Multi gas analyser

Dr. Födisch
Umweltmesstechnik AG

Cold gas measuring system for continuous emission measurement of pollutants in potentially explosive atmospheres

MEASURING RANGES

	Meas. range 1	Meas. range 2
CO:	0...125 mg/m³ (0...100 ppm)	0...1000 mg/m³ (0...800 ppm)
CO_2:	0...20 vol. %	-
NO:	0...300 mg/m³ (0...225 ppm)	0...1000 mg/m³ (0...750 ppm)
NO_2:	0...200 mg/m³ (0...95 ppm)	0...1000 mg/m³ (0...485 ppm)
N_2O:	0...300 mg/m³ (0...155 ppm)	0...1000 mg/m³ (0...510 ppm)
SO_2:	0...200 mg/m³ (0...70 ppm)	0...1000 mg/m³ (0...350 ppm)
CH_4:	0...300 mg/m³ (0...420 ppm)	0...1000 mg/m³ (0...1400 ppm)
H_2 [1]:	0...5 vol. %	0...100 vol. %
H_2S [2]:	0...75 mg/m³ (0...50 ppm)	-
O_2 [2] [3]:	0...25 vol. %	-

[1] *measurement via thermal conductivity sensor* [1]
[2] *measurement via electrochemical cell*
[3] *measurement via paramagnetic sensor* [1]
Other components and measuring ranges on request.

YOUR BENEFITS AT A GLANCE

- protective principle Ex d
- pressure-resistant gas path up to 3 bar
- explosive gases can be passed through in a closed loop
- simultaneous measurement of up to five gas components
- reduced cross-sensitivities through internal spectral filter
- integrated zero gas valve for zero point correction
- all gas-contacting elements are made of metal

PRECONDITIONS ON SITE

- ambient temperature: -20...+40 °C
- protection against percussions/vibrations
- appropriate gas sampling and conditioning

DESIGN & APPLICATION

The multi gas analyser MGA 12 Ex consists of a robust housing for application in potentially explosive atmospheres (Ex-Zones 1 and 2). The measuring technology of the analyser is located inside the housing with the optical bench, the power supply unit and the signal processing.

Four different measuring methods are applied when analysing gas concentrations with the MGA 12 Ex: infrared absorption, electrochemical cell, paramagnetic measuring method, thermal conductivity sensor.

TECHNICAL DATA

Housing:	robust housing, IP66; thermostatted infrared photometer (optical bench); 400 mm x 600 mm x 290 mm (w x h x d); approx. 40 kg (with option of paramagnetic oxygen measurement approx. 75 kg)
Measuring methods:	• infrared absorption (CO, CO_2, SO_2, NO, NO_2, CH_4, H_2O) • electrochemical cell (O_2, H_2S) • paramagnetic measuring method (O_2) • thermal conductivity sensor (H_2)
Accuracy:	< 2% of the respective measuring range
Response time:	T_{90} < 180 s (depending on plant and chosen component)
Ambient conditions:	-20...+40 °C; relative humidity: max. 90% (non-condensing)
Zero point correction:	automatic by integrated zero gas valve, with ambient air
Sensitivity correction:	manual, with test gas
Air pressure correction:	internal pressure sensor for real-time pressure compensation of measuring values
Gas inputs/outputs:	measuring gas input, zero gas input, exhaust output, breather; respectively with flame barrier, 6 mm Swagelok
Display / Operating:	graphic display (LCD), 240 x 128 Pixel, background-lighted; menu-driven operating; display possibility in mg/m³, ppm and vol. %; languages (factory-set): German, English, French, Polish; 6 operating keys
Analogue outputs:	4 active analogue outputs, 4...20 mA, potential-free, burden max. 500 Ohm
Digital outputs:	4 digital outputs, potential-free, 24 V DC with max. 0.4 A (max. 10 W) for failure, maintenance, maintenance request and zero point setting
Service interface:	RS232 and remote software for maintenance and diagnostic purpose
Power supply:	230 V AC / 50-60 Hz, 40 W (max. 90 W)
Options:	• paramagnetic oxygen sensor for measurement of O_2 (not available for pressure-resistant model, standard pressure up to max. 500 mbar) • thermal conductivity sensor for measurement of H_2 (not available for pressure-resistant model, standard pressure up to max. 500 mbar) • pressure-resistant model: pressure resistance of the measuring gas path up to max. 3 bar (not available in connection with Vparamagnetic oxygen sensor or thermal conductivity sensor) • digital inputs (optocoupler; e.g. for breather, measuring gas pipe, gas cooling unit)

Special models are possible on request.

Dr. Födisch Umweltmesstechnik AG
Zwenkauer Strasse 159 • 04420 Markranstädt • Germany
Phone: +49 34205 755-0 • Fax: +49 34205 755-40
E-mail: sales@foedisch.de
www.foedisch.de