

### SWS-100 Visibility Sensor

Monitors visibility and obstruction to vision caused by dust, fog, rain, drizzle, snow and hail

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

- Selectable measurement range up to 75km
- Compact forward scatter design
- Instantaneous and averaged visibility outputs
- Limited 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-100 is optimised for use in applications where accurate and reliable visibility measurements are required with the addition of fundamental WMO 4680 precipitation codes.**

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 relays 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.

**SWS-100**  
**Visibly Better**

*Biral have been manufacturing and supplying worldwide high specification Visibility and Present Weather Sensors since 1997.*

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## SWS-100 Specifications

### Visibility Measurement

Measures	Visibility (MOR)
Output	Digital, analogue and switching relays
Range (visibility) (Fixed, select at time of order)	Default 10m to 2km Selectable: 10m to 10km, 10m to 20km, 10m to 32km, 10m to 50km or 10m to 75km.
Measurement Error	<=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°

### Outputs and Reports

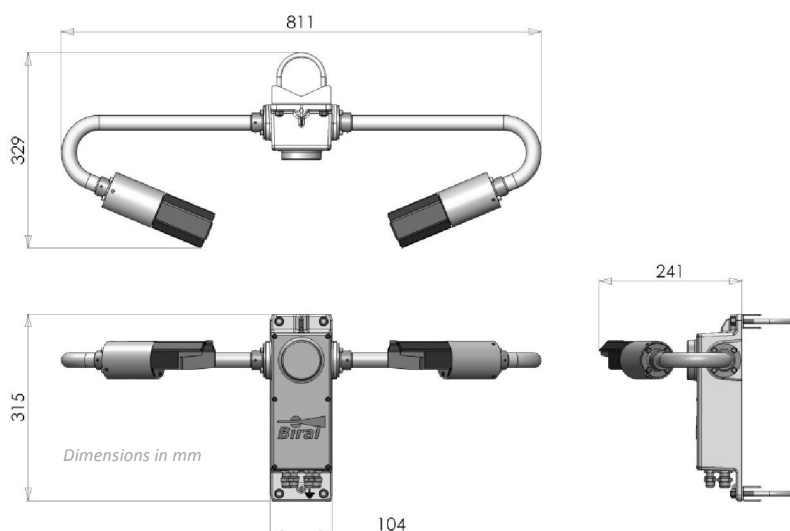
Output rate (seconds)	10 to 300 (selectable)
Serial outputs	RS232, RS422 and RS485
Analogue outputs	0-10V (4-20mA or 0-20mA optional)
Switching Relays (providing flexible configurations)	Relay 1 = Fault Relay 2 = visibility (user selectable value) Relay 3 = precipitation yes/no or snow yes/no or visibility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

### Power Requirements

Sensor power	9-36 V DC (Mains power adaptor available)
Hood heating power	24 V AC or DC
Basic sensor	3.5 W
Window heaters	1.7 W
Hood heaters	24 W

### Additional Features

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



### Environmental

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

### Certification & Compliance

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

### Physical

Material	Powder paint coated aluminium
Weight (incl. mounting kit)	4.3 kg
Length	0.81 m
Warranty	3 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