Product data sheet




# System MCS200HW

## MCS200HW

GAS ANALYZERS

SICK
Sensor Intelligence.



## Ordering information

| Type | Part no. |
|---|---|
| System MCS200HW | On request |

Other models and accessories ➜ www.sick.com/MCS200HW

## Detailed technical data

### Technical specifications

| | |
|---|---|
| **Measured values** | $CH_4$, CO, $CO_2$, $C_{org}$, HCl, $H_2O$, $NH_3$, NO, $NO_2$, $N_2O$, $O_2$, $SO_2$ |
| **Performance-tested measurands** | $CH_4$, CO, $CO_2$, $C_{org}$, HCl, $H_2O$, $NH_3$, NO, $NO_2$, $N_2O$, $O_2$, $SO_2$ |
| **Maximum number of measurands** | 12 |
| **Measurement principles** | Interference filter correlation, Gas filter correlation |
| **Length of measuring path** | |
| | 8.48 m |
| **Gas flow rate** | |
| | 200 l/h ... 400 l/h |
| **Measuring ranges** | |
| $CH_4$ | 0 ... 70 ppm / 0 ... 700 ppm |
| $SO_2$ | 0 ... 26 ppm / 0 ... 875 ppm |
| CO | 0 ... 60 ppm / 0 ... 8,000 ppm |
| $CO_2$ | 0 ... 25 Vol.-% / 0 ... 50 Vol.-% |
| $C_{org}$ | 0 ... 15 mg/m³ / 0 ... 10,000 mg/m³ |
| HCl | 0 ... 9 ppm / 0 ... 1,840 ppm |
| $H_2O$ | 0 ... 40 Vol.-% |
| $NH_3$ | 0 ... 15 ppm / 0 ... 650 ppm |
| NO | 0 ... 110 ppm / 0 ... 1,865 ppm |
| $NO_2$ | 0 ... 25 ppm / 0 ... 240 ppm |
| $N_2O$ | 0 ... 50 ppm / 0 ... 1,015 ppm |
| $O_2$ | 0 ... 25 Vol.-% |
| **Certified measuring ranges** | |
| $CH_4$ | 0 ... 50 mg/m³ / 0 ... 500 mg/m³ |
| CO | 0 ... 75 mg/m³ / 0 ... 10,000 mg/m³ |

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|---|---|
| $CO_2$ | 0 ... 25 Vol.-% |
| $C_{org}$ | 0 ... 15 mg/m³ / 0 ... 50 mg/m³ / 0 ... 150 mg/m³ / 0 ... 500 mg/m³ |
| HCl | 0 ... 15 mg/m³ / 0 ... 3,000 mg/m³ |
| $H_2O$ | 0 ... 40 Vol.-% |
| $NH_3$ | 0 ... 10 mg/m³ / 0 ... 500 mg/m³ |
| NO | 0 ... 150 mg/m³ / 0 ... 2,500 mg/m³ |
| $NO_2$ | 0 ... 50 mg/m³ / 0 ... 500 mg/m³ |
| $N_2O$ | 0 ... 100 mg/m³ / 0 ... 2,000 mg/m³ |
| $O_2$ | 0 ... 25 Vol.-% |
| $SO_2$ | 0 ... 75 mg/m³ / 0 ... 2,500 mg/m³ |
| **Response time ($t_{90}$)** | ≤ 200 s |
| **Accuracy** | ≤ 2 %<br>Relative to measuring range end value |
| **Sensitivity drift** | ≤ 3 %: within the maintenance interval, relative to measuring range full scale |
| **Zero point drift** | < 3 %: of the measuring range full scale value per maintenance interval |
| **Reference point drift** | < 3 %: of the measuring range full scale value per maintenance interval |
| **Detection limit** | ≤ 2 %: relative to measuring range end value |
| TOC measurement | 0.05 mg/m³ |
| **Reproducibility** | ≤ 3.3 %: relative to measuring range end value |
| $O_2$ measurement | ≤ 0.2 Vol.-% |
| **Uncertainty of measurement** | ≤ 2 %<br>Of measuring range full scale |
| **Process temperature** | ≤ +1,300 °C |
| **Sample gas temperature** | |
| Inlet analyzer system: | ≤ +200 °C |
| **Process pressure** | 850 hPa ... 1,100 hPa |
| **Process gas humidity** | ≤ 40 Vol.-% |
| **Ambient temperature** | +5 °C ... +40 °C |
| **Storage temperature** | –20 °C ... +70 °C |
| **Ambient pressure** | 850 hPa ... 1,100 hPa |

| | |
|---|---|
| **Ambient humidity** | ≤ 90 %<br>Relative humidity; non-condensing |
| **Conformities** | Approved for plants requiring approval<br>2000/76/EC (17. BImSchV)<br>2001/80/EC (13. BImSchV)<br>27. BImSchV<br>EN 15267<br>EN 14181 |
| **Electrical safety** | CE |
| **Enclosure rating** | IP54 |
| **Analog outputs** | 0/4 ... 22 mA, 500 Ω<br>Number depends on system configuration |
| **Analog inputs** | 0/4 ... 22 mA, 100 Ω<br>Number depends on system configuration; electrically isolated |
| **Digital outputs** | 48 V AC, 0.5 A, 35 W / 48 V DC, 0.5 A, 24 W<br>Number depends on system configuration; electrically isolated |
| **Digital inputs** | 3.9 V, 4.5 mA, 0.55 W<br>Number depends on system configuration |
| **Modbus**<br>**Modbus** | ✓, ✓ |
| Type of fieldbus integration | TCP<br>RTU RS-485 |
| **PROFIBUS DP** | ✓ |
| Remark | Option |
| **Ethernet** | ✓ |
| Function | Connection to SOPAS ET software or OPC server |
| **Indication** | LC display<br>Status LEDs: “Power,” “Failure,” and “Maintenance request” |
| **Input** | Touchscreen |
| **Operation** | Via LC display or SOPAS ET software, multiple operating levels, password-protected |
| **Menu languages** | German, English |
| **Dimensions (W x H x D)** | |
| Analyzer cabinet | 808 mm x 2,208 mm x 623 mm (for details see dimensional drawings) |
| Mounting plate | 699 mm x 1,896 mm x 334 mm (for details see dimensional drawings) |
| **Weight** | |
| Analyzer cabinet: | Approx. 250 kg |
| **Material in contact with media** | Stainless steel 1.4571, PTFE, aluminium, coated |
| **Energy supply** | |
| Voltage | 115 V AC, ± 10 %<br>230 V AC, ± 10 % |
| Frequency | 50 Hz / 60 Hz |
| Power consumption | Analyzer: ≤ 1,000 VA<br>Sample gas line, heated: ≤ 95 VA/m<br>Gas sampling unit: ≤ 450 VA<br>Heated gas sampling pipe: ≤ 450 VA |

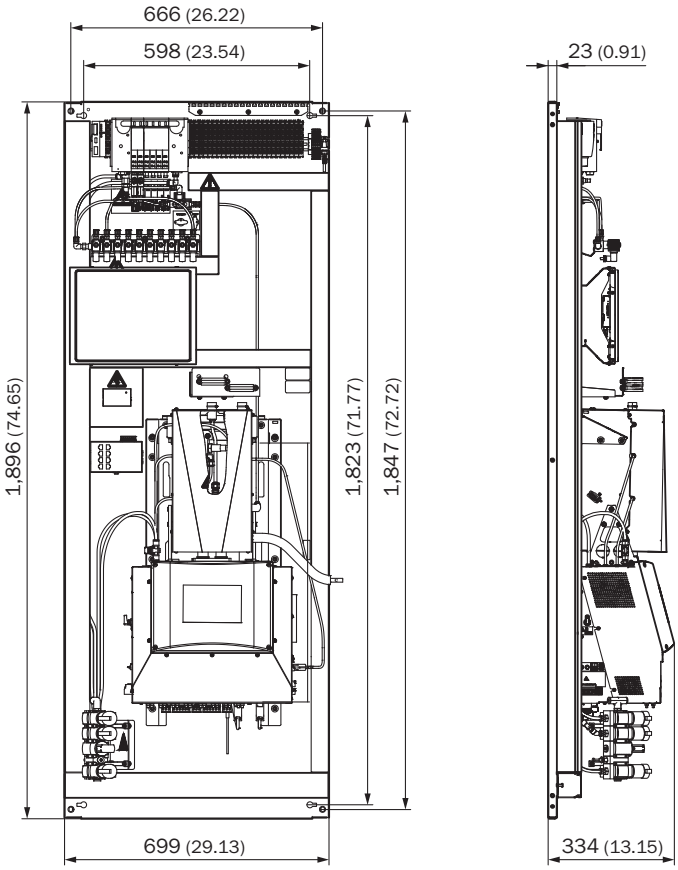
| | |
|---|---|
| **Auxiliaries** | |
| Instrument air (zero gas quality): | ≤ 350 l/h<br>6 ... 7 bar; particle size max. 1 µm; oil content max. 0.1 mg/m³; pressure condensation point max. –40 °C, purity class 2 (ISO 8573) |
| Instrument air (propellant air for ejector): | ≤ 1,300 l/h<br>5 ... 7 bar; particle size max. 5 µm; oil content max. 1 mg/m³; pressure condensation point max. -+3 °C, purity class 3 (ISO 8573) |
| Reference gas: | ≤ 350 l/h<br>Max. 4 bar; the reference gas must comply with the requirements of the applicable standards and guidelines |
| **Sample gas connections** | |
| Sample gas inlet | Clamping ring fitting for 6 mm pipes |
| **Auxiliary gas connections** | |
| Propellant air for ejector | DN 6/8 |
| Reference gas | Clamping ring fitting for 6 mm pipes |
| Exhaust gas outlet | DN 8/10 |
| **Corrective functions** | Drift correction and optical monitoring function via adjustment cell |
| **Test functions** | Automatic check cycle for zero and span point |
| **System components** | Gas sampling unit<br>Sample gas line<br>Analyzer cabinet |
| **Options** | GMS811 FIDORi |

## Classifications

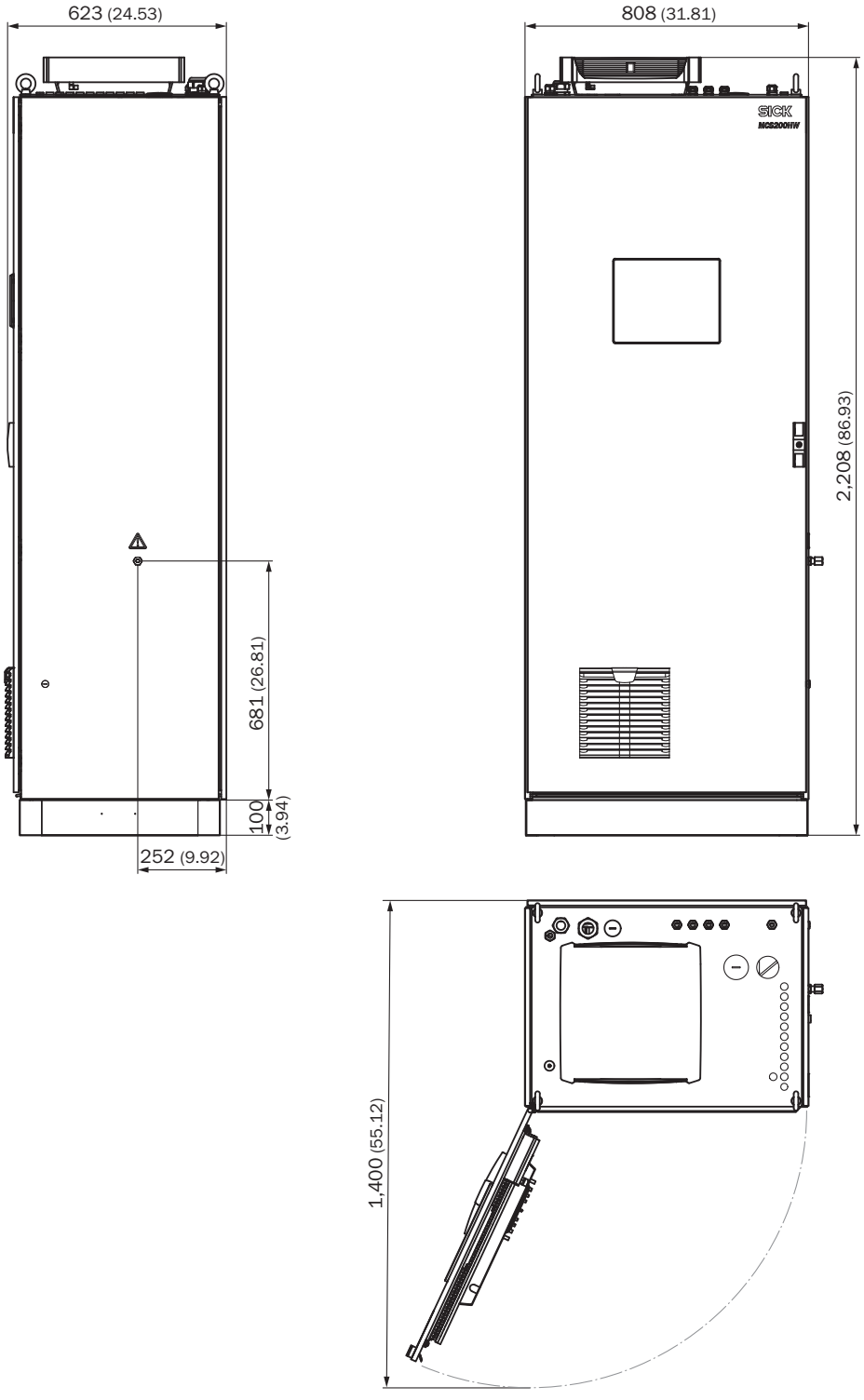
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|---|---|
| **ECLASS 5.0** | 27150302 |
| **ECLASS 5.1.4** | 27150302 |
| **ECLASS 6.0** | 27150302 |
| **ECLASS 6.2** | 27150302 |
| **ECLASS 7.0** | 27150302 |
| **ECLASS 8.0** | 27150302 |
| **ECLASS 8.1** | 27150302 |
| **ECLASS 9.0** | 27150302 |
| **ECLASS 10.0** | 27150302 |
| **ECLASS 11.0** | 27150302 |
| **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))

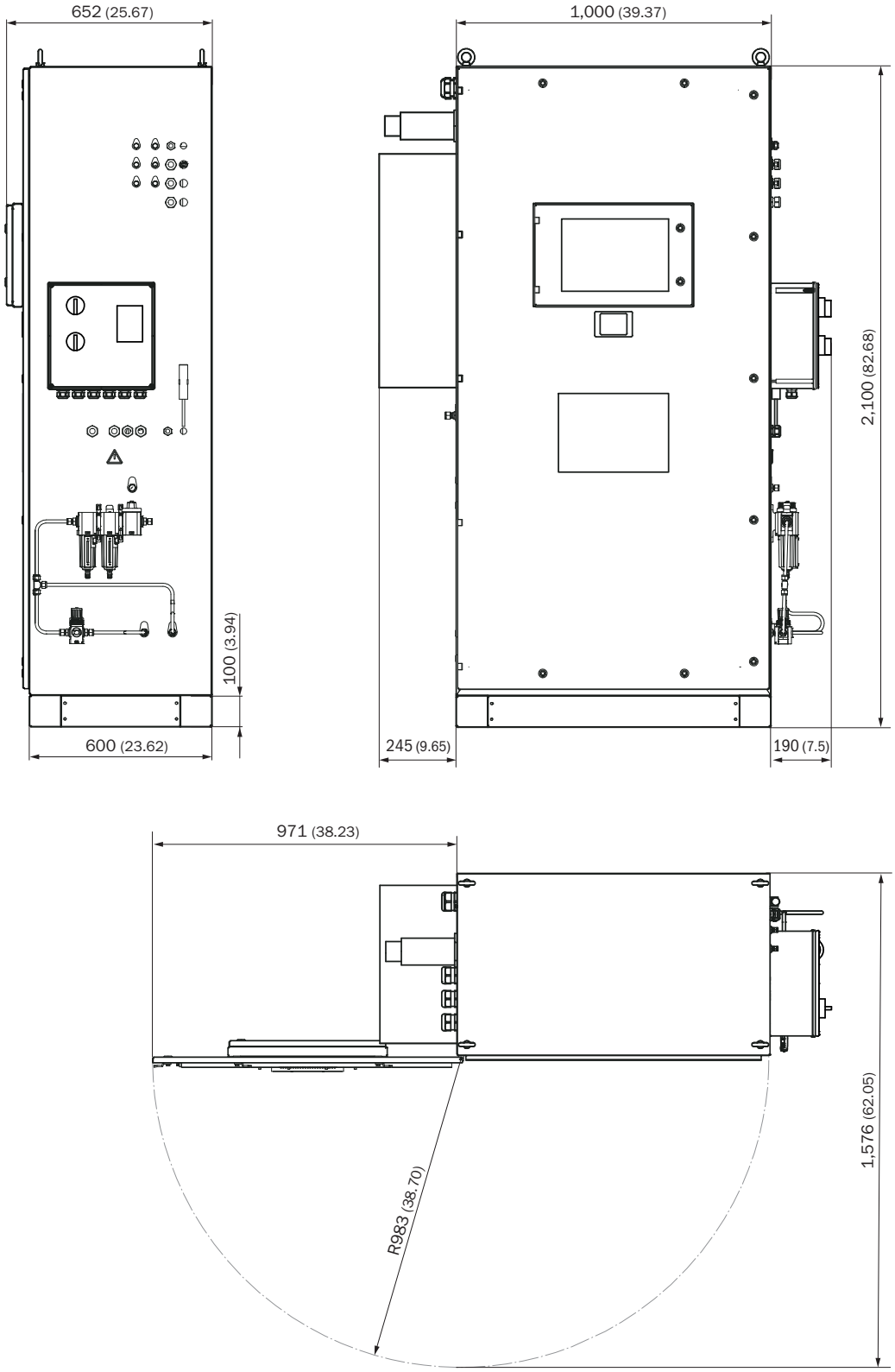
MCS200HW mounting plate



MCS200HW system



MCS200HW Ex system



# 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.”**

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