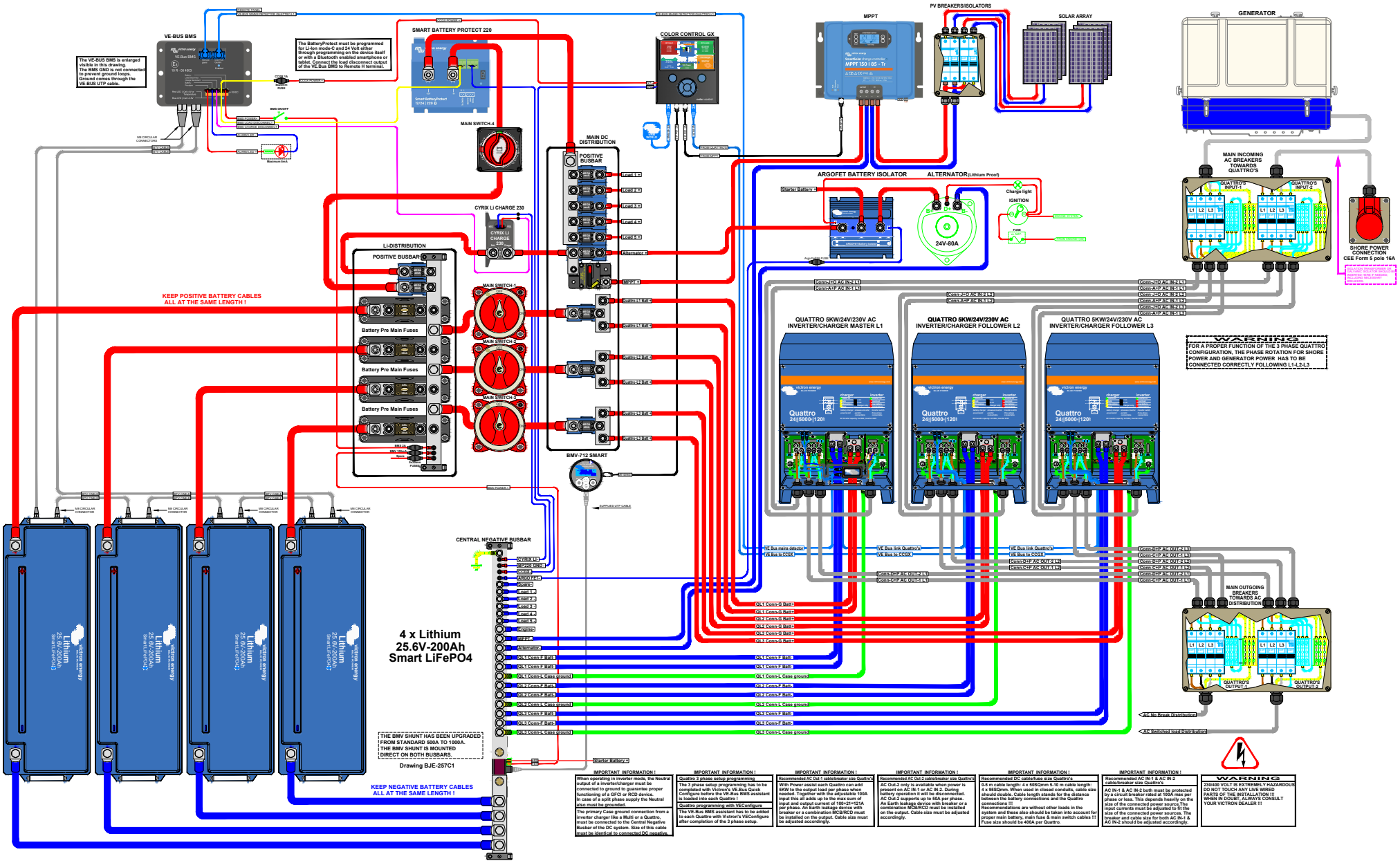
VE-BUS BMS
The VE-BUS BMS is enlarged visible in this drawing. The BMS GND is not connected to prevent ground loops. Ground comes through the VE-BUS UTP cable.
The BatteryProtect must be programmed for Li-ion mode-C and 24 Volt either through programming on the device itself or with a Bluetooth enabled smartphone or tablet. Connect the load disconnect output of the VE.Bus BMS to Remote H terminal.
SMART BATTERY PROTECT 220
COLOR CONTROL GX
MPPT
PV BREAKERS/ISOLATORS
SOLAR ARRAY
GENERATOR
MAIN SWITCH-4
MAIN DC DISTRIBUTION
POSITIVE BUSBAR
CYRIX LI CHARGE 230
LI-DISTRIBUTION
POSITIVE BUSBAR
KEEP POSITIVE BATTERY CABLES ALL AT THE SAME LENGTH !
Battery Pre Main Fuses
Battery Pre Main Fuses
Battery Pre Main Fuses
MAIN SWITCH-1
MAIN SWITCH-2
MAIN SWITCH-3
BMV-712 SMART
ARGOFET BATTERY ISOLATOR
ALTERNATOR(Lithium Proof)
24V-80A
Charge light
IGNITION
MAIN INCOMING AC BREAKERS TOWARDS QUATTRO'S
QUATTRO'S INPUT-1
QUATTRO'S INPUT-2
SHORE POWER CONNECTION CEE Form 5 pole 16A
QUATTRO 5KW/24V/230V AC INVERTER/CHARGER MASTER L1
QUATTRO 5KW/24V/230V AC INVERTER/CHARGER FOLLOWER L2
QUATTRO 5KW/24V/230V AC INVERTER/CHARGER FOLLOWER L3
WARNING
FOR A PROPER FUNCTION OF THE 3 PHASE QUATTRO CONFIGURATION, THE PHASE ROTATION FOR SHORE POWER AND GENERATOR POWER HAS TO BE CONNECTED CORRECTLY FOLLOWING L1-L2-L3
4 x Lithium 25.6V-200Ah Smart LiFePO4
CENTRAL NEGATIVE BUSBAR
MAIN OUTGOING BREAKERS TOWARDS AC DISTRIBUTION
QUATTRO'S OUTPUT-1
QUATTRO'S OUTPUT-2
AC No Break Distribution
AC Switched load Distribution
THE BMV SHUNT HAS BEEN UPGRADED FROM STANDARD 500A TO 1000A. THE BMV SHUNT IS MOUNTED DIRECT ON BOTH BUSBARS.
Drawing BJE-257C1
KEEP NEGATIVE BATTERY CABLES 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 must be identical to connected DC negative.
IMPORTANT INFORMATION !
Quattro 3 phase setup programming
The 3 phase setup programming has to be completed with Victron's VE.Bus Quick Configure before the VE-Bus BMS assistant is loaded into each Quattro !
Quattro programming with VEConfigure
The VE-Bus BMS assistant has to be added to each Quattro with Victron's VEConfigure after completion of the 3 phase setup.
IMPORTANT INFORMATION !
Recommended AC Out-1 cable/breaker size Quattro's
With Power assist each Quattro can add 5KW to the output load per phase 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 per phase. 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 Quattro's
AC Out-2 only is available when power is present on AC IN-1 or AC IN-2. During battery operation it will be disconnected. AC Out-2 supports up to 50A per phase. 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 Quattro's
0-5 m cable length: 4 x 50SQmm 5-10 m cable length: 4 x 95SQmm. When used in closed conduits, cable size should double. Cable length stands for the distance between the battery connections and the Quattro 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 per Quattro.
IMPORTANT INFORMATION !
Recommended AC IN-1 & AC IN-2 cable/breaker size Quattro's
AC IN-1 & AC IN-2 both must be protected by a circuit breaker rated at 100A max per phase or less. This depends heavily on the size of the connected power source.The input currents must be adjusted to fit the size of the connected power sources. The breaker and cable size for both AC IN-1 & AC IN-2 should be adjusted accordingly.
WARNING
230/400 VOLT IS EXTREMELY HAZARDOUS DO NOT TOUCH ANY LIVE WIRED PARTS OF THE INSTALLATION !!! WHEN IN DOUBT, ALWAYS CONSULT YOUR VICTRON DEALER !!!