Ethernet & RS232
Access Server

Version 1.1– January 2016

COPPERWAY BIS –*GE*

OPTICAL & ETHERNET FIRST MILE EXTENDER

Benefits

- Ethernet and RS232 /RS485 interface distribution over mixed copper and optical fiber, multipoint links
- Two SHDSL Bis copper interfaces, 2 and 4 wires
- Four optical interfaces, 2x GigaBit Ethernet, 2x 100FX
- Four 10/100BT Ethernet interfaces
- POE+ 30 W per port
- Four Serial V24/RS232 / RS485 interfaces
- SHDSL Bis : TC-PAM16 / 32 / 64 / 128, 15.4 Mbps per pair, 192 kbps up to 30 Mbps per copper access
- Ethernet switch and bridge
- QoS control : on VLAN and IP/ DSCP, 4 priority queues per port
- Per port rate limiting
- 802.1Q and per port VLAN
- Secured Ring topologies : STP and RSTP
- 802.1X authentication
- Ethernet frame buffer : 1MB
- Ethernet address memory : 8 K addresses
- Serial port server : UDP and TCP, raw ip, message, bloc, Master – Slave mode for multipoint modem emulation
- Four Digital Inputs and one relay output
- By-pass resiliency circuit
- Management : ssh, http, https, ftp, snmp v2/v3
- Memory interface for configuration, event log and firmware management
- Clear and intuitive menus, html interface
- DIN rail mounting
- Operating temperature : -20 to +70°C
- Dual power inputs

SERVEUR D'ACCÈS ETHERNET & RS232 SUR DSL ET FIBRE OPTIQUE

CopperWayBis-*GE* delivers Ethernet and four asynchronous V24/RS232/RS485 serial prts over a mixed copper pair and optical lines.

CopperWayBis-*GE* provides six transmission interfaces : two SHDSL ports with 2 and 4 wires modes and up to 15 or 30 Mbps throughput, and four optical ports - 2x Gigabit and 2x 100FX sockets for SFP modules. It supports any topology, star, multi-drop and resilient ring.

CopperWayBis-*GE* embeds a high performance Gigabit Ethernet processor that provides low transfer delay throughout the network. The Ethernet switch adapts to the user equipment capabilities for speed and MDI polarity. Four Ethernet ports can supply 30 W POE each.

CopperWayBis-*GE* is also an asynchronous serial port server with ip/tcp/udp protocols and raw-ip, message and bloc encapsulation. Serial interfaces can be set for RS232 or RS485/RS422.

CopperWayBis-*GE* has two East and West SHDSL interfaces with 2 and 4 wires modes. Modulation complies with the G.SHDSL.BIS standard and TCPAM-16-32-64-128 coding to offer adaptive rates from 192 kbps to 15 Mbps per pair or 30 Mbps per access. This high bandwidth and strong QoS functions enable carrying multiple services over the network including video traffics. G.SHDSL connections are made over very long distances, up to 7 km on AWG26 cable.

CopperWayBis-*GE* has four optical ports, two Gigabit and two 100FX sockets for SFP modules. They connect to user equipment or to long distance optical lines with bus or ring topologies. Mixed optical and copper line connectivity enables any network infrastructure , coverage and speed.

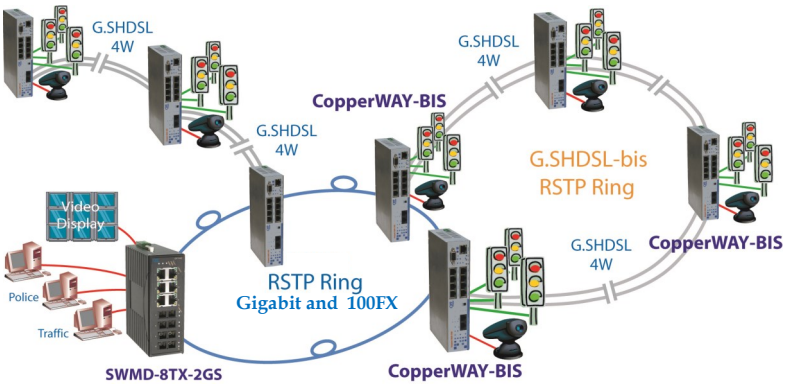
Le **CopperWayBis-*GE*** embeds many Ethernet protocols for perfectly controlled application communications. Application traffics may be set into VLAN's when they enter the equipment and throughout the network. Most stringent QoS and traffic prioritization can by applied n the various VLAN's and Ethernet / IP packets.

CopperWayBis-*GE* is designed in a robust metallic enclosure with DIN rail mounting. It has a dual inputs power supply converter with protection against polarity and overvoltage risks. It may also be installed in a 19'' rack with a optional mounting kit.

CopperWayBis-*GE* gives the user a simple and user friendly management interface that is secured with https and ssh protocols. The intuitive Web interface provides easy system setting and very detailed statistics and diagnostic information. Ftp and Snmp v3 are supported for integration in a global Network Management System. The USB port enables automatic configuration backup and update, as well as an automatic firmware upgrade from a memory card.

APPLICATIONS

Remote control, remote metering, RTU / SCADA, signaling protocols over Ethernet / IP on a mixed optical and copper line with bus and resilient ring topologies.



CopperWayBis-*GE* connects RS232 / RS485 serial equipment as well as new generation Ethernet devices in many points of a copper and / or optical line infrastructure. There is no limitation in size of the network other than IP address allocation. The equipment transfer delay is optimized thanks to high performance and low latency Ethernet switching. Remote systems with Ethernet interfaces are addressed as if they were on the local network. Equipment with Serial communication are addressed through an IP address and a TCP/UDP port with various options of Raw, Bloc / Message or even multi-point modem emulation.

Ethernet & RS232
Access Server

Ethernet over
Copper 2x 15-30 Mbps
and
2x Gigabit & 2x 100FX
optical SFP

SPÉCIFICATIONS DÉTAILLÉES

G.SHDSL.Bis Line Interfaces

- 2x interfaces, East and West
- G.SHDSL.Bis : TC-PAM 16/32/64/128 coding, 192 kbps to 15 Mbps per pair
- Ethernet EFM / 802.3ah
- Max rate 2x1 pairs : 2x 15 Mbps
- Max rate 2x2 pairs : 2x 30 Mbps
- 2x RJ45 sockets
- Impedance : 120 Ohms
- By-pass protection relay (DSL1/DSL2)

Optical Interfaces

- 4x fiber optic interfaces with SFP sockets
- 2x Gigabit Ethernet and 2x 100FX ports
- Broad choice of SFP modules for multimode fiber 2 km, or single-mode fiber 20, 40, 80 et 100 km

Ethernet Interfaces

- 4x Ethernet ports
- Rate : 10/100 Mbps automatic
- Automatic detection MDI/MDIX
- Authentication 802.1x
- Interface : 10/100 BaseTX, IEEE 802.3
- Sockets : RJ45
- POE+ 30W
- MAC address memory : 8 K
- Ethernet frame buffer : 1 MB
- Statistics : transmitted and received frame counters, interface status

Switching and Traffic Control

- Switch Ethernet, 802.3D bridge
- VLAN : per port on Ethernet, fiber and DSL
- VLAN 802.1Q
- QoS : priority queuing on VLAN and DSCP, 4x priority queues per interface Ethernet / fiber / DSL
- Rate limiting per port Eth / Fiber / DSL
- Ring resiliency : STP, RSTP

RS232/RS485/RS422 Serial Interfaces

- 2x or 4x asynchronous ports
- RS232 or RS485, software selectable
- RJ45 socket, EIA-561 compatible
- Rates : 1,200 to 115,200 bps
- Transfer : via IP/ TCP/ UDP, Raw-ip (transparent), Bloc, Message, multipoint modem emulation

Digital Inputs and Outputs

- 4x Digital Inputs
- 1x dry relay output
- Removable terminal screw bloc with clips
- Commands and status transmitted over TCP or UDP, SNMP TRAP and GET messages, remote relay control

Light Indicators

- Power
- DSL : synchronization and Connection Quality of the DSL pair (2 or 4)
- FO-Link-Act : synchronization and activity of the optical interfaces
- Link/Act : status and activity of the Ethernet interfaces (4)
- 100 Mbps : speed of the Ethernet interface (4)
- TD/RD : data activity of the serial interfaces (4)

Management

- TCP-IP : Telnet, http, ssh, https
- Html Web interface with intuitive menus
- CLI commands : ssh and local console port
- Snmp : v2/v3
- USB memory interface: event log, configuration and firmware up/download
- Diagnostics : ping, traceroute
- DSL Diagnostic : speed, receive signal quality
- Interface transmission statistics
- Interface operating diagnostics

Power Supply

- -MC model : 18-55 Vdc
- -MC2 model : 9– 36 Vdc
- Power consumption : 10 Watts without PoE

General Characteristics

- Compact metallic stainless enclosure
- DIN rail and 19'' mounting options
- Size : 154 x 144 x 44 mm
- Weight : 1 kg
- Operating temperature range : -20 to +70°C / -4 to 158 F, fan-less
- Safety : EN60950
- EMC : EN55022
- EMI : EN55024, EN-50121-4, IEC-61850-3
- MTBF : 250 000 hours

SHDSL performance : distances on a AWG26 / 0.4 mm cable, no noise conditions

One pair rate Mbps	0.192	1.280	2.048	4.6	5.7	11.4	15.3
Distance km	7	4.5	4	2.5	2	0.9	0.4

ORDERING INFORMATION

Part Number	Eth	SFP	DSL	RS232/485	I/O	POE	Alim
CWayBis-GE-2W-MC2	4x 100BT	2GE + 2FX	2x2W	2	4 in + 1 out	-	12-24
CWayBis-GE-4W-MC	4x 100BT	2GE + 2FX	2x4W	4	4 in + 1 out	4	24-48
FiberWay-GE-MC	4x 100BT	2GE + 2FX	-	4	4 in + 1 out	4	24-48
PS-DIN-12V-40/75/120W	Power supply, 110 / 230 Vac to 12 Vdc, 40, 75 or 120 W, -20 à +70 °C range						
ACDC-H-48V-240W-DM	Power supply, 110 / 230 Vac to 48 Vdc, 180 W, -20 to +70 °C range						
PROTEC-1DSL-RJ45	Lightning protection for a DSL interface made of one copper pair						
PROTEC-2DSL-RJ45	Lightning protection for a DSL interface made of two copper pairs						

Information provided in this document are not contractual .
CXR continuously improves its products. Specifications may change without notice.

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