

Lufft IRS31-UMB – Intelligent Road Sensor

Passive road sensor IRS31-UMB is flush-mounted in the road. The two part housing design allows the combined sensor/electronics unit to be removed for maintenance or calibration at any time.

The following variables are recorded:

- Road surface temperature
- Water film height up to 4 mm
- Freezing temperature for different de-icing materials
- Road condition (dry/damp/wet/ice or snow/residual salt/freezing rain)

Optional:

- 2 additional depth temperatures, e.g. at 5 cm and 30 cm

The sensors are addressable and can be networked.

The measurement data is available for further processing in the form of a standard protocol (Lufft UMB protocol).

Lufft IRS31-UMB Intelligent Road Sensor		Order No.
IRS31-UMB 50 m cable length		8510.U050
IRS31-UMB 100 m cable length		8510.U100
IRS31-UMB 50 m cable length, 2 depth temperature sensors		8510.U052
IRS31-UMB 100 m cable length, 2 depth temperature sensors		8510.U102
Technical Data	Dimensions	Ø 120 mm, height 50 mm
	Weight	approx. 800 g
	Detectable road conditions	Dry/damp/wet/ice or snow/residual salt content/freezing wetness
	Storage temperature	-40 ... 70 °C
	Rated current	<200 mA
	Interface	RS485, Baudrate: 2400 ... 38400 bit/s (Standard: 19200)
	Protection	IP68
	Op. power consumption	9 ... 14 VDC, typical 12 V
	Plug	Cable 0.5 mm ²
	Op. temperature range	-40 ... 70 °C
	Operating humidity range	0 ... 100 % RH
	Road dampness	Unit: dry/damp/wet
	Slippery road conditions	Unit: no ice/snow, snow, freezing rain, ice
Road surface temp./below-ground temp.	Principle	NTC
	Measuring range	-40 ... 70 °C
	Accuracy	±0.2 °C (-10 ... 10 °C), otherwise ±0.5 °C
	Resolution	0.1
Freezing point	Measuring range	-20 ... 0 °C
	Accuracy	±1 °C for t > -10 °C
	Resolution	0.1
Water film height	Principle	Radar
	Measuring range	0 ... 4 mm
	Accuracy	±(0.1 mm + 20 % of measurement)
	Resolution	0.01 mm
Accessories	UMB Interface converter ISOCON-UMB	8160.UISO
	Spare part cap IRS31-UMB	8510.DEC
	Surge protection	8379.USP
	Digital-analog-converter DACON8-UMB	8160.UDAC



Order No. 8510.DEC

- Replaceable sensor electronics
- Polling via RS485 interface
- Low energy consumption (solar operation)
- Radar principle to measure water film

