



Lufft NIRS31-UMB Non-Invasive Road Condition Sensor, 15 m Distance

Product #: 8710.UT01
USD Price: Contact Hach

The NIRS31-UMB is a non-invasive road weather sensor with optical measuring principle. It is mounted at masts or bridges up to 50 ft distance to the measurement spot on the road and can even monitor bridges. It measures surface conditions such as surface temperature, wetness, ice, snow, or frost as well as water film heights and calculates additional parameters like ice percentage in water, freeze point temperature and generates the friction coefficient on the road.

Non-invasive measuring principle

The optical (spectroscopic) measuring principle delivers the important road surface condition parameter without the need of construction works on the road itself.

Representitive measurement of the road condition

Road condition is evaluated over a representative spot area of the road surface of >2 sqm.

High-quality road condition parameters for comprehensive description

Sensor measures on multiple wavelengths in the infrared optical range and delivers important road information: surface temperature, water film height, ice layer thickness, ice percentage, freezing temperature, road condition index, friction and snow height.

Specifications

*Parameters Measured:	Surface temperature
	Water film height
	Ice layer thickness
	Ice percentage
	Freezing temperature
	Road condition (dry, damp, wet, snow, ice)
	Friction
	Snow height
	Saline concentration
	Road surface temperature: ± 1.5 °F
Accuracy:	Water film height: ± 0.04 in or ± 20 % of measurement value
Cable Connection:	Open wires
Cable Length:	50 ft (15 m)

Communication:	SDI-12, RS485-UMB
Detectable road conditions:	Dry, Damp, Wet, Snow, Ice
Dimensions:	16.7 x 8.86 x 11.22 in (425 x 225 x 285 mm)
Height above Absolute Altitude:	9843 ft (3000 m)
Interface:	RS485 2 wire
	Baud rates: 1200 - 57600 bit/s (Standard 19200)
	SDI-12: 1200 fixed
IP Rating:	IP65
Lamp Lifetime:	2 years
Layer Thickness:	Water, Snow, Ice
Material Enclosures:	Aluminium housing with plastic cover
Measurement distance:	50 ft (15 m)
Measurement technology:	Optical spectroscopic principle, lamp transmitter, pyrometer
Measuring Range:	Layer thickness: 0-0.08 in (snow 0 - 0.4 in)
	Friction: 0-1 (critical - dry)
	Pyrometer: -40 - +158 °F (-40 - +70 °C)
Operating Humidity:	0 - 100 % RH
Operating Temperature Range:	-40 - +176 °F
Operating voltage:	12 - 24 VDC ±10 %
Power Consumption:	40 VA, 15 VA in energy saving mode
Power Supply:	12 - 24 VDC ±10 %
Product highlights:	Non-invasive
	Easy to install
	Easy to add to existing measurement networks
	Friction measurement
	Real time data providing
Resolution:	Layer thickness: 0.01 mm
	Pyrometer: 0.1 °C
Standard storage temperature:	-40 - +158 °F
Weight:	22 lb (10 kg)