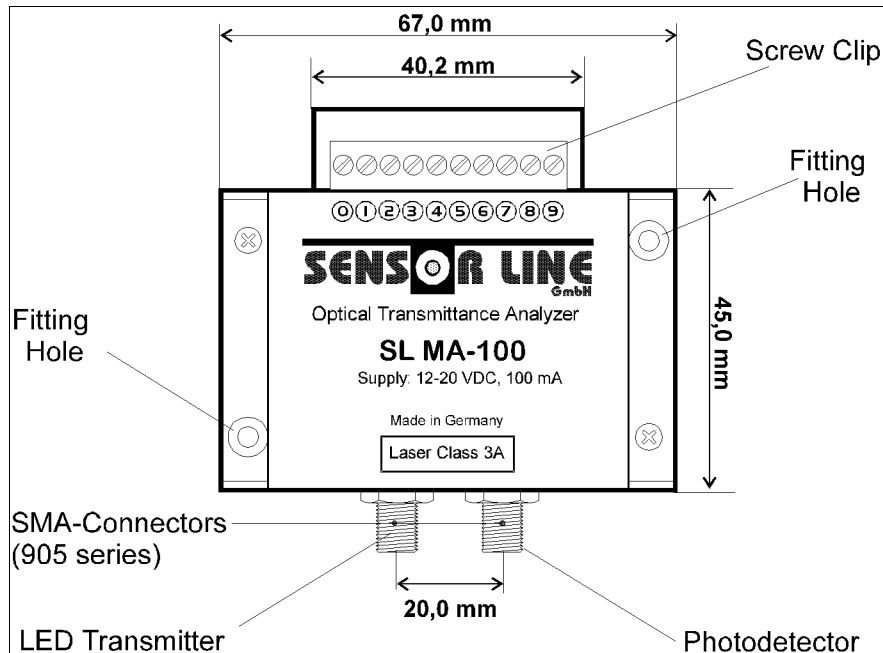


# SL MA-110 Optical Transmittance Analyzer

## Product Description



The SL MA-110 OTA interface operates a SENSOR LINE SPZ/SPT fiber optic traffic sensor responding to changes of its optical transmittance and provides respective electrical output signals that can be retrieved by other devices for traffic data processing. The unit comprises a LED transmitter, a PIN diode photodetector, and the optical transmission analysis electronic. The only difference to the SL MA-100 OTA is a 10 dB higher dynamic range generated by variation of LED light power.

### Features

- Dynamic analog output signal for automatic long term signal adaptation
- Static analog monitor output, e.g. for normalizing of the analog signal
- Optocoupler digital outputs enable free definition of any logical polarity and level
- Trigger threshold does not require any adjustment
- Sensor failure indication
- Reverse power protection
- Outputs short circuit protection

### Utilization

The SL MA-110 OTA interface will be typically located in a roadside cabinet. A SENSOR LINE SPZ traffic sensor will be connected by means of its fiber optic feeder cable with SMA plugs readily attached to it. The screw clip connector bar is used for power supply and to retrieve the output signals.

Common applications include axle detection and speed measurement.

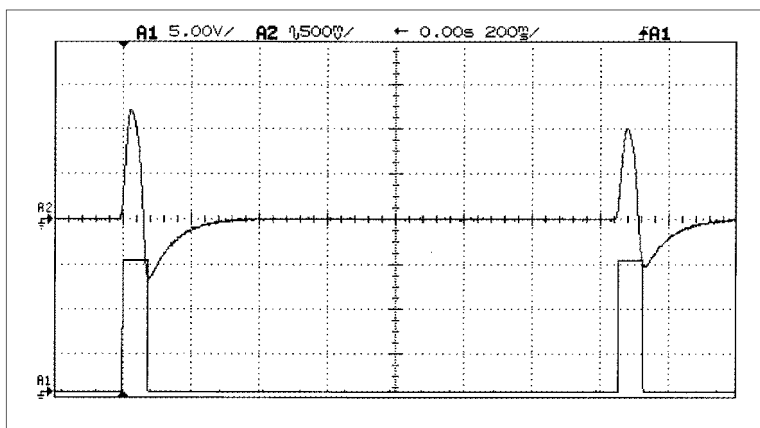
## Technical Data

Housing:	Plastic
Size:	67 x 58 x 25 mm
Protection Class:	IP 30
Connection:	Screw clip, 10 pins
Optical Interface:	SMA 905
LED Type	GaAlAs
LED Peak Output Wavelength	850 nm
Relative Humidity:	80% at 25°C
Temperature Range:	-40°C to 85°C (-40°F to 185°F)
Supply Current:	< 100 mA
Supply Voltage:	+12 to +20 VDC
Analog Output:	0-10 V
Trigger Threshold:	1% change of light transmittance
Optocoupler Output max.:	60V/25mA
Velocity Range:	1 to 250 km/h
Feeder Length:	up to 250 meters
Comparative Laser Class:	3A (sensor disconnected)
EMV/EMI:	Fulfills CE-requirements

## Connections

Pinning	Sign	Description
0	○ Vsupply	Supply Voltage
1	○ GND	} Ground (shorted)
2	○ GND	
3	○ Vref	Reference Voltage Output
4	○ Vmon	Transmittance Monitor Signal Output
5	○ Vanalog	Analog Load Signal Output
6	○ -ERROR	} Error Optocoupler Output (Low Resistance on Sensor Failure)
7	○ +ERROR	
8	○ -TRIGGER	} Trigger Optocoupler Output (Low Resistance on Load Response)
9	○ +TRIGGER	

## Output Signals



The upper trace shows the analog signal waveform with respect to Vref caused by a two axle vehicle at a speed of 7 km/h (one wheel). The amplitudes are proportional to the axle/wheel load.

The lower trace shows the signal then occurring at -TRIGGER with +TRIGGER connected to +15V and a 10k pull down resistor from -TRIGGER to GND.