



The NIRS31-UMB is a non-invasive road weather sensor with optical principle. It is mounted several meters above the ground and can even monitor bridges...

- **Parameters measured**
Layer thickness of water, snow and ice, surface conditions (dry, damp, wet, snow, ice), friction, road surface temperature, saline concentration
- **Measurement technology**
Optical principle, pyrometer
- **Product highlights**
non-invasive, easy to install and add to existing measurement networks, friction measurement, real time data providing
- **Interfaces**
UMB-binary, SDI-12, ASCII-UMB, analog outputs in combination with digital-analog-converter DACON8-UMB
- **Article number**
8710.UT01

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

Technical Data

Non Invasive Road Sensor NIRS31-UMB



General

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

Storage conditions

| | |
|---------------------------------|-------------------------------|
| Permissible ambient temperature | -40...70°C |
| Permissible relative humidity | 0 ... 95% R.H. non-condensing |

Operating conditions

| | |
|-------------------------------|-----------------|
| Permissible relative humidity | 0 ... 100% R.H. |
| Operating voltage | 24 VDC ±10% |
| Power consumption | Approx. 40VA |
| Operating temperature | -40...60°C |
| Protection type | IP65 |

Layer thickness

| | |
|-----------------|----------------------------|
| Layer thickness | Water, Snow, Ice |
| Principle | Optical |
| Measuring range | 0...2mm (snow 0 ... 10 mm) |
| Resolution | 0.01mm |

Surface conditions

| | |
|--------------------|---------------------------|
| Surface conditions | Dry, Damp, Wet, Snow, Ice |
|--------------------|---------------------------|

Friction

| | |
|----------|---|
| Friction | Measurment range 0...1 (critical ... dry) |
|----------|---|

Road surface temperature

| | |
|-----------------|---------------|
| Principle | Pyrometer |
| Measuring range | -40 bis +70°C |
| Accuracy | 0,8°C |
| Resolution | 0,1°C |

Saline Concentration

| | |
|---------------------|---------------|
| Measurement process | Spectroscopic |
| Measuring range | 0% ... 100% |
| Resolution | 0.1% |
| Sampling rate | <1 minute |
| Units | % |