

Connectivity

PowerShield³

Communications Software



PowerShield³ can be downloaded free of charge from www.riello-ups.com

POWERSHIELD³ provides efficient, user-friendly UPS management using bar chart displays to show major operational information such as the input voltage, UPS load % and batteries charge %. The software also provides detailed information on fault conditions and UPS operating characteristics. POWERSHIELD³ has been developed with a client/server architecture that makes it flexible and easy to use, and provides multi-lingual and on-line support.

Features

- Sequential and priority-based shutdown: POWERSHIELD³ provides unattended shutdown of single and networked PCs, saving any active work and the most widely used applications Windows. Users can define their own shutdown procedures and establish the order in which critical computers (such as servers) are to be powered down
- Multi-platform compatibility: POWERSHIELD³ uses the TCP/IP communications protocol to achieve standardised management and

monitoring across the widest possible range of platforms. This makes it possible to monitor computers with different operating systems from a single console, for example monitoring a UNIX server from a PC with Windows and also connecting to UPS located in different geographical areas using dedicated networks (intranets) or the Internet

- Event scheduling: POWERSHIELD³ users can program their own shutdown procedures, detailing power-off and power-up scenarios to increase system safety and, equally important, power economy
- Messages management: POWERSHIELD³ keeps users constantly informed about the status of their local and network UPS, and environmental sensors. A list can be defined of users who should receive e-mail messages, faxes and SMS when faults or sudden mains power supply failures occur
- Integrated SNMP agent: POWERSHIELD³ features an integrated SNMP agent for UPS management which can send all the information required and generate traps using the RFC 1628 MIB standard 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 All the trademarks indicated are the property of their respective owners. PowerShield³ can be downloaded free of charge from www.riello-ups.com

- Communication Software
- Wap server integrated: POWERSHIELD³ allows the user to monitor a UPS through WAP mobile phone
- Security, easy to use and connect, communication is password protected to ensure UPS system security. Using the new discovery/ browsing function, all the RIELLO UPS connected to a protected computer or LAN can be displayed in a list format. In the absence of a LAN connection, support is provided for modem-based communication.

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



Mac



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GRAPHIC MONITORING OF UPS AND ENVIRONMENTAL SENSORS STATUS

PowerShield³ 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

PowerShield³ 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 PowerShield³ 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. PowerShield³ supports the Netman Plus series of network agents and provides multi-language support.

BLOCK AND FUNCTIONAL DIAGRAMS

PowerShield³ 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

PowerShield³ can be configured to forward alarm messages automatically via e-mail, SMS, fax and voice.

PowerNetGuard

Supervision software

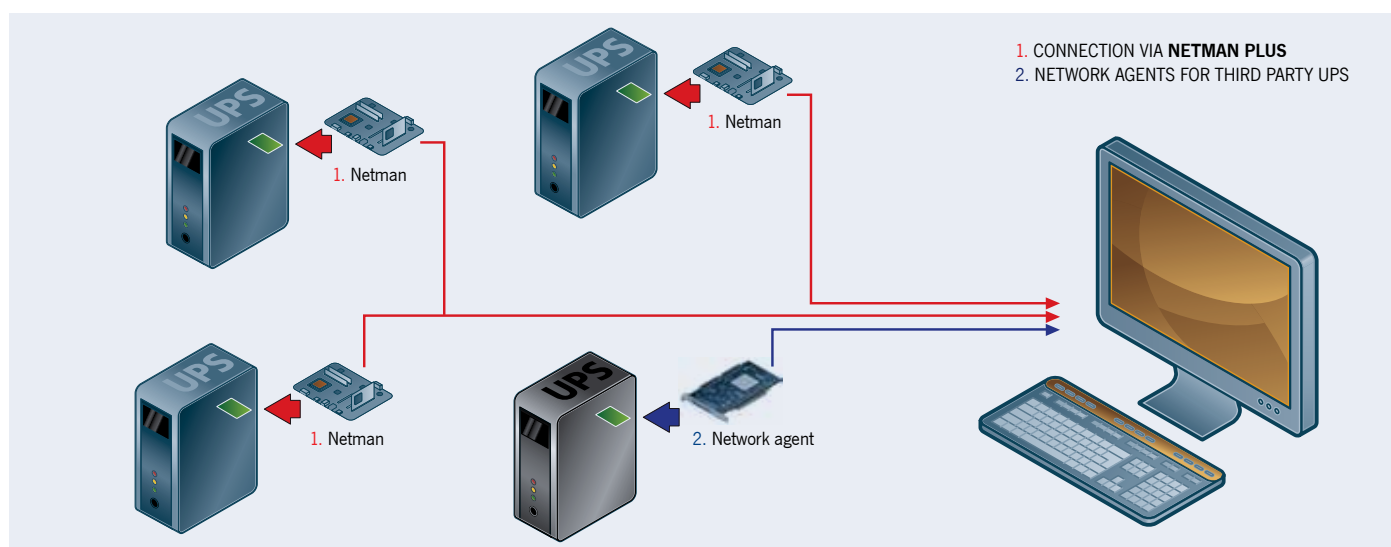


POWERNETGUARD software centralises UPS management using network interface (SNMP) communications. It is ideal for Data Centre managers and medium to large sized networks. POWERNETGUARD uses the RFC1628 standard Management Information Base (MIB) and ensures standardised UPS management wherever they are located.

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 UPS management across a LAN using any of the main network communication protocols - TCP/IP, HTTP and network interface (SNMP). NETMAN PLUS enabled UPS integrate easily into medium and large sized networks and provide reliable communications between the UPS and management systems employed.

Features

- Compatible with 10/100Mbps Ethernet and IPv4/6 network
- Compatible with PowerShield³ 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 PowerShield³
- 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 plus network agent allows the management of the UPS connected directly to the LAN 10/100 Mb using the main network communication protocols (TCP/IP, HTTP and SNMP). It was developed to integrate the UPS in medium and large networks, to provide a high level of reliability in communication between the UPS and the relative management systems.

Features

- 32bit RISC processor
- Compatible with 10/100Mbps Ethernet and IPv4/6 network
- Compatible with PowerShield³ 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



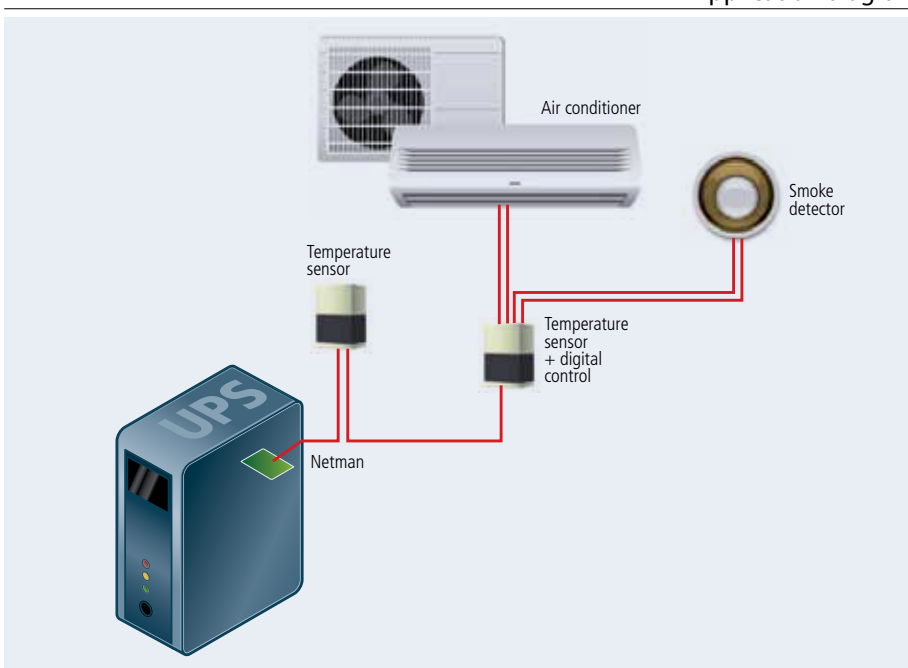
The NETMAN environmental sensors monitor and record environmental conditions as well as activities in protected areas and at the premises where the UPS is installed. The sensors provide extensive management and control, triggering cooling fans and locks in response to changes in temperature and humidity. Remote monitoring and control can be provided via the internet, SNMP and the Riello PowerShield³ software.

NETMAN PLUS can support up to 6 separate sensors. The environmental sensors are easy to install and do not need a separate external power supply.

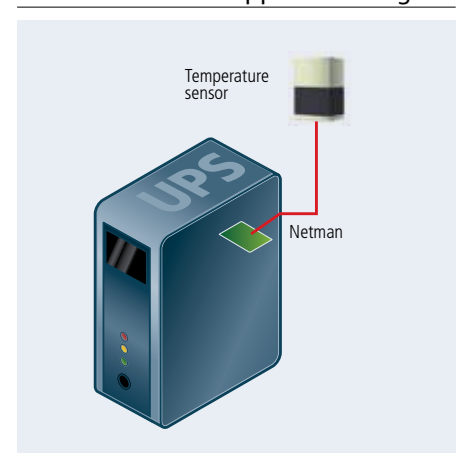
The following sensors are available:

- **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**

Application diagram



Application diagram



Multicom 301/302

Protocol converter



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

In addition, it provides 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 PowerShield³ 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 where several serial connections and multiple UPS polling are required, and is ideal for LAN networks with a firewall.

Features

- Cascading configuration giving 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 USB 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 PowerShield³.

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 Shutdown) 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
- 12Vdc 80mA contact option

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

Multicom 382

Contacts /ESD board



MULTICOM 382 provides a set of relay contacts to provide UPS alarm and status indication.

The contacts are connected through terminal connections. Signal contacts include Emergency Power Off (EPO), Remote Shut Down (RSD), On Battery, On Bypass, Alarm and Low battery. The contacts are change over or normally open.

Features

- Max. 3A current at 250Vac
- Signal contact customisation

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

Multi I/O

Protocol and contacts converter



Multi I/O has configurable input and output signal contacts to allow UPS integration with control systems. It can be used to connect two devices to a single UPS serial communication port. It can also communicate using the MODBUS/JBUS protocol on RS485 lines.

Features

- 8 analog/digital inputs
- 8 relay outputs to monitor UPS and mains status
- It can control two independent RS232/RS485 serial lines to monitor the UPS and its operating states using the MODBUS/JBUS protocol
- Firmware upgradeable through the serial port

Expansion board



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

- 6 outputs with NC/NO volt-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 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 has a single-level memory management feature that makes it compulsory for the system to be shutdown in a controlled and orderly manner. Without UPS protection an AS/400 is not protected from mains

failures. A momentary loss of power can cause hardware damage, data corruption and a lengthy reboot period.

The RIELLO UPS AS/400 interface kit allows a UPS to be connected to the AS/400 to initiate an orderly system shutdown on mains failure.

Features

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

Multi Panel



MULTIPANEL is a remote monitoring device that can provide a detailed UPS status overview in real time. It is compatible with all Riello UPS and can display values for UPS specific input and output supplies, and battery set measurements.

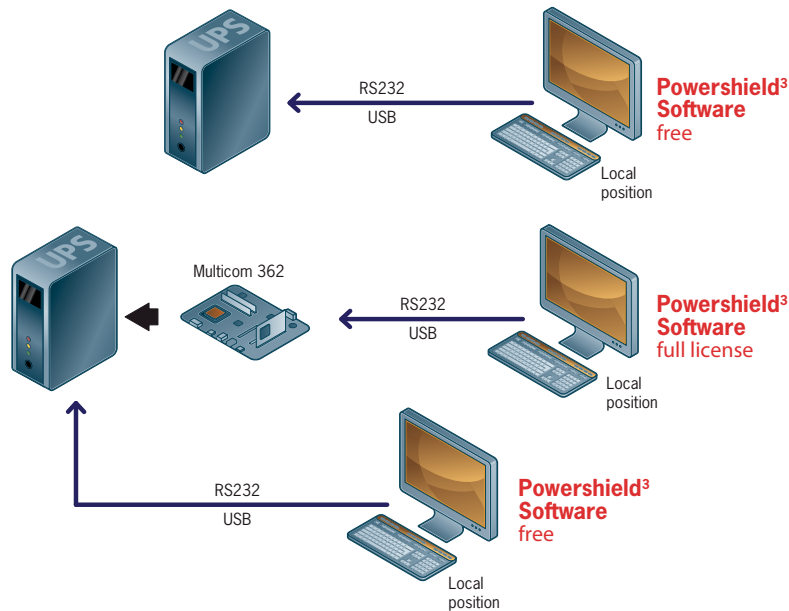
MULTIPANEL has a high-definition graphical display and can report in 7 languages: English, Italian, German, French, Spanish, Russian and Chinese. It has 3 independent serial ports, one of which allows for UPS monitoring via the MODBUS/JBUS protocol (on either an RS485 or RS232 serial line).

The others can be used with devices such as the Netman 101 Plus or a PC running PowerShield3 software.

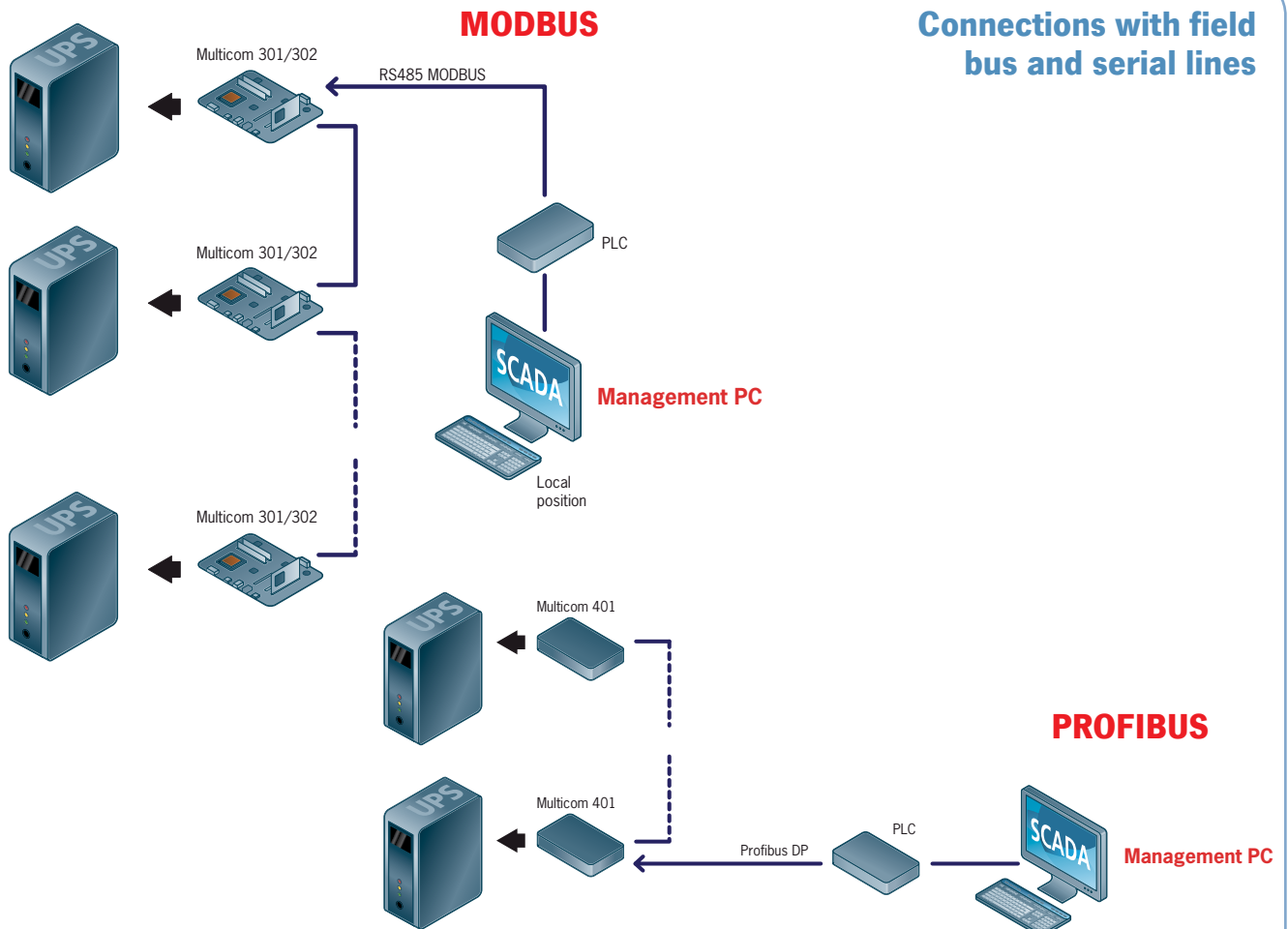
- High visibility LCD with graphic functions
- Management of three independent serial lines
- Port configuration for MODBUS/JBUS as RS232 or RS485
- Suited for integration with main BMS management systems.
- Firmware can be updated via the serial port

Connectivity: some solutions

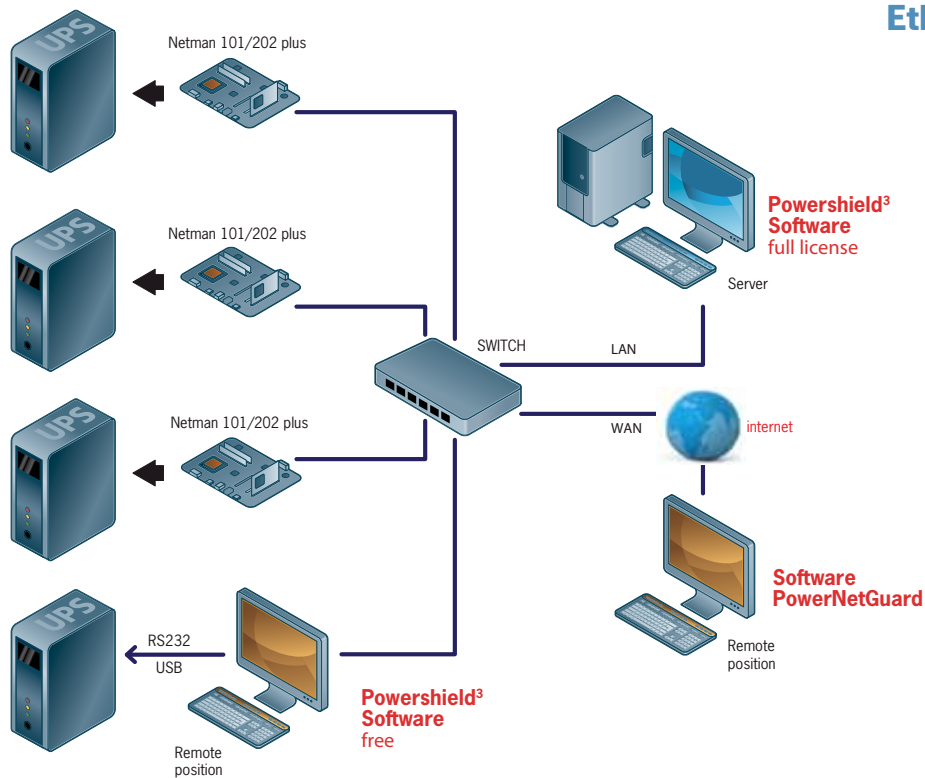
Point-to-point connections with serial lines



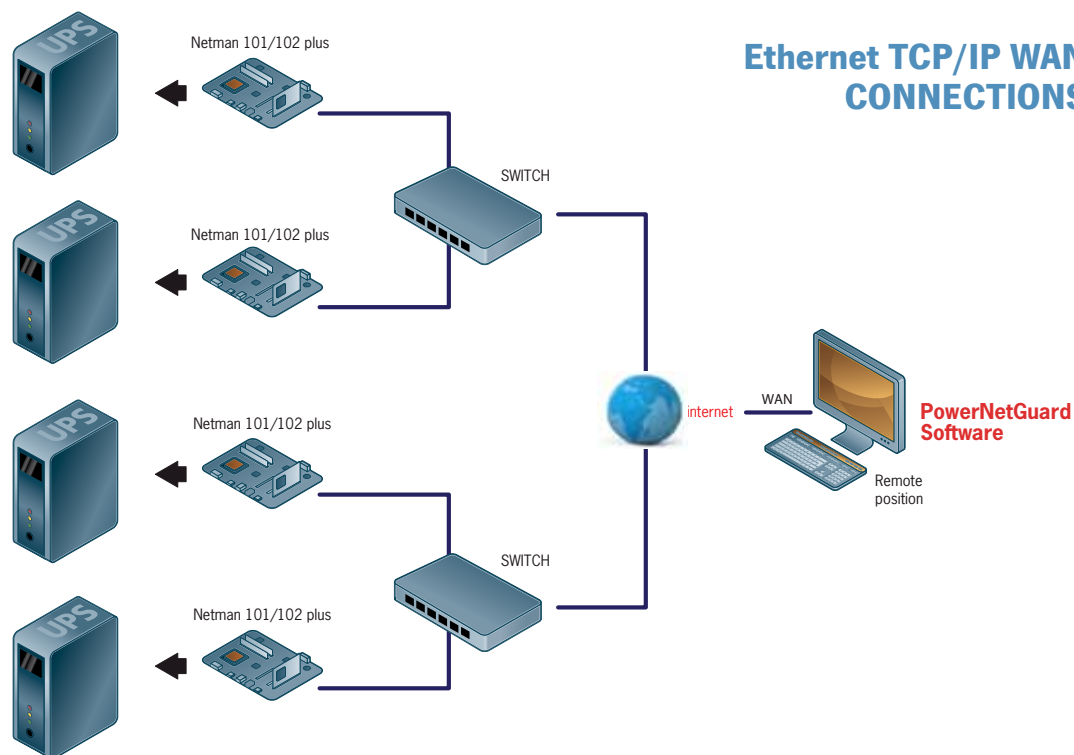
Connections with field bus and serial lines



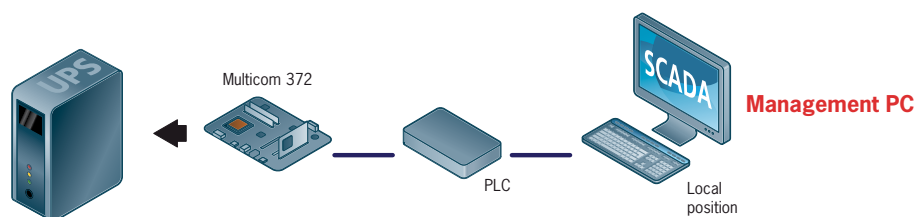
Ethernet TCP/IP LAN/WAN CONNECTIONS



Ethernet TCP/IP WAN CONNECTIONS



Connection with PLC to contacts



Maintenance Bypass

Multi Pass 10, 16 & 16-R

Multi PASS 16
Box version



Multi PASS 16-R
Rack version



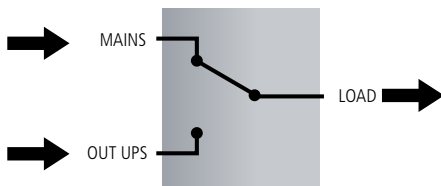
The MultiPASS manual bypass cuts out the UPS in the event of malfunction or breakage. MultiPASS ensures that the connected utilities are automatically switched to the main power line if the UPS is switched off or is blocked.

MultiPASS 16 is available for rack or wall installations (box).

Features

- Rack or wall version
- Standard back-feed protection
- Automatic switching during mains failure
- Mains power present LED indicator
- Available with sockets of different standards (IEC, english socket, terminal boards).

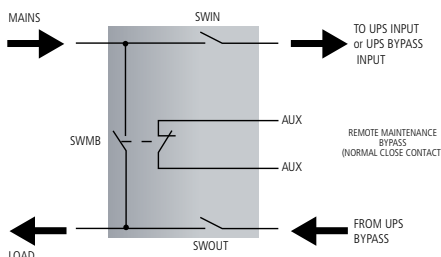
MBB32A



Available in a 32A single-phase configuration, enables UPS servicing up to 6kVA in a quick and safe manner ensuring power continuity.

MBB32A is equipped with a metal support for wall mounting.

MBB100A



Available in a 100A configuration, can be used as manual bypass for 10-20kVA single-phase UPS and 10-40kVA three-phase UPS.

Riello UPS offers a wide range of external bypasses and static switches for UPS up to 800kVA, and for parallel systems up to 6.4 MVA.