

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, the ARS31Pro-UMB measures dry/wet-conditions and 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 50 cm.

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 50 mm	
	Weight	approx. 1100 g	
	Detectable road conditions	Dry/wet/critical wetness/ice alert	
	Storage temperature	-40 ... 80 °C	
	Protection type	IP68	
	Op. power consumption	9 ... 36VDC	
	Plug	CAGE CLAMP, WAGO (cross-section < 0.5 mm ²)	
	Op. temperature range	-40 ... 80 °C	
	Operating humidity range	0 ... 100 % RH	
	Power consumption	approx. 30 W	
Freezing point	Interface	RS485, baud rate: 2,400 ... 38,400 bit/s (default: 19,200)	
	Measuring range	-20 ... 0 °C	
External road surface temp.	Accuracy	±0.5 °C RMS for Tg > -15 °C, or ±1.5 °C RMS for Tg < -15 °C (at NaCl)	
	Principle	NTC	
	Measuring range	-40 ... 80 °C	
	Accuracy	±0.2 °C (-10 ... 10 °C), or ±0.5 °C	
Accessories	Resolution	0.1	
	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

