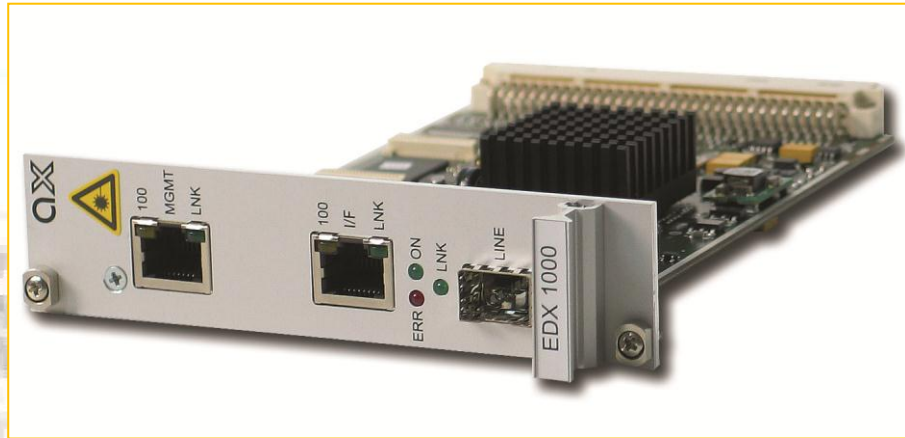# arcutronix

EDX1000 - Family/Gigabit Demarcation

Introduction

The EDX1000 Family includes full managed compact Gigabit-Ethernet converters and repeaters, offering different number of Ethernet interfaces.

arcutronix technology is a powerful way to enable the delivery of high quality broadband services throughout the entire CSA (carrier servicing area).

The EDX1000 Family members are designed as demarcation devices for provider's network to connect 10/100/1000BaseT to optical GigE-links or to extend optical GigE-links. Thus terminating the optical Metro Ethernet or EFM-network towards the customer's CPE. Due to VLAN tagging (acc. to 802.1Q) the EDX1000 Family is able to transparently interconnect networks of different customers and keep full privacy of data traffic.

The EDX1000 Family offers full local and remote management access to give carrier class performance monitoring and a wide range of SLA settings via SNMP, CLI or web-based management. Due to that the EDX1000 Family consists of devices, which can easily operate all over provider's network and offering full access and monitoring features.

EDX1000 Family can be housed in small footprint single-slot housings or 19" racks.

Features

▶ Carrier-class Gigabit-Ethernet conversion from 10/100/1000BaseT to 1000BaseFX or optical GbE extension
▶ Up to 2x GbE network ports for pluggable SFP
▶ Optional service interfaces:
   1x 10/100/1000BaseT port (auto-neg./RJ45 conn.), 8x 10/100BaseT (auto-neg./RJ45), 6x 100BaseFX (pluggable SFP)
▶ SFP transceiver for short, long haul and WDM applications available
▶ Copper SFP (10/100/1000BaseT) supported
▶ No limitation for SFP usage
▶ Bandwidth Limitation per port
▶ Ethernet Automatic Protection Switching (EAPS according to RFC3619 (for EDX1006e, EDX1008)
▶ Jumbo-Frames supported
▶ Performance monitoring on all ports
▶ Remote flash software update
▶ SNMP Agent onboard
▶ Secure configuration via SSHv2 (Secure Shell) terminal
▶ Permanent remote in-band management
▶ Compact 3RU design

EDX1000 - Family/Gigabit Demarcation

EDX1000 – Familiy Overview

The EDX1000 Family consist of 4 members, which cover the need of service- and infrastructure – providers at its best. The usage of SFP-based Gigabit-Ethernet interfaces makes it very easy to fit the family into applications of the metro and access area. Long as well as short haul fibre range is covered as well as CDWM, DWDM and single-fibre optic lines can be installed. As all arcutronix products, there is no limitation in usage of pluggable SFP modules, as long as they confirm to the multi-supplier agreement (MSA).

Four members are defined as for today and will be depicted in more detail hereafter:

- ▸ EDX1000
- ▸ EDX1002
- ▸ EDX1008
- ▸ EDX1006e

EDX1000-Family: Gigabit Ethernet Demarcation

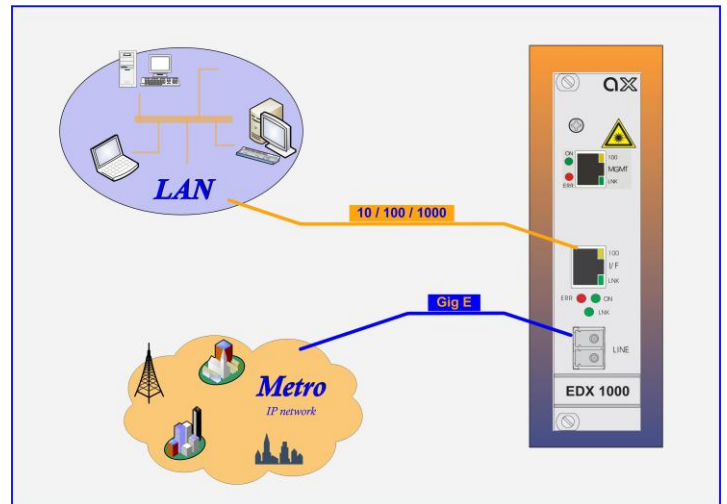|	EDX1000	EDX1002	EDX1008	EDX1006e
Service- & Line- Interfaces	0716-2001	0716-2101	0716-3200	0716-4600
Gigabit-Ethernet				
optical	**1x SFP**	**2x SFP**	**2x SFP**	**2x SFP**
	pluggable, LC	pluggable, LC	pluggable, LC	pluggable, LC
copper	**1x 10/100/1000BaseT**	TripleSpeed SFPs supported	TripleSpeed SFPs supported	TripleSpeed SFPs supported
	RJ45			
FastEthernet				
	-	-	**7x 10/100BaseT**	-
			RJ45	
Management-Interface (outband/local)				
	1x 10/100BaseT	**1x 10/100BaseT**	**1x 10/100BaseT**	**1x 10/100BaseT**
	RJ45	RJ45	RJ45	RJ45
Remarks				
Autoneg. Supported	**autoneg.**	**autoneg.**	**autoneg.**	**autoneg.**
Triple speed SFP	**yes**	**yes**	**yes**	**yes**
Temperature	**commercial**	**commercial**	**commercial**	**extend. Temp. Range**

EDX1000 - Family/Gigabit Demarcation

EDX1000

Application Example

EDX1000 as Provider's demarcation point. EDX1000 converts long haul access to short haul interface. It builds the delivery point for provider's SLA.

Full management and bandwidth limitation features give the provider maintenance and SLA options to disburden metro-switches and edge routers.

Specifications

Network I/F (WAN)

- 1 x 1000BaseSX/LX/ZX/BX
    - Pluggable SFP types
    - Connector: SFP
    - Electrical (RJ45) SFP for GbE

Service I/F (LAN)

- 1 x 10/100/1000BaseT
    - IEEE 802.3
    - Auto Negotiation, Auto MDIX
    - Connector: RJ45

Management I/F

- 1 x 10/100BaseT
    - IEEE 802.3
    - Auto Negotiation, Auto MDIX
    - Connector: RJ45

Features

- Traffic classification/priority based on TOS/DSCP/802.1P/802.1Q
- 4 priority queues for traffic management
- Low latency handling of VoIP/video services
- 802.1Q VLAN: forwarding, stacking (802.1Q-in-Q)
- 16 port based VLANs with tagging acc. IEEE802.1Q
- Remote Failure detection with LPT and RFD
- 8k MAC addresses supported
- Jumbo-Frames supported (MTU):1632 Bytes

Management

- CLI, HTTP/GUI and SNMPv1 and v2c
- Serial and Ethernet ports for local management
- SSH or Telnet support
- Software download via TFTP
- DHCP support

Environmental

- Operating: +5 to +40°C (ETS300019-1-3; class3.1)
- Transport: -25 to +70°C (ETS300019-1-2; class2.2)
- Storage: -25 to +55°C (ETS300019-1-1; class1.2)
- Humidity: 10 to 90%, non-condensing
- Safety-Norm: acc. to EN60950
- Emission: EN55022 class

Power

- Supply Voltage: +5 VDC via Backplane
- Power Consumption: < 5 VA, over current protected
- Power supply via system rack SRX or housing SHX

Physical

- Weight: < 250g
- Dimensions:
    - 130mm H x 30mm W x 190mm D
    - 45mm H x 145mm W x 260mm D (in SHX3)
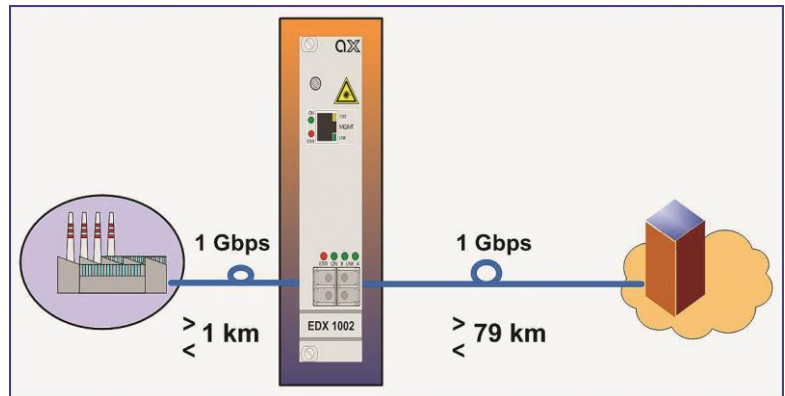- 19" rack: 10 slots available in 3RU rack

EDX1000 - Family/Gigabit Demarcation

EDX1002

Application Example

EDX1002 as Provider's demarcation point for distant enterprise networks.
EDX1002 offers to combine multimode and single mode fibre in flexible way via different types of pluggable SFP modules. Thus providers or carriers are able to interconnect regional enterprise networks via long haul SFP's in easy and cost effective way.

Specifications

Network I/F (WAN) / Service I/F (LAN)

- 2 x 1000BaseSX/LX/ZX/BX
    - Pluggable SFP types
    - Connector: SFP
    - Electrical (RJ45) SFP for GbE

Management I/F

- 1 x 10/100BaseT
    - IEEE 802.3
    - Auto Negotiation, Auto MDIX
    - Connector: RJ45

Features

- Traffic classification/priority based on TOS/DSCP/802.1P/802.1Q
- 4 priority queues for traffic management
- Low latency handling of VoIP/video services
- 802.1Q VLAN: forwarding, stacking (802.1Q-in-Q)
- 16 port based VLANs with tagging acc. IEEE802.1Q
- Remote Failure detection with LPT and RFD
- 8k MAC addresses supported
- Jumbo-Frames supported (MTU:1632 Bytes)

Management

- CLI, HTTP/GUI and SNMPv1 and v2c
- Serial and Ethernet port for local management
- SSH or Telnet support
- Software download via TFTP
- DHCP support

Environmental

- Operating: +5 to +40°C (ETS300019-1-3; class3.1)
- Transport: -25 to +70°C (ETS300019-1-2; class2.2)
- Storage: -25 to +55°C (ETS300019-1-1; class1.2)
- Humidity: 10 to 90%, non-condensing
- Safety-Norm: acc. to EN60950
- Emission: EN55022 class B

Power

- Supply Voltage: +5 VDC via Backplane
- Power Consumption: < 6 VA, over current protected
- Power supply via system rack SRX or housing SHX

Physical

- Weight: < 250g
- Dimensions:
    - 130mm H x 30mm W x 190mm D
    - 45mm H x 145mm W x 260mm D (in SHX3)
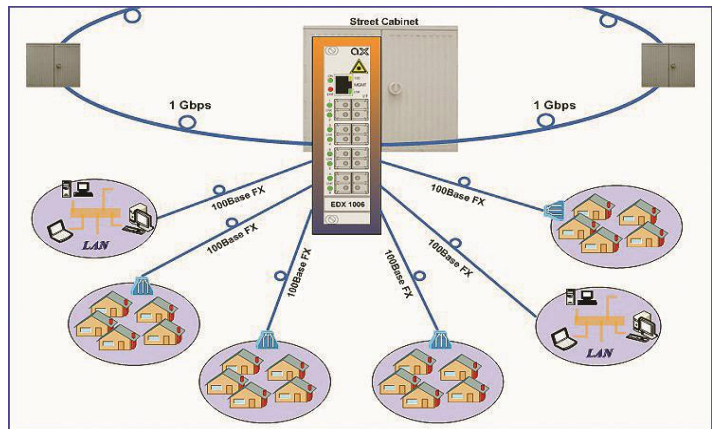- 19" rack: 10 slots available in 3RU rack

EDX1006e

Application Example

EDX1006e as Carriers optical distribution points in street cabinets with extended temperature range.

EDX1006e enables carriers to connect different locations via six 100Base FX ports providing FTTO and FTTH applications.

Both GbE ports are used for GbE ring functionality where the EAPS algorithm guaranties protection-switching time of less than 50ms.

Specifications

Network I/F (WAN)

- 2 x 1000BaseSX/LX/ZX/BX
  - Pluggable SFP types
  - Connector: SFP
  - Electrical (RJ45) SFP for GbE

Service I/F (LAN)

- 6 x 100BaseFX
  - Pluggable SFP types
  - Connector: SFP

Management I/F

- 1 x 10/100BaseT
  - IEEE 802.3
  - Auto Negotiation, Auto MDIX
  - Connector: RJ45

Features

- Traffic classification/priority based on TOS/DSCP/802.1P/802.1Q
- 4 priority queues for traffic management
- Low latency handling of VoIP/video services
- 802.1Q VLAN: forwarding, stacking (802.1Q-in-Q)
- 16 port based VLANs with tagging acc. IEEE802.1Q
- Remote Failure detection with LPT and RFD
- 8k MAC addresses supported
- Jumbo-Frames supported (MTU:1632 Bytes)

Management

- CLI, HTTP/GUI and SNMPv1 and v2c
- Serial and Ethernet ports for local management
- SSH or Telnet support
- Software download via TFTP
- DHCP support

Environmental (Extended temperature range)

- Operating: -25 to +70°C (ETS300019-1-3; class3.3)
- Transport: -25 to +70°C (ETS300019-1-2; class2.2)
- Storage: -25 to +55°C (ETS300019-1-1; class1.2)
- Humidity: 10 to 90%, non-condensing
- Safety-Norm: acc. to EN60950
- Emission: EN55022 class B

Power

- Supply Voltage: +5 VDC via Backplane
- Power Consumption: < 9 VA, overcurrent protected
- Power supply via system rack SRX or housing SHX
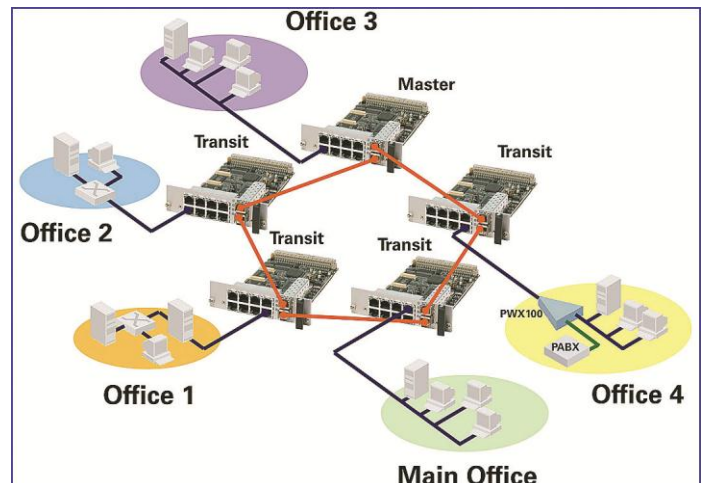
Physical

- Weight: < 250g
- Dimensions:
  - 130mm H x 30mm W x 190mm D
  - 45mm H x 145mm W x 260mm D (in SHX3)
- 19" rack: 10 slots available in 3RU rack

EDX1000 - Family/Gigabit Demarcation

EDX1008

Application Example

EDX1008 in GbE ring application. EDX1008 enables customer to interconnect different office locations in GbE ring structure. EAPS algorithm guaranties a protection-switching time of less than 50ms. EAPS is an IETF certified protocol for fast ring protection.

Specifications

Network I/F (WAN)

- 2 x 1000BaseSX/LX/ZX/BX
  - Pluggable SFP types
  - Connector: SFP
  - Electrical (RJ45) SFP for GbE

Service I/F (LAN)

- 7 x 10/100BaseT
  - IEEE 802.3
  - IEC 60870-5-104
  - Auto Negotiation, Auto MDIX
  - Connector: RJ45

Management I/F

- 1 x 10/100BaseT
  - IEEE 802.3
  - Auto Negotiation, Auto MDIX
  - Connector: RJ45

Features

- Traffic classification/priority based on TOS/DSCP/802.1P/802.1Q
- 4 priority queues for traffic management
- Low latency handling of VoIP/video services
- 802.1Q VLAN: forwarding, stacking (802.1Q-in-Q)
- 16 port based VLANs with tagging acc. IEEE802.1Q
- Remote Failure detection with LPT and RFD
- 8k MAC addresses supported
- Jumbo-Frames supported (MTU:1632 Bytes)

Management

- CLI, HTTP/GUI and SNMPv1 and v2c
- Serial and Ethernet ports for local management
- SSH or Telnet support
- Software download via TFTP
- DHCP support

Environmental

- Operating: +5 to +40°C (ETS300019-1-3; class3.1)
- Transport: -25 to +70°C (ETS300019-1-2; class2.2)
- Storage: -25 to +55°C (ETS300019-1-1; class1.2)
- Humidity: 10 to 90%, non-condensing
- Safety-Norm: acc. to EN60950
- Emission: EN55022 class B

Power

- Supply Voltage: +5 VDC via Backplane
- Power Consumption: < 7 VA, over current protected
  - Total power Consumption depends on SFPs
- Power supply via system rack SRX or housing SHX

Physical

- Weight: < 250g
- Dimensions:
  - 130mm H x 30mm W x 190mm D
  - 45mm H x 145mm W x 260mm D (in SHX3)
- 19" rack: 10 slots available in 3RU rack

Specification may change without prior notice. Please refer to www.arcutronix.com for latest data-sheets.

For more information please contact arcutronix GmbH or visit us at www.arcutronix.com.