

# LFP 40-12 (LiFePO4)

## 12,8V / 40Ah

The COSMOS lithium Series is the definitive choice for a wide variety of markets; Solar and Renewable Energy Storage; Electric Vehicle and Golf cart; Industrial equipment; Floor Machines; Robotics; Marine and UPS systems.

### FEATURES:

- Long service life / Long cycle life
- Low self-discharge
- Less weight than lead acid batteries
- Excellent performance in all operation temperatures
- Built-in BMS (Battery Management System)
- Unique QR-coding on each battery
- Batteries don't require much servicing to prolong its service life

### Technical Specifications

Lithium Chemistry	: LiFePO4
Rated Nominal Voltage	: 12,8V
Nominal Capacity	: 40Ah
Nominal Rated Energy	: 512 Wh
Design Life (Float Application)	: 15 yrs
Cycle Life (0.2C, 25°C)	: 6000* (*tested on cell level)
Overall Duty Efficiency	: 99,50%
Number of cells per block	: 4
- Number of strings per block	: 1
- Number of cells per string	: 4
Maximum Series Blocks	: 4
Maximum Parallel strings	: 4
Communications Protocols (if applicable)	: No (optional)
Heater installed	: No (optional)

### Mechanical Specifications

Dimensions (L x W x H)	: 195x165x171 mm
Weight	: 5.7kg
Terminal Type	: M6
Terminal Torque Recommendation	: 8.5 Nm
Case Material	: ABS
IP Class	: IP50

### Charging Information

	<i>See also BMS Parameters</i>
Charging Voltage Range	: 14.6~14.8V
Float Voltage Range	: 13.6~13.8V
Max. constant current	: 50A

### Discharging Information

	<i>See also BMS Parameters</i>
Cut-off Voltage	: 8.8V
Max. constant current	: 50A
Max. peak current	: 180A

### Storage/Operating Temperatures

	<i>See also BMS Parameters</i>
Storage	: -20~45 °C
Discharge	: -23~65 °C
Charge	: -3~65 °C

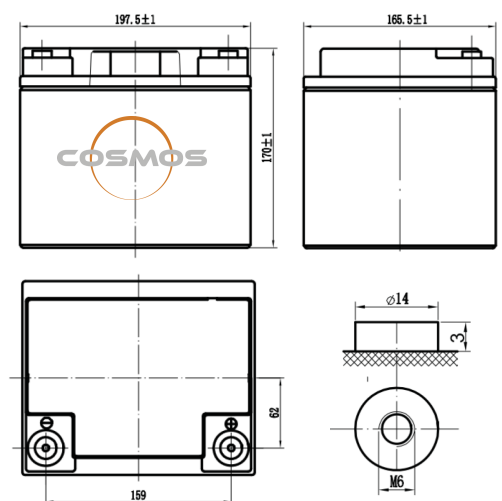


### APPLICATIONS:

- Telecom
- Stand-By
- Energy Storage
- Light scooters
- Patient Lifts
- Small Industrial Applications
- RV's / Leisure
- Boats / Nautical
- All light cyclic applications

### SAFETY STANDARD:

- UN38.3



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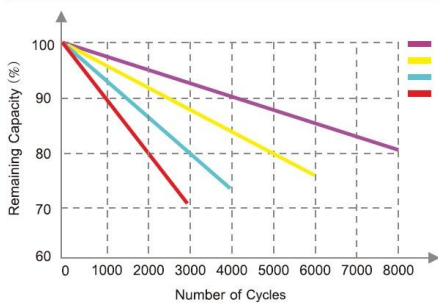


## BMS PARAMETERS

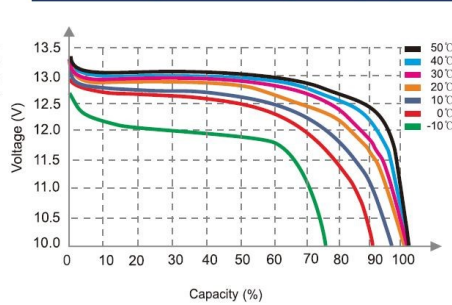
NO.	Type		Function	Setting Value	Remarks
				Model	
1	Voltage	Charge	Cell Voltage Protection	3.65V Protection	Recover at 3.525V
2			Total Voltage Protection	14.6V Protection	Recover at 14.1V
3		Discharge	Cell Voltage Protection	2.3V Protection	Recover at 2.7V
4			Total Voltage Protection	9.2V Protection	Recover at 10.8V
5	Current	Charge	Normal	≤ 50A	-
6			Over Current Protection 1	-	-
7			Over Current Protection 2	-	-
8		Discharge	Normal	≤ 50A	-
9			Over Current Protection 1	180A	Delay 30s, recovery in every 1 min
10			Over Current Protection 2	-	-
11			Short Circuit Protection	≥ 700A	Delay 1ms
12		Temp	Cell Temp 1	Low Temp Protection	Charging ≤ 0°C Discharging ≤ -20°C
13	Cell Temp 2		High Temp Protection	Charging ≥ 70°C  Discharging ≥ 75°C	Delay 1 ~ 2s
14	PCB		Range	≥ 95°C	Recovery at 75°C

## STATE OF CHARGE

Different DOD Discharge Cycle Life Curve 1C 25°C



Different Temperature Discharge Curve(0.2C)



State of Charge Curve(0.5C, 25°C)

