

# MultiPlus Inverter/Charger

800 VA – 5 kVA

Lithium Ion battery compatible

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



**MultiPlus**  
24/3000/70

### 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 720 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 huge 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 Panel, smartphone or tablet (Bluetooth Smart), laptop or computer (USB or RS232).

### Remote Monitoring and control

Victron Ethernet Remote, Venus GX and the Color Control Panel.

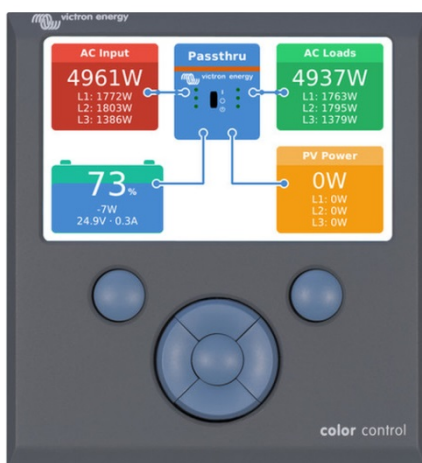
Data can be stored and displayed on our VRM (Victron Remote Management) website, free of charge.

### Remote configuring

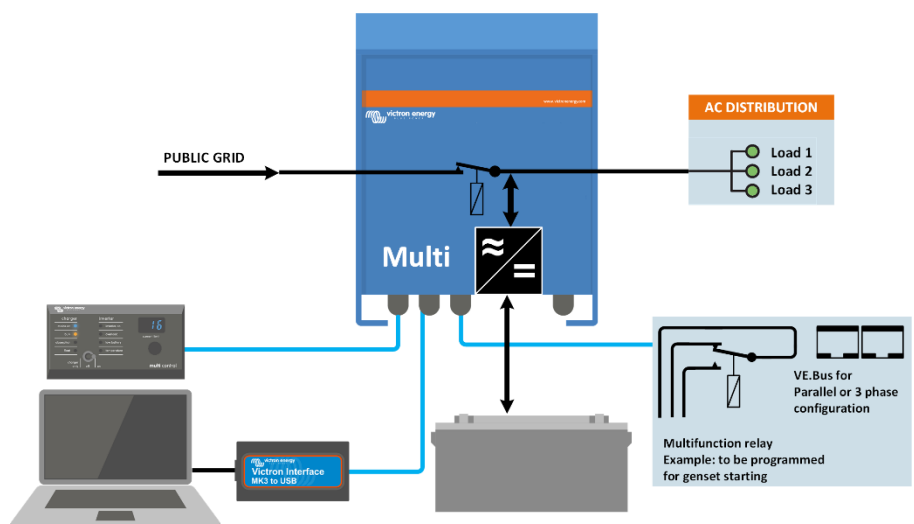
When connected to the Ethernet, systems with a Color Control panel can be accessed remotely and settings can be changed.



**MultiPlus Compact**  
12/2000/80



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



MultiPlus	12 Volt 24 Volt 48 Volt	C 12/800/35 C 24/ 800/16	C 12/1200/50 C 24/1200/25	C 12/1600/70 C 24/1600/40	C 12/2000/80 C 24/2000/50	12/3000/120 24/3000/70 48/3000/35	24/5000/120 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
<b>INVERTER</b>							
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% (1)		
Cont. output power at 25°C (VA) (3)		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
<b>CHARGER</b>							
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) (4)		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					
<b>GENERAL</b>							
Auxiliary output (5)		n. a.	n. a.	n. a.	n. a.	Yes (16A)	Yes (50A)
Programmable relay (6)		Yes					
Protection (2)		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%					
<b>ENCLOSURE</b>							
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 mm <sup>2</sup> (6 AWG)	M6 bolts	
Weight (kg)		10	10	10	12	18	30
Dimensions (hwxwd in mm)		375x214x110		520x255x125	362x258x218	444x328x240	
<b>STANDARDS</b>							
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 60 Hz on request  
 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) Non-linear load, crest factor 3:1  
 4) At 25°C ambient  
 5) Switches off when no external AC source available  
 6) Programmable relay that can a.o. be set for general alarm, DC under voltage or genset start/stop function  
 AC rating: 230 V/4A  
 DC rating: 4 A up to 35 VDC, 1 A up to 60 VDC

## Computer controlled operation and monitoring

Several interfaces are available:



### Digital Multi Control Panel

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



### Color Control GX

Provides monitor 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-700 Battery Monitor

The BMV-700 Battery Monitor features an advanced microprocessor control system combined with high resolution measuring systems for battery voltage and charge/discharge current. Besides this, the software includes complex calculation algorithms, like Peukert's formula, to exactly determine the state of charge of the battery. The BMV-700 selectively displays battery voltage, current, consumed Ah or time to go. The monitor also stores a host of data regarding performance and use of the battery. Several models available (see battery monitor documentation).

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