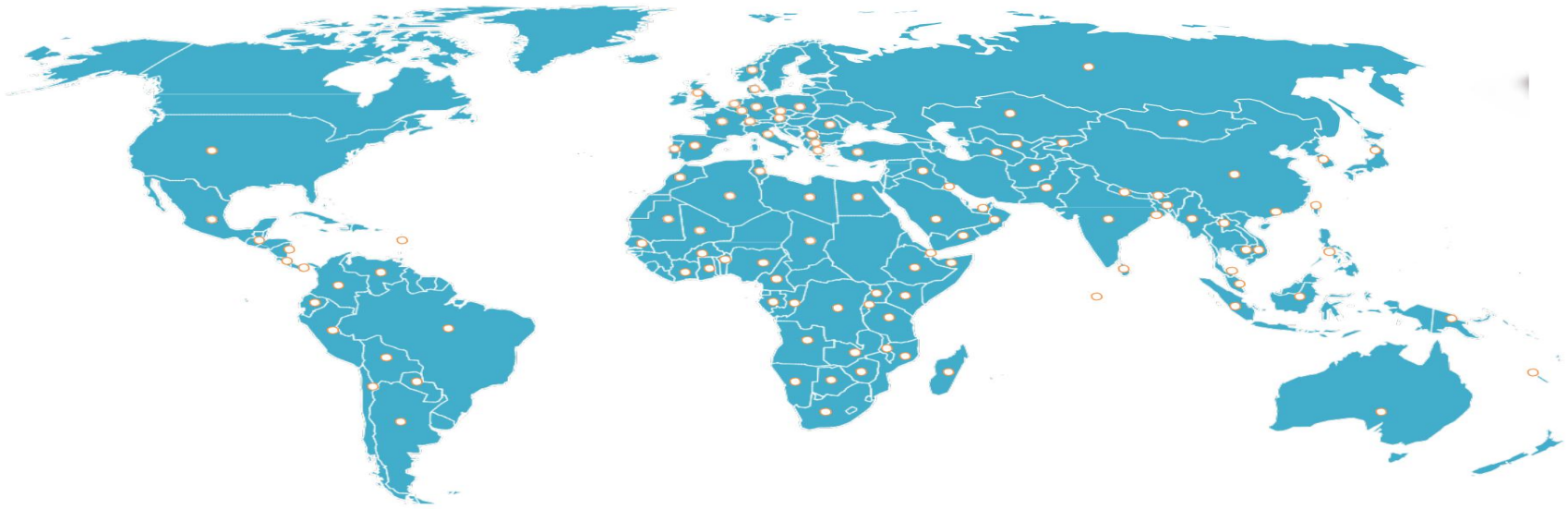
Item	Specification			
	12V 7Ah	12V 9Ah	12v 55Ah	12v 100Ah
Battery Type	**Lead-acid**			
Normal Battery Voltage(Vdc)	12v	12v	12v	12v
Normal Capacity	7Ah	9Ah	55Ah	100Ah
Terminal	F1/F2	F1/F2	F11(M6)	F12(M8)/F5(M8)
Max. Discharge Current	70A (5 sec)	90A (5 sec)	550A (5 sec)	1000A (5 sec)
Operating Discharge Temperature range	-20℃~60℃	-20℃~60℃	-20℃~60℃	-40℃~60℃
Normal Operating Temperature Range	25 ±5 ℃	25 ±5 ℃	25 ±5 ℃	25 ±5 ℃
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.	A.B.S. UL94-HB, UL94-V0 Optional.	A.B.S. UL94-HB, UL94-V0 Optional.	A.B.S. UL94-HB, UL94-V0 Optional
Weight	1.95kg	2.3Kg	16.2 Kg	29.0 Kg
DIMENSION	151*65*94mm	151*65*94mm	291*106*230mm	328*172*215mm

Lead-acid Battery

Item	Specification			
	12v 120Ah	12v 150Ah	12v 180Ah	12v 200Ah
Battery Type	Lead-acid			
Normal Battery Voltage(Vdc)	12v	12v	12v	12v
Normal Capacity	120Ah	150Ah	180Ah	200Ah
Terminal	F12(M8)/F5(M8)	F9(M8)	F9(M8)	F9(M8)
Max. Discharge Current	1200A (5 sec)	1500A (5 sec)	1800A (5 sec)	2000A(5 sec)
Operating Discharge Temperature range	-40℃~60℃	-20℃~60℃	-20℃~60℃	-20℃~60℃
Normal Operating Temperature Range	25 ±5 ℃	25 ±5 ℃	25 ±5 ℃	25 ±5 ℃
Container Material	A.B.S. UL94-HB, UL94-V0 Optional	A.B.S. UL94-HB, UL94-V0 Optional	A.B.S. UL94-HB, UL94-V0 Optional	A.B.S. UL94-HB, UL94-V0 Optional
Weight	33.5Kg	39.5Kg	48Kg	52Kg
DIMENSION	407*177*225mm	565*110*288mm	560*125*316mm	570*125*326mm

Famous Brand Agency

Customer Distribution



Data source: Frost & Sullivan

Shenzhen Xingda Shidai Technology Co. LTD
Version number: XD202201004-001
https://xdnetpower.com/

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