



Super Inverters

AC PowerCube

The AC PowerCube is a professional inverter suitable for continuous operation even under extreme conditions. There are three models: an 4 kVA model, an 7 kVA consisting of two 3.5 kVA power modules (built into one enclosure) connected in parallel and providing each other with backup. The 14 kVA model is made up of four 3.5 kVA modules which are redundantly configured.

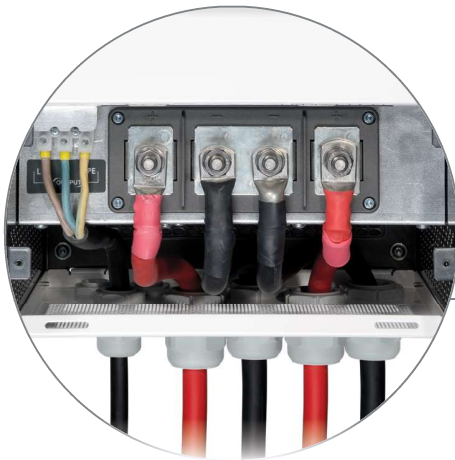
The AC PowerCubes make it possible to switch off the diesel generator for longer periods time and provide the entire onboard installation with power including, for example, air conditioning, kitchen and refrigeration equipment. As a result, there is less fuel consumption, less noise disruption and less running hours for the generator.

Features

- Industrial electronics based on high frequency switched mode technology
- As a result, high efficiency (> 92 %) and a minimum of power loss
- No ripple effect from AC to battery, with as a result, a stable DC network
- No buzz or humming, super quiet
- Fan cooled, resistant to high ambient temperatures
- Double DC connectors 2 x positive, 2 x negative, can be connected to two battery banks
- Perfect for insertion in a complete WhisperPower system

Benefits

- Uncompromising design: purely as inverter
- Direct power supply, no interruptions, battery as buffer
- Great high efficiency = minimal cooling required (cool running)
- Perfect to combine with DC PowerCube and Genverter®
- Significant cost savings from reduced fuel consumption
- Quiet and environmentally friendly
- Simple to integrate in WhisperPower Hybrid energy system



Connection compartment of the AC PowerCube 7 kVA. On the right, double battery connector with 2x DC positive and 2x DC negative connections - one or two separate battery banks can be connected. On the left, the 230 VAC / 50 Hz (60 Hz) output and the connection for the remote control panel and the various set up ports.



Heavy duty inverters

Our AC PowerCube Super Inverter is an extremely powerful and robust device, designed to convert 230 VAC power from a 24 VDC battery bank.

There are three models: with 4 kVA, 7 kVA and 14 kVA output power, single phase 230 VAC output (50 or 60 Hz). 3 phase inverter configurations can be achieved with our WPC, see page 38. For our single phase models, switched mode technology has been applied, resulting in an extremely efficient and "cool running" device.

Professional package


Robust Aluminum enclosure with heavy duty, multiple battery DC connections. Inside electronics is protected against moisture and salty influences by conformal coating.


Built-in redundancy


Our AC PowerCube inverters feature built-in redundancy. We work with power modules of 3.5 kVA each, which operate in parallel. When one power module fails, the inverter will continue to supply power.

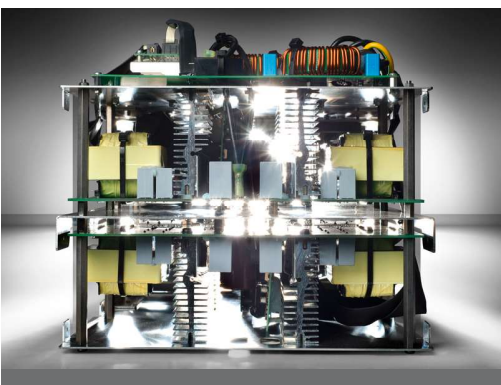


 External command
(Phoenix MSTBA2/4 - G-5.08)

 WP-RCP remote control panel, to be connected by RJ12 connector plus cable, for extended LED information and ON-OFF remote switch. Supplied as standard

 WhisperConnect CAN-bus
RJ45 port for integration to the system bus

 USB Type B port, can be used to set output parameters



Powerful, economical and extremely reliable

Team WhisperPower has more than 30 years of experience in developing robust power electronics. The AC PowerCube inverters have been developed to provide a stable, clean and uninterruptible 230 VAC / 50 Hz (230 VAC / 60 Hz) to replace the public mains power or a non-stop running generator. These super inverters are unique because of the technology used. Generally, transformer technology is used with this type of power, to convert a 24 or 48 VDC battery voltage to a 230 VAC / 50 Hz AC voltage. Transformer technology has disadvantages: heavy weight, bulky cabinets and high losses in the conversion process. They are in general also more noisy. WhisperPower applies efficient, silent high-frequency switching technology to its all stand-alone inverters. Read more about the advantage on the next page.



Connectivity

Analogue remote controls and cables supplied as standard, digital TOUCH panels optional. WhisperConnect CAN-bus connection for interconnection with other devices and USB interface eventual uploads. Laptop programmable.



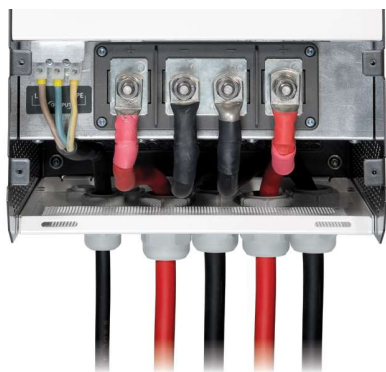
Give your battery a lifetime!

As a result of our unique V6 and V12 switched mode technology, no voltage ripple is returned to the DC battery terminals. This ripple effect is reducing battery life time and is causing fluctuations in the DC net (flickering lights for example).



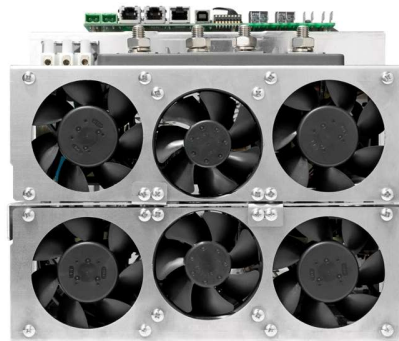
Perfect sine wave

Lowest harmonic distortion under all load circumstances and perfect sine wave. Stable AC output voltage and frequency (quartz controlled).



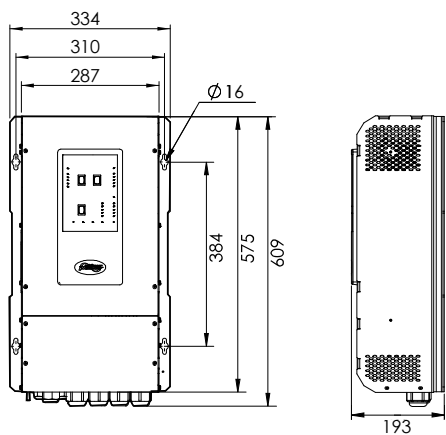
Multiple battery connections

AC PowerCubes can be connected to 2 separate batteries, which allows to take a lot of current at the same time from batteries which are stored in different locations.



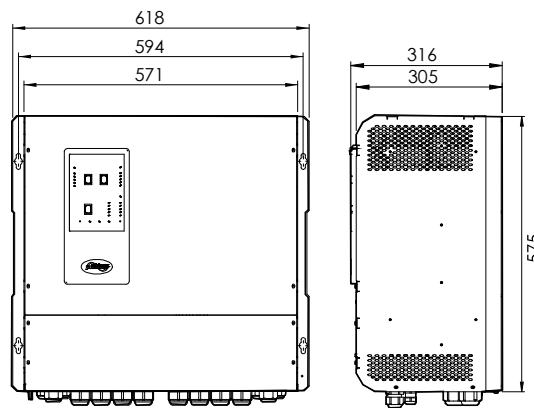
Running cool & no buzzing

Highly efficient switched mode technology applied for our inverter-only products. AC PowerCubes are fitted with temperature controlled silent running fans.



Front view 24 | 4000
24 | 7000

Side view 24 | 4000
24 | 7000



Front view 24 | 14000

Side view 24 | 14000





AC PowerCube Series

	24 VDC 4000 VA	24 VDC 7000 VA	24 VDC 14000 VA
--	------------------	------------------	-------------------

Article Number	60203003	60203004	60203005
----------------	----------	----------	----------

GENERAL

Nominal output voltage	230 VAC (± 5 %), Phase, Neutral, Earth	230 VAC (± 5 %), Phase, Neutral, Earth	230 VAC (± 5 %), Phase, Neutral, Earth
Nominal output frequency (adjustable to 60 Hz)	50 Hz (± 0.01 Hz)	50 Hz (± 0.01 Hz)	50 Hz (± 0.01 Hz)
Nominal battery voltage	24 VDC	24 VDC	24 VDC
Nominal power P30 (cos phi = 1) (30 minutes at 40°C)	4000 W	7500 W	14000 W
Peak power (20 seconds)	7000 W	15000 W	28000 W
Continuous power (cos phi = 1) (40°C)	3000 W	6000 W	12000 W
AC connection (output)	Internal terminal block, screw terminal (4 - 6 mm ²)		
DC connection	2 x M10	4 x M10	4 x M10 (2 per battery bank)
Minimum capacity of battery bank	260 Ah	600 Ah	800 Ah
Efficiency	> 85 %	> 85 %	> 85 %
Peak efficiency	> 92 %	> 92 %	> 92 %
Dimensions (W x D x H) in mm	334 x 193 x 575	334 x 193 x 575	618 x 316 x 575
Weight	13 kg	18 kg	40 kg
Noise level (at 1 metre)	< 48 dBA	< 48 dBA	< 48 dBA
Indicators	AC present, DC 1 present, DC (1) load, DC 2 present, DC (2) load, AC current, AC voltage		
Safety	Short circuit, overload, overheating, battery voltage too low / high		

TECHNICAL SPECIFICATIONS

Technology	Six-step multiphase flyback, switched mode technology		
Low battery switch OFF	20 VDC (± 0.5 VDC)	19 VDC (± 0.5 VDC)	19 VDC (± 0.5 VDC)
Low battery switch ON	22 VDC (± 0.5 VDC)	22 VDC (± 0.5 VDC)	22 VDC (± 0.5 VDC)
High battery switch OFF	32 VDC (± 0.5 VDC)	32 VDC (± 0.5 VDC)	32 VDC (± 0.5 VDC)
High battery switch ON	30 VDC (± 0.5 VDC)	30 VDC (± 0.5 VDC)	30 VDC (± 0.5 VDC)
Maximum ripple on DC (battery)	5 % RMS	5 % RMS	5 % RMS
Input current (nominal load)	200 A	2 x 200 A	4 x 200 A
Consumption (no load)	< 300 mA, 6 W	< 550 mA, 12 W	< 2 x 550 mA, 24 W
Total harmonic distortion (THD)	< 5 % (normal)	< 5 % (normal)	< 5 % (normal)
Allowable power factor	0 < cos phi < 1	0 < cos phi < 1	0 < cos phi < 1

CONDITIONS

Ambient operating temperature	-20 up to 40°C	-20 up to 40°C	-20 up to 40°C
Storage temperature	-25 up to 80°C (derating above 40 °C)	-25 up to 80°C (derating above 40 °C)	-25 up to 80°C (derating above 40 °C)
Relative humidity	max. 95 %, non-condensing	max. 95 %, non-condensing	max. 95 %, non-condensing
International Protection rating	IP23	IP23	IP23
Cooling	Natural / forced	Natural / forced	Natural / forced

CONFORMITY

EU Directive	EMC Directive 2004/108 / EC, EMC 2004/104 / EC (automotive), Low Voltage Directive 2006/95 / EC		
Standards	EN 55022 (emission) EN 61000-3-2 (harmonic distortion), EN 61000-4-11, EN 61000-3-3 (voltage variations), EN 61000-6-2 (immunity) and EN 60950-1 (safety) AND 68-2-6 (vibration), EN 60945 (navigation and radio communications), UL 458		

