

# Lithium-Ion HE Battery and Lynx Ion BMS

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24V/100Ah and 24V/200Ah



24V/100Ah HE battery



24V/200Ah HE battery



Lynx-ion BMS 1000A

### Ultra-high energy density

185Wh/kg thanks to Lithium Nickel Manganese Cobalt Oxide (NMC) technology

### Fan cooled

For high charge and discharge currents (up to 2C for short periods)

### Parallel and series connection

Up to 64 batteries can be parallel connected.

For 48V systems two batteries can be connected in series, and up to 32 strings of two batteries can be parallel connected.

### Galvanically isolated CAN-Bus communication

Protocol: VE.Can/NMEA2000

### Lynx-ion BMS: 400A or 1000A

The Lynx-ion BMS reduces wiring and installation time to a minimum: it combines four fused battery connections, four fused DC load connections, a safety contactor and a current shunt with a BMS in one compact enclosure.

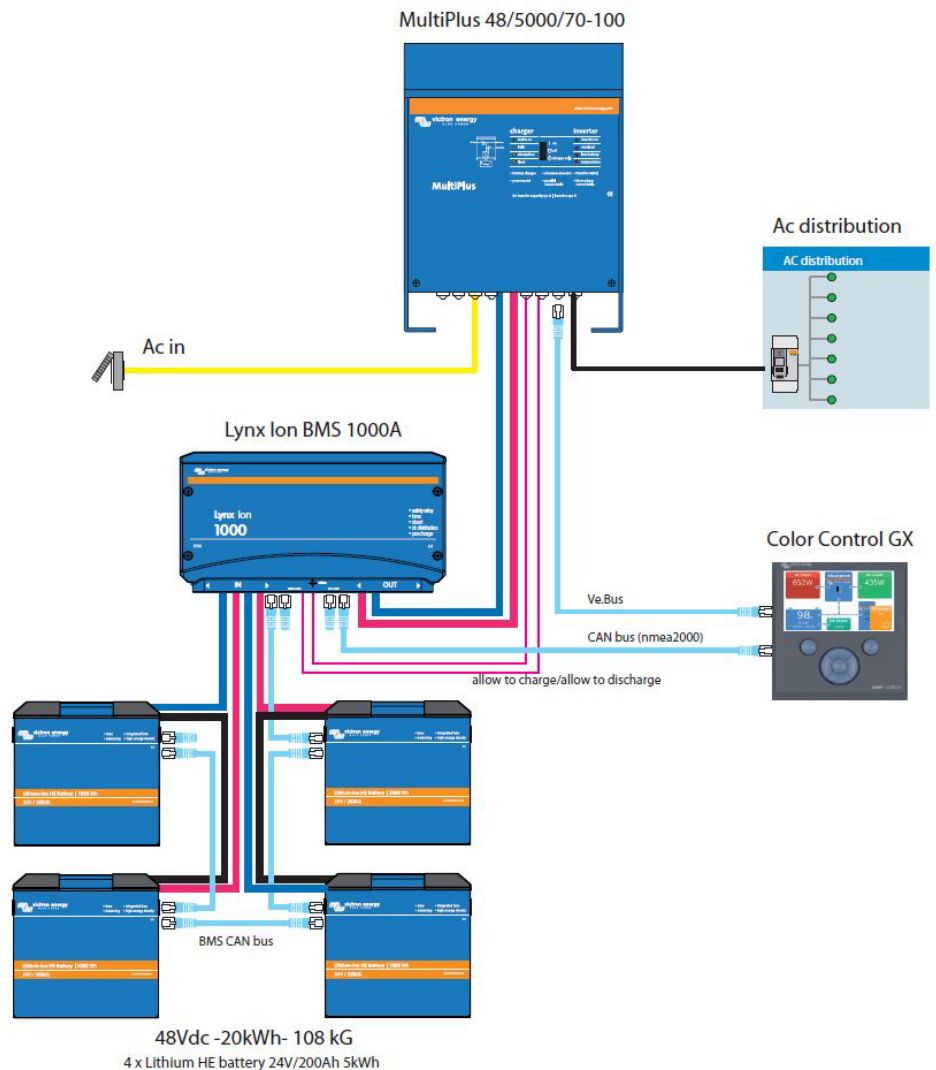
### Monitoring: The Color Control GX or Venus GX

Monitors the complete system.

Is the gateway for remote monitoring on the VRM online portal.

Adds an amazing amount of useful functionality to system (such as a very sophisticated generator start-stop program)

See the Color Control GX and Venus GX datasheet for more information.



| Lithium HE battery                            | 24V / 100Ah   | 24V / 200Ah                 |
|---|---|-----------------------------|
| Technology                                    | Lithium-Ion NMC   | Lithium-Ion NMC             |
| Cell configuration                            | 7S32P   | 7S64P                       |
| Nominal voltage                               | 25,2 V  | 25,2 V                      |
| Nominal capacity                              | 100 Ah  | 200 Ah                      |
| Nominal energy                                | 2,5 kWh   | 5,0 kWh                     |
| Cycle Life @80% DoD (0,3C)                    | 2000  | 2000                        |
| Energy/weight ratio (incl. BMS and enclosure) | 159 Wh/kg   | 175 Wh/kg                   |
| Weight (incl. BMS and enclosure)              | 15,7 kg   | 28,6 kg                     |
| <b>Discharge</b>                              |   |                             |
| Discharge cut-off voltage                     | 21 V  | 21 V                        |
| Recommended discharge current                 | 30 A (0.3 C)  | 60 A (0.3 C)                |
| Maximum discharge current (10 minutes)        | 150 A (1.5 C)   | 300 A (1.5 C)               |
| Fuses   | 150 A, fuse inside  | 300 A, fuse inside          |
| <b>Charge</b>                                 |   |                             |
| Absorption voltage (1 hour)                   | 28,4 V  | 28,4 V                      |
| Float voltage                                 | 27,5 V  | 27,5 V                      |
| Maximum charge current                        | 100 A (1 C)   | 200 A (1 C)                 |
| Recommended charge current                    | 30 A (0.3 C)  | 60 A (0.3 C)                |
| <b>Configuration</b>                          |   |                             |
| Series configuration                          |   | Yes, up to 2                |
| Parallel configuration                        |   | Yes, up to 96               |
| <b>Temperature</b>                            |   |                             |
| Operating temp. charge                        |   | 0~45°C                      |
| Operating temp. discharge                     |   | -20~55°C                    |
| Storage temp.                                 |   | -20~45°C                    |
| <b>Mechanical</b>                             |   |                             |
| Power connections                             | M8 stud, Max. 15 Nm                                       | M8 stud, Max. 15 Nm         |
| Protection class                              | IP20  | IP20                        |
| Cooling                                       | Air, active (1x fan inside)                               | Air, active (2x fan inside) |
| Dimensions (l x w x h)                        | 362 x 193 x 214 mm  | 362 x 193 x 355 mm          |
| <b>Safety</b>                                 |   |                             |
| Battery Management System (BMS)               |   | Integrated slave BMS        |
| Balancing                                     |   | Passive                     |
| Compatible BMS master controller              |   | Lynx Ion BMS                |
| Communication with Lynx Ion BMS               |   | CAN bus                     |
| <b>Standards</b>                              |   |                             |
| EMC: Emission                                 |   | EN-IEC 61000-6-3            |
| EMC: Immunity                                 |   | EN-IEC 61000-6-1            |
| Low voltage directive                         |   | EN 60335-1                  |
| <b>Lynx Ion BMS</b>                           |   |                             |
|   | <b>400A</b>   | <b>1000A</b>                |
| Maximum number batteries in series            | 2 (= 48 VDC)  |                             |
| Maximum number batteries in parallel          | 96 (48 V: 48 strings of two batteries)                    |                             |
| Supply voltage range                          | 18 to 58 VDC  |                             |
| Power consumption, standby mode               | 73 mW @ 26,2V and 138 mW @ 52,4V                          |                             |
| Power consumption, active mode                | 8,7 W   |                             |
| Main safety contactor                         | 400A  | 1000A                       |
| Communication port                            | VE.CAN (NMEA2000, RJ45 connection, galvanically isolated) |                             |
| <b>IO</b>                                     |   |                             |
| Auxiliary output                              | 13,5 V / 1 A, short circuit protected                     |                             |
| Allow-to-charge (switched voltage)            | 13,5 V / 1 A, short circuit protected                     |                             |
| Allow-to-discharge (switched voltage)         | 13,5 V / 1 A, short circuit protected                     |                             |
| Allow-to-charge (relay output)                | 1 A @ 60 VDC, potential free                              |                             |
| Allow-to-discharge (relay output)             | 1 A @ 60 VDC, potential free                              |                             |
| Programmable contact (relay output)           | 1 A @ 60 VDC, potential free                              |                             |
| External status signal                        | 13,5 V / 140 mA   |                             |
| <b>Enclosure</b>                              |   |                             |
| Material                                      | ABS   |                             |
| Weight  | 4,6 kg  | 5,7 kg                      |
| Dimensions (lxwxh)                            | 225 x 426 x 117 mm  |                             |
| <b>Environmental</b>                          |   |                             |
| Operating temperature range                   | -20 °C to 50 °C   |                             |
| Humidity                                      | Max. 95% (non-condensing)                                 |                             |
| Protection class                              | IP22  |                             |
| <b>Standards</b>                              |   |                             |
| EMC: Emission                                 | EN-IEC 61000-6-3  |                             |
| EMC: Immunity                                 | EN-IEC 61000-6-1  |                             |
| Low voltage directive                         | EN 60335-1  |                             |