

# VisGuard

## Reliable visibility measurement



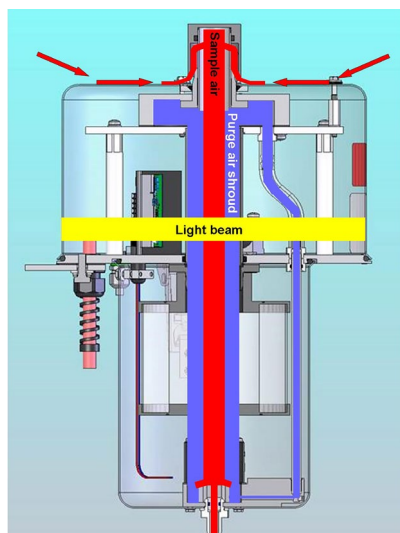
### Applications

- 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

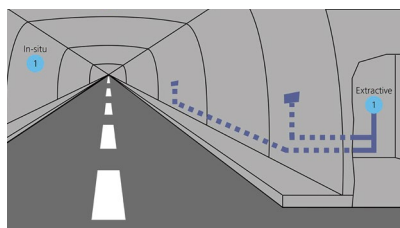


#### Purge air shroud

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: Profibus DP, Modbus RTU, HART, 4 x 0/4 .. 20 mA output, galv. isolated  
 4 x 0/4 .. 20 mA input  
 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

#### Your representative:



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