



BRIDG-IT MORT 3000

Multiple Optical Reverse Transmitter

Features

- ▶ Quadruple RF input, quadruple optical output
- ▶ Support for 4 independent 5 to 305 MHz upstream paths
- ▶ Compatible with RF stacker 4 x 5..65 MHz
- ▶ Standard wavelengths: 1310 nm operation, or 1510, 1530, 1550 and 1570 nm, other options available
- ▶ Adjustable OMI (Optical Modulation Index) level
- ▶ Remote monitoring via RS-485 communication standard
- ▶ Front panel test point
- ▶ Mounted in the 1 unit high URU 3000 19" rack (fixed)
- ▶ Front controls
- ▶ Rear connections
- ▶ Built-in pilot enables AGC controlled links, in combination with e.g. MORR 3000
- ▶ Broadband detection circuit enables monitoring the incoming RF power

Description

The M-TEC MORT 3000 multiple optical reverse transmitter is a module that can be integrated in the M-TEC URU 3000 19" rack. It has been designed for simplicity of operation.

This high channel capacity module features low noise and low distortion RF driver circuits and high performance DFB laser diodes. The received RF input signals are optimized for further conversion by means of the RF drivers. The laser driver circuits bias the laser diodes to their proper optical operating level, while stability is guaranteed by means of automatic power control circuits. The DFB laser module includes an integrated opto-isolator to reduce the optical power reflected back into the laser, preventing increased laser noise. The implemented design as described above, ensures the highest carrier-to-noise ratio (CNR) and minimal distortion towards the user.

The RF input level can be monitored via the -20 dB test point. Two front panel pushbuttons enable adjustment of the OMI level.

Remote monitoring and controlling of the module is possible via the 9-pin SUB-D data link and RS-485 communication standard. All settings can be remotely checked and changed. Abnormal operating condition alerts can automatically be fed back to the operator.

Block Diagram

Please refer to the final page of this datasheet.

Order Information

Contact us

Front Panel User Interface

LED indicators	
$\lambda 1$	Channel $\lambda 1$ selected = Red
$\lambda 2$	Channel $\lambda 2$ selected = Red
$\lambda 3$	Channel $\lambda 3$ selected = Red
$\lambda 4$	Channel $\lambda 4$ selected = Red
OMI	OMI adjustment enabled = Red
Controls	
SELECT	Channel $\lambda 1$, $\lambda 2$, $\lambda 3$ or $\lambda 4$ selection pushbutton
UP	OMI level UP pushbutton
DOWN	OMI level DOWN pushbutton
Test Points	
RF input test point level	-20 dB

Specifications

RF Input		Optical Output Laser Dependent Parameters	
Bandwidth	5-305 MHz		
Level	15 dBmV \pm 3 dB		
Impedance	75 ohm		
Return loss	\geq 20 dB		
Channel isolation 5-65 MHz	\geq 60 dB		
Channel isolation 65-305 MHz	\geq 50 dB		
Connector type	F		
Optical Output		1310 nm	1470...1610 nm
Standard wavelengths	1310 nm, or 1510/1530/1550/1570 nm	Laser type (3)	DFBII DFBI
Other wavelengths available	1470/1490/1510/1530 nm 1550/1570/1590/1610 nm	Second Order (4)	\leq -55 dB \leq -45 dB
Wavelength accuracy (1)	\pm 3 nm	Third Order (4)	\leq -75 dB \leq -55 dB
Wavelength drift	0.09 nm/ $^{\circ}$ C	Carrier to noise ratio (5)	56 dB 54 dB
Output power per wavelength	2 mW	Power Requirements	
Flatness	\pm 1 dB	DC voltage	24 V
Default OMI	2.5% per channel	Max. DC current	400 mA
Fiber type	monomode 9/125 μ m	Max. power consumption	10 W
Optical isolation	\geq 30 dB	Environmental	
Connector type (2)	SC/APC8 $^{\circ}$	Operating temperature	-10 to +50 $^{\circ}$ C (14 to 122 $^{\circ}$ F)
		Monitoring	
		Communication standard	RS-485

Notes:

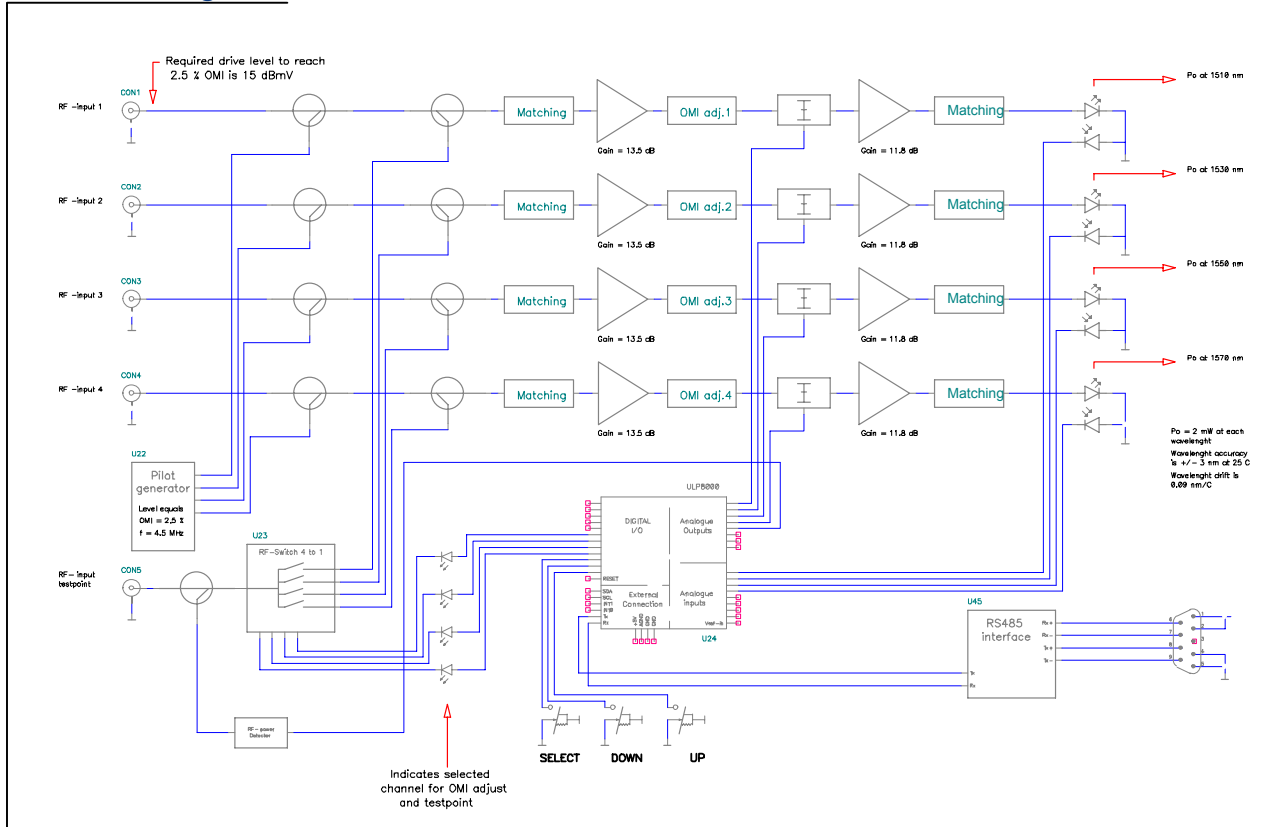
- (1) Wavelength accuracy at 25 $^{\circ}$ C
- (2) Standard SC/APC8 $^{\circ}$, other connector types available on demand.
- (3) Standard laser type is DFBII for 1310 nm, and DFBI for other wavelengths.
- (4) $f_1 = 35$ MHz; $f_2 = 42$ MHz; OMI per channel = 10%
 \Rightarrow Second Order = $f_2 - f_1 = 7$ MHz; Third Order = $2 \times f_1 - f_2 = 28$ MHz.
- (5) Typical performance for 2.5% OMI, at 600 kHz bandwidth, 5 dB loss including 13 km fiber.
 For worst case performance refer to the diagrams on the final page of this datasheet.



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Block Diagram



Diagrams

