Product data sheet



System MCS200HW Ex

MCS200HW

GAS ANALYZERS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
System MCS200HW Ex	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

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 % 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 % 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	–20 °C ... +50 °C
Storage temperature	–20 °C ... +55 °C
Ambient pressure	850 hPa ... 1,100 hPa

Ambient humidity	
	≤ 90 % Relative humidity; non-condensing
Ex-approvals	
ATEX	II 3G Ex dc ec ic [ic] mc nC pzc IIC T3 Gc Analyzer cabinet II 3G Ex ec IIC T3 Gc Gas sampling unit II 2G Ex 60079-30-1 eb IIC T3 Gb Sample gas line
Electrical safety	CE
Enclosure rating	
	IP65
Analog outputs	0/4 ... 22 mA, 500 Ω Number depends on system configuration
Analog inputs	0/4 ... 22 mA, 100 Ω 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 Number depends on system configuration; electrically isolated
Digital inputs	3.9 V, 4.5 mA, 0.55 W Number depends on system configuration
Modbus **Modbus**	✓, ✓
Type of fieldbus integration	TCP RTU RS-485
PROFIBUS DP	✓
Remark	Option
PROFINET	✓
Remark	Option
Ethernet	✓
Function	Connection to SOPAS ET software or OPC server
Indication	
	LC display
	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	1,448 mm x 2,160 mm x 652 mm (for details see dimensional drawings)
Weight	
Analyzer cabinet:	Approx. 400 kg
Material in contact with media	Stainless steel 304, Option: GFRP, painted sheet steel
Energy supply	
Voltage	115 V AC, ± 10 % 230 V AC, ± 10 %
Frequency	50 Hz / 60 Hz
Power consumption	Analyzer: ≤ 1,000 VA Sample gas line, heated: ≤ 95 VA/m

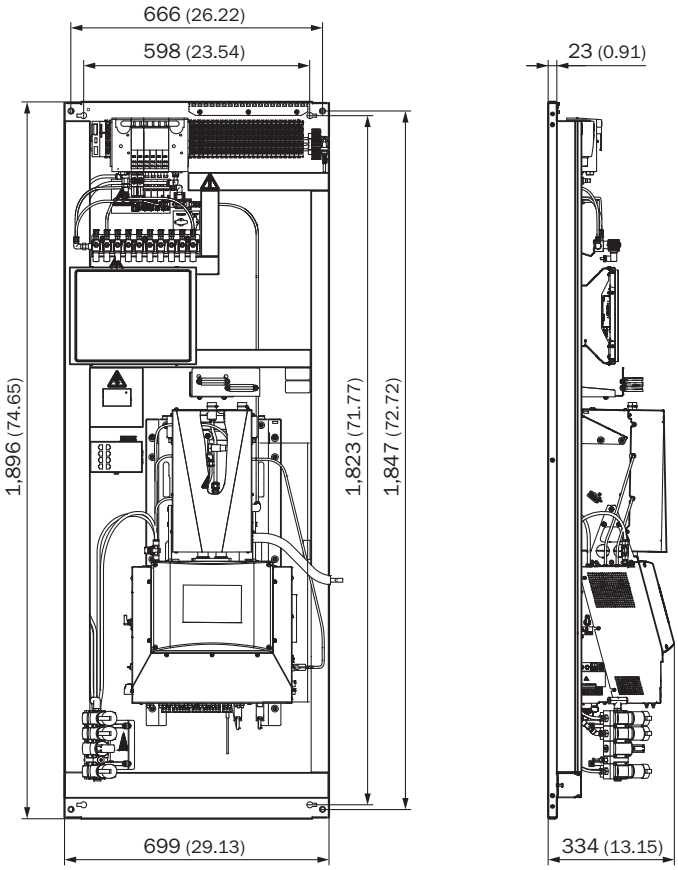
	Gas sampling unit: ≤ 450 VA Heated probe tube: ≤ 200 VA ... ≤ 600 VA
Auxiliaries	
Instrument air (zero gas quality):	≤ 350 l/h 6 ... 7 bar; particle size max. 1 µm; oil content max. 0.1 mg/m³; pressure condensation point max. –40 °C, purity class 2 (ISO 8573)
Instrument air (propellant air for ejector):	≤ 1,300 l/h 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 Max. 4 bar; the reference gas must comply with the requirements of the applicable standards and guidelines
Instrument air Ex p (flushing unit):	Max. 4.5 barg (system-side regulation), specification according to ISO 8573-1:5-3-3, particle size: max. 40 µm (Class 5), dew point: ≤ –20 °C (Class 3), oil content: ≤ 1 mg/m3 (Class 3), air volume: 39,100 l/h
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 Sample gas line Analyzer cabinet

Classifications

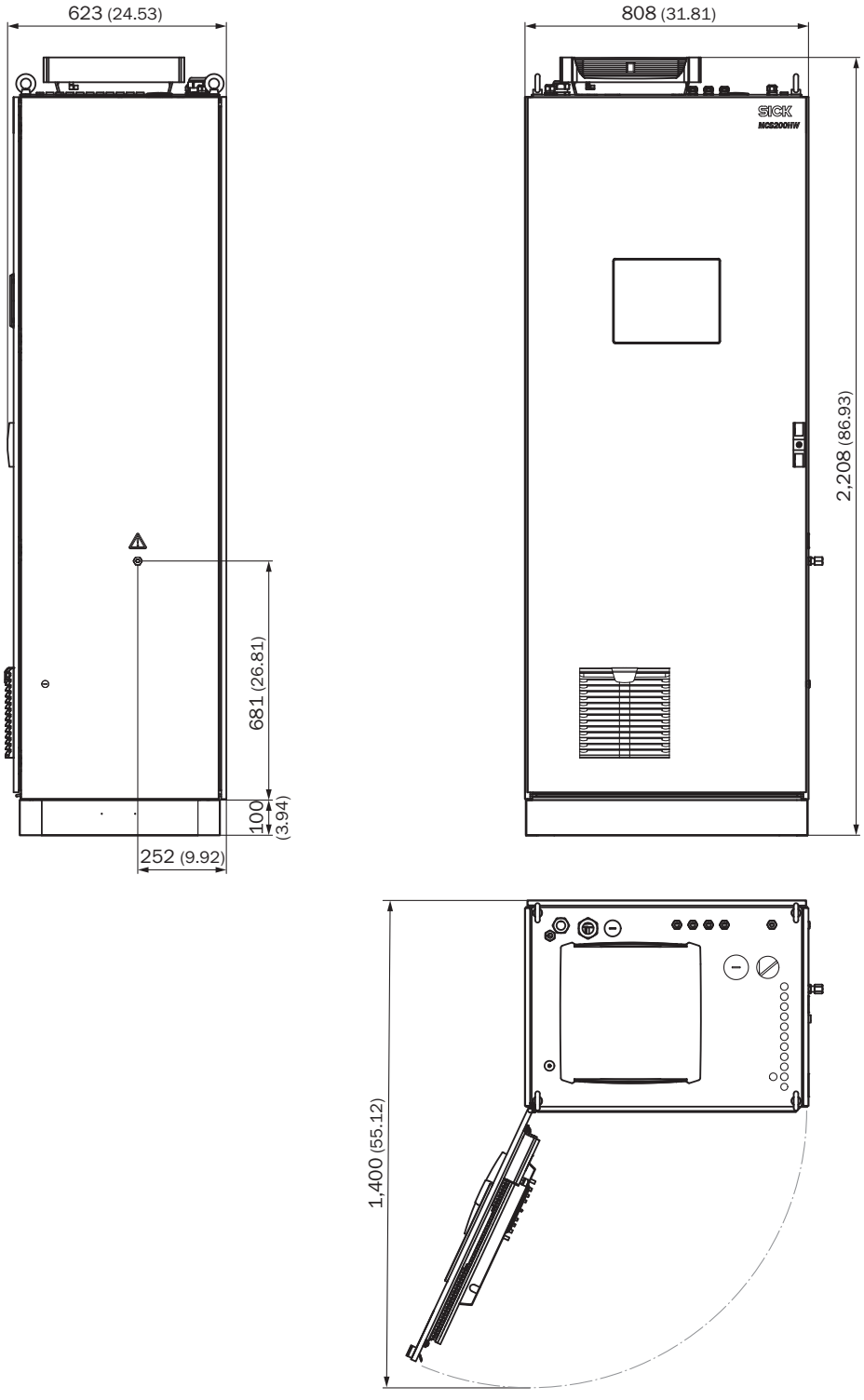
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ECLASS 8.1	27150302
ECLASS 9.0	27150302
ECLASS 10.0	27150302
ECLASS 11.0	27150302
ETIM 5.0	EC001190
ETIM 6.0	EC001190
ETIM 7.0	EC001190
ETIM 8.0	EC001190
UNSPSC 16.0901	41115406

Dimensional drawing (Dimensions in mm (inch))

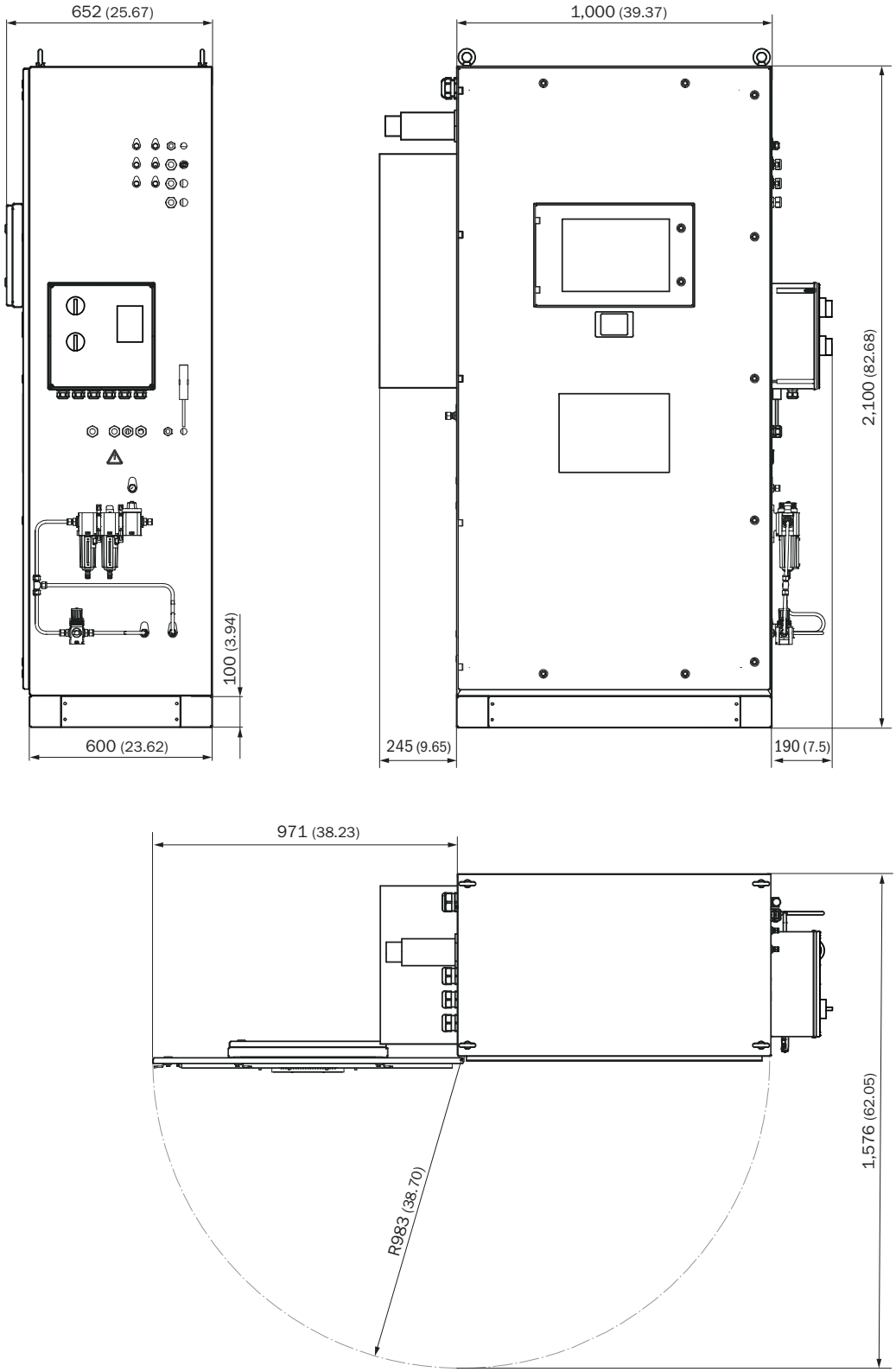
MCS200HW mounting plate



MCS200HW system



MCS200HW Ex system



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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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