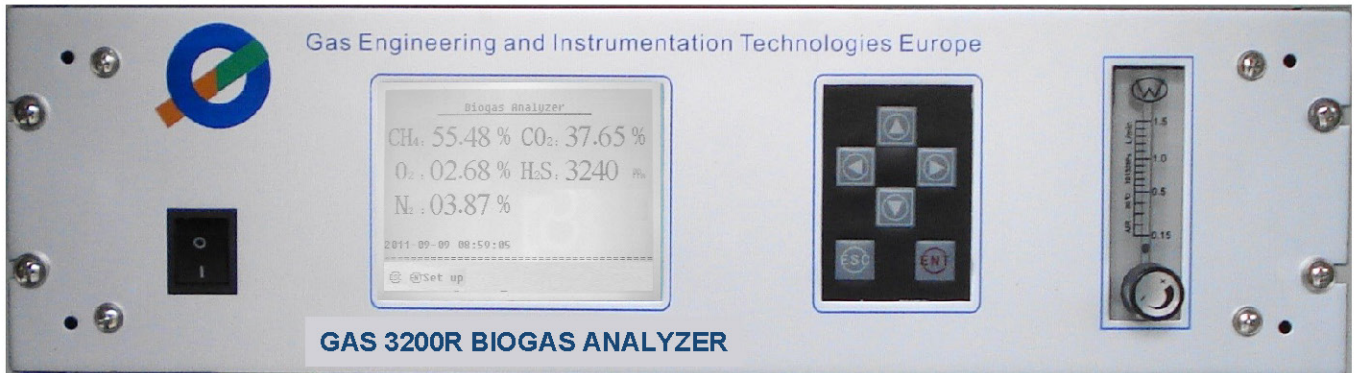


GAS 3200R BIOGAS Analyser



GEIT
Gas Engineering
and Instrumentation
Technologies Europe

CH₄% + CO₂% + O₂% + H₂S ppm + H₂ ppm (option) + N₂ (calculated)



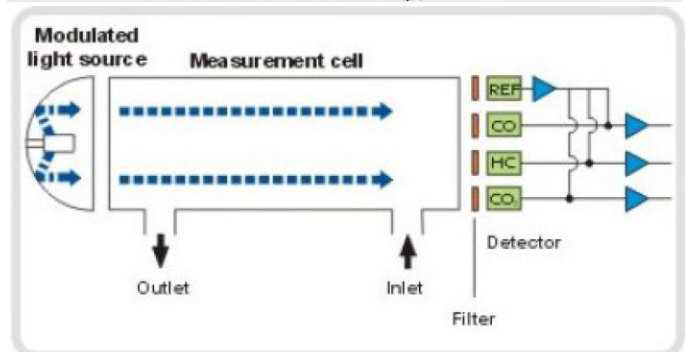
Biogas monitoring applications

Landfill sites, wastewater treatment plants, anaerobic digesters, sludge digesters, biomethane production, H₂S scrubbers efficiency, etc.

Configurations

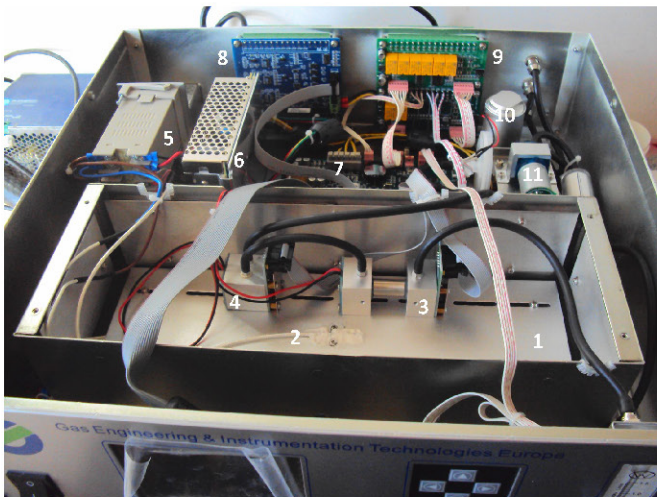
GAS 3250R	CH ₄ + CO ₂ + O ₂ + H ₂ S + H ₂
GAS 3240R	CH₄ + CO₂ + O₂ + H₂S (standard config.)
GAS 3232R	CH ₄ + CO ₂ + H ₂ S
GAS 3231R	CH ₄ + CO ₂ + O ₂
GAS 3230R	CH ₄ + O ₂ + H ₂ S
GAS 3222R	CH ₄ + CO ₂
GAS 3221R	CH ₄ + H ₂ S
GAS 3220R EFF	H ₂ S _{LOW} + H ₂ S _{HIGH}
GAS 3220R	CH ₄ + O ₂
GAS 3210R	CH ₄ or CO ₂ or H ₂ S or O ₂

NDIR dual beam NDIR technology



Key features

- Up to 5 gas measures + optional N₂ calculation
- Real time, accurate and reliable biogas measures
- Dual beam NDIR detectors for CH₄ and CO₂
- Industrial electrochemical cell for H₂S up to 20.000 ppm
- Long life Industrial O₂ galvanic fuel cell
- Optional measure of H₂ up to 10.000 ppm
- Temperature regulated enclosure for NDIR detectors
- Large LCD display and easy to use tactile keyboard interface
- Optional Internal gas sampling pump
- 4-20mA & relays outputs
- RS232 COM port



Internal view GAS 3240R BIOGAS

1. Heated enclosure (50°C) for NDIR detectors
2. PT100 for temperature control
3. Dual beam NDIR CH₄ detector
4. Dual beam NDIR CH₄ detector
5. Temperature controller
6. Power supply
7. Mainboard
8. 4-20mA outputs board
9. Relay outputs board
10. Oxygen sensor
11. Zero air pump



Special module with air pump and solenoid valve for continue measure of H₂S ≥ 500 ppm; programmable measure/refreshing cycle to extend the sensor lifetime.

G.E.I.T. EUROPE is also specialised in supplying customized analysis systems for single or multiple biogas sampling points, in 1200 or 1600 mm height industrial cabinets, including dedicated equipment for gas sampling and conditioning, PLC unit for system operation control and communication with an external server or PC with our SCADA software.



Technical specifications

Measures	CH ₄ % - CO ₂ % - O ₂ % - H ₂ S ppm - H ₂ ppm
Calculation (optional)	N ₂ %
Gas analysis principle	CH ₄ - CO ₂ Non-dispersive Infrared Absorption (NDIR dual beam) O ₂ - H ₂ S - H ₂ Industrial electrochemical cell (ECD)
Standard measuring ranges <i>(other ranges on request)</i>	CH ₄ 0-100%vol CO ₂ 0-50% or 0-100%vol O ₂ 0-25%vol H ₂ S From 0-10 ppm up to 0-20000 ppm (2%vol) H ₂ 0-2000 ppm , 0-5000 or 0-10000 ppm
Display	LCD (320 x 240), 4 digits
Display resolution	CH ₄ - CO ₂ - O ₂ : 0.01% H ₂ S range ≤ 500 ppm: 0,1 ppm H ₂ S range ≥ 1000ppm: 1 ppm H ₂ S range 0-2%vol: 0.001% H ₂ : 1 ppm
Precision	CH ₄ - CO ₂ - O ₂ : ≤ ±2% FS H ₂ S - H ₂ : ≤ ±3% FS
Repeatability	≤ 1% FS
Zero & Span Drift	± 1% FS/week
Warm up time	800 seconds (30 minutes to full specifications and/or for performing calibration)
Auto zero function	Auto-zero function on ambient air during the last 100 seconds of the warm-up time Note: the auto-zero function is disabled for the H ₂ S measuring channel Programmable auto-zero function on ambient air via setting menu Note : 4-20mA outputs are frozen during the zeroing cycle + 120 sec.
H₂S measure/zero module	H ₂ S module with programmable measuring/air refreshing cycle for H ₂ S sensor ≥ 500 ppm; The module includes the H ₂ S sensor, solenoid valve, air pump and control board.
Gas sampling	With external pump.
Response time (T₉₀)	Optional internal pump with on/off function via keyboard or by external +12VDC signal CH ₄ - CO ₂ - O ₂ : ≤ 10 s H ₂ S - H ₂ : ≤ 30 s
Calibration	5 points factory calibration stored in the microprocessor of the gas analyzer 2 points (zero and span) user calibration (span gas to be min. 90% of the full range)
Sample Gas Conditions	Flow rate Nominal 1L/min (0.7 to 1.2 L/min) Inlet pressure 20 mbar mini - 500 mbar maxi Outlet pressure Atmospheric pressure Temperature Gas dew point +4°C Quality Free of dust, water and oil traces
Operation conditions	T _{AMB} 0 to 50°C P _{AMB} 86 to 108kPa (860 to 1080 mbar) R _H ≤ 95%
Communication interface	RS232/485 with proprietary communication protocol
Analogue output signals	4-20 mA output per measuring channel
Digital output signals	2 gas alarm contacts per measuring channel (freely adjustable level)
Mechanical	19'' - 3U rack or desk type Dimensions L485 x W457 x H 132 mm Weight < 12kg
Power supply	220 ±44 VAC - 50Hz ± 1 Hz (power cable included)
Options	Internal gas sampling pump Real time data transfer software RS232-USB cable adapter



Non contractual pictures and specifications - subject to change without prior notification - Issue -EN15v4

Gas Detection and Analysis
Industrial Processes Gas Monitoring
Landfill & Environmental Gas Monitoring

