

Road Eye Sensor

Model: Road SD Mk2

Road Eye Sensor is designed by Dr. Sten Löfving This sensor is a patented (Pat number SE 531949C2) contact less sensor concept for monitoring the road surface. The information from the sensor can for instance be used for warning a driver for low friction when there is ice on the road. The measuring principle is spectral analysis of backscattered laser radiation from the road surface using two lasers at IR wavelengths where the radiation is absorbed by ice and water.



The sensor is made in two versions: - one to be mounted on vehicles, Road eye Short Distance (SD) - and one Road Long Distance LD, to be mounted at roadside. The SD and LD sensors are able to identify some important road conditions like

- Dry road (this is the most important one to identify since it is associated with the best friction - as soon as the road surface is not dry the road friction is reduced)
- Moisture on road
- Wet road
- Clear ice - i e ice without air bubbles, a very dangerous road condition
- Ice/Packed snow.

About the Short Distance model SD: The range of the SD sensor is up to about 2 meters and the update time is about 60 ms which can be converted to a distance much shorter than the length of a car for all possible speeds on public roads.

The Road eye SD sensor has been used in a lot of projects at LTU. The SD type has been investigated in big road research projects like the IVSS projects www.ivss.se. The SD model has been tested by car manufacturers and suppliers.

Specifications of Model SD:

Dimensions of the casing except for the protecting tube: about 50*50mm.

Length of the protecting tube: 250 mm

Supply voltage: 8-15 Volt DC

Current consumption: about 50 mA.

Temperature range: -20 to +40 degC

Housing: Anodized aluminum, openings sealed with O-rings

Applications:

- Road & rail tunnels
- Small airports & helipads
- Remote weather monitoring stations
- Environmental field sites
- Mobile weather monitoring vehicles

Patent Protection:

The invention is today protected by two active Swedish patents, SE521094C2 and SE531949C2.

In the present design there are probably "new" patentable characteristic.

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**** Drawing & specifications are subjected to change at any time without prior notice as per manufacturing suitability.**