VS20 & R2S

The intelligent combined sensor technology for “present weather”.

visibility + precipitation = Present Weather

Features:
- compact design
- maintenance-free construction
- protection against contamination
- simple integration into sensor stations (ESS)
- RS485 interface with UMB protocol

R2S:
differentiates drizzle / rain / snow / hail
precipitation intensity and accumulation

VS20:
precise visibility measurement up to 2000 m

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Visibility sensor VS20

Configuration of VS20 via UMB-CFG software

Software functions are

- **Readout / Change of configuration parameters**
- **calibration**
- **readout of current measurement**
- **upload and storage of VS20 configurations**

- precise visibility measurement up to 2000 m.

- ideal component for traffic applications

- via 4..20 mA interface, the sensor signal is transmitted in analog mode

- via RS485-interface, the sensor signal is accessed over UMB-protocol.

- calibration device available.

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R2S Precipitation sensor

The drop speed is captured with a 24 GHz-Doppler radar. The precipitation quantity and intensity is calculated from the correlation between drop size and speed. The type of precipitation (rain/snow) is detected from the difference in drop speed.

- direct rain/snow-differentiation and detection of drizzle and hail
- selectable resolution for quantity measurements: 1mm, 0,1 mm or 0,01 mm
- via RS485-interface, the sensor can be accessed using UMB-protocol.
- The two digital outputs can be connected to any logger type
- design:
  maintenance-free and easy to install,
  10m lead cable with connector,
  plastic dome with optional heating,
  sensor housing, black aluminium base

Configuration of R2S via UMB-CFG software

Software functions:

- **Readout / Change of current configuration**
- **calibration**
- **readout of current measurement**
- **upload and storage of R2S configurations**

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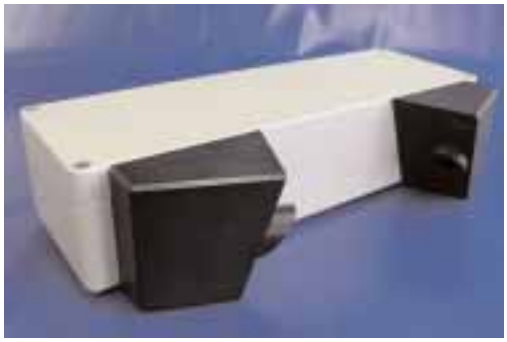
Technical data



Visibility sensor	**Ref. No. 8366.U50**
Output signal	4...20 mA
Interface	RS485 half-dublex 2-wires, UMB protocol
Protection type	IP66
Dimensions	360x180x80mm³
Operating temperature	-40...60°C
Power supply	typ. 24VDC (22...28VDC) 3W
Weight	4kg
Visibility	
Principle	Forward scattered light
Measuring range	20...2000 m
Resolution	< 1m
Accuracy	±10% RMSE
Accessory	
calibration device	**8366.UKAL1**

R2S	**Ref. No. 8367.U01 (Europe without F,GB)** **Ref. No. 8367.U02 (USA + F)** **Ref. No. 8367.U03 (GB)**
Interface	RS485 half-dublex 2-wires, UMB protocol, 2 x digital
protection type	IP67
dimensions approx.	d=90mm, L=210mm
Operating temperature	-30...70°C
Power supply	typ. 24VDC (22...28VDC) 30VA
Weight	4kg
precipitation	
Principle	24GHz Doppler radar
Measuring range drop size	0,3...5mm
Resolution	0,01...0,1...1,0mm/m²
Reproducibility	typ.>90%
Accessory	
Shield R2S	**8367.SCHIRM**

Accessory for both sensors	
Power supply 24V/4A	**8366.USV1**
connecting cable	**8366.UKAB10**
Interface converter ISOCON (RS232<->RS485, for Software UMB-CFG)	**8160.UISO**

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