Industrial
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Vis Guard

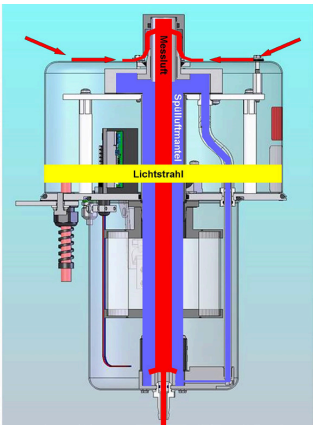
Reliable visibility measurement

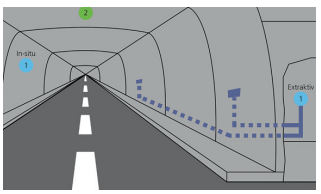
Product description

VisGuard 2 is a compact visibility and aerosol monitoring sensor designed for continuous measurement of visibility and airborne particle concentrations in demanding environments. It is ideal for road and rail tunnels, where it supports ventilation control and early fire/smoke detection, as well as for applications requiring monitoring of dust concentration in air or the presence of oil mist.
The instrument provides high-precision, long-term stable visibility measurement using an energy-efficient LED light source with very low power consumption. Optional heating elements help eliminate fog-related interference, ensuring reliable measurements even under harsh climatic conditions.
Thanks to its compact design and simple mounting, VisGuard 2 can be easily installed in both new and existing infrastructures. Flexible system integration and permanent instrument self-monitoring in the background guarantee reliable operation and straightforward connection to control and safety systems. Recalibration is quick and simple with the dedicated checking unit, while the limited use of consumables and low maintenance requirements result in reduced operating costs over the entire lifetime of the device.

Benefits

Purge Air Shroud
The use of a purge air shroud effectively protects the optical components from contamination, ensuring accurate, drift-free measurements over time;
Active Extraction
Active extraction of the sample air guarantees that the measured value remains representative, even at low or nearly zero flow velocities;
Flexible Installation Options
VisGuard 2 is available in various installation configurations, including in-situ, extractive and multi-sampling systems, with extraction lengths of up to 500 m.;
A key advantage of extractive systems is that instruments remain accessible at all times, so maintenance or repair work can be carried out without affecting traffic flow;
Checking Unit
A solid reference checking unit is available to verify correct instrument operation. This enables simple functional checks and, if necessary, easy recalibration;
Sample Heater
Both in-situ and extractive versions of VisGuard 2 can be equipped with an optional sample heater to ensure reliable measurements under challenging environmental conditions;
Minimal Maintenance
Maintenance is straightforward and requires no special tools. In general, an annual check is sufficient and takes around 10 minutes. An economical LED is used as the light source, and the purge air filter typically needs replacing only every 1 to 5 years, depending on traffic load.





Technical data

Measuring principal	30° scattered light	Module Modbus RTU	Interface Modbus RTU with repeater
Wavelength	880 nm	Module StromRel:	2 x 0/4 .. 20 mA, max. 500 Ω galv. isolated. 3 x semiconductor relays max. 30V, max. 0.12A, Ron max. 25 Ω
Measuring span	0 .. 100 PLA or 0 .. 3000 mE/m	**Handheld control unit SICON-C for SIPORT 2**	
Resolution	0.001 mE/m	Display:	3.5“ Graphics TFT with touch operation
Conformity	ASTRA «Guideline – Ventilation in road tunnels (2008)», RABT (2006), RVS 09.02.22	**Control unit SICON (M)**	
Material of housing	Stainless steel 1.4435 / 1.4571	Power supply:	24 VDC
Ambient temperature	–30 °C .. +55 °C	Power input:	Max. 5 W + photometer
Ambient humidity	0..100% rel. humidity	Display	3.5“ Graphics TFT with touch operation
Protection class:	IP66 (only with mounted protection caps)	Ambient temperature:	–10 .. +50 °C
Supply voltage:	24 VDC	Ambient humidity:	0 .. 100% rel. humidity
Power input	7 W (In-situ), 1 W (Extractive) + 10 W (heater, optional)	Protection class:	IP66
Pipe connections	Inline VARINLINE® - housing or compatible DN 40 ... DN 150, 1 1/2“... 6“	Dimensions	160 x 157x 60 mm
Weight:	6.5 kg (In-situ), 5.0 kg (Extractive)	Weight:	0.6 kg
Dimensions:	approx. Ø 209 x 366 mm (In-situ) approx. Ø 209 x 254 mm (Extractive)	Output:	4 × 0/4 .. 20 mA, galv. isolated 7 × digital
Connection box SIPORT 2		Input	5 × digital
Power supply	100 .. 240 VAC; 47 .. 63 Hz	Digital interfaces:	Ethernet, microSD card, Modbus TCP
Power input max	25 W / 45VA	Optional modules (max. 2)	Profibus DP, Modbus RTU, HART, 4 × 0/4 .. 20 mA output, galv. isolated 4 × 0/4 .. 20 mA input Sampling systems
Protection class	IP66	In-situ:	In-situ instrument for direct mounting in the tunnel
Enclosure	Polyester, fibre glass reinforced	Mini-Extractive:	In-situ instrument with tube extension of up to 2.5m
Weight	1.3 kg	Extractive 0-5m:	sampling system 0 .. 5m
Dimensions	220 x 155 x 91 mm	Extractive 5-30m:	sampling system 5 .. 30m
Modules for SIPORT 2		Extractive 30-500m:	sampling system 30 .. 500m
Module Profibus DP:	Interface Profibus DP	Multiple sampling:	multiple sampling of up to 8 ducts

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