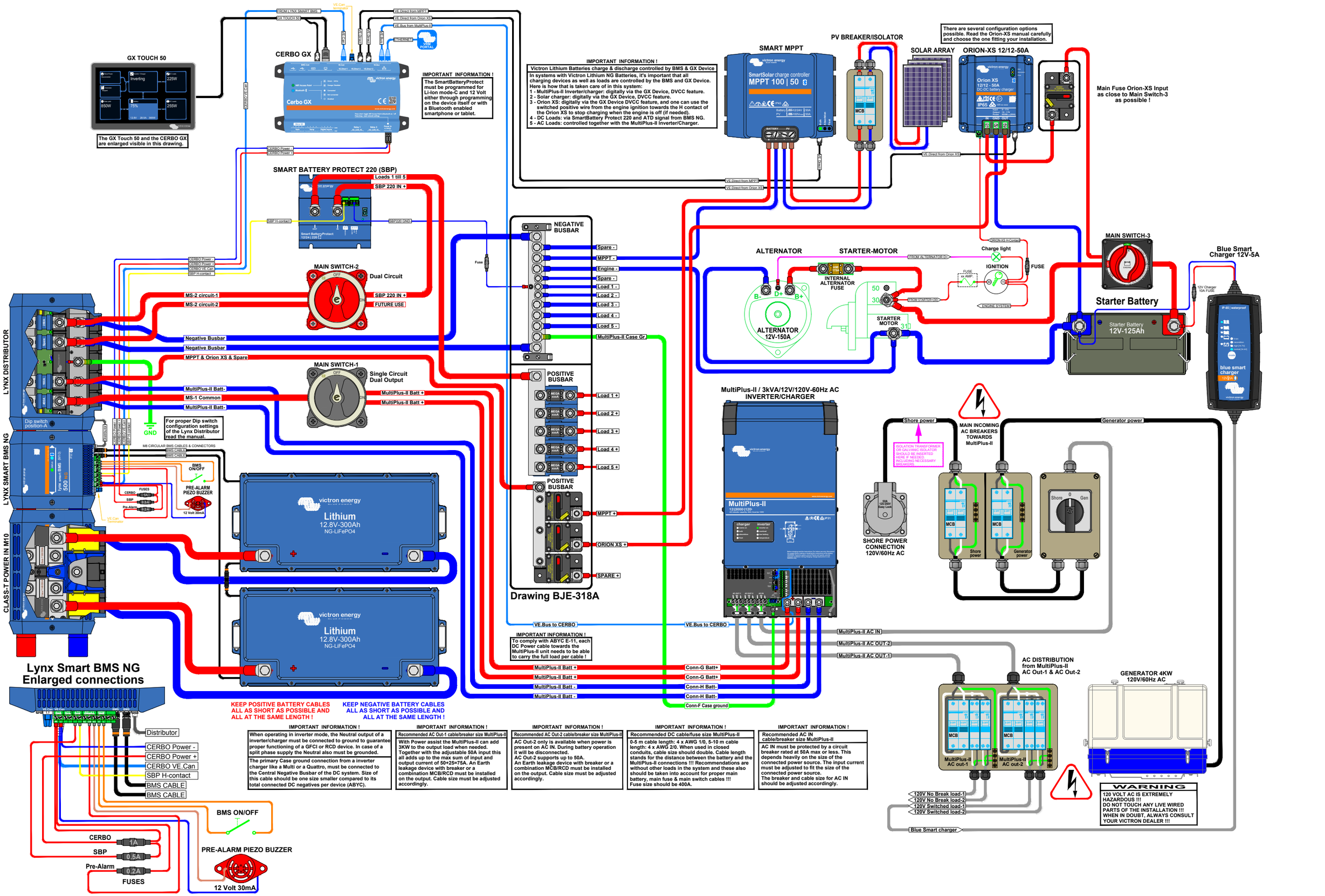
GX TOUCH 50
The GX Touch 50 and the CERBO GX are enlarged visible in this drawing.
CERBO GX
FROM LYNX SMART BMS
GX TOUCH 50
VE.Can terminator
VE.Direct from MPPT
VE.Direct from Orion XS
VE.Bus from MultiPlus-II
ETHERNET
VRM PORTAL
CERBO VE.Can
CERBO Power -
CERBO Power +
IMPORTANT INFORMATION !
The SmartBatteryProtect 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 !
Victron Lithium Batteries charge & discharge controlled by BMS & GX Device
In systems with Victron Lithium NG Batteries, it's important that all charging devices as well as loads are controlled by the BMS and GX Device. 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 XS: digitally via the GX Device DVCC feature, and one can use the switched positive wire from the engine ignition towards the H contact of the Orion XS to stop charging when the engine is off (if needed).
4 - DC Loads: via SmartBattery Protect 220 and ATD signal from BMS NG.
5 - AC Loads: controlled together with the MultiPlus-II Inverter/Charger.
SMART MPPT
SmartSolar charge controller
MPPT 100 | 50
PV BREAKER/ISOLATOR
MCB
SOLAR ARRAY
ORION-XS 12/12-50A
Orion XS
12/12 - 50A
DC-DC battery charger
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 Main Switch-3 as possible !
SMART BATTERY PROTECT 220 (SBP)
Loads 1 till 5
SBP 220 IN +
SBP H-contact
SBP220 GND
Smart BatteryProtect 12/24 | 220 12
MAIN SWITCH-2
Dual Circuit
MS-2 circuit-1
MS-2 circuit-2
SBP 220 IN +
FUTURE USE
Fuse
NEGATIVE BUSBAR
Spare -
MPPT -
Engine -
Spare -
Load 1 -
Load 2 -
Load 3 -
Load 4 -
Load 5 -
MultiPlus-II Case Gr.
POSITIVE BUSBAR
Load 1 +
Load 2 +
Load 3 +
Load 4 +
Load 5 +
MPPT +
ORION XS +
SPARE +
Drawing BJE-318A
ALTERNATOR
STARTER-MOTOR
INTERNAL ALTERNATOR FUSE
ALTERNATOR 12V-150A
STARTER MOTOR
FROM ALTERNATOR+
FROM STARTER+(50)
ORION XS H-Contact
Charge light
IGNITION
FUSE
FUSE xx AMP
ENGINE SYSTEM
MAIN SWITCH-3
Starter Battery
Starter Battery 12V-125Ah
Blue Smart Charger 12V-5A
12V Charger 10A FUSE
blue smart charger 12V 5A
LYNX DISTRIBUTOR
Negative Busbar
Negative Busbar
MPPT & Orion XS & Spare
MultiPlus-II Batt -
MS-1 Common
MultiPlus-II Batt -
MAIN SWITCH-1
Single Circuit Dual Output
MultiPlus-II Batt +
MultiPlus-II Batt +
Dip switch position-A
GND
For proper Dip switch configuration settings of the Lynx Distributor read the manual.
LYNX SMART BMS NG
CLASS-T POWER IN M10
M8 CIRCULAR BMS CABLES & CONNECTORS
BMS CABLE
BMS CABLE
BMS ON/OFF
PRE-ALARM PIEZO BUZZER
12 Volt 30mA
CERBO
SBP
Pre-Alarm
FUSES
1A
0.5A
0.2A
VE.Can Terminator
victron energy
Lithium
12.8V-300Ah
NG-LiFePO4
victron energy
Lithium
12.8V-300Ah
NG-LiFePO4
MultiPlus-II Batt +
MultiPlus-II Batt +
MultiPlus-II Batt -
MultiPlus-II Batt -
Conn-G Batt+
Conn-G Batt+
Conn-H Batt-
Conn-H Batt-
Conn-F Case ground
VE.Bus to CERBO
VE.Bus to CERBO
IMPORTANT INFORMATION !
To comply with ABYC E-11, each DC Power cable towards the MultiPlus-II unit needs to be able to carry the full load per cable !
MultiPlus-II / 3kVA/12V/120V-60Hz AC INVERTER/CHARGER
MultiPlus-II
12|3000|120
charger
inverter
Shore power
ISOLATION TRANSFORMER OR GALVANIC ISOLATOR SHOULD BE INSERTED HERE IF NEEDED, INCLUDING NECESSARY BREAKERS
MAIN INCOMING AC BREAKERS TOWARDS MultiPlus-II
Generator power
50A 125/250V Easy Lock
SHORE POWER CONNECTION 120V/60Hz AC
MCB
MCB
Shore power
Generator power
Shore
0
Gen
MultiPlus-II AC IN
MultiPlus-II AC OUT-2
MultiPlus-II AC OUT-1
AC DISTRIBUTION from MultiPlus-II AC Out-1 & AC Out-2
MCB
MCB
MultiPlus-II AC out-1
MultiPlus-II AC out-2
GENERATOR 4KW 120V/60Hz AC
120V No Break load-1
120V No Break load-2
120V Switched load-1
120V Switched load-2
Blue Smart charger
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 !!!
Lynx Smart BMS NG
Enlarged connections
Distributor
CERBO Power -
CERBO Power +
CERBO VE.Can
SBP H-contact
BMS CABLE
BMS CABLE
BMS ON/OFF
CERBO
SBP
Pre-Alarm
1A
0.5A
0.2A
FUSES
PRE-ALARM PIEZO BUZZER
12 Volt 30mA
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 !
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 should be one size smaller compared to its total connected DC negatives per device (ABYC).
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 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-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. 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-II 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 the connected power source.
The breaker and cable size for AC IN should be adjusted accordingly.