

Technical Datasheet



PolyGard®2

Sensor Cartridge SC2 with semiconductor sensor for toxic gases

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ORDERING INFORMATION



Specifications subject to change without notice.
Up-to-date data sheets and user manuals can be found in the download area of www.msr-24.com.
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■ All Products
■ Made
■ in Germany

DESCRIPTION

Exchangeable sensor including digital value processing and self-control for the continuous monitoring of the ambient air.

The Sensor Cartridge SC2 includes a semiconductor sensor element and an amplifier as well as a μ Controller for processing of the measured values. All relevant data and measured values of the sensor element are stored fail-safe in the μ Controller and digitally transmitted via the local bus to the Sensor Board (e.g. SB2 or MSB2). The calibration management is also integrated in the μ Controller of the Sensor Cartridge.

Calibration is done either by simply replacing the Sensor Cartridge or by using the comfortable, integrated calibration routine directly at the system.

APPLICATION

The PolyGard®2 Sensor Cartridge SC2 is used for the detection of toxic gases in a variety of applications.

FEATURES

- Digital measurement value processing
- Internal functional control with integrated Hardware Watchdog
- Data/measured values in μ C Sensor Cartridge, therefore simple exchange of SC uncalibrated <> calibrated
- Low zero-point drift
- Sensor with long life expectancy
- Modular technology (plug-in and replaceable)
- Easy maintenance and calibration by exchange of the Sensor Cartridge or by comfortable on-site calibration
- Reverse polarity protected, overload and short-circuit proof
- IP65 version
- Conformity to:
 - EN 378
 - EN 45544-1
 - EN 61508-1-3
 - EN 61010-1
 - ANSI/UL 61010 1
 - CAN/CSA-C22.2 No. 61010-1
- Duct mounting kit (accessory)



Option: SC2 in plastic housing L with cable extension (fig. w/o laser engraving)

SPECIFICATIONS

ELECTRICAL	
Power supply	5 V DC from Sensor Board (e.g. SB2/MSB2), reverse polarity protected
Power consumption:	160 mA, max. (0.8 VA)
Serial interface local bus	1-wire / 19200 Baud
SENSOR ELEMENT	
Gas type	See Ordering Information
Sensor element	Semiconductor sensor
Pressure range	Atmospheric $\pm 10\%$
Storage temperature range	0 °C to +50 °C (32 °F to 122 °F)
Storage time	12 months
Poisoning	The sensitivity of semiconductor sensors can be affected by substances containing silicone and they may even lead to the complete poisoning. The sensors are also susceptible to poisoning by organic solvents.
PHYSICAL	
Housing in plastic	Polycarbonate
Combustion	UL 94 V2
Housing colour	RAL 7032 (light grey)
Dimensions: Housing type P	(D x H) 24 x 22 mm (0.94 x 0.87 in.)
Housing type L	(D x H) 24 x 30 mm (0.94 x 1.18 in.)
Weight	Ca. 30 g (0.07 lb)
Protection class	IP65
Mounting	Screw mounting
Connection type	3-pin connector
Cable length	110 mm (4.33 in.)
REGULATIONS	
Directives	EMC Directives 2014/30/EU CE
	Conformity to: EN 378 EN 45544-1 EN 61508-1-3 EN 61010-1:2010 ANSI/UL 61010-1 CAN/CSA-C22.2 No. 61010-1
Warranty	1 year on sensor (not if poisoned or overloaded), 2 years on device

Gas type	Ordering No.	Measuring range	Repeatability	t ₉₀ time	Temperature range	Humidity range (non-condensing)	Lifetime in air	Relative gas density	Mounting height	Calibration interval ¹
	SC2-	ppm	<± % sig.	≤ sec	°C	% RH	> months	Air = 1	(m)	Months
C ₂ H ₄	S2189-A	20-2000	20	10	-30 / +60	15-90	60	0.97	1.5-1.8	12
NH ₃	S2125-C	0-1000	20	30	-30 / +60	15-90	60	0.60	Ceiling	12
NH ₃	S2125-F	0-10,000	20	30	-30 / +60	15-90	60	0.60	Ceiling	12

¹ Manufacturer-recommended calibration interval for normal environmental conditions

No cross-sensitivity data is available for these sensors. It is well known that all semiconductor sensors are also sensitive to combustible gases, e.g. alcohols, etc.

All specifications were collected under optimal test conditions.

We confirm compliance with the minimum requirements of the applicable standard.

