

FT-FTX1310-14-SCAPC-1218

1310nm Direct Modulated Optical Transmitter, 14 dBm, SC/APC, 1.218 GHz



The FiberTronix FT-FTX1310-14-SCAPC-1218 is a professional-grade 1310 nm downstream optical transmitter designed for Cable Television (CATV) and Hybrid Fiber-Coaxial (HFC) broadband networks. It supports a 47–1218 MHz RF bandwidth, making it ideal for DOCSIS® 3.1 downstream applications, and provides 14 dBm nominal optical output through an SC/APC optical connector.

A high-performance Distributed Feedback (DFB) laser combined with advanced pre-distortion circuitry delivers excellent carrier-to-noise ratio (CNR) while minimizing Composite Second Order (CSO) and Composite Triple Beat (CTB) distortion. This ensures exceptional signal quality for analog television, digital television, Quadrature Amplitude Modulation (QAM), and Cable Modem Termination System (CMTS) downstream transmission.

Key Features

- 1310 nm DFB (Distributed Feedback) laser with 14 dBm nominal optical output
- 47–1218 MHz downstream RF bandwidth, compatible with DOCSIS® 3.1 networks
- Dual high-isolation RF inputs for broadcast and signal insertion applications
- Selectable Automatic Gain Control (AGC) and Manual Gain Control (MGC) RF level adjustment
- Advanced pre-distortion circuitry for excellent carrier-to-noise ratio (CNR) and low CSO/CTB distortion
- Real-time monitoring of laser output power, bias current, laser temperature, and TEC (thermoelectric cooler) current
- Front-panel LCD with status indicators and intuitive menu navigation
- Ethernet (LAN) and RS-232 interfaces for local and remote management
- Dual hot-swappable power supplies for maximum system availability
- Compact 19-inch, 1RU rack-mount chassis



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Specifications

Optical

Optical wavelength	1310 $\pm$ 20 nm
Output optical power	14 dBm nominal
Laser type	Distributed Feedback (DFB) laser
Optical modulation	Direct Intensity Modulation (IM)
Optical connector	SC/APC
Optical return loss	>45 dB

RF

Frequency range	47 - 1218MHz
RF input level	20 $\pm$ 5 dBmV
Flatness in band	$\pm$ 0.75 dB
RF input impedance	75 Ω
Input return loss	$\geq$ 16 dB
RF AGC control range	$\pm$ 5 dB
RF MGC attenuation range	0 - 15 dB
RF input isolation	Up to 50 dB between two RF inputs
RF input test ports	-20 $\pm$ 1 dB
Laser drive level test port	-20 $\pm$ 1 dB

Performance

C/N	$\geq$ 52 dB (reference test conditions)
C/CTB	$\geq$ 67 dB
C/CSO	$\geq$ 62 dB

Power supplies	Dual hot-swappable; 100-240 VAC, -48 VDC option
Maximum power consumption	$\leq$ 15 W
Operating temperature	23 - 113 °F (-5 - 45°C)
Storage temperature	-4 - 149°F (-20 - 65°C)
Dimensions (W x D x H)	19 x 13 x 1.75" (482.6 x 330.2 x 44.45 mm) 1RU
Weight	12 lbs. (5.5 kg)
Warranty	1 Year Warranty

Notes: Performance values are based on the manufacturer reference test conditions. Product specifications are subject to change without notice. Verify final power-supply configuration before ordering.