



SWS-200 Weather Sensor

Monitors extended present weather to identify visibility and precipitation

... easily integrated into meteorological networks and data controllers

- measurement range < 10 m - 20 km (12 miles)
- precipitation type, intensity and accumulation outputs
- instantaneous and averaged visibility outputs
- date and time stamp on data strings
- 2 adjustable relays and 1 fault relay
- analogue outputs of visibility range
- extended self test and maintenance information



The SWS-200 sensor is designed for general meteorological applications where visibility and present weather parameters are required.

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

The extended visibility range up to 20 km exceeds the usual limit of 10 km for obstruction to vision information required by national weather services and standard coding procedures.

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 to wind turbine sites ... in fact nearly anywhere where visibility and present weather information is needed.

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 20 years.

www.biral.com/fog

SWS-200 Specifications

Visibility and precipitation measurements

measurement range	< 10 m - 20 km (12 miles) in 10 m increments
measures	visibility (MOR - Meteorological Optical Range) : fog, haze, smoke, sand, drizzle, rain, snow and general precipitation
measurement accuracy	<=10% maximum
measurement principle	forward scatter meter with 45° angle
precipitation detection resolution:	rain: 0.015 mm/hr (0.0006 in/hr) snow: 0.0015 mm/hr (0.00006 in/hr)
maximum rain rate	250 mm/hr (10 in/hr)
rain rate accuracy	<=15%
intensities	light (-). moderate, heavy (+)

Outputs and reports

output rate (seconds)	10 to 300 (selectable)
digital (serial) outputs	RS-232, RS-422, RS-485*
analogue outputs	0-10 V (4-20 mA or 0-20 mA optional)
switching relays <i>(providing flexible configurations)</i>	Relay 1 = fault Relay 2 = visibility (user selectable threshold) Relay 3 = precipitation yes/no or snow yes/no or 2nd visibility (user selectable)
outputs	selected WMO 4680 table codes

* single sensor connection only, not multi-drop

Power requirements

power supply	9-36 VDC (AC with optional mains adaptor)
power consumption	6 W - in normal running (no-dew window heaters ON) 2.5 W - with no-dew window heaters OFF 57 W - using optional de-icing hood heaters at 51 W

Options

de-icing hood heaters	in addition to the standard no-dew window heaters
analogue outputs	4-20 mA or 0-20 mA in addition to the 0-10 V output
extra self test mode	transmitter and receiver monitoring capability

Environmental

operating temperature	-30 °C to +50 °C
operating humidity	0 - 100% RH
protection rating	IP65
CE certified	
EMC compliance with EN61326-1997, 1998, 2001	
RoHS and WEEE compliant	

Physical

material	powder coated aluminium
weight	3.3 kg
length	0.81 m
lifetime	> 10 years

Maintenance

comprehensive self test	with maintenance warnings
user confidence check	6 months (suggested)
window cleaning	3 months (suggested)

Included with the sensor

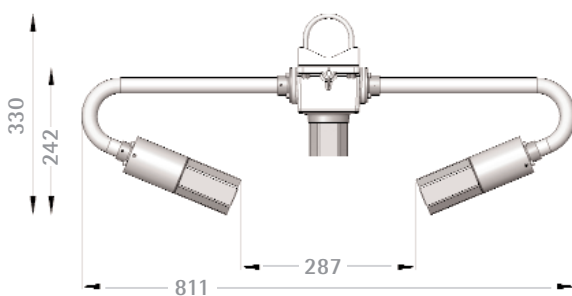
the SWS sensor is delivered in sturdy, recyclable foam-filled packaging with:

- 3 m RS232 auxiliary cable
- pole mounting kit (U bolt, saddle and bolts)
- documentation (manual, calibration certificate)

Accessories

power and data cables
mains power adaptor
calibration kit (for user confidence checks)
hard shell transit case (useful if the sensor is to be relocated frequently)
post adaptor (for mounting to HA posts)

Specifications subject to change E. & O. E.



dimensions in mm

