12,8, 25,6 & 51,2 Volt Lithium NG batteries

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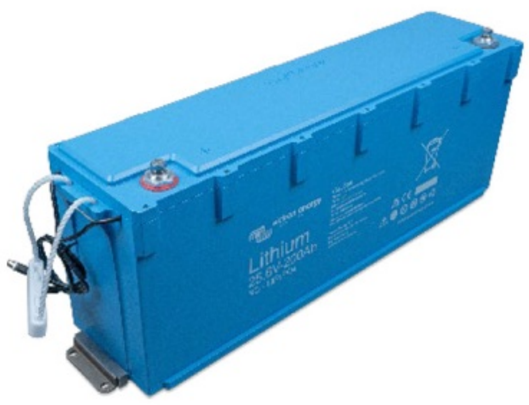
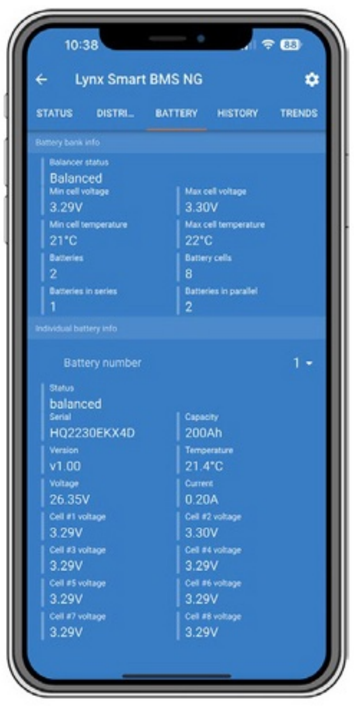
25,6 V 200 Ah Lithium NG battery



Secured with mounting brackets

Lynx Smart BMS NG 500 A & 1000 A



Complete overview of all battery data via VictronConnect (or a GX device and VRM)

Victron Energy Lithium NG batteries are Lithium Iron Phosphate ($LiFePO_4$ or LFP) batteries available in various capacities with nominal voltages of 12.8 V, 25.6 V and 51.2 V. They can be connected in series, parallel, or a combination of both to create battery banks for system voltages of 12V, 24V, or 48V. A maximum of 50 batteries can be used when configuring a bank with 12V or 24V batteries, while up to 25 batteries can be used with 48V batteries. This allows for a maximum energy storage capacity of 192 kWh with 12V batteries, up to 384 kWh with 24V batteries, and 128 kWh with 48V batteries.

Key features:

Integrated shunt

The battery data (battery voltage, current and temperature) are transmitted to the BMS and evaluated there, i.e. to calculate the state of charge, which can then be read out via VictronConnect or a GX communication centre, or to create and issue specific warnings and alarms.

Automatic setup, monitoring and control via VictronConnect App or a GX device and the VRM Portal

All battery parameters are managed by the BMS automatically. The BMS automatically detects the system voltage and the number of batteries in parallel, series and series/parallel connection. The BMS (from now on Lynx Smart BMS NG 500 A/1000 A, further models to follow) is mandatory and must be purchased separately.

Monitoring and control take place via VictronConnect (every BMS model has Bluetooth), a GX communication centre or the VRM Portal. You can view battery parameters such as cell status, cell voltages, battery current and temperatures in real-time. The battery firmware is automatically updated by the BMS.

Easy bracket mounting

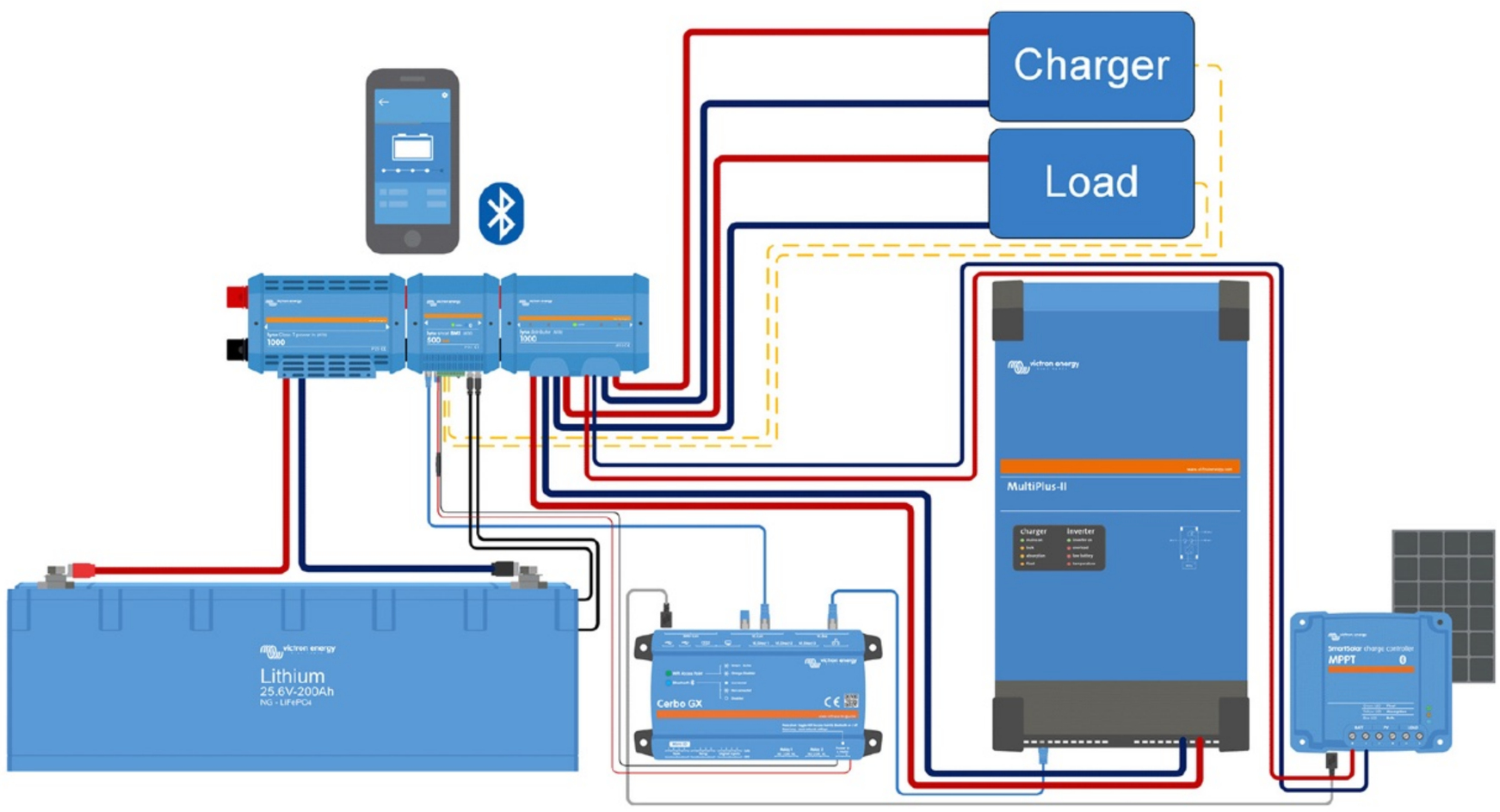
Mounting brackets make the installation easier and ensure that the battery is optimally secured against slipping and tipping over.

Increased ingress protection (IP-rating)

The Lithium NG batteries are effectively sealed against dust and can withstand low-pressure water jets, making them suitable for environments where exposure to dust and water is a concern.

Low self-discharge rate

The self-discharge rate has been significantly improved and is now a maximum of 2 % of the battery capacity per month. A low self-discharge rate contributes to the overall performance, longevity, and reliability of the NG batteries.



Typical system example with Lithium NG battery and Lynx Smart BMS NG

Our Lithium NG batteries have integrated cell balancing and cell monitoring. 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 will:

1. Generate a pre-alarm whenever the voltage of a battery cell decreases to less than 3.0 V.
2. Disconnect or shut down the load whenever the voltage of a battery cell decreases to less than 2.8 V.
3. Stop the charging process whenever the voltage of a battery cell increases to more than 3.6 V or when the temperature becomes too high or too low.

See the BMS datasheets for more features.

Battery specification

VOLTAGE AND CAPACITY	LFP-12,8/100	LFP-12,8/150	LFP-12,8/200	LFP-12,8/300	LFP-25,6/100	LFP-25,6/200	LFP-25,6/300	LFP-51,2/100
Nominal voltage	12,8 V	12,8 V	12,8 V	12,8 V	25,6 V	25,6 V	25,6 V	51,2 V
Nominal capacity @ 25 °C*	100 Ah	150 Ah	200 Ah	300 Ah	100 Ah	200 Ah	300 Ah	100 Ah
Nominal energy @ 25 °C*	1280 Wh	1920 Wh	2560 Wh	3840 Wh	2560 Wh	5120 Wh	7680 Wh	5120 Wh
Capacity loss	(per 100 cycles, @ 25 °C, 100 % DoD): <1 %							
Energy loss	(per 100 cycles, @ 25 °C, 100 % DoD): <1 %							
Round trip efficiency	92 %							
*Discharge current ≤1C								
CYCLE LIFE (capacity ≥ 80 % of nominal)								
80 % DoD	2500 cycles							
70 % DoD	3000 cycles							
50 % DoD	5000 cycles							
DISCHARGE								
Max continuous discharge current (C-rate)	100 A (1C)	150 A (1C)	200 A (1C)	300 A (1C)	100 A (1C)	200 A (1C)	300 A (1C)	100 A (1C)
Max pulse discharge current 10s (C-rate)	200 A (2C)	300 A (2C)	400 A (2C)	600 A (2C)	200 A (2C)	400 A (2C)	600 A (2C)	200 A (2C)
End of discharge voltage	11,2 V				22,4 V			44,8 V
Internal resistance	2 mΩ		1 mΩ		4 mΩ	2 mΩ	1 mΩ	8 mΩ
CHARGE								
Charge voltage	Between 14 V / 28 V / 56 V and 14,4 V / 28,8 V / 56,8 V							
Float voltage	13,5 V / 27 V 54 V							
Max continuous charge current (C-rate)	100 A (1C)	150 A (1C)	200 A (1C)	300 A (1C)	100 A (1C)	200 A (1C)	300 A (1C)	100 A (1C)
Max pulse charge current 10s (C-rate)	200 A (2C)	225 A (1.5C)	400 A (2C)	450 A (1.5C)	200 A (2C)	400 A (2C)	450 A (1.5C)	200 A (2C)
GENERAL								
BMS-es	Lynx Smart BMS NG 500 A / 1000 A (M10 busbars), must be purchased separately							
Cell measurements	Cell voltages and temperatures, battery current							
Battery BMS interface	Male + female cable with M8 circular connector with high-speed digital communication, length 50 cm M8 extension cables are available separately for purchase in various lengths between 1 and 5 meters							
Alarm feature	Pre-alarm contact on BMS							
Bluetooth	In the BMS							
Max batteries per BMS	50 (up to 384 kWh per BMS [3])							25 (128 kWh per BMS [3])
Battery firmware updates	Battery firmware automatically updated by BMS							
Repairable	Yes (cover can be removed with screws)							
OPERATING CONDITIONS								
Operating temperature	Discharge: -20 °C to +50 °C | Charge: +5 °C to +50 °C							
Storage temperature	-45 °C to +70 °C							
Humidity (non-condensing)	Max. 95 %							
Protection class	IP65							
MOUNTING								
Mounting options	Strap or mounting brackets (brackets included)							
Can be placed on their sides	Yes[2]							
OTHER								
Self-discharge rate	≤ 3 % per month @ 25 °C							
Power connection	M8 (threaded inserts and bolts)							
Dimensions (h x w x d) mm	235 x 197 x 160	205 x 250 x 205	235 x 341 x 160	206 x 447 x 205	235 x 341 x 160	235 x 648 x 162	206 x 841 x 205	235 x 648 x 162
Weight (est.)	9 kg	14 kg	19 kg	29 kg	19 kg	37 kg	52 kg	37 kg
STANDARDS								
Safety	Cells: UL1973 UL9540A IEC62619	Cells: UL1973 UL9540A IEC62619 (all three pending)	Cells: UL1973 UL9540A IEC62619	Cells: UL1973 UL9540A IEC62619 (all three pending)	Cells: UL1973 UL9540A IEC62619	Cells: UL1973 UL9540A IEC62619	Cells: UL1973 UL9540A IEC62619(all three pending)	Cells: UL1973 UL9540A IEC62619 (all three pending)
	Battery: IEC 62619 (pending)							
EMC	EN 61000-6-3, EN 61000-6-2							
Automotive	ECE R10-6 (pending)							
Performance	IEC 62620 (pending)							

[1] When fully charged
[2] The lithium battery can be mounted upright and on its side, but not with the battery terminals facing down
[3] Up to 5 BMS-es can be paralleled. For more info, please see this announcement.