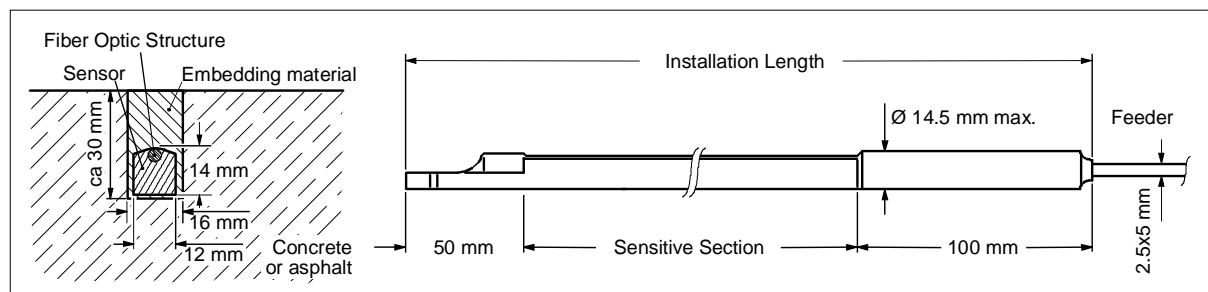


SPZ Fiber Optic Traffic Sensor

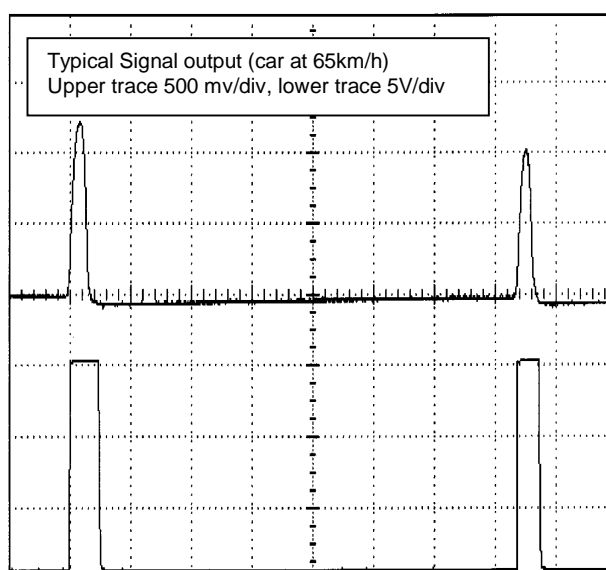
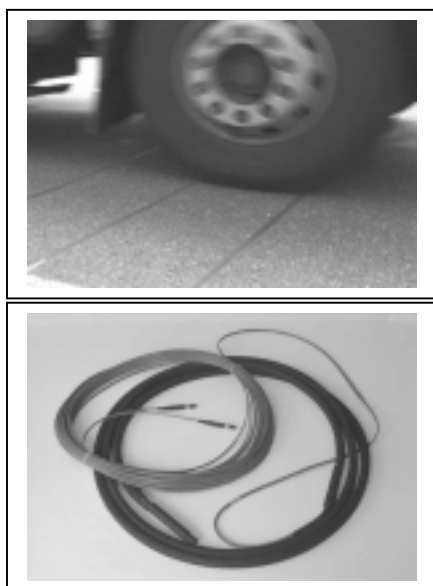
Product Description



SENSOR LINE SPZ traffic sensor is a fiber optic load sensor designed for permanent road installation. It produces a decrease of optical transmittance whenever the load of an object passes over it. These changes are detected by an opto-electronic interface and transformed into signals for traffic data processing.

Characteristics

- The fiber optic structure is fitted into a special conduit which makes the SPZ sensor sensitive to vertical pressure only.
- As the sensor does not include any metal parts it is immune against electro-magnetic disturbances, corrosion, and lightning.
- A ready to install SPZ traffic sensor comprises the SPZ sensor element itself, and a fiber optic feeder cable spliced directly to it and terminated with fiber optic connectors.
- The sensor installation is done flush and even to the road surface in small saw cut slots using SENSOR LINE SL-Cast embedding material and wedge kit.
- Inductive loops can be installed in the same slot
- To operate the SPZ sensor it is connected to an opto-electronic interface, e.g. SENSOR LINE SL MA-100 Optical Transmittance Analyzer.
- Common applications include axle counting, speed measuring, and vehicle classification.



SPZ Fiber Optic Traffic Sensor

Technical Data

Dimensions			
Sensor Element (including splice protections)			
Length (Standard) #	200/250/300		cm
Insensitive End Zones	50 (tip) / 100 (feeder joint)		mm
Width	12		mm
Height	14		mm
Weight	180		g/m
Duplex Fiber Optic Feeder Cable			
Outer Dimensions	2.5x5.0		mm
Lengths (Standard) #	15/35/50		m
Weight	12		g/m
Maximum Short Term Pull Tension	445(100)		N(lbs.)
Optional Fiber Connectors			
Type	Crimp and Cleave	SMA-905	
Dimension		39	mm
Max. Diameter		8	mm

Optical Data			
Sensor Waveguide			
Core Diameter	200		µm
Cladding Diameter	230		µm
Buffer Diameter	500		µm
Numerical Aperture	0.3		
Sensor Attenuation	typ. 3.5+1.5/m		dB
Feeder Waveguide			
Core Diameter	200		µm
Cladding Diameter	230		µm
Buffer Diameter	500		µm
Numerical Aperture	0.3		
Feeder Attenuation @ 850 nm	6		dB/km

Performance			
Storage Temperature Range	-55...+85		°C
Operating Temperature Range	-40...+80		°C
Maximum Stretching	3		%
Minimum Bend Radius Sensor Element	100		mm
Minimum Bend Radius Feeder Cable	15		mm
Minimum Calculated MTBF	10		years
Minimum Number of Load cycles	unlimited		
Sensitivity	Typical light change caused by a midsize passenger car 10 %		
# other lengths up to 250 meter available on request			