

BoostLi

ESM-48100A1 Datasheet



Introduction

ESM-48100A1 is an energy storage module based on innovative Li-ion technology. It is especially designed for telecom sites with advanced features: long lifespan, wide range of charging voltage, fast charging, intelligent management, and software anti-theft. ESM-48100A1 can be paralleled with lead-acid battery directly, which helps carriers fully reuse the legacy batteries when site expands.



ESM-48100A1

Features

- Intelligent software anti-theft design ^①
- Long cycle life with 4500 cycles @ 0.5C, 85% DOD, 35°C
- Easy maintenance with SOC (state of charge) and SOH (state of health) detection

Specifications

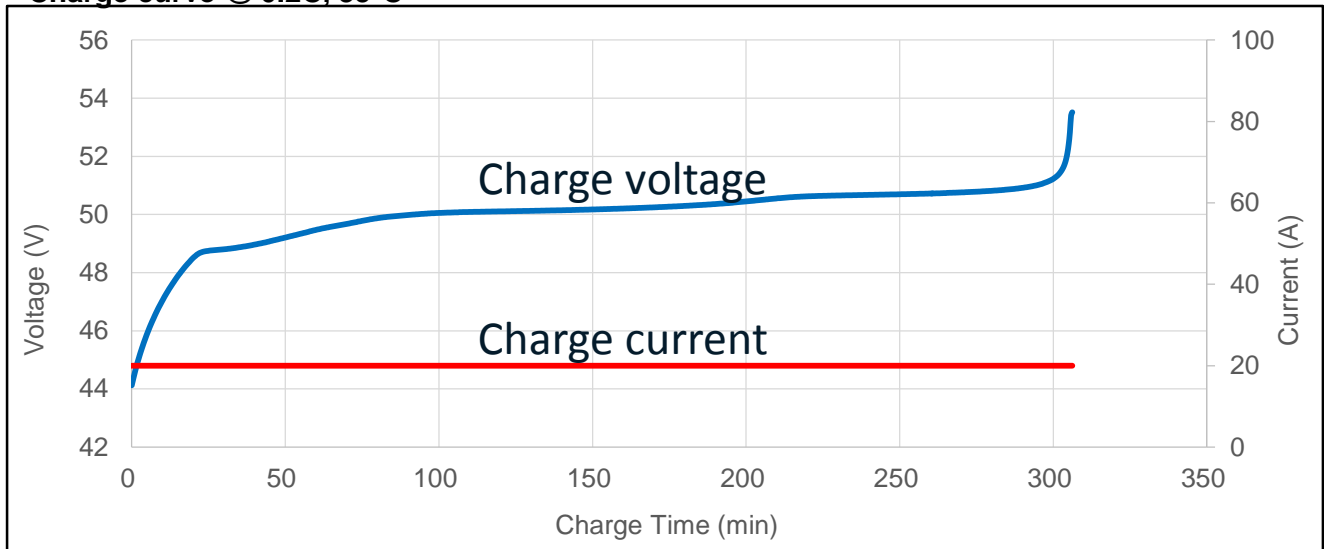
| | Item | Description |
|------------------|---|---|
| Basic Parameters | Product model | ESM-48100A1 |
| | Cathode material | LiFePO ₄ |
| | Nominal voltage | 48 Vdc |
| | Nominal charging voltage | 53.5 Vdc |
| | Max. Charging / Discharging Current Limited | 50 A / 50 A @ 35°C |
| | Cycle life | 4500 cycles @ 0.5C, 85% DOD, 35°C |
| | Nominal capacity | 100 Ah @ 0.2C, 35°C (4800 Wh @ 0.2C, 35°C) |
| | Weight | Approx. 73kg |
| | Dimension (W×D×H) | 442 mm×560 mm×190 mm (excluding mounting ear) |
| | Self discharge @ 25°C | Less than 5% after 90 days storage |
| | Communication interface | CAN / RS485; 2 dry contacts |
| | Max. Quantity of Parallel Connection | CAN: 32; RS485: 8 |
| | Max. load power supported in parallel | 15kW |
| | Terminal | M6, torque 4 N·m |
| | Installation type | Standard 19" rack |
| | Protection & Alarm | Over temperature, overcurrent, short circuit, overcharge, overdischarge, etc. |
| Certification | CE, UN38.3 | |
| Calendar life | 15 years | |

^① The software lock function will only be available when ESM-48100A1 is connected to Huawei's specified energy controller (SMU02B/SMU02C/ECC500S/ECC500).

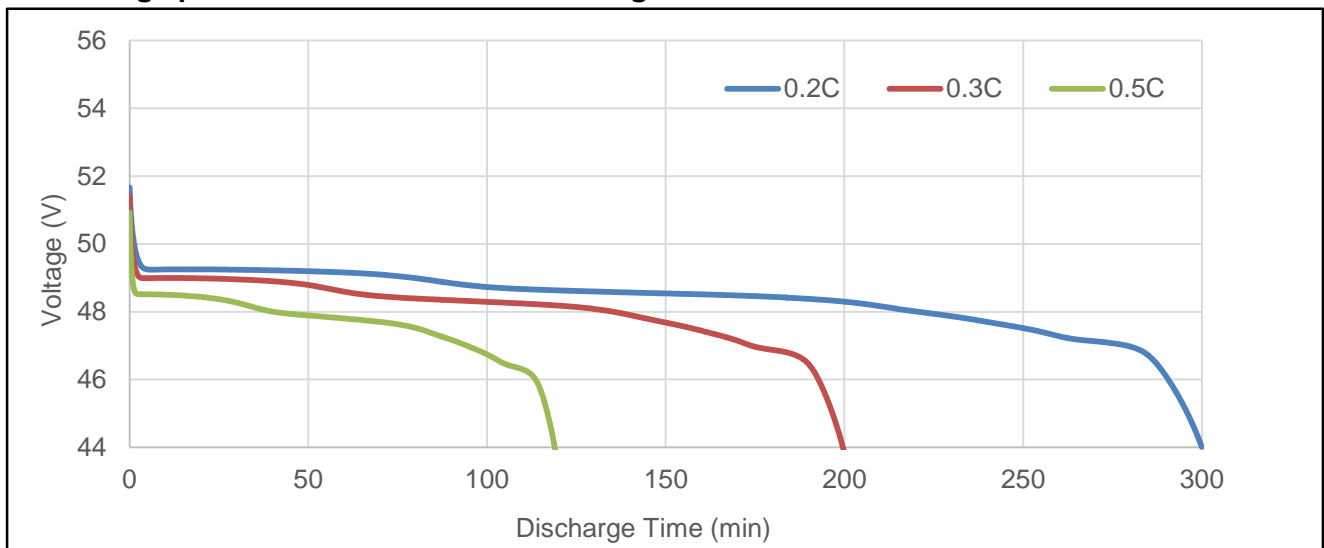
| Item | Description | |
|--------------------|----------------------------------|--|
| Environment | Storage Temperature ^② | Storage: 0°C to 40°C |
| | Transportation Temperature | -40°C to 60°C |
| | Operating Temperature | Charging: 0°C to 45°C; Discharging: -20°C to 45°C |
| | Relative Humidity | 5% to 95% |
| | Max. Operating Altitude | 4000 m (Each 200m increases in altitude will decrease the working temperature by 1°C from 2000 m to 4000 m.) |

^② The recommended storage temperature is 20 ~ 30°C, the battery life would be reduced if battery is stored in high temperature. (The recharging interval should be 12 months when temperature is below 30°C, and it should be 8 months when temperature is 30 ~ 40°C).

Charge curve @ 0.2C, 35°C



Discharge performance @ different discharge rate @ 35°C



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