



GAS DETECTOR

ST150xi

PART.NO. 1221000-1221028

8221000-8221028

DETECTION OF TOXIC GASES HYDROGEN AND OXYGEN

SYSTEM CGD50, CGD500 Touch

GENERAL DESCRIPTION

- Detection of toxic gases and Oxygen
- Touch screen control, without additional tools
- Reliable sensor technology

The **ST150xi** is a stationary gas detector which is developed to detect a numerous of toxic gasses and Oxygen with a high reliability. This all-round gas detector can be applied at virtually every type of industrial application. Functionality and maintenance of this new generation of gas detector meets today's essential demands for reliability, accuracy and cost reduction.

The **ST150xi** comes standard with a high-quality electrochemical sensor. This type of sensor is available for many different gasses and is perfectly suitable for the detection of the target gas with high precision. This proven sensor technology has demonstrated to function perfectly under the toughest conditions.

The **ST150xi** relies on a specially developed sensor allowing an easy and quick sensor replacement.

The **ST150xi** is equipped a graphic display. The display shows the measured value and various status notifications locally. The capacitive key control gives you an experience similar to a touchscreen and enables easy navigation through the user/calibration menu. The user menu provides different features, such as a zero and span calibration, adjusting alarm set points (local alarm indication through notifications on the display and bright colored LED), showing set points, diagnostic information and simulation of the output signal (4-20mA) for loop testing.

HEIGHTS AREAS / REMOTE APPLICATIONS:

A remote application allows the user to mount the sensor separately from the transmitter. Remote sensors are ideal for applications where the gases present ascend, i.e. gases lighter than air. High located detection areas are often difficult to reach for example during maintenance. When using a remote sensor, the sensor itself will be mounted high and the transmitter will be mounted within close reach. This makes maintenance quick and easy and therefore cost effective. Cable lengths up to 150 meters are supported between the transmitter and the remote sensor (depending on the type).

APPLICATIONS:

- + Water Industry
- + Refineries
- + Oil & Gas Industry
- + Food Industry
- + Marine
- + Pharmaceutical Industry
- + Steel Industry
- + Laboratory / Universities

WE OFFER MORE THAN A PRODUCT!

- + Tailored advice
- + Project advice
- + Technical support
- + Training and education
- + Commissioning
- + Onsite service / maintenance / calibration

ORDERING INFORMATION INTERNATIONAL MODELS

GAS DETECTOR						
TYPE	RANGE	PART NO.			OPERATING TEMPERATURE	RELATIVE HUMIDITY (N.C.)
		ALUMINUM	STAINLESS	Remote		
ST150xi-O ₂	0-25 Vol.%	I221000/25	+ /SS		-30 to +55 °C	5-95%
ST150xi-O ₂ (LL3)	0-25 Vol.%	I221000/25/LL3			-30 to +55 °C	5-95%
ST150xi-H ₂ S	0-20 ppm	I221001/20			-30 to +55 °C	15-90%
ST150xi-H ₂ S	0-30 ppm	I221001/30			-30 to +50 °C	15-90%
ST150xi-H ₂ S	0-50 ppm	I221001/50			-30 to +50 °C	15-90%
ST150xi-H ₂ S	0-100 ppm	I221001/100			-30 to +50 °C	15-90%
ST150xi-CO	0-250 ppm	I221004/250			-30 to +50 °C	15-90%
ST150xi-CO	0-500 ppm	I221004/500			-30 to +50 °C	15-90%
ST150xi-CO	0-2000 ppm	I221004/2000			-30 to +50 °C	15-90%
ST150xi-CO LHS	0-250 ppm	I221004/250/LHS			-30 to +50 °C	15-90%
ST150xi-H ₂	0-1000 ppm	I221005/1000			-30 to +50 °C	15-90%
ST150xi-NH ₃	0-100 ppm	I221006/100			-20 to +50 °C	15-90%
ST150xi-NH ₃	0-1000 ppm	I221006/1000			-20 to +50 °C	15-90%
ST150xi-NH ₃ (LL)	0-100 ppm	I221006/100/LL			-20 to +40 °C	15-95%
ST150xi-NH ₃ (LL)	0-1000 ppm	I221006/1000/LL			-20 to +40 °C	15-95%
ST150xi-Cl ₂	0-5 ppm	I221007/5			-20 to +40 °C	15-90%
ST150xi-Cl ₂	0-50 ppm	I221007/50			-20 to +40 °C	15-90%
ST150xi-ClO ₂	0-2 ppm	I221008/2			-20 to +50 °C	15-95%
ST150xi-COCl ₂	0-1 ppm	I221009/1			-20 to +40 °C	15-95%
ST150xi-HCN	0-30 ppm	I221010/30			+ /R	-20 to +50 °C
ST150xi-HCl	0-20 ppm	N.A.	I221011/20/SS	-20 to +50 °C		15-90%
ST150xi-HF	0-10 ppm	I221012/10		-20 to +50 °C		15-90%
ST150xi-H ₂ O ₂	0-50 ppm	I221013/50		-20 to +45 °C		15-90%
ST150xi-NO	0-25 ppm	I221014/25		-20 to +50 °C		15-90%
ST150xi-NO	0-100 ppm	I221014/100		-20 to +50 °C		15-90%
ST150xi-NO ₂	0-20 ppm	I221015/20		-20 to +50 °C		15-90%
ST150xi-SO ₂	0-10 ppm	I221016/10		-20 to +50 °C		15-90%
ST150xi-CH ₄ S	0-20 ppm	I221017/20		-20 to +50 °C		15-95%
ST150xi-SiH ₄	0-50 ppm	I221018/50		-20 to +40 °C		10-95%
ST150xi-O ₃	0-1 ppm	I221019/1		-20 to +40 °C		15-90%
ST150xi-CH ₂ O	0-10 ppm	I221020/10		-20 to +50 °C		15-90%
ST150xi-F ₂	0-1 ppm	I221021/1		-20 to +40 °C		15-90%
ST150xi-N ₂ H ₄	0-1 ppm	I221022/1		-20 to +40 °C		15-90%
ST150xi-C ₂ H ₄ O (ETO)	0-20 ppm	I221024/20		-10 to +50 °C		15-90%
ST150xi-PH ₃	0-5 ppm	I221025/5		-20 to +50 °C		15-90%
ST150xi-B ₂ H ₆	0-1 ppm	I221026/1		-20 to +50 °C		15-90%
ST150xi-GeH ₄	0-5 ppm	I221027/5		-20 to +50 °C		15-90%
ST150xi- Alcohols CH ₃ OH / C ₂ H ₆ O	0-200 ppm	I221028/200		-20 to +50 °C		15-90%

Note1: The standard CO sensor is cross sensitive to H₂. The LHS version (Low Hydrogen Sensitivity), offers a highly improved selectivity relative to H₂.

Note2: The standard NH₃ sensor is not suited for applications where continuous (low) concentrations of NH₃ are present. The LL version (Long Life) is more resistant against above-average exposure to NH₃ and offers an extended life-time.

ORDERING INFORMATION NORTH AMERICAN MODELS

GAS DETECTOR						
TYPE	RANGE	PART NO.			OPERATING TEMPERATURE	RELATIVE HUMIDITY (N.C.)
		ALUMINUM	STAINLESS	Remote		
ST150xi-O ₂	0-25 Vol.%	8221000/25	+ /SS		-30 to +55 °C	5-95%
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ST150xi-H ₂ S	0-30 ppm	8221001/30			-30 to +50 °C	15-90%
ST150xi-H ₂ S	0-50 ppm	8221001/50			-30 to +50 °C	15-90%
ST150xi-H ₂ S	0-100 ppm	8221001/100			-30 to +50 °C	15-90%
ST150xi-CO	0-250 ppm	8221004/250			-30 to +50 °C	15-90%
ST150xi-CO	0-500 ppm	8221004/500			-30 to +50 °C	15-90%
ST150xi-CO	0-2000 ppm	8221004/2000			-30 to +50 °C	15-90%
ST150xi-CO LHS	0-250 ppm	8221004/250/LHS			-30 to +50 °C	15-90%
ST150xi-H ₂	0-1000 ppm	1221005/1000			-30 to +50 °C	15-90%
ST150xi-NH ₃	0-100 ppm	8221006/100			-20 to +50 °C	15-90%
ST150xi-NH ₃	0-1000 ppm	8221006/1000			-20 to +50 °C	15-90%
ST150xi-NH ₃ (LL)	0-100 ppm	8221006/100/LL			-20 to +40 °C	15-95%
ST150xi-NH ₃ (LL)	0-1000 ppm	8221006/1000/LL			-20 to +40 °C	15-95%
ST150xi-Cl ₂	0-5 ppm	8221007/5			-20 to +40 °C	15-90%
ST150xi-Cl ₂	0-50 ppm	8221007/50			-20 to +40 °C	15-90%
ST150xi-ClO ₂	0-2 ppm	8221008/2			-20 to +50 °C	15-95%
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ST150xi-HCN	0-30 ppm	8221010/30			+ /R	-20 to +50 °C
ST150xi-HCl	0-20 ppm	N.A.	8221011/20/SS	-20 to +50 °C	15-90%	
ST150xi-HF	0-10 ppm	8221012/10	+ /SS		-20 to +50 °C	15-90%
ST150xi-H ₂ O ₂	0-50 ppm	8221013/50			-20 to +45 °C	15-90%
ST150xi-NO	0-25 ppm	8221014/25			-20 to +50 °C	15-90%
ST150xi-NO	0-100 ppm	8221014/100			-20 to +50 °C	15-90%
ST150xi-NO ₂	0-20 ppm	8221015/20			-20 to +50 °C	15-90%
ST150xi-SO ₂	0-10 ppm	8221016/10			-20 to +50 °C	15-90%
ST150xi-CH ₄ S	0-20 ppm	8221017/20			-20 to +50 °C	15-95%
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ST150xi-CH ₂ O	0-10 ppm	8221020/10			-20 to +50 °C	15-90%
ST150xi-F ₂	0-1 ppm	8221021/1			-20 to +40 °C	15-90%
ST150xi-N ₂ H ₄	0-1 ppm	8221022/1			-20 to +40 °C	15-90%
ST150xi-C ₂ H ₄ O (ETO)	0-20 ppm	8221024/20			-10 to +50 °C	15-90%
ST150xi-PH ₃	0-5 ppm	8221025/5			-20 to +50 °C	15-90%
ST150xi-B ₂ H ₆	0-1 ppm	8221026/1			-20 to +50 °C	15-90%
ST150xi-GeH ₄	0-5 ppm	8221027/5			-20 to +50 °C	15-90%
ST150xi- Alcohols CH ₃ OH / C ₂ H ₆ O	0-200 ppm	8221028/200			-20 to +50 °C	15-90%

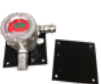
Note1: The standard CO sensor is cross sensitive to H₂. The LHS version (Low Hydrogen Sensitivity), offers a highly improved selectivity relative to H₂.

Note2: The standard NH₃ sensor is not suited for applications where continuous (low) concentrations of NH₃ are present. The LL version (Long Life) is more resistant against above-average exposure to NH₃ and offers an extended life-time.

ORDERING INFORMATION

SPARE PARTS / CONSUMABLES			
SPARE GAS SENSOR	PART NO.	RANGE	DESCRIPTION
Type O ₂	I229700	0-25 Vol.% O ₂	Oxygen Vol.% sensor
Type H ₂ S	I229701	20 / 30 / 50 / 100 ppm H ₂ S	Hydrogen sulfide ppm sensor
Type CO	I229704	100/250/500/2000 ppm CO	Carbon monoxide ppm sensor
Type CO (LHS)	I229704/LHS	250 / 500 ppm CO	Carbon monoxide ppm sensor (LHS) Low H ₂ Sensitivity
Type NH ₃	I229706/100	0-100 ppm NH ₃	Ammonia ppm sensor
Type NH ₃	I229706/1000	0-1000 ppm NH ₃	Ammonia ppm sensor
Type NH ₃ (LL)	I229706/100/LL	0-100 ppm NH ₃	Ammonia ppm sensor (LL) Long Life
Type NH ₃ (LL)	I229706/1000/LL	0-1000 ppm NH ₃	Ammonia ppm sensor (LL) Long Life
Type Cl ₂	I229707	5 / 50 ppm Cl ₂	Chlorine ppm sensor
Type ClO ₂	I229708	2 ppm ClO ₂	Chlorine dioxide ppm sensor
Type HCN	I229710	0-30 ppm HCN	Hydrogen cyanide ppm sensor
Type HCl	I229711	0-20 ppm HCl	Hydrogen chloride ppm sensor
Type HF	I229712	0-10 ppm HF	Hydrogen fluoride ppm sensor
Type H ₂ O ₂	I229713	0-50 ppm H ₂ O ₂	Hydrogen peroxide ppm sensor
Type NO	I229714	25 / 100 ppm NO	Nitrogen monoxide ppm sensor
Type NO ₂	I229715	0-20 ppm NO ₂	Nitrogen dioxide ppm sensor
Type SO ₂	I229716	0-10 ppm SO ₂	Sulfur dioxide ppm sensor
Type CH ₄ S	I229717	0-20 ppm CH ₄ S	Methyl Mercaptan ppm sensor
Type SiH ₄	I229718	0-50 ppm SiH ₄	Silane ppm sensor
Type O ₃	I229719	0-1 ppm O ₃	Ozone ppm sensor
Type CH ₂ O	I229720	0-10 ppm CH ₂ O	Formaldehyde ppm sensor
Type F ₂	I229721	0-1 ppm F ₂	Fluor ppm sensor
Type N ₂ H ₄	I229722	0-1 ppm N ₂ H ₄	Hydrazine ppm sensor
Type C ₂ H ₄ O	I229724	0-10 ppm C ₂ H ₄ O	Ethylene Oxide ppm sensor
Type PH ₃	I229725	0-5 ppm PH ₃	Phosphine ppm sensor
Type B ² H ⁶	I229726	0-1 ppm B ² H ⁶	Diborane ppm sensor
Type GeH ⁴	I229727	0-5 ppm GeH ⁴	Germane ppm sensor
Type CH ₃ OH /C ₂ H ₆ O	I229728	0-200 ppm CH ₃ OH /C ₂ H ₆ O	Ethanol / Methanol ppm sensor

ORDERING INFORMATION

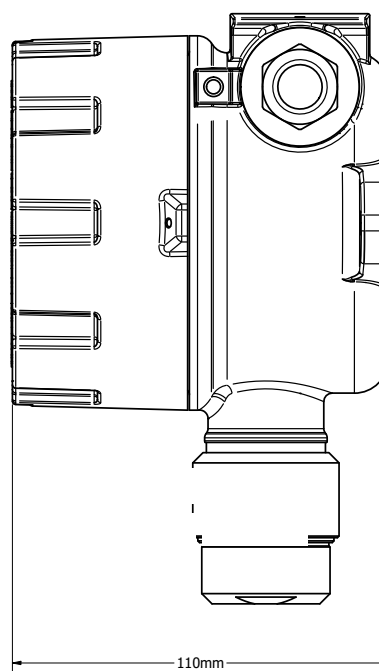
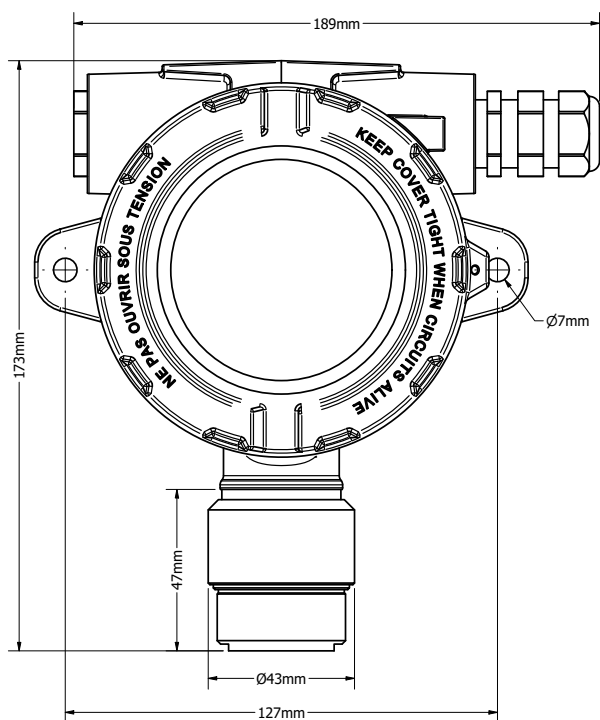
ACCESSORIES			
TYPE	IMAGE	PART NO.	DESCRIPTION
Signal cable		4002427	2 core shielded cable, 2 x 0,75 mm ² (flexible cores), per meter.
Duct mounting set JIS		Duct kit for JIS ducts (Stainless steel)	
		5101101-00A	100A (Ø 200mm)
		5101102-00A	125A (Ø 235mm)
		5101103-00A	150A (Ø 265mm)
		5101104-00A	200A (Ø 320mm)
		5101105-00A	250A (Ø 385mm)
Duct mounting set DIN		Duct kit for DIN (Stainless steel)	
		5101731-00A	DIN 100 (Ø 220mm)
		5101732-00A	DIN 125 (Ø 250mm)
		5101733-00A	DIN 150 (Ø 285mm)
		5101734-00A	DIN 200 (Ø 340mm)
		5101735-00A	DIN 250 (Ø 385mm)
Duct mounting set		4002722, 4002723	4002722 for brass. 4002723 for Stainless steel. Duct mounting set for mounting in ventilation ducts. (250x200x1,5 mm).
Splash Guard for ST150xi		4002702	Splash Guard ST480xi / ST150xi, for enviromental sensor protection, incl. splash water:
Inline flow adapter for ST150xi		1229262	Inline flow adapter ST480xi / ST150xi, for sample applications, SS.
Protective hood		4002714	Protective hood SS, for optimal protection in "wet" production areas, dim. 315 x 300 x 138 mm.
Isolation set EMC/RFI		4002440	Isolation plate EMC/RFI, 160 x 160 x 7,5mm.
Protective bracket		4002713	SS bracket, extra protection for use in e.g. warehouses.
Calibration adapter for ST480xi and ST150xi		1229261	Stainless Steel calibration flow adapter; for ST480xi / ST150xi.

TEST GASES AND ACCESSORIES

TYPE	PART NO.	DESCRIPTION
BUGAS, 100Vol.% N ₂	9990524	Nitrogen, 100Vol.%, 110 gas liters
BUGAS, 20,9% O ₂ / N ₂	9990537	Synthetic air, 20,9% O ₂ / 79% N ₂ , 110 gas liters
BUGAS, 100 ppm CO	9990522	Carbon monoxide, 100 ppm in air, 110 gas liters
BUGAS, 10 ppm H ₂ S	9990540	Hydrogen sulfide, 10 ppm in air, 58 gas liters
BUGAS, 25 ppm H ₂ S	9990507	Hydrogen sulfide, 25 ppm in air, 58 gas liters
BUGAS, 10 ppm HCN	9990509	Hydrogen cyanide, 10 ppm in air, 58 gas liters
BUGAS, 50ppm NH ₃	9990538	Ammonia, 50 ppm in air, 110 gas liters
BUGAS, 25 ppm NO	9990510	Nitrogen oxide, 25 ppm in air, 58 gas liters
BUGAS, 5 ppm NO ₂	9990512	Nitrogen dioxide, 5 ppm in air, 58 gas liters
BUGAS, 10 ppm SO ₂	9990515	Sulphur dioxide, 10 ppm in air, 110 gasliters
BUGAS, 0,5 ppm PH ₃	9990513	Phosphine, 0,5 ppm in Nitrogen, 110 gasliters
Gas hose	1225819	Flexible tubing, Ø 6mm, per meter
Flow regulator brass	9990600	Flow regulator Chrome / brass nickleplated (applicable for 58/110 gas liters), fixed flow 0,5 l/min
Flow regulator SS	9990601	Fixed Flow regulator SS (applicable for 58/110 gas liters), fixed flow 0,5 l/min

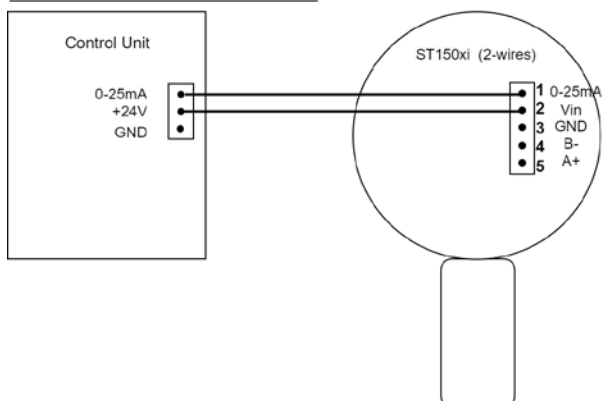
Consilium offers a wide range of test gases, if the required test gas is not listed, please contact us.

DIMENSIONS

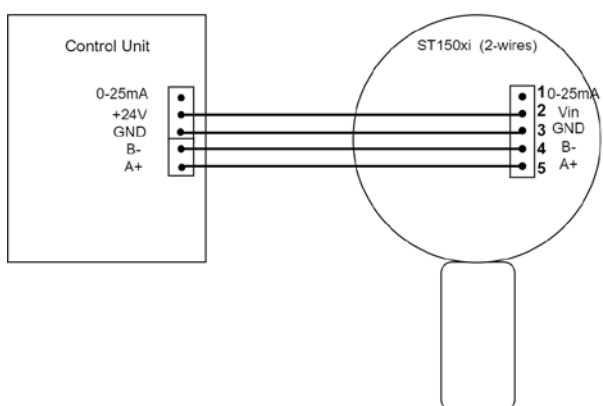


CONNECTION DIAGRAM GAS DETECTOR

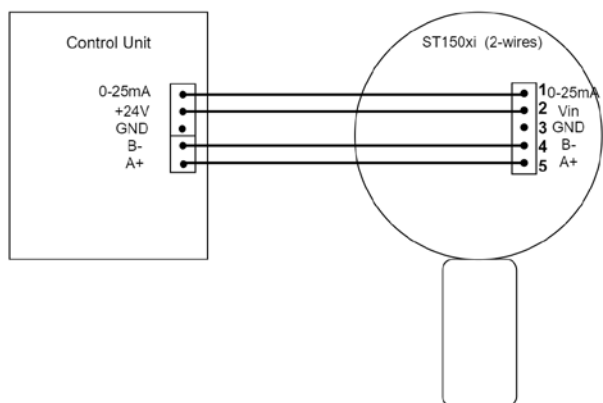
ST150xi used as 4-20 mA transmitter:



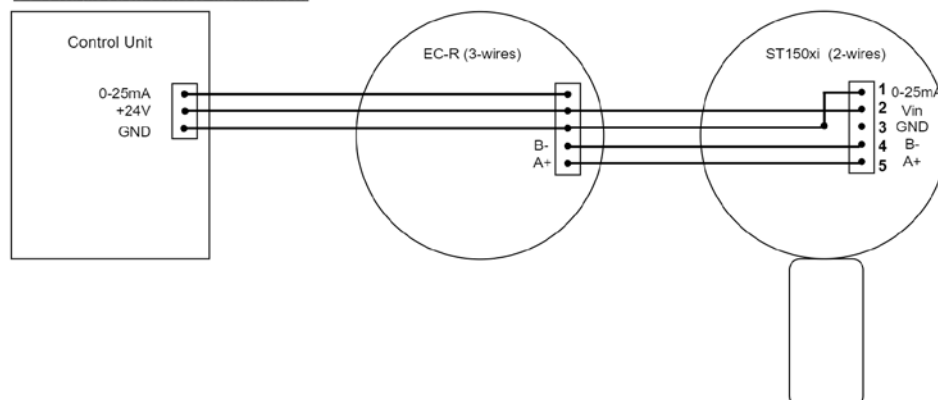
ST150xi used as MODBUS slave device:



ST150xi used as MODBUS slave device and 4-20 mA transmitter:



ST150xi used in remote installation:



SPECIFICATIONS

PRODUCT	ST150xi
Gas type	Oxygen and Toxic gases
Sensor type	Electrochemical sensor
Range	See table "Order information" for ranges
Display	Digital graphic display with backlight
Status LED display	Green: OK, Red: Alarm, Yellow: SF (System Failure), Blue: User menu active
Power supply	24-28 VDC (max. 3.6 watt)
Outputs	Analogue: 4-20 mA (<2.4 mA system failure, >20 mA overrange)
Signal cable	2-wire mesh shielded, 0.75 ... 2.5 mm ² (excluding earth connection and Modbus)
Cable gland	Standard Brass, optional SS (thread M20 x 1.5)
Load impedance	max. 165Ω at 24VDC
Operating temperature	See table "Order information"
Relative humidity	See table "Order information"
Pressure range	Toxic: Atmospheric ± 10%, Oxygen: 80 to 120 kPa
Enclosure	Aluminum with coating, optional SS
Dimensions	173 x 189 x 110 mm (HxWxD)
Weight	2.0 kg (Alu), 3.35 kg (SS)
Ingress Protection	IP 66 (excl sensor)
Enclosure gas sensor	SS 316
CE marking (International models)	Electromagnetic Compatibility (Directive 2014/30/EU)
CSA certification (North American models)	CSA21CA80082143
Compliance with: (North American models)	CAN/CSA C22.2 No. 61010-1-12 UL 61010-1
Manufacturer	Consilium Safety Netherlands B.V.

