

Uninterruptible Power Supplies



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WM Series 1500VA True On-Line

Features

- Wallmount Format
- Optional 10 year batteries
- Backlit LCD

Right: WM1500 series

Consists of UPS Electronic module mounted in wall cabinet with up to 4 battery sets.

UPS Electronic module available as separate item.



Above: Closed cabinet with key locks.

Electrical Specification

Input Voltage (full load without using batteries)	115VAC version: 80-138VAC / 230VAC version: 176-276VAC
Input Frequency	46-64Hz
Input Power Factor	>0.98 at full load
Input Protection	Fuse/Breaker
Output Voltage	115VAC nominal - 100/110/115/120VAC selectable 230VAC nominal - 208/220/230/240VAC selectable
Output Regulation	±2% of nominal
Output Waveform	Sine Wave
Output THD	<3% linear load
Crest Factor	3:1
Output Protection	Electronic Overload Protection (ultimately by fuse/breaker)
Efficiency (AC-AC)	86% typical
Overload Capacity	See Overload Characteristics
Output Frequency	50/60Hz dependant on input
Internal Battery Type	VRLA 5 year design life. For 10 year option add suffix 'X' to model number
Recharge	<4 hours to 90%, single battery set, <16 hours to 90%, 4 battery sets
Battery String Voltage	48VDC
Autonomy	See Tables
Temperature	Autonomy, recharge & battery life based on 25°C ambient
Input Receptacles	IEC
Output Receptacles	IEC
Display/Alarm	Front panel LED menu driven, audible alarms. See front panel layout
Interface (Rear Panel)	1 x RS232 & 1 x USB (fitted in option slot)
Software	Supplied bundled to support Windows 95, 98, ME, 2000, XP & NT
Fitted Fuse/Breaker	WM1500 - 10A, WM1500L CE - 15A
REPO	Remote emergency power off, must be fitted for unit to function. Connector on base of unit. Remove link to shut down output in AC mode or shut down unit in battery mode
Operating Temperature	-10°C to +40°C
Storage Temperature	-15°C to +50°C
Operating Humidity	0-95% RH non-condensing
Operating Altitude	3000m without derating
Acoustic Noise	<45dBA at 1 metre
Ingress	IP43 standard, option for IP45
Emissions	EN55022 level B, EN55091-2 level B
ESD Immunity	EN61000-4-2, level 3
Radiated Immunity	EN61000-4-3, level 2
EFT/Burst	EN61000-4-4, level 2
Surge	EN61000-4-5, level 3
Safety Standards	EN50091-1-1, EN60240-1-1, EN60950, CE

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Models and Ratings

MODEL	OUTPUT POWER		OUTPUT CURRENT (at 230VAC)	AUTONOMY (single battery string, full load)
	VA	Watts		
WM1500-x	1500VA	1050W	6.5A	9 Minutes

MODEL	OUTPUT POWER		OUTPUT CURRENT (at 115VAC)	AUTONOMY (single battery string, full load)
	VA	Watts		
WM1500L-x	1500VA	1050W	13.0A	9 Minutes

Where x in model number can be 1, 2, 3 or 4 and refers to the number of battery sets fitted

Run Time Charts

UPS Model	Standard Run Time in Minutes (Autonomy vs Load)					
	200VA (140W)	400VA (280W)	600VA (420W)	800VA (560W)	1000VA (700W)	1500VA (1050W)
WM1500(L)-1	86	39	24	17	12	9
WM1500(L)-2	199	85	54	39	29	18
WM1500(L)-3	328	142	90	62	49	30
WM1500(L)-4	450	328	120	86	68	43

-1, -2, -3, -4, in model number refers to the number of battery sets fitted

Weights & Dimensions


UPS Model	Unit Dimensions (mm)			Unit Weight (total kg)
	Height	Depth	Width	
WM1500(L) [Internal Electronics Module]	410	130	545	12.0
WM1500(L)-1 [Wall cabinet with 1 battery set]	765	240	620	43.5
WM1500(L)-2 [Wall cabinet with 2 battery sets]	765	240	620	54.0
WM1500(L)-3 [Wall cabinet with 3 battery sets]	765	240	620	64.5
WM1500(L)-4 [Wall cabinet with 4 battery sets]	765	240	620	75.0

Dimensions include mounting brackets
-3 & -4 models supplied with 100mm plinth for floor mounting due to weight

Accessory Products

Xi S	SNMP Network Adaptor Option Card replaces USB port, allowing the UPS to be addressed directly on the LAN
Xi V	AS400 Volt Free Contact Option Card replaces USB comms port with a 15 way D-type connector Providing Utility Fail, Battery Low, Bypass & UPS Alarm Contacts

Option Order Codes

WM1500-x 
Options ⁽¹⁾

E.G. WM1500-2SX
WM1500 series, 2 battery sets fitted
With SNMP network adaptor and 10 year design life batteries

Options (Examples)

- Add suffix 'S' to Model Number - Adds internal SNMP to UPS (in place of USB port)
- Add suffix 'V' to Model Number - Adds AS400 VFC to UPS for Utility Fail, Bypass, Battery Low and UPS Fault (in place of USB port)
- Add suffix 'X' to Model Number - Replaces 5 year design life batteries with 10 year
- Add suffix 'Z' to Model Number - IP45 Ingress Protection

(1) Options should be listed in alphabetical order

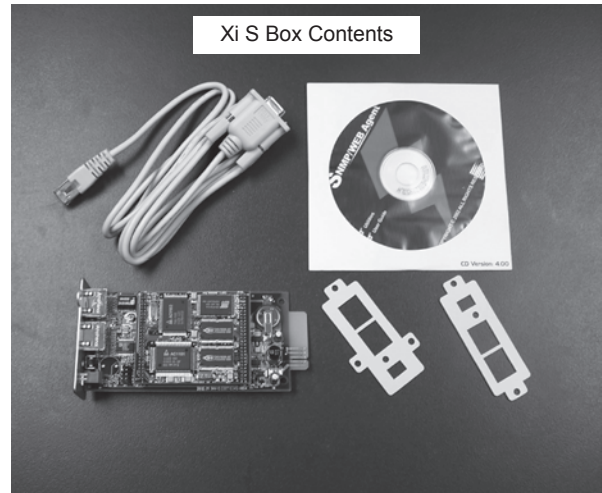
Option Card & REPO Details

Xi S Option Card

The Xi S card provides network connectivity and SNMP management protocol capability to the WM series of UPS.

Supplied with the option card is a CD which contains all relevant software including the Manual and MIB.

The card can be factory fitted with this option on request - please contact sales for assistance

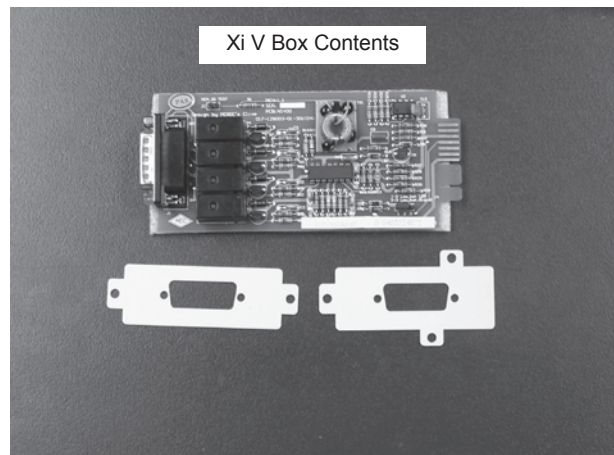


Xi V Option Card

The Xi V card provides true volt free contact indication of the following key parameters:

- Mains Fail
- Battery Low
- Bypass
- UPS Fault

These are 250VAC 2A rated contacts.



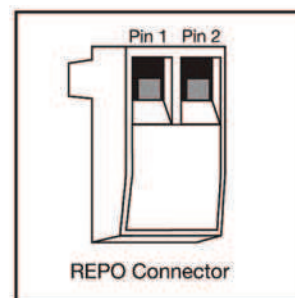
REPO (Remote Emergency Power Off)

The REPO feature shuts down the protected equipment immediately and does not follow the orderly shutdown procedure initiated by any power management software.

This occurs when the link between pin 1 and 2 is broken.

Any devices which are operating on battery are also shutdown immediately. When the REPO switch is closed, the equipment will not return to battery power until the UPS input is re-cycled.

This can be done by shutting down the UPS and re-starting it.



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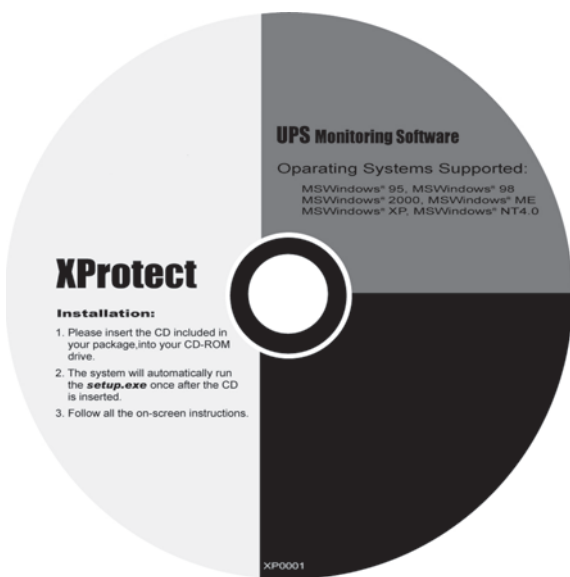
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Software Options

The WM Series is supplied as standard with XProtect software. However, the WM Series has been designed to work with UPSilon software packages.

UPSilon software must be used with the supplied RS232 cable. It will not function if used with the green UPSilon cable.

UPSilon is also available for Unix operating systems - please consult sales office for details.



XProtect Features:

- Simple installation & configuration
- Read/write function allows for engineer configuration of UPS
- Simple meter display of load battery capacity & temperature
- Complete data & event logging as standard
- Configurable tool bars

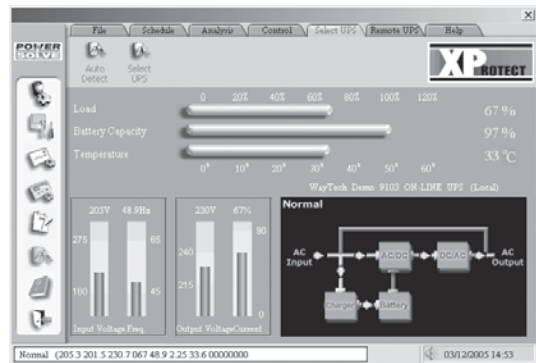
All models within the WM range are provided as standard with shutdown & monitoring software.

This software is supplied on a CD and covers all Windows® based platforms. The software offers all of the functionality of standard shutdown packages with some additional features for remote monitoring and control.

Monitoring is achieved either locally through the RS232 cable (supplied) or remotely via a connected network. This can provide the user with information about major input and output parameters along with alarm information as and when it appears.

Control is via the console in the software and allows the user (again locally via the serial connection or remotely via network connection) to schedule remote system shutdown (password controlled) and general UPS housekeeping.

In combination with its very flexible shutdown features, the software also lets the user know which programs were shutdown at last mains failure, to ensure that no saved files go unmissed.



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WM LCD Display

Information available from LCD:

- Input Voltage: VAC
- Output Frequency: Hz
- Output Voltage: VAC
- Battery Voltage: VDC
- Load: %
- Ambient Temperature: °C
- Heatsink Temperature: °C
- Output Current: A



WM Front Panel Buttons

Turn on/off the inverter or force unit to bypass. Start UPS from battery when mains is not available.



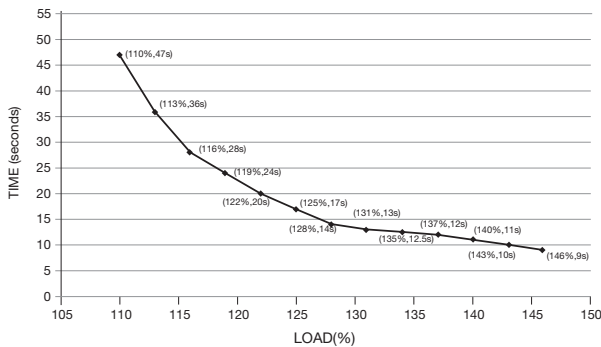
Select the status shown in the first (top) row of the LCD or review parameters in the M menu.

Select the status shown on the second (bottom) row of the LCD. Used for setting the function or parameter.



Enter edit menu. Selects standard UPS parameters including output voltage, battery test, etc.

Overload Graphs



NOTE:

Once the parameters shown are exceeded, the UPS will go into bypass mode. If the overload is greater than 160%, it will latch in bypass mode until mains is manually recycled.

The UPS will support the load in bypass mode until the fuse/breaker ratings are reached. At this point the unit will trip and shutdown.

UPS Topology

The WM series of On Line UPS provides a high integrity AC power source with zero transfer time to battery on mains fail conditions. This On Line double conversion topology ensures that the load is protected against noise and transients.

WM Series Schematic

