

FT-FTX1550-6-SCAPC

Intelligent Direct Modulated Optical Transmitter, 1550nm, 6dB



The FT-FTX1550-6-SCAPC intelligent directly modulated optical transmitter is engineered for 1550nm optical fiber transmission systems, ideal for use in CATV Hybrid Fiber-Coaxial networks (HFC). It integrates a high-performance Distributed-Feedback Laser (DFB) with a 6dBm optical output power, ensuring stable and reliable transmission over long distances. Advanced intelligent electronic predistortion compensation technology is employed to enhance signal quality by reducing distortion, ensuring that both analog and digital signals are transmitted with high integrity. The transmitter supports a wide range of services including analog video, digital television, telephone voice signals, and data (or compressed data) signals.

Additionally, the FT-FTX1550-6-SCAPC offers a cost-effective solution that delivers external performance comparable to more expensive alternatives. The option to choose International Telecommunication Union (ITU) standard wavelengths further enhances the versatility of this transmitter, allowing it to be tailored to specific system requirements.

Overall, this intelligent transmitter is an essential component in building and maintaining efficient and reliable CATV HFC networks, offering high-quality signal transmission for various services with enhanced flexibility, performance, and reliability.

Key Features

- **Dual Power Hot Backup:** To increase reliability and uptime, the transmitter includes dual power hot backup with optional power supply modes such as AC100V - 250V (50-60 Hz) and DC48V, ensuring continuous operation in case of power failure.
- **Real-Time Monitoring:** The transmitter features real-time detection of critical parameters such as laser output power, bias current, and cooling current, enabling proactive maintenance and ensuring optimal system performance.
- **CWDM Compatibility:** The system is compatible with Coarse Wavelength Division Multiplexing (CWDM), providing additional flexibility for optical plug-in functionality, allowing multiple wavelengths to be transmitted over a single fiber, maximizing fiber capacity.
- **Electronic Dispersion Compensation:** This feature supports up to 50km transmission distance, making the transmitter suitable for long-range deployments and ensuring signal integrity over extended distances.



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Specifications

Optical Part

Optical Wavelength	ITU Wavelength
Type of Laser	Butterfly-typed DFB laser
Optical Modulation Mode	Direct optical intensity modulation
Optical Connector Type	SC/APC
Output Optical Power	10 mW (The insertion loss of the VOA and CWDM is excluded.)
External Optical Signal Input	5-10dBm

RF Part

Frequency Range	47-1003 / 1218 MHz	
RF Input Level	+15 to +20dBmV	
Flatness In Band	±0.75 dB	
Input Return Loss	≥16 dB	
RF AGC Control Range	±5 dB	
RF MGC Adjustable Range	0-20dB	
RF Input Isolation	≥50 Isolation between two RF inputs	
RF Input Test Port	-20 ±1 dB	
Laser Drive Level Test Port	-20 ±1 dB	
Electronically Controlled Optical Attenuator Tolerance	≤1: ATT 0-15 dB	≤3: ATT 16-20 dB
CNR	≥ 48 dB 550MHz 59CH analog signal 77dBuV/CH	≥ 46 dB 550MHz 59CH analog signal 77dBuV/CH
C/CSO	≥ 58dB 550-870MHz 40CH digital signal 67dBuV/CH	≥ 55dB 550-870MHz 40CH digital signal 67dBuV/CH
C/CTB	≥ 63 dB 25 Km, -1dBm input	≥ 63 dB 50Km, -1dBm input
MER	≥ 40 dB 25 Km, -1dBm input, 96CH digital 77dBuV/CH	≥ 39 50 Km, -1dBm input, 96CH digital 77dBuV/CH

General Information

Power Consumption	≤ 15 W
Operation Temperature	23 - 113°F (-5 - 55°C)
Store Temperature	-22 - 158°F (-30 - 70°C)
Relative Humidity	Max 95% no condensation
Dimension (L x W x H)	19 x 15 x 1.75" (483 x 380 x 44 mm)
Weight	12.12 lbs. (5.5 Kg)
Warranty	1 Year Warranty