

VisGuard

Reliable visibility measurement



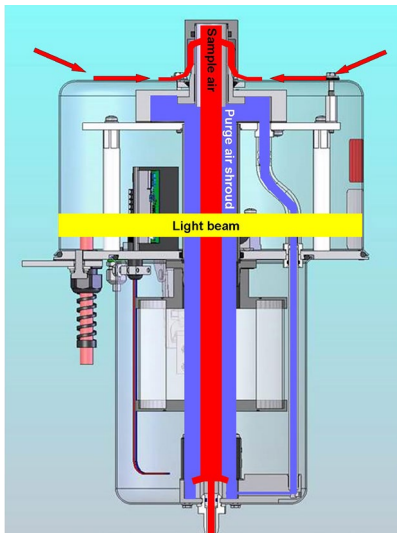
Applications

- Visibility measurement
- Ventilation control
- Early fire/smoke detection in road and rail tunnels
- Dust concentration in air
- Detection of oil mist

Advantages

- Precise and long-term stable visibility measurement
- Fog elimination by optional heating elements
- Compact design
- Simple mounting
- Flexible system integration
- LED light source, very low power consumption
- Permanent instrument monitoring in the background
- Simple re-calibration with checking unit
- Few consumables
- Low maintenance costs

Innovations with tangible benefits

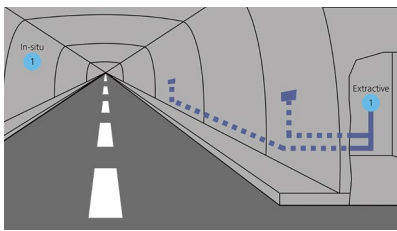


Purge air shroud

The use of a purge air shroud allows the optical components to be effectively protected from contaminations, which guarantees an exact measurement without drift.

Active extraction

Active extraction of the air to be measured ensures that the measurement is a representative value even at low or no flow velocities.



Different types of installations are available

The VisGuard 2 is available in different types of installations including In-situ, Extractive and multiple sampling systems. Extraction lengths of 500m max. are possible.

The advantage of extractive systems is that the instruments are accessible at any time. Maintenance work or repairs do not affect traffic flow.

Checking unit

A solid reference to check the correct operation of the instrument is provided. This allows simple checking and, if need be, re-calibration of the instrument.



Sample heater

VisGuard 2 In-situ as well as Extractive is available with an optional heater.



Minimal maintenance

No special tools are necessary for maintenance. Maintenance requirements are very low. As a rule, an annual checking is sufficient, which only takes about 10 minutes. An economical LED is used as light source. Replacement of the purge air filter depends on the traffic load and is necessary every 1 to 5 years.



Technical Data

Sensor:

Measuring principle: 30° scattered light
 Wavelength: 880 nm
 Measuring span: 0 .. 100 PLA / 0 .. 3000 mE/m
 Resolution: ± 0.001 mE/m
 Response time: 2s
 Material of housing: Stainless steel 1.4435 / 1.4571
 Ambient temperature: -30 °C .. +55 °C
 Ambient humidity: 0..100% rel. humidity
 Protection class: IP66 (only with mounted protection caps)

Supply voltage: 24 VDC
 Power input: 7 W (In-situ), 1 W (Extractive) + 10 W (heater, optional)

Weight: 6.5 kg (In-situ), 5.0 kg (Extractive)
 Dimensions: approx. Ø 209 x 366 mm (In-situ)
 approx. Ø 209 x 254 mm (Extractive)

Connection box SIPORT 2:

Power supply: 100..240 VAC; 47..63 Hz
 Power input max: 25 W / 45VA
 Protection class: IP66
 Enclosure: Polyester, fibre glass reinforced
 Weight: 1.3 kg
 Dimensions: 220 x 155 x 91 mm

Modules for SIPORT 2:

Module Profibus DP: Interface Profibus DP
 Module Modbus RTU: Interface Modbus RTU with repeater
 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

Hand-held control unit SICON-C for SIPORT 2:

Display: 3.5" Graphics TFT with touch operation

Control unit SICON (M):

Power supply: 24 VDC
 Power input: Max. 5 W + photometer
 Display: 3.5" Graphics TFT with touch operation
 Ambient temperature: -10 .. +50 °C
 Ambient humidity: 0 .. 100% rel. humidity
 Protection class: IP66
 Dimensions: 160 x 157x 60 mm
 Weight: 0.6 kg
 Output: 4 x 0/4 .. 20 mA, galv. isolated
 7 x digital
 5 x digital
 Input: Ethernet, microSD card, Modbus TCP
 Digital interfaces: Ethernet, microSD card, Modbus TCP
 Optional modules (max. 2): Profibus DP, Modbus RTU, HART, 4 x 0/4 .. 20 mA output, galv. isolated
 4 x 0/4 .. 20 mA input

Sampling systems:

In-situ: In-situ instrument for direct mounting in the tunnel
 Mini-Extractive: In-situ instrument with tube extension of up to 2.5m
 Extractive 0-5m: sampling system 0..5m
 Extractive 5-30m: sampling system 5..30m
 Extractive 30-500m: sampling system 30..500m
 Multiple sampling: multiple sampling of up to 8 ducts



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