Power Supply System-ZTT

Spec No.:XJ34118-1-2-IA

Features

- Wide AC input voltage range of 85V AC to 300V AC
- Perfect battery management function
- Perfect AC and DC lightning protection design.
- Networking design, providing one COM interface and one RS485/RS232 interface.
- Supports SNMP protocol and total power protocol, can communicate with ZTT network management platform or third-party network management, flexible networking, remote management, unattended.
- Support LCD interface display and key operation.
- Support rectifier module hot-swapping
- Rectifier module power factor value up to 0.99
- Supports hot-swapping of monitoring module

General Introduction

The ESPS48250_D803 switching power supply is an embedded switching power supply for -48V DC series communication equipment. The whole machine includes basic AC power distribution, rectifier module, monitoring module and DC power distribution, which is a complete switching power system. A total of 5 module slots, support rectifier module and photovoltaic module mixed, to achieve fast stacking light.

ESPS48250_D803

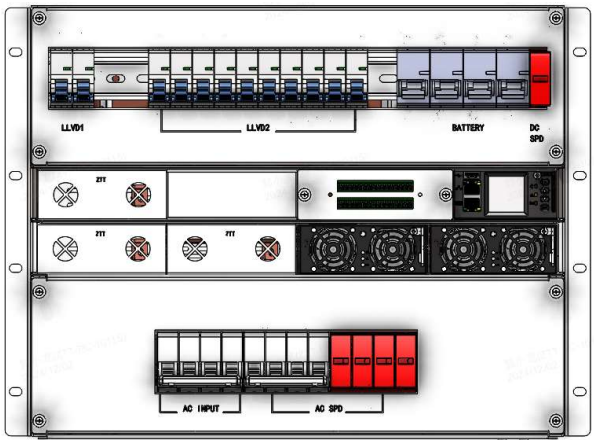


Table of Configuration

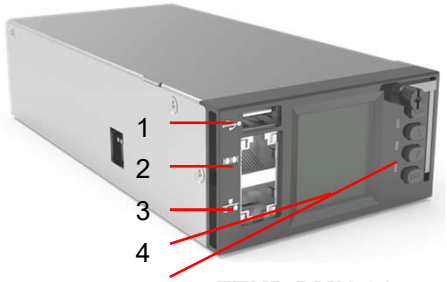
Item		ESPS48250_D803
1	Dimension(W*H*D)	465*354*380mm(W*H*D) (±5)
2	AC Input	380V/3-phase and 220V/single-phase, 50Hz
3	AC SPD	Class II, In20kA, Imax 40kA, (8/20μs), *1pcs
4	Number of Rectifier Modules & capacity	Standard config. 2pcs of RM4850 (3KW) =6KW, Max.125A@48Vdc
5	Output Power Capacity	Max. 12KW, ≥ 250A @48VDC(rated voltage)
6	DC SPD	Nominal 10KA, 1P
7	Circuit Breaker	Typical load： 1U/1P DC, 2x63A Priority load ：1U/1P DC ,4x32A， 6x16A Battery Circuit Breaker: 1U/1P DC, 125A*2pcs
8	Contactors for LVD	200A
9	Monitoring unit	ZTKD PMU-01, 1 pcs With display, keyboard, USB & RJ45 port
10	User interface module	ZTKD SIU-03, 1 pcs Digital input *6, Dry contact output *6, Temp. sensor ports *2, RS485 *2
11	Operating Environment	-20℃ to 65℃, humidity from 5% to 90%, non-condensing
12	Battery charging modes.	Temperature Compensation， Float charge， Boost charge， Equalize charge

Power Supply System-Monitoring Module

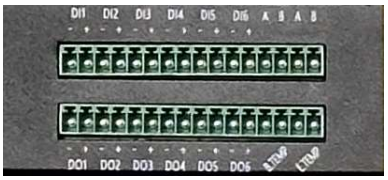
Spec No.:XJ34118-1-2-IA

Appearance

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



ZTKD PMU-01



ZTKD SIU-03

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/bat. disconnect, CB(Load/Bat.) 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

Power Supply System-Rectifier Module

Spec No.:XJ34118-1-2-IA

Input Characteristics

1	Input voltage	85 ~ 300VAC(Norminal 220VAC, 1P) Pout derate when < 176Vac
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
- UL60950-1
- 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%； storage rage≤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

Li-iron battery - ZTT48100B

Spec No.:XJ34118-1-2-IA

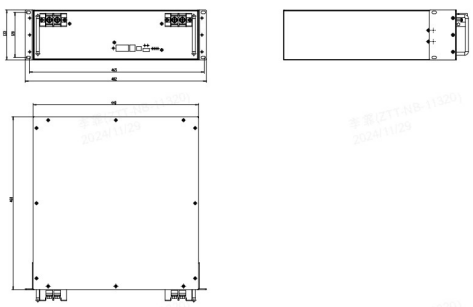
Features

- Intrasystem 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 or wall-mounting
- Built-in overcharge, over-discharge and over-temperature automatic protection

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.

Dimension



Appearance

Main Characteristic

Item	Parameter
Model	ZTT48100B
Nominal Capacity	100 Ah
Nominal Voltage	48V
Discharge cut-off voltage	40.5V
Charge Limit Voltage	54V
Maximumcharge/discharge current	100A
Weight (approx.)	40KG
Charging capacity	4800Wh
Display unit	With display screen
Maximum number of parallel connections	≥10
Dimensions (W*D*H) mm	482*460*133
Design life	10 years
Cycles	3500 times (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 Characteristics	Charge: 0 to +45℃ Discharge: -10 to +55℃ Storage: -20 to +60℃
Terminal	M6
Number of Cells	15
Design life	≥ 10 years(at 20 -25 degrees Celsius)
Turn on/off battery operation manually	There is an ON/OFF switch
Certification & Standard	UL/UN38.3/EN61000-6/ISO9001,ISO 14001

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