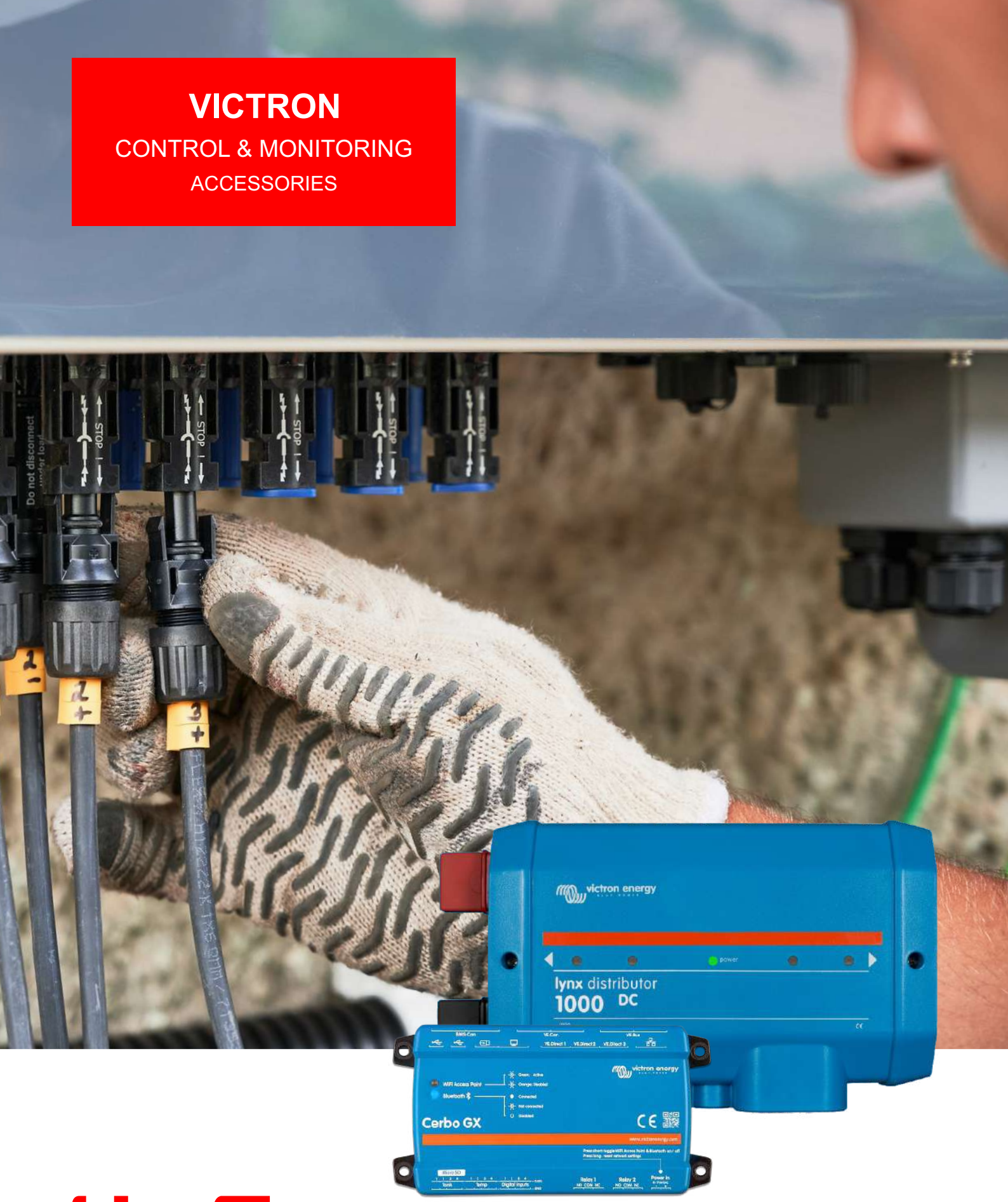
VICTRON

CONTROL & MONITORING

ACCESSORIES



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BLUE POWER

Cerbo GX, Cerbo-S GX & GX Touch

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Cerbo GX

Cerbo S GX

GX Touch (optional display for Cerbo GX and Cerbo-S GX

Cerbo GX: communication-centre

This communication-centre allows you to always have perfect control over your system from wherever you are and to maximise its performance. Simply access your system via our Victron Remote Management (VRM) portal, or access it directly, using the optional GX Touch screen or the VictronConnect app thanks to its Bluetooth capability. The Cerbo-S GX is similar to that of the Cerbo GX, with the exception that the device excludes a BMS can port and no temperature and level sensing.

GX Touch: display accessory

The GX Touch 50 and GX Touch 70 are display accessories for the Cerbo GX. The touch screen display gives an instant overview of your system and allows you to adjust settings. Simply connect the display to the Cerbo GX with just one cable. Both GX Touch displays have a waterproof design, a top-mountable setup and is simple to install.

Remote Console on VRM

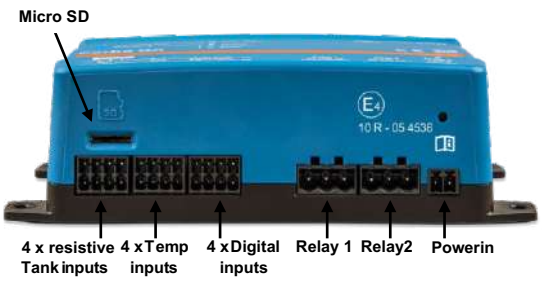
Monitor, control and configure the Cerbo GX and Cerbo-S GX remotely, over the internet. Just like if you were standing in front of the device, using Remote Console. The same functionality is also available on the local network LAN, or using the WiFi Access Point of the Cerbo GX.

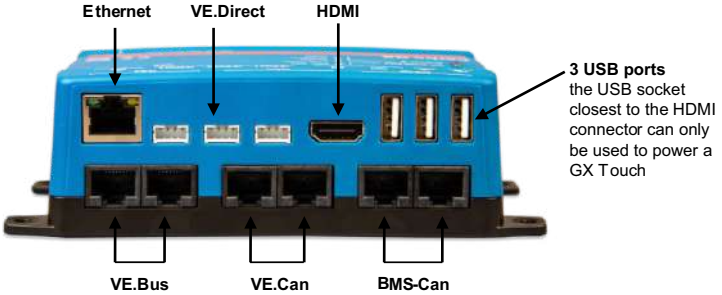
Perfect monitoring & control

Instantly monitor the battery state of charge, power consumption, power harvest from PV, generator, and mains, or check tank levels and temperature measurements. Easily control the power input current limit, (auto)start/stop generator(s) or change any setting to optimise the system. Follow up on alerts, perform diagnostic checks and resolve complications remotely.

Simple mounting and configuration

The Cerbo GX and Cerbo GX S is easily mountable and can also be mounted on a DIN-Rail using the DIN35 adapter small, (not included). Its separate touchscreen can be bolted on a dashboard, eliminating the need to create perfect cutouts. Connection is easy via just one cable, taking away the hassle of having to bring many wires to the dashboard. The Bluetooth feature enables a quick connection and configuration via our VictronConnect app.





Cerbo Specifications

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	Cerbo GX	Cerbo-S GX
Supply voltage	8 – 70V DC	
Mounting	Wall or DIN rail (35mm)[2]	
Communication ports		
VE.Direct ports (always isolated)	3 [3]	
VE.Bus (always isolated)	2 paralleled RJ45 sockets	
VE.Can	yes - non isolated	
BMS-Can port	Yes	No
IO		
Resistive tank level inputs	4	0
Temperature sense inputs	4	0
Digital Inputs	4	4
Other		
Outer dimensions (h x w x d)	78 x 154 x 48 mm	
Operating temperature range	-20 to +50°C	
Standards		
Safety	IEC 62368-1	
EMC	EN 301489-1, EN 301489-17	
Automotive	ECE R10-6	
GX Touch 50 / GX Touch 70		
Mounting	With included mounting accessories	
Protection cover	Included with every GX Touch from serial number HQ2242 Can also be purchased individually: Part number BPP900462050: GX Touch 50 protection cover Part number BPP900462070: GX Touch 70 protection cover	
Display Resolution	GX Touch 50: 800 x 480 GX Touch 70: 1024 x 600	
Other		
Outer dimensions (h x w x d)	GX Touch 50: 87 x 128 x 12.4 mm GX Touch 70: 113 x 176 x 13.5 mm	
Cable length	2 meter	

Ekrano GX

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Ekrano GX front and back

Ekrano GX: communication-centre

The Ekrano GX represents the next generation in the GX product family. With its complete range of connections and interfaces as well as a built-in 7-inch touchscreen display, it is the most powerful GX device to date and allows you to always have perfect control over your system from wherever you are and to maximise its performance. Simply access your system via the Victron Remote Management (VRM) Portal, or access it directly, using the built-in touchscreen or the VictronConnect app thanks to its Bluetooth capability. The Ekrano GX is a combination of the Cerbo GX and the GX Touch.

Built-in 7-inch touchscreen display

The seven-inch touchscreen display gives an instant overview of your system and allows you to adjust settings. The touch function can be disabled (or enabled) via a recessed button on the back to prevent unauthorised use. When mounted using the supplied steel bracket, the display is watertight from the outside.

Remote Console on VRM

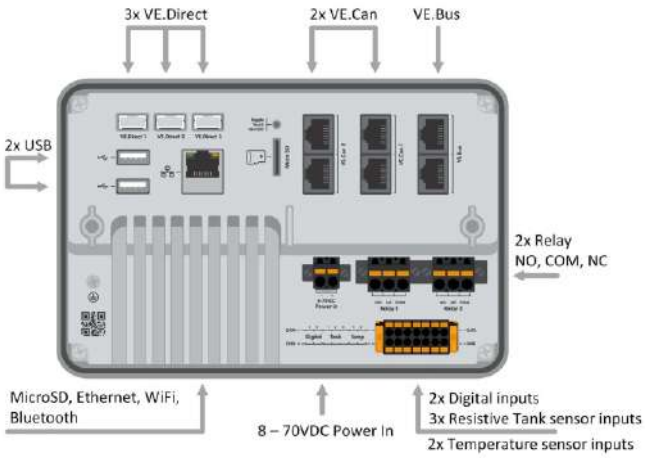
Monitor, control and configure the Ekrano GX remotely, over the internet, just like if you were standing in front of the device, using the Remote Console. The same functionality is also available via local LAN network or via the built-in WiFi access point of the Ekrano GX.

Perfect monitoring & control

Instantly monitor the battery state of charge, power consumption, power harvest from PV, generator, and mains, or check tank levels and temperature measurements. Easily control the shore power input current limit, (auto) start/stop generator(s) or change any setting to optimise the system. Follow up on alerts, perform diagnostic checks and resolve complications remotely.

Simple mounting and configuration

The Ekrano GX installs easily via a cut-out for flush panel mounting and includes both a steel bracket and springs for blind hole mounting. All ports are easily accessible from the back. The power and relay terminal blocks can be screwed in place and the IO terminal block has a quick release clamp for easy access. The Bluetooth feature allows for quick connection and configuration via our VictronConnect app.



Ekrano GX Specifications

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Ekrano GX [1]	
Supply voltage	8 – 70V DC
Power draw display on (100% brightness)	6.2W @ 12V | 6.6W @ 24V | 7.4W @ 48V
Power draw display off	2.6W 12V | 3.0W @ 24V | 3.7W @ 48V
Relay	2 x NO/NC [2] DC up to 30VDC: 3A AC: 1A, 125VAC
Communication ports	
VE.Direct ports (always isolated)	3 (max. possible VE.Direct devices: 25) [7]
VE.Bus (always isolated)	1 bus with 2 paralleled RJ45 sockets
VE.Can 1	Yes - isolated
VE.Can 2	Yes – non-isolated
Ethernet	Yes
WiFi	Yes
Bluetooth Smart	Yes [3]
USB Host ports	Yes – 2 x USB-A (max. 1.5A@5V combined)
MicroSD Card Slot	Yes – SDHC cards up to max. 32GB
IO	
Resistive tank level inputs	3 [4]
Temperature sense inputs	2 [5]
Digital Inputs	2[6]
Display	
Display resolution	1024 x 600 pixels
Display max. backlight brightness	1000cd/m^2
Backlight dimming	Yes – dynamic via built-in ambient light sensor or manually via Remote Console With timer for auto on/off
Touch toggle on/off button	Yes – recessed button on the back (prevents unauthorised use)
Dimensions	
Outer dimensions (h x w x d)	124 x 187 x 29.8 mm | 4.88 x 7.36 x 1.17 in (without connectors and mounting accessories)
Operating temperature range	-20 to +50°C
Other	
Mounting	Panel integrated flush mount or blind hole mount with included mounting accessories
Buzzer	Yes
Protection category	Front: IP54 (when installed with steel bracket) IP31 (when installed with springs) Back: IP21
Standards	
Safety	IEC 62368-1
EMC	EN 301489-1, EN 301489-17
Automotive	ECE R10-6

Notes

1. Currently, Relay 1 can be used for programming as an alarm relay, generator start/stop, tank pump, temperature controlled relay or manual operation. Relay 2 is available for programming as a temperature controlled relay or manual operation in the Relay menu of the GX (requires firmware 2.80 or higher).
2. Bluetooth functionality is intended to be used to assist with initial connection and networking configuration. You cannot use Bluetooth to connect to other Victron products (e.g. SmartSolar charge controllers).
3. The tank level inputs are resistive and should be connected to a resistive tank sender. Victron does not supply tank senders. The tank level ports can each be configured to work with either European (0 - 180 Ohm); or US tank senders (240 - 30 Ohm).
4. The Ekrano GX has 2 temperature inputs. They can be used to measure & monitor all kinds of temperatures. Temperature senders are not included. The required sensor is ASS000001000 - Temperature Sensor QUA/PMP/Venus GX. (Note that this is not the same as the BMV temperature accessory.). Temperature range is -20°C to +70°C. Actually, it can measure up to 100°C, but the sensor is not made to withstand temperatures above 70°C long term. Note that this is intended as a crude temperature sensor, and not calibrated. A deviation of +/- 2°C is to be expected.
5. The digital inputs can be used for open/closed monitoring of alarms, for example doors, or fire- or bilge alarms and can also be used for pulse counting. See the product manual for electrical specifications of the digital inputs.
6. The listed maximum in above table is the total connected VE.Direct devices such as MPPT Solar Charge controllers. Total means all directly connected devices plus the devices connected over USB. The limit is mostly bound by CPU processing power. Note that there is also a limit to the other type of devices of which often multiple are connected: PV Inverters. Up to three or four three phase inverters can typically be monitored on a CCGX. Higher power CPU devices can monitor more.

Lynx Distributor

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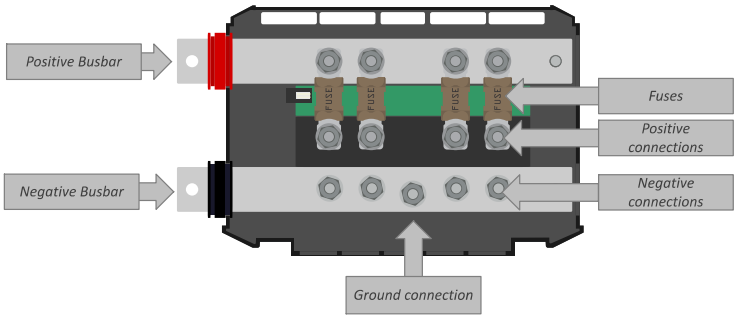
The Lynx modules: Lynx Power In, Lynx Distributor and Lynx Shunt VE.Can

The Lynx Distribution System

The Lynx Distribution System is a modular busbar system that incorporates DC connections, distribution, fusing, battery monitoring and/or Lithium battery management.
The Lynx Distributor monitors each fuse and will detect a blown fuse.

The Lynx Distribution System consists of the following parts:

- **Lynx Power In** - A positive and negative busbar with 4 connections for batteries or DC equipment.
- **Lynx Distributor** - A positive and negative busbar with 4 fused connections for batteries of DC equipment together with fuse monitoring.
- **Lynx Shunt VE.Can** - A positive busbar with a space for a main system fuse and a negative busbar with a shunt for battery monitoring. It has VE.Can communication for monitoring and setup with a GX device.



Internal parts and wiring diagram Lynx Distributor

The internal physical parts and the wiring diagram of the Lynx Distributor indicating the following parts:

The Lynx Distribution System consists of the following parts:

Positive busbar
Negative busbar
Fuse holder
Positive connections
Negative connections
Ground connection

Lynx Distributor

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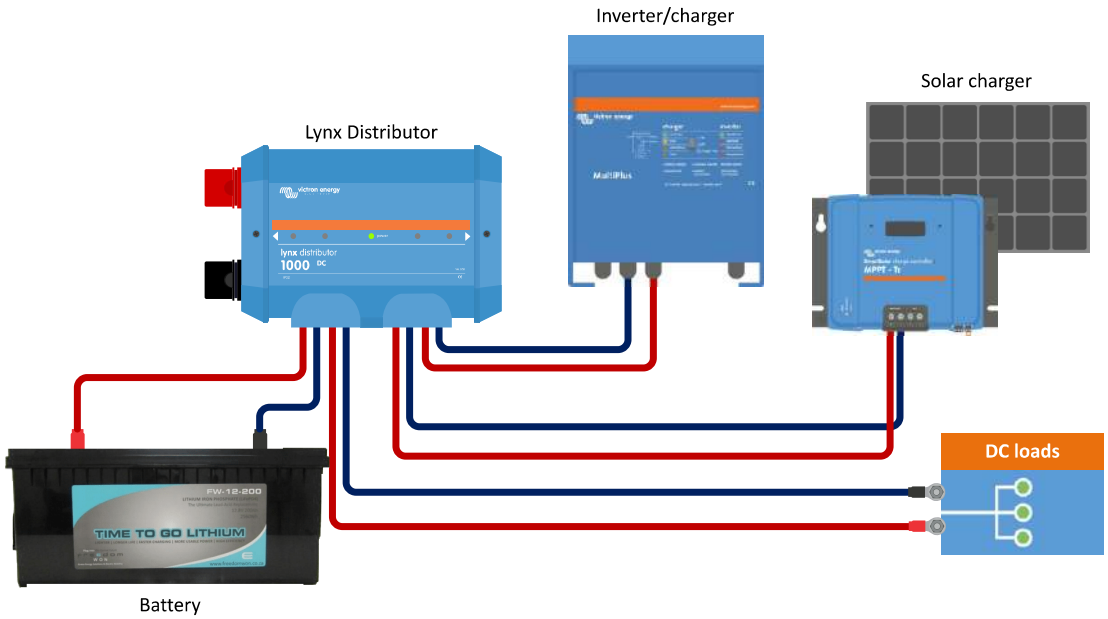
Power		
	Voltage range	9 - 60Vdc
	Supported system voltages	12, 24 or 48V
	Reverse polarity protection	Yes (1)
	Current rating	1000A
	Power consumption (2)	Maximum 100mA (with all LEDs illuminated)

Connections	
Busbar	M8
Fuses	M8
Power(3) and data	40 cm RJ10 cable (included)

Physical	
Enclosure material	ABS
Enclosure dimensions (hxlxw)	290 x 170 x 80 mm
Unit weight	2.2 kg
Busbar material	Tinned copper
Busbar material (hxw)	8 x 30mm

Environmental	
Operating temperature range	-40°C to +60°
Storage temperature range	-40°C to +60°
Humidity	Max. 95% (non-condensing)
Protection class	IP22



System with a Lynx Distributor only

(1) The RJ10 cable connection is not protected against reverse polarity
(2) Powered from Lynx Shunt VE Can
(3) Powered from Lynx Shunt VE Can

Lynx Shunt VE.Can

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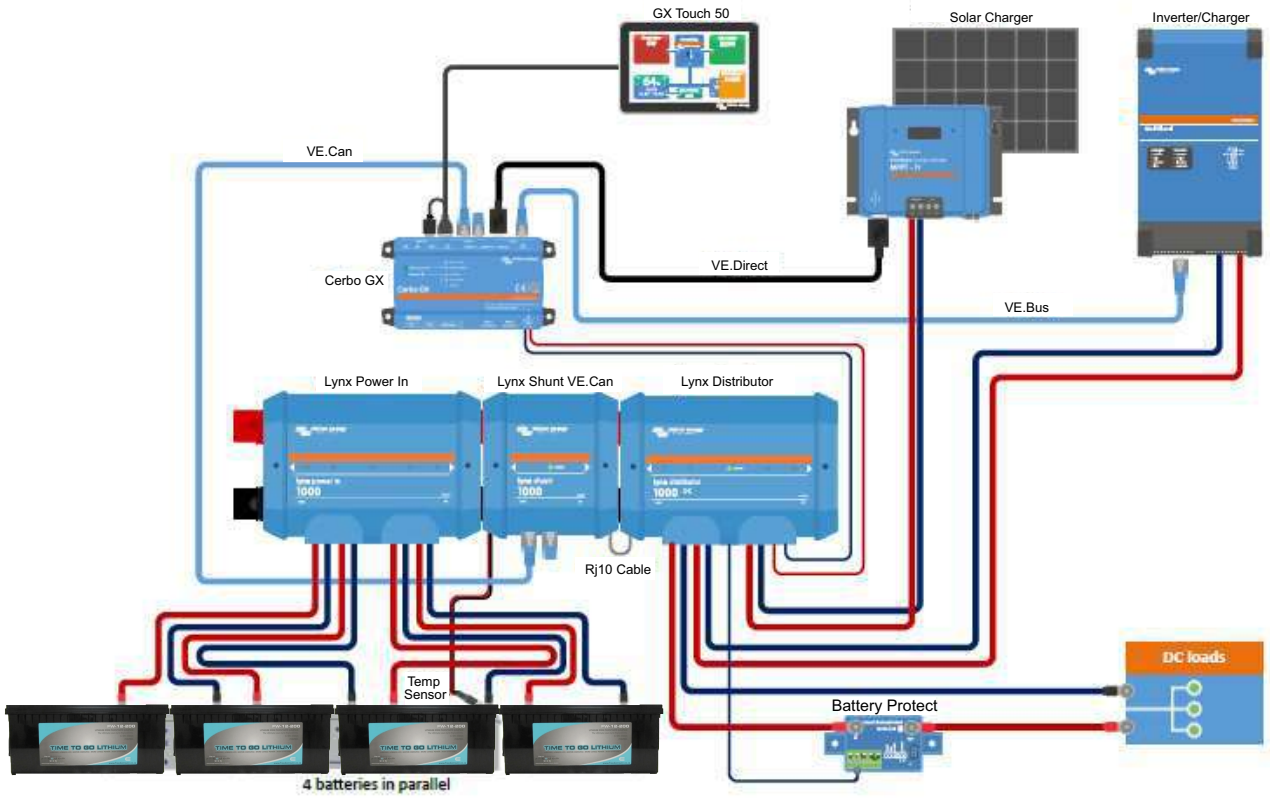
Busbar integrated battery monitoring

The Lynx Shunt VE.Can contains a positive and negative busbar, a battery monitor and a fuse holder for the main system fuse. It is part of the Lynx Distribution system. The Lynx Distributor has a power LED. The Lynx Shunt VE.Can can communicate via VE.Can with a GX device.
The Lynx Shunt VE.Can ships with two Rj45 VE.Can terminators, these are used when connecting to a GX device. It is designed to hold a CNN fuse. The fuse needs to be purchased separately.



System example - Lynx Shunt VE.Can, Lynx Power In, Lynx Distributor

This system contains the following components:
Lynx Power In.
Identical cable lengths for each battery.
Lynx Shunt VE.Can with main system fuse battery monitor.
Lynx Distributor with fused connections for inverter/charger(s), loads and chargers. Note that additional modules can be added if more connections are needed.
Cerbo GX (or other GX device) to read out the battery monitor data.

Lynx Shunt VE.Can Specifications

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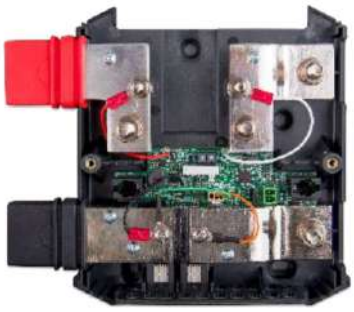
POWER	
Supply voltage range	9 - 70 Vdc
Supported system voltages	12, 24 or 48V
Reverse polarity protection	No
Current rating	1000Adc continuous
Power consumption	60mA @ 12V 33mA @ 24V 20mA @ 48V
Potential free alarm contact	3A, 30Vdc, 250Vac
CONNECTIONS	
Busbar	M8
Fuse	M8
VE.Can	RJ45 and RJ45 terminator
Power supply connection to Lynx Distributor	RJ10 (a RJ10 cable ships with each Lynx Distributor)
Temperature sensor	Screw terminal
Relay	Screw terminal
PHYSICAL	
Enclosure material	ABS
Enclosure dimensions (h x w x d)	190 x 180 x 80 mm
Unit weight	1.4 kg
Busbar material	Tinned copper
Busbar dimensions (hxw)	8 x 30 mm
Operating temperature range	-40°C to +60°
Storage temperature range	-40°C to +60°
Humidity	Max. 95% (non-condensing)
Protection class	IP22



Lynx Shunt VE.Can without cover

Rj45 VE.Can terminator

6-way Fuse holder & Busbar

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Fuse holder 6-way for MEGA fuse	
Max. current	250 A
Max. Voltage	70 VDC
Terminal diameter	5/16 inch / 8 mm
Terminal height	0.67 inch / 14 mm
Terminal material	Galvanised steel
Hex nut material	Galvanised steel
Recommended torque	60 lbf·inch / 7 N·m
Busbar strip material	Tin-plated copper (3 x 18 mm)
Base material	ABS, black, UL 94 V-0
Cover material	Clear Polycarbonate, UL 94 HB
Weight	1 lb / 0,45 kg
Dimensions (hxwxd) (with cover)	2.0 x 7.2 x 3.5 inch 50.9 x 181.5 x 88 mm

Fuse Holder 6-way

Single Fuse Holder

Fuse-Link

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MIDI fuses 32V	Appr. voltage drop	Cold resistance
MIDI fuse 100A/32V	60 mV	0,45 mΩ
MIDI fuse 125A/32V	60 mV	0,30 mΩ
MIDI fuse 150A/32V	80 mV	0,30 mΩ
MIDI -fuse 200A/32V	80 mV	0,25 mΩ
MIDI fuses 58V	**Appr. voltage drop**	**Cold resistance**
MIDI fuse 60A/58V	70 mV	0,9 mΩ
MIDI fuse 100A/58V	70 mV	0,45 mΩ

MEGA fuses 32V	Appr. voltage drop	Cold resistance
MEGA fuse 60A/32V	120 mV	1,5 mΩ
MEGA fuse 80A/32V	90 mV	0,7 mΩ
MEGA fuse 100A/32V	90 mV	0,6 mΩ
MEGA fuse 125A/32V	90 mV	0,4 mΩ
MEGA fuse 150A/32V	90 mV	0,35 mΩ
MEGA fuse 175A/32V	90 mV	0,3 mΩ
MEGA fuse 200A/32V	80 mV	0,25 mΩ
MEGA fuse 225A/32V	80 mV	0,22 mΩ
MEGA fuse 250A/32V	80 mV	0,2 mΩ
MEGA fuse 300A/32V	80 mV	0,17 mΩ
MEGA fuse 400A/32V	70 mV	0,13 mΩ
MEGA fuse 500A/32V	70 mV	0,1 mΩ
MEGA fuses 58V	**Appr. voltage drop**	**Cold resistance**
MEGA fuse 125A/58V	90 mV	0,4 mΩ
MEGA fuse 200A/58V	80 mV	0,25 mΩ
MEGA fuse 250A/58V	80 mV	0,2 mΩ
MEGA fuse 300A/58V	80 mV	0,17 mΩ

ANL fuses 80V	Appr. voltage drop	Cold resistance
ANL fuse 400A/80V	125 mV	0,3 mΩ
ANL fuse 500A/80V	100 mV	0,25 mΩ

Battery Switch & Energy Meter

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Battery Switch 275A

The Battery Switch has a continuous current rating and is suitable for battery systems up to 48V. It has a unique ergonomic and aesthetic knob design for easy operation.

Usages

The Battery Switch can be used to isolate a battery from DC loads and/or DC charge sources. It is used to preserve battery charge in case a system is unattended, for system maintenance or in an emergency. It can also be used to parallel connect the house battery to the starter battery to supplement a flat starter battery of a flat house battery in case of an emergency.

Installation

The Battery Switch can be either surface or panel mounted, providing flexibility during install. It features 4 easily removable side panels for cable access. It ships with 16 different label stickers, for customization of the Battery Switch.

Safety

The knob is removable for isolation or safety purposes. The Battery Switch meets the ISO8846 Ignition Protection standard and is suitable for use in an engine room.

Battery switch	
Max. continuous current	275 A
One minute rating	455 A
Cranking rating	1250 A
Voltage rating	48 V
Terminal material	Tin-plated copper
Hex nut material	Tin-plated copper
Terminal diameter	3/8 inch / 9.53 mm
Recommended torque	70 lbf·inch / 8 N·m
Base material	Glass fiber reinforced nylon
Weight	0.4 lb / 0.2 kg
Dimensions (l x w x h)	2.7 x 3.0 x 2.7 inch 69.5 x 76.3 x 69.5 mm
Mounting	Surface or rear panel mount
Ignition protected	ISO8846 / SAE J1171

ET112

EM540

ET340

Energy Meter

The Energy Meters are used in systems with a GX Device to measure the output of a PV inverter, an AC Genset or as a Grid Meter in an Energy Storage System (ESS) installation. It can also be used to measure AC loads. Data is displayed on a GX device, or Ethernet and the VRM Portal.

Energy Meter	Part number	Display	Phases	Max Current Rating	Measurement type	Communication	Refresh rate [4]	Remarks
ET112	REL300100000	No	1	100A	Direct/Shunt	RS485	750ms	ET112DINAV01XS1X
EM330		LCD	3	5A per phase	CTs	RS485	1200ms	EM330DINAV53HS1X27 EM330DINAV53HS1PFB27
ET340	REL300300000	No	3	65A per phase	Direct/Shunt	RS485	2000ms	ET340DINAV23XS1X
EM540	REL200100100	LCD	3	65A per phase	Direct/Shunt	RS485	100ms	EM540DINAV23XS1X EM540DINAV23XS1PFC

Requirement	Measurement type	Solution
Three-phase up to 65A/phase	Direct/Shunt	ET340 / EM540
Single-phase more than 100A/phase	Current Transformers	Not available, use a 3-phase CT solution
Three-phase more than 65A/phase	Current Transforr	EM330

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