

# Connectivity

## Index of configurations

Connecting a UPS to other devices, sensors, computers and other specific devices, means on the one hand allowing the user to monitor UPS operating parameters and prevent critical situations, and on the

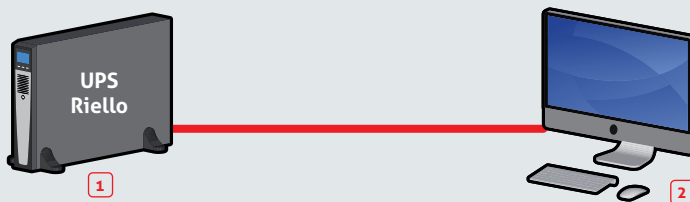
other hand provides the UPS with input parameters from the working environment. By processing these parameters the UPS is able to activate/deactivate itself, communicate its status and much more.

This brief overview summarises some of the basic connectivity configurations, grouped according to the end purpose and situation surrounding each case.

- Point to point connections
- Multipoint connection
- Connection for UPS in parallel setup
- Connection with several systems in parallel setup and STS

- Field bus connections
- Bus connections over Ethernet
- Field bus connections
- Serial bus connections

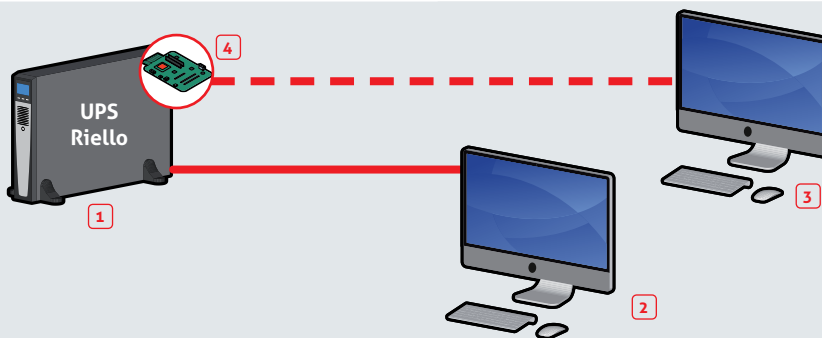
### POINT TO POINT CONNECTIONS



Controlling the UPS from 1 workstation

- 1 UPS connected to load
- 2 Local computer with PowerShield<sup>3</sup> version FREE

— USB or RS232

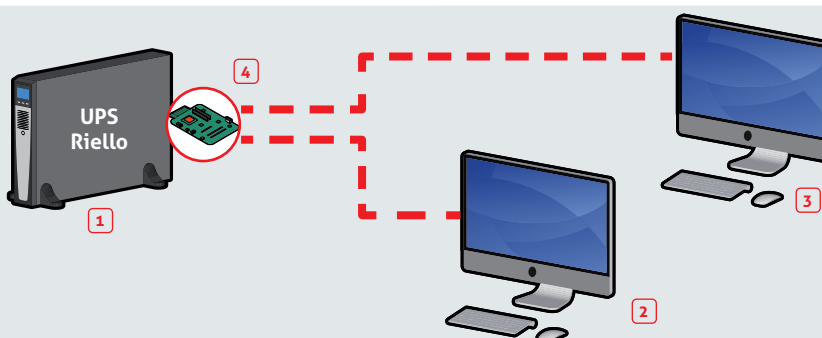


Controlling the UPS from different workstations

- 1 UPS connected to load
- 2 Local computer with PowerShield<sup>3</sup> version FREE
- 3 Local computer with PowerShield<sup>3</sup> software version FULL
- 4 MultiCOM 372 board

--- RS232

— USB or RS232

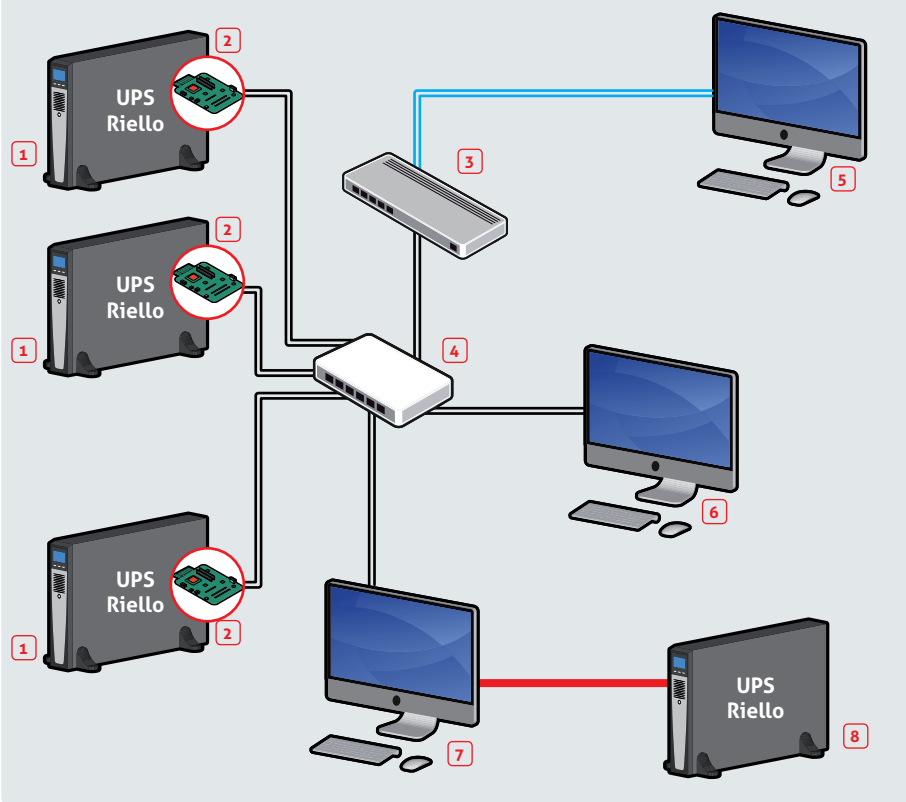


UPS control from several workstations, using 2 serial ports

- 1 UPS connected to load
- 2 Local computer with PowerShield<sup>3</sup> version FREE
- 3 Local computer with PowerShield<sup>3</sup> version FREE
- 4 MultiCOM 352 board

--- RS232

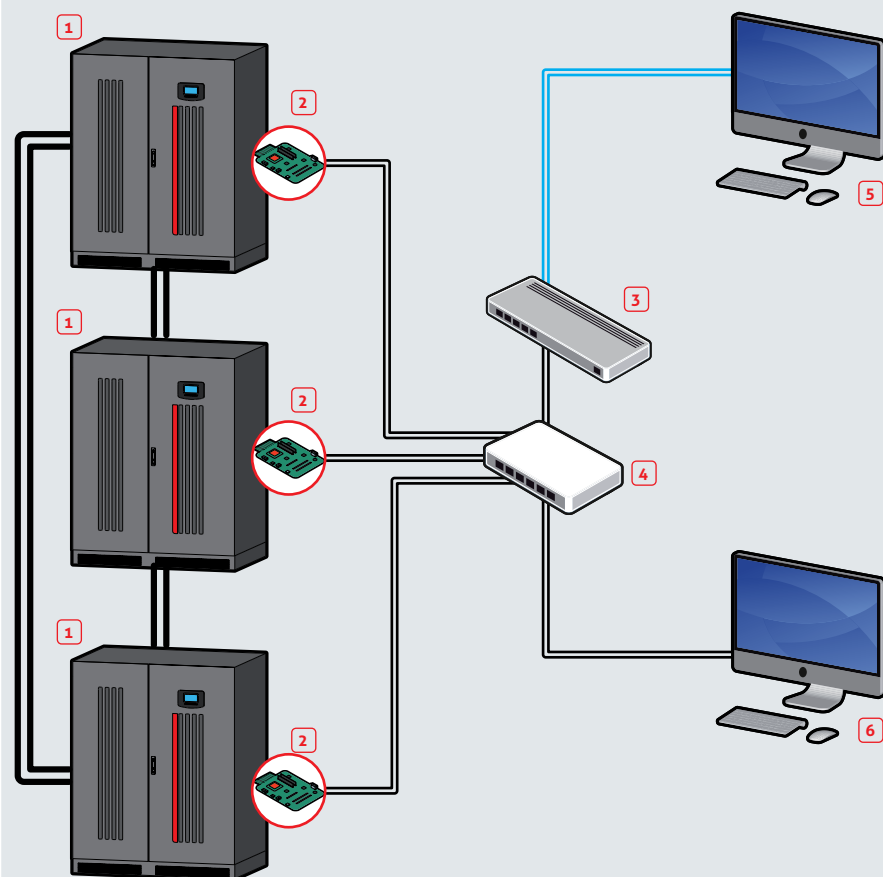
## DISTRIBUTED CONNECTION (MULTIPOINT)



Connection with more than 1 UPS.  
The FULL version of PowerShield<sup>3</sup> software is required as well as a NetMan 101/102 communication board on each UPS.

- 1 UPS connected to load
  - 2 NetMan 102 board
  - 3 Firewall
  - 4 Switch
  - 5 Remote computer connected via web
  - 6 Local computer
  - 7 Local computer that controls the UPS (8) via USB or RS232, and UPS (1) via LAN and Ethernet
  - 8 UPS connected to load
- USB or RS232  
 Ethernet  
 World Wide Web

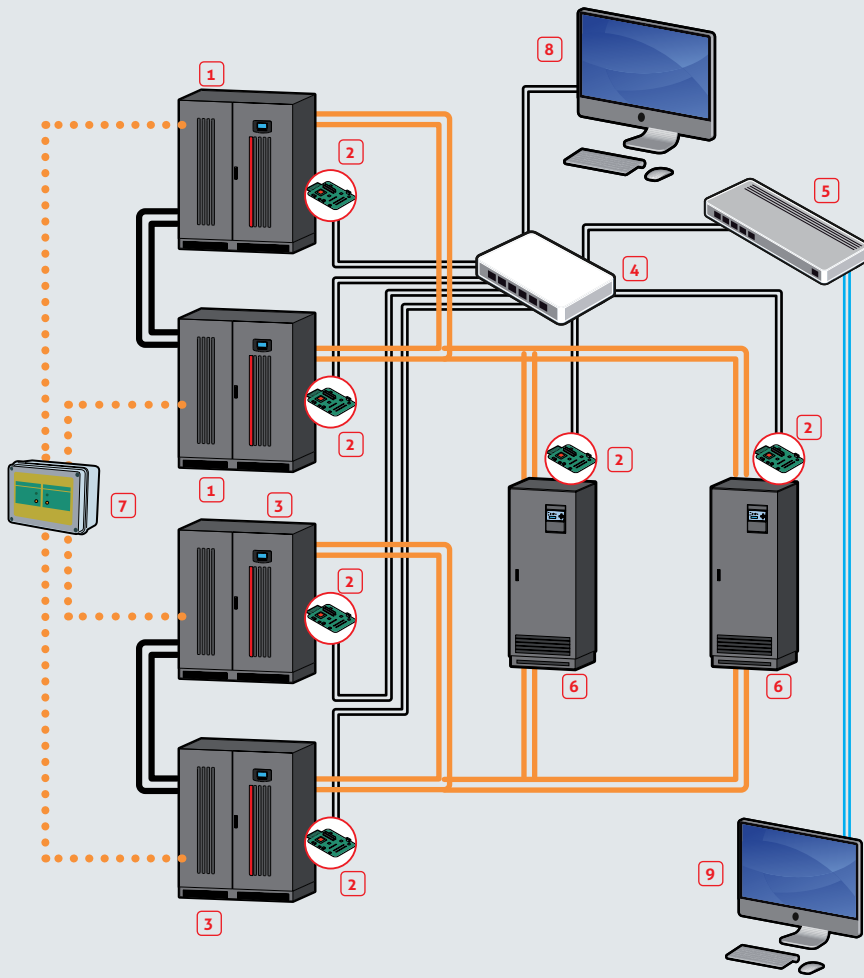
## CONNECTION FOR UPS IN PARALLEL SETUP



The FULL version of PowerShield<sup>3</sup> software should be used for managing setups with several UPS installed in parallel, and each UPS must have a NetMan 102 plus (or box 101 plus) board installed.

- 1 UPS in parallel setup connected to the load
  - 2 NetMan 102 board
  - 3 Firewall
  - 4 Switch
  - 5 Remote computer connected via web
  - 6 Local computer
- Parallel setup bus  
 Ethernet  
 World Wide Web

## CONNECTION WITH SEVERAL SYSTEMS IN PARALLEL AND STS



The FULL version of PowerShield<sup>3</sup> software should be used for managing setups with several UPS installed in parallel, and each UPS must have a NetMan 102 plus (or box 101 plus) board installed.

- 1 UPS arranged in parallel connected to an STS channel
- 2 NetMan 102 board
- 3 UPS arranged in parallel connected to an STS channel
- 4 Switch
- 5 Firewall
- 6 STS connected to load
- 7 UGS
- 8 Local computer with PowerShield<sup>3</sup> software version FULL
- 9 Remote computer connected via web, running PowerShield<sup>3</sup> software version FULL

●●●● UGS management of parallel setup

●●●● Parallel setup bus

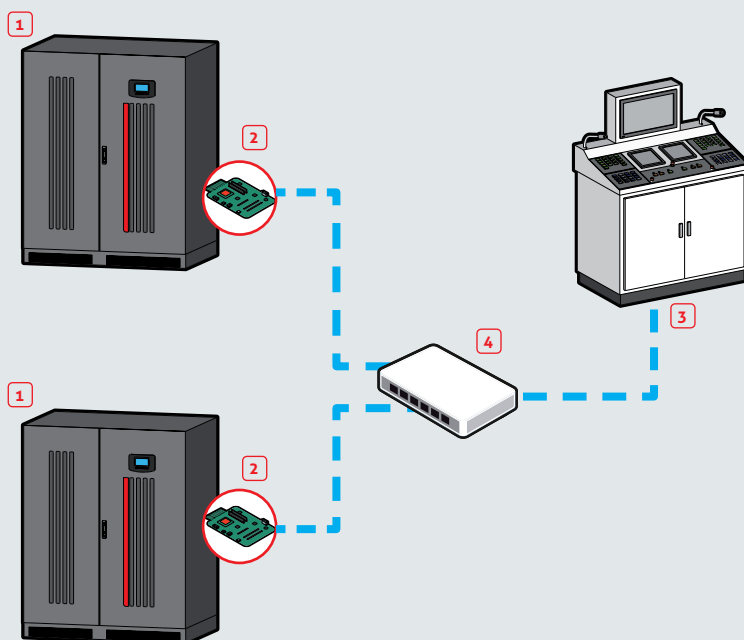
— Ethernet

— World Wide Web

— Parallel setup bus

— Power connection

## FIELD BUS CONNECTION OVER ETHERNET



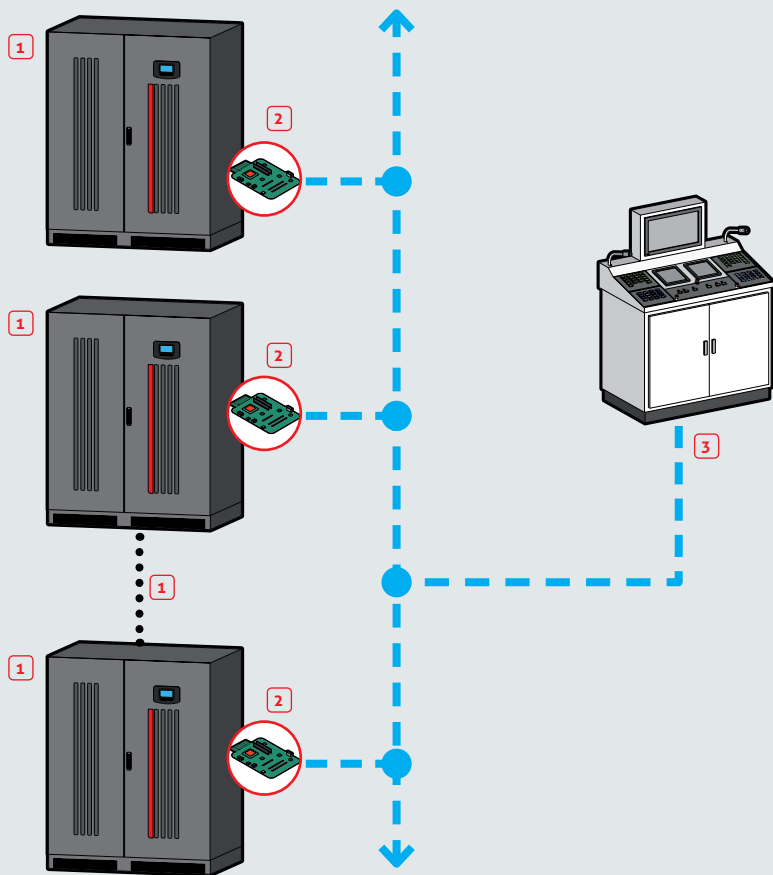
For UPS management in industrial or civil environments requiring Modbus protocol communication over Ethernet.

- 1 UPS connected to load
- 2 NetMan 202 board
- 3 SCADA management system
- 4 Switch

— Ethernet

— Modbus / TCP over Ethernet

## MODBUS SERIAL FIELD BUS CONNECTION



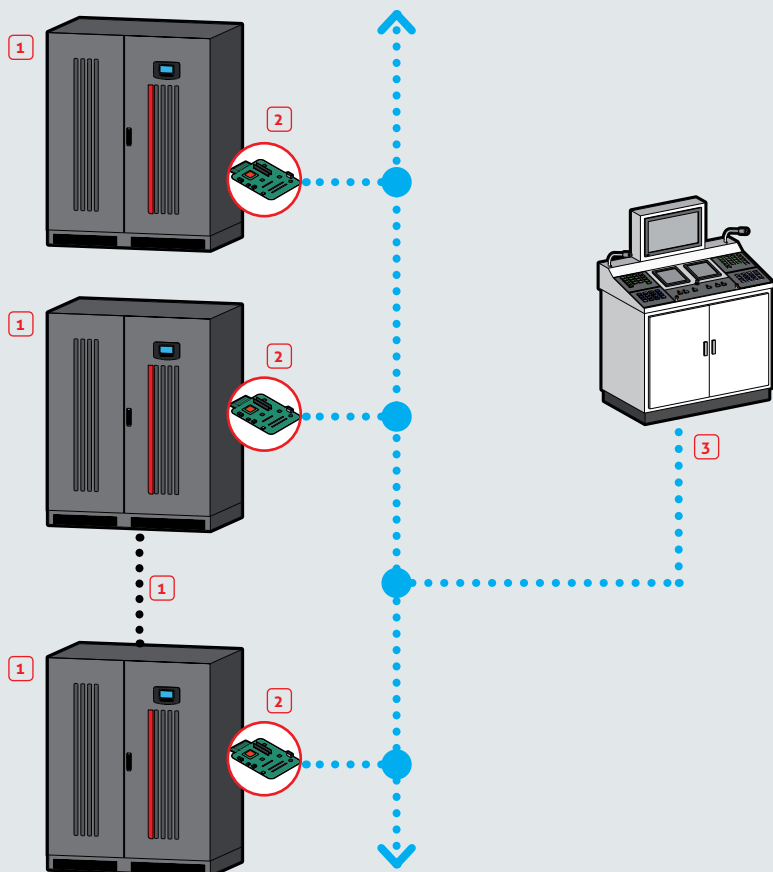
For UPS management in industrial or civil environments requiring Modbus protocol communication over RS 485 line.

- 1 UPS connected to load
- 2 NetMan 302 board
- 3 SCADA management system

— Ethernet

- - - Modbus RS485

## PROFIBUS DP SERIAL FIELD BUS CONNECTION



For UPS management in industrial or civil environments requiring communication via Profibus DP protocol.

- 1 UPS connected to load
- 2 NetMan 401 board
- 3 SCADA management system

— Ethernet

..... Profibus DP