MRU AIR fair since 1984 ®
EMISSION MONITORING SYSTEMS

CO | CO_2 | CH_4 | O_2 | H_2S | H_2

SWG 100 VA-Ex

The stationary CEM system for Syngas & Biomethane applications in Ex-zone 2, also for H_2 up to 100 % and continuous H_2S measurements

SWG 100 VA-Ex

Stationary Analyzer for Syngas- or Biomethane-Applications

The MRU analyzer, SWG 100 VA-Ex has been developed for use in Ex zone 2, as well as for save areas, e.g. laboratories.

The analyzer can be installed in outdoor or indoor locations, it can sample dry or wet syngas, pressurized or low pressurized or low pressure gas and can be used from 6 sampling points.

We offer you these special advantages

- Completely stainless steel piping
- Process gas recirculation
- IP 65 stainless steel housing
- High-precision infrared measurement technology for CO, CO_2, CH_4
- Thermal conductivity technology for H_2
- Paramagnetic O_2 measurement
- Gas sampling in the pressure range from –100 mbar up to +200 mbar
- Integrated gas cooler with maintenance-free condensate drainage
- Measurement of up to 6 gas sampling points

Applications

- Biomass and waste gasification
- Coal gasification, coal liquefaction, synthetic fuel
- Pyrolysis applications and steam reforming
- Syngas analysis in laboratories and research
- Biomethane injection

The device in detail

An overview of the special features

Sample gas inlets

Up to 6 pieces – completely piped

Sensor protection

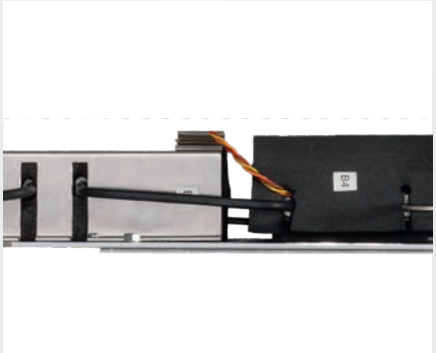
Condensate-stop/-filter

Sample gas pump

and main filter, completely piped

Device heating

For functional safety – even at low ambient temperatures



Measuring modules

With NDIR for CO / CH_4 / CO_2 and TCD for H_2

Paramagnetic Sensor

for O_2

Solid piping

All sample gas ducts completely piped to provide „technical safety".

Flame arrestor

at sample gas inlet and vent

H_2S

Elektrochemical sensor with H_2-imunity

SWG 100 VA-Ex

Technical Specifications

Measured components	Method	Range	Resolution	Accuracy
Carbon monoxide CO	NDIR	0 ... 100 %	0,01 Vol.-%	0,2 Vol-% or 2 % of reading** or 0,1 % of reading after calibration**
Carbon dioxide CO_2	NDIR	0 ... 100 %	0,01 Vol.-%	0,2 Vol-% or 1 % of reading** or 0,1 % of reading after calibration**
Methane CH_4	NDIR	0 ... 100 %	0,01 Vol.-%	0,2 Vol-% or 1 % of reading** or 0,1 % of reading after calibration**
Oxygen O_2	paramagnetic	0 ... 25 %	0,01 Vol.-%	0,1 % abs.
Sulfur dioxide H_2S	EC EC	0 ... 50 /250 ppm* 0 ... 2.000 /5.000 ppm*	0,1 ppm 1 ppm	± 2 ppm /5 % (0 ... 50 ppm) 10 % (>100 ppm) ± 10 ppm /5 % (0 ... 500 ppm) 10 % (>500 ppm)
Hydrogen H_2	TCD	0 ... 1,00 / 100,00 %	0,1 % Vol.-%	0,5 % or 2 % of reading**

Calculated values	
Nitrogen N_2	Difference to 100 %
Calorific value	0 ... 50 MJ/m^3 or MJ/kg
HMI (human machine interface)	3,5" TFT color display Keyboard, password protected operation 4 x analog output 4–20 mA, floating, max. load 500 R 4 x analog input 4–20 mA, passive inputs 2 alarm relays, potential free contacts 24 Vdc/5 A RS485 digital interface (Modbus RTU)
System safety components	■ Multiply monitored cabinet atmosphere ■ Stainless steel flow restrictor orifice ■ Sample gas shut-down solenoid valve ■ Power supply cut-off in case of system alarm
Sample conditioning	■ Stainless steel gas fittings with 1/8" ID threads ■ Electric gas cooler (Peltier) with constant dew point +5° C ■ Teflon particulate filter ■ Syngas condensate pumpe with ejektor ■ Monitored and regulated sample gas flow 60 l/h sample gas ■ inlet pressure: –100 mbar to +200 mbar ■ Sample gas venting: atmospheric pressure
Cabinet dimensions	700 x 600 x 210 mm (H x W x D) for wall or rack mounting
Weight / Protection class	65 kg / IP65, stainless steel
Ambient temperature	+5° C ... +45° C
Cabinet conditioning	heating 300 W
Installation site	Indoor or outdoor (with sun/rain protection cover, provided by customer)
Power supply	Universal 90 ... 240 Vac / 47 ... 63 Hz / 200 W (500 W with heating)

Technical data to change without notice | N-9513EN-SYN-K0-0M-1025 | *overload measuring range | **the higher value applies | EC = Electrochemical sensor, NDIR = Non dispersive infrared spectroscopy

MRU – Competence in gas analysis. Since 1984.

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