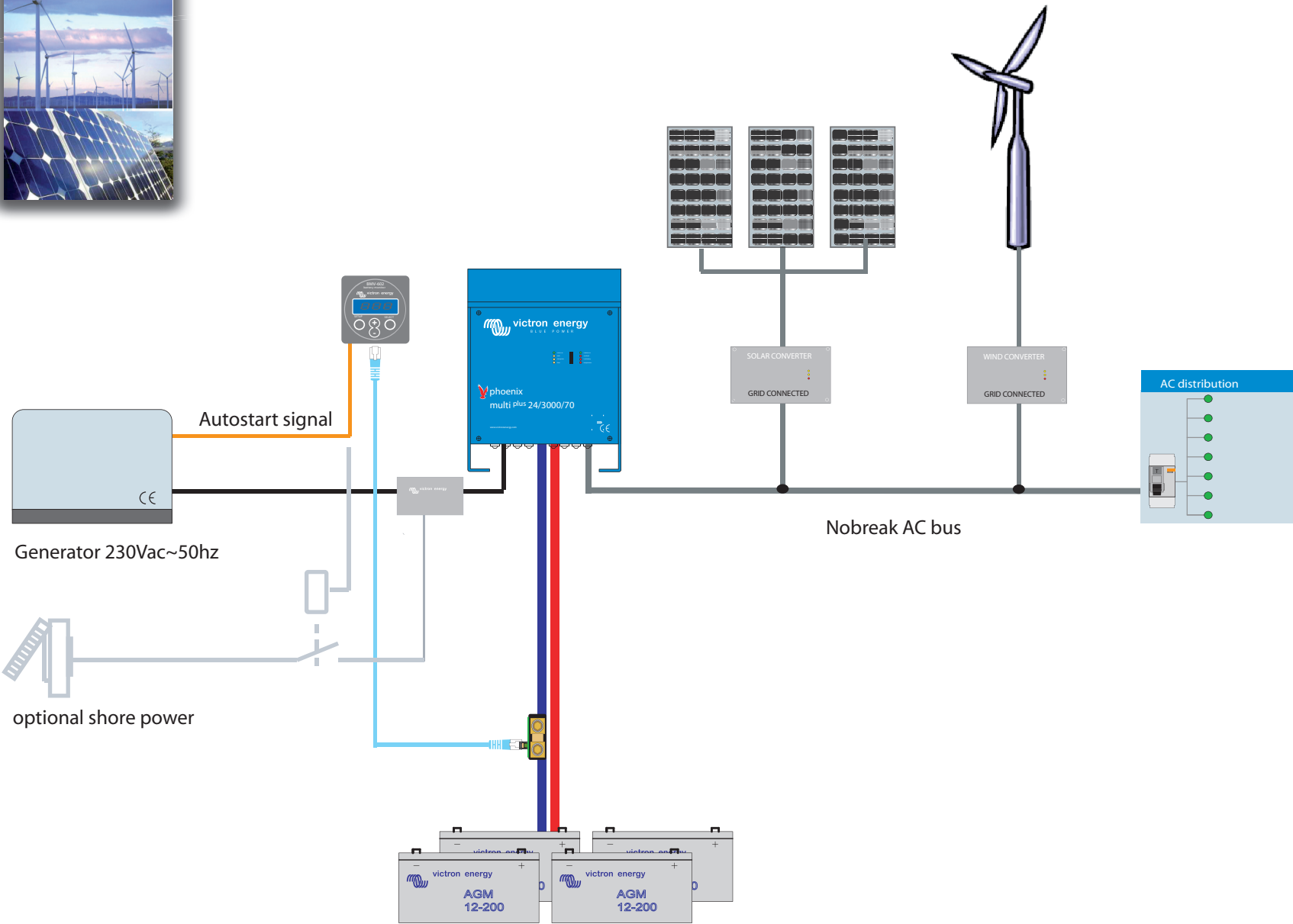
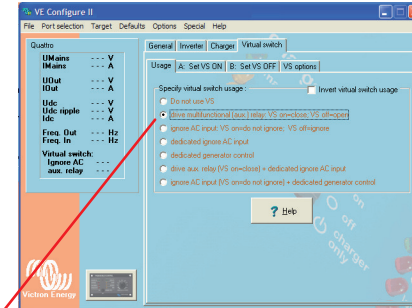


# Multi with grid connected converter for solar and/or wind turbine

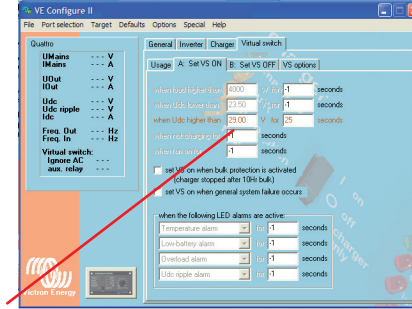
RENEWABLE



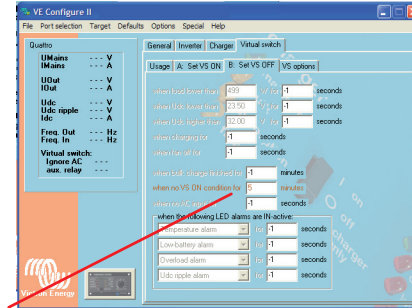
VE Configure settings



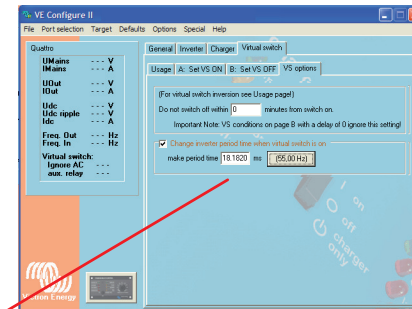
Activate programmable relay



Set maximal charge voltage / time

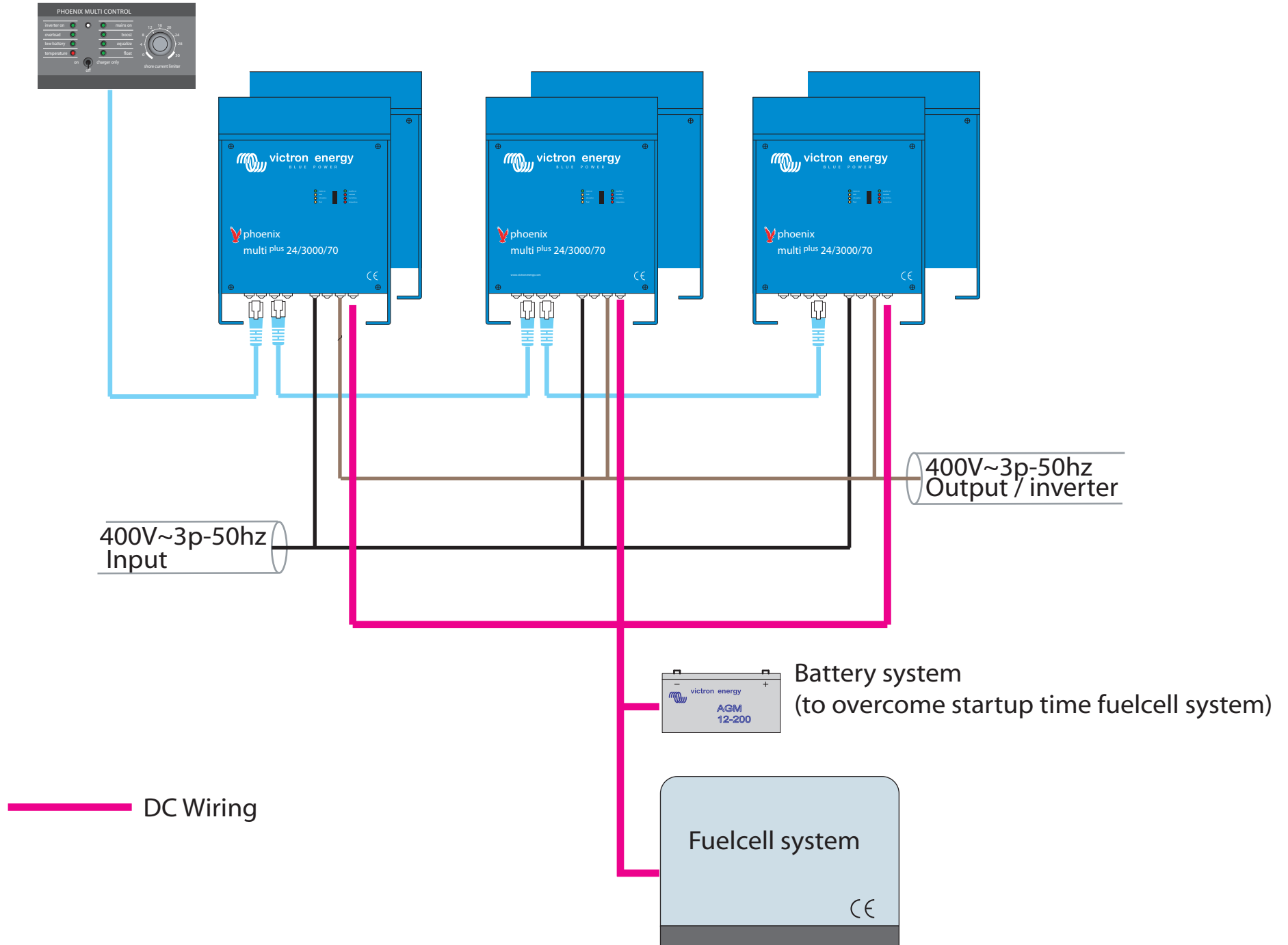


Set charge interval delay

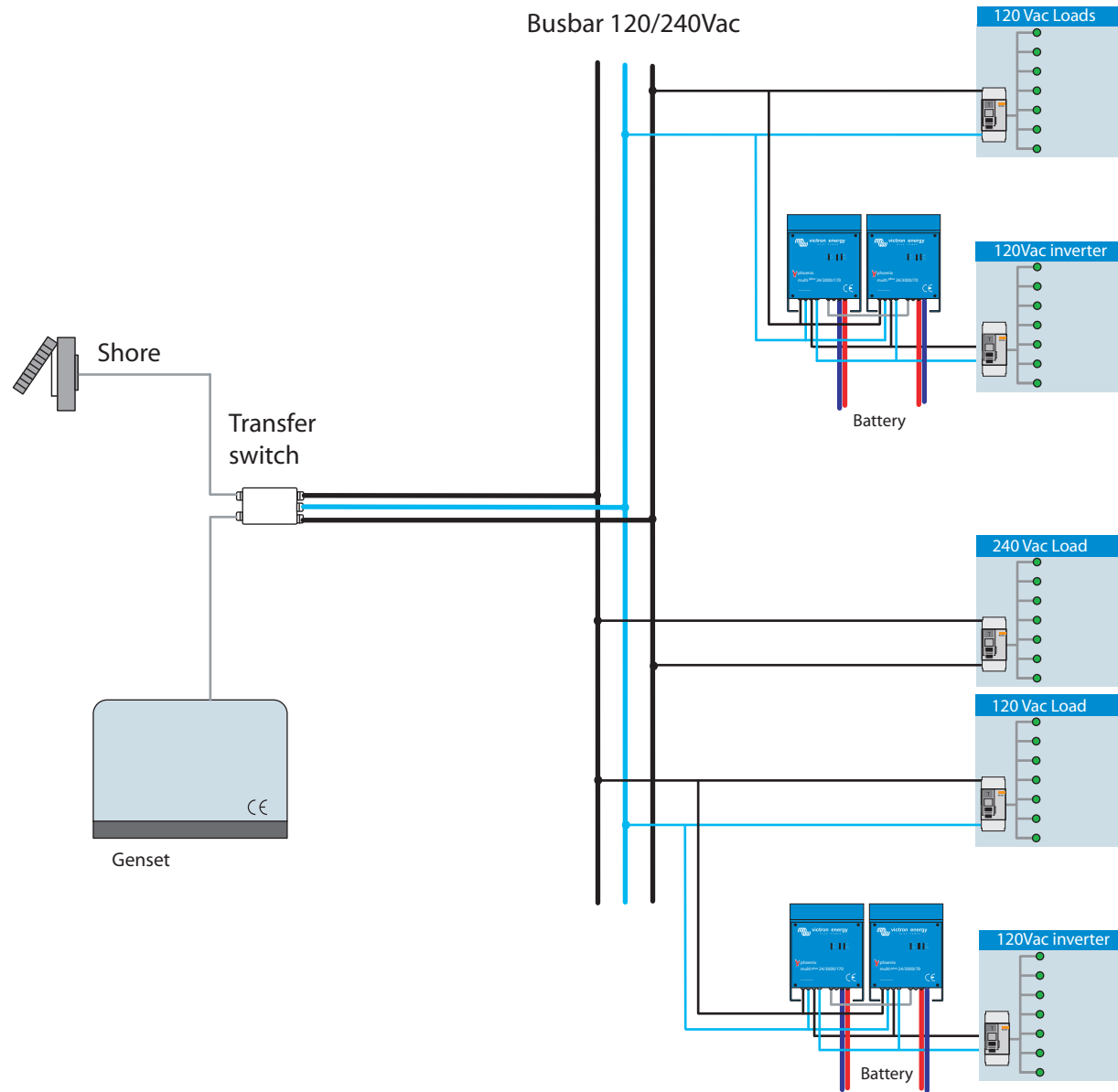


Set frequency shift to disconnect grid-converter

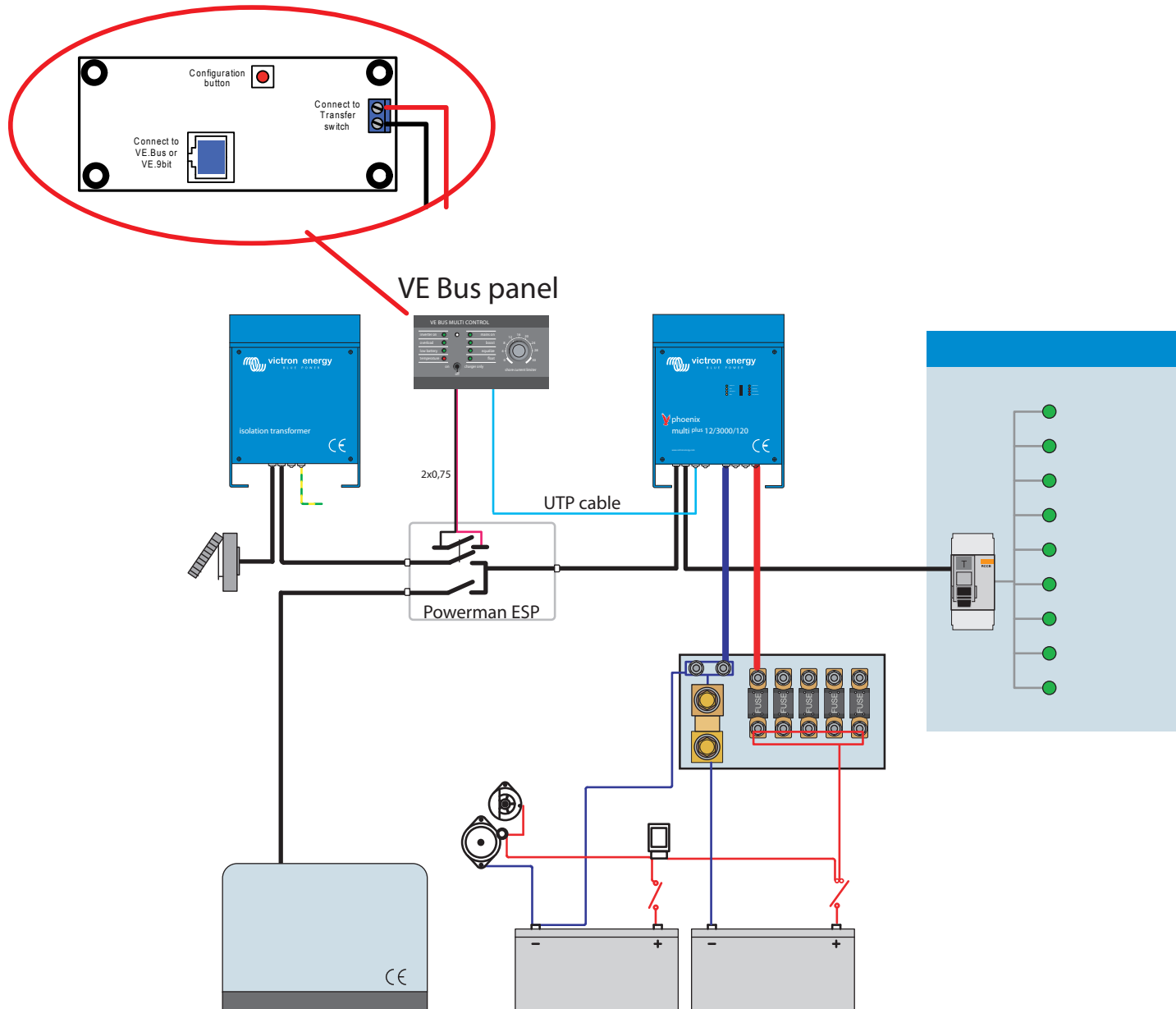
# VE BUS three phase nobreak system with fuelcell



# 8 split phase system example

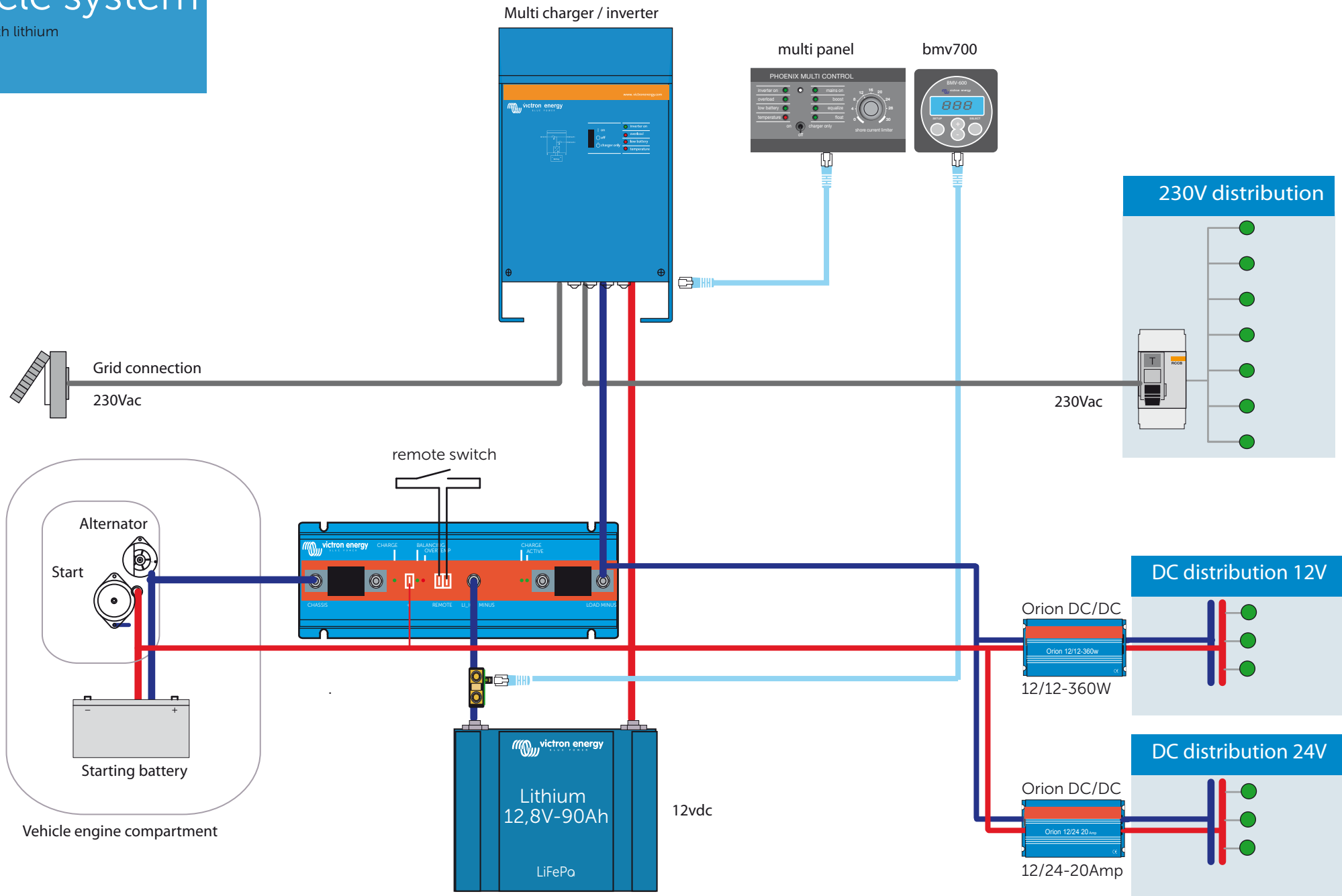


# Wiring diagram for a VE Bus panel

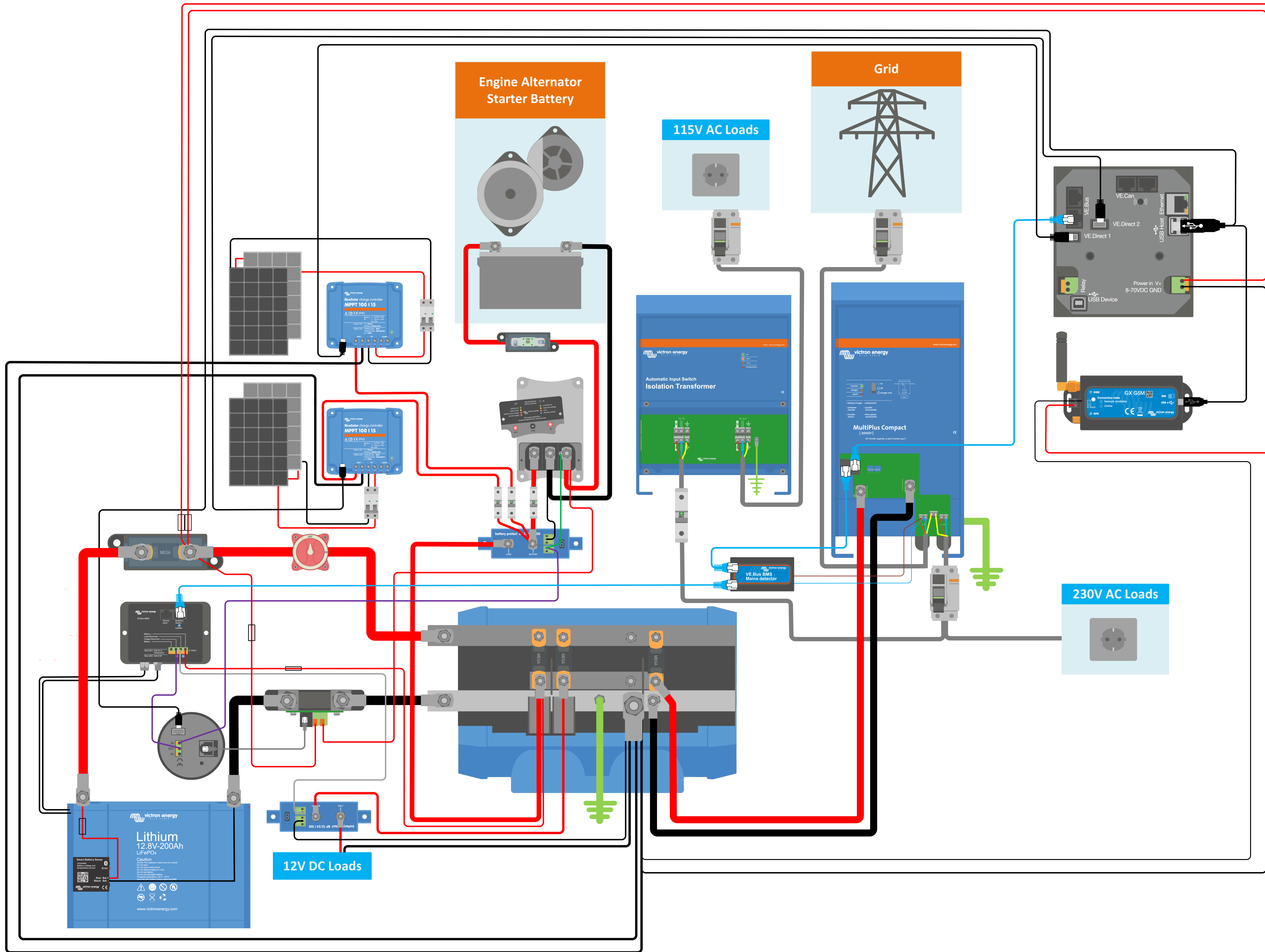


# Vehicle system

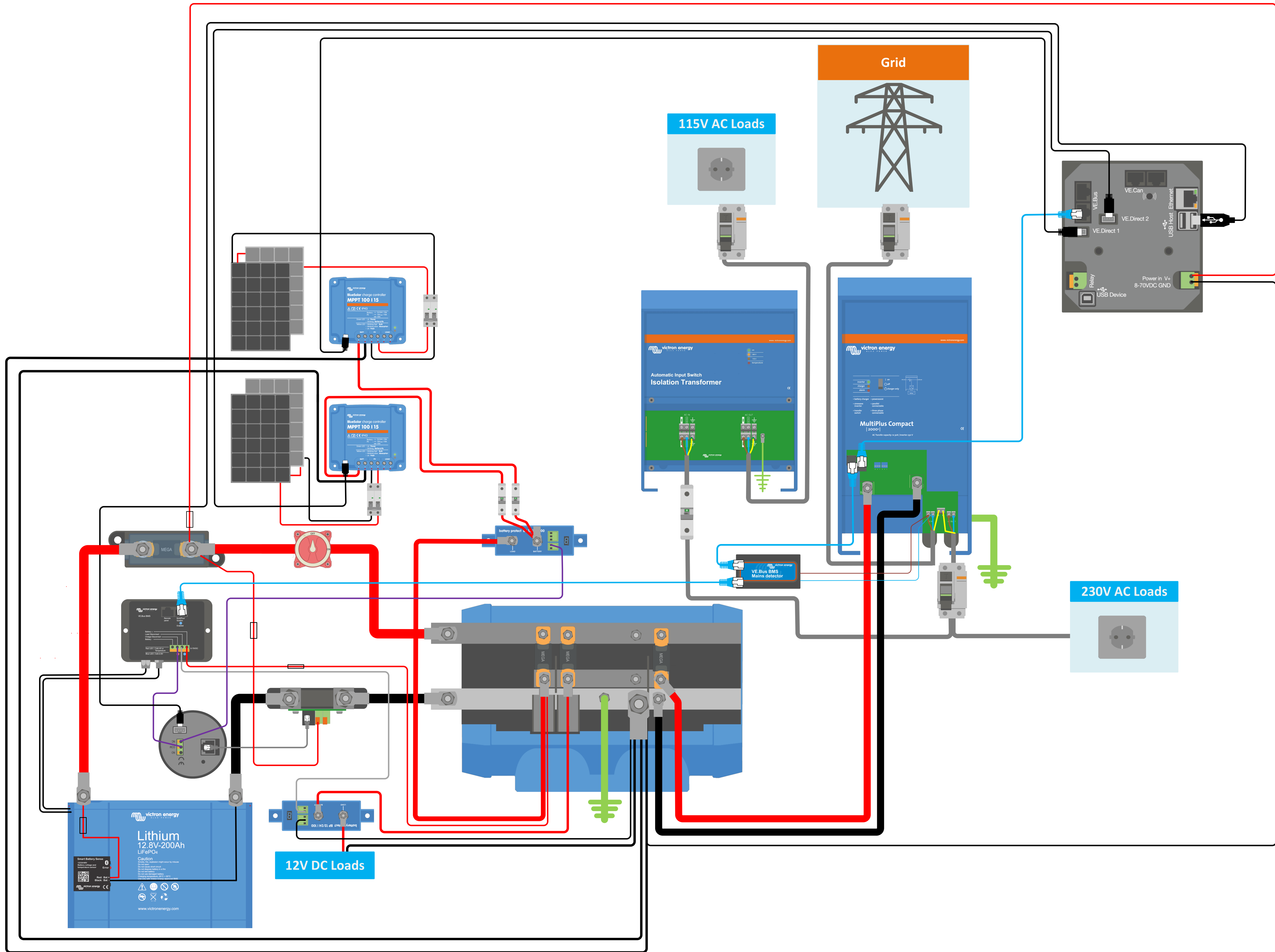
schematic with lithium

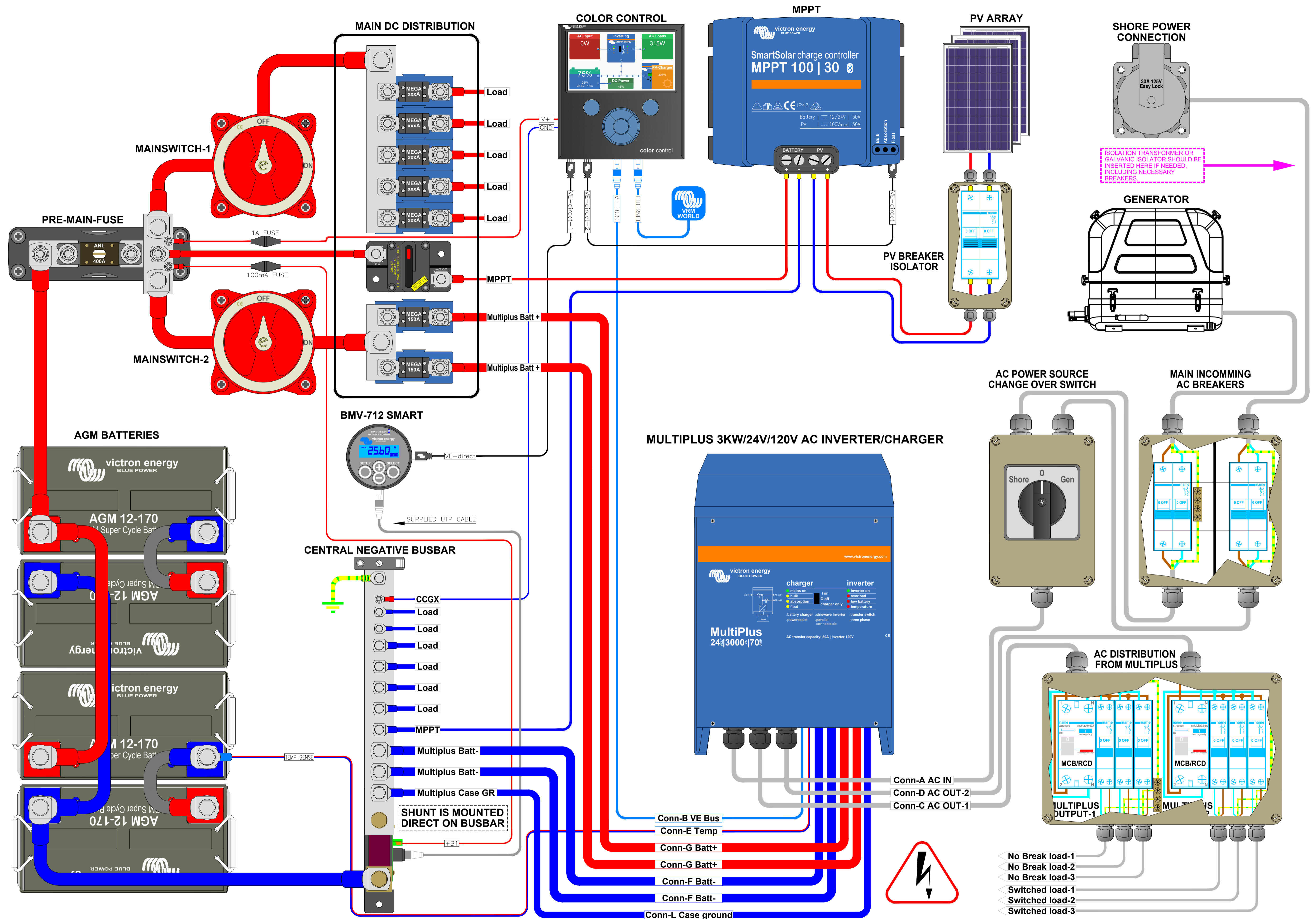






BMV-712 Smart		
Battery	26.34V	1.8A 47W
State of charge	96%	
Consumed Amperours	-143.5Ah	
Time-to-go		
Relay state	On	
Alarms		





**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 32A and is adjustable. An Earth leakage with breaker or a combination MCB/RCD must be installed on the output. Cable size must be adjusted accordingly.

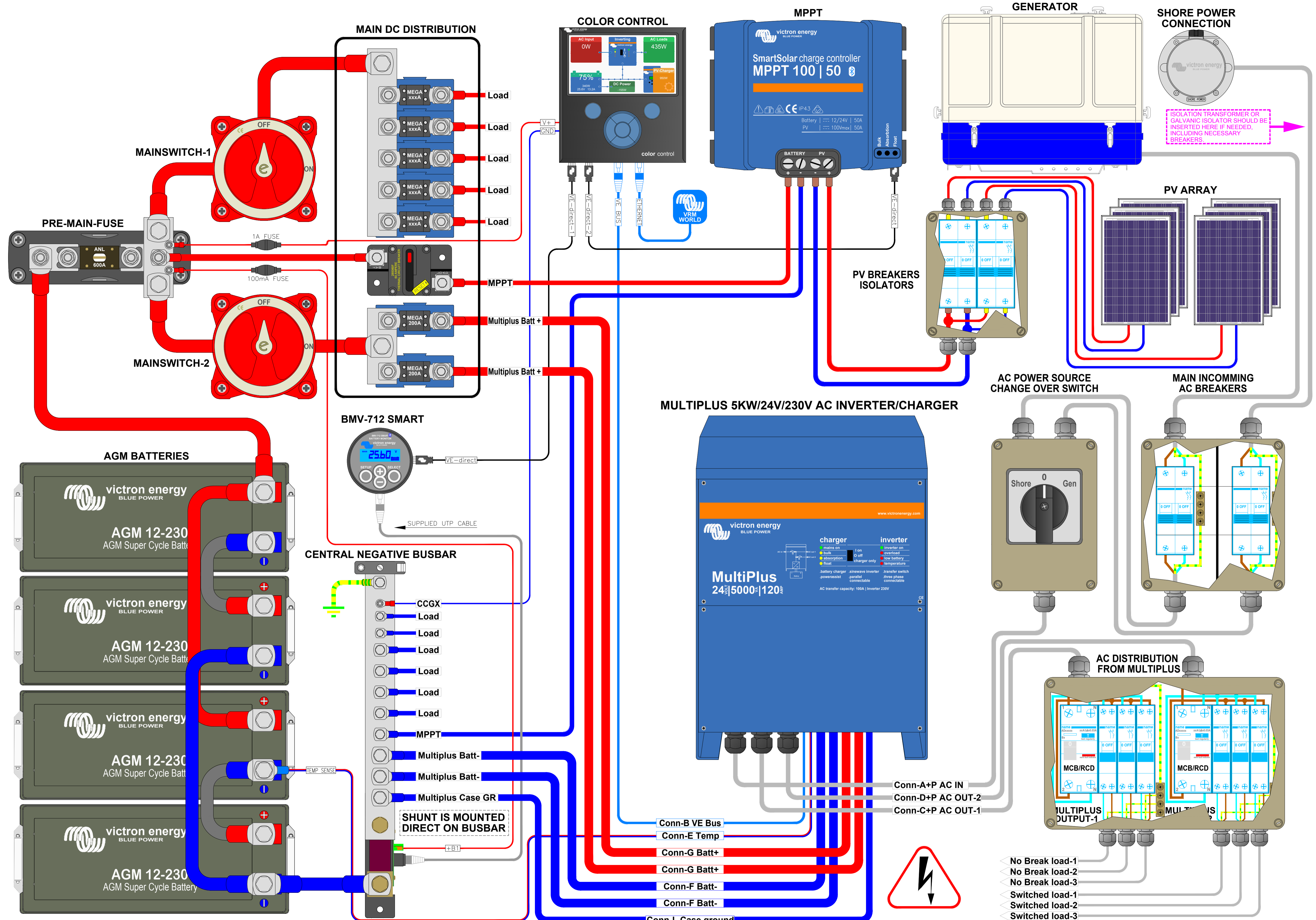
**Recommended AC Out-1 cable/breaker size MultiPlus**  
 With Power assist the MultiPlus can add 3KW to the output load when needed. Together with the adjustable 50A input this all adds up to the max sum of input and output current of 50+25=75A. An Earth leakage with breaker or a combination MCB/RCD must be installed on the output. Cable size must be adjusted accordingly.

**Recommended DC cable/fuse size MultiPlus**  
 0-5 m cable length: 2 x 50SQmm  
 5-10 m cable length: 4 x 50SQmm  
 Cable length stands for the distance between the battery connections 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 1 x 300A or 2 x 150A

**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.

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

- ◀ No Break load-1
- ◀ No Break load-2
- ◀ No Break load-3
- ◀ Switched load-1
- ◀ Switched load-2
- ◀ Switched load-3



**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 and is adjustable. An Earth leakage with breaker or a combination MCB/RCD must be installed on the output. Cable size must be adjusted accordingly.

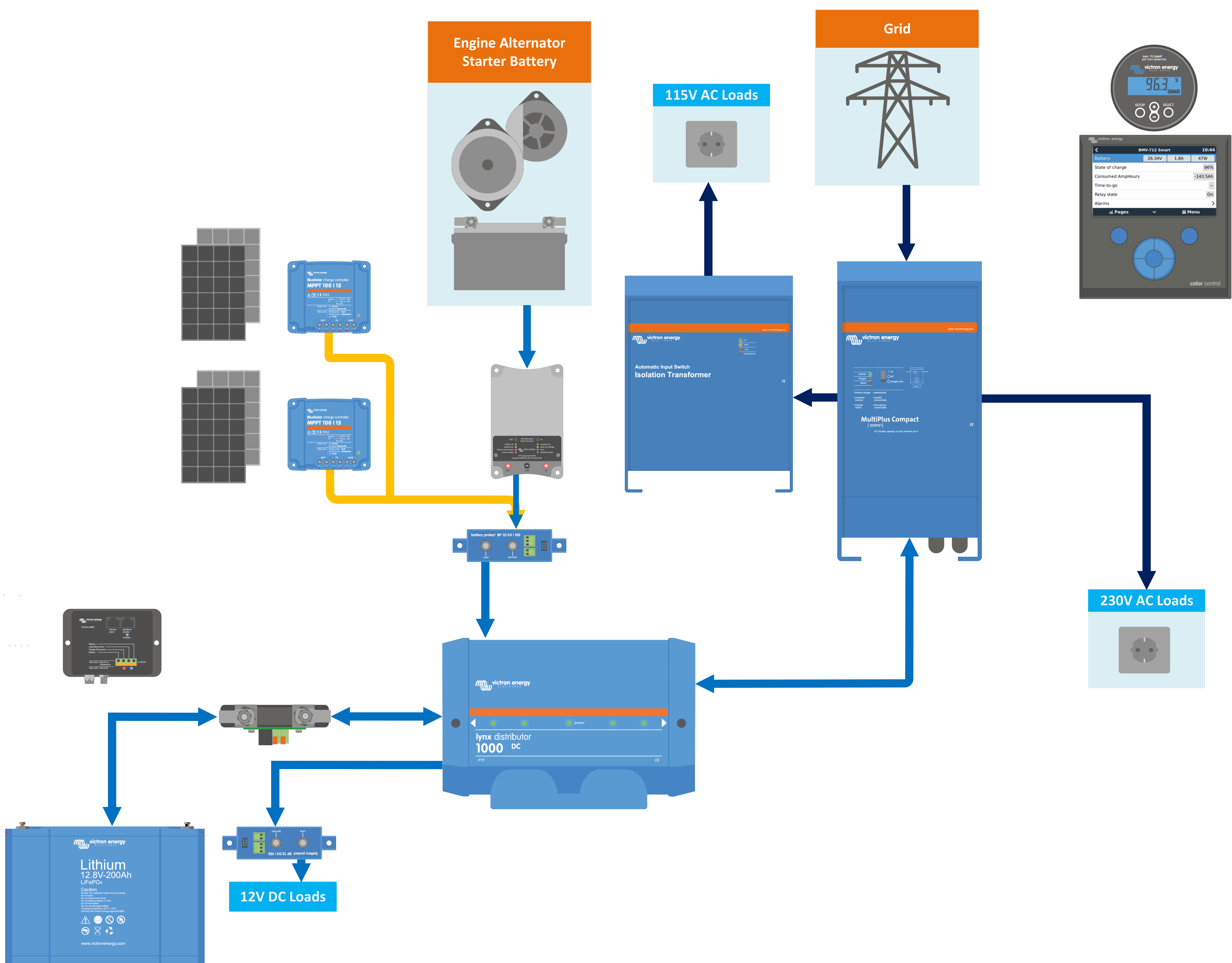
**Recommended AC Out-1 cable/breaker size MultiPlus**  
 With Power assist the MultiPlus can add 5KW to the output load when needed. Together with the adjustable 100A input this all adds up to the max sum of input and output current of 100+21=121A. An Earth leakage with breaker or a combination MCB/RCD must be installed on the output. Cable size must be adjusted accordingly.

**Recommended DC cable/fuse size MultiPlus**  
 0-5 m cable length: 4 x 50SQmm  
 5-10 m cable length: 4 x 95SQmm  
 Cable length stands for the distance between the battery connections 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 1 x 400A or 2 x 200A

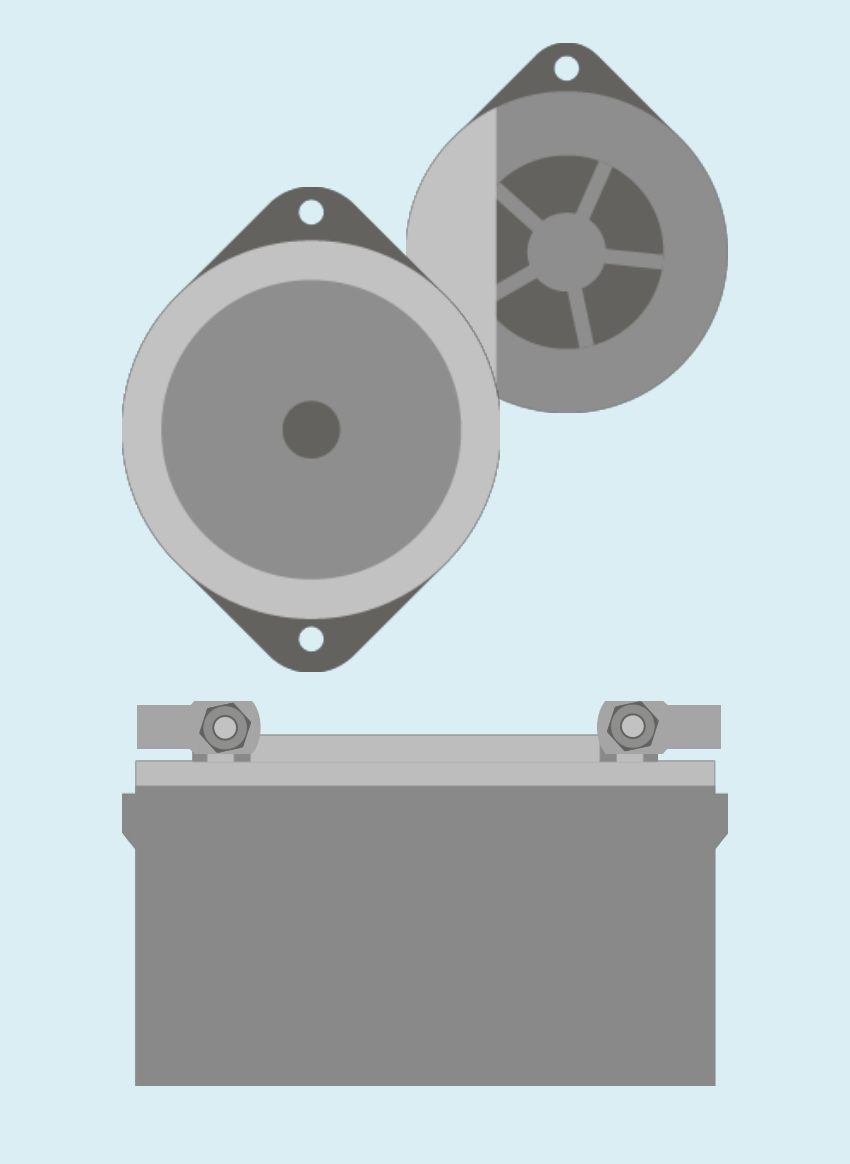
**Recommended AC IN cable/breaker size MultiPlus**  
 AC IN must be protected by a circuit breaker rated at 100A max or less. This depends heavily on the size of the connected power source. The input current must be adjusted to fit the size of the connected power source. The breaker and cable size for AC IN should be adjusted accordingly.

**WARNING**  
 230 VOLT IS EXTREMELY HAZARDOUS DO NOT TOUCH ANY LIFE WIRED PARTS OF THE INSTALLATION !!! WHEN IN DOUBT, ALWAYS CONSULT YOUR VICTRON DEALER !!!

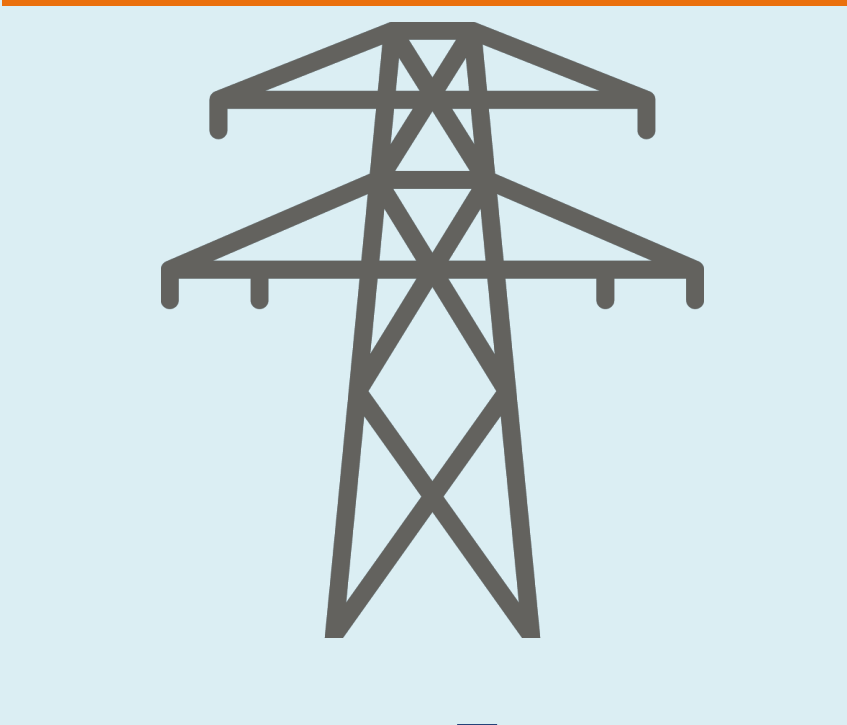
- ◀ No Break load-1
- ◀ No Break load-2
- ◀ No Break load-3
- ◀ Switched load-1
- ◀ Switched load-2
- ◀ Switched load-3



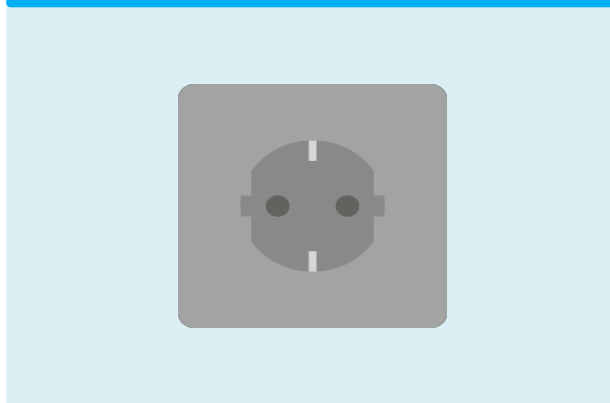
**Engine Alternator Starter Battery**



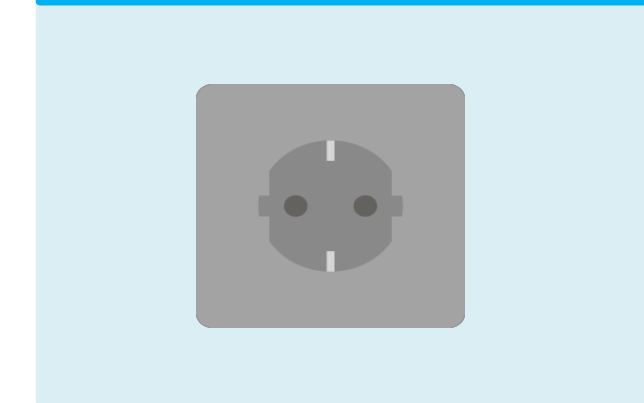
**Grid**



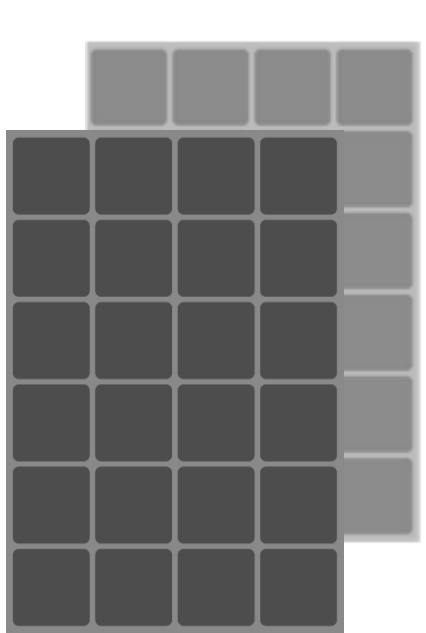
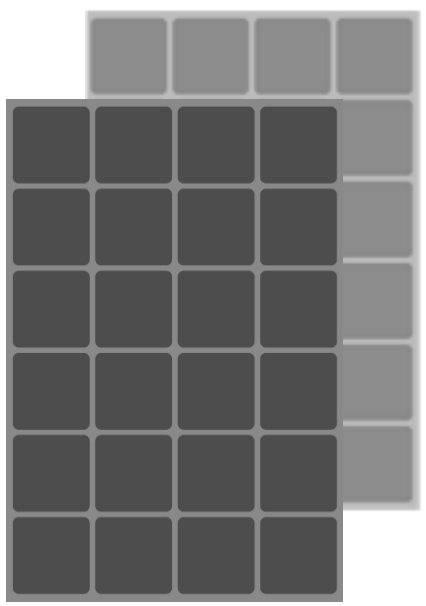
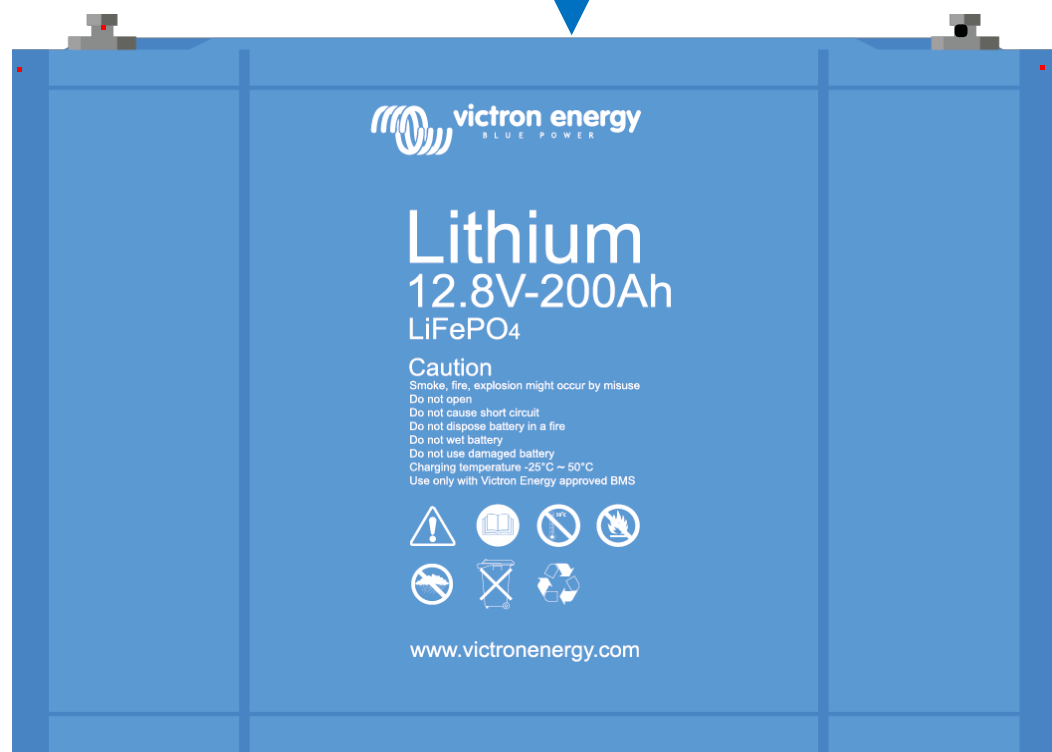
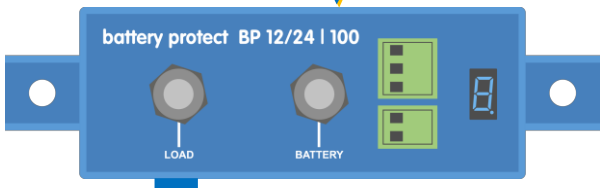
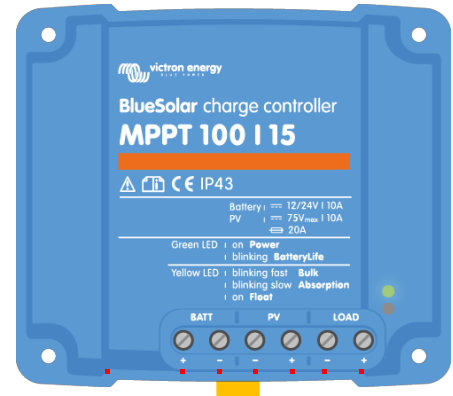
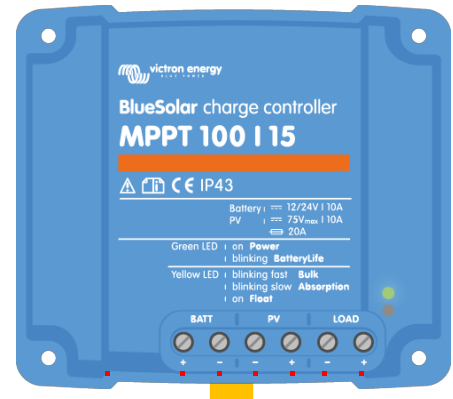
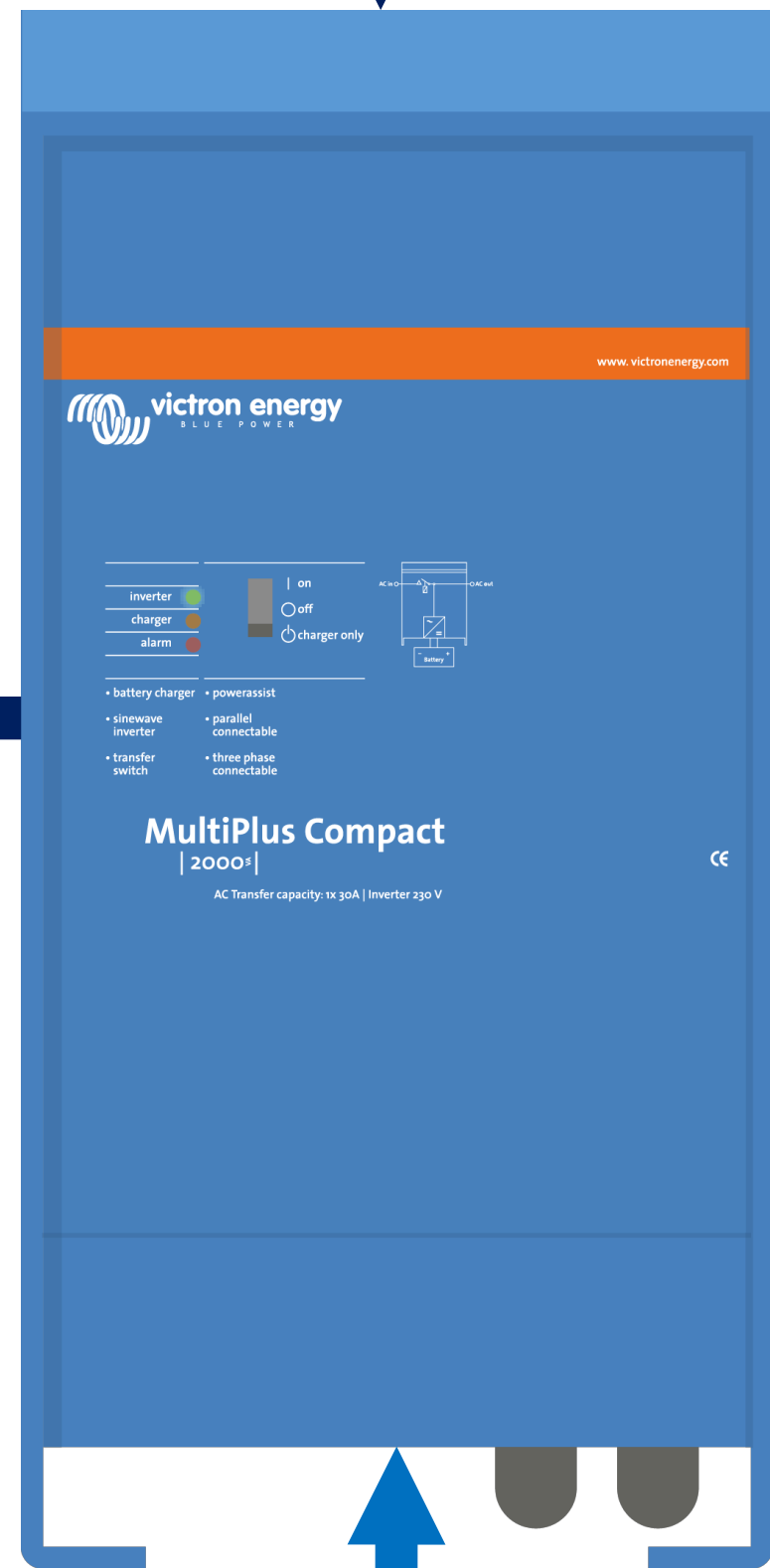
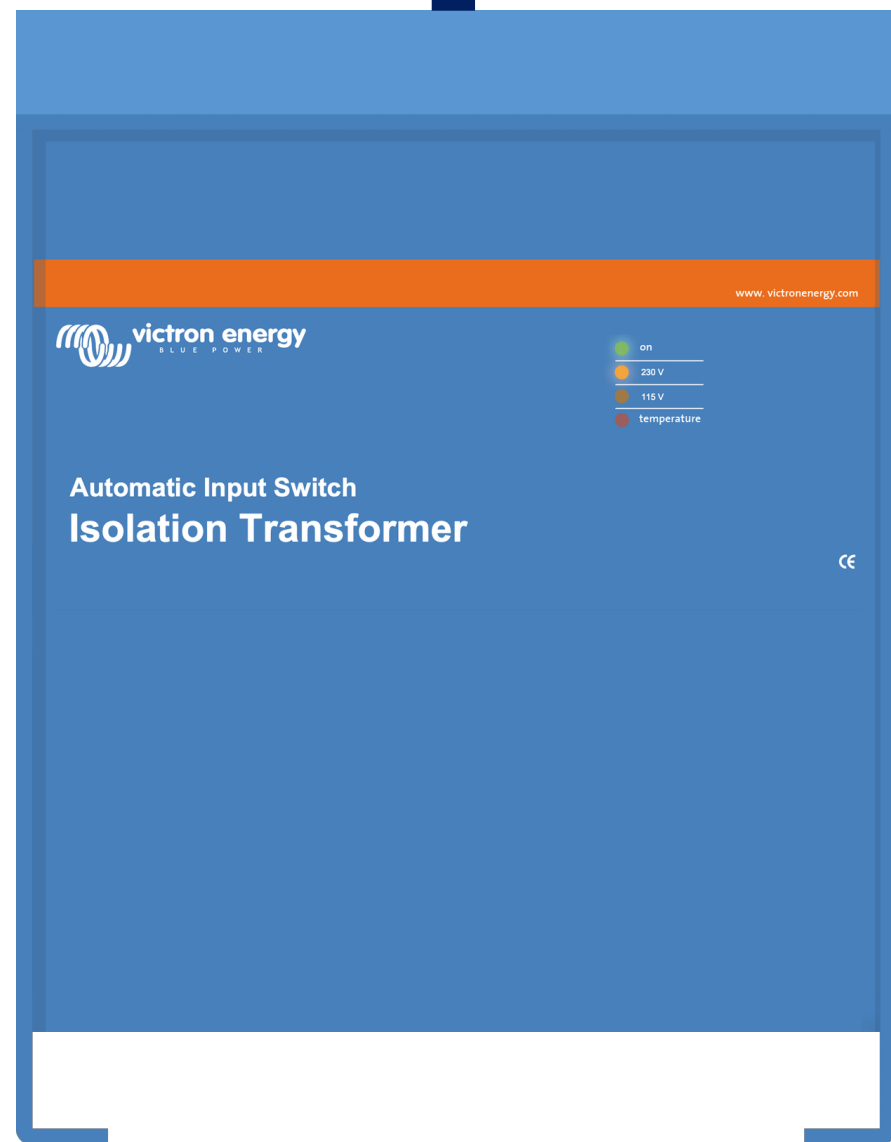
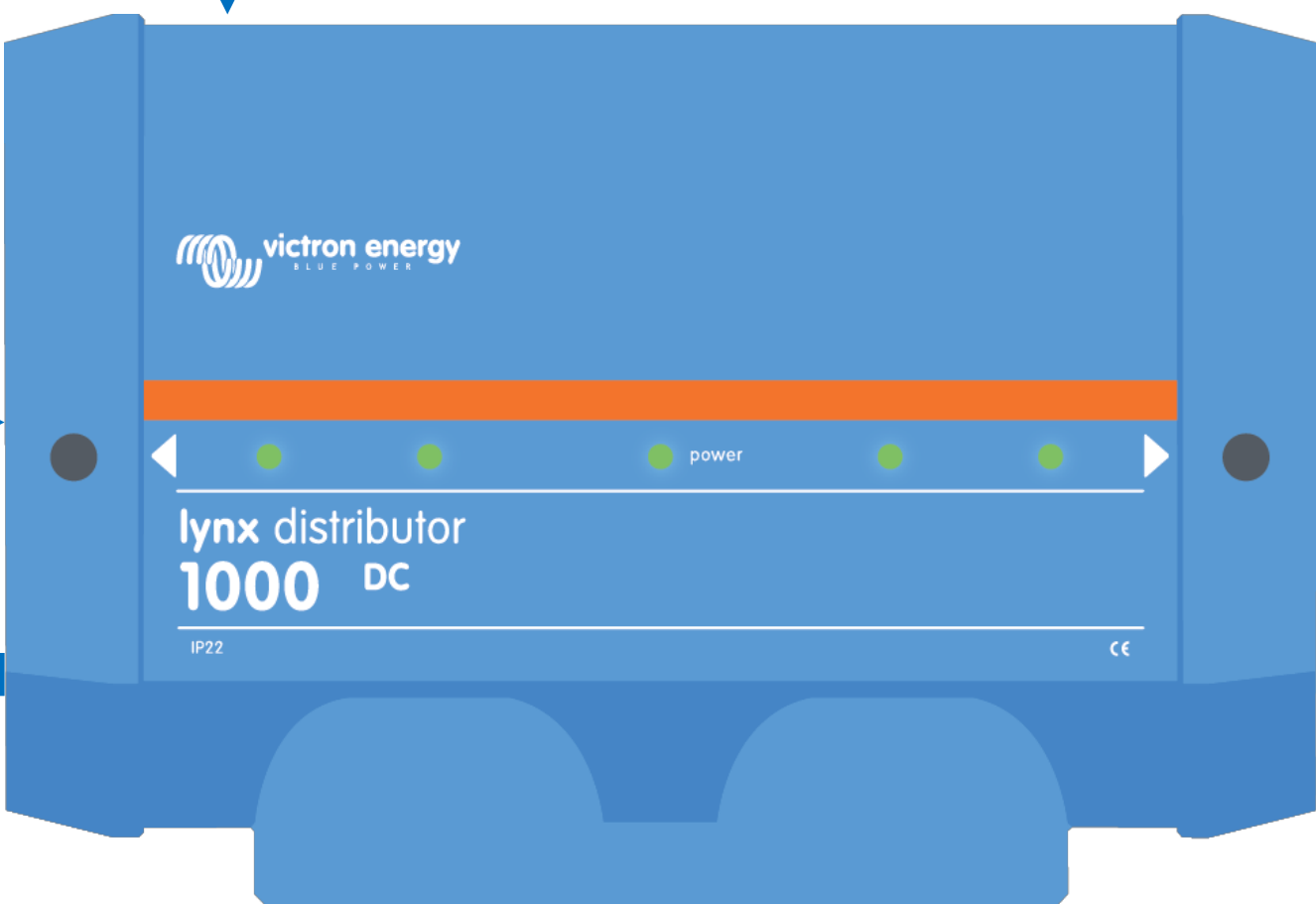
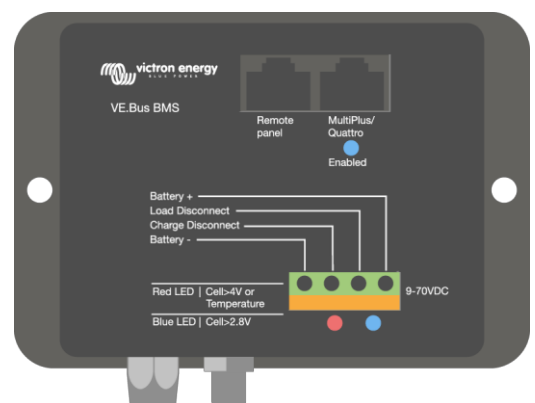
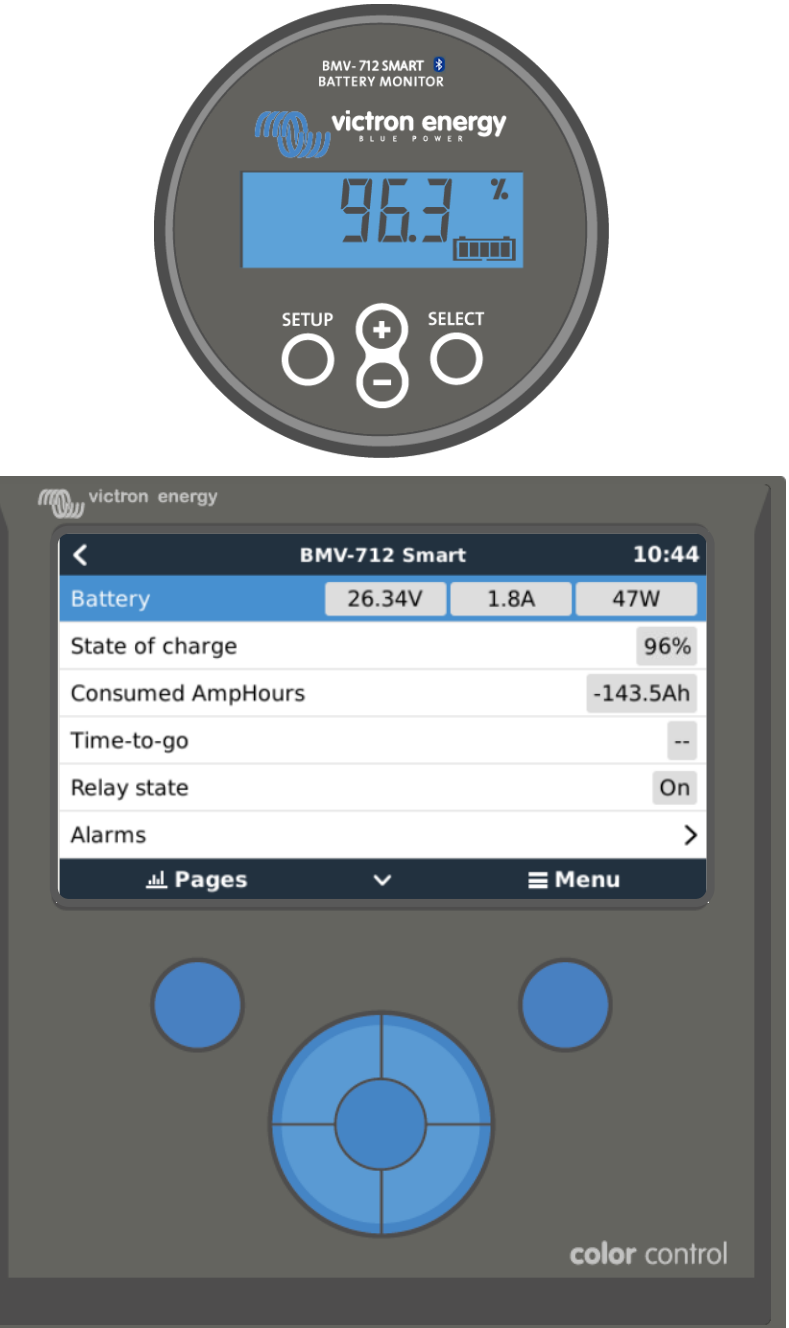
**115V AC Loads**

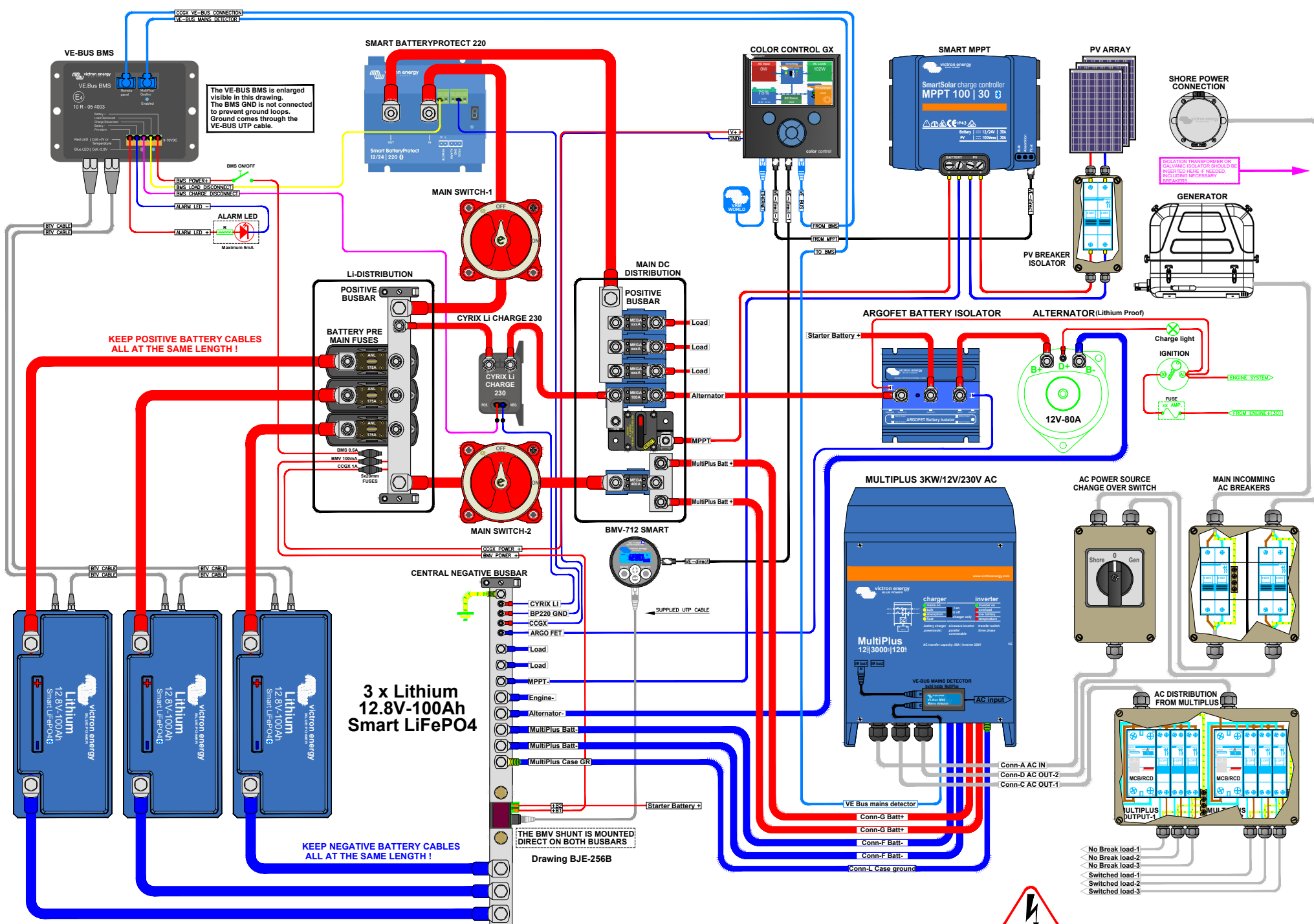


**230V AC Loads**



**12V DC Loads**





**Smart BatteryProtect programming**  
 The BatteryProtect must be programmed for Li-Ion mode 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.

**Recommended AC Out-2 cable/breaker size MultiPlus**  
 AC Out-2 only is available when power is present on AC In-1. During battery operation it will be disconnected. AC Out-2 supports up to 16A and is adjustable. An Earth leakage with breaker or a combination MCB/RCD must be installed on the output. Cable size must be adjusted accordingly.

**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+13=63A. An Earth leakage with breaker or a combination MCB/RCD must be installed on the output. Cable size must be adjusted accordingly.

**Recommended DC cable/fuse size MultiPlus**  
 0-5 m cable length: 4 x 50Sqrmm  
 5-10 m cable length: 4 x 70Sqrmm  
 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 1 x 400A or 2 x 200A

**Recommended AC IN cable/breaker size MultiPlus**  
 AC IN must be protected by a circuit breaker rated at 50A 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 source. The breaker and cable size for AC IN should be adjusted accordingly.

**WARNING**  
 230 VOLT IS EXTREMELY HAZARDOUS DO NOT TOUCH ANY LIFE WIRED PARTS OF THE INSTALLATION !!!  
 WHEN IN DOUBT, ALWAYS CONSULT YOUR VICTRON DEALER !!!



THE BMW SHUNT IS MOUNTED DIRECT ON BOTH BUSBARS  
 Drawing BJE-256B

