

100G OTN Muxponder

Multi-protocol 10G Aggregation & Transport over Coherent 100G Optics



100G Muxponder shown in Stand-alone, Self-managed, 1U Chassis



Applications

- ▶ 100 Gbps Single Channel & DWDM Transport with Multi-protocol 10x10 Gbps (OTU2/ODU2/10GE/STM64)



Features

- ▶ Forward Error Correction Lowers OSNR Requirements & Increases Optical Transmission Budget
- ▶ Part of IPG's Optical Services Transport
- ▶ Electronic Compensation of Chromatic Dispersion & Polarization-mode Dispersion Extends Transmission Reach

IPG Photonics' 10x10G Muxponder aggregates, custom format OTU2 (10.7 Gbps) or 10 Gb Ethernet optical signals into a linear DWDM OTU4V signal (120 Gbps) with Dual Polarization- Quaternary Phase Shift Keying (DP-QPSK) modulation format. Full-duplex, bi-directional, client data streams received by one or more (up to 10) aggregating ports are multiplexed into a common data stream for line-side transmission. The Muxponder performs "3R" regeneration of each client signals' pulse amplitude, shape, and phase. In addition, Forward Error Correction (FEC) is added to the signal according to ITU recommendation G.709, which allows detection and correction of bit errors due to signal impairments during transmission and extends the distance the optical signal can travel before requiring regeneration. IPG's Muxponder also implements coherent technology which electronically compensates for the effects of chromatic dispersion and polarization-mode dispersion (PMD). Coherent detection eliminates the need for dispersion compensation modules and extends the transmission reach. The client connections are realized with removable SFP+ transceiver modules. The line interface features with direct fiber LC-type connectors.



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Optical Characteristics

Operating Mode	10x(OTU2/ODU2/10GE/STM64) <> OTU4V
OTN Framing	OTU4V
Line Data Rate, Gbps	127.15
Modulation Format	DP-DQPSK
Total Optical Budget, (dB)	>25
Max Input Power Level, dBm	-2
ITU Grid Channels Supported	H11, C11...H60, C61
Chromatic Dispersion Compensation, ps/nm	-60,000 to +60,000
PMD Compensation, ps	30
Output Power (average), dBm	-5 to +1
Transmission Center Frequency Deviation, Ghz	-1.8 to +1.8
Minimal OSNR, dB/0.1 nm	12.2

General Characteristics

Power Supply, V	48
Max Total Power Consumption, W	192
Operating Temperature Range, °C	+5 to +40
Weight, kg	7.9
Overall Dimensions, W x H x D, mm	480.53 x 43.62 x 346

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