

# MultiPlus Inverter/Charger

800 VA – 5 kVA

Lithium Ion battery compatible

[www.victronenergy.com](http://www.victronenergy.com)



**MultiPlus  
24/3000/70**



**MultiPlus Compact  
12/2000/80**

## 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 (second output available on models rated at 3 kVA and more).

## Virtually unlimited power thanks to parallel operation

Up to 6 Multis can operate in parallel to achieve higher power output. Six 24/5000/120 units, for example, will provide 25 kW / 30 kVA output power with 7200 Amps charging capacity.

## Three phase capability

In addition to parallel connection, three units of the same model can be configured for three phase output. But that's not all: up to 6 sets of three units can be parallel connected for a 75 kW / 90 kVA inverter and more than 2000 Amps charging capacity.

## PowerControl - Dealing with limited generator, shore side or grid power

The MultiPlus is a very powerful battery charger. It will therefore draw a lot of current from the generator or shore side supply (nearly 10 A per 5 kVA Multi at 230 VAC). With the Multi Control Panel a maximum generator or shore current can be set. The MultiPlus will then take account of other AC loads and use whatever is extra for charging, thus preventing the generator or shore supply from being overloaded.

## PowerAssist - Boosting the capacity of shore or generator power

This feature takes the principle of PowerControl to a further dimension. It allows the MultiPlus to supplement the capacity of the alternative source. Where peak power is so often required only for a limited period, the MultiPlus will make sure that insufficient shore or generator power is immediately compensated for by 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. Loss of mains detection software is available.

## System configuring

- In case of a stand-alone application, if settings have to be changed, this can be done in a matter of minutes with a DIP switch setting procedure.
- Parallel and three phase applications can be configured with VE.Bus Quick Configure and VE.Bus System Configurator software.
- Off grid, grid interactive and self-consumption applications, involving grid-tie inverters and/or MPPT Solar Chargers can be configured with Assistants (dedicated software for specific applications).

## On-site Monitoring and control

Several options are available: Battery Monitor, Multi Control Panel, Color Control GX or other GX devices, smartphone or tablet (Bluetooth Smart), laptop or computer (USB or RS232).

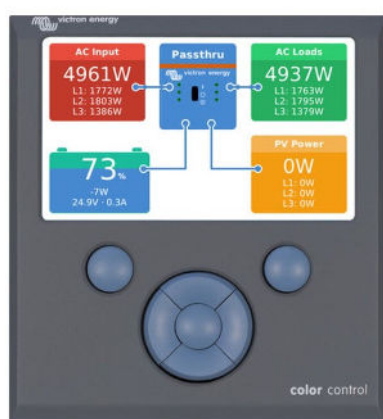
## Remote Monitoring and control

Color Control GX or other GX devices.

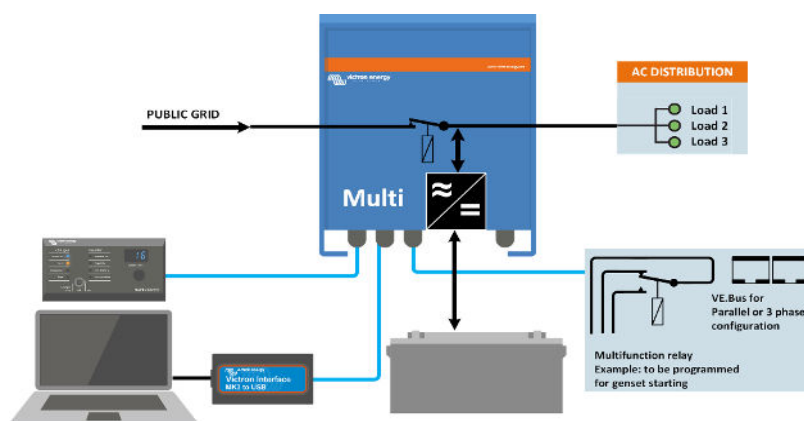
Data can be stored and displayed on our VRM (Victron Remote Management) website, free of charge.

## Remote configuring

When connected to the Ethernet, systems with a Color Control GX or other GX device can be accessed and settings can be changed remotely.



**Color Control GX, showing a  
PV application**



| MultiPlus                                                      | 12 Volt<br>24 Volt<br>48 Volt                                                                           | C 12/800/35<br>C 24/ 800/16                                   | C 12/1200/50<br>C 24/1200/25 | C 12/1600/70<br>C 24/1600/40 | C 12/2000/80<br>C 24/2000/50 | 12/3000/120<br>24/3000/70<br>48/3000/35 | 24/5000/120<br>48/5000/70 |
|----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------|------------------------------|------------------------------|-----------------------------------------|---------------------------|
| PowerControl                                                   |                                                                                                         | Yes                                                           | Yes                          | Yes                          | Yes                          | Yes                                     | Yes                       |
| PowerAssist                                                    |                                                                                                         | Yes                                                           | Yes                          | Yes                          | Yes                          | Yes                                     | Yes                       |
| Transfer switch (A)                                            |                                                                                                         | 16                                                            | 16                           | 16                           | 30                           | 16 or 50                                | 100                       |
| INVERTER                                                       |                                                                                                         |                                                               |                              |                              |                              |                                         |                           |
| Input voltage range (V DC)                                     | 9,5 – 17 V    19 – 33 V    38 – 66 V                                                                    |                                                               |                              |                              |                              |                                         |                           |
| Output                                                         | Output voltage: 230 VAC ± 2%    Frequency: 50 Hz ± 0,1% <sup>(1)</sup>                                  |                                                               |                              |                              |                              |                                         |                           |
| Cont. output power at 25°C (VA) <sup>(3)</sup>                 | 800                                                                                                     | 1200                                                          | 1600                         | 2000                         | 3000                         | 5000                                    |                           |
| Cont. output power at 25°C (W)                                 | 700                                                                                                     | 1000                                                          | 1300                         | 1600                         | 2400                         | 4000                                    |                           |
| Cont. output power at 40°C (W)                                 | 650                                                                                                     | 900                                                           | 1200                         | 1400                         | 2200                         | 3700                                    |                           |
| Cont. output power at 65°C (W)                                 | 400                                                                                                     | 600                                                           | 800                          | 1000                         | 1700                         | 3000                                    |                           |
| Peak power (W)                                                 | 1600                                                                                                    | 2400                                                          | 3000                         | 4000                         | 6000                         | 10.000                                  |                           |
| Maximum efficiency (%)                                         | 92 / 94                                                                                                 | 93 / 94                                                       | 93 / 94                      | 93 / 94                      | 93 / 94 / 95                 | 94 / 95                                 |                           |
| Zero load power (W)                                            | 8 / 10                                                                                                  | 8 / 10                                                        | 8 / 10                       | 9 / 11                       | 20 / 20 / 25                 | 30 / 35                                 |                           |
| Zero load power in AES mode (W)                                | 5 / 8                                                                                                   | 5 / 8                                                         | 5 / 8                        | 7 / 9                        | 15 / 15 / 20                 | 25 / 30                                 |                           |
| Zero load power in Search mode (W)                             | 2 / 3                                                                                                   | 2 / 3                                                         | 2 / 3                        | 3 / 4                        | 8 / 10 / 12                  | 10 / 15                                 |                           |
| CHARGER                                                        |                                                                                                         |                                                               |                              |                              |                              |                                         |                           |
| AC Input                                                       | Input voltage range: 187-265 VAC    Input frequency: 45 – 65 Hz    Power factor: 1                      |                                                               |                              |                              |                              |                                         |                           |
| Charge voltage 'absorption' (V DC)                             | 14,4 / 28,8 / 57,6                                                                                      |                                                               |                              |                              |                              |                                         |                           |
| Charge voltage 'float' (V DC)                                  | 13,8 / 27,6 / 55,2                                                                                      |                                                               |                              |                              |                              |                                         |                           |
| Storage mode (V DC)                                            | 13,2 / 26,4 / 52,8                                                                                      |                                                               |                              |                              |                              |                                         |                           |
| Charge current house battery (A) <sup>(4)</sup>                | 35 / 16                                                                                                 | 50 / 25                                                       | 70 / 40                      | 80 / 50                      | 120 / 70 / 35                | 120 / 70                                |                           |
| Charge current starter battery (A)                             | 4 (12 V and 24 V models only)                                                                           |                                                               |                              |                              |                              |                                         |                           |
| Battery temperature sensor                                     | yes                                                                                                     |                                                               |                              |                              |                              |                                         |                           |
| GENERAL                                                        |                                                                                                         |                                                               |                              |                              |                              |                                         |                           |
| Auxiliary output <sup>(5)</sup>                                | n. a.                                                                                                   | n. a.                                                         | n. a.                        | n. a.                        | Yes (16A)                    | Yes (50A)                               |                           |
| Programmable relay <sup>(6)</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                                      | n. a.                                                                                                   | n. a.                                                         | n. a.                        | n. a.                        | Yes                          | Yes                                     |                           |
| Remote on-off                                                  | Yes                                                                                                     |                                                               |                              |                              |                              |                                         |                           |
| Common Characteristics                                         | Operating temp. range: -40 to +65°C (fan assisted cooling)    Humidity (non-condensing): max 95%        |                                                               |                              |                              |                              |                                         |                           |
| ENCLOSURE                                                      |                                                                                                         |                                                               |                              |                              |                              |                                         |                           |
| Common Characteristics                                         | Material & Colour: aluminium (blue RAL 5012)    Protection category: IP 21                              |                                                               |                              |                              |                              |                                         |                           |
| Battery-connection                                             | battery cables of 1.5 meter    M8 bolts    Four M8 bolts (2 plus and 2 minus connections)               |                                                               |                              |                              |                              |                                         |                           |
| 230 V AC-connection                                            | G-ST18i connector    Spring-clamp    Screw terminals 13 mm² (6 AWG)    M6 bolts                         |                                                               |                              |                              |                              |                                         |                           |
| Weight (kg)                                                    | 10                                                                                                      | 10                                                            | 10                           | 12                           | 18                           | 30                                      |                           |
| Dimensions (h x w x d in mm)                                   | 375 x 214 x 110    520 x 255 x 125    362 x 258 x 218    444 x 328 x 240                                |                                                               |                              |                              |                              |                                         |                           |
| STANDARDS                                                      |                                                                                                         |                                                               |                              |                              |                              |                                         |                           |
| Safety                                                         | EN-IEC 60335-1, EN-IEC 60335-2-29, 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 |                                                               |                              |                              |                              |                                         |                           |
| Road vehicles                                                  | 12V and 24V models: ECE R10-4                                                                           |                                                               |                              |                              |                              |                                         |                           |
| Anti-islanding                                                 | See our website                                                                                         |                                                               |                              |                              |                              |                                         |                           |
| 1) Can be adjusted to 60 HZ. 120 V models available on request |                                                                                                         | 3) Non-linear load, crest factor 3:1                          |                              |                              |                              |                                         |                           |
| 2) Protection key:                                             |                                                                                                         | 4) Up to 25°C ambient                                         |                              |                              |                              |                                         |                           |
| a) output short circuit                                        |                                                                                                         | 5) Switches off when no external AC source available          |                              |                              |                              |                                         |                           |
| b) overload                                                    |                                                                                                         | 6) Programmable relay that can a.o. be set for general alarm, |                              |                              |                              |                                         |                           |
| c) battery voltage too high                                    |                                                                                                         | DC under voltage or genset start/stop function                |                              |                              |                              |                                         |                           |
| d) battery voltage too low                                     |                                                                                                         | AC rating: 230 V/4A                                           |                              |                              |                              |                                         |                           |
| e) temperature too high                                        |                                                                                                         | DC rating: 4 A up to 35 VDC, 1 A up to 60 VDC                 |                              |                              |                              |                                         |                           |
| f) 230 VAC on inverter output                                  |                                                                                                         | 7) A.o. to communicate with a Lithium Ion battery BMS         |                              |                              |                              |                                         |                           |
| a) input voltage ripple too high                               |                                                                                                         |                                                               |                              |                              |                              |                                         |                           |

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7) A.o. to communicate with a Lithium Ion battery BMS



#### Digital Multi Control Panel

A convenient and low cost solution for remote monitoring, with a rotary knob to set PowerControl and PowerAssist levels.



#### VE.Bus Smart Dongle

Measures battery voltage and temperature and allows monitoring and control of Multis and Quattros with a smartphone or other Bluetooth enabled device.



#### Computer controlled operation and monitoring

Several interfaces are available:



#### Color Control GX and other GX devices

Monitoring and control. Locally, and also remotely on the [VRM Portal](#).



#### MK3-USB (VE.Bus to USB interface)

Connects to a USB port ([see 'A guide to VEConfigure'](#))



#### VE.Bus to NMEA 2000 interface

Connects the device to a NMEA2000 marine electronics network. See the [NMEA2000 & MFD integration guide](#)



#### BMV-712 Smart Battery Monitor

Use a smartphone or other Bluetooth enabled device to:

- customize settings,
- monitor all important data on single screen,
- view historical data, and to update the software when new features become available.