

IFB24-540E3 (25.6V54AH)

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PN: 02350007

Lithium iron Phosphate Battery Specification

MODEL: IFB24-540E3(25.6V54Ah)

Prepared By/Date	Checked By/Date	Approved By/Date
LFZ / Sep. 14 th ,2020		

Customer Approval	Signature/Date
	Company Name
	Company Stamp

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1. Scope

The specification shall be applied to LiFeO4 Cylindrical battery of IFB24-540E3 which is ROHS compliant.

2. Specification

No.	Item	General Parameter	Remark
1	Typical Capacity	54Ah	Discharge: 0.2C Cut-off voltage: 20.0V
2	Minimum Capacity	52Ah	
3	Nominal Voltage	25.6V	
4	Internal Impedance	Battery: $\leq 80\text{m}\Omega$	AC 1KHz after standard charge
5	Charge voltage	29.2	
6	Standard charge current	10.8A	
7	Max. charge current	30A	
8	Standard discharge current	10.8A	0.2C
9	Max. continuous discharge current	30A	Peak Current 120A less than 1s
10	Discharge cut-off voltage	20V	

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11	Operating Temperature	0~45°C	Charging
		-20~60°C	Discharging
12	Storage Temperature	-10°C~45°C	Less than 1 month
		-10°C~40°C	Less than 6 months
		-10°C~35°C	Less than 12 months
13	Approx. Weight	11.28Kg	
14	Dimension	L*W*H 340 * 140 * 185mm	
15	Life Expectation	Residual capacity is more than 80% of the rated capacity	1) Charge: CC@0.2C to 29.2V, then CV till current to 0.05 C 2) Rest: 30min. 3) Discharge: 0.2C to 20.0V Temperature:20±5°C Carry out 1500cycles (DOD80%)
16	Assembly method	IFR26650-3.6AH	8S15P
17	Housing material	PVC Sleeve	With Battery Holder
18	BMS function	Over-charging protection; Over-discharging protection; Over-current protection; Short-circuit protection; Cells Balance Temperature Protection RS232 Communication	
19	Wires	Silicon wires AWG8, R=B=300mm	

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3. Performance And Test Conditions

3.1 Standard Test Conditions

Test should be conducted with new batteries within one week after shipment from our factory and the batteries shall not be cycled more than five times before the test. Unless otherwise specified, test and measurement shall be done under temperature of $20\pm 5^{\circ}\text{C}$ and relative humidity of 45~85%. If it is judged that the test results are not affected by such conditions, the tests may be conducted at temperature 15~30°C and humidity 25~85%RH.

3.2 Measuring Instrument or Apparatus

3.2.1 Dimension Measuring Instrument

The dimension measurement shall be implemented by instruments with equal or more precision scale of 0.01mm.

3.2.2 Voltmeter

Standard class specified in the national standard or more sensitive class having inner impedance more than 10kΩ/V

3.2.3 Ammeter

Standard class specified in the national standard or more sensitive class. Total external resistance including ammeter and wire is less than 0.01Ω.

3.2.4 Impedance Meter

Impedance shall be measured by a sinusoidal alternating current method (1kHz LCR meter).

3.3 Standard Charge/Discharge

3.3.1 Standard Charge : 0.2C

Charging at 0.2C constant current until the battery reaches 29.2V. The battery shall then be charged at constant voltage of 29.2V while tapering the charge current. Charging shall be terminated when the current has tapered to 0.05C. Charge time is approx 7.0 hours, the battery shall demonstrate no permanent degradation when charged between 0 °C and 45 °C.

3.3.2 Standard Discharge : 0.2C

Battery shall be discharged at a constant current of 0.2 C to 20V @ $20 \pm 5^{\circ}\text{C}$

3.3.3 If no otherwise specified, the rest time between charging and discharging is 30min.

3.4 Appearance

There shall be no such defect as crack, rust, leakage, which may adversely affect commercial value of battery.

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4. Handling of battery

4.1 Prohibition short circuit

Never short circuit battery. It generates very high current which causes heating of the battery and may cause electrolyte leakage, gassing or explosion that is very dangerous. The terminals may be easily short-circuited by putting them on conductive surface. Such outer short circuit may lead to heat generation and damage of the battery.

4.2. Mechanical shock

Falling, hitting, bending, etc. may cause degradation of battery characteristics.

5. Period of Warranty

The period of warranty is 18 months from the date of shipment. We guarantee to give a replacement in case of battery with defects proven due to manufacturing process instead of the customer abuse and misuse.

6. Storing the Batteries

The batteries should be stored at room temperature, charged to about 30% to 50% of capacity. We recommend that battery to be charged once each three months to prevent over-discharge.

7. Indicative Picture



Power Cable: Silicon wires AWG8, R=B=300mm, without connector
RS232 cable: length: 300mm, connector: RJ11 or DB-9

8. The specification is for reference only and subject to change when we make the samples.

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9. PCM Parameters

Details		Min.	Typ.	Max	Error	Unit
Battery Gas		3.2V				
Battery Link		8S				
Loop capability						
Input Charging Voltage			29.2		±1%	V
Input Charging Current				30		A
Output Discharging Voltage			25.6			V
Continuous Output Discharging Current				30		A
Ambient Condition	Operating Temperature	-20	25	85		°C
	Humidity (No Water-Drop)	0%		90%		RH
Storage Condition	Temperature	-40		85		°C
	Humidity (No Water-Drop)	0%		90%		RH
Protection Parameters (for Individual Cell).						
Over-Charge Voltage Protection (OVP)			3.90		±25mV	V
Over-Charge Voltage Protection Release (OVPR)			3.80		±50mV	V
Over-Discharge Voltage Protection (UVP)			2.30		±80mV	V
Over-Discharge Voltage Protection Release (UVPR)			2.5		±100mV	V
Over-Current Discharge Protection (OCDP)			150---250		±	A
Over-Current Protection Delay Time (OCPDT)			12		±5	mS
Over-Discharge Protection Release		Release load				
Over-Current Discharge Protection Release		Release load				
Short circuit current protection		---				
Short circuit current protection delay time			200	500	±100	uS
Short circuit protection Release		---				
Discharging Temperature			65		±5°C	°C
Discharging Temperature Protection Release			65		±5°C	°C
charging Temperature					±5°C	°C
charging Temperature Protection Release					±10°C	°C
Cell balance						
Bleed Start Point					±25mV	V
Bleed Current			72		±10	mA
Balance Mode						
Idle mode		--				uA
Consumption		--				uA
Main loop electrify resistance		≤35				mΩ
PCBA Size		136×80×30				mm



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