



VICTRON lithium iron phosphate batteries

VICTRON Lithium-iron-phosphate (LiFePO4 or LFP) batteries have integrated cell balancing and cell monitoring. Up to ten batteries can be paralleled and **up to four batteries can be series-connected**, so that a **48V battery bank of up to 3000Ah** can be assembled. The cell balancing / monitoring cables can be daisy- chained and must be connected to a Battery Management System (BMS).

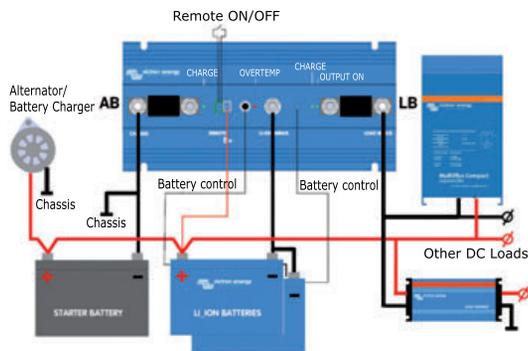
Battery Management System (BMS)

The BMS connects to the BTV and will:

- 1 - Prevent cell undervoltage (lower than 2.5V) by timely disconnecting/switching off the load.
- 2 - Prevent cell overvoltage (exceeding 4.2V) by stopping the charge process.
- 3 - Shut down the system in case of overtemperature (exceeding 50° C).
- 4 - Carry out cell balancing.
- 5 - BMS supplies up to 200 A with any CC load (inverters and inverters/battery chargers included);
- 6 - More features may be included: see the individual BMS data sheet.

Advantages:

- 1) Lithium-iron-phosphate (LiFePO4 or LFP) is the safest of the mainstream li-ion battery types. The nominal voltage of an LFP cell is 3.2V (lead-acid: 2V/cell). A 12.8V LFP battery therefore consists of 4 cells connected in series; and a 25.6V battery consists of 8 cells connected in series.
- 2) **Up to 70% more lightweight and compact in comparison with traditional batteries.**
- 3) A lead-acid battery will fail prematurely due to sulphation:
 - If it operates in deficit mode during long periods of time (i.e. if the battery is rarely, or never at all, fully charged).
 - If it is left partially charged or worse, fully discharged.
 An LFP battery does not need to be fully charged. Service life even slightly improves in case of partial charge instead of a full charge. This is a major advantage of LFP compared to lead-acid.
- 4) Other advantages are the wide operating temperature range, excellent charge cycle performance, low internal resistance and high efficiency (see below).



Code	Description	lmm	kg
12.415.01	Battery 50 A-h	239x286x132	7
12.415.02	100-A-h battery	197x321x152	14
12.415.05	160-A-h battery	237x321x152	18
12.415.08	200-A-h battery	237x321x152	20
12.415.09	Battery 330 A-h	345x425x274	51
12.415.20	BMS management system	65x120x260	1.8

LIONTRON®

Liontron lithium batteries

- 10YEARS WARRANTY
- INTEGRATED BMS
- DEVELOPED IN GERMANY

Liontron lithium batteries totally replace an AGM or lead battery. They are a lightweight solution still being a large power reserve and offering voltage stability even under very high load. Maximum safety and long duration are ensured even with regular deep discharges thanks to the latest lithium technology. Shockproof and **waterproof** due to protection rating **IP67**. They allow an extremely high life cycle level (**over 3000 cycles at 90%**). Possible parallel connection to increase capacity. Equipped with **BMS** and integrated **Bluetooth 4.0** to always keep everything under control on your smartphone. The **Arctic*** versions feature heating elements that keep the cell temperature above the freezing point and can be used down to a temperature of **-30°C**.



Code	A-h	Wh	V	Pole (+)	lmm			kg
					Width mm	Height mm	depth	
12.460.01	55	704	12.8	SX (M8 female)	350	163	171	10.8
12.460.02	80	1024	12.8	SX (M8 female)	260	209	169	10.5
12.460.03*	100	1280	12.8	SX (M8 female)	350	215	171	14.2
12.460.04*	150	1920	12.8	SX (M8 female)	350	267	171	19.3
12.460.05*	200	2560	12.8	SX (M8 female)	390	257	232	25.8

* Arctic Versions