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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

- Range 10m to 75km (other range availible)
- Compact forward scatter design
- Hood heating availible
- Very low power requirements
- Long and trouble-free operational life
- Minimal maintenance requirements and running costs

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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 auto-matically 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 mini-mum 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** 10 m to 2km (Default)
  10m to 10km (Selectable)
  10m to 20km (Selectable)
  10m to 32km (Selectable)
  10m to 50km (Selectable)
  10m to 75km (Selectable)
- **Accuracy** <=4.5% at 600m
  <=5.0% at 1,500m
  <=5.1% at 2km
  <=12.5% at 15km
  <=20% at 30km
- **Measurement** Forward scatter meter with 39° **principle** to 51° angle, centred at 45°

- **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** - 40ºC to +60ºC
- **Weight** 4.3 kg
- **Material** Powder paint coated aluminum

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