

ProCeas[®] RNG / Biogas contaminants

Accurate multigas analysis of CH₄, H₂O, H₂S, CO₂, O₂, NH₃ in biogas

- Ultra-fast response time for real-time multi-gas monitoring
- Certified for hazardous area: ATEX / IECEx, Class I Div 1
- Reliable measurement even in highly moisture-saturated biogas streams
- Continuous measurement of critical contaminants in Renewable Natural Gas (RNG) applications such as landfill gas or biogas upgrading, biomethane purification, biomethane to grid, etc.



Digital Version



PROCEAS® RNG / biogas analyzer

The transition from landfill gas or biogas to RNG requires precise measurement of methane and impurities to ensure long-term equipment protection, and optimize the process before injection into the natural gas grid. **ProCeas® RNG / biogas analyzer** delivers continuous, accurate, and multigas measurement, supporting critical stages of biogas pre-treatment, purification, and grid injection. Leveraging OFCEAS® laser technology, Proceas® delivers robust, ultra-stable and interference-free measurements with minimal drift, reducing the need for calibration. This results in optimized process control, reduced maintenance costs, and superior gas quality assurance.

By offering real-time data, Proceas® helps operators optimize methane quality and yield while mitigating corrosion risks, making it an invaluable tool for the renewable gas sector. The implementation of advanced continuous, real-time, multi-gas analyzers marks a significant advancement in efficient and environmentally responsible management, particularly in upgrading methane gas produced from landfills and agriculture.

FEATURES

- Wide, dynamic measuring range, adapting to the process fluctuations
- ISO 2612:2023 compliance for NH₃ measurement in biomethane and natural gas
- Multi-points measurements possible with a single device for optimized costs (multiplexing)
- Patented OFCEAS® + LPS® technologies for no drift, interference-free measurement and long-term accuracy
- Various enclosures to fit your installation and process conditions

TECHNICAL DATA

Parameter	Typical range	LOD 3σ 60s
CH ₄ (%vol)	0 ... 100	0.1
CO ₂ (%vol)	0 ... 100	0.1
H ₂ S (ppm)	0 ... 1000	0.1
H ₂ O	0 ... 7 %vol for raw gas 0 ... 500 ppm for process gas	<0.1%vol <0.1 ppm
O ₂ (%vol)	0 ... 22	<0.05
NH ₃ (ppm)	0 ... 500	0.05
Linearity: <1% of reading Repeatability: 3 x LOD or ± 0.5% relative Other parameters or ranges on request		

HAZARDOUS AREA CERTIFICATION (ProCEAS Exp)

NEC 500/505:

- **Ex pxb IIC T3 Gb**
- **Class I, Zone 1**, AEx pxb IIC T4 or T3 Gb
- **Class I, Division 1**, Groups A, B, C, D, T4 or T3

Or ATEX/IECEX

- **Zone 1** II 2G Ex pxb IIC T3 or T4 Gb
- **Zone 2** II 3G Ex pxb IIC T3 or T4 Gb

BENEFITS

- **Long-lasting accuracy:** On-line measurement, with no need for re-calibration or sensor replacement
- **Reduced operational costs and complexity:** Multi-point measurement, no zero gas or carrier gases required, easy to use with low maintenance
- **Helps protecting infrastructure:** Identifies contaminants in real-time enabling process adjustments that reduce maintenance costs for carbon beds, pipelines, turbines, etc.
- **Fast decision-making:** Real-time, accurate data supporting process control and gas quality assurance

Measuring system	
Technology	Patented OFCEAS® (Optical Feedback Cavity Enhanced Absorption Spectroscopy) combined with LPS® (Low Pressure Sampling)
Power supply	110 ... 230 VAC, 50 ... 60 Hz
Power consumption	150 VA max, 80 VA stabilized (per rack / wall mounted configuration)
Ambient conditions	<ul style="list-style-type: none"> • Rack version: +10 ... +35°C / +50 ... +95°F • Wall mounted: up to -10 ... +60°C / +14 ... +140°F
Housing	<ul style="list-style-type: none"> • Wall-mounted: Stainless Steel enclosure Dimensions 800x600x250mm (without purge controller). Other on request • 19" 4U rack for cabinet integration
Protection rating	<ul style="list-style-type: none"> • 19" 4U rack: IP32 • Wall mounted: IP65
Sampling line	Recommended: standard, not heated line. Optional traced line, temperature maintained at max 80 °C (26.6°F)
Sampling	Process connection: 1/4" Stainless Steel Sampling probe: consisting of sample filter and sonic nozzle.
Communication interfaces	<ul style="list-style-type: none"> • USB ports • Modbus TCP/IP, RS232, RS485 (RJ45), VGA. • Remote access via Ethernet • Analog I/O optional