

Intelligent Lithium Battery

ESM-48100B1



Introduction

The ESM-48100B1 is a new intelligent energy storage unit developed by Huawei. The intelligent unit can work with the Huawei telecom power system to implement multiple intelligent features and anti-theft functions. It can also connect to the NetEco by IoT gateway to implement multiple intelligent features through cloud-lithium collaboration, helping customers maximize the value of site-based energy storage. The unit features different charging voltages adaptability, fast charging and long service life. It can be directly connected to lead-acid battery strings in parallel to reuse batteries.



ESM-48100B1

Features

- Intelligent design: intelligent detection, SOC&SOH management, simplified O&M, and self-management (SOH must be used together with the NetEco license)
- Intelligent collaboration: with the intelligent power system to realize intelligent features (such as intelligent peak shaving, intelligent peak staggering, intelligent voltage boosting, and intelligent hybrid use). With the intelligent management system: realize intelligent features (such as cloud peak shaving, cloud peak staggering, cloud voltage boosting, and cloud hybrid use).
- Intelligent software anti-theft design^①: GPS, intelligent software lock, displacement lock, and buzzer alarm
- High reliability design: integrated BMS design, long service life
- High-density design: 100 Ah with only 3 U high

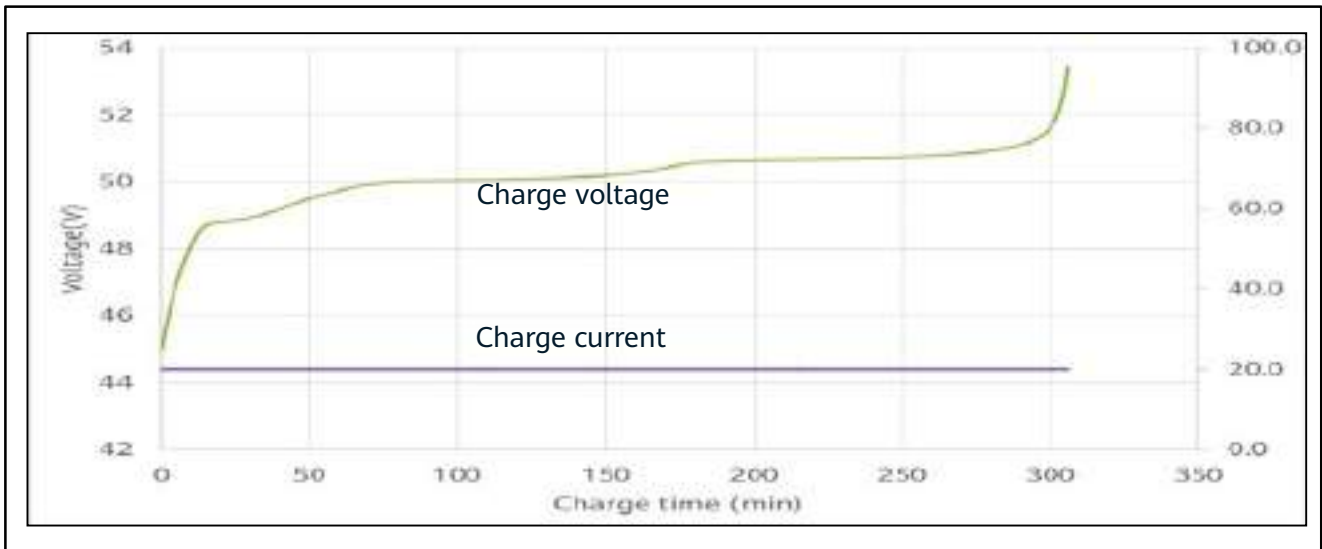
Specifications

	Item	Description
Basic Parameters	Product model	ESM-48100B1
	Cathode material	LiFePO ₄
	Nominal voltage	48 Vdc
	Nominal charging voltage	56.4 Vdc
	Max. charging / discharging current limited	100 A @ 35°C
	Max. charging / discharging power	4800 W
	Cycle life	3500 cycles @ 0.5C, 85% DOD, 70% EOL, 35°C
	Nominal capacity	100 Ah @ 0.2C, 35°C
	Weight	Approx. 43 kg
	Dimension (W×D×H)	442 mm×396 mm×130 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: 16
	Terminal	M6, torque 4 N•m
	Installation type	Standard 19" rack, Air conditioning system or direct ventilation cabinet
	Operating condition	Air conditioner, direct ventilation in Class B environment
Protection & alarm	Over temperature, overcurrent, short circuit, overcharge, overdischarge, etc.	
Certification	CE, UN38.3	
Design life	15 years	

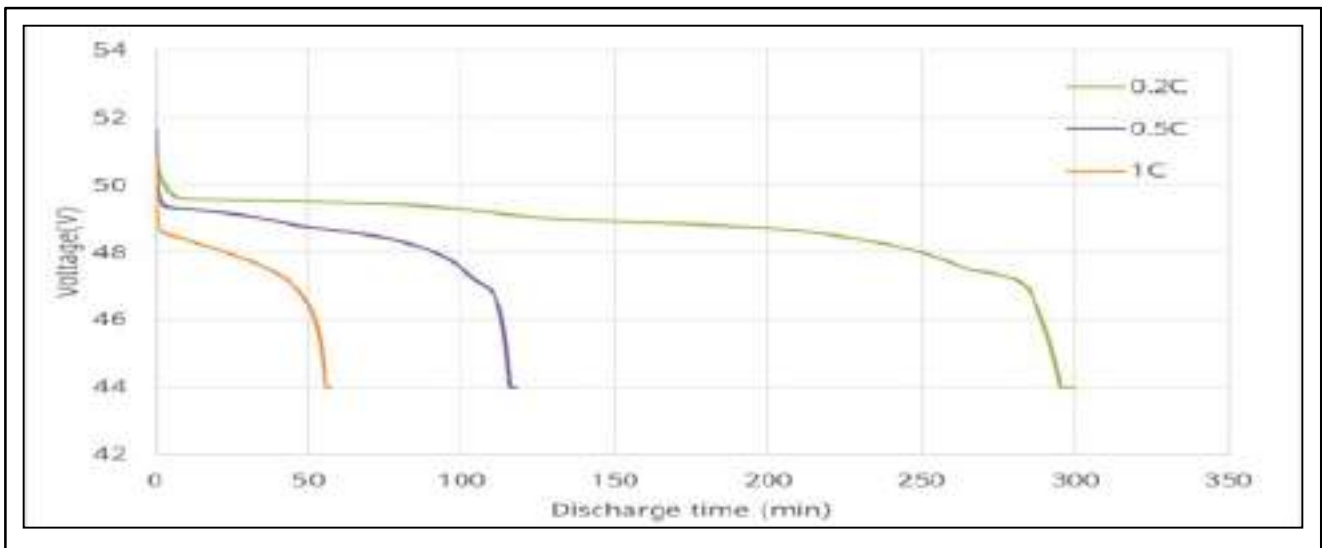
Item	Description	
Environment	Storage temperature ^②	Storage: 0°C to 40°C
	Transportation temperature	-40°C to 60°C
	Operating temperature ^③	Charging: 0°C to 45°C; Discharging: -20°C to 45°C
	Relative humidity	5% to 95%
	Operating atmospheric pressure	61kPa~113kPa

- ① The software lock function will only be available when BoostLi is connected to Huawei's specified energy controller (SMU02C); displacement lock and buzzer alarm require license to activate. GPS function relies on IoT module and GPS license.
- 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)
- ③ Charging and discharging current may be derated or battery will be protected when battery is out of the temperature range
- ④ When the output power of battery reaches to the maximum value, over temperature protection may be triggered, which shortens the battery discharging time.
- ⑤ The parameters in this datasheet are based on the date of production, and may be affected by external environment factors, such as temperature, transportation, and storage.

Charge curve @ 0.2C, 35°C



Discharge performance @ different discharge rate @ 35°C



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