



# LITHIUM IRON PHOSPHATE BATTERY

**FEATURES** Lithium Iron Phosphate (LiFePO4): the Safest Lithium Technology. Integrated Battery Management System(BMS). RS485/RS232/SMBus/CANBus (Optional). SOC LED/LCD Indicator(Optional).

**PERFORMANCE** Long Cycle Life>6000cycles. High Density, High Discharge Current, High Temperature Range. Low Weight, Free Maintenance. Fast Charging. Environment Friendly.



ESS48-2.4 (48V50AH, 2.4KWH)

## BATTERY DATA SHEET

### Electrical Parameters

Nominal Voltage	48V
Rated Capacity	50Ah
Energy	2400Wh
Resistance	≤30m Ω
Efficiency	99%
Cycle Life	>2000cycles @1C,100% DOD
Self Discharge	2% per Month
Max. Modules in Series/Parallel	1S/15P

### Mechanical Parameters

Dimension(L x W x H)	482*440*133mm 18.97x17.32x5.23"
Weight	27kg (59.52lbs)
Terminal Type	M8
Battery Housing	Metal, UL-94 V-0
Housing Protection	IP20
Cell Type-Chemistry	LiFePO4
SOC Display(Optional)	LED/LCD Indicator

### Discharge Parameters

Continuous Discharge Current	50A
Pulse Discharge Current	100A (<15 seconds)
Recommended Volt. Disconnect	45V
BMS Discharge Cut-off Voltage	38.5V
Reconnect Voltage	43.5V
Short Circuit Protection	200~600 us

### Charge Parameters

Charge Method	CC-CV
Maximum Charge Voltage	54.75V
Recommended Float Voltage	51.75V
Recommended Charge Current	25A
Maximum Charge Current	50A

### Compliance Certificate

Certifications	UL1642(cell)
	CE
	IEC62133 & CB
	KC
	BIS
Shipping Classification	UN3480, Class 9, UN38.3

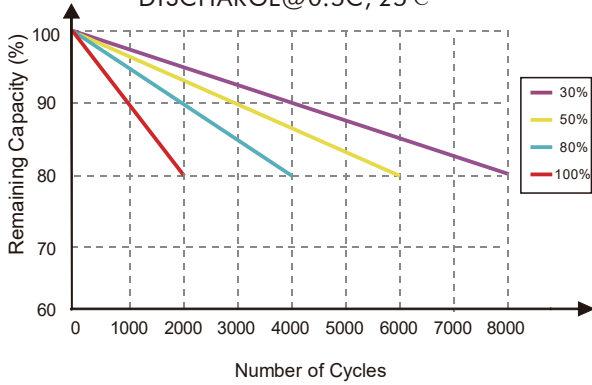
### Humidity & Temperature Parameters

Humidity	<80%
Operation Temperature	0°C to 50°C Charge -10°C to 50°C Discharge
Storage Temperature	-10°C to 50°C
BMS High Temperature Cut-off	80°C(176°F)

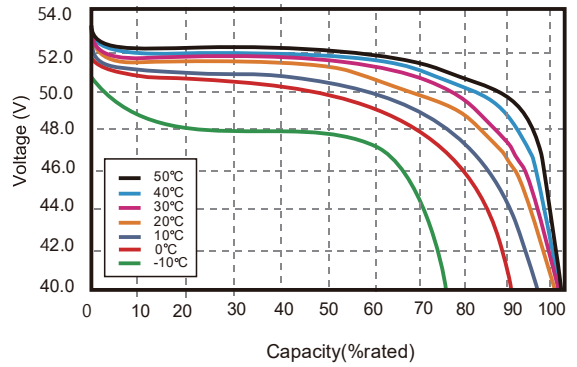


## Performance Characteristics

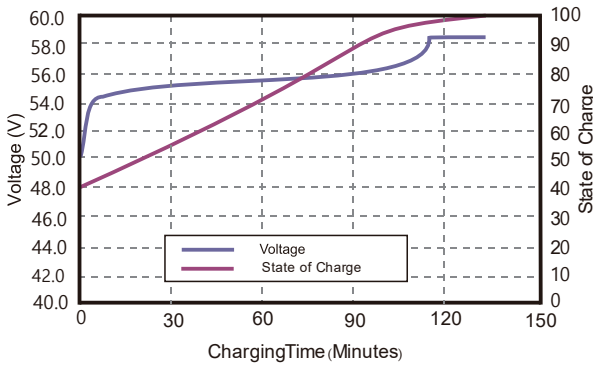
CYCLE LIFE vs. DEPTH OF DISCHARGE (DOD)  
DISCHARGE @ 0.5C, 25 °C



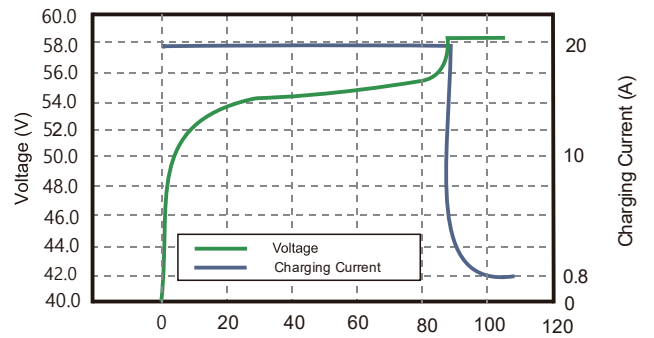
DISCHARGE CAPACITY at VARIOUS TEMPERATURES  
DISCHARGE @ 0.5C, 25 °C



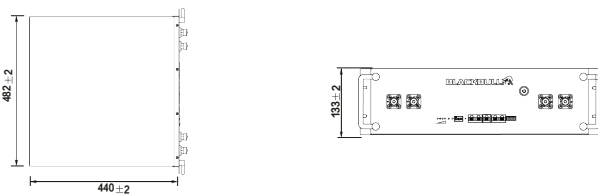
STATE OF CHARGE CURVE @ 0.5C, 25 °C



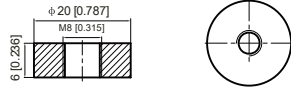
CHARGING CHARACTERISTICS @ 0.5C, 25 °C



### Battery Dimension



M8 - 1.0x 8mm  
Threaded Hole



### Battery



Number	Name
1	SOC
2	ALARM
3	RUN
4	DIAL
5	RESET
6	CAN1
7	CAN2
8	RS485-2
9	RS485A
10	RS485B
11	DRY CONTACT

### Battery Recycle



### Battery Applications

- + Solar Energy Storage System

**NOTE:** Do Not Mix With Sealed Lead Acid Batteries When Recycling.  
See User's Manual for Proper Operation.