

NIRS31

Non-invasive Road Sensor

The NIRS31 is a non-invasive road weather sensor with optical principle. It is mounted several meters above the surface at bridges or masts.





Easy to install and add to existing network



Friction measurement



Real-time data



Onsite calibration

The sensor measures surface conditions such as wetness, ice, snow, or frost as well as water film heights, ice percentage in water and freeze point temperature. Through these

measurements it generates the friction coefficient on the road or runway.

Parameters measured

- Layer thickness of water
- Snow and ice
- Surface conditions (dry, damp, wet, snow, ice)
- Friction
- Optional: road surface temperature

Measurement technology

- Optical principle
- Pyrometer

Interfaces

- UMB-binary
- SDI-12
- ASCII-UMB
- Analog outputs in combination with digital-analog-converter DACON8-UMB

Technical specifications

General

Dimensions	H. ca. 425 mm, W. ca. 225mm, D. ca. 285mm
Weight	10 kg

Storage conditions

Ambient air temperature	-40 °C to +70 °C
Ambient relative humidity	< 95 %RH, non-condensing

Operating conditions

Operating voltage	24 V DC \pm 10%
Power consumption	approximately 40 VA
Temperature	-40 °C to +60 °C
Protection type	IP 65

Layer thickness (water, snow, ice)

Principle	optical
Measurement range	0 to 2 mm (snow 0 to 10 mm)
Resolution	0.01 mm

Surface conditions

Surface conditions	dry, damp, wet, snow, ice
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Friction

Friction	measurement range 0 to 1 (critical to dry)
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Road surface temperature

Principle	pyrometer
Measurement range	-40 °C to +70 °C
Accuracy	0.8 °C
Resolution	0.1 °C