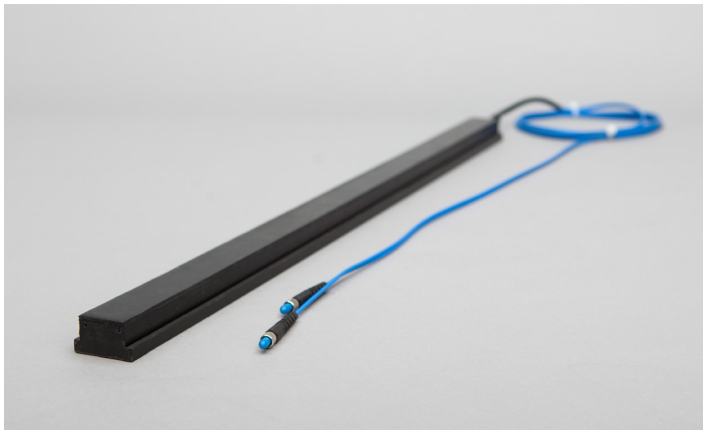
SL PUR SENSOR

Maximize road traffic management with the SL PUR sensor—enjoy a reliable vehicle detection solution that promises maintenance-free longevity and unparalleled accuracy.

Product Description

The SL PUR sensor detects vehicles in road traffic for applications like axle counting, speed measurement, headway measurement, vehicle classification and cyclist counting. The SL PUR sensor is designed for permanent installation in concrete or asphalt roads. Its special T-shape ensures a fast and long-term installation.

The pressure of a wheel deforms the SL PUR 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.



SL PUR sensor

SL PUR sensor installation

Advantages

- 100% vehicle detection rate
- Visibility independent
- EMV immune
- Noise free signal
- Highly reliable and maintenance free

References

- Lahore toll plaza
- Brussels bicycle counter
- Leipzig speed enforcement
- Istanbul Bosphorus bridge
- New York Thruway

SL PUR sensor: Fiber-optic sensor for road traffic applications

Characteristics

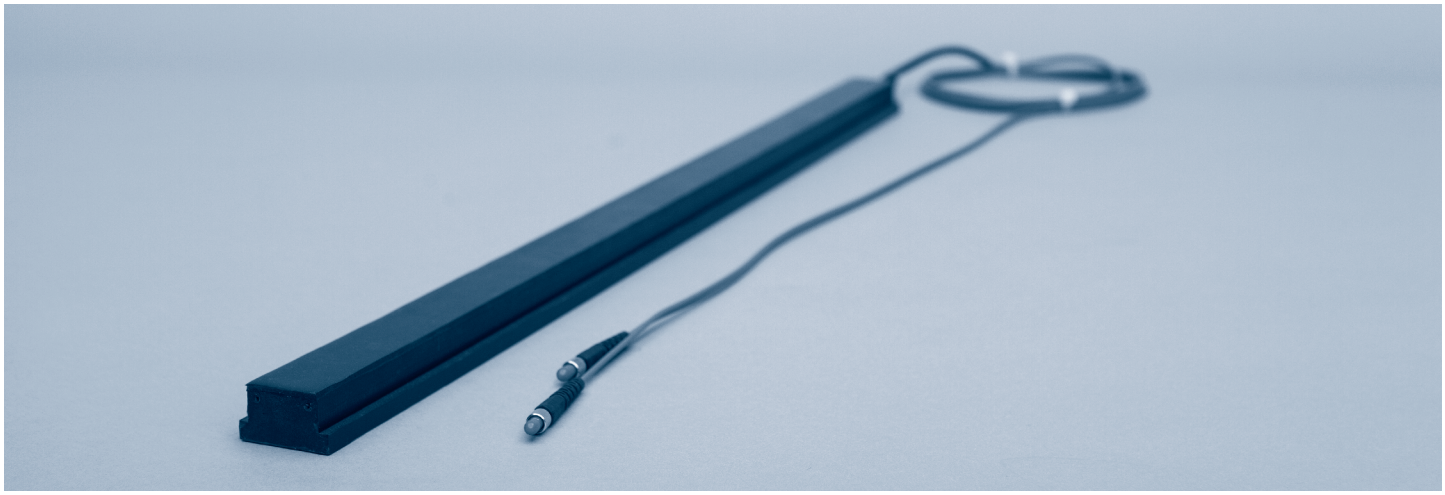
- SL PUR sensor detects vehicles such as cars, trucks, busses, motorbikes, bicycles and strollers by pressure on the sensor
- Typical applications are axle counting, speed measurement, headway measurement, vehicle classification and cyclist counting
- A ready to install SL PUR sensor comprises the sensor element itself, a fiber optic feeder cable spliced directly to it and terminated with fiber optic connectors
- Special hanger bar tools support the SL PUR sensor installation and ensures the right installation height
- To operate the SL PUR sensor, it is connected to a Sensor Line opto-electronic interface

Benefits

- 100% detection rate - all vehicles are detected independent of poor visibility caused by 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 and cable length up to 250 m

Different types, for different solutions

Sensor type	Characteristics	Used for counting of:
SL PUR (standard)	Stiff and longlasting polyurethane, average sensitivity	Cars, trucks, busses, motorbikes
SL PUR-BS	Softer polyurethane, higher sensitivity	Bicycles and strollers
SL PUR-S	Stiff and longlasting polyurethane, higher sensitivity	Mixed traffic, cars, trucks, busses, motorbikes and bicycles



SL PUR sensor: Technical Data

Dimensions

Sensor element	**Length**	up to 4.5 m (14.8 ft)
	Insensitive zones	tip 60 mm (2.7 in) / feeder joint 130 mm (5.1 in)
	Width	top 30 mm (1.2 in) / bottom 38 mm (1.5 in)
	Height	21 mm (0.83 in)
	Weight (without feeder cable)	1 kg/m (2.02lb/yd)
	Shore hardness	85
Fiber optic feeder cable	**Outer dimension**	2.5 x 5 mm (0.10 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)

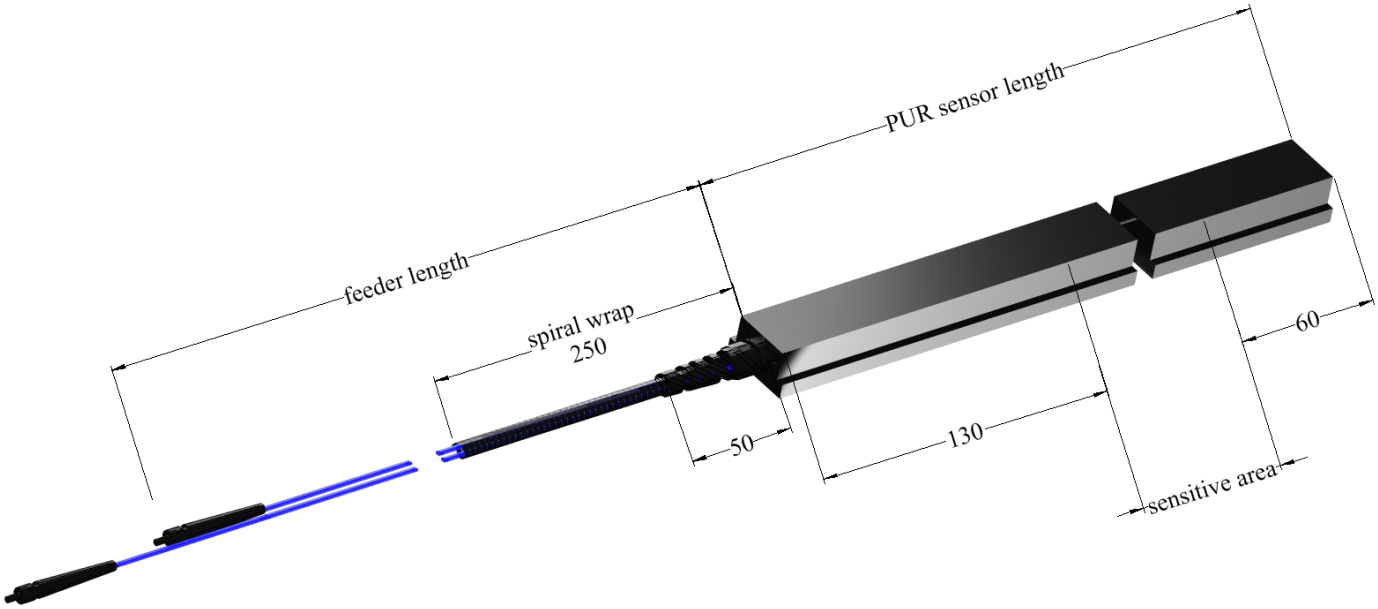
Performance

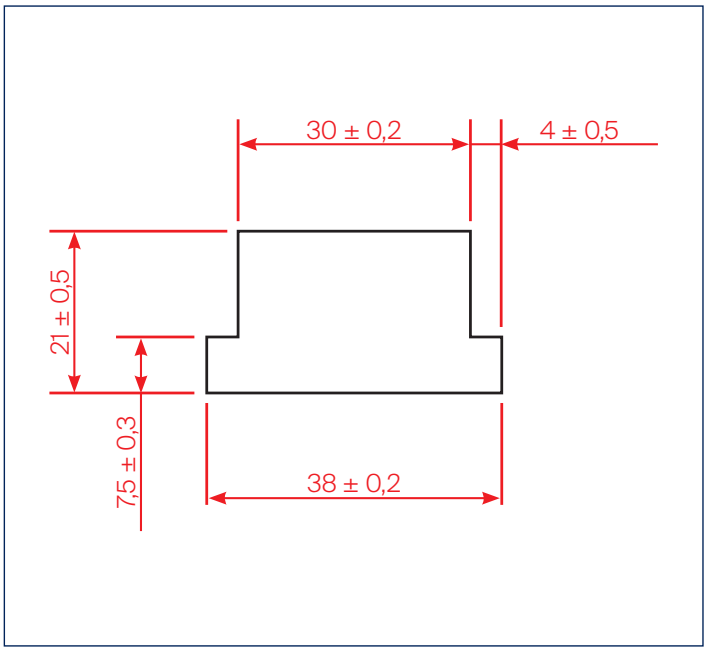
	Maximum speed	up to 250 km/h (155 mph)
	Operating / storage temperature	-30 °C to 85 °C (-22 °F to 185 °C)
	Humidity	no limitation
	Warranty PUR / PUR-B	2 years / 12 months

Accompanying Products

SL MA-X10 - Electronic Interface with 1-3 channels
SL MD-220 - Electronic Interface
SL PUR Slot Filler Material
SL Hanger Bar

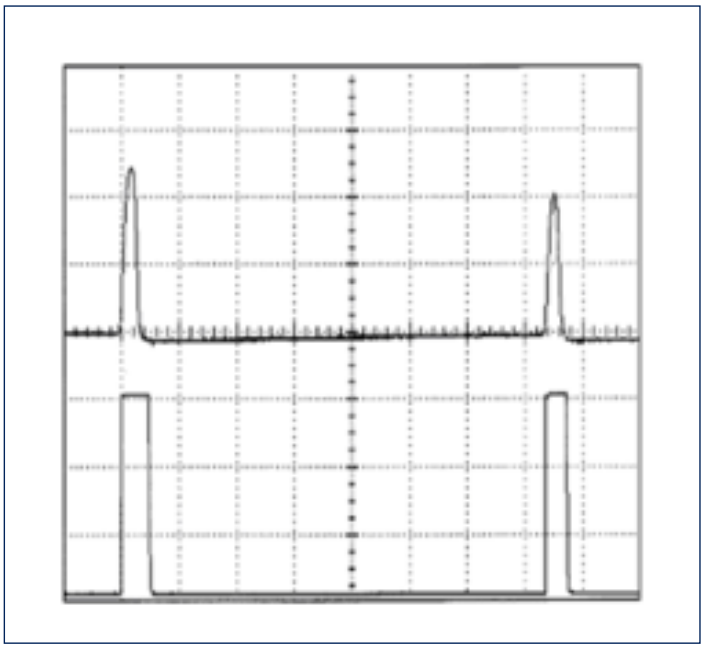
SL PUR sensor drawings





Cross section of SL PUR sensor

SL PUR Sensor typical output signal with dynamic interfaces (MA-110 / 210 / 310)



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