CIP-SERIAL

Serial link over IP or Ethernet

FEATURES

Transport of synchronous serial link encapsulated in TDM Pseudowire over IP or Ethernet

- CIP-**SERIAL-C or V** EIA530 DB25F
- **CIP-SE11-C** or **V** X21 with 1.2m cable DB15F
- **CIP-SE35-C** or **V** V35 with 1.2m cable M34F
- **CIP-SE36-C** or **V** V36 with 1.2m cable DB37F
- **CIP-SE28-C** or **V** RS232 with 1.2m cable DB25M
- Supports Synchronous link from 64kbps to 4 032kbps and 2,4- 4,8 -9,6 - 16- 19,2 and 32 kbps
- Single clock or co-directional asymmetrical rates

Interfaces

- 1 x EIA530 DB25F DCE or DTE by selection
- 2 x 10/100Baset ports and 1 x 100FX SFP port
- Selection of Ethernet port: 1 WAN + 2 LAN or 2 WAN (copper) + 1 LAN

Transport of synchronous link over TDM PseudoWire

The CIP-SERIAL is designed to carry synchronous link encapsulated in PseudoWire over IP or Ethernet backhaul. It is use to migrate the synchronous Leased Lines over Ethernet infrastructure of Telcos. The encapsulation gives it the capability to transport unframed encrypted circuits used in Defense application. Thanks to low rates and co-directional clock the CIP-SERIAL can solve several issues for high tech interconnections over satellite. This gateway will switch the local Ethernet traffic with the PseudoWire on the WANs ports.

The **CIP-SERIAL** carries synchronous link in a TDM Pseudowire emulation over Packet Switching Network (PSN) which regenerates at both end the data payload and the synchronous clock. The service is specified by the Bundle with both end addresses, the size of the circuit, the size of packet to define the latency and bandwidth to use.

The **CIP-SERIAL** are installed in the customer premises to migrate router connection over Ethernet backbone without any change in both serial routers with the rate from 2400bps to 4032kbps.

The **CIP-SERIAL** is able to transport low rate flow at 2.4kbps, 4.8kbps, 9.6kbps, 19,2kbps for all industrial applications with optimization of the latency.
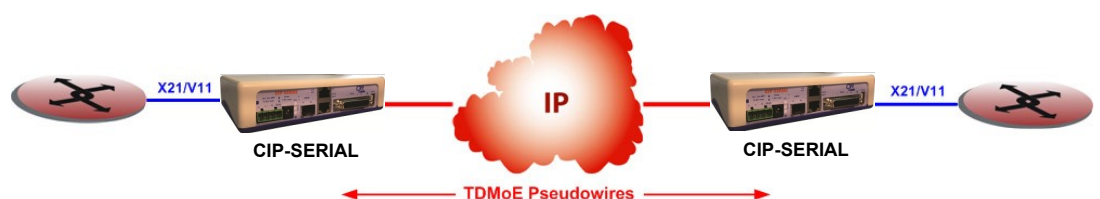The co-directional feature of the CIP-SERIAL give it the capability transport over PSN the link from/to satellite with very different rates like 64kbps and 2Mbps.
The Ethernet switch of the *CIP-SERIAL* supports the tagging/un-tagging of C-VLAN and S-VLAN /Q-in-Q and the QoS with IP-DSCP of the TDM PseudoWires and LAN traffic over the WAN.

The **CIP-SERIAL** owns three Fast Ethernet interfaces with copper and one SFP fiber ports. They can be setup as one WAN copper or fiber and two LAN. Or they can be set up with 2 WAN copper and one LAN fiber.

The **CIP-SERIAL** support two bundles for the 1+1 protection over the 2 WAN*.

The **CIP-SERIAL** is using normalized encapsulation protocols SAToP according to the RFC4553 or AAL1 according to the RFC5087 or HDLCoIP for structured flow. The PseudoWires from several CIP-Serial can be concentrated in CXR DACS QX3440 with TDMoE card and serial card to build a concentration node of Lease Lines.

SPECIFICATIONS

Encapsulation
- Use standard and compatible protocols:
- **SAToP** (RFC4553)
- **AAL1** (RFC5087)
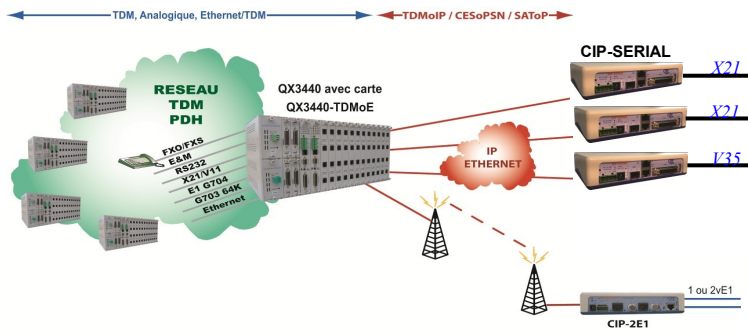- HDLCoverIP *
  (RFC4618)

Layer 2 Switch
- VLAN 802.1q, 16 C-VLAN and Q-in-Q
- QoS for encapsulated link and LAN, use DSCP tag

Management
- **Over** USB and LAN/WAN
- Http/https
- CLI in Telnet or SSH
- SNMP **V1, V2, V3**

Version
- 5Vdc with AC/DC converter and 24/48Vdc versions

SAToP/AAL1 Interconnection

All PseudoWire models of CXR ranges: CPE *CIP*, MUX QX3440 with TDMoE are compatible together. They support standard CESoPSN, SAToP or ALL1 and should work face to other vendors equipment or supporting the same protocols.

Specifications

Serial Interface
- **IA530 interfaces with DB25F connector**
- Selection of X21/V11, V35, V36 or RS232/V28 interface **by management and cable.**
- CXR supplies each version with dedicate cable and the quick-start to configure.
- **The rate can be set from 64kbps to 63 x 64kbps (4 032kbps, or at 2.4/4.8/9.6/16/19.2/32kbps over a 64kbps** bundle,

Ethernet Interfaces
- **2 copper ports 10/100BaseT and one 100FX fiber with SFP.**(SFP modules are not supplied)
- **1 WAN copper or fiber and 2 LAN or**
- **2 WAN copper and 1 LAN fiber**

10/100 BaseT Ethernet Interfaces
- **2 x 10/100BaseT**
- **Auto rate 10/100Mbps**
- **Auto MDI/MDIX**
- **• According to IEEE 802.3 with RJ45**
- **• Statistics: I/E frames counter . Interface diag.**

100FX optical Ethernet interfaces
- **SFP slot** for SFP-100FX/STM1
- **Statistics: frames counter . Interface diag.**
- **CXR SFP modules: dual fiber, single fiber WDM multi-mode or single mode from 2 km to 200 km**

Ethernet Switch
- **VLAN per port and VLAN 802.1Q**
- QoS : priority queuing over VLAN and DSCP, 4 queues par Ethernet interface.
- **Mac address memory : 1 K**
- **Frame buffer: 64 KB**
- **Rate** limiting **per Ethernet port**

Power supply
- **(-V) 5Vdc with AC/DC converter**
- **(-C) 24/48Vdc**
- **Power consumption 7W**

Encapsulation or Pseudowire
- **The bundle is defined by the both end addresses and the bandwidth of n 64kbps with n from 1 to 63.**
- **The encapsulation over IP or Ethernet can run in:**
- **SAT over packet : rfc 4553**
- **ALL1 (TDM over IP): rfc 5087**
- **HDLC over IP**
- **Support of 2 bundles**
- **Buffer jitter size: 1 to 512ms**

Circuit Protection
- **Span protection 1+1 with two WAN**
- **Bundle protection ***

Administration
- **LED : Link/act and 100 Mbps over Ether-net, optical signal over SFP**
- **USB or LAN/WAN port Protocols**
- **TCP-IP : Telnet, http, ssh, https, and ftp for software upgrade and administration of the configuration**
- **French and English html menus**
- **CLI in Telnet/SSH**
- **SNMP v1/v2/v3 with MIB**
- **Diagnostics and statistic of transmission of each interface**
- **Syslog and log of event**

Others
- **W x D x H : 170x120x41mm**
- C/V: Plastic box : 0.4 kg
- MC/MV: Metal box : 0.7 kg
- Working temperature: -10 to+55°C
- **CE (EN60950, EN55022, EN55024)**
- **MTBF : 180.000 hours**

Order Number

Order Number	Description
CIP-SE11-V	Synchronous Serial link over IP/Ethernet gateway. RS530 interface equipped with X21/V11 DB15F cable
CIP-SE11-C	Synchronous Serial link over IP/Ethernet gateway. RS530 interface equipped with X21/V11 DB15F cable (2m). Power supply DC 24/48V.
CIP-SE28-V	Synchronous Serial link over IP/Ethernet gateway. RS530 interface equipped with V24/DB25F cable (2m). Power supply AC external adapter.
CIP-SE28-C	Synchronous Serial link over IP/Ethernet gateway. RS530 interface equipped with V24/DB25F cable (2m). Power supply DC 24/48V.
CIP-SE35-V	Synchronous Serial link over IP/Ethernet gateway. RS530 interface equipped with V35/M34F cable (2m). Power supply AC external adapter.
CIP-SE35-C	Synchronous Serial link over IP/Ethernet gateway. RS530 interface equipped with V35/M34F cable (2m). Power supply DC 24/48V.
CIP-SE36-V	Synchronous Serial link over IP/Ethernet gateway. RS530 interface equipped with V36/DB37F cable (2m). Power supply AC external adapter.
CIP-SE36-C	Synchronous Serial link over IP/Ethernet gateway. RS530 interface equipped with V36/DB37F cable (2m). Power supply DC 24/48V.