



SL SPZ SENSOR

The SL SPZ fiber-optic sensor is suitable for installation in concrete or asphalt roads and guarantees optimal vehicle detection, precision in data processing, and long-term reliability.

Product Description

The SL SPZ sensor detects cars, trucks as well as motorbikes and bicycles (depending on the embedding material) in road traffic for axle counting, speed measurement, headway measurement, vehicle classification and cyclist counting. The SL SPZ sensor is a basic fiber-optic traffic sensor designed for permanent installation in concrete or asphalt roads. The SL SPZ sensor is installed with our PU-based filler material which provides a perfect bonding to roads.

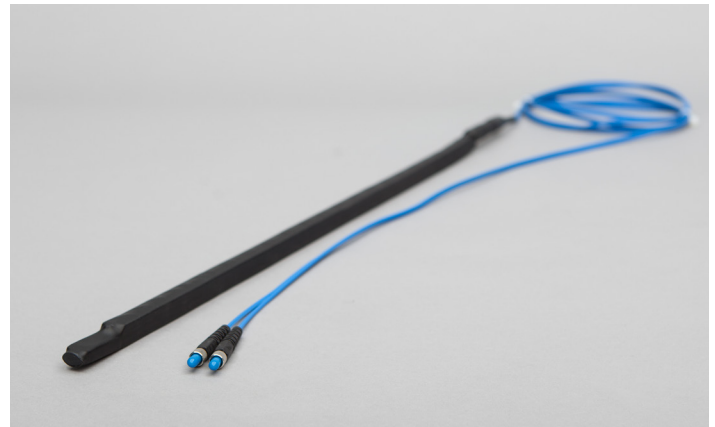
The pressure of a wheel deforms the SL SPZ sensor. This deformation decreases the optical transmittance inside the sensor. This transmittance change is detected by our opto-electronic interfaces like the dynamic or static optical transmittance analyzer and is transformed into signals for traffic data processing.

Advantages

- 100% vehicle detection rate
- Visibility independent
- EMV immune
- Noise free signal

References

- Germany speed enforcement
- India traffic control
- Colombia traffic control
- South Africa traffic control



SL SPZ sensor



SL SPZ sensor installation

SL SPZ sensor: fiber-optic sensor for road traffic detection

Characteristics

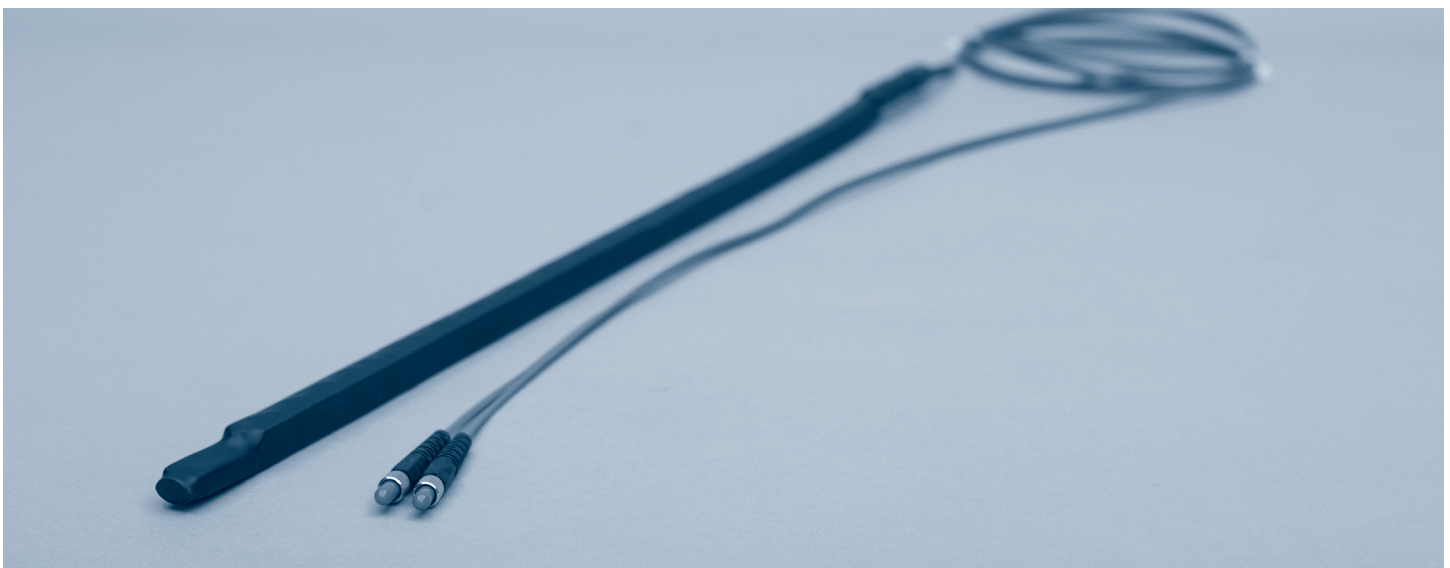
- SL SPZ sensor detects vehicles such as cars and trucks as well as motorbikes and bicycles
- Typical applications are axle counting, dual-tire and direction detection, speed enforcement and vehicle classification
- A ready to install SL SPZ sensor comprises the sensor element itself, a fiber optic feeder cable spliced directly to it and terminated with fiber optic connectors
- The sensor is installed flush and even to the road surface in small saw cut slots using Sensor Line SL Cast-90 or SL Cast-65 (depending on the application) embedding material and wedge kit. Inductive loops can be installed in the same slot
- To operate the SL SPZ sensor, it is connected to a Sensor Line opto-electronic interface

Benefits

- 100 % detection rate—all vehicles are detected independent of poor visibility like smoke, rain, fog or snow
- Fiber optic cable is EMV immune – no impact by electric vehicles, any other magnetic fields or lightning
- Fiber optic cable is noise free – clear analog or digital trigger output
- Corrosion free as the sensor does not include any metal parts
- No material fatigue – no mechanical parts
- Installs flush with asphalt or concrete path surfaces
- No maintenance or calibration needed at or after installation
- Customized sensor length possible - up to 4.5 m (14.76 ft) and cable length up to 250 m (820 ft)

Different resins, for different solutions

Resin type	Characteristics	Used for counting of
SL CAST 90	Shore hardness = 90 Stiff and longlasting polyurethan, average sensitivity	Trucks, cars, busses, motorbikes
SL CAST 65	Shore hardness = 65 Softer polyurethan, average sensitivity	Bicycles only



SL SPZ sensor: Technical Data

Dimensions

Sensor element	Length	up to 4.5 m (14.76 ft)—extra length on request
	Insensitive zones	tip 50 mm (1.97 in) / feeder joint 100 mm (3.94 in)
	Width	12 mm (0.47 in)
	Height	14 mm (0.55 in)
	Weight (without feeder cable)	0.18 kg/m (5.83 oz/yd)
Fiber optic feeder cable	Outer dimension	2.5 x 5 mm (0.10 in x 0.20 in)
	Length	up to 250 m (820 ft)
	Weight	12 g/m (0.39 oz/yd)
	Maximum short term pull tension	20 N
	Minimum bending radius	25 mm (0.98 in)
Optional: PE enforced feeder cable	Outer dimension	4 x 6.6 mm (0.16 in x 0.26 in)
	Length	up to 250 m (820 ft)
	Weight	25 g/m (0.81 oz/yd)
	Maximum short term pull tension	60 N
	Minimum radius	25 mm (0.98 in)
Fiber connectors (plastic / metal)	Length	34 mm (1.34 in)
	Max. diameter	8.5 mm (0.33 in)

Performance

	Maximum speed	up to 250 km/h (155 mph)
	Operating / storage temperature	-30 °C to 85 °C (-22 °F to 185 °F)
	Humidity	No limitation
	Warranty	6 months

Accompanying Products

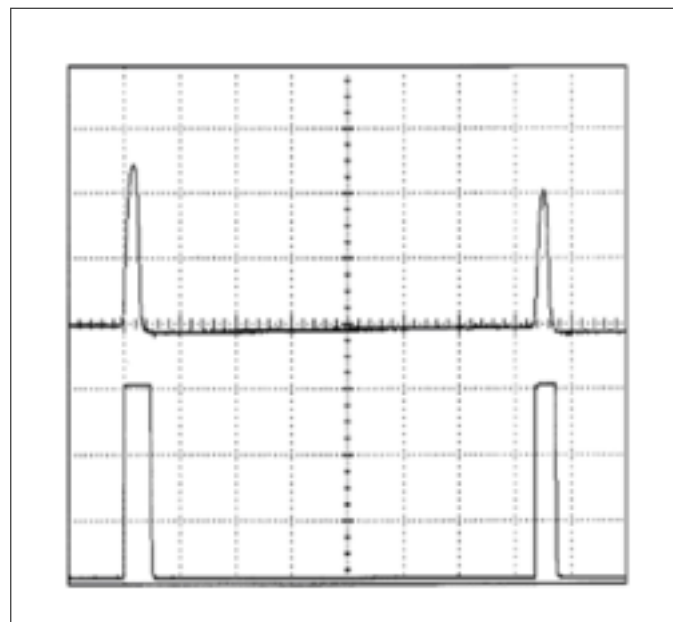
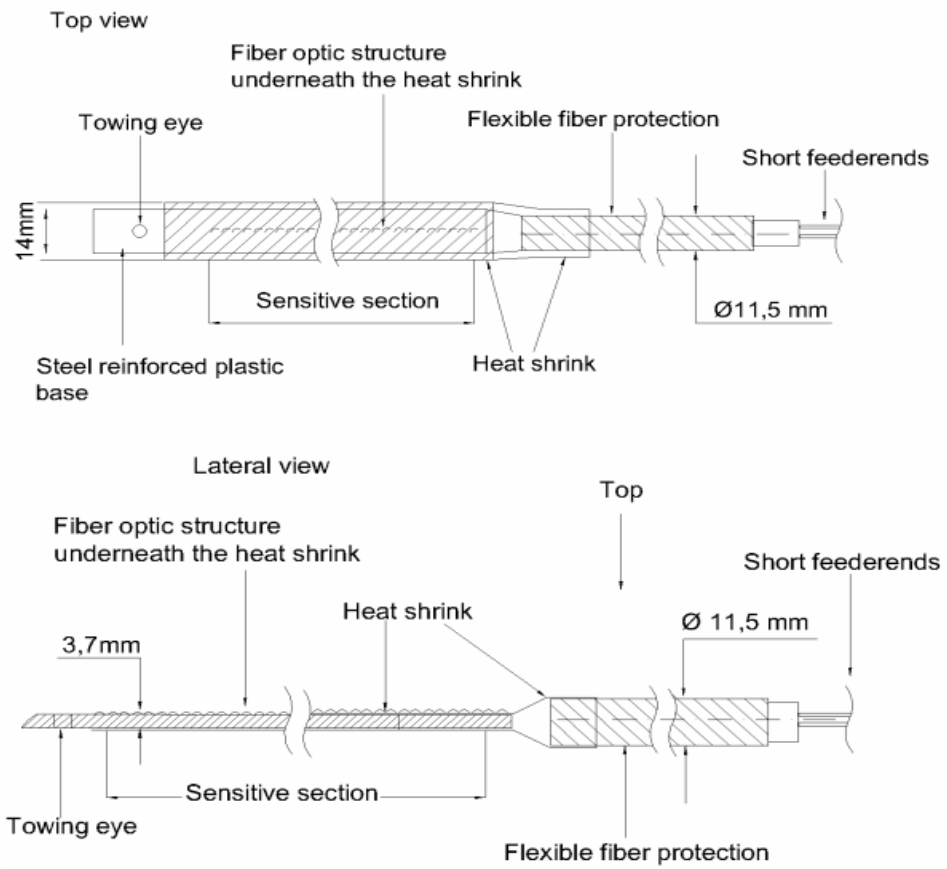
SL MA-X10 - Electronic Interface with 1-3 channels

SL MD-220 - Electronic Interface

SL CAST 90

SL CAST 65 (bicycles only)

SL SPZ sensor drawings



Typical Signal output of SL MA-110 and SL PUR Sensor. Sensor upper trace analog output 500 mv/div, lower trace digital output 5V/div

