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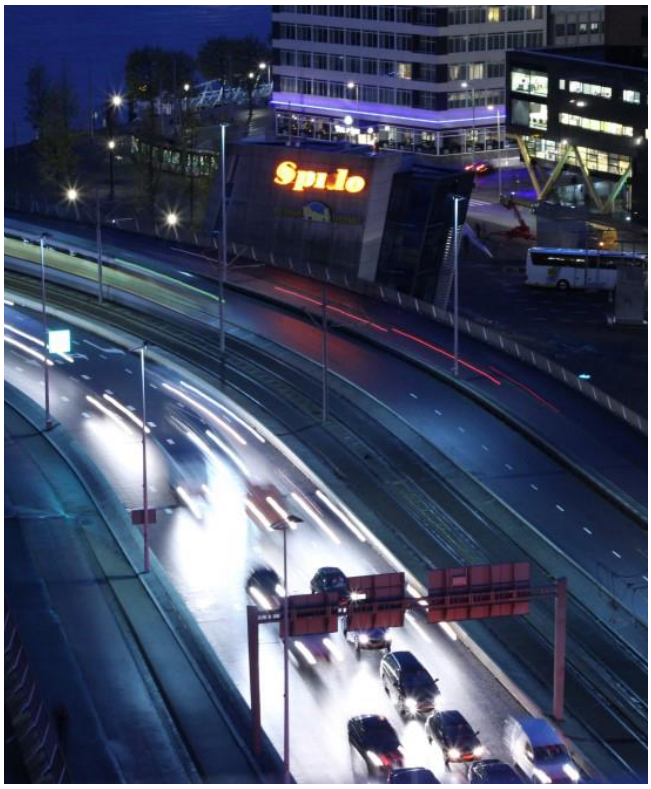
RWS-20



Use in road applications

Datasheet

RWS-20 Road Weather Sensor

The RWS-20 is designed for use in road applications where accurate and reliable visibility measurements are required. The forward scatter measurement principle and unique design ensure the output is both accurate and reliable in all weather conditions and will not be influenced by local light sources, headlights or even flashing signs and beacons.

The 10m to 7.5km measurement range is optimal for use in road applications where fog, heavy rain, surface spray and snow can cause dangerous driving conditions due to reduced visibility.

Features

- 10m to 7500m measurement range (can be scaled)
- Compact forward scatter design
- Optional hood heating for use in extreme winter environments
- Window heating and contamination monitoring
- Optional 4-20mA and relay outputs
- Analogue voltage output (0-10V)
- Comprehensive self-test capabilities
- Serial data output (RS232, RS422 or RS485)

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General

Heating of both the optical windows and sensor hoods is provided allowing use in the harshest of winter conditions.

Both optical windows are monitored for contamination and the visibility output is automatically compensated to reduce maintenance requirements. The RWS- 20 will even automatically alert when the measurement optics need to be cleaned.

In addition to the serial data interface, the sensor provides voltage and current (optional) outputs of visibility (MOR) or the extinction coefficient (EXCO).

Optional relays provide a direct connection to road-side signage or to a data-logger or other control system allowing the sensor to intelligently (and independently) operate local warning systems.

Data summary

Visibility measurement

- Measures: visibility & extinction coefficient
- Output: serial data, and voltage, 4- 20mA optional
- Range: 10m to 7,500m
- Measurement error: ≤10% at 7,500m
- Measurement principle: forward scatter meter with 39° to 51° angle, centre at 45°

Outputs and reports

- Output rate (seconds): 60
- Serial outputs: RS232, RS422 and RS485
- Analogue outputs: 0-10V (4-20mA Option)
- Relay outputs: 1 fault and 2 threshold relays (option)

Power requirements

- Sensor power: 9-36 Vdc
- Hood heating power: 24Vac or dc
- Basic sensor: 3.5W
- Window heaters: 1.7W
- Hood heaters: 24W

Additional features

- Hood heaters: fitted as an option to both sensor head hoods
- Window contamination: fitted as standard to both sensors
- Monitoring: head windows

Environmental

- Operating temperature: -40°C to +60°C
- Operating humidity: 0 – 100% RH
- Protection rating: IP66/IP67

Physical

- Material: powder paint coated aluminium
- Weight (incl.mounting kit): 4.2kg
- Length: 811mm

Accessories – optional

- SWS.CAL Calibration Kit suitable for SWS/RWS series
- SWS.CASE Transit Case

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