



# SWG100 BIOGAS

For optimizing production, performance, and reporting

**Up to 10 sites monitoring via.  
time sharing**

O<sub>2</sub> | CO<sub>2</sub> | CH<sub>4</sub> | H<sub>2</sub>S | H<sub>2</sub> | CO



# SWG100 BIOGAS

Measuring CH<sub>4</sub>, CO<sub>2</sub>, H<sub>2</sub>S (high & low ranges), H<sub>2</sub>, CO and calculated caloric values

- Industry compatible rugged design for harsh industrial use
- Up to 10 sites monitoring via. time sharing
- Efficient gas prep provides fast and reliable measurement
- Fresh air and auto zero
- Auto calibration
- Sampling flow from low suction up to high pressure gas
- Direct and continuous / discontinuous measurement
- Optional, dilution of the H<sub>2</sub>S sample gas
- Multiple in / outputs: Ethernet, RS485 Modbus / Profibus / 4 ... 20 mA / Alarm relays
- Fast & Easy installation and start-up / no need for compressed air for dilution

# THE IDEAL SOLUTION FOR ...

- **Landfill sites**
- **Anaerobic digesters**
- **CHP/WTE cogeneration engines**
- **Municipal or industrial wastewater treatment plants**
- **Flare inlets / outlets**
- **RNG production**
- **Food or animal waste process plants**
- **Coal bed methane sites**



Gas cooler  
Peltier type

Sample gas  
outlet

Gas pump

Condensate  
pump  
Internal flow  
monitoring

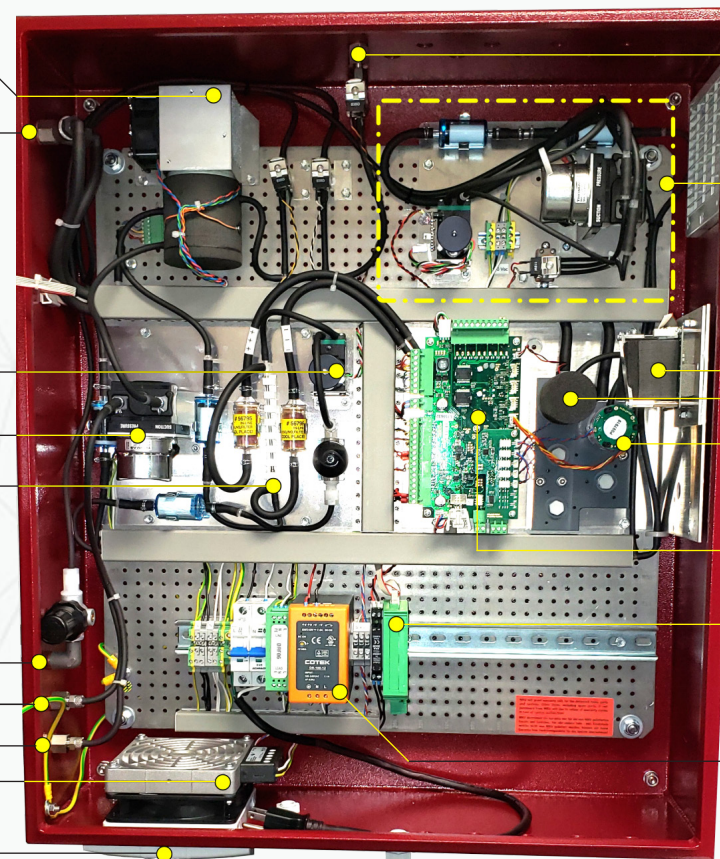
Calibration gas  
port

Fresh air inlet  
port

Condensate  
outlet port

Cabinet heater

Monitored  
ventilation with  
alarm



Up to 10 switching  
biogas inlets  
(time sharing)  
with fail-safe  
shut of solenoid  
valve and flow  
restrictor orifice

50:1 dilution  
system for H<sub>2</sub>S  
allowing up to  
100,000 ppm  
H<sub>2</sub>S

NDIR module  
for CO<sub>2</sub> & CH<sub>4</sub>  
measurement

Electro-chemical  
sensors  
O<sub>2</sub>/H<sub>2</sub>S high and  
low/H<sub>2</sub>/CO

Combustible gas  
detector (% LEL)

iO - 4 ... 20 mA  
Alarm relays  
Ethernet

Universal power  
supply 90-240 Vac  
47-63 Hz / 90 W

Sample gas inlet  
port(s)

Sample gas  
outlet

3.5" color  
display  
Key pad

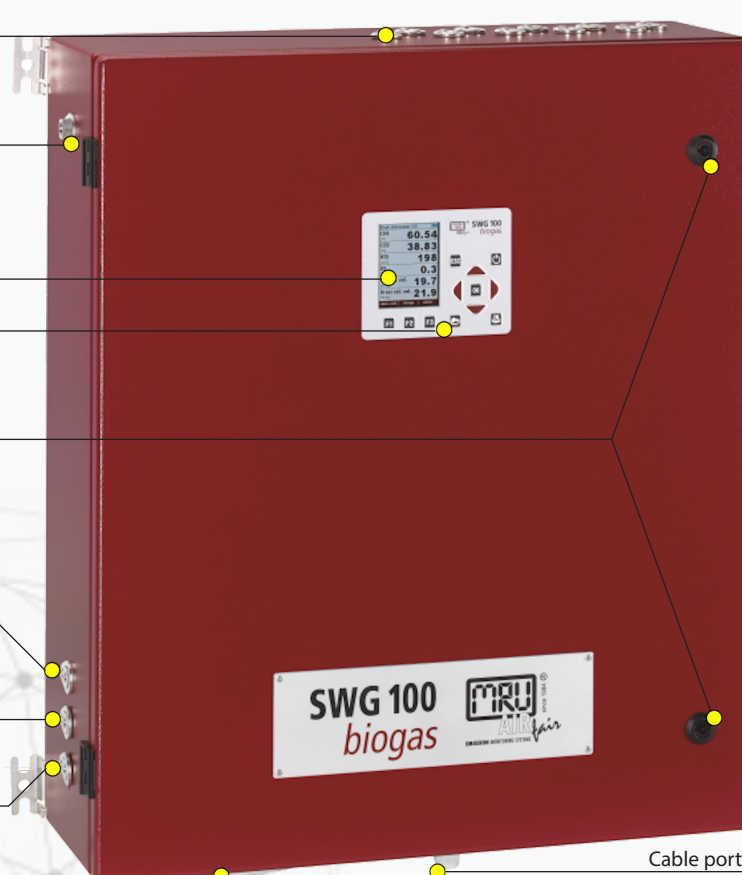
Cabinet locks

Calibration gas  
port

Fresh air inlet  
port

Condensate  
outlet port

Monitored ventilation  
with alarm



Cable ports

# SWG 100 BIOGAS

## TECHNICAL SPECIFICATIONS

Measured components	Measuring method	Measuring range	Resolution	Accuracy
Methane CH <sub>4</sub>	infrared	0 ... 100%	0.1 Vol%	± 0.3 Vol% / 3 % of reading**
Carbon dioxide CO <sub>2</sub>	infrared	0 ... 100%	0.01 Vol%	± 0.3 Vol% / 3 % of reading**
Oxygen O <sub>2</sub>	ec, continuously	0 ... 25%	0.01 Vol%	0.2 % abs.
Hydrogen sulfide H <sub>2</sub> S low	ec, discontinuously	0 ... 50/250 ppm*	1 ppm	± 2 ppm / 5 % of reading** (0 ... 50ppm)
Hydrogen sulfide H <sub>2</sub> S	ec, discontinuously	0 ... 2,000/4,000 ppm*	1 ppm	± 10 ppm / 10 % of reading**
Hydrogen sulfide H <sub>2</sub> S high	ec, discontinuously	0 ... 5,000/10,000 ppm*	1 ppm	± 5 ppm / 5 % of reading** 0 ... 5000ppm)
Hydrogen H <sub>2</sub>	ec, discontinuously	0 ... 1,000/2,000 ppm*	1 ppm	± 10 ppm / 10 % of reading**
Hydrogen H <sub>2</sub>	ec, discontinuously	0 ... 1% / 2%*	1 ppm	± 10 ppm / 10 % of reading**
Hydrogen H <sub>2</sub>	TCD, continuously	0 ... 3%	0.01 %	± 0.5% / 5% of reading**
Carbon monoxide CO	ec, discontinuously	0 – 10,000/20,000 ppm*	1 ppm	± 10 ppm / 3 % of reading**

### H<sub>2</sub>S dilution systems 50:1

for landfills and other high H<sub>2</sub>S applications, not only has the range been extended, but additionally, high resiliency sensors can be used providing better accuracy and stability, especially in difficult applications such as landfills, dairy digesters, etc.

Calculated component	Calorific value: 0 – 50 MJ/m <sup>3</sup> ; MJ/kg
HMI human machine interface	3.5" TFT color display Backlit keyboard, password protected operation 4x analog output 4-20 mA, floating, max. load 500R 2 alarm relays, potential free contacts 24 Vdc/5 A RS485 digital interface (Modbus RTU) DIN-rail RS485 / Profibus converter
System safety components	Monitored cabinet ventilation fan with alarm Stainless steel flow restrictor orifice Sample gas shut-down solenoid valve LEL (CH <sub>4</sub> ) monitoring inside cabinet (option)
Sample preparation	Stainless steel gas fittings with 1/8" ID threads Electric gas cooler (Peltier type) (option) Teflon particulate filter, internal Viton hosing Sampling biogas with condensate of max. 14ml/min Monitored and regulated sample flow 40 ... 60 l/h Sample inlet pressure: -40 inH <sub>2</sub> O to +80 inH <sub>2</sub> O (-100 mbar to +200 mbar) Sample venting: atmosphere pressure
Cabinet dimensions	Aluminum with anti-corrosive structural painting 27.55" x 23.61" x 8.26" (700 x 600 x 210 mm) (H x W x D) for wall or rack mounting
Weight / Protection	55lbs (25kg) / IP54
Ambient temperature	41°F ... 113°F (+5°C ... +45°C) or 14°F ... 113°F (-10°C ... +45°C) with cabinet heater
Installation site	Indoor or outdoor (rain and sunshade are mandatory user scope of supply)
Cabinet conditioning	Continuous, monitored fan ventilation Cabinet heater 200 W (option)
Power supply	Universal 90 - 240 Vac / 47 - 63 Hz / 90 W (300 W with cabinet heater)

Data subject to change without notice \* overload for short-term measurements only \*\* the higher value applies



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