- **Parameters measured**
  road surface temperature, freezing point

- **Measurement technology**
  active cooling and heating (Peltier element), NTC (road surface temp.)

- **Product highlights**
  Two part housing design allows easy maintenance/re-calibration, low energy consumption allows solar operation, freezing point determined independently from de-icing material

- **Interfaces**
  RS485

- **Article number**
  8810.U051

The active ARS31Pro-UMB sensor 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 indepented 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 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 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.

General	
Dimensions	Ø 120mm, height 50mm
Weight	Approx. 1100g
Storage temperature	-40...70°C (in packaging)
Protection type	IP68
Power supply	24 VDC ±10%
Connector	CAGE CLAMP, WAGO, (cross-section <0.5mm^2)
Operating temperature	-40...80°C
Operating rel. humidity	0...100% RH
Power consumption	Approx. 30 W
Interface	RS485, baud rate: 2,400...38,400 bit/s (default: 19,200),
Cable length	50m

External road surface temperature	
Principle	NTC
Measuring range	-40 ... 80 °C
Unit	°C
Accuracy	±0.2°C (-10...10°C), or ±0.5°
Resolution	0.1

Freezing point	
Measuring range	-40 ... 0 °C
Unit	°C
Accuracy > -15°C	±0,5°C for Tg > -15°C (with NaCl, determined according to CEN/TS 15518-4);
Accuracy < -15°C	±1,5°C for Tg < -15°C (with NaCl, determined according to CEN/TS 15518-4)