

Windmaster 500

Specification sheet V1.0



OEM product

Windmaster 500 is a grid connected inverter for grid connection of small wind turbines. The design is based on the successful Soladin 600 Solar inverter of which more than 6000 units have been sold already. Windmaster 500 is an "OEM" product and is sold as part of a system through selected system integrators. The product is to be installed only with selected wind turbines. A system evaluation is part of the qualification process.

Input protection

The product must be protected externally against over voltages that may occur in no-load and / or extreme wind conditions. Exceeding the specified maximum input voltage must be avoided under any circumstances. Most turbine manufacturers can supply a protection circuit to protect power converters from this condition. Failure to do so may cause serious damage to the inverter and will void product warranty.

Configuration

The product is shipped with standard "wind" firmware and default settings. Country- and turbine specific parameters are configured by the system reseller. Configuration is done using a PC and Wizard software (password protected configuration mode).

Warranty and support

The inverter is supplied with a 5-year product warranty. First line service and support is performed by the system reseller. Inverters under warranty are replaced with new or factory refurbished units with default wind settings. Defects caused by DC or AC over voltage, out-of-specification short circuit current, direct or induced lightning and surges as well as cost of travel, installation and energy loss are excluded from product warranty.



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Specifications:

Model

Windmaster 500

Article number	140000500
Operating temperature	- 20 to 50 °C (full power up to 40 ° C)
Storage temperature	- 20 ° C to 70 ° C
Relative humidity	Max. 95% non-condensing Electronics have anti-moisture coating
Protection degree	IP 23 (for indoor use)
Safety class	Class II double insulated
Galvanic isolation	Class II HF transformer
Enclosure	UL 5V fire retardant ABS/PC
Mounting	Wall mounting, bracket included
Dimensions	92 x 72x 225 mm
Weight	2 kg
Warranty	5 years

Input

Nominal power	550 Wdc
Startup power	1 Wdc
Operating voltage range	35 – 150 Vdc
Full power voltage range	65 – 125 Vdc
Max. current	8 A
Max. short circuit current	12 A
Connectors	MultiContact 4 mm type Multicontact "pigtail" adapters included

Paralleling

Multiple units can be operated in parallel to increase output power

Output

Nominal power	525 Wac
Grid Voltage	230 V (185 – 264 V programmable)
Frequency	50 Hz (48 – 52 Hz programmable)
Cos Phi	0.99
Standby power consumption	<0,05 Wac
Max. efficiency	93%
Connection	1,8 meter of AC wire

Specifications (continued)

Safety functions

Anti-islanding	Voltage- and frequency window; frequency shift G83 compliant
Over temperature	Power derating at ambient temperature > 40 °C Switch off at internal over temperature.
Polarity	Protected against inverse polarity.
Surges	Protected against AC and DC surges caused by indirect lightning strike.

User interface

Front indicator	Dual color (yellow / red)
Normal operation	Yellow blinking (faster blinking = higher power)
Fault indication	Red flashing (6 different codes)
Communication	RS-232 communications interface PC-Link adapter and cable included PC software download from www.mastervolt.com

Standards and certificates

CE conformity	yes
EMC directive	89/336/EEC
Environment	residential, commercial and light industrial
<u>Emission</u>	EN 55022: 1998 class B
Harmonic current emission	EN 61000-3-2: 2000
<u>Immunity</u>	EN 61000-6-2: 2001
Electrostatic discharge (ESD)	EN 61000-4-2: 1995
EMC (radiated)	EN 61000-4-3: 1996
Electrical fast transients (EFT)	EN 61000-4-4: 1995
Surge transients	EN 61000-4-5: 1995
Conducted RF disturbances	EN 61000-4-6: 1996
Voltage dips and short interrupts	EN 61000-4-11: 1994
Digital radio telephones	ENV 50204: 1995
<u>Safety</u>	
Low Voltage directive	LV 73/23 EEC
Electrical safety	EN 60950: 2003
National grid connection regulations	G83 (GBR); NTA 8493 (NLD)

Country compatibility

Suitable for most EU countries incl. NLD, GBR, ESP, PRT, DNK
With external ENS: DEU, BEL, FRA (*)
(*) contact your DNO for local grid connection requirements