

# Connectivity

## PowerShield<sup>3</sup>

### Communications Software



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PowerShield<sup>3</sup> can be downloaded free of charge from [www.riello-ups.com](http://www.riello-ups.com)

#### GRAPHIC MONITORING OF UPS AND ENVIRONMENTAL SENSORS STATUS

PowerShield<sup>3</sup> is a simple but powerful RIELLO UPS management tool. There are various graphic versions for all the operating systems.

#### DETAILED UPS PARAMETER DISPLAY AND ENVIRONMENTAL SENSORS

PowerShield<sup>3</sup> provides all the information required for first level diagnostics.

#### EVENTS LOG AND GRAPHICAL DISPLAY

All changes in UPS operating status are logged and displayed in a graphical format from which the user can monitor trends in the mains electrical parameters monitored.

#### PROGRAMMING OF UPS PARAMETERS

The user can select several options remotely: turn the UPS on or off, restart after a power loss and instigate a battery test.

#### GRAPHIC MONITORING OF UPS STATUS VERSION FOR MAC OS X

RIELLO UPS PowerShield<sup>3</sup> software is the only UPS control and shut-down software running under Macintosh with a client-server cross platform architecture. It allows integration in TCP/IP networks with Windows, Novell, IBM OS/2 and the most widely used UNIX operating systems. PowerShield<sup>3</sup> supports the Netman Plus series of network agents and provides multi-language support.

#### BLOCK AND FUNCTIONAL DIAGRAMS

PowerShield<sup>3</sup> also displays the UPS in block format providing the user with information regarding operating status.

#### NOTIFICATION OF ALARMS VIA E-MAIL, SMS, FAX AND VOICE

PowerShield<sup>3</sup> can be configured to forward alarm messages automatically via e-mail, SMS, fax and voice.

PowerShield<sup>3</sup> software guarantees efficient and intuitive UPS management, displaying all the most important information such as input voltage, applied load, and battery capacity. In the event of a failure, it is able to provide detailed information on the status of the UPS. Its client/server architecture makes it an ideal tool for managing multi-platform network systems.

#### Features

- Sequential and priority-based shutdown: PowerShield<sup>3</sup> carries out unattended shutdowns of all network PCs, saving any work in progress by the most common applications. Users can define the shutdown priority of the various computers connected to the network and customise the procedure.
- Multi-platform compatibility, PowerShield ensures multi-platform interoperability using the standard TCP/IP as a communications protocol. This makes it possible to monitor computers with different operating systems from a single console, for

example monitoring a UNIX server from a Windows PC or connecting to a UPS located in different geographical areas using dedicated networks (intranets) or the Internet.

- Event scheduling: PowerShield<sup>3</sup> allows users to define their own shutdown and start-up procedures for powered systems, thereby increasing system security and providing significant energy savings.
- Message management: PowerShield<sup>3</sup> keeps users constantly informed of the status of both the UPS and the environmental sensors, both locally and by sending messages via the network. In addition, it also is possible to define a list of users that will receive e-mails, faxes, voice mails and SMS in the event of failures or black-outs.
- Integrated SNMP agent: PowerShield<sup>3</sup> features an integrated SNMP agent for UPS management allows sending all information pertaining to the UPS using the standard RFC 1628 and related trap, and environmental sensors. This feature makes it possible to manage the UPS in compatible SNMP management stations such as HP Open View, Novell Managewise and IBM NetView
- Integrated wap server integrated:

PowerShield<sup>3</sup> allows the user to remotely monitor the UPS via aWAP mobile phone UPS diagnostics has never been so easy and immediate.

- Security and communication is now password protected for increased security in UPS management. Thanks to the discovery/browsing function, all the UPS devices connected to a computer and/or via LAN are immediately displayed in list format in order to be monitored. In the absence of a LAN connection, communication is supported via modem.

#### Supported operating systems

- Windows 2000, 2003 Server, XP, Vista, 2008 Server, 7, on X86, X86\_64 and IA64 processors
- Linux on X86, X86\_64 and IA64 processors
- Novell Netware 3.x, 4.x, 5.x, 6
- Mac OS X
- The most common UNIX operating systems such as: IBM AIX, HP, SUN Solaris INTEL and SPARC, SCO Unixware and Open Server, Silicon Graphics IRIX, Compaq Tru64 UNIX and DEC UNIX, Open BSD UNIX and FreeBSD UNIX, NCR UNIX
- HP OPEN VMS
- VMWare ESX, VSPHERE.

# PowerNETGuard

## Supervision software

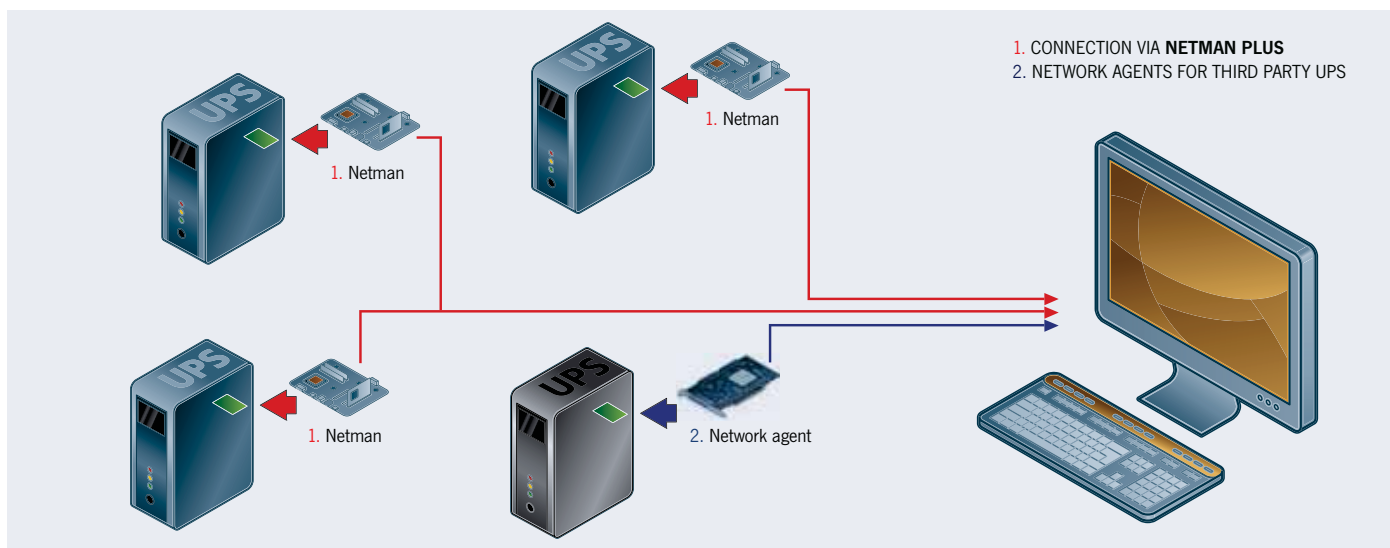


PowerNETGuard is a programme for the centralised management of UPS devices through SNMP communication protocol and is the ideal tool for EDP Managers in Data Centres and medium and large networks. Using the Management Information Base (MIB) described with RFC1628 it is able to homogeneously manage all the UPSs conforming to this world standard.

### Features

- Centralised control of remote UPSs via Ethernet with SNMP protocol
- Multi-level display of geographical areas, building plans, maps, etc.
- Multi-user access with various security levels
- Compatible with Netman and Standard SNMP RFC1628 interfaces
- Creation of graphs of UPS input and output values and data back-up on files
- Alarm notification via e-mail and SMS
- Integrated Wap Server for alarm display
- For Windows operating systems (2008 Server, Vista, 2003 and XP), Linux, Mac OS X, Solaris 8, 9 and 10, and Silicon Graphics IRIX

### Centralised control of remote UPS devices



## NetMan 101/102 Plus

### Network agent



The NetMan Plus network agent allows for the management of the UPS directly connected on LAN 10/100 Mb using the main network communication protocols (TCP/IP, HTTP and SNMP).

It was developed to integrate the UPS into medium and large networks, in order to provide a high degree of communications reliability between the UPS and its management systems.

### Features

- Compatible with 10/100Mbps Ethernet and IPv4/6 network
- Compatible with PowerShield<sup>®</sup> and TeleNetGuard

- SNMP with RFC1628 for PowerNETGuard and NMS connection
- SNMP with RFC 3433 for managing environmental sensors
- HTTP for UPS control via web browser
- SMTP for emailing alarm notification or UPS status
- Serial port for UPS control
- Modem management for TeleNetGuard and PowerShield<sup>®</sup>
- Events log management
- Wake-on Lan management for starting computer via TCP/IP network
- Other standards: DHCP, DNS, RARP, FTP, NTP, ICMP, IGMP
- Configured via TELNET or serial terminal with data import/export
- Firmware upgradeable through the serial port and TFTP server.

# NetMan 202 Plus

## Network agent



The NetMan 202 network agent allows for the management of UPSs directly connected to LAN 10/100 Mb using the main network communication protocols (TCP/IP, HTTP and SNMP). It was developed to integrate the UPS into medium and large networks, in order to provide a high degree of communications reliability between the UPS and its management systems.

### Features

- 32bit RISC processor
- Compatible with 10/100Mbps Ethernet and IPv4/6 network

- Compatible with PowerShield<sup>3</sup> and TeleNetGuard
- SNMP v1 and v3 with RFC1628 for PowerNETGuard and NMS connection
- SNMP v1 and v3 with RFC3433 for the management of environmental sensors
- HTTP for UPS control via web browser
- SMTP for emailing alarm notification or UPS status
- Maximum expandability
- USB host for Pendrive USB connection
- Events log and data management
- Wake-on Lan management for starting computer via TCP/IP network
- Other standards: DHCP, DNS, RARP, FTP, NTP, ICMP, IGMP
- Management of environmental sensors
- Configurable via Telnet, SSH, and serial terminal sessions with data export/import.
- Firmware upgradeable via USB port FTP and http.

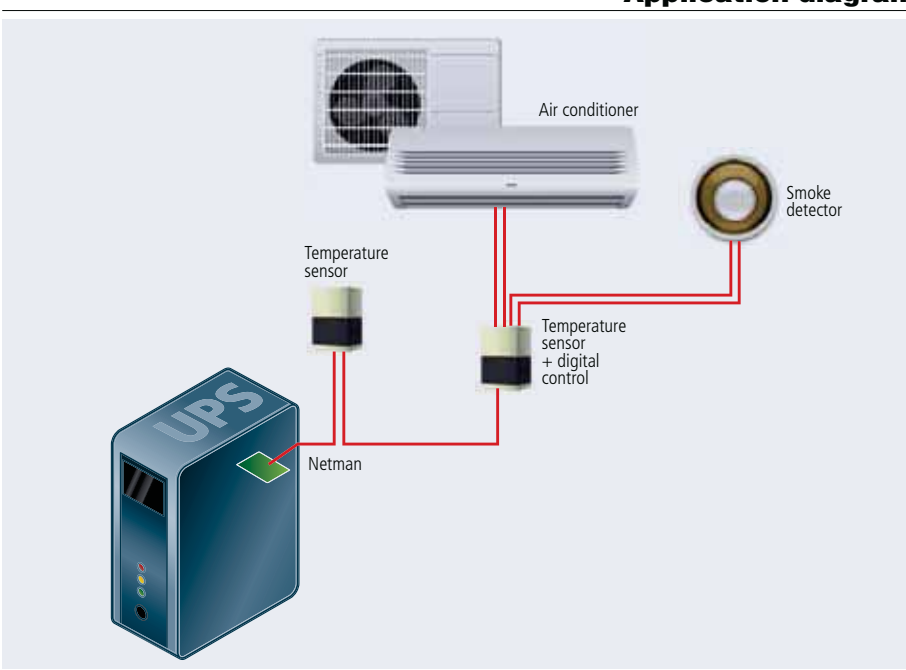
## Environmental sensors



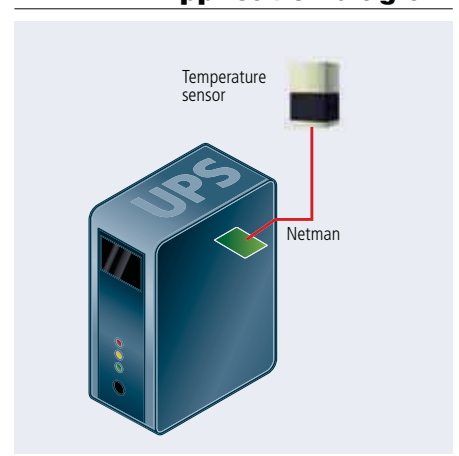
With Netman environmental sensors it is possible to monitor and record environmental conditions and activities in protected areas and at premises where the UPS is installed. Environmental sensors allow extending the control and management of the environment surrounding the UPS, monitoring temperature, humidity and allowing the operation of devices such as fans or locks, providing the values via Web, SNMP, and through PowerShield<sup>3</sup> software.

Using the PowerShield<sup>3</sup> software it is possible to manage the status of sensors for sending messages. For further information, refer to the PowerShield<sup>3</sup> software. NetMan plus can handle up to a maximum of 6 separate sensors. The environmental sensors can be installed quickly, thanks to their small size, and do not require external power. In addition, configuration is quick and intuitive thanks to the self-learning of the connected sensors.

### Application diagram



### Application diagram



### The following sensors are available:

- Sensor for temperature: -55 +125 °C
- Sensor for temperature: -55 +125 °C and humidity: 0- 100%
- Sensor for temperature: -55 +125 °C and digital I/O: 0-12Vdc. In, 1A max Out 48Vdc

# Multicom 301/302

## Protocol converter



The MultiCOM 301/302 protocol converter allows monitoring the UPS using the MODBUS/JBUS protocol on RS232 or RS485 serial lines.

In addition, it manages a second independent RS232 serial line that can be used to connect to other devices such as the Netman 101 or a PC that uses PowerShield<sup>®</sup> software.

### Features

- Port configuration for MODBUS/JBUS as RS232 or RS485
- Management of two independent serial lines
- Suited for integration with main BMS systems.

# Multicom 351/352

## Serial duplicator



The MultiCOM 351/352 serial duplicator is an accessory that allows two devices to be connected to a single UPS communication serial port.

It can be used in all cases where several serial connections and multiple UPS polling are required, and is ideal for LAN networks with a firewall, where a high level of security is required or for the management of separate LAN networks powered by a single UPS.

### Features

- Cascading configuration to obtain a maximum of 4 serial communication ports
- LED communication flow indicator
- Firmware can be updated via the serial port

# Multicom 362

## Serial Port / USB



The Multicom 362 accessory allows the UPS to communicate via the RS232 serial line or alternatively via the USB port through the auxiliary communication port. It allows UPSs not equipped with a USB communication port to be connected to Apple Macintosh computers or computers with Windows and Linux operating systems.

### Features

- Compatible with USB 1.2
- Compatible with PowerShield<sup>®</sup>.

*For compatibility, refer to the Compatibility table on pg. 17 and 20*

# Multicom 372

## SERIAL PORT / ESD



The Multicom 372 allows an additional communication port to be added to the UPS to control and monitor the UPS via the RS232 serial line.

The board is supplied with an ESD input (emergency UPS shutdown) and an RSD (Remote Shut-down) input, both available on a removable terminal board and directly connectible to emergency buttons or other buttons.

### Features

- Management of EPO and UPS Shut-down
- Powering of devices up to 12V 80mA max.

*For compatibility, refer to the Compatibility table on pg. 17 and 20*

# Multicom 382

## Contacts / ESD board



MultiCOM 382 provides a set of relay contacts for the management of UPS statuses and alarms. The board is equipped with two removable terminal boards. The ESD signal (emergency UPS shutdown) and the RSD signal (Remote shutdown) are found on one of these terminal boards. Using this board, Battery Working, Bypass, Alarm and Low Battery

signals can be associated with SPDT dry contacts or normally open contacts.

### Features

- Max power 3A to 250Vac
- Ability to configure the association of the signals on the contacts.

*For compatibility, refer to the Compatibility table on pg. 17 and 20*

# Multi I/O

## Protocol and contacts converter



The Multi I/O is a device that integrates the UPS with a control system, via input and output relay signals, that is fully configurable. It allows two devices to be connected to a single UPS communication serial port.

It can be used in all cases where there is a real need for several serial connections for the multiple interrogation of the UPS. It is also able to communicate on RS485 lines via the MODBUS/JBUS protocol.

### Features

- 8 analog/digital inputs
- 8 relay outputs (3A to 250Vac), configurable using the input and UPS statuses.
- Communicate with the UPS via RS232
- It can control two independent RS232/RS485 serial lines to monitor the UPS and its statuses with the MODBUS/JBUS protocol.
- Firmware can be updated via the serial port

## Expansion board



The I/O expansion board for the Master Plus range is equipped with:

- 6 outputs with NC/NO voltage-free contacts (250V/5A), electrically isolated from each other and from other circuits
- 2 self-powered inputs

Each output or input can be configured with different meanings, using the relative menu.

*For compatibility, refer to the Compatibility table on pg. 17 and 20*

## Multicom 401

### Protocol converter



Multicom 401 is an accessory that allows the UPS to be connected to a Profibus DP network. The device combines UPS management and monitoring in a control system based on a field bus that is among the most widely used in the industrial sector and in communication between control / automation and I/O distributed systems.

#### Features

- PROFIBUS DP-V1 protocol
- Configurable addresses from 0 to 99
- Data format: Profidrive V2 PP05
- Communication speed configurable from 9.6kBit/s to 12 MBit/s
- Led displaying the communication flow

## Kit for AS400 and i-Series

### Communications kit

The IBM AS/400 system, due to single level memory management, requires the almost-mandatory connection to a UPS as any drop in voltage resulting in a power shutdown, causes long, if not very long, restoration times as well as possible

hardware damage due to even simple disturbances in electrical power signal.

The AS/400 systems connection kit, allows for the correct closure of the OS/400 operating system, during a black-out.

#### Features

- Compatible with all AS/400 and i-Series Systems
- Supports all UPSs in the Riello UPS range.

## Multi Panel



Multi Panel is a remote control panel that allows users to remotely monitor the UPS and to have a detailed overview of operating conditions in real time. Using this type of device, network power, output, and battery measurements as well as UPS statuses can be viewed.

The high-visibility graphic display is available in English, Italian, German, French, Spanish, Russian, Chinese and many other languages. Multi Panel is equipped with three independent serial ports, one of which permits monitoring the UPS via the MODBUS

/ JBUS or on RS485 or RS232 serial lines. The other independent serial lines allow other other devices to be connected, such as Netman 101 or a PC that uses PowerShield<sup>3</sup> software.

- High visibility LCD with graphic functions
- Management of three independent serial lines
- Port configuration for MODBUS/JBUS as RS232 or RS485
- Suited for integration with main BMS management systems.
- Firmware can be updated via the serial port