Fluorine

F2 3E 1

Rev. 11/2011

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FEATURES

Amperometric 3-electrode sensor
High reliability
High resolution
Fixed organic gel electrolyte

TYPICAL APPLICATIONS

Chemical Industry, Petrochemical Industry, General Industry

PART NUMBER INFORMATION

4 series adaptation	1431-031-30049
7 series adaptation	1431-031-30079

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TECHNICAL SPECIFICATIONS

Measuring Range	0–1 ppm
Sensitivity Range	1000 nA/ppm ± 300 nA/ ppm (negative current)
Zero Current at 20 °C	< ± 20 nA
Resolution at 20 °C	< 0.02 ppm
Bias Potential	0 mV
Linearity	< 5% full scale
Response Time at 20 °C	
t50	< 30 s calculated from 4 min. exposure time with 1 ppm Cl_2
t90	< 80 s calculated from 4 min. exposure time with 1 ppm Cl_2
Long Term Sensitivity Drift	< 5% per month
Operation Conditions	
Temperature Range	-10 °C to + 40 °C
Humidity Range	15-90% r.H., non-condensing
Effect of Humidity	abrupt changes of rel. humidity will cause short term drift in zero reading
Sensor Life Expectancy	> 18 months
Warranty	12 months

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RELATIVE OUTPUT vs. TEMPERATURE:

Due to the nature of the gas, the temperature dependence of the sensor as a function of the environmental temperature conditions is strongly related to the experimental conditions.

We are currently revising this set of data.

Based on the current experience with this sensor the temperature dependence

a) on the zero reading is < 0.1 ppm
b) on the sensitivity is < 20% of the sensitivity at 20°C

within the specified temperature range.

Please contact our Technical Support Department for further details.

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CROSS SENSITIVITIES AT 20 °C

Gas	Concentration	Reading [ppm]
Alcohols	1000 ppm	0
Arsine	0.2 ppm	-0,03
Bromine		yes; n/d
Carbon Dioxide	5000 ppm	0
Carbon Monoxide	100 ppm	0
Chlorine	1 ppm	1.4
Diborane	0.25 ppm	-0.01
Hydrocarbons	% range	0
Hydrochloric Acid	5 ppm	-7
Hydrogen	10000 ppm	0
Hydrogen Cyanide	1 ppm	-0.05
Hydrogen Sulfide	1 ppm	-2
Nitrogen	100 %	0
Nitrogen Dioxide	10 ppm	8
Ozone	0.25 ppm	0.3
Phosphine	0.3 ppm	approx. -0.1 ppm; n/d
Sulfur Dioxide	20 ppm	-0.2

Notes:
1. Interference factors may differ from sensor to sensor and with life time. It is advisable to calibrate with 1 ppm Cl_2.
2. This table does not claim to be complete. The sensor might also be sensitive to other gases.

Safety Note

This sensor is designed to be used in safety critical applications. To ensure that the sensor and/or instrument in which it is used, are operating properly, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may jeopardize the safety of people and property.

Attention

Use of this range of sensors requires complete understanding of the instructions.

Before using, please carefully read ‘Application Notes’.

For further assistance on sensor selection and use, please contact a member of the Technical Sales team.