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

GX TOUCH 50

GX TOUCH 50

FROM LYNX SMART BMS

VE.Can Terminator

VE.Direct from MPPT

VE.Direct from Orion XS

VE.Bus from Quattro

ETHERNET

VRM PORTAL

CERBO GX

CERBO Power -

CERBO Power +

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

SmartSolar charge controller MPPT 100 | 50

PV BREAKER/ISOLATOR

MCB

SOLAR ARRAY

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

ORION-XS 12/12-50A

Orion XS 12/12 - 50A DC-DC battery charger

IP65

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

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

Dip switch position-A

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

GND

MAIN SWITCH-1

Single Circuit

SBP 220 IN +

M8 CIRCULAR BMS CABLES & CONNECTORS

BMS CABLE

BMS CABLE

BMS ON/OFF

PRE-ALARM PIEZO BUZZER

12 Volt 30mA

FUSES

CERBO

SBP

Pre-Alarm

VE.Can Terminator

LYNX SMART BMS 1000 NG

CLASS-T POWER IN M10

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

victron energy

Lithium

12.8V-300Ah

NG-LiFePO4

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-372A Rev-B

STANDARD ENGINE INSTALLATION

FROM ALTERNATOR D+

INTERNAL ALTERNATOR FUSE

ALTERNATOR 12V-150A

STARTER MOTOR

FROM STARTER(+30)

Charge light

IGNITION

FUSE xx AMP

ENGINE SYSTEM

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

Single Circuit

Starter Battery

Starter Battery 12V-125Ah

Blue Smart Charger 12V-5A

FUSE

blue smart charger

QUATTRO / 5kVA/12V/230V-50Hz AC INVERTER/CHARGER

victron energy

BLUE POWER

charger

inverter

Quattro 12|5000|220

Shore power

MAIN INCOMING AC BREAKERS TOWARDS QUATTRO

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

Generator power

GENERATOR 4KW 230V/50Hz AC

SHORE POWER CONNECTION 230V/50Hz AC

MCB

Shore power

Generator power

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

MCB/RCD

Quattro AC out-2

Quattro AC out-1

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 !!!

120V Switched load-1

120V Switched load-2

120V No Break load-1

120V No Break load-2

Blue Smart charger

VE.Bus to CERBO

Quattro Batt -

Quattro Batt -

Quattro Batt +

Quattro Batt +

Conn-B VE.Bus

Conn-F Batt-

Conn-F Batt-

Conn-G Batt+

Conn-G Batt+

Conn-L Case ground

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 !

Lynx Smart BMS 1000-NG Enlarged connections

VE.Can Terminator

FUSES

Pre-Alarm

SBP

CERBO

BMS

Distributor

CERBO Power -

PRE-ALARM -

CERBO Power +

CERBO VE.Can

SBP H-contact

BMS CABLE

BMS CABLE

PRE-ALARM +

BMS ON/OFF

BMS ON/OFF

PRE-ALARM PIEZO BUZZER

12 Volt 30mA

BMS ON/OFF

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+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 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 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 Quattro

0-5 m cable length: 4 x 120SQmm. 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.