

Battery Management System (BMS) Overview

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Feature highlights common to all models:

- Specifically designed for use with our Lithium Smart Battery 12,8 V & 25,6 V range.
- Communicates directly with the lithium battery via the battery's M8 circular connector cables.
- Protects the lithium battery cells from overvoltage, undervoltage or a too low or high temperature by turning off loads or charge sources via its "load disconnect" and "charge disconnect" terminals.
- The maximum number of batteries that can be connected to the BMS is 20.

System Voltages:

- The SmallBMS, VE.Bus BMS V2 and the Lynx Smart BMS can connect to a 12, 24 or 48 V system.
- The other BMS models can only connect to a 12 V system.

System connection:

- The SmallBMS and VE.Bus BMS V2 require that all loads and charge sources are directly connected to the battery. The BMS turns them off in case of a battery cell voltage or temperature alarm via the "load disconnect" and "charge disconnect" terminals.
- The Lynx Smart BMS has a safety DC contactor. It disconnects the system from the battery or battery bank in case of a battery cell voltage or temperature alarm and can be used as a main system on/off switch.
- The Smart BMS 12/200 has a dedicated system output to which both, loads and chargers, can be connected. The system output will disconnect in case of a battery cell voltage or temperature alarm.

Alternator:

- The Smart BMS CL 12/100 and Smart BMS 12/200 have a dedicated alternator input. This input will activate when the alternator is running, and the starter battery has reached a sufficient voltage. It will current limit the alternator supply and block reverse current from the lithium battery into the starter battery. It disconnects in case of a battery cell voltage or temperature alarm.
- The Lynx Smart BMS has an alternator ATC mode, so additional alternator protection is not needed.

Pre-alarm options:

- All models have a pre-alarm output.

Remote on/off options:

- All models have a "remote on/off" terminal.
- The "Smart" BMS models can also be turned on and off via Bluetooth and the VictronConnect app.

Bluetooth and the VictronConnect app

- All "Smart" BMS models are equipped with Bluetooth and can be monitored, operated, and configured via the [VictronConnect app](#). They all support Instant Readout to display key data at a glance without the need for a paired connection to the BMS.

Battery monitor

- The Lynx Smart BMS has a full-featured built-in battery monitor.

Communication options:

- The VE Bus BMS V2 can directly control a VE.Bus inverter or inverter/charger in case of a battery cell undervoltage, overvoltage or temperature alarm.
- The VE.Bus BMS V2 and Lynx Smart BMS can be used for communication or control via a GX device and can control compatible inverter/chargers and solar chargers via DVCC control without the need to use the load and/or charger disconnect terminals.
- The Lynx Smart BMS can monitor up to 4 Lynx distributor modules.

Optional accessories:

- The VictronConnect app (free download) for "Smart" BMS modules.
- Pair of M8 circular connector 3 pole cables, to extend the battery BMS cables.
- Cable for Smart BMS CL 12/100 to MultiPlus.
- VE.Direct non inverting remote on/off cable.
- Inverting remote on-off cable.
- Non inverting remote on-off cable.

System design recommendations:

- The **SmallBMS** for 12, 24 or 48 V systems without inverter/chargers.
- The **VE.Bus BMS V2** for 12, 24 or 48 V systems with inverter/chargers and a GX device
- The **Lynx Smart BMS** for 12, 24 or 48 V systems with digital integration and with the need to have a safety relay to disconnect DC loads and/or inverters or inverter/chargers, like is the case in yachts or recreational vehicles.
- The **Smart BMS CL 12/100** for 12 V systems with an alternator.
- The **Smart BMS 12/200** for 12 V systems with an alternator and DC loads and an inverter or inverter/charger.



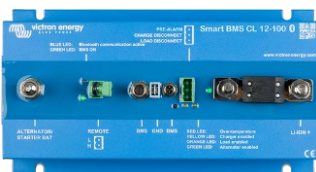
SmallBMS with pre-alarm



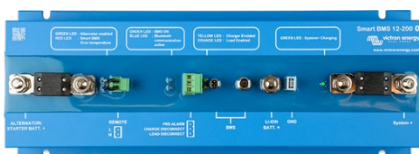
VE.Bus BMS V2



Lynx Smart BMS



Smart BMS CL 12/100



Smart BMS 12/200

Comparison overview:

- The below overview is a comparison and a brief summary of the BMS features. For full technical specifications, see the individual BMS datasheets.

| Features | Small BMS | VE.Bus BMS V2 | VE.Bus BMS | Lynx Smart BMS | Smart BMS CL 12/100 | Smart BMS 12/200 | BMS 12/200 |
|---|---|--|--|--|-------------------------------------|----------------------------------|---|
| System voltage | 12, 24 or 48 V | 12, 24 or 48 V | 12, 24 or 48 V | 12, 24 or 48 V | 12 V | 12 V | 12 V |
| System connection | No | No | No | 500 A | No | 200 A | 200 A |
| Alternator port | No | No | No | Yes (Alternator ATC mode) | 100 A | 100 A | 80 A |
| Battery monitor | No | No | No | Yes | No | No | No |
| Bluetooth | No | No | No | Yes | Yes | Yes | No |
| Data communication | No | VE.Bus communication with inverter/charger(s) and a GX device. | VE.Bus communication only direct with inverter/charger(s), not with a GX device. | VE.Can communication with a GX device NMEA 2000 | No | No | No |
| Control via GX device (DVCC) | No | Yes | No | Yes | No | No | No |
| Allowed to discharge terminal(s) | High/free floating 1 A | High/free floating 1 A | High/free floating 2 A | Relay 0.5 A | High/free floating 10 mA | High/free floating 10 mA | No |
| Allowed to charge terminal(s) | High/free floating 10 mA | High/free floating 10 mA | High/free floating 10 mA | Relay 0.5 A | High/free floating 10 mA | High/free floating 10 mA | No |
| Pre-alarm terminal(s) | Free floating/high 1 A | Free floating/high 1 A | Free floating/high 1 A | Programmable relay 2 A | Free floating/high 1 A | Free floating/high 1 A | No |
| Remote on/off terminal | Yes | Yes | No | Yes | Yes | Yes | Yes |
| Auxiliary output | No | Yes, 1 A | No | Yes, 1.1 A | No | No | No |
| Auxiliary input | No | Yes, 1 A | No | No | No | No | No |
| Possible to update firmware | No | No | No | Yes | Yes | Yes | No |
| Weight (kg) | 0.1 | 0.12 | 0.1 | 1.9 | 1.6 | 2.0 | 1.8 |
| Dimensions (mm) | 106 x 42 x 23 | 24 x 95 x 106 | 105 x 78 x 32 | 190 x 180 x 80 | 65 x 120 x 224 | 65 x 120 x 340 mm | 65 x 120 x 260 |
| Protection | IP20 | IP20 | IP20 | IP22 | IP65 | IP65 | IP65 |
| Remarks | - | - | End-of-life, use a VE.Bus BMS V2 instead | Is part of the Lynx Distribution System | - | - | End-of-life, use a Smart BMS 12/200 instead |
| Datasheet | smallBMS with pre alarm | VE.Bus BMS V2 | VE.Bus BMS | Lynx Smart BMS | Smart BMS CL 12/100 | Smart BMS 12/200 | BMS 12/200 |



Lithium Battery 12,8V & 25,6V Smart



M8 circular connector 3 pole cable



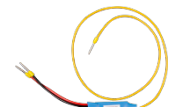
Cable for Smart BMS CL 12/100 to MultiPlus



VE.Direct non inverting remote on/off cable



Inverting remote on-off cable



Non inverting remote on-off cable