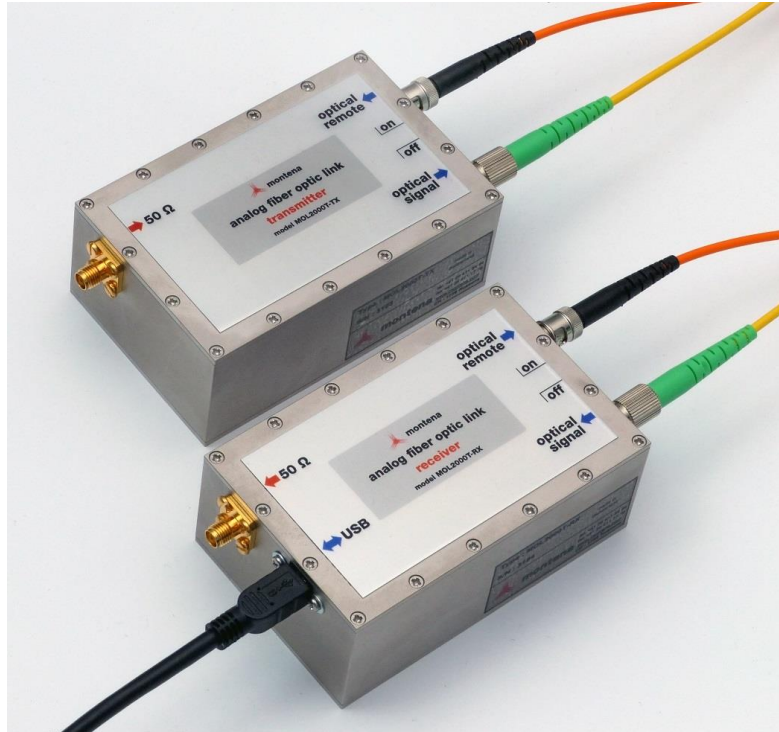




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Optical Link 80 Hz to 3.5 GHz with Remote Gain Control



The stand-alone system consists of: a transmitter, a receiver, a dual fiber optic cable and a battery charger for both units. The optical link is designed for the transmission of analogue electric signals (CW and pulses) from 80 Hz to 3.5 GHz. The signal is conditioned and converted into an analogue optical signal in the transmitter module and is sent to the optical receiver through a fiber optic cable. The receiver module converts back the optical signal into an electrical signal. Both transmitter and receiver modules are shielded and are powered with embedded rechargeable batteries.

The receiver includes an automatic gain control to maintain precise and constant performance independently of the optical losses. The gain of the link (attenuation or amplification) can be remote-controlled from the receiver. An internal input power attenuator can be switched on in case of high amplitude signals. A rectangular pulse generator built in the transmitter can be activated in order to check the link integrity. The configurable settings of the link can be controlled by devices such as an Android tablet or a Windows-based PC through an USB cable.

Two versions of the receiver are available:

- a point to point version, fully screened and battery powered (figure 1)
- a 19" rack version that accepts up to 10 independent signals (figure 3) *coming soon*

The optical link is typically used in measurement setups using electric or magnetic field sensors or with current probes. Accessories such as baluns, electromagnetic probes and 1 M Ω impedance converters are available too.



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Overall Specifications

Bandwidth (± 2 dB) ¹	80 Hz to 3.5 GHz ²
System gain (remotely selectable)	-50 dB to +20 dB in steps of 0.25 dB
Maximum link distance	about 1 km

Specifications: Transmitter

Maximum input power (CW)	2 W / 10 W for some seconds (gain < -31 dB)
Maximum input voltage (pulse)	130 V (gain < -31 dB)
Input power at 1dB compression (2 GHz)	gain > 0dB: -20 dBm (preamplifier) 0 to -30.75 dB: +4 dBm gain < -31 dB: +34 dBm (power attenuator)
Immunity to external electric fields	> 500 kV/m (pulse according to MIL-Std 461 RS105 E/F)
RF input connector	SMA (F) 50 Ω
Optical connectors	FC/APC and ST
Built-in test generator	bipolar square signal / rise time 250 ps
Power supply	by internal batteries or by the power supply adapter
Operating time	32 hours / standby: about 1 week
Operating temperature ³	+5 to +55 °C
Dimensions (excluding connectors)	99 x 64 x 41 mm (L x W x H)
Weight	380 gr

Specifications: Receiver

Control connector	mini-USB
Immunity to external electric fields	> 500 kV/m (pulse according to MIL-Std 461 RS105 E/F)
Receiver output noise floor	-136 dBm/Hz (typ.)
Maximum output signal level	4 dBm (1 V _{p-p})
RF output connector	SMA (F) 50 Ω
Optical connectors	FC/APC and ST
Power	by internal batteries or by the power supply adapter
Automatic level control (ALC)	fully optical (variable optical attenuator)
Operating time	24 hours / standby: about 1 month
Operating temperature ³	+5 to +55 °C
Dimensions (excluding connectors)	99 x 64 x 41 mm (L x W x H)
Weight	380 gr

¹: for a paired transmitter-receiver system.

²: for 0 dB gain; 80 Hz to 3.0 GHz for the other configuration settings.

³: can be used at lower temperature but with reduced operating time.



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Specifications: Fibers

Standard fiber optic cable	2 channel cable (signal and control), standard length of 20 / 50 / 100 / 200 and 500 meters, dimensions: 6 x 3 mm
Ruggedized fiber optic cable	ruggedized 2 channel cable (signal and control), standard length of 20 / 50 / 100 / 200 and 500 meters, dimensions: diameter 5 mm

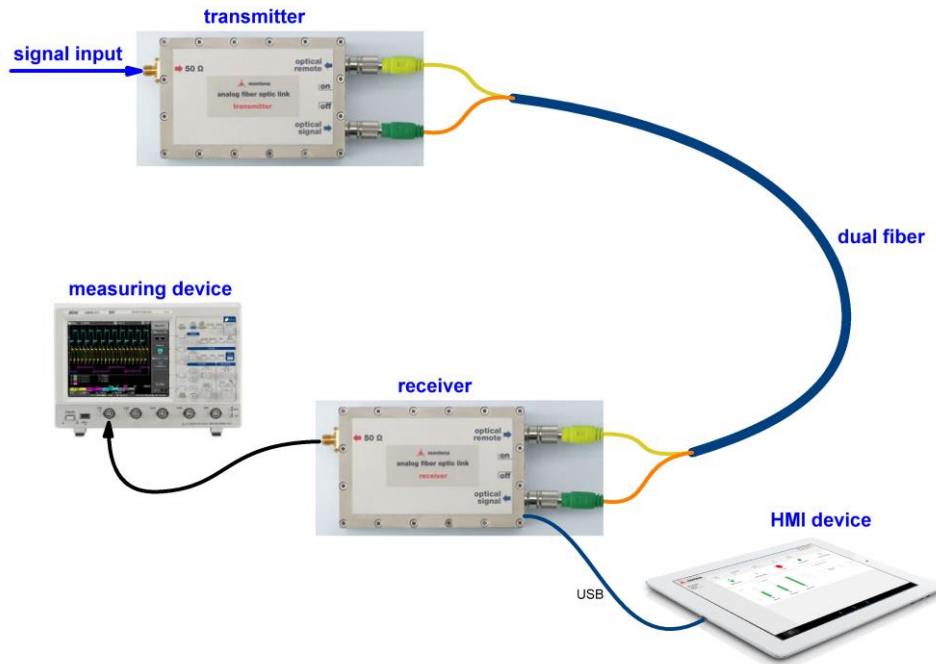


Figure 1: point to point version

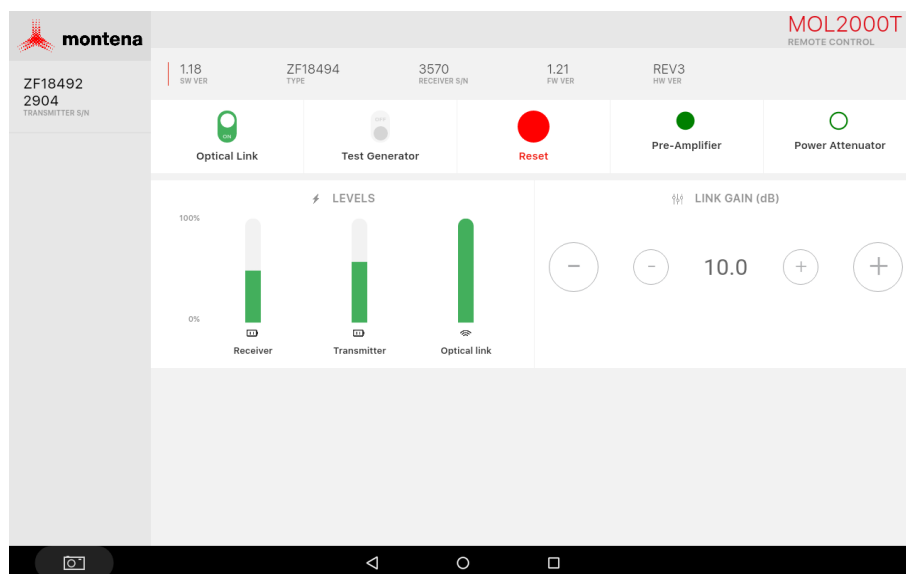


Figure 2: remote control software for tablet



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Coming soon

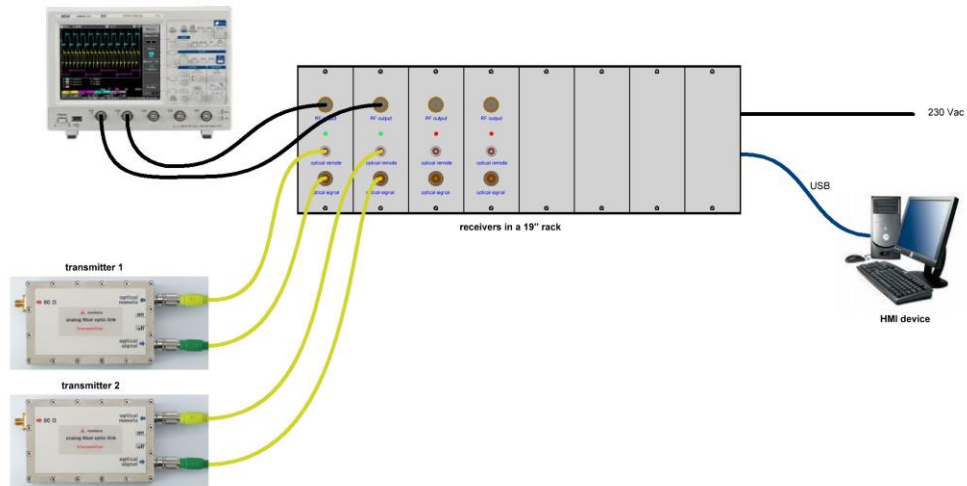


Figure 3: multilink version (rack)