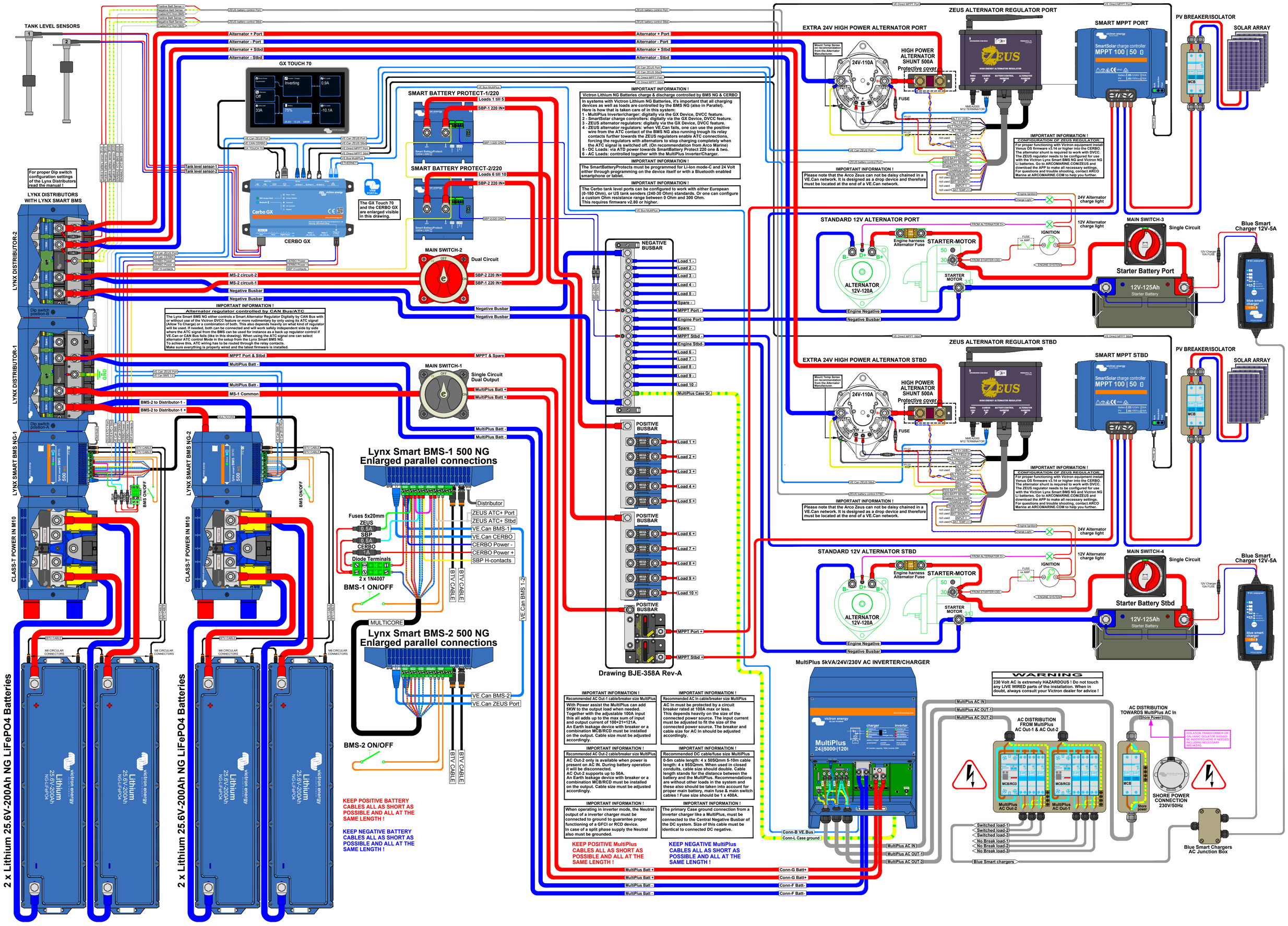
TANK LEVEL SENSORS
GX TOUCH 70
Inverting
0.9A
Off
33A
75%
-10.1A
Alternator + Port
Alternator - Port
Alternator + Stbd
Alternator - Stbd
SMART BATTERY PROTECT-1/220
Loads 1 till 5
SBP-1 220 IN+
SMART BATTERY PROTECT-2/220
Loads 6 till 10
SBP-2 220 IN+
For proper Dip switch configuration settings of the Lynx Distributors read the manual !
LYNX DISTRIBUTORS WITH LYNX SMART BMS
LYNX DISTRIBUTOR-2
LYNX DISTRIBUTOR-1
Cerbo GX
CERBO GX
The GX Touch 70 and the CERBO GX are enlarged visible in this drawing.
MAIN SWITCH-2
Dual Circuit
MS-2 circuit-2
MS-2 circuit-1
Negative Busbar
IMPORTANT INFORMATION !
Alternator regulator controlled by CAN Bus/ATC
The Lynx Smart BMS NG either controls a Smart Alternator Regulator Digitally by CAN Bus with or without use of the Victron DVCC feature or more rudimentary by only using its ATC signal (Allow To Charge) or a combination of both. This also depends heavily on what kind of regulator will be used. If needed, both can be connected and will work safely independent side by side where the ATC signal from the BMS can be used for instance as a back up regulator control if VE.Can or CAN Bus fails (like in this drawing). When using the ATC signal one can select alternator ATC control Mode in the setup from the Lynx Smart BMS NG.
To achieve this, ATC wiring has to be routed through the relay contacts.
Make sure everything is properly wired and the latest firmware is installed.
MPPT Port & Stbd
MPPT & Spare
MultiPlus Batt -
MS-1 Common
MAIN SWITCH-1
Single Circuit
Dual Output
MultiPlus Batt +
BMS-2 to Distributor-1 -
BMS-2 to Distributor-1 +
LYNX SMART BMS NG-1
LYNX SMART BMS NG-2
CLASS-T POWER IN M10
BMS ON/OFF
Lynx Smart BMS-1 500 NG
Enlarged parallel connections
Distributor
ZEUS ATC+ Port
ZEUS ATC+ Stbd
VE.Can BMS-1
VE.Can CERBO
CERBO Power -
CERBO Power +
SBP H-contacts
Fuses 5x20mm
ZEUS
SBP
CERBO
Diode Terminals
2 x 1N4007
BMS-1 ON/OFF
MULTICORE
Lynx Smart BMS-2 500 NG
Enlarged parallel connections
VE.Can BMS-2
VE.Can ZEUS Port
BMS-2 ON/OFF
VE.Can BMS 1-2
BTY CABLE
2 x Lithium 25.6V-200Ah NG LiFePO4 Batteries
Lithium 25.6V-200Ah NG-LiFePO4
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 Lithium NG Batteries charge & discharge controlled by BMS NG & CERBO
In systems with Victron Lithium NG Batteries, it's important that all charging devices as well as loads are controlled by the BMS NG (also in Parallel).
Here is how that is taken care of in this system:
1 - MultiPlus Inverter/charger: digitally via the GX Device, DVCC feature.
2 - SmartSolar charge controllers: digitally via the GX Device, DVCC feature.
3 - ZEUS alternator regulators: digitally via the GX Device, DVCC feature.
4 - ZEUS alternator regulators: when VE.Can fails, one can use the positive wire from the ATC contact of the BMS NG also running trough its relay contacts further towards the ZEUS regulators enable ATC connections, forcing the regulators with alternators to stop charging completely when the ATC signal is switched off. (On recommendation from Arco Marine)
5 - DC Loads: via ATD power towards SmartBattery Protect 220 one & two.
6 - AC Loads: controlled together with the MultiPlus Inverter/Charger.
IMPORTANT INFORMATION !
The SmartBatteryProtects must be programmed for Li-Ion mode-C and 24 Volt either through programming on the device itself or with a Bluetooth enabled smartphone or tablet.
IMPORTANT INFORMATION !
The Cerbo tank level ports can be configured to work with either European (0-180 Ohm), or US tank senders (240-30 Ohm) standards. Or one can configure a custom Ohm resistance range between 0 Ohm and 300 Ohm.
This requires firmware v2.80 or higher.
NEGATIVE BUSBAR
Load 1 -
Load 2 -
Load 3 -
Load 4 -
Load 5 -
Spare -
MPPT Port -
Engine Port-
Spare -
MPPT Stbd -
Engine Stbd-
Load 6 -
Load 7 -
Load 8 -
Load 9 -
Load 10 -
MultiPlus Case Gr.
POSITIVE BUSBAR
Load 1 +
Load 2 +
Load 3 +
Load 4 +
Load 5 +
Load 6 +
Load 7 +
Load 8 +
Load 9 +
Load 10 +
MPPT Port +
MPPT Stbd +
Drawing BJE-358A Rev-A
IMPORTANT INFORMATION !
Recommended AC Out-1 cable/breaker size MultiPlus
With Power assist the MultiPlus can add 5KW to the output load when needed. Together with the adjustable 100A input this all adds up to the max sum of input and output current of 100+21=121A. 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 In cable/breaker size MultiPlus
AC In must be protected by a circuit breaker rated at 100A 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.
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 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
0-5m cable length: 4 x 50SQmm. 5-10m cable length: 4 x 95SQmm. When used in closed conduits, cable size should double. Cable length stands for the distance between the battery and the MultiPlus. 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 1 x 400A.
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.
IMPORTANT INFORMATION !
The primary Case ground connection from a inverter charger like a MultiPlus, must be connected to the Central Negative Busbar of the DC system. Size of this cable must be identical to connected DC negative.
KEEP POSITIVE MultiPlus CABLES ALL AS SHORT AS POSSIBLE AND ALL AT THE SAME LENGTH !
KEEP NEGATIVE MultiPlus CABLES ALL AS SHORT AS POSSIBLE AND ALL AT THE SAME LENGTH !
EXTRA 24V HIGH POWER ALTERNATOR PORT
ZEUS ALTERNATOR REGULATOR PORT
SMART MPPT PORT
PV BREAKER/ISOLATOR
SOLAR ARRAY
HIGH POWER ALTERNATOR SHUNT 500A
Protective cover
24V-110A
FUSE
IMPORTANT INFORMATION !
CONFIGURATION OF ZEUS REGULATOR:
For proper functioning with Victron equipment install Venus OS firmware v3.14 or higher into the CERBO. The alternator shunt is required to work with DVCC. The ZEUS regulator needs to be configured for use with the Victron Lynx Smart BMS NG and Victron NG Li batteries. Go to ARCOMARINE.COM/ZEUS and download the APP to make all necessary settings. For questions and trouble shooting, contact ARCO Marine at ARCOMARINE.COM to help you further.
IMPORTANT INFORMATION !
Please note that the Arco Zeus can not be daisy chained in a VE.Can network. It is designed as a drop device and therefore must be located at the end of a VE.Can network.
24V Alternator charge light
STANDARD 12V ALTERNATOR PORT
12V Alternator charge light
MAIN SWITCH-3
Single Circuit
Blue Smart Charger 12V-5A
IGNITION
STARTER-MOTOR
Engine harness Alternator Fuse
ALTERNATOR 12V-120A
STARTER MOTOR
Starter Battery Port
12V-125Ah Starter Battery
Engine Negative
Negative Busbar
EXTRA 24V HIGH POWER ALTERNATOR STBD
ZEUS ALTERNATOR REGULATOR STBD
SMART MPPT STBD
STANDARD 12V ALTERNATOR STBD
MAIN SWITCH-4
Starter Battery Stbd
MultiPlus 5kVA/24V/230V AC INVERTER/CHARGER
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 for advice !
AC DISTRIBUTION FROM MultiPlus AC Out-1 & AC Out-2
AC DISTRIBUTION TOWARDS MultiPlus AC In (Shore Power)
ISOLATION TRANSFORMER OR AUTOMATIC GALVANIC ISOLATOR MUST BE INSERTED HERE IF NEEDED INCLUDING NECESSARY BREAKERS.
SHORE POWER CONNECTION 230V/50Hz
MultiPlus AC IN
MultiPlus AC OUT-1
MultiPlus AC OUT-2
Switched load-1
Switched load-2
Switched load-3
No Break load-1
No Break load-2
No Break load-3
Blue Smart chargers
Blue Smart Chargers AC Junction Box
Conn-B VE.Bus
Conn-L Case ground
Conn-G Batt+
Conn-F Batt-