



SL MA-110

Optical Transmittance Analyzer

SPECIFICATIONS

- ◆ 1 channel interface
- ◆ Flexible optocoupler digital output
- ◆ Sensor failure indication
- ◆ Reverse power protection
- ◆ Output short-circuit protection
- ◆ Plastic housing providing IP 30 protection

The SL MA-110 Optical Transmittance Analyzer (OTA) is an electronic interface that supplies and evaluates fiber optic load sensors. The SL MA-110 serves as the interface between the fiber optic sensor and the processing unit. It should be installed indoors or inside a weatherproof road side cabinet. The sensor system consists of the SL MA-110 interface with transmitter (LED) and receiver (photodetector) connected by fiber optic feeder cable to the fiber optic load sensor.

The interface responds to the optical sensor signal in a dynamic (AC-coupled) manner, i.e. the electrical signal caused when a load is applied to the sensor decreases to zero as the load remains applied. At a preset threshold, a digital trigger signal is generated. This signal is automatically reset after a certain time period. These characteristics allow the SL MA-110 interface to operate without the need for adjustment.

If the interface detects an interruption in the light transmission path, it generates a digital error signal. Both digital signals are transmitted via optocouplers which behave similar to relays, allowing the use of a variety of output circuitry. The dynamic analog load signal and the light power monitor signal also have their own output clips.

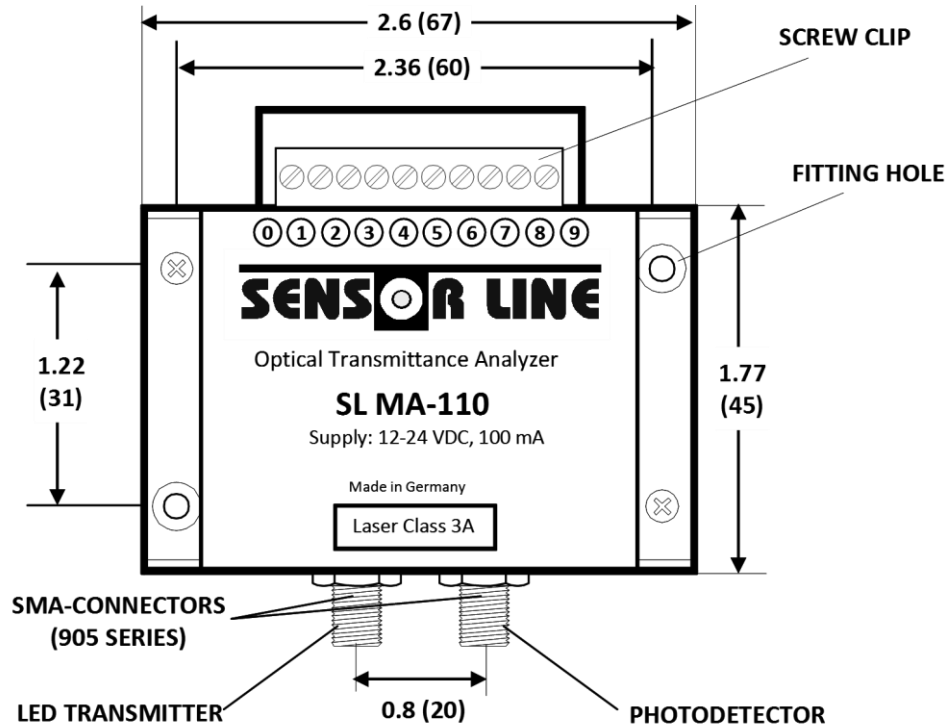
FEATURES

- ◆ Dynamic interface for detection of light power changes
- ◆ Optocoupler digital outputs
- ◆ Error indication output
- ◆ Analog output
- ◆ Monitor output for normalizing the analog signal
- ◆ Reverse power protection
- ◆ Short circuit protection
- ◆ Housing 2.6 x 2.3 x 1" (67 x 58 x 25 mm)
- ◆ IP 30 (NEMA 2) enclosure
- ◆ 10-pin screw clip

PERFORMANCE SPECIFICATIONS

Parameter	Typical Value
Supply Voltage	+12 to +24 VDC
Supply Current (continuous)	< 100 mA
Analog Output	0 – 10 V
Analog Output Impedance	1 k Ω
Trigger Threshold	0.33% or 1% of light transmittance change
Sensor Attenuation	3 - 13 dB
Max Load for Optocouplers	60 V/25 mA
Velocity Range	1 to 250 km/h
Feeder Length	up to 250 meters
Laser Class	3A

MECHANICAL DIMENSIONS in inches (mm)



Model Number	Part Number	Trigger Level
SL MA-110-3	0-1005796-3	0.33% light loss
SL MA-110-1	0-1005796-1	1% light loss

CONNECTIONS**a) Electrical**

Pin Number	Signal	Description
0	12 ... 24 VDC	Supply Voltage
1	GND	Ground
2	GND	Ground
3	Vref	Reference Voltage (about 5 V)
4	Vmon	Analog Monitor Signal
5	Vanalog	Analog Load Signal
6	-ERROR	Negative Error Optocoupler Output
7	+ERROR	Positive Error Optocoupler Output
8	-TRIGGER	Negative Trigger Optocoupler Output
9	+TRIGGER	Positive Trigger Optocoupler Output

b) Optical

Output	--	LED Transmitter	--	SMA Series 905 Connector
Input	--	Photodetector	--	SMA Series 905 Conn

NORTH AMERICA

Measurement Specialties, Inc.,
a TE Connectivity Company
Phone +1-800-522-6752
Email: customercare.hmpt@te.com

ASIA

Measurement Specialties (China), Ltd.,
a TE Connectivity Company
Phone: +86-400-820-6015
Email: customercare.chdu@te.com

TE.com/sensorsolutions

Measurement Specialties, Inc., a TE Connectivity company.

Accustar, American Sensor Technologies, AST, ATEXIS, DEUTSCH, IdentiCal, TruBlue, KPSI, Krystal Bond, Microfused, UltraStable, Measurement Specialties, MEAS, Schaevitz, TE Connectivity, TE, and the TE connectivity (logo) are trademarks of the TE Connectivity Ltd. family of companies. Other logos, product and company names mentioned herein may be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.