



TPBAT12-50-L

DATA SHEET

12V 50Ah LFP Battery

Features

- **Longer Cycle Life: Up to 20X over Lead Acid**
- **Less Weight: ~40% less than Lead Acid**
- **Higher Power: 2x more Watt Hours than Lead Acid**
- **Stable and Safe Lithium Iron Phosphate (LiFePO4)**
- **On Board Battery Management (BMS)**
- **Size is same as comparable Lead Acid Battery**
- **Drop in Replacement for Lead Acid Battery**
- **Integrated Carrying Handles**



TPBAT12-50-L
Lithium Battery

Applications

- **Remote Power Systems**
- **Backup Power Systems**
- **Off-Grid Systems**
- **Wheel Chairs, Golf Carts, Scooters**
- **Lighting**
- **RV and Boat**

Description

The TPBAT12-50-L LFP (LiFePO4) battery is a high reliability drop-in replacement for comparable Lead Acid batteries. It provides >4000 discharge cycles @ 80% discharge, about 20x what a Sealed Lead Acid battery typically provides. It also provides almost 2x usable energy storage over lead acid batteries with the same Ah rating.

The integrated battery management system (BMS) handles all charging and discharging regulation so that the battery can be charged using the same solar or grid connect chargers used for Lead Acid batteries. Along with its standard mechanical size, the integrated BMS allows the battery to be a true drop-in replacement for a similar sized Lead Acid battery.

The LiFePO4 chemistry is very stable and minimizes the risk of explosion or combustion due to impact, overcharging or short circuit. The 40% less weight and the integrated carrying handles make the battery easier to transport and install at remote sites.

Up to 4 batteries can be connected in series or parallel to achieve a higher battery bank voltage (series) or more energy storage (parallel). There are two 6mm screw terminals for connecting battery cables. M6 bolts are included.

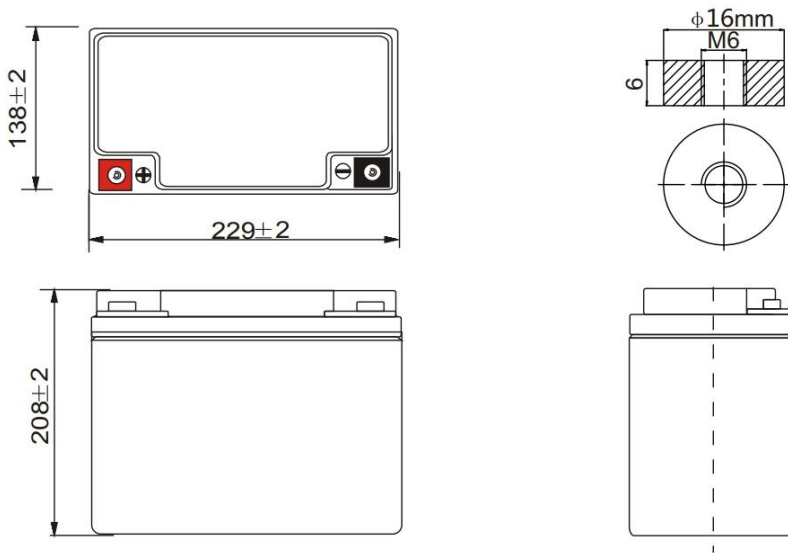
For long term storage it is recommended to charge to 60% charge every 6 months.



Specifications

Nominal Voltage	12.8V
Nominal Capacity	50Ah 640Wh
Internal Resistance	<30mΩ
Cycle Life	>4000 Cycles @ 80% DOD
Self Discharge	<3% per month
Charge Voltage	14.6 +/-0.2V
Charge Current	10A Recommended, 25A Max
BMS Charge Cutoff Voltage	14.6 +/- 0.2V
Typical Discharge Current	50A Max
Peak Discharge Current	100A for < 3 seconds
BMS Discharge Cutoff Voltage	10V
Charge Temperature	0 to 55C (32 to 131F)
Discharge Temperature	-20 to 60C (-4 to 113F)
Suggested Storage Temperature	-20 to 45C (-4 to 113F)
Weatherproofing	IP65
Case	ABS
Terminal	M6 Bolts (Included)
Dimensions (LxWxH)	9.5 x 5.4 x 8.2" (229 x 138 x 208mm)
Weight	13.5lb (6kg)
Parallel or Serial Connections	4 batteries maximum serial or parallel
Shipping Class	Class 9 – Hazardous Materials
Certifications	UN38.3
Warranty	3 Years

LiFePO4 Voltage versus Capacity		
VOLTAGE (12V)	VOLTAGE (24V)	CAPACITY
14.6V	29.2V	100% (charging)
13.6V	27.2V	100% (resting)
13.4V	26.8V	99%
13.32V	26.64V	90%
13.2V	26.4V	70%
13.12V	26.24V	40%
13V	26V	30%
12.92V	25.84V	20%
12.8V	25.6V	17%
12.52V	25.04V	14%
12V	24V	9%
10V	20V	0%



System Ordering:

TPBAT12-50-L 12V 50Ah LiFePO4 Lithium High Cycle Long Life Battery

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