

## PHOENIX MULTIPLUS



Inversor/Cargador Victron Energy Phoenix Multiplus



Inversor / Cargador Victron Energy Phoenix Multiplus 12/2000

### Multi-functional, with intelligent power management

The MultiPlus is a powerful true sine wave inverter, a sophisticated battery charger that features adaptive charge technology, and a high-speed AC transfer switch in a single compact enclosure. Next to these primary functions, the MultiPlus has several advanced features, as outlined below.

#### 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 one of the inputs 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 3kVA and more).

#### Virtually unlimited power thanks to parallel operation

Up to 6 Multi's 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 10A per 5kVA 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.

### Four stage adaptive charger and dual bank battery charging

The main output provides a powerful charge to the battery system by means of advanced 'adaptive charge' software. The software fine-tunes the three stage automatic process to suit the condition of the battery, and adds a fourth stage for long periods of float charging. The adaptive charge process is described in more detail on the Phoenix Charger datasheet and on our website, under Technical Information. In addition to this, the MultiPlus will charge a second battery using an independent trickle charge output intended for a main engine or generator starter battery (trickle charge output available on 12V and 24V models only).

### System configuring has never been easier

After installation, the MultiPlus is ready to go. If settings have to be changed, this can be done in a matter of minutes with a new DIP switch setting procedure.

Even parallel and 3-phase operation can be programmed with DIP switches: no computer needed!

Alternatively, VE.Net can be used instead of the DIPswitches.

And sophisticated software (VE.Bus Quick Configure and VE.Bus System Configurator) is available to configure several new, advanced, features.

## SPECIFICATIONS

C 12 / 800 / 35	C 12 / 1200	C 12 / 1600	C 12 / 2000 / 80	12 / 3000 / 120	24 / 5000 / 120
C 24 / 800 / 35	C 24 / 1200	C 12 / 1600	C 12 / 2000 / 50	24 / 3000 / 70	48 / 5000 / 120

**Electrical specifications**

PowerControl	Yes	Yes	Yes	Yes	Yes	Yes
PowerAssist	Yes	Yes	Yes	Yes	Yes	Yes
Transfer switch	16 Amp	16 Amp	16 Amp	30 Amp	16 or 50 Amp	50 or 100 Amp
Parallel and 3-phase operation	Yes	Yes	Yes	Yes	Yes	Yes

**Inverter**

Output power (continuous)	800 VA	1200 VA	1600 VA	2000 VA	3000 VA	5000 VA
Output power 25 °C	700 W	1000 W	1300 W	1600 W	2500 W	4000 W
Output Power 40 °C	650 W	900 W	1200 W	1400 W	2200 W	4000 W
Peak power	1600 W	2400 W	3000 W	4000 W	6000 W	10000 W
Output voltage	230 Vac ±2%					
Output Frequency	50 Hz ±0,1 Hz					
Wave Signal	True Sine Wave					
Maximum efficiency	92 / 94 %	93 / 94 %	93 / 94 %	93 / 94 %	93 / 94 / 95 %	94 / 95 %
Zero load power	8 / 10 W	8 / 10 W	8 / 10 W	9 / 11 W	20 / 20 / 25 W	30 / 35 W
Zero load power (AES mode)	5 / 8 W	5 / 8 W	5 / 8 W	7 / 9 W	15 / 15 / 20 W	20 / 20 W
Search mode load	2 / 3 W	2 / 3 W	2 / 3 W	3 / 4 W	8 / 10 / 12 W	10 / 15 W

**Charger**

Input voltage	187 - 265 Vac, 45 - 65 Hz, Power factor 1					
Charge current	35 / 16 Amp	50 / 25 Amp	70 / 40 Amp	80 / 50 Amp	120 / 70 / 35 Amp	120 / 70 Amp
Auxiliar Battery charge current	4 Amp (12 and 24 volts only)					
Absorption charge voltage	14,4 / 28,8 / 57,6 Vcc					
Float charge voltage	13,8 / 27,6 / 55,2 Vcc					
Storage mode voltage	13,2 / 26,4 / 52,8 Vcc					
Battery temperature sensor	Included					

**General**

Programmable relay	Yes					
Protections	output short circuit, overload, battery voltage too high, battery voltage					

too low, temperature too high, 230 VAC on inverter output, input voltage ripple too high

Operating temperature range	-40 to 50 °C
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### Mechanical specifications

Material and colour	Aluminium, Blue RAL 3012					
Device mounting	Wall mount (backplate included).					
Battery connections	Cables of 1,5 mts.		M8 bolts	4 x M8 bolts		
Battery connections	G-ST18i connectors		Spring-clamp	Screw terminals 13 mm <sup>2</sup>	M6 Bolts	
Inverter Dimensions (mm)	375 x 241 x 110		525 x 255 x 125	362 x 258 x 218	444 x 328 x 240	
Weight	10 Kgr	10 Kgr	10 Kgr	12 Kgr	18 Kgr	30 Kgr

### Environmental specifications


IP Degree of protection	IP 21 (sensitive electric componentes sealed inside enclosure)					
Operating temperature range	- 40 to 50 °C					
Warranty	5 years					

### Standards

Safety	EN-IEC 60335-1, EN-IEC 60335-2-29, IEC 62109-1, 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					
Automotive	12V and 24V models: ECE R10-4					

## DOWNLOADS

### CATÁLOGO GENERAL 2020

 [Catalogo-Bornay-0520.pdf](#) ( 27.76 MiB )  
Size: 27.76 MiB