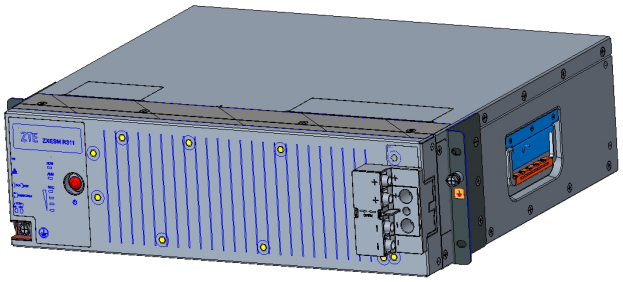
ZXESM R311 Lithium-ion Battery



ZXESM R311

Introduction

ZXESM R311 applies the advanced control management theory to its BMS system to implement real-time parameter detection, over-current/over-voltage protection, and multiple groups of parallel operation. With Lithium battery- Power -EMS structure, which is connected to the power supply system and EMS, the battery is upgraded from a dumb device to a remotely controllable management unit to ensure the safety of sites power backup and reduce routine O&M costs.

Product Features

- 3U height
- Supporting 19 "rack or cabinet installation
- Maximum charging and discharging current: 100 A
- Supporting parallel operation of up to 32 sets of batteries
- Multiple communication interfaces, supporting IP network
- iLock technology① and buzzer alarm for anti-theft
- GPS function (optional)

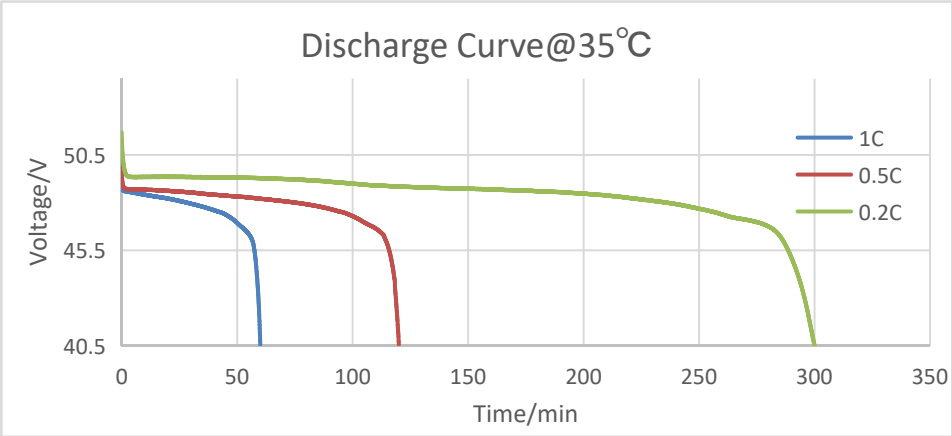
Technical Parameters

Item	Parameters
Rated capacity	100Ah(C_5,25℃）
Nominal voltage	48V
Cathode material	$LiFePO_4$ (Lithium Iron Phosphate)
Charge voltage	52.5Vdc~54Vdc
Max. charge/discharge current	100A/100A
Operating temperature	charging: 0℃~55℃, discharging: -20℃~+55℃
Storage temperature	0℃~+40℃
Dimensions(W*D*H mm)	442×400×130.5
Net weight	≤43kg
Self discharge@25℃	≤5%（90 days storage）
Methods for detecting battery theft	anti-theft cable, communication, gyroscope (optionally)
Altitude	0m~4000m

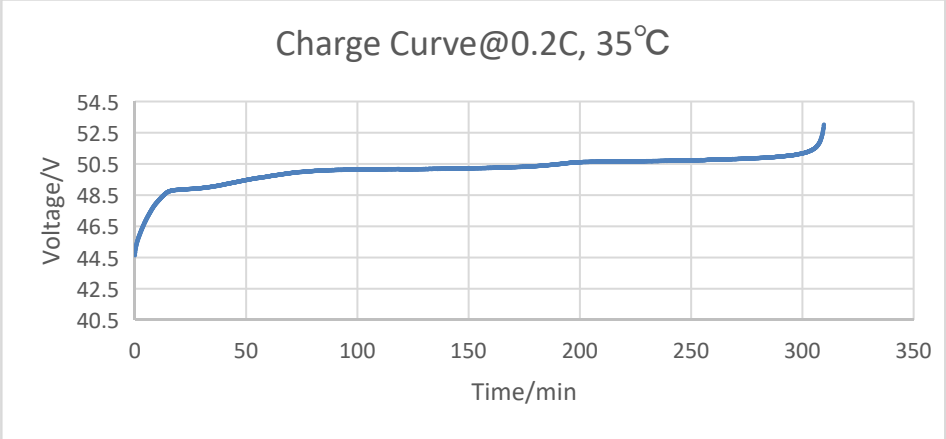
① ZXESM R311 can lock the battery output automatically when battery is stolen, and should be unlocked by authorized operators. There are multiple methods for detecting battery theft, incluiding gyroscope, anti-theft cable, communication.

Item	Parameters
Relative humidity	5%RH~95%RH
Atmospheric pressure	70kPa~106kPa
Protection functions and alarming	Overheating, short circuit, overcharge, overdischarge, etc. (see below)
Protection grade and material type	IP40, body made of non-combustible materials
Design life	15 years(25℃)
Cycle life	At least 3000 cycles@85%DOD，35℃
Max. quantity of parallel connection	32
Communication protocol	Modbus，SNMP
Interface	Dry Contact*2，RS485，CAN，FE (Ethernet)
SOC&SOH Monitoring	SOC&SOH level alarm monitoring and setting via built-in BMS and SW tool
Power ON/OFF button	Battery has a ON/OFF button
Battery connection blots type	Up to 4pcs M6, 250A (2pcs “+”; 2pcs “-”)
Set of delivery accessories	19” mount ears, signaling cables, alarm and communication cables, terminator adapter (250A, 4*M6), power cable for battery parallel connection
Certification	UN38.3, CE

Discharge curve, 35 ℃



Charge curve, 35 ℃



ZTE CORPORATION
NO. 55, Hi-tech Road South, Shenzhen, P. R. China
Postcode: 518057
Web: www.zte.com.cn
Tel: +86-755-26770000
Fax: +86-755-26771999

Typical protective functions and parameters

The battery has a built-in intelligent battery management module (BMS), which provides management, monitoring, reliable protection against over-discharge, overcharge, overcurrent, high/low temperature, short circuit and so on.

For example: If the battery voltage reaches the default low voltage alarm threshold, the system sends an alarm. If the battery voltage reaches the default low voltage protection threshold, the system shuts down the battery.

Default values can be set according to customer requirements, either at the factory or manually at the installation site.

Protection/alarm function	Range	Default value
Battery overvoltage alarm threshold (V)	49.5~60	54.0
Battery overvoltage protection threshold (V)	49.5~60	54.8
Battery undervoltage alarm threshold (V)	40~50	46.0
Battery undervoltage protection threshold (V)	40-50	45
Cell overvoltage alarm threshold (V)	3.2~4.5	3.75
Cell overvoltage protection threshold (V)	3.2~4.5	3.80
Cell undervoltage alarm threshold (V)	2~3.2	3.0
Cell undervoltage protection threshold (V)	2~3.2	2.9
Charge over current (short circuit) alarm threshold (A)	0.2C~5.5C	1.05
Charge over current (short circuit) protection threshold (A)	0.3C~5.5C	1.15
Discharge over current (short circuit) alarm threshold (A)	0.2C~5.5C	1.07
Discharge over current (short circuit) protection threshold (A)	0.3C~6.25C	1.15
Charge high temperature alarm threshold (℃)	35~70	55
Charge high temperature protection threshold (℃)	35~70	60
Charge low temperature alarm threshold (℃)	-40~10	5
Charge low temperature protection threshold (℃)	-40~10	0
Discharge high temperature alarm threshold (℃)	35~70	60
Discharge high temperature protection threshold (℃)	35~70	65
Discharge low temperature alarm threshold (℃)	-40~10	-15
Discharge low temperature protection threshold (℃)	-40~10	-20
Poor cell under consistency alarm threshold (V)	0.05~1.5	0.4
Poor cell under consistency protection threshold (V)	0.05~1.5	0.5
Battery SOH alarm threshold (%)	0~70	50
Battery SOH protection threshold (%)	0~70	30

ZTE CORPORATION

NO. 55, Hi-tech Road South, Shenzhen, P. R. China
Postcode: 518057
Web: www.zte.com.cn
Tel: +86-755-26770000
Fax: +86-755-26771999