

# 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.

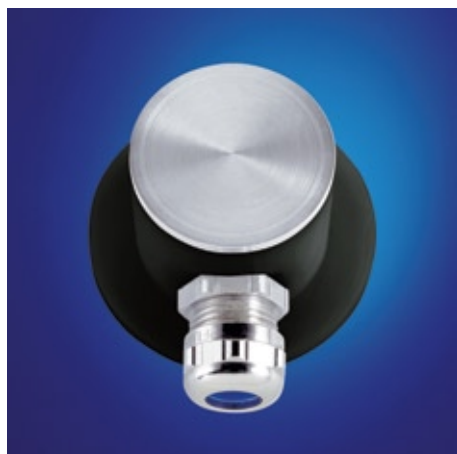
One additional measurement is carried out in order to find out critical conditions in the next few hours. This early alert message is an extra road surface condition information in addition to the road conditions which are measured „now“.

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.

Lufft ARS31Pro-UMB Intelligent Road Sensor			Order No.
<b>ARS31Pro-UMB</b> 50m cable length			<b>8810.U051</b>
<b>Technical Data</b>	Dimensions	Ø 120 mm, height 50 mm	
	Weight	approx. 1100 g	
	Detectable road conditions	Dry/wet/critical wetness/ice alert	
	Storage temperature	-40 ... 70 °C	
	Protection type	IP68	
	Op. power consumption	9 ... 36VDC	
	Plug	CAGE CLAMP, WAGO (cross-section < 0.5 mm <sup>2</sup> )	
	Op. temperature range	-40 ... 70 °C	
	Operating humidity range	0 ... 100 % RH	
	Power consumption	approx. 30 W	
	Interface	RS485, baud rate: 2,400 ... 38,400 bit/s (default: 19,200)	
<b>Freezing point</b>	Measuring range	-20 ... 0 °C	
	Accuracy	±0.5 °C RMS for Tg > -15 °C, or ±1.5 °C RMS for Tg < -15 °C (at NaCl)	
<b>External Road surface temp</b>	Principle	NTC	
	Measuring range	-40 ... 70 °C	
	Accuracy	±0.2 °C (-10 ... 10 °C), or ±0.5 °C	
	Resolution	0.1	
<b>Accessories</b>	UMB Interface converter ISOCON-UMB		<b>8160.UISO</b>
	Spare part cap + electronics ARS31Pro-UMB		<b>8610.DEC</b>
	Surge protector		<b>8379.USP</b>
	Digital-analog-converter DACON8-UMB		<b>8160.UDAC</b>



**External Road surface temp. 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



# Passive Road Surface Temperature Sensor

The surface temperature sensor measures runway and highway-temperatures highly precise, both on asphalt and concrete.

Works also in conjunction with ARS31pro.

Passive Road Surface Temperature Sensor			Order No.
<b>WST1</b> 50m cable length			<b>8160.WST1</b>
<b>Technical Data</b>	Dimensions	Ø 60 mm, height 40 mm	
	Weight	approx. 150 g	
	Storage temperature	-40 ... 70 °C	
	Protection type	IP68	
	Op. temperature range	-40 ... 70 °C	
<b>Temperature/NTC</b>	Measuring range	-40 ... +70 °C	
	Accuracy	±0.3 °C (-10...+10°C) otherwise ±1.0 °C	

Passive Road Surface Temperature Sensor			Order No.
<b>WST2</b> 50m cable length			<b>8160.WST2</b>
<b>Technical Data</b>	Dimensions	Ø 60 mm, height 40 mm	
	Weight	approx. 150 g	
	Storage temperature	-40 ... 70 °C	
	Protection type	IP68	
	Op. temperature range	-40 ... 70 °C	
<b>Temperature/PT100</b>	Measuring range	-40 ... +70 °C	
<b>1/3 DIN B</b>	Accuracy	±0.1 °C at 0°C	
<b>Zubehör</b>	UMB Interface converter ANACON-UMB		<b>8160.UANA</b>

The runway/road surface temperature sensor 8160.WST1 can be connected with any WS family sensor of Lufft UMB technology.

The runway/road surface temperature sensor 8160.WST2 can be used with Lufft UMB-ANACON converter.

