



## LITHIUM BATTERY MANUAL



## LEGAL GUARANTEES

In accordance with Law 1480 of 2011 Consumer Statute and Decree 735 of 2013 Legal Guarantee:

- To request a guarantee, the customer is obliged to report the damage to the product, make it available to the company at the guarantee service point at AV CL 80 69-70 Unit 1C, and indicate the invoice number to determine your purchase date.
- The delivery of the repaired product will be delivered to the customer at the warranty service point, unless the customer requests to send it to a different destination, in which case the customer must assume the cost of freight.
- In any case, when a product repair guarantee is denied or approved, the respective written report must be issued supporting the evidence that justifies the decision.
- In no case will Tb Plus Energy proceed with the replacement of the product given under warranty since, if the repair does not proceed, a credit note will be issued which covers the acquisition of another new product or service or the return of the money paid.
- If the failure repeats once the product has been repaired, only the credit note applies which covers the acquisition of another new product or service or the return of the money paid.
- When the customer opts for a refund of the money, it will be for the amount of the sale price. For this purpose, they must send a communication signed by the legal representative, which indicates the bank details to make the return, the which will be effective within fifteen (15) business days after receipt of the return request.
- The repair of the product will be carried out within 30 business days following the claim, which is carried out by filling out the GP-F-018 Warranty Form, which is completed in the PQRF Guarantees tab on the WEB page [www.tbplusenergy.com](http://www.tbplusenergy.com) or at the following link:  
[https://forms.office.com/Pages/ResponsePage.aspx?id=K987JK0Nuke\\_1n30RF9URwiKWAfZovhDrWEVYGmhK95UOVZYUFBWMUpaQVZBM0hIS0RKUjdLSkdIWS4u](https://forms.office.com/Pages/ResponsePage.aspx?id=K987JK0Nuke_1n30RF9URwiKWAfZovhDrWEVYGmhK95UOVZYUFBWMUpaQVZBM0hIS0RKUjdLSkdIWS4u)
- Once the guarantee form has been completed, the client has 15 days to make it available at the guarantee service point.
- The product manuals in which proper use, installation instructions and periods covered by the warranty are reported are found in the PQRF Product Manuals tab on the website [www.tbplusenergy.com](http://www.tbplusenergy.com).

# TECHNICAL SPECIFICATIONS

## Product description

Lithium Iron Phosphate (LiFeP04) batteries are designed to outperform traditional lead-acid batteries on the road, in the water or off the grid. Offering more usable power in a lightweight, maintenance-free package that's safe, reliable and worry-free.

## Main properties

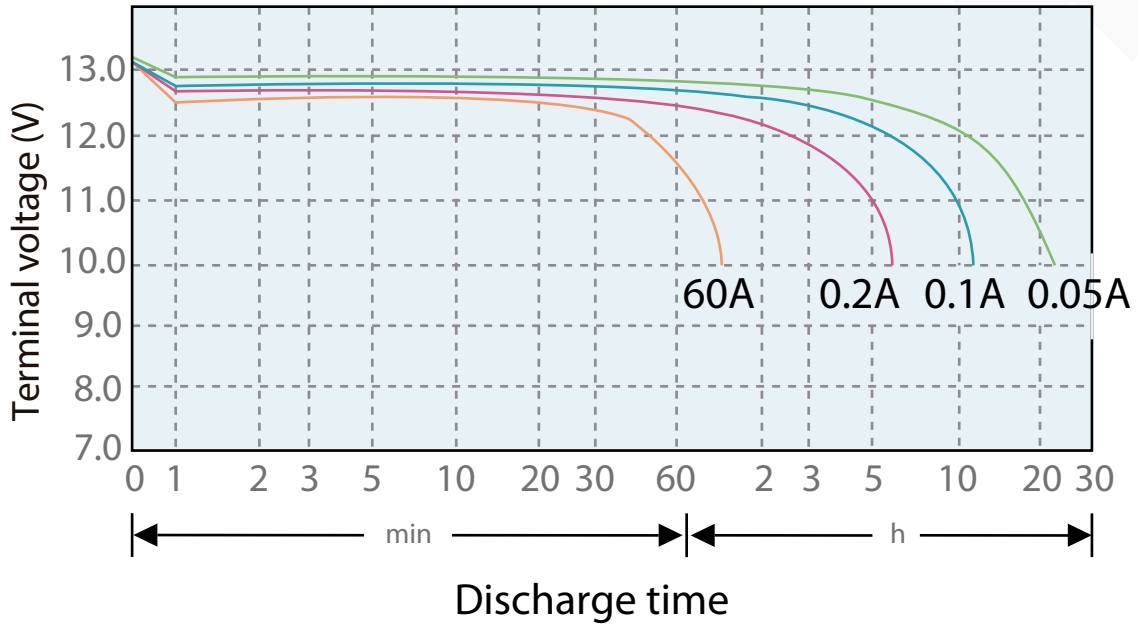
- High energy density.
- High resistance to high temperatures and humidity.
- High efficiency between charging and discharging, with very little energy loss.
- Good charging efficiency at high temperatures.
- High charging currents that allow charging times to be shortened.
- Superior useful life.
- Electronically regulated temperature management by BMS.
- High energy retention.
- Integrated electronics.
- High security: built-in protection functions.
- Simple installation.
- Greater care for the environment and less pollution.

# TECHNICAL VARIABLES

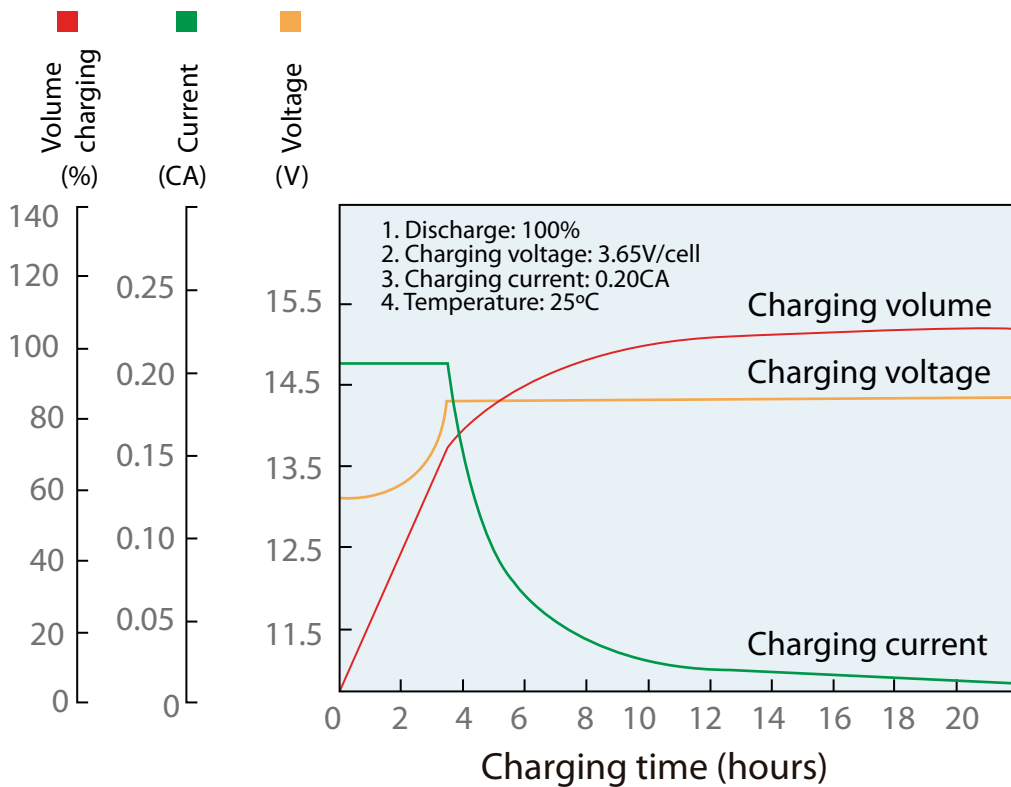
Dimensions and Features			
	TB 12-75AH	TB 12-100AH	TB 12-150AH
Nominal Capacity	75AH	100AH	150AH
Weight	9.30kg	11.30kg	18.25kg
Length (mm)	357	331	484
Width (mm)	166	173	170
High without Terminal (mm)	173	220	241
Capacity (25°C) - rate 10 hours	(7.5A) 75ah	(10A) 100ah	(15A) 150ah
Specification			
Voltage	12V		
Internal resistance	<30mΩ		
Affected capacity by temperature	40 °C	101 %	
	25 °C	100 %	
	0 °C	93 %	
	-20 °C	65 %	
Residual capacity	Cap. after 3 months of storage	87 %	
	Cap. after 6 months of storage	74 %	
	Cap. after 12 months of storage	50 %	
Load (Constant Voltage)	Cycle (25° C)	Initial charging current less than 30A Voltage 14.4 - 15.0V	
	Float (25° C)	Charging voltage 13.6 ~ 13.8v	
Current discharge (25°C)	60A (Max. continuous); 90A (5 seconds)		

# GRAPHICS

## Discharge Features

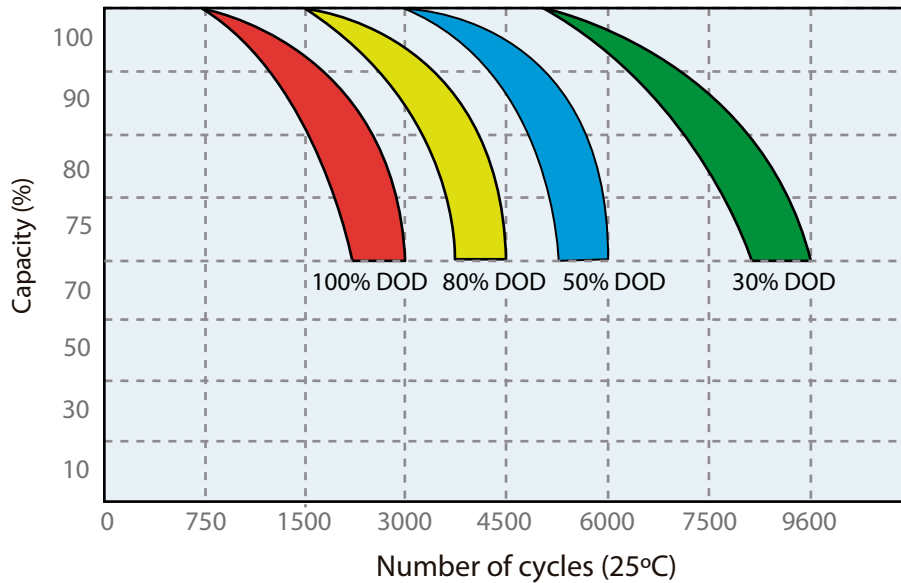


## Charging voltage characteristics

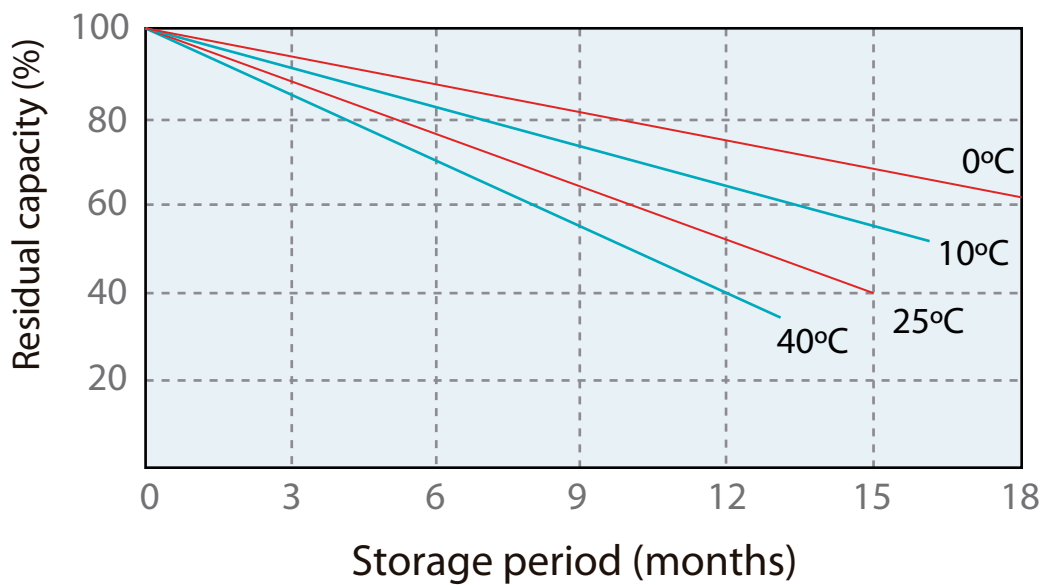


**GRAPHICS**

**Life cycle in relation to depth of discharge**



**Residual capacity**



## WARRANTY CONDITIONS


Tb Plus Energy guarantees that each product is free of defects in materials and manufacturing, and offers a guarantee for a period of **60 months** from the purchase of the product.


## RECOMMENDATIONS


- Follow loading and unloading recommendations.
- Charge to 100% on the first charge.
- Store in a safe place. Free of light, water and dust.
- Install under certified professional recommendation.
- Do not expose to nearby heat sources.
- Do not connect equipment with a power greater than that with which the power supply has been sized battery or system.
- Once a year check the battery charge level.
- Keep the battery free of objects and obstacles.
- Do not manipulate its edges with your hands.
- Do not leave them within the reach of children.
- It is not recommended to install series and parallel simultaneously.


\*Other battery capacities can be developed and supplied upon request.


# Tb Plus <sup>®</sup>


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