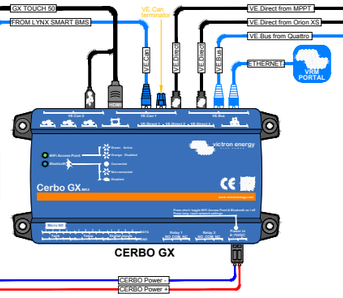
The GX Touch 50 and the CERBO GX are enlarged visible in this drawing.

GX TOUCH 50

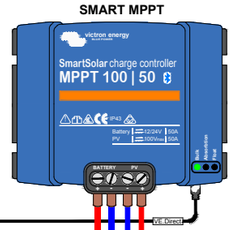


IMPORTANT INFORMATION !

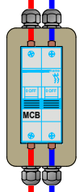
Victron Lithium NG Batteries charge & discharge controlled by BMS & GX Device

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 - Quattro 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.
4 - DC Loads: via SmartBattery Protect 220 and ATD signal from the BMS.
5 - AC Loads: controlled together with the Quattro Inverter/Charger.

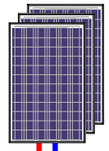
SMART MPPT



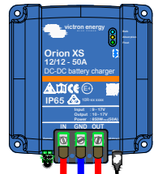
PV BREAKER/ISOLATOR



SOLAR ARRAY



ORION-XS 12/12-50A



There are several configuration options possible. Read the Orion-XS manual carefully and choose the one fitting your installation.

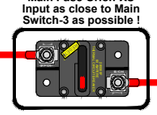
FROM MPPT TO CERBO

FROM ORION XS TO CERBO

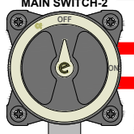
VE.Direct

VE.Direct from Orion XS

Main Fuse Orion-XS Input as close to Main Switch-3 as possible !

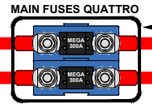


Single Circuit Dual Output MAIN SWITCH-2



IMPORTANT INFORMATION !
Keep the distance between Distributor and Main Switch-2 as short as possible !

MAIN FUSES QUATTRO



Protective cover

Quattro Batt +

Quattro Batt +

Busbar Isolator

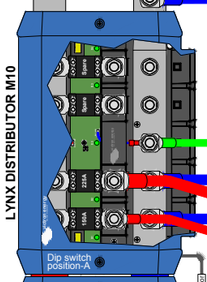
Use Protective covers

Quattro Batt -

Quattro Batt -

CERBO Power -
CERBO Power +
CERBO VE.Can

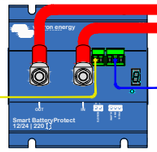
LYNX DISTRIBUTOR M10



Dip switch position-A

IMPORTANT INFORMATION !
The Smart BatteryProtect 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.

SMART BATTERY PROTECT 220 (SBP)



Loads 1 till 5

SBP 220 IN +

SBP220 GND

SBP H-contact

Negative Busbar

MS-1 Common

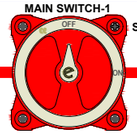
Negative Busbar

MPPT & Orion XS & Spare

GND

For proper Dip switch configuration settings of the Lynx Distributor read the manual.

MAIN SWITCH-1



Single Circuit

SBP 220 IN +

Busbar Isolator

NEGATIVE BUSBAR

FUSE

Spare -

Spare -

Engine -

MPPT -

Load 1 -

Load 2 -

Load 3 -

Load 4 -

Load 5 -

Quattro Case Gr.

POSITIVE BUSBAR

Load 1 +

Load 2 +

Load 3 +

Load 4 +

Load 5 +

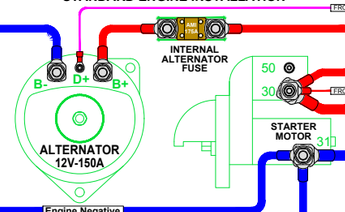
MPPT +

ORION XS +

Spare +

Drawing BJE-275A Rev-D

STANDARD ENGINE INSTALLATION

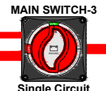


Engine Negative

Negative Busbar

IMPORTANT INFORMATION !
Standard Engine Installation
With Alternator positive output connected to Starter motor connection 30/B+.
Alternator & starter motor both are connected behind the Engine Main Switch.
Other connection options are possible depending on owner preferences.

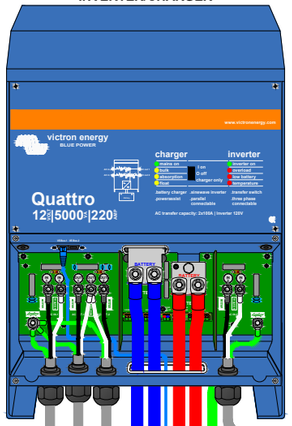
MAIN SWITCH-3



Starter Battery 12V-125Ah

Blue Smart Charger 12V-5A

QUATTRO / 5kVA/12V/120V-60Hz AC INVERTER/CHARGER



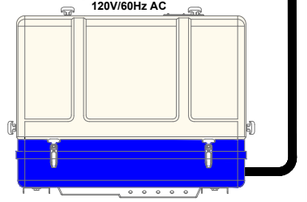
Shore power

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

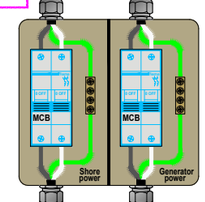
MAIN INCOMING AC BREAKERS TOWARDS QUATTRO

Generator power

GENERATOR 4KW 120V/60Hz AC



SHORE POWER CONNECTION 120V/60Hz AC



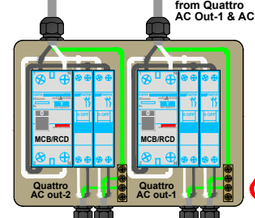
Quattro AC IN-2

Quattro AC IN-1

Quattro AC OUT-1

Quattro AC OUT-2

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



120V Switched load-1
120V Switched load-2
120V No Break load-1
120V No Break 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 1000 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

FUSES

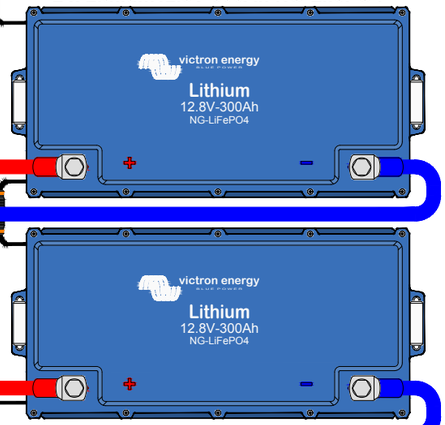
CERBO 1A

SBP 15A

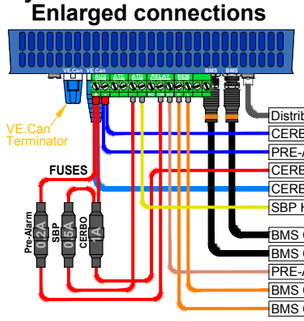
Pre-Alarm 5A

VE.Can Terminator

2 x Lithium12.8V-300Ah NG-LifePO4



Lynx Smart BMS 1000-NG Enlarged connections



PRE-ALARM PIEZO BUZZER

12 Volt 30mA

BMS ON/OFF

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 !

VE.Bus to CERBO — Conn-B VE.Bus

Quattro Batt - — Conn-F Batt-

Quattro Batt - — Conn-F Batt-

Quattro Batt + — Conn-G Batt+

Quattro Batt + — Conn-G Batt+

Conn-L Case ground

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 one size smaller or identical to the total connected DC negatives (ABYC).

IMPORTANT INFORMATION !
Recommended AC Out-1 cable/breaker size Quattro
With Power assist the Quattro 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+42=142A.
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
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 60A.
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
0-5 m cable length: 4 x AWG 4/0. When used in closed conduits, cable size should double. Cable length stands for the distance between the battery 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 according to manual: 800A.
Fuse size used in this drawing is 2x300-350A Mega.

IMPORTANT INFORMATION !
Recommended AC IN-1 & AC IN-2 cable/breaker size Quattro
AC IN-1 & AC IN-2 both 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 currents must be adjusted to fit the size of each connected power source. The breaker and cable size for both AC IN-1 & AC IN-2 should be adjusted accordingly.