Outdoor Cabinet ZTT-DYX200-2

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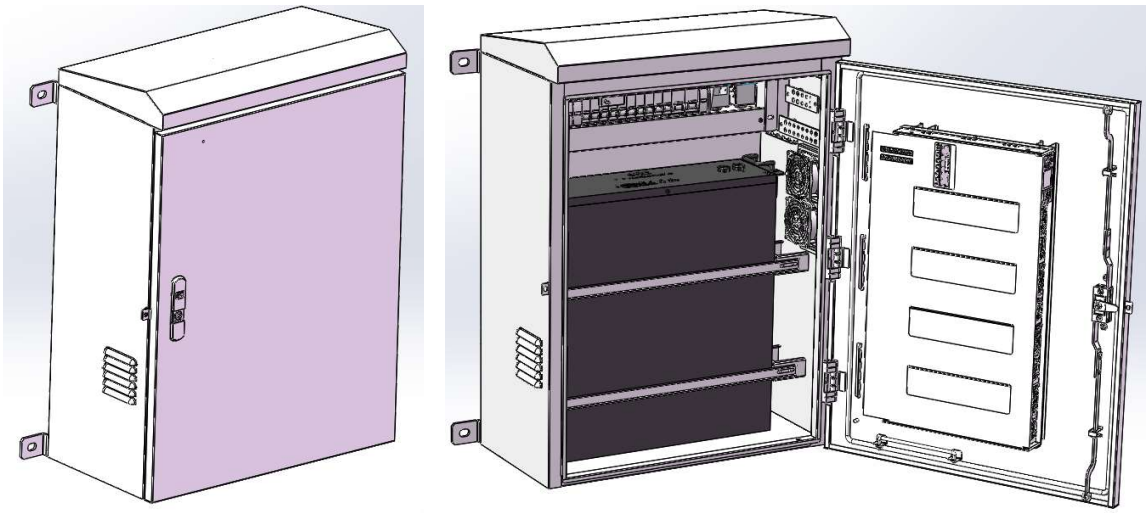
Spec No.:XJ34118-1-3-A



Features

- Voltage range 85VAC~300VAC
- Provide rectifier module management and battery management functions
- Network design, providing one COM interface and one RS485/RS232 interface
- Support modbus/SNMP communication protocol, provide Web side remote management or communication with third-party network management, flexible networking
- Support LCD interface display and system control and operation press keys
- Support hot swap of rectifier and control/monitor module

Applications

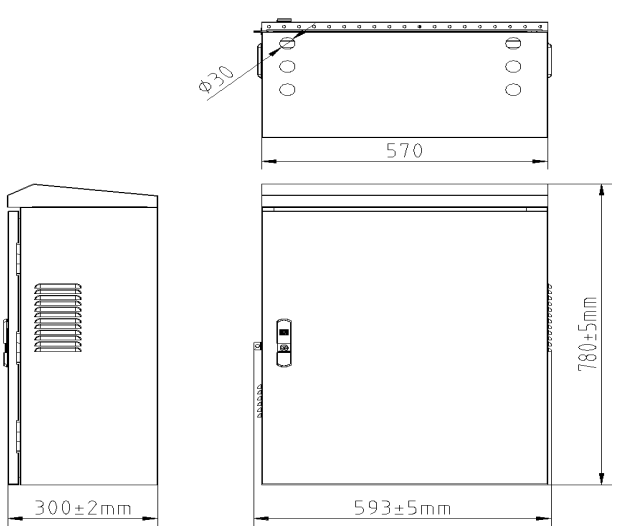
- Optical network and data room
- Network access
- Transmission equipment

General Introduction

- The ZTT-DYX200-2 wall/pole-mounted power supply is a new generation of highly reliable and high-performance communication power supply system, which can power the -48V DC series communication equipment. It meets the power conversion requirements of 220V AC to DC-48V. The power supply is combined with lithium battery to meet the outdoor installation and operation requirements. Using paired rectifier modules (up to 4 rectifier modules can be installed) can be installed with 1 48V100Ah lithium battery.
- The system is equipped 4 rectifier slots, standard power 6KW, maximum power 12KW. System monitoring module with battery management function and power system monitoring function, configure the corresponding sensor to achieve environmental monitoring, RS485/RJ45/USB/Dry-contact communication interface.

Cabinet Characteristics

Protection Level	IP55 ,Anti-insect, Dustproof
Battery	48V100Ah*1
Installation	Outdoor pole/wall mounting
Cooling System	Fan cooling (2 * 48VDC type fans)
Alarm monitoring	Temp., humidity, door open, smoke , main source fail, battery… etc.
Com. interface	RS485/RJ45/USB/Dry contact
Lifespan	Cabinet frame and shell ≥ 10 years.
Dimension	570mm (W) x 300mm (D x 780mm (H)



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Technical Specification of cabinet

No.	Items	Specification
1	Power Cabinet Maximum Capacity	≥125A @48VDC
2	Total Capacity	Standard 6KW (standard with 2 rectifier modules) Expandable to 12KW (fully equipped with 4 rectifier modules)
3	Nominal Input Voltage	220V/1 phase, frequency 50Hz
4	Nominal Output Voltage	-48VDC
5	Number of Modules	Support 4 rectifier modules installation
6	Installation method	Outdoor pole and/or wall mounting
7	Protection Grade	IP55
8	Heat Dissipation	Heat dissipation method: power supply adopts natural cooling of metal shell, fan cooling; Fan configuration: 2 * 48VDC type fan, life ≥ 70,000 hours; Air-inlet filter: removable and cleaning by water;
9	Housing Material	Thickness of 1.2mm cold-rolled steel plate + light powder coating corrosion resistance (powder coating color can be selected according to customer requirements)
10	Cable Entry Hole	Holes at two sides from the bottom of the cabinet for inlet/outlet cables; 2*3 holes, 30 mm, equipped with rubber gaskets;
11	Cabinet Door	Front single door, closed door, configured with door frame hit sealant; Satisfy sealing and durability requirements
12	Door Lock	3-point lock, high heat-resistance rubber gasket
13	Battery compartment space	48V100Ah battery compartment inside the cabinet, front removal and installation
14	Sensor	Smoke sensor*1, access control sensor*1, temperature sensor*2 (temperature sensor can be set alarm threshold and built-in remote monitoring); Temperature monitoring sensors with temperature accuracy up to 0.1 degree Celsius and adjustable cooling system;
15	Safety Design	1. Connected to other devices through dry contact and RS485 interface, it can monitor temperature, humidity and other data(customization); 2. When the temperature inside the cabinet is over 75℃ during operation, all power supply to the load can be cut off to ensure safety;
16	Charging Mode	Supports temperature compensation charging, floating charge mode, boost charge mode and equalizing charge mode.
17	Hot Swap Function	Rectifier module and monitoring/controller module support hot-swapping.
18	Cable	BVR /750V/PVC/70°C; AC cables (M10/2Ω-km); Grounding cables (M16/≤1.3Ω-km/PVC/Green-Yellow); Signal / Alarm cables (CU/PVC/Diameter≥0.39mm)
19	Circuit Breaker	Circuit breaker configuration meets IEC/EN 60898-2/ IEC 60947-2 requirements.
20	Accessories	1. Enough for all circuit breaker terminals (copper nose) 2. Product specifications, operating instructions; 3. Supporting cables and mounting kits (pole/wall mounting);
21	Working Temperature	0ºC ~ +65ºC
22	Relative Humidity	5 ~ 95% (no condensation)

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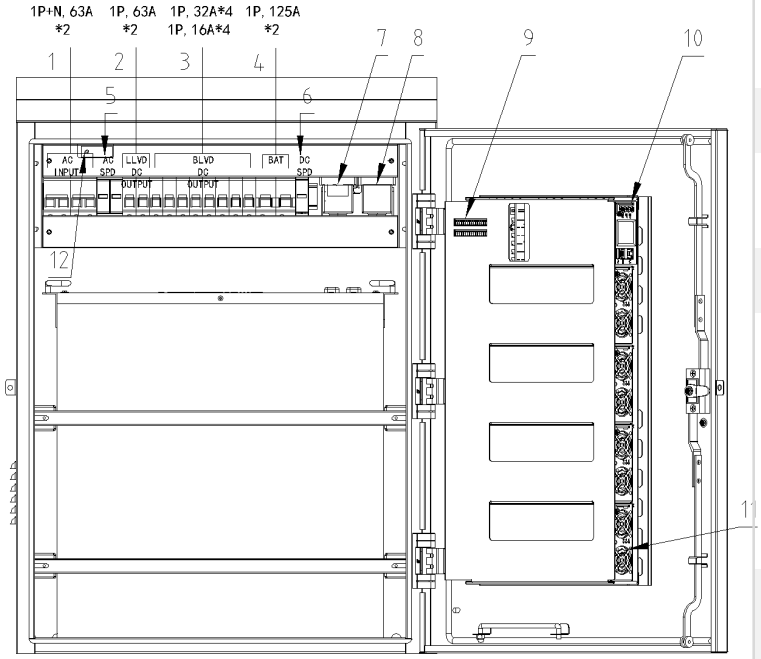
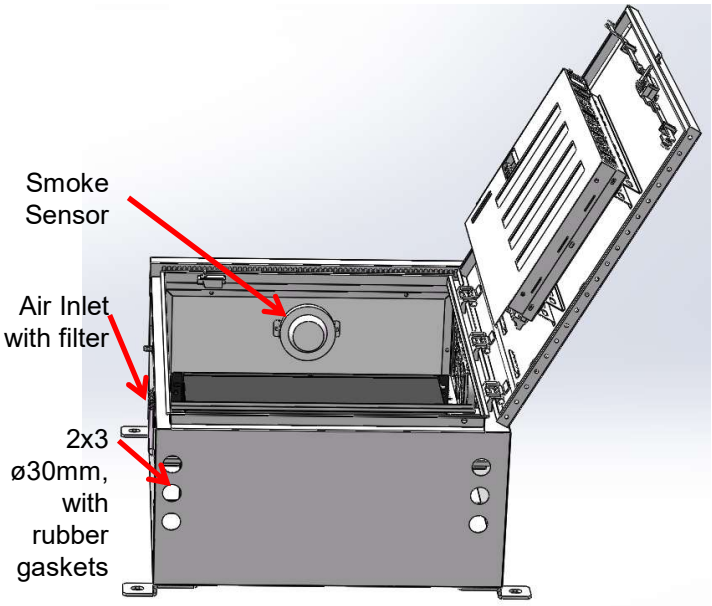
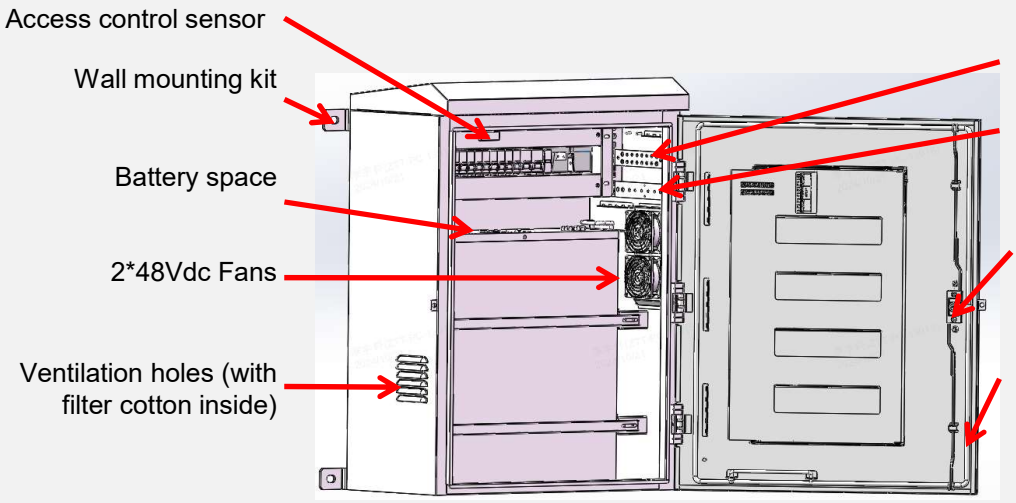
Power system configuration





No.	Name	Specification
1	AC Input	Single phase, 1P+N, 2P 63A*2,interlocked, TGBG-63|2P|C63
2	Typical Load	1P,63A *2, TGBG-63|1P|C63
3	Priority load	1P,32A*4、1P,16A*4 TGBG-63|1P|C32 、TGBG-63|1P|C16
4	Battery CB	1P,125A*2 TGBG-125A|1P|C125A
5	AC Lightning conductor	NPS01-FA20/440/1+1 /FM Pluggable module, single-phase three-wire 220V; 10/350μs [L/N-PE, L-N-PE) limp 20kA/40kA; Mechanical indicator and dry contact warning; Response time Tr≤100ns
6	DC Lightning conductor	NPS01-F20/DC48/1/FM DC48V, In10kA, Imax20kA, 1 pc
7	Contactor for LLVD	200A
8	Contactor for BLVD	200A
9	User Interface Module	Dry contact ports: DI*6, DO*6 Temp.*2,RS485*2
10	Monitoring Module	Height 1U, 1 pc With LCD display showing voltage, current, alarms, battery status, rectifier module and current operation
11	Rectifier Module	ZTT/RM4850, single module 3KW, 2 standard, configurable up to 4 modules, expandable up to 12KW



Power Supply System-Rectifier Module

Spec No.:XJ34118-1-3-A

Input Characteristics

1	Input voltage	85 ~ 300VAC(Nominal 220VAC, 1P) Pout derate when < 160 Vac
2	Frequency range	45~65Hz
3	Input power factor	≥99% (@ 50% load, Rated Power)
4	THD	≤5%(half~full load), @230Vac Input
5	Inrush current	≤27.75A, @230Vac Input
6	Max. Input Current	18.5A

Output Characteristics

1	Output Voltage	42~58Vdc, nominal 48Vdc(can be set)
2	Output Current Max.	62.5A
3	Output Power	3000W （@220Vac）
4	Efficiency	≥96,5%(peak) （@230Vac） ≥ 95% at load from 25% to 80%
5	Peak to peak noise	≤150mVp-p, Oscilloscope bandwidth limited to 20MHz
6	Output Holding Time	≥8ms
7	Temperature Coefficient	≤±0.02ms
8	Voltage Adjustment	≤144mV
9	Load Adjustment	≤144mV
10	Output Voltage Accuracy	≤0.5%
11	Psophometric noise	≤2mV
12	Load sharing	yes

Protective Characteristics

1	Input undervoltage protection	80±5Vac
2	Input undervoltage recovery	100±5Vac
3	Input overvoltage protection	305±5Vac
4	Input overvoltage recovery	290±5Vac
5	Output overvoltage protection	≥58.5Vdc, Tested with 5A
6	Output short circuit protection	Have
7	Over temperature protection	≥75℃
8	CAN communication	Have
9	Parallel operation	Have, Maximum 48 power supplies can be paralleled
10	Remote control	Have （CAN control）
11	Output overcurrent protection	≥62.5A
12	Reverse polarity protection	Yes

RM4850

Features

- Wide input voltage: 85V ac ~ 300V ac
- Multiple battery management functions
- Hot-swappable modular design
- High efficiency, peak ≥ 96.5%
- With working status indicator light
- High input power factor, low harmonic distortion
- Low ripple noise
- Overvoltage/ Overtemperature/ Output overcurrent/ Output short circuit/ Output overvoltage protection
- Compliant with RoHS requirements
- Soft switching technology
- Cooling type: 2 fans , Auto adjustable speed acording to temperature
- Led indicator : status, alarms

Reference Standards

- EN55032
- UL61000
- IEC-62368-1
- CISPR32
- ETSI EN 300 019
- IEC 61000-4-5 2014, IEC 61000-4-4 2012, IEC 61000-4-11 2003, IEC 61000-4-3 2006/ IEC 61000-4-2 2018/ IEC 61000-4-8 2009/ IEC 61000-3-2:2018/ IEC 61000-4-6: 2018

Environmental conditions

1	Working Temp.	-40~+75℃ -40℃ can work normally. 45℃~ 75℃ Pout derate.
2	Storage Temp.	-40 ~+85℃
3	Humidity	Working≤90%； torage≤95%
4	Altitude	≤2000m ＞2000m Pout derate
5	Cooling	Forced air cooling(The speed is automatically adjusted according to the temperature)

Safety and EMI characteristics

Items		Standard (or test condition)	Remarks
Electrical Strength	Input-Ground	1500Vac/30mA/ 1min	No breakdown, flying arc phenomenon; leakage current less than 30mA
	Input-Output/CAN	2500Vac/30mA/ 1min	
	Output/CAN-Ground	707Vdc/30mA/ 1min	
Insulation resistance	Input-Ground	≥5MΩ@500Vdc	Ambient temperature: 25±5℃ Relative humidity: less than 95% (non-condensing)
	Input-Output/CAN	≥5MΩ@500Vdc	
	Output/CAN-Ground	≥5MΩ@500Vdc	
Safety Standards		UL60950-1, UL508, CSA C22.2 No.60950-1	
Leakage Current		7mA	230Vac
Lightning		8/20us 5KA	
Surge Resistance	Input Line to Line, Line to Ground	4kV	No cracks or alarms were found in the power supply during or after testing
	Output Line to Line, Line to Ground	500V	
Electrostatic Discharge Immunity		Contact Discharge 6kV, Air Discharge 8kV	No cracks or alarms were found in the power supply during or after testing
Radiated Electromagnetic Field Immunity		Frequency range 30 MHz-1 GHz according to EN 55032 class A, 10 m distance	
Conductivity Immunity		Frequency range 150 kHz-30MHz according to EN 55032 class A	

Mechanical properties

Product weight	≤2000g
Overall Dimension(L×W×H)	280.0±0.5×105.0±0.3×41.0±1.0
Standard	IEC 61000, EN55032, EN55035

Power Supply System-Monitoring Module

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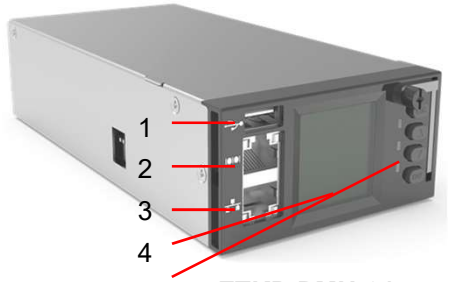
Appearance

1. USB
2. RJ45(for uplink)
3. RS485(for battery)
4. Screen
5. Button



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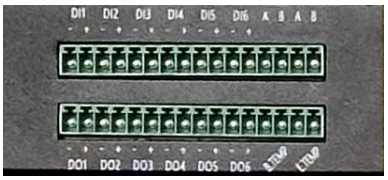

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Monitoring Module

- A microprocessor system can monitor the status of the rectifier, PV module, BMS, and it sends out audio and visal alarms.
- Configured with RS485 and ethernet port which support MODBUS_RTU and SNMP, the monitor enables remote detecting, remote control and remote adjusting.
- User-friendly interface includes LED indicators, buttons, and a LCD display.
- Hot Swap
- Operation records up to 10000
- Flexible use of config. files to program the system

Functions

Measurement

AC input	Voltage, current, frequency
DC output	Voltage, current
Load	Total load current, MCB status
Battery	Lithium BMS, voltage, current, capacity, remaining capacity, number of cycles, temperature, MCB status,
Environment	Temperature
Time	Real time clock available

Rectifier management

Rectifier power-on and power-off control

Rectifier operation status

Rectifier output power control

Rectifier Over-voltage protection

Rectifier dormancy management

Each rectifier status (In/out voltage, in/out current, S/N)

PV module management

Load management

Load low voltage disconnection (LLVD); on/off load

Battery low voltage disconnection (BLVD); on/off battery

Parameter setting

Battery charging current limit, float charging, boost charging/ Battery capacity/ High DC voltage cut-off/ High/low DC/AC voltage warning/ Temperature warning level

Alarm

Output voltage/current over/high/low

Load/battery/AC/CB/ disconnect/ fuse fail

Battery voltage high/low

Current limiting point

Loss of input AC power

Envir./battery/Rectifier temperature high

Rectifier fail/over load/over current / over voltage/ fan fail /imbalance load sharing

Flexible DI/DO alarm setting

Set alarm : Yes

Battery management

Temperature compensation charge, equalizing, floating, boost charge setting

Disconnection protection, failure

Battery charging management

Battery testing

Battery temperature compensation

Battery high temperature protection

Battery capacity detection and report

Battery backup time setting

The charging voltage can be set according to the battery specifications

Leoch Li-iron battery / LFELI-48100

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Features

- Intra system balance
- UL94V-0 Flame retardant grade
- Good high temperature performance, high cycle number and long service life
- Safe li-iron phosphate technology
- High energy density and high conversion efficiency
- Environmentally friendly, without any heavy metals
- Built-in battery management system
- 19-inch standard rack and installation kit
- Built-in overcharge, over-discharge and over-temperature automatic protection
- Prismatic (rectangular box)
- Fit to install 19” Rack

Applications

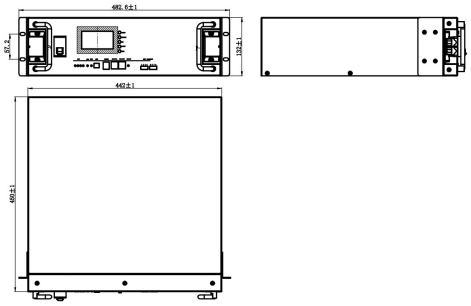
- Backup power supply for communication base stations
- Emergency power supply for wired communication bureaus (stations), switching stations
- Wireless communication bureaus (stations), decentralized base stations
- Various types of private network communication base stations for power, military, etc.

Appearance

Main Characteristic

Item	Parameter
Model	LFELI-48100
Technology	Lithium Iron Phosphate (LiFePO4) (LFP)
Nominal Capacity	100 Ah
Nominal Voltage	48V
Discharge cut-off voltage	40.5V
Charge Limit Voltage	54.7V
Maximum charge/discharge current	100A(1crt)
Weight (approx.)	40KG
Charging capacity	4800Wh
Display unit	With display screen
Maximum number of parallel connections	15
Dimensions (W*D*H) mm	442*450*132
Cycles	≥3000 cycles (0.2C 80%DOD,25℃) ≥ 1,000 cycles(0.2C80%DOD, 45 ℃) ≥ 2,000 cycles (0.2C 100%DOD,25℃)
Protection Level	IP30
Enclosure Material	SPCC
Temperature/Humidity	0 to +55/ 5% ÷ 95%
Pole (+ -)	M6, protective cover
Number of Cells	15
Design life	≥ 10 years(at 20 -25 degrees Celsius)
Turn on/off battery operation manually	There is an ON/OFF breaker
Certification & Standard	UL/UN38.3/EN61000-6/ISO9001,ISO 14001

Dimension



25℃ Constant Current Discharge Meter (Amperes)					
Time	1h	2h	3h	5h	10h
Discharge cut-off voltage 40.5V	100A	50A	33.3A	20A	10A

25℃ Constant Power Discharge Meter (Watts)					
Time	1h	2h	3h	5h	10h
Discharge cut-off voltage 40.5V	4800 W	240 0W	1600 W	960 W	480 W