

Sensor Line SL PUR

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.

Advantages

- Excellent service life
- Highest accuracy
- Visibility independent
- Noise free signal
- Maintenance free

References

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



SL PUR sensor



SL PUR sensor installation

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

- 99,99+% detection rate - all vehicles are detected independent of poor visibility caused by smoke, rain, fog or snow
- Excellent service life - no material fatigue and no mechanical parts
- Durable and permanent installation - adapts smoothly to asphalt or concrete path surfaces and is corrosion free
- No maintenance or calibration needed during or after installation
- Customized sensor length possible - up to 4.5 m (15 ft) and cable length up to 250 m (820 ft)

Different types, for different solutions

Sensor type	Characteristics	Application
SL PUR (standard)	Stiff and long-lasting polyurethane, average sensitivity	Cars, trucks, busses, motorbikes
SL PUR-BS	Softer polyurethane, higher sensitivity	Bicycles and strollers
SL PUR-S	Stiff and long-lasting polyurethane, higher sensitivity	Mixed traffic, cars, trucks, busses, motorbikes and bicycles

SL PUR Technical Data

Dimensions

Sensor element	Length	up to 4.5m (15 ft)
	Insensitive zones	tip 60 mm (2.7 in) feeder joint 130 mm (5.1 in)
	Width	Top 30 mm (1.2in) Bottom 38 mm (1.5 in)
	Height	21 mm (0.8 in)
	Weight (without feeder cable)	1 kg/m (32.3++ 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)

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 bending 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

Average Life (MTTF)	5+ years or 10+ million axles
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	24 months

Accompanying Products

Sensor element

SL MA-110: Analog Electronic Interface with 1 channel

SL MA-210: Analog Electronic Interface with 2 channels

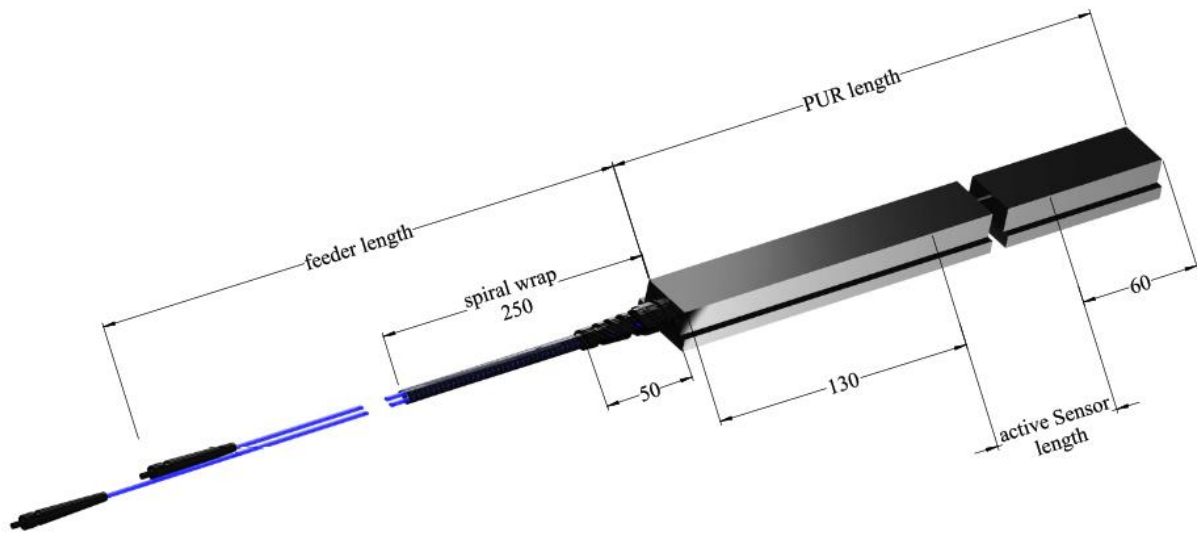
SL MA-310: Analog Electronic Interface with 3 channels

SL MD-220: Digital Electronic Interface with 2 channels

SL PUR SLOT FILLER: grout for installation

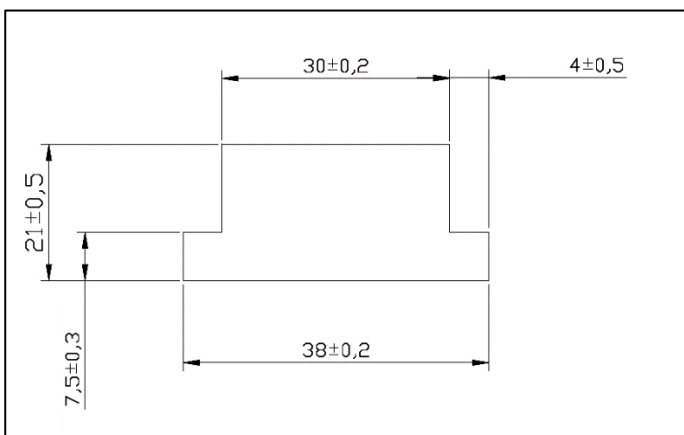
SL HANGER BAR: tool for installation

SL PUR Drawings

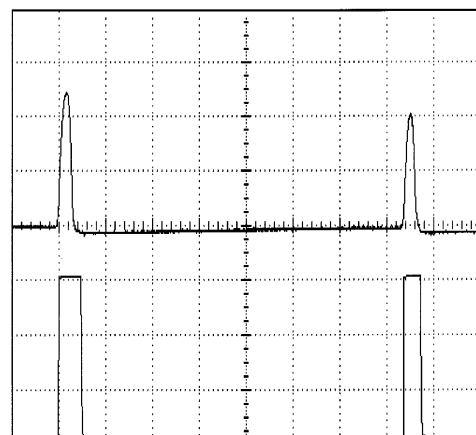


3D view SL PUR sensor

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Cross Section of SL PUR sensor



Typical signal output of SL MA/MD interfaces and SL sensors