



The VE Bus BMS NG is enlarged visible in this drawing. There is NO BMS negative connection to prevent ground loops. Ground comes through the VE Bus UTP cable.

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

The SmartBatteryProtect must be programmed for Li-Ion 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 NG to Remote H terminal.

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

Main Fuse Orion-XS Input as close to starter battery as possible!

WARNING! PROTECTIVE COVERS ARE NEEDED HERE.

THE BMV SHUNT CAN BE UPGRADED FROM STANDARD 500A TO 1000A. THE BMV SHUNT IS MOUNTED DIRECT ON TO BOTH BUSBARS.

IMPORTANT INFORMATION!
Installing a system with Victron Lithium NG batteries and the VE Bus BMS NG is as simple as just connecting it. No more mandatory use of VEConfigure, VictronConnect will do fine. No more installing an Assistant as the firmware autodetects the VE Bus BMS NG. No configuration of charge Voltages or anything else either.

The MultiPlus-II series do not need a VE Bus mains detector anymore. This functionality has been build inside the MultiPlus-II inverter/charger.
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 Multi or a Quattro, must be connected to the Central Negative Busbar of the DC system. Size of this cable can be one size smaller compared to its total connected DC negatives per device (ABYC).

IMPORTANT INFORMATION!
Short functional overview MultiPlus-II 12/3000/120-50 2x120V Inverter/Charger
The AC input can be supplied from a split phase 120/240V or a single phase 120V power source. When AC is available the MultiPlus will feed AC power through to its AC outputs as a mirror image from its input. The MultiPlus connects to the preferred input L1 and Neutral. Power needed to charge the batteries will be drawn from L1. The MultiPlus switches to inverter mode when no AC is available on the input. The inverter output is 120V single phase. The MultiPlus connects both output lines L1 & L2 of output-1 together to provide 120VAC to loads on either line. Any 240VAC loads will therefore only be supplied when the MultiPlus is connected to a split phase AC power source at its input. This will prevent heavy loads such as 240VAC water heaters or air-conditioning units from draining the batteries.

IMPORTANT INFORMATION!
Recommended AC Out-1 cable/breaker size MultiPlus-II
With Power assist the MultiPlus-II can add 3kW to the output load of L1 only. Together with the adjustable 50A input this all adds up to the max sum of input and output current of 50+25=75A. An Earth leakage device with breaker or a combination MCB/RCD must be installed on the output for each 120V leg and 240V. Cable size must be adjusted accordingly.

IMPORTANT INFORMATION!
Recommended AC Out-2 cable/breaker size MultiPlus-II
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 50A. An Earth leakage device with breaker or a combination MCB/RCD must be installed on the output for each 120V leg and 240V. Cable size must be adjusted accordingly.

IMPORTANT INFORMATION!
Recommended DC cable/fuse size MultiPlus-II
0-5 m cable length: 4 x AWG 1/0, 5-10 m cable length: 4 x AWG 2/0. When used in closed conduits, cable size should double. Cable length stands for the distance between the battery and the MultiPlus connections!!! Recommendations are without other loads in the system and these also should be taken into account for proper main battery, main fuse & main switch cables!!! Fuse size should be 400A.

IMPORTANT INFORMATION!
Recommended AC IN cable/breaker size MultiPlus-II
AC IN must be protected by a circuit breaker rated at 50A max or less. 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!
120 & 240 VOLT AC IS EXTREMELY HAZARDOUS!!! DO NOT TOUCH ANY LIVE WIRED PARTS OF THE INSTALLATION!!! WHEN IN DOUBT, ALWAYS CONSULT YOUR VICTRON DEALER!!!

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!

- <120V L1 No Break load-1
- <120V L1 No Break load-2
- <120V L2 No Break load-1
- <120V L2 No Break load-2
- <240V L1-L2 No Break load-1
- <240V L1-L2 No Break load-2
- <120V L1 Switched load-1
- <120V L1 Switched load-2
- <120V L2 Switched load-1
- <120V L2 Switched load-2
- <240V L1-L2 Switched load-1
- <240V L1-L2 Switched load-2