LV 48V480Ah Forklift Battery

Sodium-Ion Battery



LithiumValley focuses on the R&D of lithium and sodium batteries for electric forklifts, positioning its products as safe, reliable and efficient partners for electric forklifts.

Our forklift batteries are available in 48V to 80V, using Grade A cells with automotive- grade quality. Equipped with triple - safety BMS and IoT 4G+GPS module, the batteries support intelligent fault diagnosis, remote cloud management and 2- hour fast charging. With an integrated thermal management system, they allow charging and operation at low temperatures. The capacity and power are suitable for 1.5t to 3.5t counterbalance forklifts.

These batteries are widely used in logistics warehouses, distribution centers, factories, cold stores and food processing. They are compatible with mainstream forklift brands such as Toyota and Genie for excellent performance.

Certified by UL and CE and compliant with BCI and DIN dimensions, our batteries are the ideal choice for the European and American markets.

Key Features

- Grade A LFP Cell
- Advanced BMS（Triple-Protection）
- Smart 4G Module
- Integrated Heaters
- ≥3,500 Times of Cycle Life
- Weight Adaptors
- 10 Years of Design Life
- Automotive-Grade Manufacturing Quality
- Global certified

Applications

- Counterbalanced Forklifts
- Class I electric forklifts used in material handling operations, and multi-shift warehouse fleets requiring opportunity charging.

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NOMINAL	
Voltage	48V
Nominal Capacity (25°C)	480Ah (capacity is measured under 0.2C / 25°C @ BOL)
ELECTRICAL	
Energy	
Nominal Energy (25°C, 0.2C)	22080Wh (capacity is measured under 0.2C / 25°C @ BOL)
Volumetric Energy Density	54.9Wh/L
Gravimetric Energy Density	26.5Wh/kg
Standard Discharge (25°C)	
Maximum Continuous Current	300A
Peak Discharge Current(<30s)	500A
Discharge Cut-off Voltage	40V
Standard Charge (25°C)	
Maximum Continuous Current	200A
Recommended Charging Current	100A
Charge Cut-off Voltage	55.2V
Shipment Voltage	48V～51.2V
Internal Impendence(AC)	< 20mΩ
MECHANICAL	
Dimensions (W x H x D)	900(±1) x 810(±1) x 551(±1) mm
Weight	Approx. 833± 5 kg
Total Cells Quantity in Battery Module	16S3P (Prismatic type cell)
Materials of Battery Case	SPCC
Cell	SIB 160Ah
Color	RAL9005 matte(Black)
Ingress Protection Rating	IP67
ENVIRONMENTAL	
Calendar Life (25°C)	> 10 years
Cycle Life (0.3C/0.5C, DOD 100%, 25°C)*	SOH 80%, ≥3500 cycles
Optimum Working Temperature**	10℃～35℃
Charge Temperature Range	0℃～55℃
Discharge Temperature Range	-40℃～60℃
Storage Temperature	0℃～45℃ (Recommended range: 10℃～35℃)
BMS PARAMETERS	
Voltage (Charge)	Cell voltage protection: 3.45V protection (Recover at 3.35V) Total voltage protection: 55.2V protection (Recover at 53.6V)
Voltage (Discharge)	Cell voltage protection: 1.5V protection (Recover at 2.0V) Total voltage protection: 24V protection (Recover at 32V)
Current (Charge)	Normal ≤ 200A Charging current limiting function: > 220A (10 sec)

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	Charging current limiting function: > 250A (3 sec)
Current (Discharge)	Normal ≤ 300A Over current protection 1: > 350A and < 700A (180 sec) Over current protection 2: > 700A (30 sec) Short circuit protection: ≥ 3000A (< 500us)
Temp (Cell)	Low temp protection: Charging < 0°C, Discharging < -40°C High temp protection: Charging > 55°C, Discharging > 60°C
Temp (PCB)	Temp protection ≥ 80°C (Recovery < 75°C)
Cell Balance (Balance)	BMS includes passive balancing circuit and algorithm, (Current: < 50mA)

STANDARDS

Safety	

PRODUCT INFORMATION

Product No.	8888-02-000147
Battery Model	VP48-480F-A
Product Description	Battery pack Sodium-Ion 48V480Ah

* 0.3C/0.5C means charge 0.3C and discharge 0.5C

** Operation temperature means the ambient temperature. Protection may be triggered if the conditions defined in the specification are exceeded.

All specifications are subject to change without prior notice.

Performance may vary depending on, but not limited to cell usage and application. If a cell is used outside specifications, performance will diminish.

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