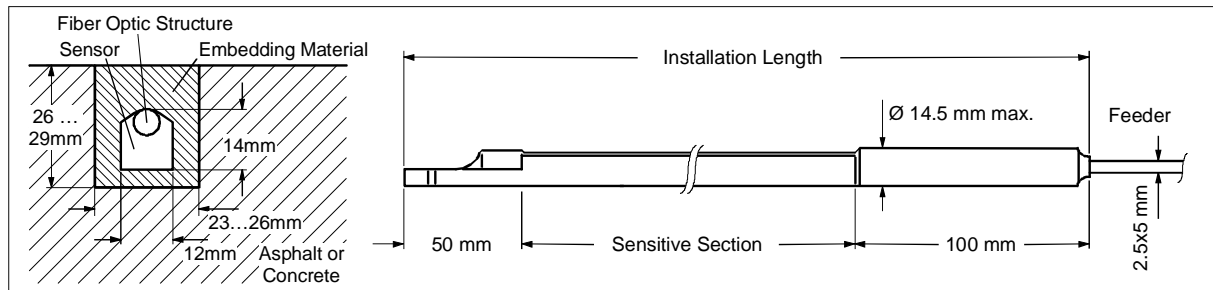


SPZ Fiber Optic Traffic Sensor

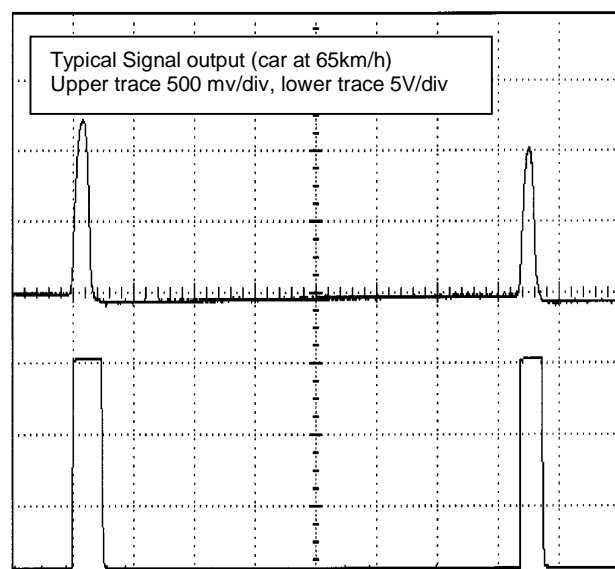
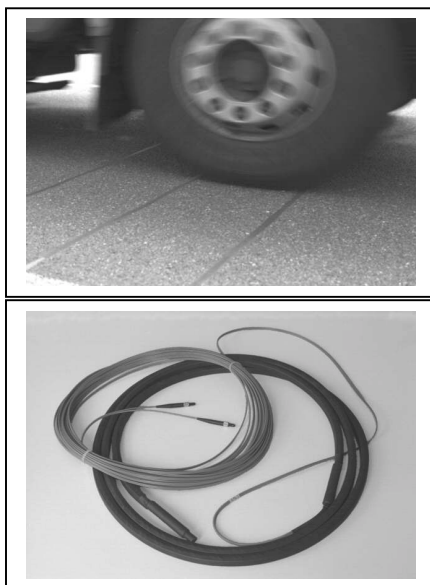
Product Description



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-110 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) #		250/300/350	cm
Insensitive End Zones		50 (tip) / 100 (feeder joint)	mm
Width		12	mm
Height		14	mm
Weight		180	g/m
Zipcord Fiber Optic Feeder Cable			
Outer Dimensions		2.5x5.0	mm
Lengths (Standard) #		25/35/50	m
Weight		12	g/m
Maximum Short Term Pull Tension		205(46)	N(lbs.)
Fiber Connectors FSMA-905			
Standard Type	Crimp & Cleave	SL 4430-C	
Dimension		34	mm
Max. Diameter		8.5	mm
Optional:			
Type:	Multiuse	SL-RP2.5-C	
Dimension		41	mm
Max. Diameter		8.5	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		-40...+85	°C
Operating Temperature Range		-30...+85	°C
Maximum Sensor Stretching		3	%
Minimum Bend Radius Sensor Element		100	mm
Minimum Bend Radius Feeder Cable		15	mm
Minimum Calculated MTBF		5	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			

Applicable Property Rights: DE 195 34 260
 DE 197 26 731
 EP 0 763 724
 U.S. Pat. 5,926,584