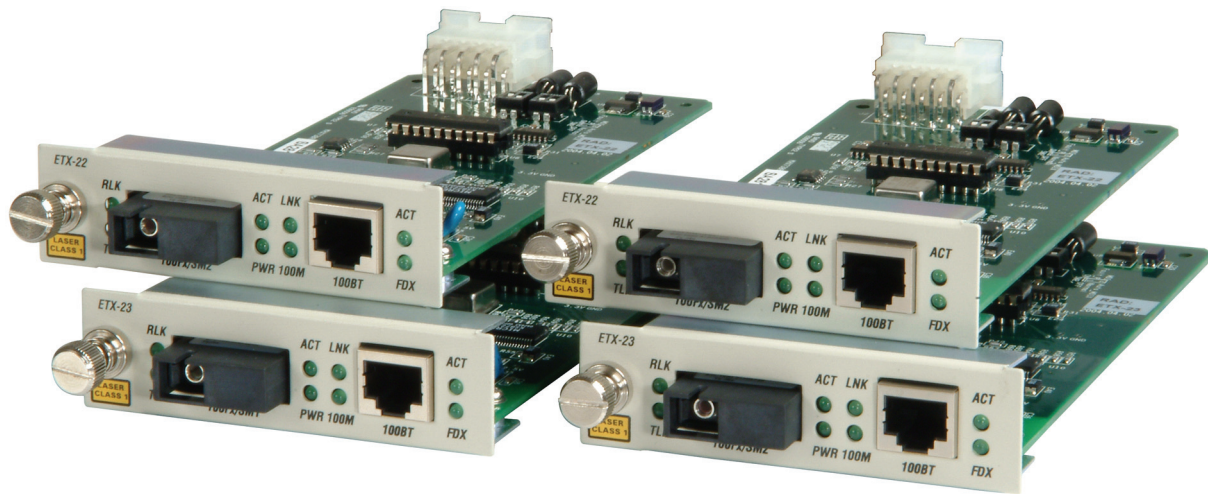


ETX-22, ETX-23



Fast Ethernet Layer 1 Single Strand Media Converters



FEATURES

- Provide cost-effective UTP-to-fiber media conversion for Fast Ethernet services
- Can be installed in the following enclosures:
 - 16-slot modular rack for central site installation (LRS-20)
 - Single-slot standalone unit for remote site installation, or if a single converter is needed (LRS-1)
- Operate over single strand single mode fiber optic cables
- Use 1310 and 1550 nm lasers
- Transparent operation without signal degradation
- User-configurable MDI/MDIX crossover function
- User-configurable fault propagation
- Autonegotiation
- LED indicators for the connection status

ETX-22, ETX-23

Fast Ethernet Layer 1 Single Strand Media Converters

DESCRIPTION

- ETX-22 and ETX-23 are media converters that provide transparent conversion of optical and electrical signals for the Fast Ethernet service.
- The media converters are used to extend the operation distance between two copper Fast Ethernet devices via fiber optic infrastructure transparently and with no performance degradation.
- The ETX-22 and ETX-23 cards can be installed in the following enclosures:
 - LRS-20, 16-slot 3U-high modular rack, accommodating up to 16 hot-swappable converter cards. The LRS-20 rack is intended for central site installation.
 - LRS-1, 1U high standalone unit, accommodating one converter card. LRS-1 is intended for installation at remote sites, or if only a single converter is required.
- The converters use WDM technology to operate over single strand fiber optic cables.
- The ETX-22 and ETX-23 cards operate in the following combinations:
 - ETX-22/UTP/FE-1 and ETX-23/UTP/FE-1, converting between UTP and single mode fiber optic cables
 - ETX-22/UTP/FE-2 and ETX-23/UTP/FE-2, converting between UTP and single mode fiber optic cables, long haul
- The UTP port of the ETX-22 and ETX-23 cards supports user-configurable MDI/MDIX function, correcting connection polarity errors. This allows using straight or crossed cables for the Ethernet connection.
- The user-configurable fault propagation mechanism automatically shuts down the UTP port if a failure is detected on the fiber optic port. The UTP link is re-established when the fiber optic connection is restored.
- The autonegotiation function automatically matches the UTP port duplex mode and data rate to the user equipment requirements.
- LEDs indicate the fiber optic link status, data transmission and duplex modes statuses of the UTP port.

SPECIFICATIONS

ETX-22, ETX-23

UTP INTERFACE

- **Type**
Fast Ethernet, autonegotiation, MDI/MDIX
- **Cable Type**
Category 5 UTP
- **Cable Length**
Up to 100m (328 ft)
- **Connector**
RJ-45

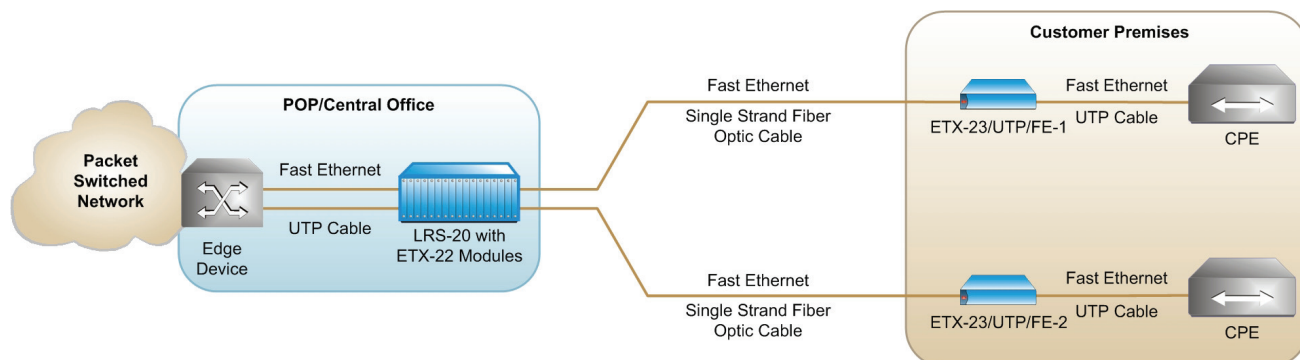
FIBER OPTIC INTERFACE

- **Type**
Fast Ethernet
- **Characteristics**
See Table 1

GENERAL

- **Compliance**
IEEE 802.3u
- **Indicators**
PWR (green) – Power status
RLK (green) – Receive fiber optic link status
TLK (green) – Transmit fiber optic link status
ACT (green) – Data Tx/Rx status (fiber optic link)
LNK (green) – UTP link connection status
ACT (green) – Data Tx/Rx status (UTP link)
100M (green) – Current data rate
FDX (green) – Current duplex mode
- **Environment**
Operating temperature:
0–45°C (32–113°F)
Humidity: Up to 90%, non-condensing

APPLICATION



ETX-22, ETX-23

Fast Ethernet Layer 1 Single Strand Media Converters

LRS-1 UNIT

- **Number of Slots**
1
- **Power**
AC: 115–230 VAC, 50/60 Hz
DC: -48 VDC
- **Power Consumption**
15W max
- **Physical**
Height: 40 mm (1.5 in)
Width: 158 mm (6.2 in)
Depth: 200 mm (7.8 in)
Weight: 1.2 kg (2.6 lb)
- **Environment**
Operating temperature:
-20–60°C (-4–140°F)
Storage temperature:
-40–80°C (-40–176°F)
Humidity: 5–90%,
non-condensing

Table 1. Fiber Optic Interface Characteristics

Module	Fiber Type [μm]	Wavelength [nm]	Transmitter Type	Attenuation [dB/km]	Power [dBm]		Receiver Sensitivity [dBm]	Typical Range		Connector Type
					Min	Max		[km]	[miles]	
ETX-22/UTP/FE-1	9/125 single mode	Tx – 1310 Rx – 1550	Laser	0.5	-15	-8	-31	0–25	0–15.5	SC/APC
ETX-23/UTP/FE-1	9/125 single mode	Tx – 1550 Rx – 1310	Laser	0.5	-15	-8	-31	0–25	0–15.5	SC/APC
ETX-22/UTP/FE-2	9/125 single mode	Tx – 1310 Rx – 1550	Laser	0.5	-5	0	-35	10–60	6.2–37.2	SC/APC
ETX-23/UTP/FE-2	9/125 single mode	Tx – 1550 Rx – 1310	Laser	0.5	-5	0	-35	10–60	6.2–37.2	SC/APC



ETX-22, ETX-23

Fast Ethernet Layer 1 Single Strand Media Converters

ORDERING

ETX-22/UTP/FE-1/*

UTP to single mode fiber optic converter card, 1310 nm Tx / 1550 nm Rx, 0–25 km (0–15.5 miles) typical range

ETX-23/UTP/FE-1/*

UTP to single mode fiber optic converter card, 1550 nm Tx / 1310 nm Rx, 0–25 km (0–15.5 miles) typical range

ETX-22/UTP/FE-2/*

UTP to single mode fiber optic converter card, 1310 nm Tx / 1550 nm Rx, 10–60 km (6.2–37.2 miles) typical range

ETX-23/UTP/FE-2/*

UTP to single mode fiber optic converter card, 1550 nm Tx / 1310 nm Rx, 10–60 km (6.2–37.2 miles) typical range

Note: If a power supply type is specified for an ETX-22 or ETX-23 card, the card is supplied with corresponding LRS-1 unit (AC or DC). If no power supply is specified, only an ETX-22 or ETX-23 card is supplied.

The LRS-1 enclosure can be ordered separately, see ordering information below.

LRS-1/*

Standalone single-slot chassis

- * Specify power supply type:
 - AC for 115–230 VAC
 - DC for -48 VDC



data communications

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