ED1-B Series PON Network Termination

RFoG NODE with Burst Transmitter

Description

The ED1-B series is a mini node designed to offer optical node application flexibility in an extremely compact housing. They are also ideal for advanced fiber-to-the-building and FTTH applications for Triple Play services. The ED1-B series nodes provide a high RF output level up to 1GHz (1003MHz) which will reduce or eliminate the need for post-node amplifiers in the network. These mini-nodes are unique and deliver a high output of 44dBmV, at 1GHz for distribution to multiple residences and businesses.

Applications

The ED1-B series mini nodes are ideal for use in high-density applications: MDUs, and commercial complexes such as universities, hospitals, and business parks. It is designed to terminate an RF Over Glass (RFOG) Communications network and is the demarcation point between the outside plant and the internal building RF distribution network. It is compatible with GPON and GEPON transmission modes.

It can be used to overlay RFOG based services on to an existing GPON or GEPON network or expand an RFOG network with services delivered with GPON or GEPON transmission modes.

The device uses a single fiber and receives downstream signals at 1550nm and return transmitters can be ordered as either 1590nm or 1610nm depending on the system requirements. As an RFOG device it is compatible with DOCSIS® and all the legacy HFC back office functionality.

The Electroline Advantage

A long-standing solution provider of high-quality products for specialized broadband applications, Electroline is pleased to offer the ED1-B series mini node, which is ideal for space limited applications but performance requirements are high. The ED1-B eliminates the need for expensive installation of larger nodes, while providing comparable performance in a compact ISO-9001 manufactured package.

Features

- Bandwidth to 1003MHz
- GaAs technology
- High RF output — 44dBmV
- Compact housing size.
- 6-KV surge protection for RF I/O port
- Optical level test point (1V/mW)
- -20 dB directional coupler test points for forward and reverse
- LED indicators for power, optical input and optical output
- Burst Transmitter – Improves Upstream Performance
- Low power consumption
- Single Fiber WDM technology
- Flexible powering at local or remote sites.
- Auto gain control (AGC) functionality
- 1490 nm and 1310 nm pass through for xPON overlay
- 1590 nm or 1610 nm transmitter options

950-0115 Rev. A , date 2011.06.28

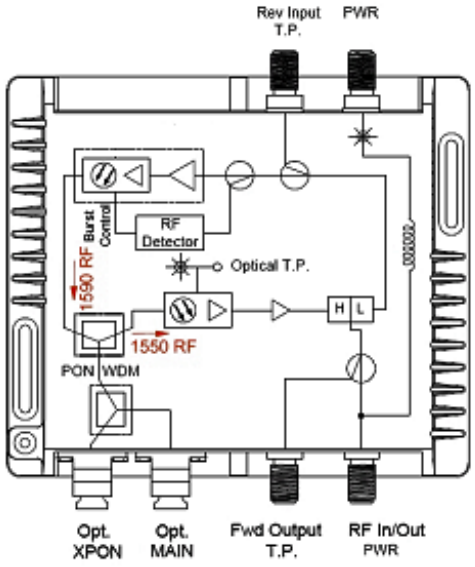
ED1-B Series RFoG Network Termination Node

Receiver Specifications

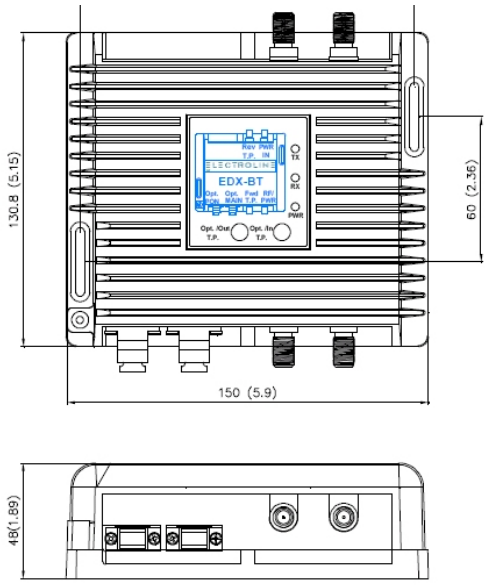
Optical Specifications	
Input Wavelength	1540 to 1560 nm
Optical Input Power	-4 to +2 dBm AGC controlled
Optical Power Test Point	1 V/mW
Optical Indicator On	> -6 dBm
RF Specifications	
Frequency Bandwidth	54 to 1003, 85 to 1003 MHz
Impedance	75 Ohms
Flatness	+/- 1.0 dB
Output Return Loss	> 16 dB
Operating RF Output Level With 14 dB True Tilt (typical)	30/44 dBmV @ 0 dBm Optical Power
RF Output Stability (with optical input level)	+/- 1.5 dB
Distortion, OMI = 3.5 %, Note 1 CTB CSO	 >64 dBc @ 0 dBm Optical Power Input >61 dBc @ 0 dBm Optical Power Input
Carrier to noise ratio	>51 dB @ 0 dBm Optical Power Input >49 dB @ -2 dBm Optical Power Input

Transmitter Specifications

Optical Specifications	
Output Wavelength	1590 nm +/-10 or , 1610 nm +/-10
Optical Output Power	1.5 mW
Optical Return Loss	>55 dB for APC Connector
TX LED	For Burst Enable Status
Link Performance	
Link Loss	21 dB (32 way optical combiner and 20Km fiber)
CNR	>25 dB (at +20 dBmV / channel rf input, DFB laser, 4 channel loading, 5.12 MHz noise bandwidth) >40 dB (at +35 dBmV / channel rf input, DFB laser, 4 channel loading, 5.12 MHz noise bandwidth)
CSO	<-40 dBc (at +35 dBmV / channel rf input, DFB laser, 4 channel loading
CTB	<-45 dBc (at +35 dBmV / channel rf input, DFB laser, 4 channel loading)
RF Specifications	
Frequency Bandwidth	5-42 MHz. or 5 to 65 MHz.
RF Input Levels	20 to 35 dBmV / channel (4 channels)
Flatness	+/- 0.75 dB
Return Loss	> 16 dB



* Specifications are subject to change without notice.
Note 1: Channel Loading: 77ch NTSC plus 73 ch 256QAM @ -6dB



ORDERING INFORMATION:

ED1-B	T-	4-	D59-	1-	SA	1	0
Model Serie	WDM Type:	RF Out	RTN Xmitter	Split	Opt Conn	Power Adaptor	Power Inserter
	T= XPON pass through 5= No pass through	4= 44dBmV	D59=1590 D61=1610	1=42/54 3=65/85	SA=SC/APC FA=FC/APC	0=none 1=North American 2=Europe	0=none 1=included

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