Product data sheet




# VISIC100SF-0300

## VISIC100SF

AIR QUALITY MEASURING DEVICES

SICK
Sensor Intelligence.




## Ordering information

| Type | Part no. |
|---|---|
| VISIC100SF-0300 | 1069479 |

Our regional sales organization will help you to select the optimum device configuration.

Other models and accessories ➜ www.sick.com/VISIC100SF

## Detailed technical data

### Technical specifications

| | |
|---|---|
| **Description** | Visibility sensor for measuring K-values in tunnels |
| **Measured values** | Visibility (K-value), CO, NO, $NO_2$ |
| **Measurement principles** | Scattered light forward, electrochemical cell |
| **Measuring ranges** | |
| Visibility (K-value) | 0 ... 15 $km^{-1}$ |
| CO | 0 ... 300 ppm |
| NO | 0 ... 100 ppm |
| $NO_2$ | 0 ... 5 ppm |
| **Response time ($t_{90}$)** | ≤ 60 s |
| **Accuracy** | |
| CO (0 ... 200 ppm): | ≤ 1 ppm<br>For 0 ... 30 ppm |
| CO (0 ... 200 ppm): | ≤ 1 %<br>Of measuring range full scale (according EN 50545). For 30 ... 100 ppm |
| CO (0 ... 200 ppm): | ≤ 2 %<br>Of measuring range full scale (according EN 50545). For 100 ... 200 ppm |
| NO: | ≤ 3 %<br>Of measuring range full scale (according EN 50545) |
| $NO_2$: | ≤ 2 %<br>Of measuring range full scale (according EN 50545) |
| CO (0 ... 300 ppm): | ≤ 1 ppm<br>For 0 ... 30 ppm |
| CO (0 ... 300 ppm): | ≤ 1 %<br>Of measuring range full scale (according EN 50545). For 30 ... 150 ppm |
| CO (0 ... 300 ppm): | ≤ 2 %<br>Of measuring range full scale (according EN 50545). For 150 ... 300 ppm |
| **Resolution** | |
| Visibility (K-value) | ± 0.001 $km^{-1}$ |
| CO | ± 0.5 ppm |
| NO | ± 0.5 ppm |
| $NO_2$ | ± 0.05 ppm |
| **Repeatability** | |
| Visibility (K-value) | ≤ 2 % |

| | |
|---|---|
| **Ambient temperature** | |
| | –20 °C ... +55 °C |
| **Storage temperature** | |
| Measuring device without electrochemical cells: | –30 °C ... +85 °C |
| CO, NO and $NO_2$ sensor: | +5 °C ... +20 °C |
| **Ambient pressure** | |
| | 860 hPa ... 1,080 hPa |
| **Ambient humidity** | |
| | 10 % ... 100 %<br>Relative humidity; non-condensing |
| **Conformities** | ASTRA "Guideline - Ventilation of Road Tunnels" (2008)<br>RABT 2006<br>RVS 09.02.22 |
| **Electrical safety** | CE |
| **Enclosure rating** | |
| | IP6K9K |
| **Analog outputs** | 3 outputs:<br>4 ... 20 mA, 500 Ω<br>Electrically isolated; short-circuit proof |
| **Digital outputs** | 2 relay contacts:<br>48 V, 0.5 mA, 24 W<br>Preset for failure and maintenance request |
| **Modbus** | ✓ |
| Remark | Not available when a TAD is used |
| Type of fieldbus integration | RTU RS-485 |
| **PROFIBUS DP** | ✓ |
| Type of fieldbus integration | RS-485 |
| **Indication** | |
| | LC display, inside |
| | Status LEDs: “Operational”, “Maintenance required”, and “Fault” |
| **Input** | Functional keys |
| **Operation** | Via LC-display and function keys |
| **Dimensions (W x H x D)** | |
| | 266 mm x 159 mm x 117 mm (for details see dimensional drawings) |
| **Weight** | |
| | ≤ 2.8 kg |
| **Material** | Stainless steel 1.4571 |
| **Mounting** | Wall-mounting, vertical, up to a wall inclination of 45° |
| **Energy supply** | |
| Voltage | 18 V DC ... 28 V DC, ± 10 % |
| | Other voltages with optional connecting unit or TAD control unit |
| Current consumption | ≤ 1 A |
| Power consumption | Without heating: ≤ 5 W<br>With heating: ≤ 20 W |
| **Test functions** | Contamination monitoring of glass pane<br>Drift and plausibility check |

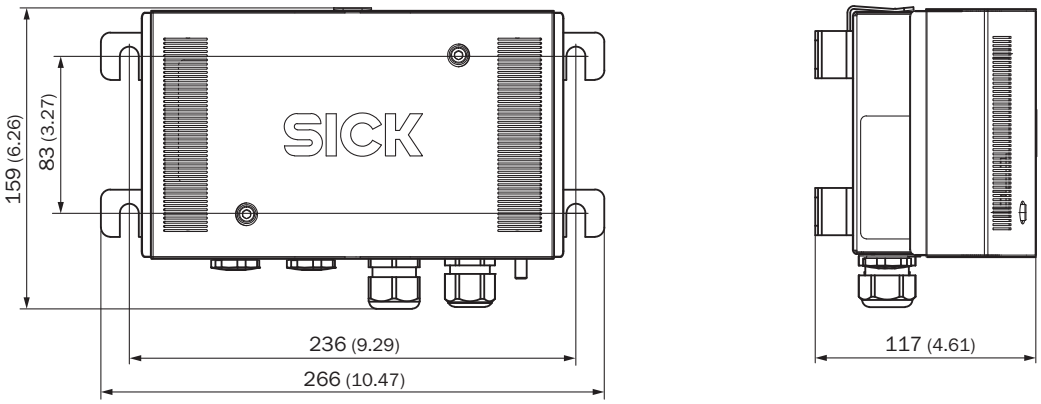
| | |
|---|---|
| | Automatic self-test<br>Functional monitoring of the optional heating |
| **Options** | CO sensor<br>NO sensor<br>$NO_2$ sensor<br>TAD control unit<br>Connection unit |

## Classifications

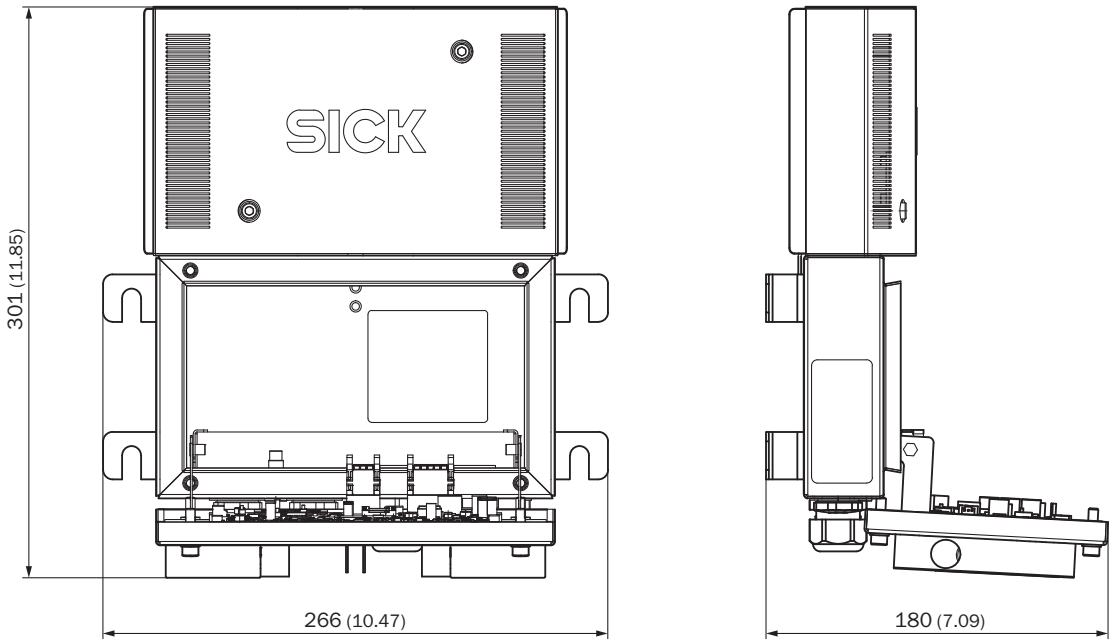
| | |
|---|---|
| **ECLASS 5.0** | 27150305 |
| **ECLASS 5.1.4** | 27150305 |
| **ECLASS 6.0** | 27150305 |
| **ECLASS 6.2** | 27150305 |
| **ECLASS 7.0** | 27150305 |
| **ECLASS 8.0** | 27150305 |
| **ECLASS 8.1** | 27150305 |
| **ECLASS 9.0** | 27150305 |
| **ECLASS 10.0** | 27150305 |
| **ECLASS 11.0** | 27150305 |
| **ECLASS 12.0** | 27150305 |
| **ETIM 5.0** | EC001190 |
| **ETIM 6.0** | EC001190 |
| **ETIM 7.0** | EC001190 |
| **ETIM 8.0** | EC001190 |
| **UNSPSC 16.0901** | 41115406 |

## Dimensional drawing (Dimensions in mm (inch))

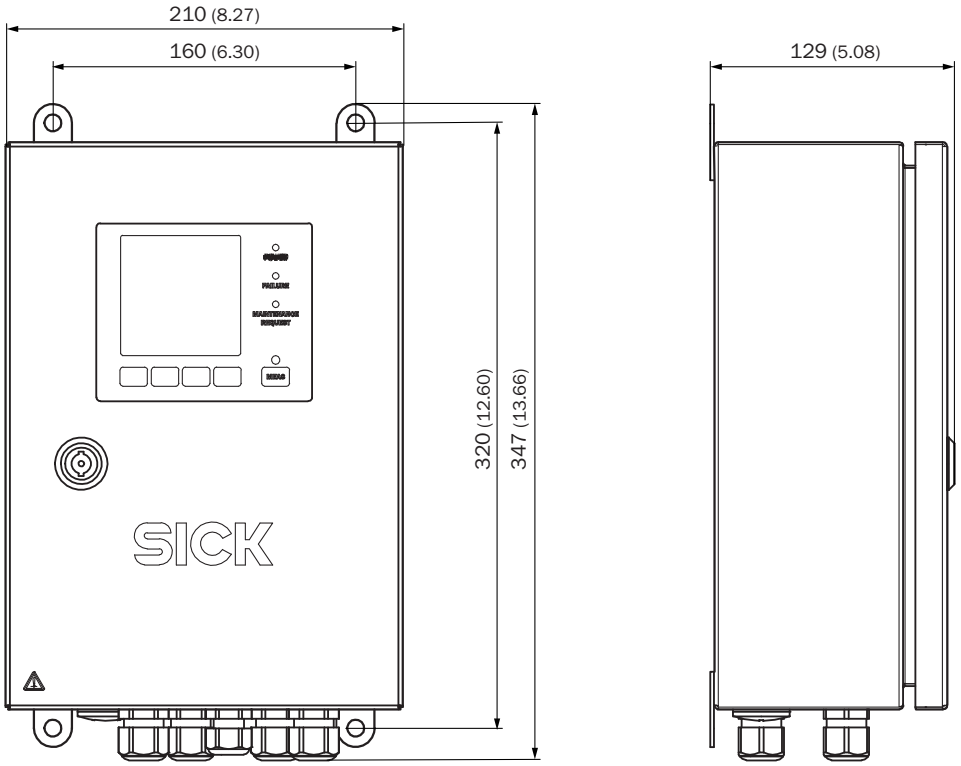
VISIC100SF sensor unit closed



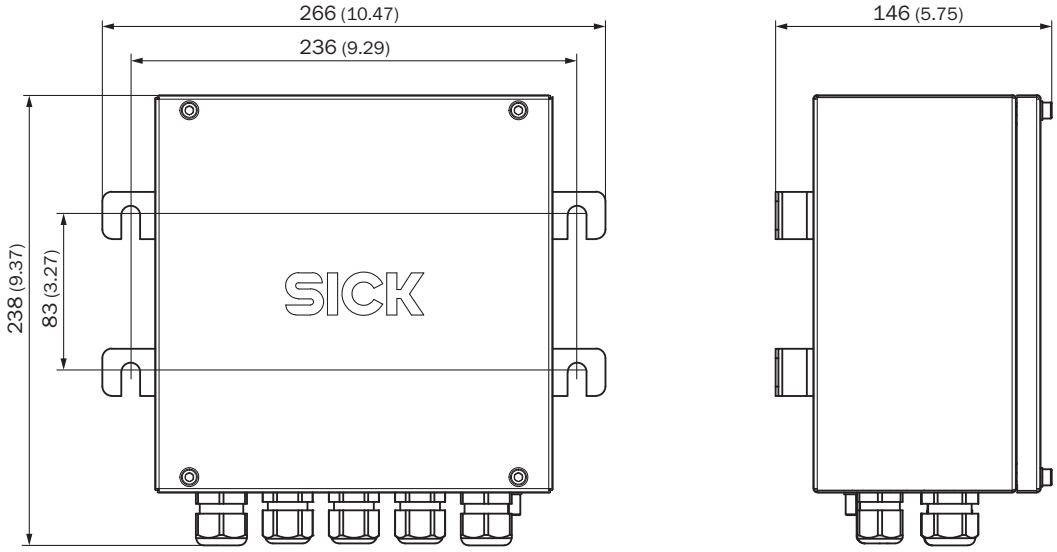
VISIC100SF sensor unit open with clipped-on front cover




TAD control unit

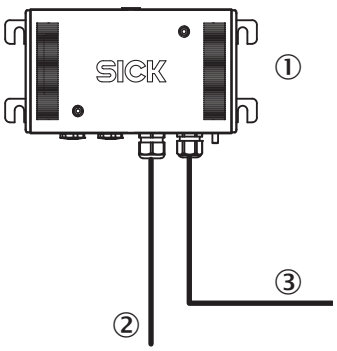


VISIC100SF connector unit



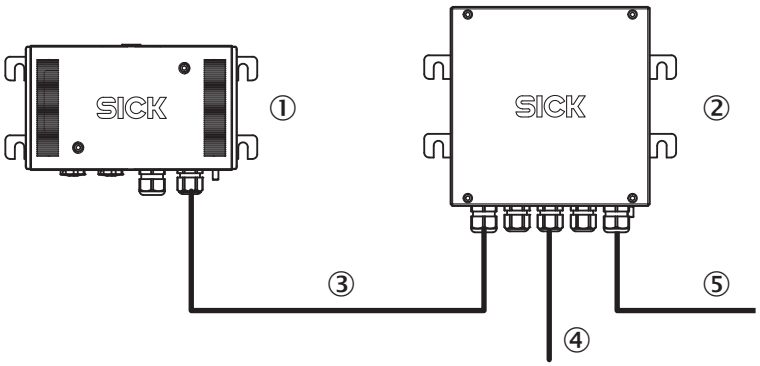

## Connection types

Standard version



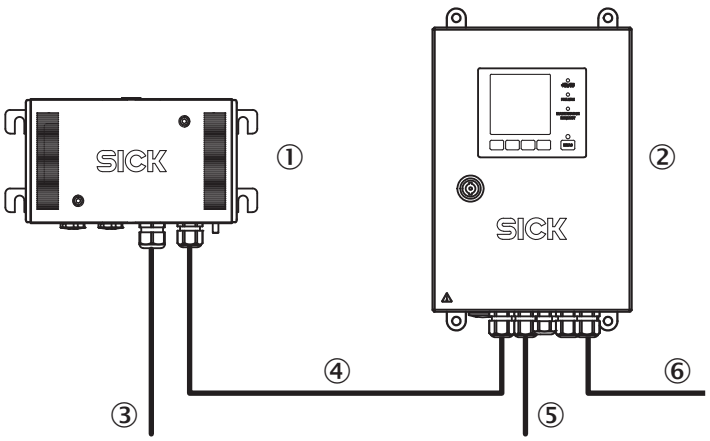

① VISIC100SF sensor unit
② Power supply (24 V)
③ Analog and digital signals or data bus

Version with terminal box




① VISIC100SF sensor unit
② VISIC100SF connector unit
③ Analog and digital signals or data bus, incl. power supply (24 V)
④ Power supply (230 V)
⑤ Analog and digital signals or data bus

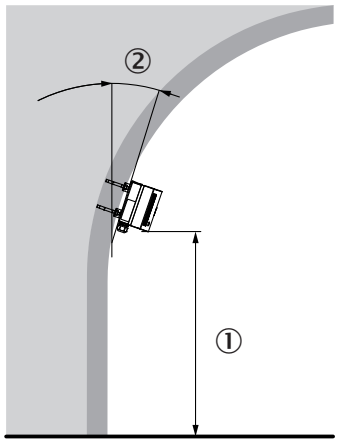
Version with TAD control unit




① VISIC100SF sensor unit
② TAD control unit
③ Power supply (24 V)
④ Analog and digital signals or data bus (max. length = 1,200 m)
⑤ Power supply (230 V)
⑥ Analog and digital signals or data bus

## Instruction for installation

VISIC100SF sensor unit: allowed inclination and installation heigth




① The mounting heigth depends on the application. SICK recommends an installation above the splash water zone.
② Maximum allowed inklination angle = 45°

# SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

**For us, that is “Sensor Intelligence.”**

# WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com