



Iron-V

LFP12-20EV (12V 20Ah) Specification

Iron-V Lithium Iron Phosphate Battery



Attentions:

- When the battery needs to be used in parallel or in series, each battery shall be fully charged according to the standard charging method before parallel or in series.
- When the battery is discharged empty. It should be recharged in time. Otherwise the BMS can't work due to low voltage, and the battery will be permanently invalidated.

Features

Cost
Effectiveness



Longer
Service Life



Guaranteed
Safety



Fast Charge



Drop-in
Replacement



Technical Characteristics

NOMINAL CHARACTERISTICS

Nominal Voltage	12.8 V
Nominal Capacity	20Ah
Energy	256Wh
IR	≤35mΩ@100%SOC
Efficiency	≥99.5%
Maximum Modules in Series	4 (Single Use)

CHARGE & DISCHARGE CHARACTERISTICS

Voltage Window	10.8-14.6V
Max. Continuous Charge Current	20A
Max. Continuous Discharge Current	30A
Peak Discharge Current	80A (10s)
Recommended charge current/A	10A
Recommended discharge current/A	10A
Charge current cut-off/A	0.6A

OPERATING CONDITIONS

Cycle Life	≥2000
Operating Temperature	Charge: 10°C~45°C Discharge: -20°C~55°C
Storage Temperature	20°C ~ 30°C
Storage Duration	12 months at 25°C

MECHANICAL CHARACTERISTICS

Case Material	ABS
Dimension (L*W*H)	181*77*167
Weight	2.9Kg±5%
Terminal Type	F13 (M5)
IP Grade	/
BCI Group NO.	/
Cell Type-Chemistry	Cylindrical LiFePO ₄

BMS CHARACTERISTICS

Primary Charging Protection	Current: 40~60A Delay time: 15±2s
Secondary Charging Protection	Current: ≥60A Delay time: ≤3s
Primary Discharging Protection	Current: 45~80A Delay time: 15±2s
Secondary Discharging Protection	Current: >80A Delay time: ≤3s
Over-charge Voltage Protection	Voltage: >14.8±0.2V Delay time: ≤3s
Over-discharge voltage protection	Voltage: <9.6±0.2V Delay time: ≤3s
High Temperature Protection	Charging: 65±3°C Recover: 60±3°C Discharging: 65±3°C Recover: 60±3°C
Low Temperature Protection	Charging: 0±3°C Recover: 3±3°C Discharging: -20±3°C Recover: -15±3°C



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Constant Current Discharge Data (Amperes@25°C)

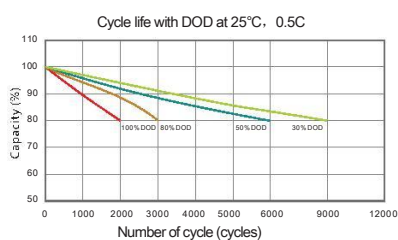
	1h	2h	3h	5h	10h
Cut-off voltage (10.8V)	20A	10A	6.66A	4A	2A

Constant Power Discharge Data (Watt@25°C)

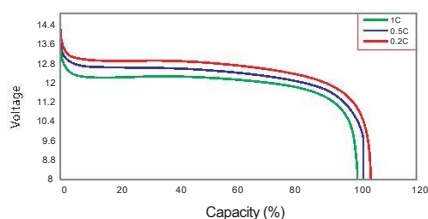
	1h	2h	3h	5h	10h
Cut-off voltage (10.8V)	230W	116W	77.6W	46.8W	23.6W

Cycle No. Vs DOD%

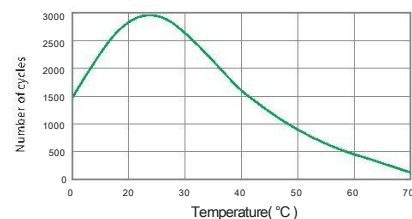
Number of Cycles Vs. DOD



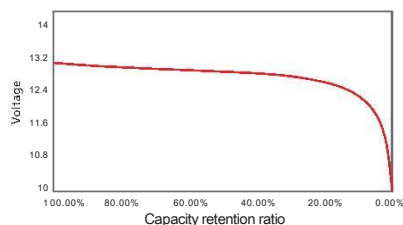
Discharge Performance at R.T.



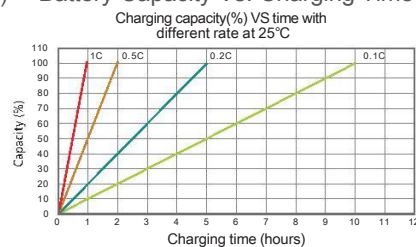
Cycle Life in Relation to Temperature



Battery Capacity (C) Vs. Open Circuit Voltage (OCV)
SOC Vs OCV



Battery Capacity Vs. Charging Time



Temperature Effects on Capacity

