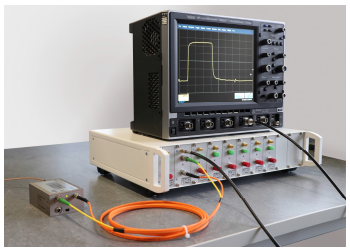
Optical transmission link 80 Hz - 3.5 GHz



Montena MOL2000T optical link is designed for the transmission of analogue electric signals (CW and pulses) from 80 Hz to 3.5 GHz over long distance in harsh electromagnetic environment.

The input electric signal is conditioned and converted into an analogue optical signal in the transmitter module and sent to the receiver module through a fibre optic cable. The receiver module converts back the optical signal into an electric signal. The optical signal transmission is regulated with an automatic level control that maintains precise and constant performance independently of the optical losses. A second optical fibre is used as control and supervision channel between the optical transmitter and receiver.

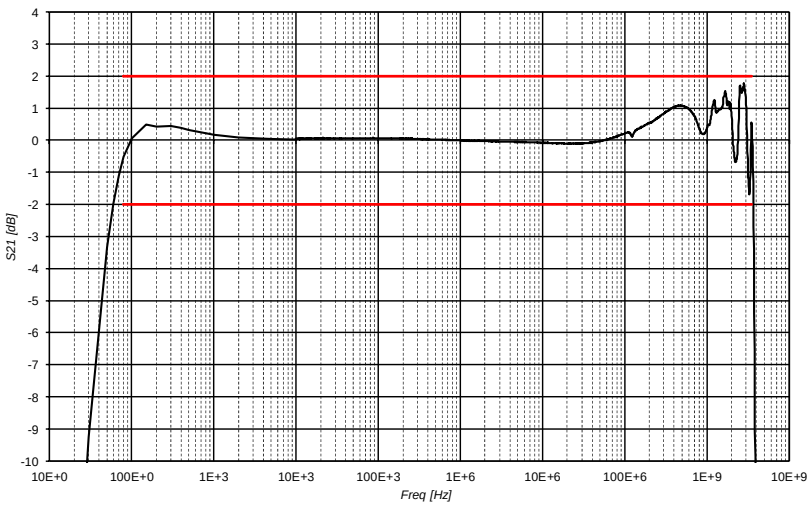
The battery powered optical transmitter comprises remote-controlled attenuators and preamplifiers to adjust the received signal level for an optimal use of the dynamic range. The optical transmitter module can remotely be put in a low power standby mode to save battery power when not used. A built-in rectangular pulse generator can be remotely activated to check the link integrity. A LED indicator shows the operating state.

Configurable settings can be remote controlled using either FibREmote software for PC and Android devices or a set of API commands.

SPECIFICATIONS		
Type	**MOL2000T**	
Bandwidth	80 Hz to 3.5 GHz 80 Hz to 3.0 GHz	(-20 dB to 0 dB gains) (-50 dB to -20.5 dB, 0.5 dB to +24 dB gains)
System gain (remotely selectable)	-62.5 dB to +24 dB	
Gain tolerance	± 2 dB	(in specified bandwidth)
Gain steps	0.5 dB	
Maximum link distance	about 1 km	

Typical frequency response (at 0dB gain)

Bandwidth 80 Hz to 3.5 GHz



Sales Partner:

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The compact optical transmitter is battery powered and especially shielded for a very high immunity to electromagnetic fields.

OPTICAL TRANSMITTER	SPECIFICATIONS
Type	**MOL2000T-TX**
Max. input power (CW)	2 W cont. / 10 W for a few seconds (for gain ≤ -31 dB) 100 mW (for gain > -31 dB)
Clamping voltage (pulse)	0 dB : 0.5 Vp -20 dB : 5 Vp -40 dB : 50 Vp -60 dB : 350 Vp
Linearity in frequency domain	Input power at 1dB compression (positive gains to +20 dB): ≤ 2 GHz : -20 dBm 3.5 GHz : -24 dBm
Immunity to external electric fields	> 500 kV/m (pulse according to MIL-Std 461 RS105)
Built-in test generator	5 kHz bipolar square signal / rise time 250 ps
Power supply	by internal LiPo batteries or by the power supply adapter
Battery autonomy	> 40 hours. Standby, about 10 days
RF input connector	SMA (F) / 50 Ω
Optical connectors	FC/APC and ST
Operating temperature	+5 °C to +55 °C
Dimensions	99 x 64 x 41 mm (L x W x H), excluding the connectors
Weight	380 g

The optical receiver is available in two versions:

A compact stand-alone receiver for point-to-point application is battery powered and especially shielded for a very high immunity to electromagnetic fields. It has one USB interface for system configuration and supervision.

The optical receiver is also available as a plug-in module to be inserted in the MOL-MF-xx chassis. The modules are powered and controlled from the chassis backplane.

OPTICAL RECEIVER	SPECIFICATIONS	
Type	**MOL2000T-RX (stand-alone module)**	**MOL2000T-M-RX (plug-in module)**
RF output connector	SMA (F) / 50 Ω	
Optical connectors	FC/APC and ST	
Control connector	Mini-USB	USB Type A on MOL-MF-xx chassis
Optical losses compensation	Automatic (variable optical attenuator)	
Output power at 1dB compression (gains <= 0 dB)	< 100 kHz : +6 dBm 100 kHz – 1 GHz : +8 dBm 2.0 GHz : +4 dBm 3.5 GHz : -4 dBm	
Output noise floor	-136 dBm/Hz (typ.)	
Maximum output dynamic	4 dBm (1 Vpp)	
Power supply	by internal LiPo batteries or by the power supply adapter	by the MOL-MF-xx chassis
Battery autonomy	36 hours. Standby, about 1 month	not applicable (no battery)
Operating temperature	+5 °C to +55 °C	
Dimensions (W x D x H)	64 x 99 x 41 mm, excluding connectors	40 x 172 x 84 mm (2U), excluding connectors
Weight	380 g	240 g

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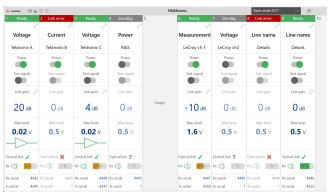
The MOL-MF-10 is a 19" 2U chassis for up to ten plug-in receiver modules. The receiver modules are powered and controlled from the chassis backplane.

The MOL-MF-1 converter chassis enables 'stand-alone' operation of one plug-in receiver module.

CHASSIS	SPECIFICATIONS	
Type	**MOL-MF-10**	**MOL-MF-1**
Number of slots	10	1
Control connector	USB Type A	USB Type A
Dimensions (W x D x H)	448 x 356 x 110 mm	50 x 200 x 110 mm (W x D x H)
Power rating	85 - 264 V, 47 - 65 Hz	100 - 230 V, external power adapter
Weight	about 5 kg	about 500 g



The system is delivered with Montena FibREmote software applications, running on Windows PC and Android.

These applications allow simple configuration and monitoring of Montena's fibre optic links.

Configurations can be stored and recalled at any time in order to ease the configuration of large measurement setups.

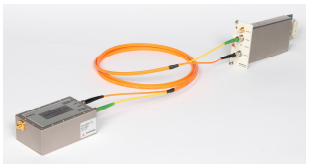
The MOL2000T family utilises dual fibre optic cables with FC/APC and ST connectors.

Ordering information

Stand-alone point-to-point link

TYPE	DESCRIPTION
MOL2000T2	Single channel point-to-point optical link, 80 Hz – 3.5 GHz, -62dB to +24dB remote controlled gain through USB, including one optical transmitter MOL2000T2-TX on battery, one optical receiver MOL2000T2-RX on battery, two battery chargers, one USB OTG cable, one FibREmote software for PC and Android, and one carrying case.

Optical link with plug-in receiver module



TYPE	DESCRIPTION
MOL2000T2-M	Single channel optical link for chassis MOL-MF-xx, 80 Hz – 3.5 GHz, -62dB to +24dB remote controlled gain, including one optical transmitter MOL2000T2-TX on battery, one plug-in receiver module MOL2000T2-M-RX and one battery charger

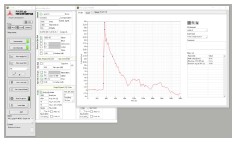
Chassis for plug-in receiver modules

TYPE	DESCRIPTION
MOL-MF-10	Chassis 19" 2U for up to 10 plug-in receiver modules, 85 - 264 V, including one power supply cable, one USB cable and one FibREmote software for PC and Android.
MOL-MF-1	Converter chassis for one plug-in receiver module, including one power supply adapter 100 - 230 V with 3 mains plugs for US/Japan, Europe and UK, one USB cable and one FibREmote software for PC and Android. *Enables 'stand-alone' operation of a plug-in receiver module.*

Fibre optic cables

TYPE	DESCRIPTION
FO2Cxxx	Dual fibre cable (signal and control), dimensions: 6 x 3 mm xxx = the cable length Available lengths are 10, 20, 50, 100, 200, 500, 1000 m
FO2Cxxx-RU	Ruggedized dual fibre cable (signal and control), diameter: 5 mm xxx = the cable length Available lengths are 10, 20, 50, 100, 200, 500, 1000 m

Related products / accessories



TYPE	DESCRIPTION
PULSELab	Pulse measurement and processing software application, Lifetime license for installation on one PC