



SIDOR

EXTRACTIVE GAS ANALYZERS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
SIDOR	On request

The exact device specifications and performance data of the product may deviate from the information provided here, and depend on the application in which the product is being used and the relevant customer specifications.

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

Other models and accessories → www.sick.com/SIDOR

Product description

The SIDOR is a gas analyzer for measurement of up to 2 infrared components. Additionally oxygen can be measured by integration of an electrochemical or paramagnetic measuring cell. A significant characteristic is a half-yearly maintenance interval with test gases. The stability of the measuring cells allows an adjustment with only inert gas or ambient air within this half-year period. Sample gas pressure compensation is included as a standard. The SIDOR was type approved for large combustion plants and crematories.

At a glance

- Detector with high long-term stability
- Paramagnetic or electrochemical O₂ measurement
- Automated adjustment with component-free ambient air
- Immune to contamination

Your benefits

- Automatic adjustment, self-monitoring and fault diagnosis
- Test gas adjustment only every 6 months
- Long maintenance intervals
- TÜV approval and MCERTS certification according to EN 15267
- Repairable on site
- Exchange of components without complicated temperature adjustment in the factory



Fields of application

- Emission monitoring according to 13th (2001/80/EC) and 27th German Federal Emission Protection Directive (BImSchV).
- Combustion optimization of small boilers
- Monitoring of landfill gas and bio fermenters
- Operational measurements in power stations

Detailed technical data

SIDOR system

Gas flow rate	30 l/h ... 60 l/h
Sample gas temperature	0 °C ... +45 °C Temperature at analyzer inlet
Process pressure	-200 hPa ... 300 hPa
Process gas humidity	Non-condensing
Dust load	Free of dust and aerosols
Ambient temperature	+5 °C ... +45 °C
Storage temperature	-20 °C ... +70 °C
Ambient humidity	≤ 95 % Relative humidity; non-condensing
Conformities	Approved for plants requiring approval 2001/80/EC (13. BImSchV) 2000/76/EC (17. BImSchV) 27.BImSchV TA-Luft (Prevention of Air Pollution) EN 15267 EN 14181 MCERTS
Electrical safety	CE, cCSAus
Enclosure rating	IP 20
Analog outputs	4 outputs: 4 ... 20 mA, 500 Ω Electrically isolated
Digital outputs	8 relay contacts: 30 V AC, 500 mA / 48 V DC, 500 mA Three relay outputs preset for failure, service and maintenance 8 transistor outputs: 24 V DC, 500 mA Freely adjustable
Digital inputs	8 optical coupler inputs: 24 V DC Electrically isolated; freely programmable
Interfaces and bus protocols	RS-232c Modbus RTU
Indication	LC display
Operation	Menu-driven operation via LC-display and membrane keyboard
Menu languages	German, English, French, Italian, Dutch, Polish, Swedish, Spanish
Model	19" rack enclosure with 3 rack units, for integration in cabinets
Dimensions (W x H x D)	483 mm x 132.5 mm x 332 mm (for details see dimensional drawings)
Weight	9 kg ... 12 kg Depending on configuration

Power supply	Voltage	100 V / 115 V / 230 V
	Frequency	48 ... 62 Hz
	Power consumption	≤ 150 W
		Depending on system configuration
Sample gas connections		PVDF bulkhead fitting For hose 6 x 1 mm Option: Swagelok 6 mm Option: Swagelok 1/4"
Corrective functions		Manual or automatic single-point adjustment with ambient air Manual or automated adjustment with test gases
Options		Integrated sample gas pump Flow sensor Humidity sensor

SIDOR analyzer module

Description	Selective NDIR analyzer for continuous measurement of one gas component which absorbs in the infra-red spectral range	
Measurement principles	NDIR spectroscopy	
Measuring ranges	CH ₄	0 ... 5,000 ppm / 0 ... 100 Vol.-%
	CO	0 ... 60 ppm / 0 ... 100 Vol.-%
	CO ₂	0 ... 500 ppm / 0 ... 100 Vol.-%
	NO	0 ... 93 ppm / 0 ... 3 Vol.-%
	N ₂ O	0 ... 100 ppm / 0 ... 100 Vol.-%
	SO ₂	0 ... 35 ppm / 0 ... 3 Vol.-%
Certified measuring ranges	CO	0 ... 75 mg/m ³ / 0 ... 375 mg/m ³ / 0 ... 3,000 mg/m ³
	NO	0 ... 125 mg/m ³ / 0 ... 600 mg/m ³
	SO ₂	0 ... 100 mg/m ³ / 0 ... 200 mg/m ³ / 0 ... 500 mg/m ³
Response time (t₉₀)	3 s Typical at 60 l/h, depending on cell length and gas flow	
Sensitivity drift	≤ 2 % per quarter with regular 1-point adjustment	
Zero point drift	≤ 2 % per quarter with regular 1-point adjustment	
Material in contact with media	Viton B, PVDF, glass, Aluminum, stainless steel 1.4571	

OXOR-E analyzer module

Description	Determination of oxygen content using an electrochemical cell	
Measurement principles	Electrochemical cell	
Measuring ranges	O ₂	0 ... 10 Vol.-% / 0 ... 25 Vol.-%
Certified measuring ranges	O ₂	0 ... 25 Vol.-% / 0 ... 10 Vol.-%
Response time (t₉₀)	30 s Typical at 60 l/h, depending on gas flow	
Sensitivity drift	≤ 1 % of measuring range full scale per week ≤ 2 % per quarter with regular 1-point adjustment	
Zero point drift	≤ 2 % of the measuring range full scale value per month	

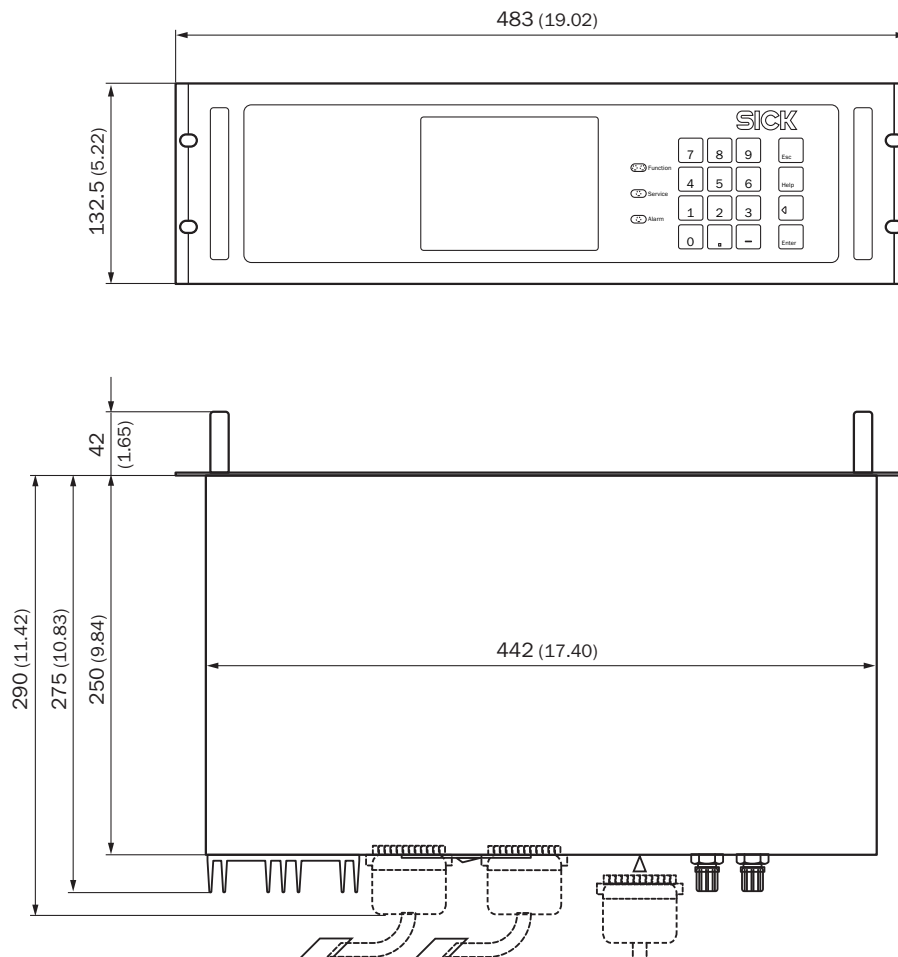
	≤ 0.2 % per quarter with regular 1-point adjustment
Material in contact with media	Viton B, PVDF, stainless steel 1.4571

OXOR-P analyzer module

Description	Accurate oxygen analyzer which operates according to the paramagnetic measurement principle
Measurement principles	Paramagnetic dumbbell principle
Measuring ranges	
	O ₂ 0 ... 3 Vol.-% / 0 ... 100 Vol.-%
Certified measuring ranges	
	O ₂ 0 ... 25 Vol.-% / 0 ... 10 Vol.-%
Response time (t₉₀)	≤ 4 s At a gas flow of 60 l/h
Sensitivity drift	≤ 1 % of measuring range full scale per week ≤ 2 % per quarter with regular 1-point adjustment
Zero point drift	≤ 1 % of smallest measuring range per week Measuring ranges smaller 5 vol%: ≤ 0.05 Vol.-% per week ≤ 0.2 % per quarter with regular 1-point adjustment
Material in contact with media	Viton B, PVDF, glass, stainless steel 1.4571, platinum, nickel, Aluminum

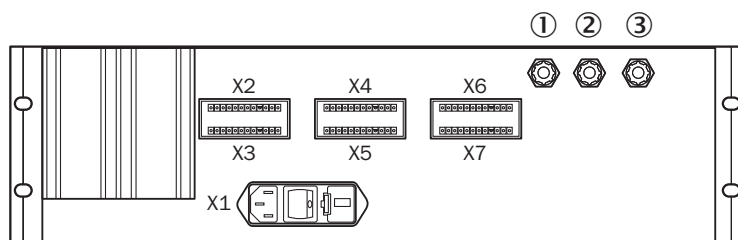
Dimensional drawing (Dimensions in mm (inch))

Analyzer



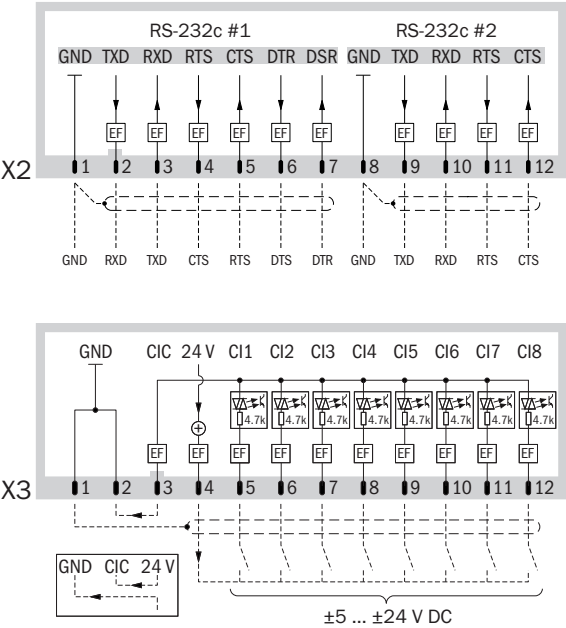
Connection types

Gas connections

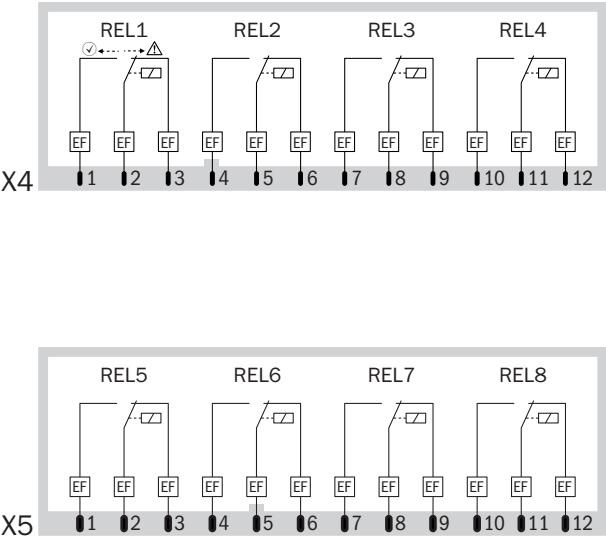


- ① Sample gas inlet
- ② Exhaust gas outlet
- ③ Zero gas

Plug connectors X2 (interfaces) and X3 (control inputs)

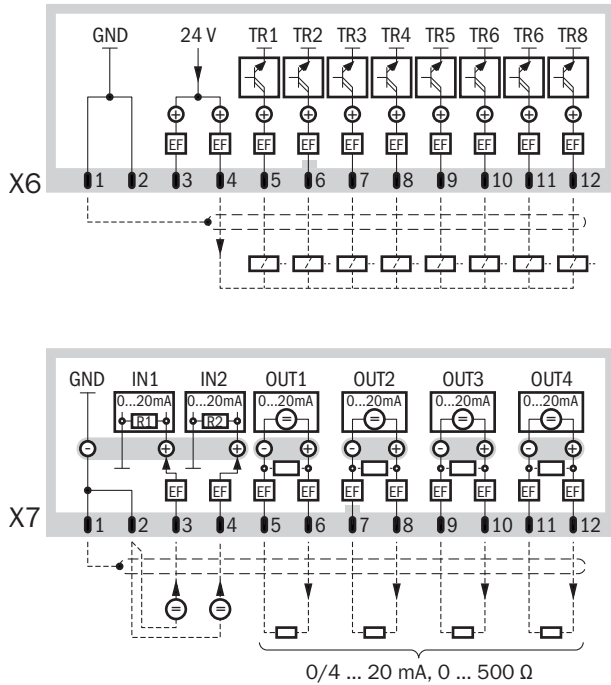


Keep away from external voltages!
X4 and X5 male connectors (relay switching outputs)



Max. 48 V peak voltage (34 V AC / 48 V DC), max. 500 mA. Inductive loads must be equipped with discharging diodes.

X6 (transistor switching outputs) and X7 (measured value outputs) male connectors



Only use internal voltage sources (24 V DC), max. 500 mA single, max. 1000 mA total (TR1 ... TR8). Inductive loads must be equipped with discharging diodes.

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