EX12 – Carrier Class Transport NID

- **Demarcation and Media conversion**
- **SFP GbE Interfaces (Optical and Electrical)**
- **Digital Diagnostics monitoring (DDM)**
- **CFM OAM IEEE 802.1ag for link fault management**
- **Integrated Web GUI**
- **Telecom power -48/-60 VDC nominal**
- **Robust front access**
- **Fanless design**

Overview

The EX12 is the ideal Carrier-class solution for Demarcation and Media Conversion at the edge of the network. It uses small form pluggable (SFP) to support a wide range of electrical and optical interfaces. Digital Diagnostics Monitoring (DDM) is fully supported to enable both on site and remote checking of optical power levels. It has a robust metal housing with a solid Telecom grade power connector.

The Transport NID supports CFM OAM IEEE 802.1ag connectivity fault management to be able to meet Service Level Agreements (SLA).

The EX12 can be fully provisioned using the built in Web GUI.

The small size and low power consumption enables the use of the EX12 in locations where there are restrictions on space and dissipation.

An API is available to seamlessly integrate EX12 support in your own Network Element.

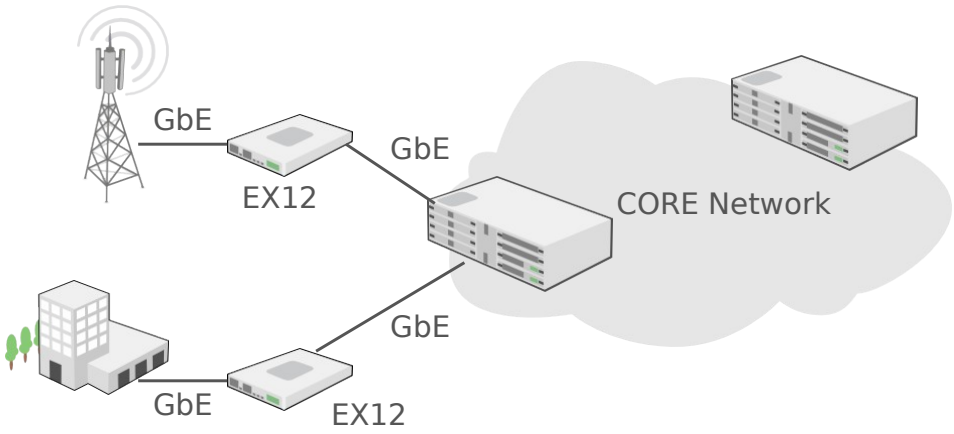
Features

- IEEE 802.1aj TPMR operation
- Link Pass Through (LPT)
- Dying Gasp
- Status LEDs for link, management, fail and power
- Layer 2 Control Protocol (L2CP) processing with enhanced frame matching
- Flexible mounting options
- Wire speed GbE throughput

Applications

The EX12 will support Mobile Backhaul demarcation up to 80 km with comprehensive Connection Fault Management according IEEE 802.1ag.

Business Ethernet Services can be monitored up to the customer premises with media conversion to both electrical and optical interfaces.



Technical Specifications

Interfaces
- Two 1 GE interfaces (SFP based)
- Supported SFP types
  - Optical Dual Fiber 1000BASE-SX, LX, ZX
  - Optical Single Fiber 1000BASE-BX10U/D, BX20U/D, BX40U/D
  - Optical CWDM Dual and Single fiber support (in development)
  - Electrical triple rate 1000BASE-T
- LED indicators (Active, Fail, Power and Link state)
- Telecom grade power connector with locking mechanism

Ethernet
- ITU-T Y.1731/IEEE802.1ag/MEF Ethernet Service OAM (CCM and LB: operator level 0)
- Jumbo frames (up to 9600 bytes)
- Auto-negotiation, flow control, MDIX
- Two Port MAC Relay (TPMR) IEEE 802.1aj
- Link Pass Through (LPT)
- Dying Gasp Message
- Forwarding performance is full line rate according to RFC2544
- L2CP processing with enhanced frame matching based on Ethertype and slow protocol type

Synchronization
- Transparent to Synchronous Ethernet ITU-T G.8261/G.8262/Y.1362

Management
- Integrated web server
- Non volatile storage of configuration

Mechanical
- Integrated threaded mounting holes for M4 bolts

Dimensions and weight
- Height: 20 mm (0.79 in.)
- Width: 124 mm (4.88 in.)
- Depth: 153 mm (6,0 in.)
- Weight: max. 360 grams (0.8 lb)

Power
- Range -40.5/-72 VDC (ETS 300 132-2 / ETS 300132-2 Annex A)
- Range -40.0/-56.7 VDC according ANSI T1.315
- Both Mesh and Star grounding are supported
- Current drain: 200 mA max at -60 VDC
- Power consumption: 4W typical, 6W maximum (including two SFP)
- External AC adapter: 100-240 VAC
- TEER of 500 Mb/s/W according to ATIS-0600015.2009 Energy Efficiency for Telecommunication Equipment
- TEEER of 8.7 according to Verizon VZ.TPR.9205 Issue 1, January 2009 TEEER Metric Quantification

Environmental
- ETSI EN 300 019-2-1 v2.1.2 (2000-09) 1.2 Storage
- ETSI EN 300 019-2-2 V2.1.2 (1999-09) 2.3 Public transportation
- ETSI EN 300 019-2-3 V2.2.2 (2003-04) 3.1E Operation Conditions
- Operating temperature: -5°C to +55°C (+23°F to +131°F)
- Humidity: 5% to 95%, non-condensing
- ETSI EN 300 019-2-3 V2.2.2 (2003-04) Earthquake
- ITU-T K.20 / K.21 (2008-04)
- GR-63-CORE Issue 3
- NEBS level 3, Type 2 equipment certificate of compliance
- VCCI 2010.04, CISPR 22 Ed. 5.2 Conducted and Radiated Emission
- FCC 47 CFR Ch.1 Part 15, Subpart B:2009-10 Radiated Emission up to 40GHz

Regulatory and standards compliance
- UL/CSA 60950-1
  - CSA certificate of Compliance class 3862 13 (CSA60950-1-07, second Edition)
  - CSA certificate of Compliance class 3862 93 (UL60950-1, second Edition Certified to U.S.Stds)
- IEC 60825-1, 60825-2 Laser Safety
- IEC 60950-1:2006/A11:2009, CB test certificate, CE mark
- EN 300 386 Electromagnetic Compatibility (Class B compliant)
  - EN 50022 Class B: radiated and conducted emissions
  - EN 61000-4-2, -3, -4, -5 and -6 EMC/ESD/EMI/Surge

Reliability
- MTBF: 52 years

AimValley B.V. provides full-featured carrier-class solutions for telecom and datacom network technologies, including Ethernet, Optical Networking and xDSL services.

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