RF OVER FIBER

3 / 4 / 6 GHz RF Signal Transport Standalone Modules



OZ81x

Features

- 30 MHz to 3 GHz RF Bandwidth (6 GHz Optional)
- -20°C to +75°C Operating Temperature Range
- Rugged Dust-Tight Housing
- 1310 nm, 1550 nm, CWDM Wavelengths
- High SFDR
- 3" x 5" x 1.25", 0.75 lb
- Automatic Optical Power Control
- Local LED and Monitor/Alarm Indications
- Uncooled DFB Lasers
- Wide DC Power Input Range, +9V to +30V
- Lasers Conform to Class 1 Emission Level Per CDRH and IEC-825 (EN 60825) Standards

Options

- Integrated +20 dB Transmitter LNA
- Extended High Frequency, 6 GHz
- Extended Low Frequency, 10 kHz
- Integrated WDM (Single Fiber Transceivers)
- -40°C to +75°C Operating Temperature Range (1310 nm only)
- Manual Gain Adjust, 30 dB Range
- +5 VDC or +12 VDC Bias-T
- RS232 Data Transport
- Optical AGC
- Multimode Fiber Capability (3GHz models)
- I2C Receiver Gain Control (contact Optical Zonu)

Applications

- L-Band SatCom
- Cellular Backhaul
- MMDS
- Antenna Remoting
- Antenna Site Diversity
- In-Building DAS
- Optical Delay Lines

Description

The OZ81x is a broadband RF over Fiber standalone flange mount module which may be configured as a transmitter, a receiver, or a transceiver (transmitter + receiver). Fiber links may be configured for unidirectional or bidirectional RF traffic. The OZ81x has a wide dynamic range and supports RF transport in situations where transport distance or flexibility of cabling may prohibit the use of coaxial cable.

Packaged in a rugged dust-tight cast metal housing, the OZ81x provides high Spurious Free Dynamic Range (SFDR) transport for RF signals in the frequency range 30 MHz to 3 GHz. Optional extended bandwidths of 10 kHz (for lower rolloff) and/or 6 GHz (for upper rolloff) are also available. Manual Gain Control is available to adjust end-to-end RF link gain and to optimize the receiver output RF level. I2C receiver gain control is an option (contact Optical Zonu). The OZ81x features a linear optically isolated DFB laser diode operating at 1310 nm or 1550 nm and/or a high performance InGaAs photodiode. CWDM wavelengths are also available. Transceivers may be configured with an internal WDM to support bidirectional traffic on a single fiber. Standard transport is over 9/125 µm Single Mode Fiber, however Multimode fiber transport is also an option for 3 GHz models (contact Optical Zonu for details). The standard RF interface is 50 Ohm SMA and the standard optical interface is SC/APC (FC/APC is also available).

An option exists for transporting RS232 serial data over the same fiber with the RF signal. An option also exists for integrating an optical ACG function within the fiber optic transmitter and receiver. With such an optical AGC, the fiber link can track out a range of 10 dB optical attenuation (20 dB RF attenuation). Contact Optical Zonu for details.

Average Automatic Power Control (AAPC) provides closed loop control of the transmitter optical output power over the full operating temperature range. Alarm and monitoring functions are available through a DB9 connector. LEDs provide status of laser bias current (transmitter) and received optical power (receiver). The OZ81x module is powered from +12 VDC.

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