



PolyGard®2

Sensor Cartridge SC2 with infrared sensor for combustible gases

Exchangeable infrared sensor including digital value processing, temperature compensation and self control for the continuous monitoring of the ambient air to detect combustible gases.

The sensor cartridge SC2 includes a high-quality infrared sensor for combustible gases and an amplifier as well as a μ Controller for measured values processing. The IR measuring principle with integrated temperature compensation ensures highest accuracy, selectivity and reliability. In the μ Controller, all the data and measured values of the sensor element are stored fail-safe and transmitted digitally via the local bus to the sensor board 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.



Sensor Cartridge in plastic housing without cable extension

APPLICATION

The PolyGard®2 Sensor Cartridge is used for the detection of combustible gases in non-Ex zones.

FEATURES

- Digital measurement value processing incl. temperature compensation
- Internal functional control with integrated Hardware Watchdog
- Data / measured values in μ C Sensor Cartridge, therefore simple exchange of SC uncalibrated <> calibrated
- High accuracy, selectivity and reliability
- Low zero point drift
- Sensor with long life expectancy
- Poisoning immunity
- 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
- IP 65 version
- Conformity to
 - EN 61010-1
 - ANSI/UL 61010 1
 - CAN/CSA-C22.2 No. 61010-1
- Duct mounting kit (accessory)



Sensor Cartridge in plastic housing with cable extension



MSR-Electronic GmbH ::: Würdinger Str. 27 & 27A ::: 94060 Pocking ::: Germany

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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SPECIFICATIONS

Electrical

Power supply	5 V DC from SB2/MSB2, reverse polarity protected
Power consumption:	60 mA, max. (0.28 W)
Serial interface local bus	1-wire / 19200 Baud

Sensor element

Gas type	Combustible gases, see Ordering Information
Measuring range	0 – 100 % LEL
Sensor element	Infrared sensor
Accuracy	+/- 3 % for < 50 % of range +/- 5 % of range for > 50 % of range
Resolution	0.04 % of range
Repeatability	0.1 % of range
Warm-up to operation	< 60 sec.
Warm-up to specification	< 180 sec.
Response time t_{90}	< 30 sec
Temperature range	-30 °C to +60 °C (-22 °F to 140 °F)
Humidity range	0 - 95 % RH
Pressure range	700 – 1300 hPa
Sensor life time	> 5 years
Calibration interval ¹	12 months (verification pending)
Storage temperature range	-40 °C to +80 °C (-40 °F to 176 °F)
Storage time	6 months

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	IP 65
Mounting	Screw mounting
Connection type	3-pin connector
Cable length	110 mm (4.33 in.)

Directives

EMC directives 2014/30/EU, CE
 Conformity to :
 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

¹ Manufacturer-recommended calibration interval for normal environmental conditions.

All specifications were collected under optimal test conditions.

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



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ORDERING INFORMATION

SC2- I4XX-A- X- XX

- 00 Without cable extension (standard)
- XX With cable extension: 01, 02, 03, 04, 05 ... 15 max. (length in m)
- P Sensor housing plastic
- S Sensor housing stainless steel

	Gas type	Measuring range	Gas density (air = 1)	Mounting height
I400-A	Methane, CH ₄	0 – 100 % LEL	0.55	Ceiling
I480-A	Propane, C ₃ H ₈	0 – 100 % LEL	1.55	Floor
I495-A*	Acetylene, C ₂ H ₂	0 – 100 % LEL	0.91	Ceiling

*on request

EXAMPLE

Sensor Cartridge for methane, plastic housing without cable extension, measuring range 0 – 100 % LEL

Order number: SC2-I400-A-P-00

ACCESSORY

Duct mounting kit

Order number: C2-Z2

