Biral
Visibly Better

SWS-CAL
Calibration Plaques
Datasheet

To check the reading accuracy of the SWS and RWS series of visibility and present weather sensors

Internationally traceable values allow the re-calibration of the sensors if required

Visibility and Present Weather sensors are used around the World in many meteorological applications. They are often used as part of national weather networks or as components in aviation and road weather monitoring systems. All of these systems require that the sensors be optimised for accurate and repeatable measurements. Many of these applications are safety critical and reliable data is essential for the correct operation of their modelling or decision making processes.

Therefore, each visibility and present weather sensor must be regularly checked and re-calibrated (if necessary) against an independently verified testing standard to ensure their accuracy.

Overview
The visibility calibration plaque is supplied in a protective carrying case and includes the plaque of a known visibility value as well as a set of 3, zero reference optical blanking plugs. These calibration plaques can be fitted to any Biral SWS or RWS sensor and utilise the special mounting points on each sensor's housing to install them correctly.

Each calibration plaque is ascribed calibration values (EXCO) and an equivalent visibility value (MOR) at its point of manufacture. These values are traceable to the reference transmissometer at the Royal Netherlands Meteorological Institute (KNMI - Koninklijk Nederlands Meteorologisch Instituut) in the Netherlands.

Operation
Once installed onto the sensor, the technician follows the calibration check routine as detailed in the user manual. If the sensor fails the calibration check, then it may be calibrated following the calibration routine as detailed in the user manual.

The calibration process can be carried out on-site in around 20 minutes without the need to return the sensor to a calibration facility. Thus, saving time whilst maintaining operational efficiency of the connected systems.

Technical Specifications

Nominal Calibration Values (range) Forward EXCO Backscatter EXCO Equilvalent MOR	 $5km^{-1}$ to $50km^{-1}$ ($25km^{-1}$ typical) $15km^{-1}$ to $150km^{-1}$ ($70km^{-1}$ typical) 60m to 600m (120m typical)	
Measurement Error	± 1%	
Material	Anodised aluminium optical support and installation arm with polypropylene disc.	
Warranty	2 years	
Packaging	The plaque is packaged in a rigid plastic foam lined protective carry case. Includes a set of foam zero reference optical plugs. - User guide	
Ordering Codes	SWS & RWS Series SWS LW Series	SWS.CAL SWS.LW.CAL