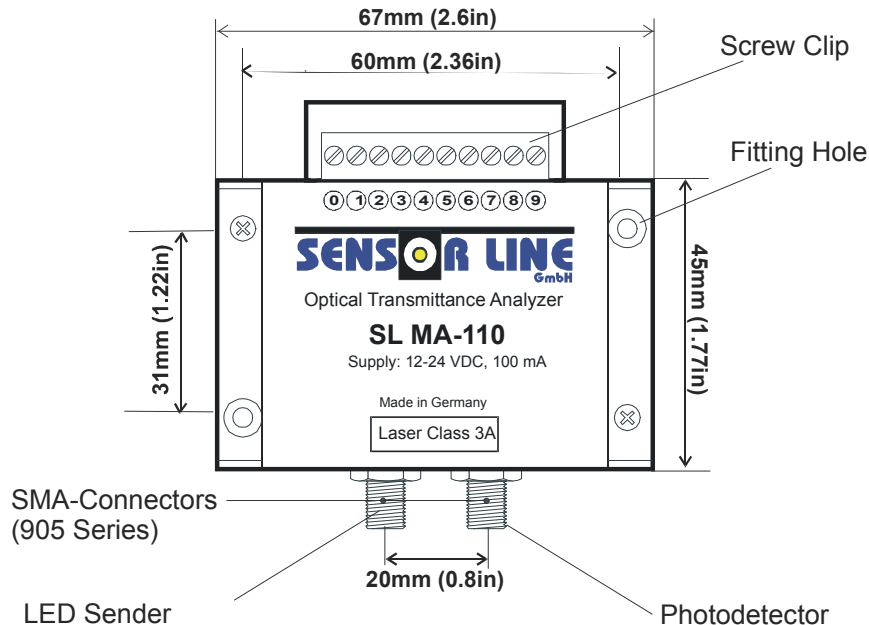


SL MA-110-3 Optical Transmittance Analyzer

Product Description



The SL MA-110-3 OTA interface operates a SENSOR LINE 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 high power infrared LED transmitter, a PIN diode photodetector, and the optical transmission analysis electronic. The only difference to the SL MA-110 RED-3, which is using red LED power LEDs, is a 4 times light power which ensures to operate Fiber Optic Traffic Sensors up to 4 times higher sensor attenuation.

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-110-3 OTA interface will be typically located in a roadside cabinet. A SENSOR LINE Fiber Optic 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

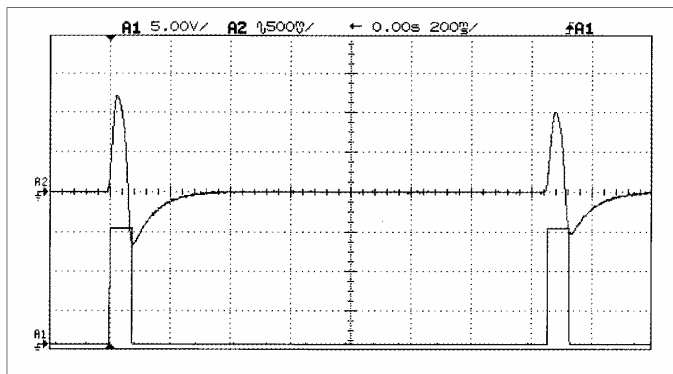
Housing:	Plastic
Size:	67 x 58 x 25 mm
Protection Class:	IP 30
Connection:	Screw clip, 10 pins
Optical Interface:	SMA 905
LED Type	GaAlAs
LED Peak Output Wavelength	850 nm
Relative Humidity:	80% at 25°C
Temperature Range:	-40°C to 85°C (-40°F to 185°F)
Supply Current:	< 100 mA
Supply Voltage:	+12 to +24 VDC
Analog Output:	0-10 V
Trigger Threshold:	0.33% change of light transmittance
Optocoupler Output max.:	60V/25mA
Velocity Range:	0.5 to 250 km/h
Feeder Length:	up to 250 meters
LED Risk Group:	RG 0 (safe) *

* According to DIN EN 62471. Please note: In spite of the official classification, SENSOR LINE recommends to avoid staring into the transmitter for longer periods of time, regardless whether light is visible or not.

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.