

# COPPERWAY SW

## ETH & RS232 SHDSL ACCESS SERVER

### Avantages

- Distribution of Ethernet and RS232 interfaces over a copper pair link
- Easy and powerful migration of async application to TCP-IP
- Increased bandwidth on existing copper structures
- Replacement of point to point and multi-drop base band modems
- Multi-service access point : control, metering, video, etc.
- 4x Ethernet 10 / 100 BaseTX Interfaces
- 4x RS232 interfaces, first port can be set as RS232 or RS485
- 2 digital inputs and 2 relay outputs
- Dual 2 & 4 wires TC-PAM G.SHDSL interfaces
- TC-PAM G.SHDSL mode: data rates from 192 64 Kbps à 2.3 Mbps per pair
- Ring or Bus topology
- Ethernet filtering bridge
- 2,000 MAC address memory
- Quality of Service control from IP / ToS : 4 queues per interface
- Transparent to VLAN frames
- Spanning Tree
- Ports RS232 / RS485 addressed by user defined IP address and TCP port
- Easy to operate through intuitive menus
- Local and remote management
- SNMP : configuration and alarm reporting - TRAP , graphical MIB for SNMP-C
- Loop test
- Secured by-pass relays
- Alarm relays
- DIN rail mounting
- 12-36 Vdc, redundant dual input supply



### Eth & RS232 SHDSL ACCESS SERVER

**CopperWay-SW** is aimed at transmitting data over 1 or 2 copper pairs in G.SHDSL mode to distribute up to 4xRS232 and 4x Ethernet accesses in an industrial infrastructure.

**CopperWay-SW** is especially suited for helping customer to migrate their existing asynchronous network (ptp or multi-drop modems) to up-to-date TCP-IP technology in adapting to both Ethernet based and legacy RS232/RS85 equipments, and it allows un to 4.6 Mbps over existing copper pairs !

**CopperWay-SW** embeds a wire-speed Ethernet switch with Spanning Tree capabilities on any access to allow Ring and secured topologies. It performs QoS management based on the IP ToS to four different priority queues per access. All Ethernet ports are automatically set as 10/100 Mbps, and MDI/MDIX.

**CopperWay-SW** provides 4x RS232 asynchronous ports addressed from TCP IP protocols for terminal to terminal and PC to terminal communications. The first port is user defined as RS232 or RS485.

**CopperWay-SW** has 2 DSL accesses, West and East, that may operate in 2 or 4 wires mode up to 4.6 Mbps.

**CopperWay-SW** makes both bus and Ring topologies with Spanning Tree, QoS and traffic prioritization control.

**CopperWay-SW** is a compact and robust metallic enclosure that mounts on a DIN rail. It is powered from a DC supply in the range of 12 to 36 Vdc, or from the mains through an external power adapter.

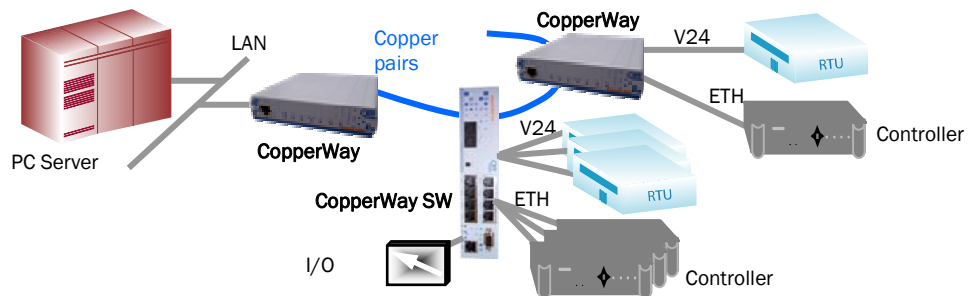
**CopperWay-SW** is so easy to operate thanks to intuitive menus. It can be controlled remotely from the IP network in Telnet or SNMP protocols.

**CopperWay-SW** is part of a wide range of modems, RS232 to IP converter, GPRS access modems dedicated to industrial applications. The basic CopperWay is more compact product with 1xEthernet and 1xRS232 ports over two single copper pairs.



### APPLICATIONS

Interconnecting both asynchronous and Ethernet based, control and metering equipments over a bus or ring copper pair



**CopperWay-SW** connects both asynchronous RS232 and Ethernet based equipments along a single or dual copper pair structure. The number of nodes is almost unlimited thanks to the TCP-IP address principle. As many as 8 equipments can be connected, and the user gets an IP network access from the Ethernet ports of the CopperWay-SW. The transfer delay is optimized by a wire speed Ethernet switch. Ethernet equipments are addressed as if they were connected at the server LAN location. The asynchronous devices are assigned an IP address and TCP port, and they can migrate from legacy modem connection with no change for both async and central equipments.

## Ethernet & RS232/ RJ485 Access Unit over copper pairs SHDSL



## SPECIFICATIONS

### G.SHDSL Line Interface

- 2 Interfaces : west and east
- 2 and 4 wires modes
- G.SHDSL : TC-PAM 16, 192 Kbps to 4.6Mbps rates
- 2x RJ45 sockets
- Impedance : 125 Ohms
- By-pass relays
- Estimated reach: matrix bellow

### Ethernet switching

- Ethernet bridge with 1,000 MAC address memory
- Qos.4 traffic queues from DSCP, RFC 2474 and 3168
- Transparent to VLAN frames
- Spanning Tree
- Transfer delay: 2ms/1.5kb/2Mbps

### Ethernet Interfaces

- 4x Ethernet ports, switch mode
- Automatic rate 10 / 100 MBPS
- Automatic sense MDI/MDIX
- 10/100 BaseTX, IEEE 802.3u
- RJ45 socket
- Statistics: traffic

### V24/RS232/RS485 Interfaces

- 4x V24 / RS232 interfaces, one being multi protocol RS232 and RS485
- RJ45 sockets
- Asynchronous mode
- Rates : 1,200 to 115,200 Bps
- Data transfer : IP/ TCP/ UDP, Raw-ip (transparent), message, COM-Port / RFC 2217 to emulate a PC COM port

### Digital inputs and Relay outputs

- 2 digital inputs
- 2 dry relay outputs
- DB9F socket
- Commands and status transmitted over TCP or UDP, SNMP TRAP and GET, deport of relay

### Configuration Port

- RS232 at 19,2 Kbps
- VT 100, AT commands or intuitive menus
- RJ45 socket dedicated to management

### Front panel indicators

- Power
- CD 1 : synchronisation of the first DSL port
- CD 2 : synchronisation of the second DSL port
- Link/Act : link and data activity of the Ethernet ports
- 100 MBPS : speed of the Ethernet interfaces
- TX : transmitted data on the RS232 interfaces
- RX : received data at the RS232 interfaces

### Management

- Local console port : AT commands, intuitive VT100 menus
- Diagnostics : PING
- Management over TCP-IP : Telnet, SNMP, FTP for firmware download
- Remote control through tcp-ip
- Statistics for each interface, Ethernet, DSL, RS232
- Alarm relay in case of failure of any DSL link

### Power

- 230 Vac : MVE version
- 110 Vac : MVU version
- 12-36 Vdc : version MC2

### General

- Dimensions : 146 x 120 x 41mm
- Weight : 0.7 kg
- Environmental : IP 65
- Operating temperature :
  - MC version: -25 to +60°C
- CE compliant : EN60950, EN55022, EN55024

### DSL reach estimate

1 pair Kbps	2 pairs Kbps	km 0.4 mm	km 0.6 mm	km 0.9 mm
192	384	6,0	7,9	13,8
512	1024	4,9	6,5	11,2
1024	2048	3,9	5,2	9,0
1536	3072	3,5	4,7	8,0
2048	4096	3,3	4,4	7,6
2304	4608	3,2	4,2	7,3

## ORDERING INFORMATION

### CopperWay – SW - 4TTX - [4RS] - XY

4RS	4x RS232 / RS485 asynchronous ports
	<b>XY: power supply</b>
VE	230 Vac mains – external adapter
VU	110 Vac mains – external adapter
MC2	12-36 Vdc DC supply

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