

LUMILOOP

LASER-POWERED SENSOR SYSTEMS



Datasheet

LSAOL 1.0/1.1

9 kHz - 6 GHz

Laser-Powered & Pre-Amplified
Analog Optical Links

Sales Partner:



ABSOLUTE EMC Lic.
Covering sales in North America
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The LSAOL 1.0/1.1 Laser-Powered Analog Optical Links with integrated pre-amplifiers are low-noise, RF signal transmission systems for 9 kHz to 6 GHz. They are ideally suited for EMC emission testing. The need for batteries is eliminated through laser-powered operation.

LSAOL 1.0/1.1 consist of a Front Unit and a Base Unit. The signal is picked up by the Front Unit, transmitted optically, and converted back to an electrical signal by the Base Unit, which is typically analyzed using an EMC test receiver.

The LSAOL Front Unit is laser-powered and equipped with both, low and high band pre-amplifiers, which can be turned off. LSAOL 1.0 provides an adjustable, 5 V to 12 V phantom power supply delivering up to 2 W to external devices such as active antennas.

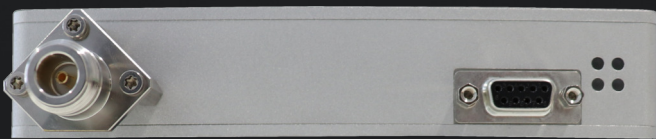
LSAOL 1.0/1.1 additionally feature:

- Low noise (e.g. for CISPR 25 measurements),
- High dynamic range and large-signal immunity,
- Active overload detection, and
- In-system gain verification.

When combined with the LUMILOOP LSMux 12:2 RF Multiplexer, up to 12 LSAOL 1.0/1.1 Analog Optical Links can be operated concurrently for parallelized high-throughput automotive EMC testing.

Specifications

Frequency Range	
Low Band	9 kHz to 500 MHz
High Band	80 MHz to 6 GHz
Frequency Response	
Low Band Link Gain	-30 dB to +7 dB (configurable)
High Band Link Gain	-30 dB to +14 dB (configurable)
Flatness (≤ 3 GHz / > 3 GHz)	± 3 dB / ± 5 dB
Dynamic Range	
RBW = 1 Hz,	>80 dB
up to 1 dB compression point	
Noise Figure, Low Band	
9 kHz	20 dB
1 MHz	13 dB
200 MHz	7 dB
500 MHz	9 dB
Noise Figure, High Band	
100 MHz	9 dB
200 MHz	7 dB
1 GHz	7 dB
6 GHz	9 dB
Front Unit, 50 Ohm RF_{IN}	
Input Connector	N to SMA female, D-SUB 9
Input Level	max. 10 dBm
Phantom Supply (LSAOL 1.0)	5 V to 12 V, max. 2 W
Dimensions (W x D x H)	(250 x 160 x 32) mm
Base Unit, 50 Ohm RF_{OUT}	
Output Connector	N female
Remote Control Interface	LAN
Power Supply	100 V to 240 V (50 Hz to 60 Hz)
Dimensions (W x D x H)	
LSAOL 1.0	(482 x 520 x 133) mm
LSAOL 1.1	(250 x 280 x 80) mm
Fiber-Optic Cables	
Maximum Length	>60 m
Connector (Fiber) Type	
LSAOL 1.0	ST/FC (1 x SM/ 12 x MM)
LSAOL 1.1	ST/FC (1 x SM/ 4 x MM)
Operating Temperature	0 °C to 40 °C



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