Smart solutions for smart networks

Version 2.1

COPPERWAY-BIS-2TTX

SHDSL-BIS ETHERNET AND RS232 ACCESS SERVER

BENEFITS

Ethernet and RS232 distribution over Multi-point copper lines

Two SHDSL-Bis ports, 2 wires mode

Two Ethernet ports, 10/100BT

One RS232 async port

SHDSL Bis : TC-PAM16/32/64/128, 192 kbps up to 15 Mbps

Ethernet switch, store and forward

MAC address memory : 8 K

Ethernet frame buffer : 1 MB

QoS : IP/DSCP, VLAN

Priority Queuing : 4 queues per port

VLAN per port and 802.1Q

SHDSL-BIS ETHERNET AND RS232 ACCESS SERVER

The **CopperWay-Bis-2TTX** delivers Ethernet and an asynchronous RS232 serial interfaces over an industrial twisted copper pair infrastructure. The product has two SHDSL-Bis ports – East and West, for high speed Ethernet transmission up to 15 Mbps on one copper pair. Network topologies can be point to point, a multipoint daisy-chained line, a star or a secured ring.

The **CopperWay-Bis-2TTX** embeds a high performance Ethernet engine that performs optimum packet forwarding with shortest latency for best end to end transfer delay over the SHDSL transmission line. The system operates as an Ethernet switch. Its Ethernet ports have automatic MDI/MDIX and 10/100 Mbps speed detection.

The **CopperWay-Bis-2TTX** embeds also an asynchronous serial to IP converter function over UDP and TCP encapsulation and Telnet, Raw-IP, Message/Bloc, HNZ and MODBUS adaptation layers to better fit the serial application requirements.

The transmission is made over two SHDSL interfaces – East and West, over one pair each. The transmission complies with the industry standard IEEE-802.1ab, G.SHDSL-Bis with TC-PAM 16/32/64/128 modulation. The transmission speed adapts to the copper line conditions with adaptive rates from 192 kbps to 15 Mbps. QOS, Rate Limiting and Priority Queuing functions make it possible to manage transmitting various types of data such as high priority signaling and high speed video streams. The SHDSL-BIS standard brings unequaled long distances and symmetrical high speed.

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BENEFITS

Secured Ring : STP, RSTP

Authentication 802.1X, Radius

Serial to IP converter : over UDP/TCP, Raw / Message / Bloc / HNZ / Modbus

Serial Master / Slave multipoint modem emulation
USB port, Host / Device

DSL secured By-Pass function

Management : Ssh, http, Https, Snmp, Ftp

Web interface with intuitive menus
Graphical MIB for Snmp-C

Robust metallic enclosure

DIN rail mounting kit

Operating temperature : -20 to+70 °C

Dual power inputs : 9 - 36 Vdc

The **CopperWay-Bis-2TTX** comes with a comprehensive set of Ethernet protocols to control the various data streams. Applications can be encapsulated into VLAN throughout the transmission network and various Quality Of Service strategies can be set for each VLAN and IP Type Of Service. Network access is totally secured thanks to a set of Security functions such as 802.1X authentication and Access Lists.

The **CopperWay-Bis-2TTX** has a USB Host / Device port for local management but also automated configuration backup and firmware upgrade from a memory stick.

The **CopperWay-Bis-2TTX** comes in a robust metallic enclosure with a DIN rail mounting kit and dual 12-24 Vdc power inputs. It can be installed in a 19'' rack too.

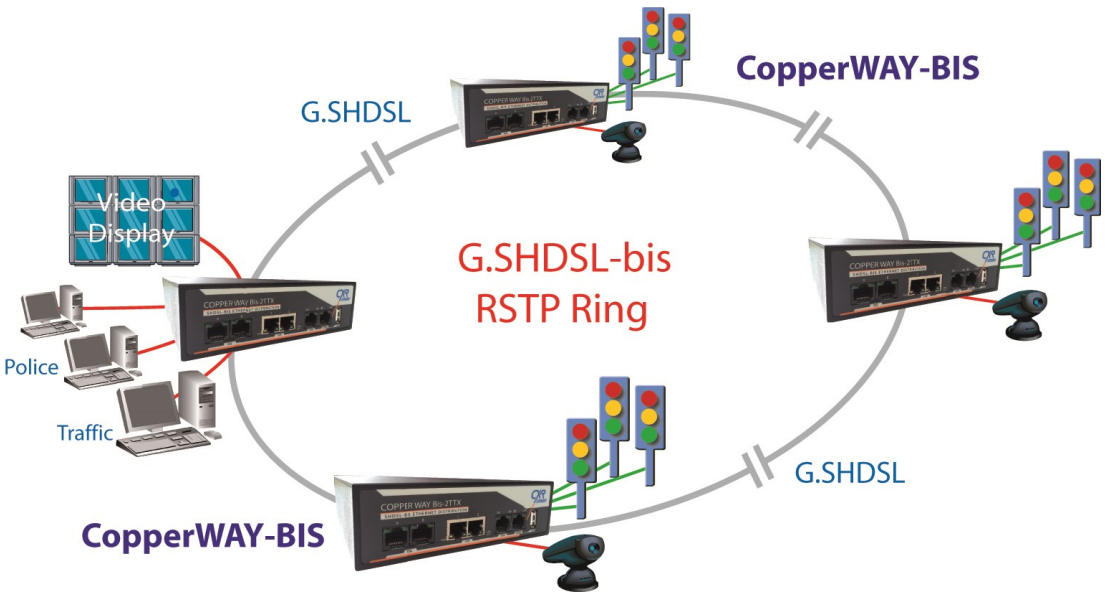
The **CopperWay-Bis-2TTX** is controlled from an intuitive web interface and secured Https and Ssh protocols. Ftp and Snmp help monitoring the product from a Network Management System.

Application

Transmission network for remote control, metering and signaling over a Ring or in-line daisy-chained copper line infrastructure.

The CopperWay-Bis-2TTX connects remote equipment with RS232 serial or Ethernet interface over a multipoint copper line network. The number of remote sites is almost unlimited thanks to the bridging function of the device. The equipment embeds a high performance packet processor that makes lower transfer delay.

The system performs like an Ethernet switch and remote sites are controlled as if they were attached to a local switch. Serial devices are addressed through an IP Address and a TCP / UDP port with an application aware encapsulation such as raw-ip, bloc / message, Modbus and multipoint modem emulation.



SPECIFICATIONS

G.SHDSL-Bis Interfaces
- 2x DLS interfaces, East and West
- G.SHDSL.Bis : TC-PAM 16/32/64/128, 192 kbps to 15 Mbps per pair
- Ethernet over SHDSL-.Bis : EFM / 802.3ah
- 2x RJ45
- Impedance 120 Ohms
- By-pass secured function (DSL1/DSL2)

Ethernet Interfaces
- 2x Ethernet ports
- 10/100 Mbps automatic speed adaptation
- MDI/MDIX automatic detection
- 802.1x Authentication
- 10/100 BaseTX, IEEE 802.3
- Connectors : RJ45
- MAC address memory : 8 K
- Ethernet frame buffer: 1 MB
- Statistics : sent / received frames counters, interface diagnostics

Switching and Traffic Control
- Ethernet Switch, filtering bridge 802.3D
- VLAN : per Ethernet and DSL ports
- VLAN : 802.1Q
- Bonding, Trunking: 802.3ad
- QoS : priority queuing on VLAN and IP / DSP, 4x transmit priority queues per interface
- Rate limiting
- Secured Ring : STP, RSTP
- Frame size : 1524 bytes

Serial V24/RS232 Interface
- RJ45
- Speed: 1,200 to 115,200 bps
- Mode : V24/V28, RS232
- Serial to IP conversion over IP, UDP or TCP
- Encapsulation mode : Raw-ip (transparent), HNZ, Bloc / message, multipoint modem emulation

USB Host / Device
- Local console port: in line command and Web interface
- Configuration and firmware transfer to / from a memory stick
- Event log saving to a memory stick

Light Indicators
- Power / administration in progress
- DSL : DSL line synchronization (2)
- Link/Act : connection and traffic activity on the Ethernet interfaces (2)
- 100 Mbps : Ethernet interface speed (2)
- TD/RD : data transmission on the serial interface (1)

Management
- TCP-IP : Telnet, Http, Ssh, Https, Ftp
- Web interface : intuitive menus
- In line commands : Ssh and local USB console port
- Dying Gasp
- Snmp : v2 / v3
- Graphical MIB for SNMP-C
- Diagnostics : ping, traceroute
- DSL interface diagnostics and counters
- Transmission statistics on each interface
- Status and diagnostics on each interface
- LLDP (Link Layer Discovery Protocol) 802.1ab

Power supply
- 2x power inputs
- input range : 9-36 Vdc
- Max power consumption : 5 W

General Characteristics
- Metallic enclosure
- DIN rail mounting
- Protection Class : IP-40
- Size: 154 x 144 x 44 mm
- Weight : 0.7 kg
- Operating temperature rang : -20 to +70°C, fan less
- Safety : EN-60950
- EMC : EN-55022, EN-55024, IEC-61850 -3

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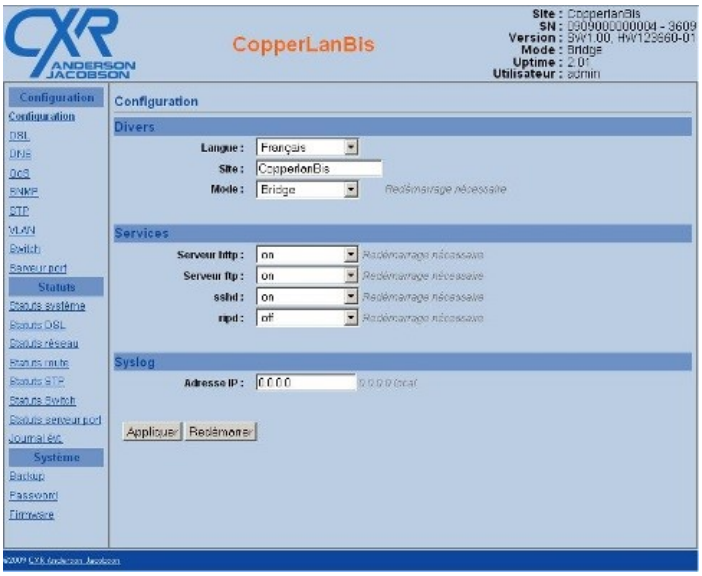
Typical DSL Distances (*) : No noise conditions, AWG26 / 0.4mm

Speed Mbps	15	11.4	5,7	2	1	0.5	0.2
Distance km	0,6	1,2	2,1	3,9	4,8	5,5	6,7

ORDERING INFORMATION

Part number	DSL	Ethernet	RS232	USB H/D	Power input
COPPERWAY-BIS-2TTX	2x2 pairs	2x 10/100BT	1	1	2 inputs 12-24 Vdc

Accessories	
PS-DIN-12V-40/75/120W	DIN rail power converter, mains 110-230 Vac input, 12 Vdc output, 40 / 70 or 120 W models, operating temperature range -20 to +70 °C
PROTEC-1DSL-RJ45	Primary lightning protection for SHDSL access. Each Copper-Way-Bis-2TTX requires two such protections. DIN rail mounting



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