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ProCeas® RNG / Biogas contaminants

Accurate multigas analysis of NH_3, CH_4, H_2O, H_2S, CO_2, O_2

- Ultra-fast response time for real-time multi-gas monitoring
- 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.

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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 NH_3 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
- Hazardous area:
  - ATEX zone 1 and 2, IECEX/ UKEX zone 1
  - Class 1 Div 2 (ongoing)

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

Parameter	Typical range	LOD 3σ 60s
CH_4 (%vol)	0 ... 100	0.1
CO_2 (%vol)	0 ... 100	0.1
NH_3 (ppm)	0 ... 500	0.05
H_2S (ppm)	0 ... 1000	0.1
H_2O	0 ... 7 %vol for raw gas 0 ... 500 mg/Nm³ for process gas	< 0.1
O_2 (%vol)	0 ... 22	< 0.05
Linearity: < 1% of reading Repeatability: 3 x LOD or ± 0,5% relative Other parameters or ranges on request		

Measuring system	
Technology	Patented OFCEAS® (Optical Feedback Cavity Enhanced Absorption Spectroscopy) combined with LPS® (Low Pressure Sampling)
Power supply	110 ... 230 VA, 50 ... 60 Hz
Power consumption	150 VA max, 80 VA stabilized (per rack / wall mounted configuration)
Ambient conditions	• Rack version: +10 ... +35°C / +50 ... +95°F • Wall mounted: up to -10 ... +60°C / +14 ... +140°F
Housing	• Wall-mounted: Stainless Steel enclosure Dimensions 800x600x250mm (without purge controller). Other on request • 19'' 4U rack for cabinet integration
Protection rating	• 19'' 4U rack: IP32 • Wall mounted: IP65
Sampling line	Recomended: standard, not heated line. Optional traced line, temperature maintained at max 80 °C
Sampling	Process connection: 1/4'' Stainless Steel Sampling probe: consisting of sample filter and sonic nozzle. Material: Inconel 600
Communication interfaces	• USB ports • Modbus TCP/IP, RS232, RS485 (RJ45), VGA. • Remote access via Ethernet • Analog I/O optional

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