PERFECT SOLUTIONS FOR **GAS ALARM** SYSTEMS

Technical Datasheet

PolyGard®2

Sensor Cartridge SC2

with semiconductor sensor
for toxic gases

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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 µController for processing of the measured values. All relevant data and measured values of the sensor element are stored fail-safe in the µController and digitally transmitted via the local bus to the Sensor Board SB2 or MSB2. The calibration management is also integrated in the µController 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 µC 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)

SPECIFICATIONS

ELECTRICAL	
Power supply	5 V DC from SB, 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 ± 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 susceptible to poisoning by organic solvents and silicone vapours.
PHYSICAL	
Housing type P	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.)
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	Display resolution	Repeatability	t_{90} time	Temperature range	Humidity range (non-condensing)	Lifetime in air	Relative gas density	Mounting height	Calibration interval
	SC2-	**ppm**	**ppm**	**<± % sig.**	**≤ sec**	**°C**	**% RH**	**> years**	**Air = 1**	**(m)**	**Months**
C_2H_4	S2189-A	20-2000	1	20	10	-35 / +50	15-90	5	0.97	1.5-1.8	12
NH_3	S2125-C	0-1000	1	10	30	-35 / +50	15-90	5	0.59	Ceiling	12
NH_3	S2125-F	0-10000	1	10	30	-35 / +50	15-90	5	0.59	Ceiling	12

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.

ORDERING INFORMATION

SC2-	S2XXX-X-	X-	XX	
			00 Without cable extension (standard) (Standard) **XX**[1] With cable extension: 01, 02, 03, 04, 05 ... 15 max. (length in m)	**Cable**
		P Sensor housing plastic **S** Sensor housing stainless steel		**Sensor housing**
	Gas type	**measuring range**		
	S2189-A[2] Ethylene, C_2H_4	20–2000 ppm		
	S2125-C* Ammonia, NH_3	0–1000 ppm		**Gas type/ measuring range**
	S2125-F* Ammonia, NH_3	0–10000 ppm		

[1] Only on request in combination with sensor housing plastic
[2] Not in combination with stainless steel sensor housing
* Only on request

EXAMPLE
Ethylene Sensor Cartridge, plastic housing without cable extension, measuring range 20–2000 ppm

Order number: SC2-S2189-A-P-00

ACCESSORY
Duct mounting kit

Order number: C2-Z2