Do you need a system which monitors roadside visibility and weather conditions

. . . continuously, accurately and reliably for many years with the lowest running costs on the market?

VF-500 Visibility Sensor

to automatically switch roadside warning and speed reduction signs in poor visibility and ONLY when necessary

VPF-710 Visibility Sensor

to measure and disseminate local visibility data for transmission to a control centre or local data logging

VPF-730 Visibility and Present Weather Sensor

to provide all relevant weather parameters for roadside safety on location or for transmission to a control centre

Visibility is affected by many conditions such as fog, haze, precipitation as well as dust and smoke. The Biral HSS sensors are used on road networks to continuously monitor the atmospheric extinction coefficient, and thus visibility in all weather conditions. The VPF-730 version also gives present weather data ie precipitation type (liquid, freezing and frozen precipitation) and concentration.

A feature of the sensors is their durability and reliability, for example, the Netherlands have been operating a large network of roadside sensors for more than 16 years.

There are 3 systems available:

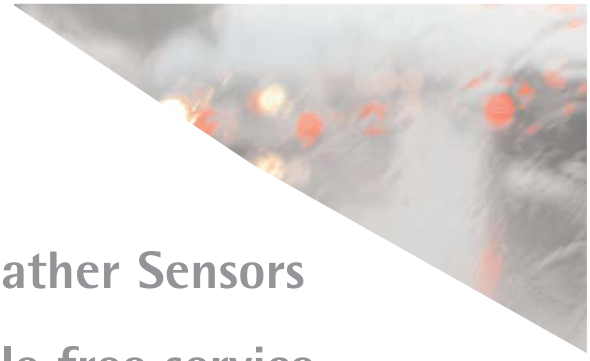
- **VF-500 to directly and automatically switch local roadside hazard or speed restriction signs** in reduced visibility ONLY when necessary and without external control devices. With user defineable settings for distance and time the sensor can be set to avoid false alarms from exhaust fumes in cold weather and rush hours.

- **VPF-710 to collect local visibility data** for local storage or transmission to a control centre. The data can be displayed, archived, used to adjust ITS (Intelligent Traffic Systems) warnings or flagged for the operator's attention. This allows the operator to concentrate only on what is vital to the current situation and to react quickly and effectively.

- **VPF-730 to provide all the relevant weather parameters for roadside safety.** This compact, robust, low-power and cost-effective system provides visibility AND present weather transmission to control centres or met offices to provide precise, immediate and accurate knowledge of roadside conditions. With the optional Weather Station Module the VPF-730 can be used as a complete weather station incorporating additional sensors to include parameters for windspeed, wind direction and temperature etc all in a single time correlated data string.

All HSS sensors provide accurate, low-powered, stand-alone operation requiring no human intervention.

HIGHWAY APPLICATIONS



The Biral HSS Visibility & Present Weather Sensors are designed for many years of trouble free service

The sensors are low weight and compact and can easily be installed by one man with only a basic tool kit. For highway fog warning systems, a recommend height for the sensor sample volume is the average distance of a vehicle driver's eyes above the roadway, typically 1.5 - 2 m. Being a forward scatter sensor it is far easier to site and not prone to the interference and false alarms that back-scatter sensors experience.

The sensors are suitable for deployment in tunnels where they function as a back up to smoke detection systems. With a network of such sensors installed the density and location of smoke can be measured giving a far better insight into the location and intensity of any fire for quicker and more effective fire fighting measures.

The sensors use an infra-red light-source and intelligent sensing technology which means that measurements are unaffected by nearby light sources such as street lamps and car headlights which can sometimes affect lower quality sensors. This infra-red light-source has a life expectancy exceeding 10 years and with a MTBF (Mean Time Between Failure) of greater than 8 years the HSS sensors are extremely reliable. The sensor also has several other features designed to prevent measurement problems or malfunctions due to severe environmental conditions. These include the design and construction of the viewing windows, the selection of industrial and military grade electronic components that withstand environmental extremes and optional heating for error free operation in temperatures as low as -50 C.

With low power consumption the sensors can be mains or battery operated and are suitable for use with solar power, therefore ideal for operation at remote locations.

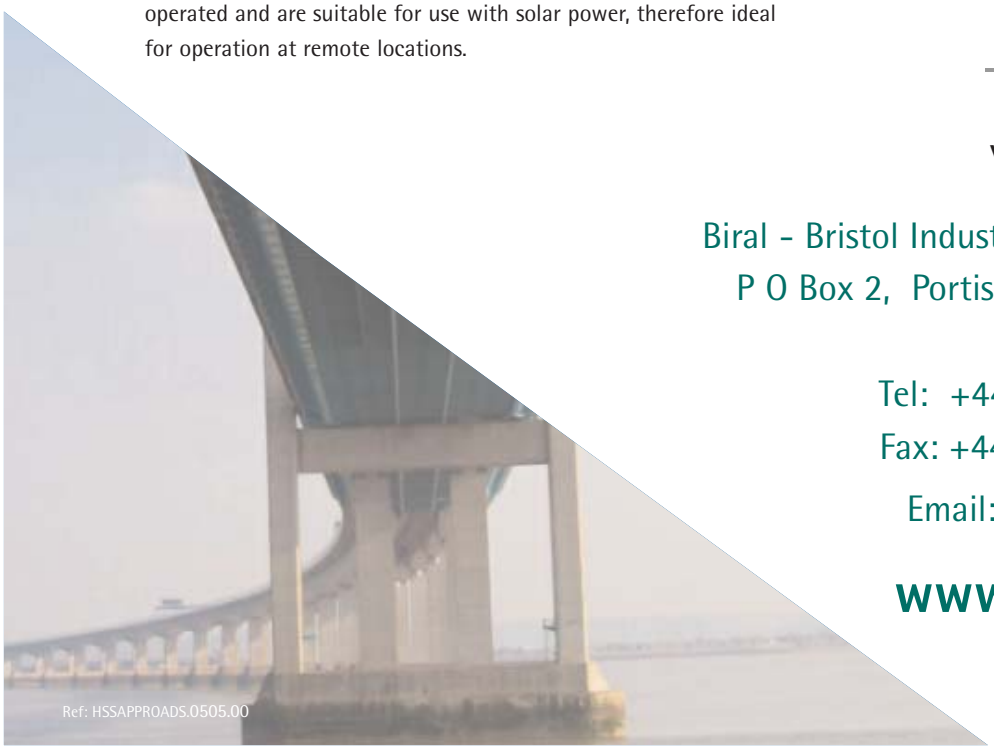
The Biral HSS sensors are very cost effective due to their low running costs. There are minimal maintenance requirements with only periodic cleaning of the windows necessary to remove any contaminants. Self-test and monitoring is provided for the VPF-700 series allowing maintenance to be performed only when necessary. Additionally, internal monitoring of critical functions gives the user a much higher degree of confidence in the equipment.

A robust, waterproof housing covers the electronics with neoprene O-rings used to provide watertight seals. The sensor unit has an ingress protection rating of better than IP64 and all components that are exposed to weather are salt-dip brazed and made of hard anodised aluminium. This provides long life, extreme accuracy and repeatability together with unparalleled corrosion protection in harsh environments.

A true test of quality and reliability is the fact that Biral HSS sensors were the first forward scatter visibility sensors on the market and have a proven track record for use on both land and sea.

All HSS sensors are assembled at our headquarters in England to rigorous ISO 9001:2000 accredited quality standards and can be customised to suit your specific application if required. All HSS sensors come with 2 year's warranty as standard.

If you would like more information please contact the Met Team at the address below by telephone, fax or email.



Biral
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Ref: HSSAPPROADS.0505.00