IMPORTANT INFORMATION !

PARKING FOR A LONGER PERIOD OF TIME:
Make sure to switch the MultiPlus to charger only. This prevents the inverter from draining the batteries when no AC input power is available. When parked outside, the solar panels will maintain the batteries, but only when parked un-shaded.
WINTERIZING
Before putting the car in hibernation for winterizing, make sure to fully charge the batteries first. Then switch off the main switch. Check on a regular interval if the batteries are not loosing too much capacity and make sure to prevent freezing at all times.

IMPORTANT INFORMATION !

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.

IMPORTANT INFORMATION !

Power for the Smart Dongle has been connected to the user side of the main switch. This will prevent draining of the batteries when the main switch is in the OFF position or in for instance winterizing mode. The Smart Shunt can stay on the battery side as this only draws <1mA.

SMART MPPT

SmartSolar charge controller MPPT 100 | 50

PV BREAKER/ISOLATOR

SOLAR ARRAY

MCB

BMS Fuse Sizes	Max.charge current	Alternator and battery protection
125A	100A	The input current from the starter battery towards the BMS is electronically limited to approximately 90% of the fuse rating. An 80A fuse, for example, will therefore limit the input current to approximately 60A. Choosing the right fuse will: 1. Protect the LiFePO4 battery against excessive charge current (important in case of a small capacity battery). 2. Protect the alternator against overload in case of a high capacity LiFePO4 battery bank (most 12V alternators will overheat and fail if running at maximum output during more than 5 minutes).
100A	90A	
80A	60A	
60A	50A	
2 x 30A	40A	
2 x 20A	25A	
2 x 15A	20A	
2 x 10A	12A	
2 x 7,5A	9A	

Smart BMS CL 12/100

BMS ON/OFF

PRE-ALARM PIEZO BUZZER

12V/30mA

IMPORTANT INFORMATION !

Controlling of the MultiPlus by the BMS CL12/100:
The Load Disconnect and Charge Disconnect Outputs need to be wired to the MultiPlus with two inverting remote on-off cables as shown here for the 3kVA MultiPlus. More info about this is available in the manual of the BMS.
Two-Signal BMS support assistant for the MultiPlus:
For the MultiPlus to act appropriately in the event of a do not charge or do not discharge event, the Two-signal BMS support assistant needs to be uploaded in the MultiPlus.

VE.Direct non-inverting remote on/off cable

enlarged vissible

BMS Charge Control

Lynx DC Distributor

DC Users -

DC Users +

BMS Load Control

SBP100 GND

Smart Battery Protect 100

FROM NEGATIVE BUSBAR

MULTI LOAD CONTROL

MULTI CHARGE CONTROL

From BMS output +

From starter battery-

ALTERNATOR

STARTER-MOTOR

INTERNAL ALTERNATOR FUSE

ALTERNATOR 12V-150A

STARTER MOTOR

MAIN SWITCH

SmartShunt/Aux 1A Fuse

12 Volt starter battery

CHASSIS

MultiPlus Case Ground

MultiPlus Batt +

MultiPlus Batt -

Small negative busbar

Fuse 300mA

Fuse 1A

SBP100 GND-

Smart BMS GND-

Smart Dongle GND-

Starter Battery +

500A SmartShunt

MAIN SWITCH

VE.Bus Smart Dongle Fuse 1A

Li-DISTRIBUTION

Positive Busbar

Battery Pre Main Fuses

Smart Shunt Fuse 1A

Drawing BJE-297A

A Main Fuse might be needed here ! Depending on total cable run between battery plus and BMS.

MultiPlus / 3kVA/12V/120V-60Hz AC INVERTER/CHARGER

DIGITAL MULTI CONTROL DMC

VE.Bus

Smart Dongle GND-

VE.Bus Smart Dongle

Smart Dongle Power +

ISOLATION TRANSFORMER OR GALVANIC ISOLATOR SHOULD BE INSERTED HERE IF NEEDED INCLUDING NECESSARY BREAKERS.

MAIN INCOMING AC BREAKER TOWARD MultiPlus

INCOMING AC POWER CONNECTION 120V/60Hz AC

Inverting remote On/Off cables
Charge enable from the BMS is wired to a inverting remote ON/OFF cable connected to MultiPlus AUX-1
Load enable from the BMS is wired to a inverting remote ON/OFF cable connected to MultiPlus TEMP SENSE

WARNING

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

BTV CABLE

BTV CABLE to BMS

M8 CIRCULAR CONNECTOR

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

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

2 x Lithium 12.8V-200Ah Smart LiFePO4

Charge Control

Load Control

Digital Multi Control

VE.Bus Smart Dongle

Conn-G Batt+

Conn-F Batt-

Conn-L Case ground

MultiPlus AC IN-1

MultiPlus AC OUT-2

MultiPlus AC OUT-1

AC DISTRIBUTION from MultiPlus AC Out-1 & AC Out-2

MultiPlus AC out-1

MultiPlus AC out-2

120V Switched load-1

120V Switched load-2

120V Switched load-3

120V No Break load-1

120V No Break load-2

120V No Break load-3

IMPORTANT INFORMATION !

When operating in inverter mode, the Neutral output of a 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 a 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 found in ABYC A-31 (2025)

IMPORTANT INFORMATION !

Recommended AC Out-1 cable/breaker size MultiPlus
With Power assist the MultiPlus can add 3KW to the output load when needed. 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. Cable size must be adjusted accordingly.

IMPORTANT INFORMATION !

Recommended AC Out-2 cable/breaker size MultiPlus
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 25A. An Earth leakage device with breaker or a combination MCB/RCD must be installed on the output. Cable size must be adjusted accordingly.

IMPORTANT INFORMATION !

Recommended DC cable/fuse size MultiPlus
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
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 the connected power source. The breaker and cable size for AC IN should be adjusted accordingly.