

MO1001 COMPACT OPTICAL NODE



- Electronic alignment locally or remotely
- 1GHz GaAs or GaN PD hybrid
- Fiber Deep and HFC compatibility
- Status monitoring option
- Low noise optical receiver
- FP, DFB or CWDM Return path optical transmitter
- 1 RF output (splittable)
- Remote or local powered switching power supply
- Anti-corrosion aluminium housing with grounding
- EMC meets the CENELEC EN50083-2 requirements

GENERAL DESCRIPTION

The MO1001x optical node contains 1 forward path receiver and 1 return path transmitter module. The node can be used in Fiber Deep networks and also in HFC systems. This optical node is adjustable locally (via buttons on the top of lid) or remotely (via monitoring system). The device is available with remote and local power supply. 3 return path optical transmitters are supported: FP laser (1mW), DFB laser (2mW) and CWDM (2mW, 4mW). Ordering information can be found at the end of product guide.

TECHNICAL SPECIFICATIONS

Optical receiver parameters

Bandwidth [MHz]	47...1000
Wavelength [nm]	1290...1570
Optical input level range [dBm]	-8...+3
Nominal optical input level [dBm]	0
Optical input return loss [dB]	>45
Equivalent input noise [pA/√Hz]	6
Level control	OLC
Output level accuracy [dB]	±1
Optical connector type	SC/APC, FC/APC, EURO2000

Optical transmitter parameters

	FP	DFB	CWDM
Bandwidth [MHz]	5-200	5-200	5-200
Wavelength [nm]	1310	1310	1470-1610
Spectrumwidth [nm]	2	0.1	0.1
Wavelength-change depending on temperature [nm/°C]	0.4	0.08	0.11
Noise figure (RIN) [dB/Hz]	-125	-145	-145
CSO [dBc]	-40 ⁽¹⁾	-52 ⁽¹⁾	-50 ⁽¹⁾
CTB [dBc]	-50 ⁽¹⁾	-62 ⁽¹⁾	-55, -60 ⁽¹⁾
Output power [mW]	1	2	2, 4

Specifications are subject to change without notice!

Nominal input level (10% OMI) [dBμV]	75	
Flatness [dB]	±0.5	
Input impedance [Ω]	75	
RF level on the testpoint of the optical transmitter ⁽²⁾ [dBμV]	70+1/-2	
Optical connector type	SC/APC, FC/APC, EURO2000	
RF parameters	MO1001Cx	MO1001Dx
Max. adjustable output level (OMI=2.5%, ATT=0, EQ=6dB, f=1GHz) [dBμV]	121	
CTB [dB]	-62 ⁽³⁾	-68 ⁽³⁾
XMOD [dB]	-59 ⁽³⁾	-64 ⁽³⁾
CSO [dB]	-64 ⁽³⁾	-70 ⁽³⁾
CIN [dB]	-	61 ⁽³⁾
Flatness [dB]	±0.7	
Output amplifier-module type	GaAs PD hybrid	GaN PD hybrid
Number of active outputs	1 (splittable)	
Output testpoint attenuation [dB]	30±1	
Forward path attenuator range [dB]	0-20 ⁽⁴⁾	
Forward path TILT range [dB]	6-22 ⁽⁴⁾	
Return path attenuator range [dB]	0-15	
Output diplex filter [MHz]	30/47 or 65/85 or 85/105	
Output return loss (40MHz -1.5dB/octave) [dB]	>18	
Output impedance [Ω]	75	
Breakpoint frequency of TILT [MHz]	1000	
General parameters		
Screening factor [dB]	80	
Maximum power consumption [W]	18	
Power supply voltage [VAC]	~ 30...65; □ 35...90 (remote supply) ~ 230±20% 50Hz (local supply)	
Maximum current feed-through [A]	10	
Hum modulation [dB]	70	
Degree of protection	IP 65	
Temperature range [°C]	-20...+55	
RF connector type	5/8"	
Dimensions [mm]	212x191x80	
Weight [kg]	2	

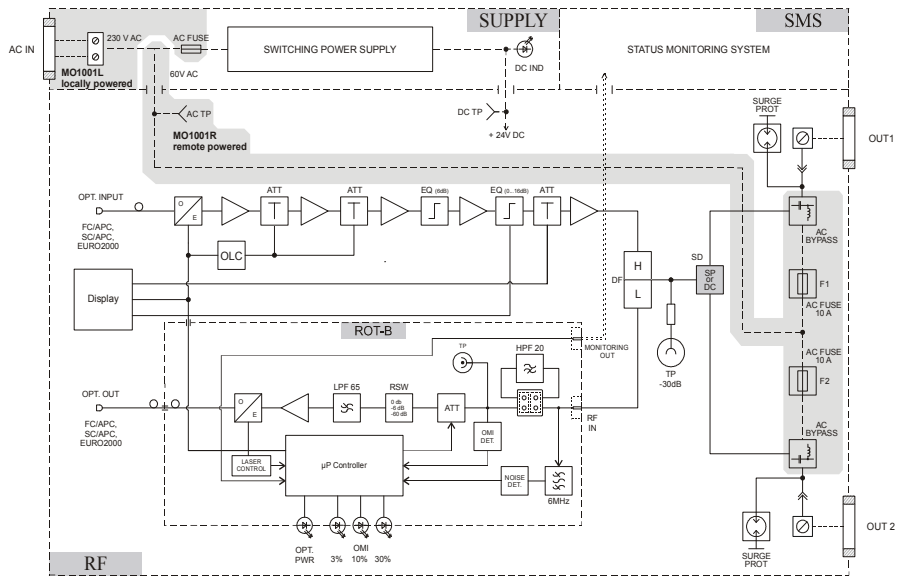
(1) 2 signals, 25% modulation depth, 5-200 MHz

(2) 10% optical modulation index

(3) 79 ch. 7dB tilted, Vout:50dBmV @ 550MHz, 75digital ch. -6dB offset

(4) Adjustable in 0.5dB steps

BLOCK DIAGRAM



ORDERING INFORMATION

M O 1 0 0 1 X X - X X - X X - X X X X - X X

Amplifier-module type

C	GaAs
D	GaN

Powering

R	Remote powered
L	Local powered

Type of the diplex filter

30	Internal DF30/47 diplex filter
65	Internal DF65/85 diplex filter
85	Internal DF85/105 diplex filter

Type of the optical connector

SA	SC/APC (Recommended type)
FA	FC/APC
EU	EURO2000

Laser type

0N	Without laser!
1F	FP laser (1mW)
2D	DFB laser (2mW)
2C	CWDM laser (2mW)
4C	CWDM laser (4mW)

Wavelength (CWDM)

1470	1470 nm
1490	1490 nm
1510	1510 nm
1530	1530 nm
1550	1550 nm
1570	1570 nm
1590	1590 nm
1610	1610 nm

Wavelength (FP and DFB)

1310	1310 nm
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Option	Required modules	Ordering codes
Monitoring option	1pc NMT-COM1	NMT-COM1-xxx

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