

The SmartBatteryProtect must be programmed for LiIon mode-C and 12 Volt either through programming on the device itself or with a Bluetooth enabled smartphone or tablet. Connect the load or charge/disconnect output of the VE Bus BMS to Remote H terminal.

The GX Touch 50 and the CERBO GX are enlarged visible in this drawing.

There are several configuration options possible. Read the Orion-Tr manual carefully and choose the one fitting your installation.

KEEP POSITIVE BATTERY CABLES ALL AS SHORT AS POSSIBLE AND ALL AT THE SAME LENGTH!

KEEP NEGATIVE BATTERY CABLES ALL AS SHORT AS POSSIBLE AND ALL AT THE SAME LENGTH!

**IMPORTANT INFORMATION!**  
Victron Smart Lithium Batteries charge & discharge controlled by BMS & CERBO  
In systems with Victron Smart Lithium Batteries, it's important that all charging devices as well as loads are controlled by the BMS. Here is how that is taken care of in this system:  
1 - MultiPlus-II Inverter/Charger: digitally via the GX Device, DVCC feature.  
2 - Solar charger: digitally via the GX Device, DVCC feature.  
3 - Orion Tr: ATC wire control, using the switched positive wire from the engine ignition towards the ATC contacts on the BMS and from there towards each Orion Tr.  
4 - DC Loads: via SmartBatteryProtect 220.  
5 - AC Loads: controlled together with the MultiPlus-II Inverter/Charger.

**IMPORTANT INFORMATION!**  
When operating in inverter mode, the Neutral output of an inverter/charger must be connected to ground to guarantee proper functioning of a GFCI or RCD device. In case of a split phase supply the Neutral also must be grounded.  
The primary case ground connection from an inverter charger like a MultiPlus or a Quattro, must be connected to its Central Negative Busbar of the DC system. Size of this cable must be identical to connected DC negative.

**IMPORTANT INFORMATION!**  
Short functional overview MultiPlus-II 12/3000/120-32 230V Inverter/Charger  
The AC input for this Inverter/Charger is single phase 230V. When AC input power is available the MultiPlus-II will feed AC power through to its AC outputs AC out-1 and AC out-2 as a mirror image from its input. Power needed to charge the batteries will be drawn from the AC input.  
The MultiPlus-II switches to inverter mode when no AC power is available on the AC input. The inverter output is 230V. In inverter mode the MultiPlus-II will only connect AC inverter power to AC out-1. This will prevent heavy loads such as 230V water heaters or air-conditioning units from draining the batteries. Any 230V loads to both AC outputs will therefore only be supplied when the MultiPlus-II is connected to a AC power source at its input.

**IMPORTANT INFORMATION!**  
Recommended AC Out-1 cable/breaker size MultiPlus-II  
With Power assist the MultiPlus-II can add 3kW to the output load when needed. Together with the adjustable 32A input this all adds up to the max sum of input and output current of 32+12=44kA. An Earthing leakage device with breaker or a combination MCB/RCD must be installed on the output. Cable size must be adjusted accordingly.

**IMPORTANT INFORMATION!**  
AC Out-2 only is available when power is present on AC IN. During battery operation it will be disconnected.  
AC Out-2 supports up to 32A. An Earthing leakage device with breaker or a combination MCB/RCD must be installed on the output. Cable size must be adjusted accordingly.

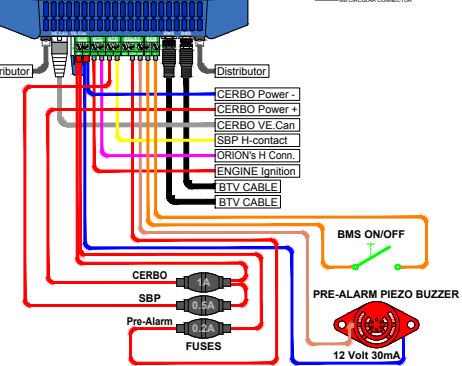
**IMPORTANT INFORMATION!**  
Recommended AC Out-2 cable/breaker size MultiPlus-II  
0-5-m cable length: 4 x 50Sqm, 5-10-m cable length: 4 x 70Sqm. When used in closed conduits, cable size should double. Cable length stands for the distance between the battery and the AC Out-2 connections!!! Recommendations are without other loads in the system and also should be taken into account for proper main battery, main fuse & main switch cables!!! Fuse size should be 40SA.

**IMPORTANT INFORMATION!**  
AC IN must be protected by a circuit breaker rated at 32A max. This depends heavily on the size of the connected power source. The input current must be adjusted to fit the size of its connected power source. The breaker and cable size for AC IN should be adjusted accordingly.

**WARNING**  
230 VOLT AC IS EXTREMELY HAZARDOUS!!! DO NOT TOUCH ANY LIVE WIRED PARTS OF THE INSTALLATION!!! WHEN IN DOUBT ALWAYS CONSULT YOUR VICTRON DEALER!!!

< 230V No Break load >  
< 230V No Break load >  
< 230V Switched load >  
< 230V Switched load >

**Lynx Smart BMS Enlarged connections**



< 12 Volt 30mA >