



Trans Max™4100 RFoG Repeater Technical Specifications

Specifications

General Specifications

Number of AC Powering Ports	2
Number of Optical Ports	4
Operating Temperature Range, °C	-40 to 60

Headend Facing Multiplexer (P/N 1505521-001)¹

Downstream Passband, nm	1260 to 1598.5
Upstream Passband, nm ²	1611 ± 7.5
Downstream Insertion Loss, dB max. ³	1.4
Downstream Testpoint Level, dB max. relative to input	-21.5
Upstream Insertion Loss, dB max. ³	1.75
Optical Interface Connector Type	SC/APC or LC/APC

8 Way Customer Facing Optical Passive Module (P/N 1505523-001)¹

Downstream Passband, nm	1260 to 1598.5
Upstream Passband, nm	1611 ± 7.5
Downstream Insertion Loss, dB max.	1.25
EMS Tap Port Loss, dB max. relative to output	15
Upstream Insertion Loss, dB max. ⁴	1.5
Optical Interface Connector Type	LC/APC

EDFA¹

OM41-EDFA-13-8-M-N

EDFA Type	Constant Power
Input Wavelength Range, nm	1530 to 1562
Input Optical Connector Type	SC/APC
Optical Input Range, dBm	-3 to 12
Number of Outputs	8
Output Power per Port, dBm min.	13
Power per Port Tolerance, dB	1
Noise Figure, 1550 ± 5 nm, dB max. ⁵	4.8
Noise Figure, 1530 to 1562 nm, dB max. ⁵	5.5

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OM4-EDFA-17-8-M-N

EDFA Type	Constant Power
Input Wavelength Range, nm	1540 to 1562
Input Optical Connector Type	SC/APC
Optical Input Range, dBm	0 to 12
Number of Outputs	8
Output Power per Port, dBm min.	17
Power per Port Tolerance, dB	1
Noise Figure, 1550 ±5 nm, dB max. ⁶	6.5
Noise Figure, 1530 to 1562 nm, dB max. ⁶	7.0

Upstream Specifications⁷

Electrical Bandwidth, MHz	5 to 42
Link Slope, dB max. ⁸	± 1.5
Link Flatness, dB max. ⁹	± 1.5
NPR Dynamic Range, dB min., >30 dB NPR ¹⁰	16
Quad Analog Rx Optical Input Range, dBm	-20 to -10
Quad Analog Rx Attenuation Range, dB	0 to 18, in 2 dB steps
Digital Return Input Level, dBmV/6 MHz typ. ¹¹	6
Digital Return Link Gain, dB typ. ¹²	32
Digital Return Transmitted Wavelength	8 CWDM (1471 to 1611 nm), 45 DWDM (ITU channel 17 to 61)
Digital Return Tx Output Optical Power, dBm nominal ¹³	3(CWDM), 4.25 (DWDM)

Powering Specifications

AC Current Passing, A	15
Input Voltage Range, VAC	45 to 90

Refer to the Trans Max4100 Hardened Field Hub Quick Reference Guide (1505838) for additional information.

Notes:

1. Refer to actual module specifications for more information.
2. Optional, other wavelength ranges are available.
3. Includes 0.5 dB loss for optical patch cables.
4. Includes 0.5 dB loss for MPO to LC fan-out optical patch cable.
5. Optical input range of -10 to 0 dBm, add 1 dB for inputs from >0 dBm to 6 dBm.
6. Optical input range of 0 to 6 dBm.
7. Unless otherwise specified, the listed specifications are for the combined Analog Rx, RF Configuration / Combining Assemblies, Digital Return Transmitter, and CHP D1RRx Digital Return Receiver.
8. Measuring using a best fit approximation.
9. Measured with respect to slope.
10. Analog section measured using FTTM10J-A1-JBAS-00 ONU reference Tx with an output power of 3 dBm. Repeater optical input = -15.5 dBm. This represents a typical link loss equivalent to 5 km of fiber and a 32 way splitter. Quad Analog Rx attenuator set to 6 dB attenuation. Digital section measured using CHP-D1RRX-S reference receiver over a 60 km fiber link.
11. Repeater 8 Way Customer Facing Optical Passive Module input level = -15.5 dBm, 7% OMI. Transmitter input level is independent of segmentation configuration.
12. Specified for 15225x-xx digital return transmitter and CHP-D1RRx digital return receiver.
13. Measured at the Transmitter bulkhead connector. Optical output range for CWDM transmitter is 1.76 to 4 dBm and optical output range for DWDM transmitter is 4 to 4.5 dBm.

Specifications are subject to change without notice.

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