

## MDO1201 FTTB OPTICAL NODE



- Downstream frequency range up to 1218 MHz
- Upstream frequency range up to 204 MHz
- Optional connection to Monitoring System
- Electronic configuration interface
- Optional GaN output stage
- Single or dual fiber fiber optical interface
- Automatic optical gain control
- Automatic ingress management

### GENERAL DESCRIPTION

The MDO1201 is a compact style node for FTTB networks with full electronic setup interface and remote controlling option. The highest flexibility is ensured by the switchable burst mode and the CWDM technology of the reverse path transmitter. The node is available with local or remote powering and with single or dual fiber optical interface in special housing improved for use in apartment houses' cabinets.

### TECHNICAL SPECIFICATIONS

Forward path parameters	MDO1201C	MDO1201D
Wavelength [nm]	1550±10 or 1100...1650	
Input optical power [dBm]	-7...+2	
Equivalent input noise current [pA/√Hz]	4.5	
Frequency range [MHz]	85...1218	
Equalizer breakpoint frequency [MHz]	1218	
Gain limited output RF level at 2% OMI/channel [dBμV]	106±1 @ 1218 MHz <sup>(1)</sup>	110±1 @ 1218 MHz <sup>(1)</sup>
RF attenuator range [dB]	0...15 <sup>(2)</sup>	
RF equaliser range [dB]	6...22 <sup>(2)</sup>	
Flatness [dB]	±0.75	
Output return loss (40MHz -1.5dB/octave) [dB]	>18	
Output RF testpoint attenuation [dB]	30±1	
CTB [dB]	-65 <sup>(3)</sup>	-80 <sup>(4)</sup>
CSO [dB]	-65 <sup>(3)</sup>	-80 <sup>(4)</sup>
Noise-to-power ratio (NPR) maximum / Dynamic range of NPR > 42 [dB]	>45 / >8 <sup>(5)</sup>	>45 / >9 <sup>(5)</sup>

Specifications are subject to change without notice!

**Reverse path parameters**

Working modes	CW/BURST
Output optical power [mW]	2 (3 dBm)
Wavelength [nm]	1270...1610
Spectral width [nm]	<1
Relative intensity noise (RIN) [dB/Hz]	<-145
Frequency range [MHz]	5...204
Diplex filter [MHz]	65/85, 85/105, 204/258
RF input level (5% OMI/channel) [dBμV]	75±1
RF attenuator range [dB]	0...15
Flatness [dB]	±0.5
Input return loss (40MHz -1.5dB/octave) [dB]	>18
Reverse path RF testpoint level [dBμV]	60+1/-2 <sup>(6)</sup>
Ingress control switch (RSW) states	0dB/-6dB/-50dB
Noise-to-power ratio (NPR) maximum / Dynamic range of NPR > 36 [dB]	45 / 9 <sup>(7)</sup>

**Communication parameters**

Communication protocol	HMS, SMC, Comtech <sup>(8)</sup>
Receiver frequency range [MHz]	119...159 and 177...301 <sup>(9)</sup>
Transmitter frequency range [MHz]	18...28

**General parameters**

	<b>MDO1201xL</b>	<b>MDO1201xR</b>
RF connector	PG11 (5/8", F)	
Optical connector	SC/APC, EURO2000	
Power supply voltage [VAC]	230±20%	~ 30...65, □ 35...90
Maximum power consumption [W]	15	
Screening factor [dB]	80	
Degree of protection	IP43	
Temperature range [°C]	-20...+50	
Dimensions [mm]	202x146x80	
Weight [kg]	1.7	

(1) Input optical level is -2 dBm

(2) Adjustable in 0.5 dB steps

(3) 46 dBmV at 1218 MHz, 7 dB tilt, 99 analog channels

(4) 60 dBmV at 1218 MHz, 22 dB extrapolated tilt, 79 analog channels + 111 digital channels (-6 dB offset)

(5) Measured with flat full spectrum load between 258 and 1218 MHz, 2% OMI/ch, received power -2 dBm

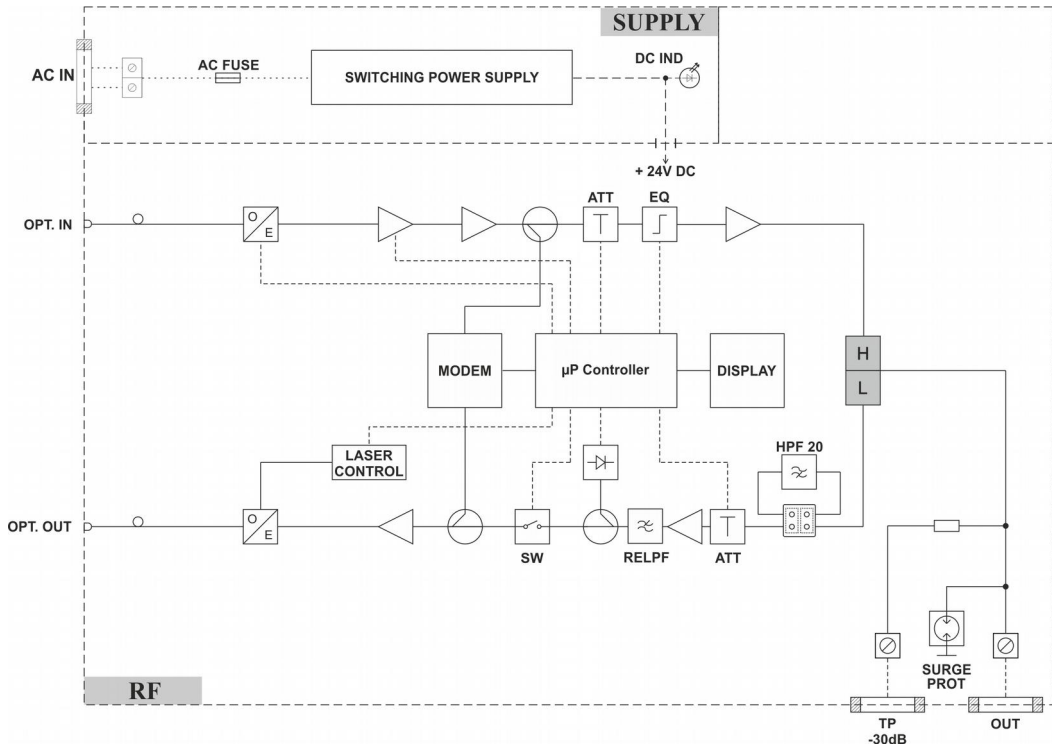
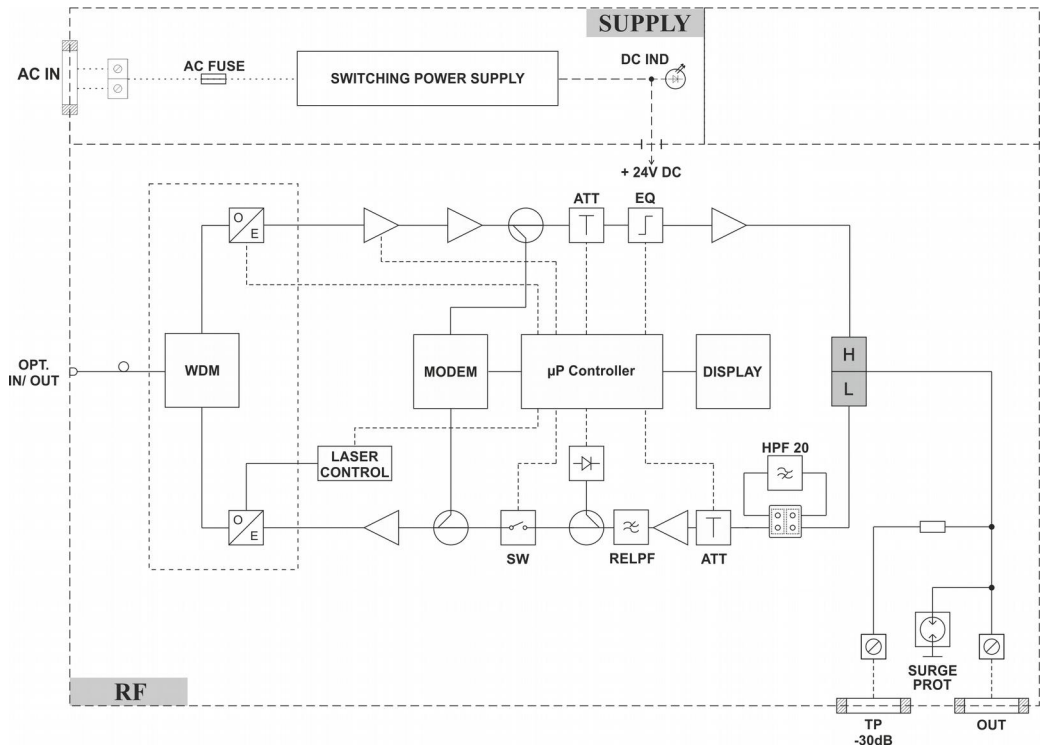
(6) Value measured at 10% OMI/ch

(7) Measured with flat full spectrum load between 5 and 204 MHz, received power -6 dBm

(8) The used protocol can be changed by the user on the site, if the transponder option is ordered

(9) Both frequency ranges are implemented in case of all devices with monitoring option

BLOCK DIAGRAMS



Specifications are subject to change without notice!

ORDERING INFORMATION

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**Output stage type**

C	GaAs technology
D	GaN technology

**Power supply type**

L	Local powering
R	Remote powering

**Type of the diplex filter**

65	Pluggable 65/85MHz diplex filter
85	Pluggable 85/105MHz diplex filter
204	Pluggable 204/258MHz diplex filter

**US Wavelengths**

1270	1270nm
1290	1290nm
1310	1310nm
1330	1330nm
1350	1350nm
1370	1370nm
1390	1390nm
1410	1410nm
1430	1430nm
1450	1450nm
1470	1470nm
1490	1490nm
1510	1510nm
1530	1530nm
1550	1550nm *
1570	1570nm
1590	1590nm
1610	1610nm

**Optical interface**

S	Single fiber (1550±10 nm receiver)
D	Dual fiber (1100...1650 nm receiver)

**Monitoring**

T	With built-in transponder
N	Without transponder

**Type of the optical connector**

SA	SC/APC (Recommended type)
EU	EURO2000

**Option**

**Required modules**

**Ordering codes**

Coax connection option  
Coax connection option

PG11-5/8" adaptor  
PG11-F adaptor

PG11-5/8  
PG11-F

\* This wavelength is allowed only in case of dual fiber devices!

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