



Lufft Active Road Sensor ARS31Pro-UMB, External Temperature Sensor, 164 ft Supply Cable

Product #: 8810.U051
USD Price: Contact Hach

The active road surface UMB sensor ARS31Pro is flush-mounted in the road or runway surface and measures the freezing temperature by means of active cooling and heating of the sensor surface. Through this, it's independent from the de-icing material. In addition, it measures the road surface temperature. This surface temperature sensor is integrated into a second housing which is connected to the ARS31Pro-UMB. The distance between the two housings is 50 cm. One additional measurement is carried out to find out critical conditions in the next few hours. This early alert message delivers extra road surface condition information in addition to the real time road conditions. The two-section housing design allows the combined 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.

Freezing point is determined independently from the de-icing material

Active cooling concept enables the freezing point determination independently from de-icing material.

Maintenance, calibration and replaceability

Sensor consists of two parts: replaceable sensor head with electronics and fixed mounted socket.

Extra road surface temperature sensor

Actual surface temperature sensor is integrated into a second housing for accurate measurements not influenced by the active cooling/heating element. One additional measurement is carried out to find out critical conditions in the next few hours.

Invasive technology allows

Permanent usage on runways where non-invasive sensors cannot be used.

Specifications

*Parameters Measured:	Road surface temperature Freezing point
Accuracy:	External road surface temperature: ± 0.4 °F (-14 - +50 °F), or ± 1 °F
Cable Connection:	Open wires 0.5 mm ²
Cable Length:	164 ft (50 m)
Communication:	RS 485-UMB
Connector (text):	CAGE CLAMP, WAGO, (cross-section <0,5 mm ²)
Cooling Sensor:	Active
Digital Outputs:	UMB
Dimensions:	Ø 4.72441 in, H 1.97 in (Ø 120 mm, H 50 mm)
Height above Absolute Altitude:	9843 ft (3000 m)
Interface:	RS485

	Baud rate: 1200 - 38400 bit/s (Standard: 19200)
IP Rating:	IP68
Material Enclosures:	Salt , UV resistant modified PTFE
Measurement distance:	in-situ
Measurement technology:	Peltier element: Active cooling and heating
	Road surface temperature: NTC
Measuring Range:	Road surface temperature: -40 - +176 °F
	Freezing point: -40 - +32 °F
	Water film height: 0 - 0.16 in
	Friction (Grip) [slippery-dry]: 0 - 1
	Ice Percentage: 0 - 100 %
Number of Depth Sensors:	0
Number of Depth Temperature Sensors:	0
Number of Related Temperature Sensors:	1
Operating Humidity:	0 - 100 % RH
Operating Temperature Range:	-40 - +176 °F
Parameters Measured:	Road surface temperature
	Freezing point
Power Supply:	24 VDC ±10 %
Product highlights:	Two part housing design allows easy maintenance/re-calibration
	Llow energy consumption allows solar operation
	Freezing point determined independently from de-icing material
Resolution:	External road surface temperature - 0.1
Standard storage temperature:	-40 - +158 °F (in packaging)
Weight:	Approx. 2.4 lb (1100 g)