

# Phoenix Inverters

1200VA – 5000VA (per module)

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



**Phoenix Inverter  
24/5000**

### SinusMax - Superior engineering

Developed for professional duty, the Phoenix range of inverters is suitable for the widest range of applications. The design criteria have been to produce a true sine wave inverter with optimized efficiency but without compromise in performance. Employing hybrid HF technology, the result is a top quality product with compact dimensions, light in weight and capable of supplying power, problem-free, to any load.

### Extra start-up power

A unique feature of the SinusMax technology is very high start-up power. Conventional high frequency technology does not offer such extreme performance. Phoenix Inverters, however, are well suited to power up difficult loads such as refrigeration compressors, electric motors and similar appliances.

### Virtually unlimited power thanks to parallel and 3-phase operation capability

Up to 6 units inverters can operate in parallel to achieve higher power output. Six 24/5000 units, for example, will provide 24kW / 30kVA output power. Operation in 3-phase configuration is also possible.

### To transfer the load to another AC source: the automatic transfer switch

If an automatic transfer switch is required we recommend using the MultiPlus inverter/charger instead. The switch is included in these products and the charger function of the MultiPlus can be disabled. Computers and other electronic equipment will continue to operate without disruption because the MultiPlus features a very short switchover time (less than 20 milliseconds).

### Computer interface

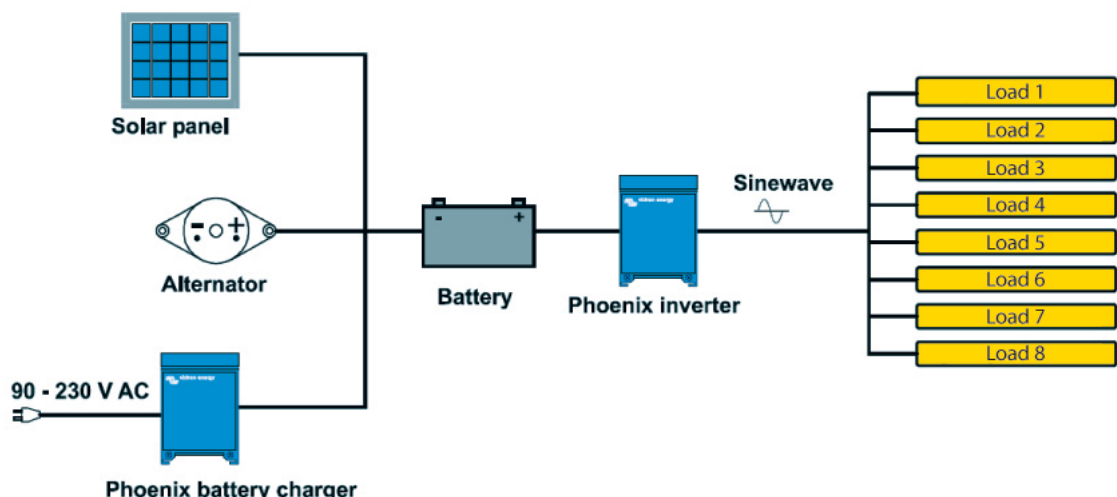
All models have a RS-485 port. All you need to connect to your PC is our MK3-USB VE.Bus to USB interface (see under accessories). Together with our VEConfigure software, which can be downloaded free of charge from our website, all parameters of the inverters can be customized. This includes output voltage and frequency, over and under voltage settings and programming the relay. This relay can for example be used to signal several alarm conditions, or to start a generator. The inverters can also be connected to VENet, the new power control network of Victron Energy, or to other computerized monitoring and control systems.

### New applications of high power inverters

The possibilities of paralleled high power inverters are truly amazing. For ideas, examples and battery capacity calculations please refer to our book 'Energy Unlimited' (available free of charge from Victron Energy and downloadable from [www.victronenergy.com](http://www.victronenergy.com)).



**Phoenix Inverter Compact  
24/1600**



| Phoenix Inverter   | C12/1200<br>C24/1200   | C12/1600<br>C24/1600 | C12/2000<br>C24/2000 | 12/3000<br>24/3000<br>48/3000 | 24/5000<br>48/5000 |
|--|--|----------------------|----------------------|-------------------------------|--------------------|
| Parallel and 3-phase operation   | Yes  |                      |                      |                               |                    |
| <b>INVERTER</b>  |  |                      |                      |                               |                    |
| Input voltage range (V DC)   | 9,5 – 17V 19 – 33V 38 – 66V  |                      |                      |                               |                    |
| Output   | Output voltage: 230 VAC ±2% Frequency: 50 Hz ± 0,1% (1)  |                      |                      |                               |                    |
| Cont. output power at 25°C (VA) (2)  | 1200   | 1600                 | 2000                 | 3000                          | 5000               |
| Cont. output power at 25°C (W)   | 1000   | 1300                 | 1600                 | 2400                          | 4000               |
| Cont. output power at 40°C (W)   | 900  | 1200                 | 1450                 | 2200                          | 3700               |
| Cont. output power at 65°C (W)   | 600  | 800                  | 1000                 | 1700                          | 3000               |
| Peak power (W)   | 2400   | 3000                 | 4000                 | 6000                          | 10000              |
| Max. efficiency 12/ 24 / 48 V (%)  | 92 / 94 / 94   | 92 / 94 / 94         | 92 / 92              | 93 / 94 / 95                  | 94 / 95            |
| Zero load power 12 / 24 / 48 V (W)   | 8 / 10 / 12  | 8 / 10 / 12          | 9 / 11               | 20 / 20 / 25                  | 30 / 35            |
| Zero load power in AES mode (W)  | 5 / 8 / 10   | 5 / 8 / 10           | 7 / 9                | 15 / 15 / 20                  | 25 / 30            |
| Zero load power in Search mode (W)   | 2 / 3 / 4  | 2 / 3 / 4            | 3 / 4                | 8 / 10 / 12                   | 10 / 15            |
| <b>GENERAL</b>   |  |                      |                      |                               |                    |
| Programmable relay (3)   | Yes  |                      |                      |                               |                    |
| Protection (4)   | a - g  |                      |                      |                               |                    |
| VE.Bus communication port  | For parallel and three phase operation, remote monitoring and system integration   |                      |                      |                               |                    |
| Remote on-off  | Yes  |                      |                      |                               |                    |
| Common Characteristics   | Operating temperature range: -40 to +65°C (fan assisted cooling)<br>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 included   | M8 bolts             | 2+2 M8 bolts         |                               |                    |
| 230 V AC-connection  | G-ST18i plug   | Spring-clamp         | Screw terminals      |                               |                    |
| Weight (kg)  | 10   | 12                   | 18                   | 30                            |                    |
| Dimensions (hxwxd in mm)   | 375x214x110  | 520x255x125          | 362x258x218          | 444x328x240                   |                    |
| <b>STANDARDS</b>   |  |                      |                      |                               |                    |
| Safety   | EN 60335-1   |                      |                      |                               |                    |
| Emission Immunity  | EN 55014-1 / EN 55014-2  |                      |                      |                               |                    |
| 1) Can be adjusted to 60 Hz and to 240 V<br>2) Non-linear load, crest factor 3:1<br>3) Programmable relay that can a.o. be set for general alarm, DC under voltage or genset start/stop function.<br>AC rating: 230 V / 4 A<br>DC rating: 4 A up to 35 VDC, 1A up to 60VDC | 4) Protection key:<br>a) output short circuit<br>b) overload<br>c) battery voltage too high<br>d) battery voltage too low<br>e) temperature too high<br>f) 230 V AC on inverter output<br>g) input voltage ripple too high |                      |                      |                               |                    |



### Phoenix Inverter Control

This panel can also be used on a MultiPlus Inverter/Charger when an automatic transfer switch but no charger function is desired. The brightness of the LEDs is automatically reduced during night time.

### Computer controlled operation and monitoring

Several interfaces are available:



#### 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 NMEA 2000 marine electronics network. See the [NMEA 2000 & 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).