



SWS-100 visibility sensor



SWS-100 in road application

Datasheet

SWS-100 Visibility Sensor

As with all the SWS sensors the SWS-100 sensor is configured for accurate measurement of visibility in the densest of fogs to very clear air conditions.

The patented design of the sensors combines a 45 degree measurement angle with a 880 nm wavelength light source and horizontal measurement path to give excellent measurement result.

The sensors use Forward Scatter Meter technology to measure present weather and output Meteorological optical Range (MOR)

Features

- 10m to 99.99km measurement range (other ranges available)
- Compact forward scatter design
- Hood heating for use in extreme environments
- Window heating and contamination monitoring
- Analogue voltage and relay outputs
- Optional analogue current output
- Comprehensive self-test capabilities
- Serial data output (RS232, RS422 or RS485)

General

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 lights sources, even those that flash.

The availability of digital, analogue and switching relay outputs provides the flexibility to connect to a wide range of ITS (Intelligent Transport Systems), computer systems or local warning devices.

The unique ability to switch equipment using two fog re-lays and/or a precipitation relay is a feature of the SWS-100 sensor. For example; you can set the relays to automatically switch a speed reduction sign when the visibility is below 100 meters and then switch an additional 'danger of aquaplaning' alert when rains starts.

Easy integration of the Biral ALS-2 ambient light sensor makes the SWS-100 perfect for use in aviation applications where RVR data is needed.

This high quality sensor includes a remote monitoring and self-test system to help keep maintenance cost to a minimum by reducing unnecessary call-outs. The SWS series sensors are lightweight and can easily be installed by one person using the included pole mounting hardware.

Options:

Power and data cable

Mains power adaptor Calibration kit

ALS-2 Ambient Light Sensor

Hard shell transport case

Data summary

- **Measures** Visibility (MOR)
- **Output** Digital, analogue and switching relays
- **Range** Default 10m to 2km
Selectable 10m - 10km,
10m - 20km, 10m - 32km,
10m - 50km, 10m - 99.99km
- **Accuracy** <=4.5% at 600m
<=5.0% at 1,500m
<=5.1% at 2km
<=12.5% at 15km
<=20% at 30km
- **Measurement principle** Forward scatter meter with 39° to 51° angle, centred at 45° 10m - 32km, 10m - 50km or 10m - 99.99km
- **Serial outputs** RS232, RS422 and RS485
- **Analogue outputs** 0-10V
(4-20mA or 0-20mA optional)
- **Output rate (seconds)** 10 to 300 (selectable)
- **Power requirements:**
 - Sensor power 9-36 Vdc
 - Hood heating power 24 Vac or Vdc
 - Basic sensor 3.5 W
 - window heaters 1.7 W
 - Hood heaters 24 W
- **Operating temp. range** - 40°C to +60°C
- **Weight** 4.3 kg
- **Material** Powder paint coated aluminum

Welcome to the world of Observator

Solutions beyond expectations. That's what sets Observator apart. We believe in taking the extra step. Retaining our competitive edge, through innovation and uncompromised support, are key to success. As an ISO 9001:2015 certified company, we apply the highest quality standards to our products and systems.

Since 1924 Observator has evolved to be a trend-setting developer and supplier in a wide variety of industries. From instruments for meteorological and hydrological solutions, air and climate technology, to high precision mechanical production, window wipers and sunscreens for shipping and inland applications.

Solutions beyond expectations

Originating from the Netherlands, Observator has grown into an internationally oriented company with a worldwide distribution network and offices in Australia, Germany, the Netherlands, Singapore and the United Kingdom.

www.observator.com