



Precise Freeze Temperature
Measurement

- Independent of your De-Icing Agent

Lufft ARS31Pro-UMB – Intelligent Active Road Sensor

The active ARS31Pro-UMB sensor is flush-mounted in the road/runway surface and measures the freezing temperature by means of active cooling and heating of the sensor surface.

In addition it measures the road surface temperature; this surface temperature sensor is integrated into a second housing which is connected with the ARS31Pro-UMB.

The distance between the two housings is 50cm.

One additional measurement is carried out in order to find out critical conditions in the next few hours. This early alert message is an extra road surface condition information in addition to the road conditions which are measured „now“.

The freezing temperature measurement is independent of mixture. The two-section housing design allows the combined sensor/electronics unit to be removed for maintenance purposes at any time, in just a few minutes.

In conjunction with the interface converter 8160.UISO, the sensor can be built into new and existing UMB networks.

The sensors are addressable and can be networked



External Road Surface Temperature Sensor

Replaceable sensor/electronics

Simulation of critical surface conditions in the very near future

All-in-one sensor including active measurement of freeze point temperature

Mixture-independent measurement

Analog outputs in combination with 8160.UDAC

Lufft ARS31Pro-UMB Intelligent Road Sensor		Order No.
ARS31Pro-UMB 50m cable length		8810.U051
Technical data	Dimensions	Ø 120 mm, height 50mm
	Weight	Approx. 1100g
	Storage temperature	-40 ... 80 °C
	Protection type	IP68
	Power supply	24 VDC ± 10%
	Plug	CAGE CLAMP, WAGO (cross-section < 0.5mm²)
	Op. temperature range	-40 ... 80 °C
	Operating humidity range	0 ... 100% RH
	Power consumption	Approx. 30W
	Interface	RS485, baud rate: 2,400 ... 38,400 bit/s (default: 19,200)
Freezing point	Measuring range	-40...0°C, however Tg ≥ Tu -20°C
	Accuracy	±0.5 °C RMS for Tg > -15 °C, or ±1.5 °C RMS for Tg < -15 °C (at NaCl)
External road surface temp.	Principle	NTC
	Measuring range	-40 ... 80 °C
	Accuracy	±0.2 °C (-10 ... 10 °C), or ±0.5 °C
	Resolution	0.1
Accessories	UMB Interface converter ISOCON-UMB	8160.UISO
	Spare part cap + electronics ARS31Pro-UMB	8610.DEC
	Surge protector	8379.USP
	Digital-analog-converter DACON8-UMB	8160.UDAC
	Power Supply 24V/4A	8366.USV1

