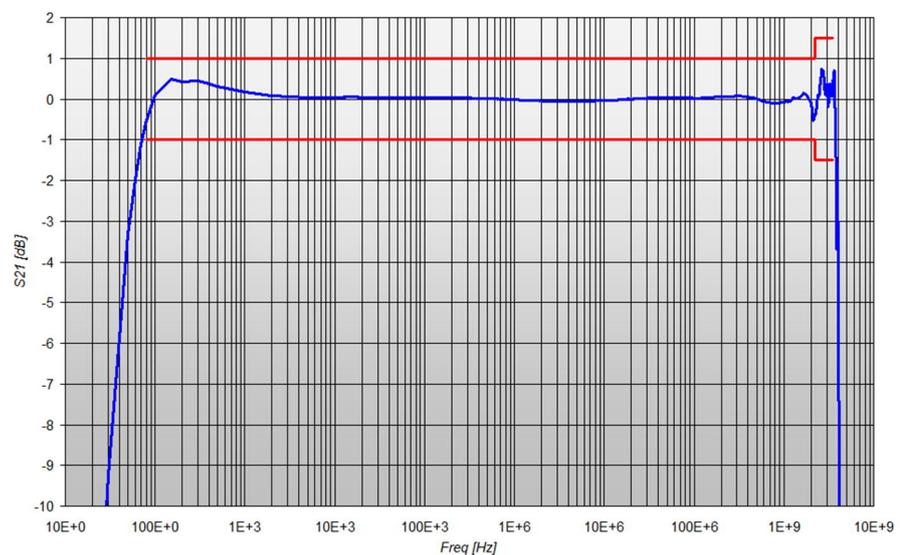# Fixed gain optical transmission link

Montena MOL3000 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 electrical signal. Both transmitter and receiver modules are shielded and are powered with embedded batteries. The optical signal transmission is regulated with an automatic level control that maintains precise and constant performance independently of the optical losses.

SPECIFICATIONS

Type	MOL3000
Bandwidth (± 1.5 dB)	80 Hz to 3.5 GHz
System gain	0 dB ±1.5 dB (±1.0 dB < 2.2 GHz)
Full scale transmitter input for 1 dB gain compression	< 1 GHz : +6 dBm (1.2 Vp-p) 2.0 GHz : +3 dBm (0.9 Vp-p) 3.5 GHz : -7 dBm (0.3 Vp-p)
Absolute maximum input voltage	10 Vp-p
Maximum continuous input power	24 dBm (250 mW)
Receiver output noise floor / Transmitter equivalent input noise	< -137 dBm/Hz typ.
Optical losses compensation	automatic (variable optical attenuator)
Immunity to external electric fields	> 500 kV/m (pulse according to MIL-Std 461 RS105)
Power supply	by internal LiPo batteries or by the power supply adapter
Battery autonomy	40 hours typ.
Operating temperature	+5°C to +55°C
RF input / output connectors	SMA female / 50 Ω
Optical connectors	FC / APC
Dimensions	99 x 64 x 41 mm (L x W x H), excluding the connectors
Weight (transmitter / receiver)	350 gr / 350 gr

Typical frequency response

Bandwidth 80 Hz to 3.5 GHz

Ordering information

TYPE	DESCRIPTION
MOL3000	Point-to-point optical link, 80 Hz –3.5 GHz, 0 dB gain, including one optical transmitter MOL3000-TX on battery, one optical receiver MOL3000-RX on battery, two battery chargers and one carrying case

Fibre optic cables

TYPE	DESCRIPTION
FCLBxxx	Fibre optic cable, diameter: 3 mm xxx = the cable length Available lengths are 10, 20, 50, 100, 200, 500, 1000 m
FCLBxxx-RU	Rugged fibre optic cable, diameter: 7.5 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, life time license for installation on one PC
ATP10-18G	Coaxial attenuator 50 ohm, 10 dB, 1 W, 0..>18 GHz, SMA connectors
ATP20-18G	Coaxial attenuator 50 ohm, 20 dB, 1 W, 0..>18 GHz, SMA connectors
ATP30-18G	Coaxial attenuator 50 ohm, 30 dB, 1 W, 0..>18 GHz, SMA connectors
PG100MV200P	Reference square pulse generator on battery, 5 kHz, 200 mVpp, SMA connector, with charger (110-240V)