Euroka Energy Storage Module 100AH 48VDC

LBE-ESM100AH

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INTRODUCTIONS

Lek Energy has developed a state-of-the-art energy storage module, the LBE-ESM100AH, which incorporates numerous intelligent features and advanced security functions to prevent theft. This module system can connect to a telecom power source and leverages cloud-lithium collaboration via IoT gateway to enable even more intelligent functionality through PMS. Its optimized design enables efficient energy storage at specific locations through flexible and fast charging options and a prolonged battery life. Additionally, the system can be connected to parallel lead-acid battery strings, providing opportunities for battery reuse.

FEATURES

- **D3- Intelligent functionality:** Includes SOC&SOH management, simplified O&M, and self-management features (requires SOH and PMS license)
- **Intelligent collaboration:** Collaborates with an intelligent power system for advanced functionality such as intelligent peak shaving, staggering, voltage boosting, and hybrid use. Can also work with an intelligent management system for cloud-based peak shaving, staggering, voltage boosting, and hybrid use
- **Intelligent anti-theft design:** Features GPS, software lock, displacement lock, and buzzer alarm for enhanced security
- **High reliability:** Integrated BMS design ensures long service life
- **High-density:** 100 Ah capacity with only 3U height

SCENARIOS

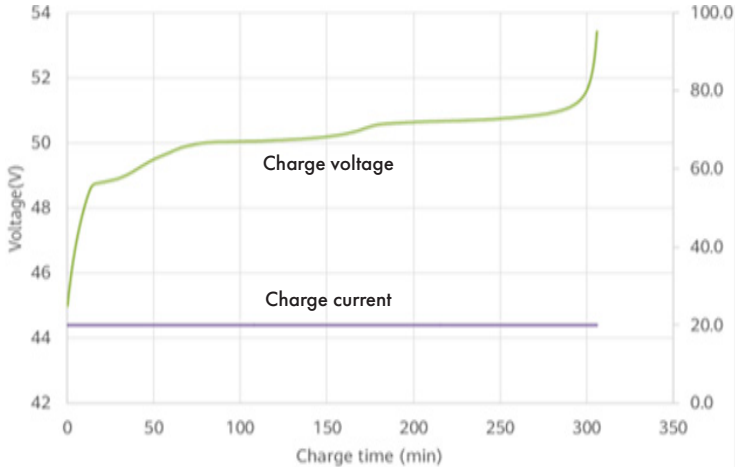
- Enterprise telecom scenario

SPECIFICATIONS

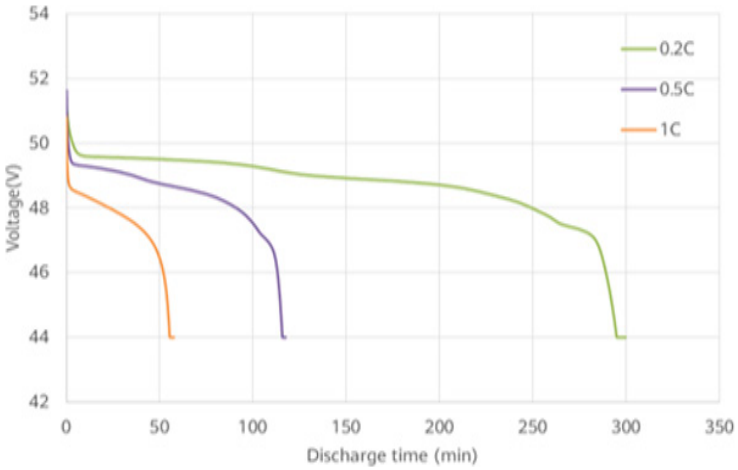
Item	Description
Basic Parameters	
Product Model	LBE-ESM100AH
Cathode Material	$LiFePO_4$
Nominal Voltage	48 Vdc
Nominal Charging Voltage	56.4 Vdc
Max. Charging / Discharging Current Limited	100 A @ 35ºC
Max. Charging / Discharging Power	4800 W
Cycle Life	3500 cycles @ 0.5C, 85% DOD, 70% EOL, 35ºC
Nominal Capacity	100 Ah @ 0.2C, 35ºC
Weight	Approx. 43kg
Dimension (W X D X H)	442mm x 396mm x 130mm (excluding mounting ear)
Self Discharge @ 25ºC	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
Environment	
Storage Temperature[1]	Storage: 0ºC to 40ºC
Transportation Temperature	-40ºC to 60ºC
Operating Temperature[2]	Charging: 0ºC to 45ºC; Discharging: -20ºC to 45ºC
Relative Humidity	5% to 95%
Operating Atmospheric Pressure	61kPa~113kPa

1. *The recommended storage temperature is 20 ~ 30ºC, the battery life would be reduced if battery is stored in high temperature. (The recharging interval should be 12 months when temperature is below 30ºC, and it should be 8 months when temperature is 30 ~ 40ºC)*
2. *Charging and discharging current may be derated or battery will be protected when battery is out of the temperature range*
3. *When the output power of battery reaches to the maximum value, over temperature protection may be triggered, which shortens the battery discharging time.*
4. *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, 35ºC



Discharge performance @ different discharge rate @ 35ºC



Note: This is the discharge curve of a single lithium battery. The actual discharge curve may vary depending on the system environment and application scenario