



## SWS-200 Visibility Sensor

Monitors visibility and extended present weather to identify visibility and precipitation type

... easy integration; includes digital, analogue and switching relay outputs

- **Selectable measurement range up to 75km**
- **compact forward scatter design**
- **instantaneous and averaged visibility outputs**
- **WMO 4680 present weather codes**
- **hood heating for use in extreme environments**
- **digital, analogue and switching relay outputs**
- **comprehensive self-test and maintenance data**

**The SWS-200 is designed for use in applications where accurate and reliable visibility measurements are required with the addition of WMO 4680 present weather codes.**

The availability of digital, analogue and switching relay outputs provides the flexibility to connect to a wide range of systems and other data controllers.

The sensor measures: visibility (MOR – Meteorological Optical Range), fog, haze, drizzle, rain, snow and general precipitation (according to WMO 4680 table codes).

The enhanced present weather information from the SWS-200 is due to the backscatter receiver, which allows detailed precipitation analysis

including precipitation intensity information and accumulation totals for 24 hour periods.

The SWS-200 is ideal for single installations or multiple sensor networks in a range of applications from general weather station monitoring, aviation to wind turbine sites... in fact nearly anywhere where visibility and present weather information is needed.

This is a quality sensor at an affordable price (less expensive than competitive sensors) and includes a remote monitoring and self-test system to keep maintenance call-outs to a minimum. The savings realised from installing and running a network of SWS-200 sensors can be substantial. The SWS series sensors are lightweight, portable and easily pole mountable

[www.biral.com/fog](http://www.biral.com/fog)

*SWS sensors use the same technology as the high specification HSS range of visibility and present weather sensors, which have been in demand world-wide for over 25 years.*

## SWS-200 Specifications

### Visibility measurement

Measures	Visibility (MOR) WMO 4680 present weather codes
Output	Digital, analogue and switching relays
Range (visibility)	*Selectable: 10m to 2km, 10km, 20km, 32km, 50km or 75km
Measurement Error	<=5% at 2km, <=10% at 10km, <=15% at 20km, <=20% at 30km
Measurement principle	Forward scatter meter with 39° to 51° angle, centred at 45°
Precipitation detection resolution	Rain: 0.015mm/hr 90.0006 in/hr Snow: 0.0015mm/hr (0.00006 in/hr)
Maximum rain rate	250 mm/hr (10in/hr)
Rain rate accuracy	<=15%

*\*selectable at the time of order*

### Outputs and Reports

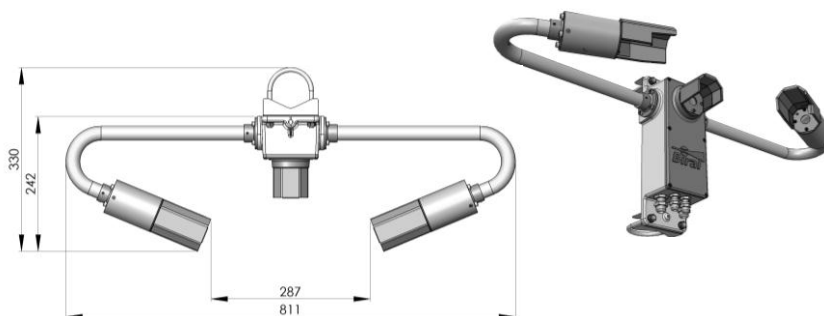
Output rate (seconds)	10 to 300 (selectable)
Serial outputs	RS232, RS422 and RS485
Analogue outputs	0-10V (4-20mA or 0-20mA optional)
Switching Relays (providing flexible configurations)	Relay 1= Fault Relay 2 = visibility (user selectable value) Relay 3 = precipitation yes/no or snow yes/no or visibility (user selectable)
Outputs	WMO 4680 present weather codes

### Power Requirements

Sensor power	9-36 VDC (AC with optional mains adaptor)
Hood heating power	24 V AC or DC
Basic sensor	3.5 W
Window heaters	1.7 W
Hood heaters	36 W

### Additional features

Window heaters	Fitted as standard to both sensor head windows
Window contamination monitoring	Fitted as standard on the transmitter window. Optional on all 3 sensor head windows
Hood Heaters	Fitted as an option to all 3 sensor head windows



(Dimensions in mm)

### Environmental

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

### Certification & Compliance

CE certified
EMC compliance with EN61326-1997, 1998, 2001
RoHS and WEEE compliant

### Physical

Material	Powder coated aluminium
Weight	3.5 Kg
Length	0.81
Warranty	2 Years
Lifetime	>10 Years

### Maintenance

Self-test capability	Fitted as standard
User confidence check	6 months recommended
Window cleaning	Automatic compensation and warnings
Field calibration	With optional calibration kit

### Included with sensor

The SWS sensor is delivered in sturdy recyclable foam filled packaging with:
- Pole mounting kit ( 2 x U-bolt and saddles)
- User manual and calibration certificates

### Accessories - optional

Power and data cables
Mains power adaptor
Calibration kit
ALS-2 Ambient Light Sensor
Hard shell transport case

*Specifications subject to change E. & O.E*