

Optical Multi-Format Transmitter

Feature Overview

- ✓ High-bandwidth single & dual-pol optical IQ modulation with >45GHz E/O Bandwidth
- ✓ **Ultra-Precise Automated BIAS Control**
 - ✓ No dependency on applied modulation format and RF amplitude
 - ✓ No user tweaking required
 - ✓ Zero noise feature
- ✓ Supports fast and simple switching between modulation formats applied by signal source
- ✓ Built-in or external laser source
- ✓ Add-on to electrical AWG
- ✓ device specific calibration files enable software-based pre-distortion
- ✓ USB & Ethernet interface for remote control
- ✓ SCPI style remote control command set, LabView® drivers supplied
- ✓ Local Touch Panel display
- ✓ Built-in Web Server for instant access from any browser enabled device

Applications

- ✓ Generation of advanced optical modulation formats (e.g. QPSK, 16-QAM, ...)
- ✓ Reference transmitter
- ✓ Testing coherent optical receivers
- ✓ Multi-channel transmission experiments for system design tests



The Optical Multi-Format Transmitter (OMFT) is a fully integrated optical frontend instrument that converts differential electrical RF signals into an IQ modulated optical signal.

This device provides excellent quality and matched channels optimized for next generation multi-level transmission formats at very high symbol rates. It is suitable as reference transmitter for receiver characterization or transmitter reference setup. The unit comprises a Mach Zehnder based optical modulator, RF amplifiers for connecting to Arbitrary Waveform Generators (AWG) or Pulse Pattern Generators (PPG).

The unique **RF amplitude / modulation format independent** automated BIAS control allows users to apply customized RF input signals without requiring manual tweaking of parameters and guaranteeing operation at the optimal operating point. This enables long-term stable operation and automated switching between modulation formats.

A zero noise feature allows to achieve optimal and repeatable performance.

A local touch Panel Display provides easy-to-use direct access to the unit.

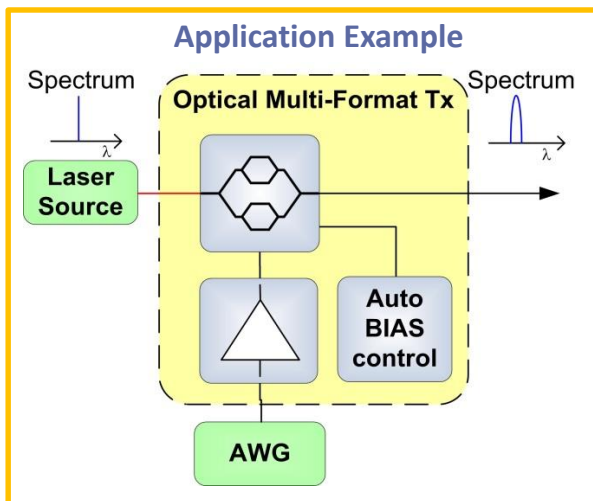
Remote control is possible via a built-in Webserver eliminating the need for software installation on a remote PC and enabling any handheld device to access the unit via browser.

A SCPI based programming API allows straightforward implementation of automated test scripting.

Key Specifications

Parameter	Specification
Wavelength Range [nm] [THz]	1525 – 1570 191.1 – 196.25
XY Polarization Imbalance [dB]	< 1
Gain Imbalance [dB]	< 1
DC Extinction Ratio [dB]	> 18
IQ Offset [dB]	< -20
Electrical RF Connectors	1.85mm, female, differential
Insertion Loss [dB] (maximum transmission point setting, no RF modulation)	< 15.5dB
E/O Bandwidth [GHz]	6dB >45
Input Power Range [dBm]	8 – 19
Maximum Ambient Temperature Gradient [K/hr]	+/- 1
Output Connector	FC/APC, FC/PC
Optical Fiber (MOD IN)	Polarization - maintaining PANDA type Fiber, PER > 20dB, 25typ.

Inquire with us for an extended data sheet



Mechanical & electrical Parameter

Operating Temperature	+10 to +35°C	non-condensing
Size of Device (H x W x D)	482 x 102 x 400mm (19 x 4 x 16 inch)	
Power Supply	100-240 VAC, 1A, 50/60Hz	

Ordering Information

OMFT	-X	-XX	-XX
Article	Laser	Variant	Connector
Optical Multi-Format Transmitter	N: None C: C Band	00: high bandwidth	FA = FC/APC FP = FC/PC

Contact information

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