

# MultiPlus Inverter/Charger

20kW 230 V



MultiPlus 20k

## A MultiPlus, plus ESS (Energy Storage System) functionality

The MultiPlus is a multifunctional inverter/charger with all the features of the MultiPlus, plus an external current sensor option.

The MultiPlus is ideally suited for professional marine, yachting, vehicle and land based off-grid applications.

## PowerControl and PowerAssist – Boosting the capacity of the grid or a generator

A maximum grid or generator current can be set. The MultiPlus will then take account of other AC loads and use whatever is extra for battery charging, thus preventing the generator or grid from being overloaded (PowerControl function).

PowerAssist takes the principle of PowerControl to a further dimension. Where peak power is so often required only for a limited period, the MultiPlus will compensate insufficient generator, shore or grid power with power from the battery. When the load reduces, the spare power is used to recharge the battery.

## Solar energy: AC power available even during a grid failure

The MultiPlus can be used in off-grid as well as grid-connected PV and other alternative energy systems. It is compatible with both solar charge controllers and grid-tie inverters.

## Two AC Outputs

The main output has no break functionality. The MultiPlus takes over the supply to the connected loads in the event of a grid failure or when shore/generator power is disconnected. This happens so fast (less than 20 milliseconds) that computers and other electronic equipment will continue to operate without disruption. The second output is live only when AC is available on the input of the MultiPlus. Loads that should not discharge the battery, like a water heater for example, can be connected to this output.

## Virtually unlimited power thanks to parallel and three phase operation

Three units can be configured for a three-phase output.

For parallel operation we recommend the external AC transfer switch. For more information see the [MultiPlus-II External Transfer Switch application manual](#).

## On-site system configuring, monitoring and control

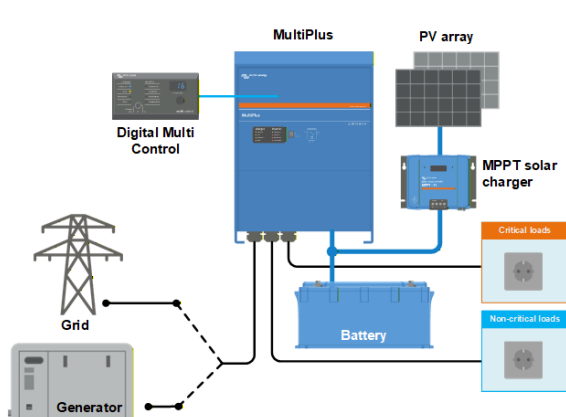
Settings can be changed in a matter of minutes with VEConfigure software (computer or laptop and MK3-USB interface needed).

Several monitoring and control options are available: Ekrano GX, Cerbo GX, laptop, computer, Bluetooth (with the optional VE.Bus Smart dongle), Battery Monitor, Digital Multi Control Panel.

## Remote configuring and monitoring

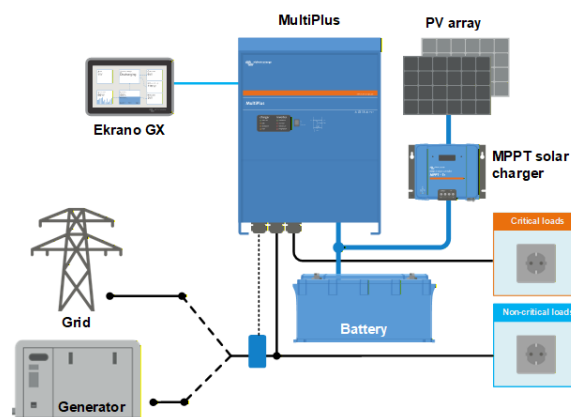
Install a Cerbo GX or other GX product to connect to the internet.

Operational data can be stored and displayed on our VRM (Victron Remote Management) website, free of charge. When connected to the internet, systems can be accessed remotely, and setting can be changed.



### Standard off-grid application

Loads that should shut down when AC input power is not available can be connected to a second output (not shown). These loads will be taken into account by the PowerControl and PowerAssist function in order to limit AC input current to a safe value when AC power is available.



### Grid parallel topology with MPPT solar charge controller

The MultiPlus will use data from the external AC current sensor (must be ordered separately) or power meter to optimise self-consumption and, if required, to prevent grid feed. In case of a power outage, the MultiPlus will continue to supply the critical loads.



### Ekrano GX or Cerbo GX

Provides intuitive system control and monitoring and enables access to our free remote monitoring website: the VRM Online Portal.



### VRM Portal

Our free remote monitoring website (VRM) will display all system data in a comprehensive graphical format. System settings can be changed remotely via the portal. Alarms can be received by e-mail or push notification.



### VRM app

Monitor and manage your Victron Energy system from your smart phone and tablet. Available for both iOS and Android.



### Digital Multi Control Panel

A convenient and low-cost solution for monitoring and control. With an on/off charger-only switch, full LED readout and a rotary knob to set PowerControl and PowerAssist levels.



### VE.Bus Smart Dongle

For monitoring and control via Bluetooth together with the VictronConnect app. It also measures battery voltage and temperature.



### Interface MK3-USB

Needed to configure the MultiPlus, can be used with the VictronConnect app or VEConfigure software. The interface connects to the MultiPlus via an RJ45 UTP cable and plugs into a USB port.



### VictronConnect app

Use to monitor or configure the MultiPlus using your phone, tablet or PC.



### Current Transformer for MultiPlus-II 100A or 400A

To implement PowerControl and PowerAssist and to optimize self-consumption with external current sensing.

MultiPlus 230V	48/20k/250-100
PowerControl & PowerAssist	Yes
Transfer switch	100 A
Maximum AC input current	100 A
INVERTER	
DC Input voltage range	38-60 V
Output voltage	230 VAC ± 2 %
Output frequency <sup>(1)</sup>	50 Hz ± 0,1 %
Cont. output power at 25 °C	20 kW
Cont. output power at 40 °C	18 kW
Cont. output power at 65 °C	14 kW
Max apparent feed-in power	20 kW
Time limited output power (cold start)	21 kW 5 hour
Peak power	25 kW 1 min
Maximum efficiency	96%
Zero load power	65 W
Zero load power in AES mode	40 W
Zero load power in Search mode	13 W
CHARGER	
AC Input voltage range	187-265 VAC
AC Input frequency range	45 – 65 Hz
Charge voltage 'absorption'	57,6 V
Charge voltage 'float'	55,2 V
Storage mode	52,8 V
Max. battery charge current (25°C)	250 A
Max. battery charge current (40°C)	250 A
Battery temperature sensor	Yes
GENERAL	
Auxiliary output	Yes (50 A)
External AC current sensor (optional)	100 A
Programmable relay <sup>(3)</sup>	Yes
Protection <sup>(2)</sup>	a - g
VE.Bus communication port	For parallel and three phase operation, remote monitoring and system integration
General purpose com. port	Yes, 2x
Remote on-off	Yes
Operating temperature range	-40 to +65 °C (fan assisted cooling)
Humidity (non-condensing)	max 95 %
Maximum altitude	2000 m
ENCLOSURE	
Material & Colour	Aluminium,
Colour	blue RAL 5012
Protection category	IP20
Battery-connection	Four M8 bolts (2 plus and 2 minus)
230 VAC-connection	Bolts M6
Weight kg	80 kg
Dimensions (hwxwd)	626 x 433 x 347 mm
STANDARDS	
Safety	EN-IEC 60335-1, EN-IEC 60335-2-29, EN-IEC 62109-1,
Emission, Immunity	EN 55014-1, EN 55014-2 EN-IEC 61000-3-2, EN-IEC 61000-3-3 IEC 61000-6-1, IEC 61000-6-2, IEC 61000-6-3
Uninterruptible power supply	Please consult the certificates on our website
Anti-islanding	Please consult the certificates on our website.
1) Can be adjusted to 60 Hz	
2) Protection key:	
a) output short circuit	
b) overload	
c) battery voltage too high	
d) battery voltage too low	
e) temperature too high	
f) 230 VAC on inverter output	
g) input voltage ripple too high	
3) Programmable relay which can be set for general alarm, DC under voltage or genset start/stop function. AC rating: 230V / 4 A, DC rating: 4 A up to 35VDC and 1 A up to 60 VDC	

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