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CUBIC
INSTRUMENTS

Total Solution of Biogas Composition and Flow Monitoring

Portable Biogas Analyzer | Online Biogas Analyzer | Continuous Biogas Analysis System | Ultrasonic Biogas Flowmeter

Cubic Instruments (Wuhan)Ltd.

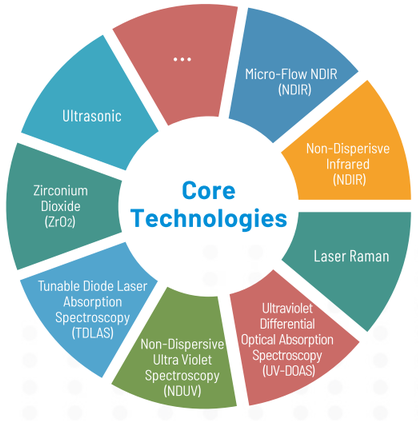
CUBIC INSTRUMENTS PROFILE

Cubic Instruments (Wuhan) Ltd. (hereinafter referred to as "Cubic Instruments") is a wholly-owned subsidiary of Cubic Sensor and Instrument Co., Ltd. (stock code 688665.SH). Established in 2010, Cubic Instruments is a high-tech enterprise specializing in providing gas composition and gas flow measurement solutions in the fields of environmental monitoring, process gas monitoring and smart metering.

Based on the advantages of Cubic core gas sensing technology platform, Cubic Instruments has developed a series of gas analyzers that utilize advanced technical principles such as non-dispersive infrared (NDIR) technology, ultraviolet differential absorption spectroscopy (UV-DOAS) technology, laser Raman (LRD) technology, ultrasonic technology, thermal conductivity (TCD) technology, and light scattering detection (LSD) technology. Cubic Instruments gas analyzers are widely used in environmental monitoring, metallurgy, coal chemical, biomass energy, and other industries, playing an important role in energy conservation and emission reduction. Cubic Instruments independently developed and produced portable infrared biogas analyzers, micro-flow infrared flue gas analyzers, and infrared gas analyzers that had successively obtained the national key new product certificate. The infrared gas analyzer has won the honor of the outstanding product award of the Chinese Instrument and Control Society, and its core technology won the Hubei Province Invention Patent Gold Award. In 2019, the Ministry of Industry and Information Technology awarded Cubic Instruments "Research and Industrialization of Micro-flow Infrared Flue Gas Sensors" for the "key product and process" one-stop application program demonstration project. Cubic Instruments was also recognized as the "one-stop" application program demonstration enterprise for its contribution to the project.

With decade-long dedications in technical innovations, strict quality control, and global business strategies, Cubic Instruments products have been exported to many countries and regions. Besides, Cubic Instruments is moving towards a higher target to be the international brand in the field of high-end and value-added applications of gas analysis instruments.

CORE TECHNOLOGIES



20+Years Focus

Emission and Process Monitoring Solution

Core Technologies

Professional Technical Engineers

Quick Service Response

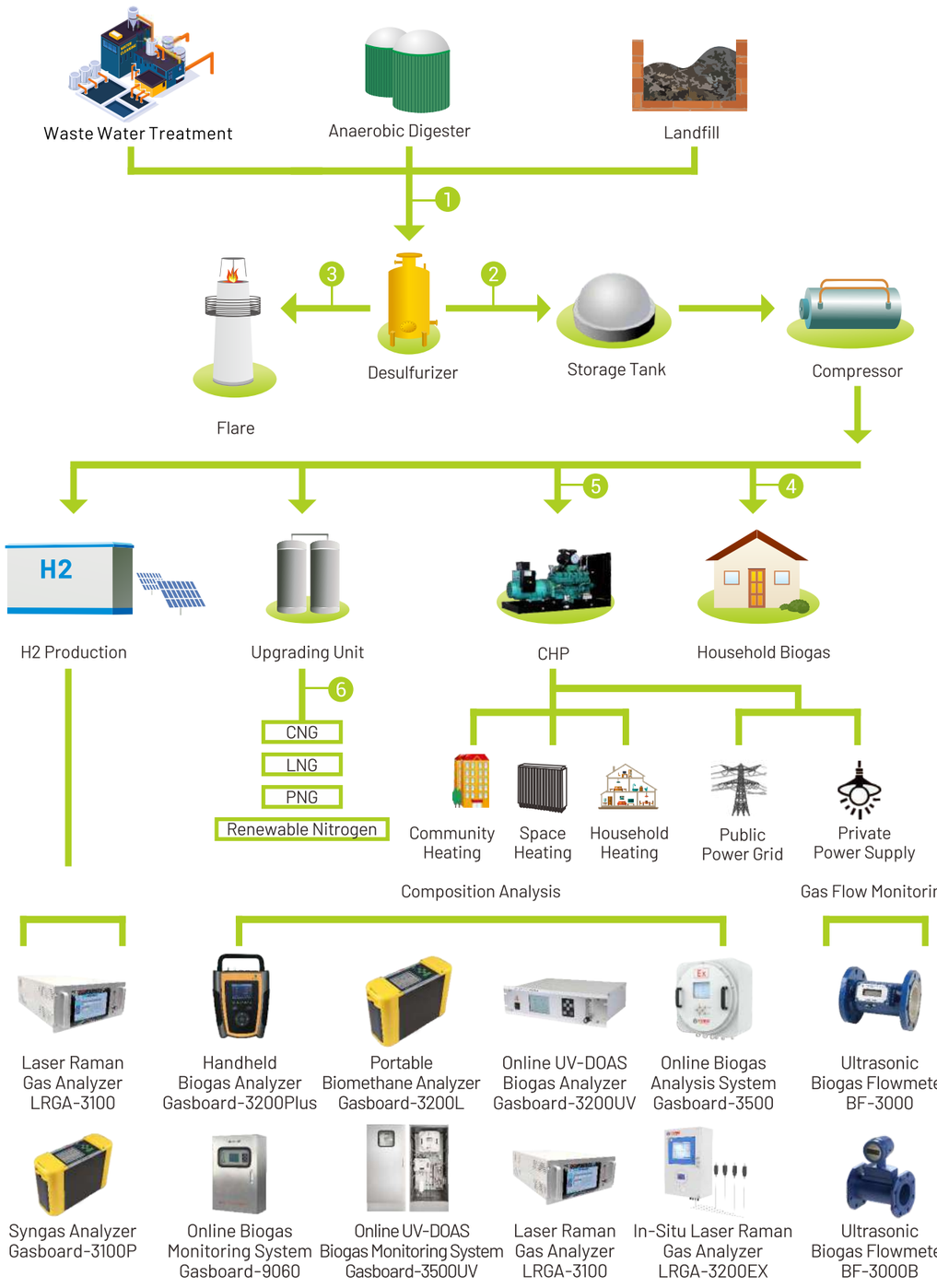
Technical Support

Intellectual Property

Numerous National Invention Patents

International PCT Patents

BIOGAS SAMPLING POINTS IN WHOLE PROJECT FLOWCHART



Online UV-DOAS Biogas Monitoring System

Gasboard-3500UV

Introduction

Gasboard-3500UV is the new generation biogas monitoring system that primarily designed based on UV-DOAS technology to measure H2S concentration precisely before and after H2S scrubber, and extended with modular sensor of CH4 (NDIR), CO2 (NDIR) and O2 (ECD) to realize online continuously monitoring of biogas quality without purging cycle required. The dual range UV-DOAS H2S sensor enables it to provide an ideal solution to guarantee the H2S scrubber efficiency, protect downstream expensive equipment from the damage of overload H2S, minimize the investment for users and optimize the biogas monitoring process.

Features

- ATEX Compliance, applicable to outdoor hazardous area installations.
- Unique technology of UV-DOAS, NDIR and ECD combination.
- High & low range H_2S measurement, switchable for points before and after scrubber.
- UV-DOAS H_2S sensor with higher precision and longer lifespan.
- Continuous monitoring on H_2S, CH_4, CO_2, O_2 for optimized process control.
- Modular sensor design enables easy calibration and maintenance.
- Flexible gas conditioning configuration, customizable to site requirements.
- Stainless steel protective integration cabinet to avoid corrosion in long term operation.
- Support up to 4 sampling channels.

Specifications

Measurements	H2S, CH4, CO2, O2
Technology	H2S: UV-DOAS; CH4: NDIR; CO2: NDIR; O2: ECD
Measurement Range	H2S: 0~500~5000ppm; CH4: 0~100%; CO2: 0~50%; O2: 0-25%
Resolution	H2S: 1ppm; CH4: 0.01%; CO2: 0.01%; O2: 0.01%
Accuracy	H2S, CH4, CO2: ±2%F.S.; O2: ±3%F.S
Repeatability	≤1%F.S.
Response Time	T90<60s
Gas Flow	0.7~1.2 L/min
Gas Pressure	2~50kPa
Power Supply	AC220V, 100W
Ex-proof Grade	Ex db IIC T6 Gb
Analog	4~20mA
Digital	RS-232/RS-485

Online Biogas Analysis System

Gasboard-3500

Introduction

Gasboard-3500 Ex-proof online biogas analysis system is an online biogas monitoring system with wall-mounted ex-proof enclosure, mainly used for continuous measuring CH4, CO2, O2, H2S in different biogas, landfill gas, biomethane gas applications. With flexible gas conditioning system, it could be used in tropical/cold regions, and implement sampling, measuring, draining and other operations automatically.

Features

- ATEX Compliance, applicable to outdoor hazardous area installations.
- Modular sensor design ensures simple maintenance.
- Independent sensor and signal processing for each gas component.
- Inbuilt air purging module to prolong H_2S sensor lifetime.
- Thermostatic design for IR sensors to reduce temperature fluctuation influence.
- All parts contacting with sample gas are made of high corrosion resistant material.
- Auto diagnosis function to check sensor status quickly.

Specifications

Measurements	CH4, CO2, O2, H2S
Technology	NDIR, ECD
Measurement Range	CH4: 0~100%; CO2: 0~50%; O2: 0~25%; H2S: 0~9999ppm Note: Measurement range can be defined as per request.
Resolution	CH4: 0.01%; CO2: 0.01%; O2: 0.01%; H2S: 1ppm
Accuracy	CH4, CO2≤ ±2% F.S.; H2S, O2≤ ±3% F.S.
Repeatability	±1%
Response Time (T_{90})	<15s (NDIR)
Warm-up Time	800s
Output	RS-232, RS-485 & 4~20mA
Power Supply	110~230VAC 50/60Hz
Dimension	400*400*250mm (H*W*D)
Material	Cast Aluminium, IP 65
Ex-proof Grade	Ex db IIC T6 Gb
Inlet Gas Flow	0.7~1.2L/min
Inlet Gas Pressure	2~50kPa
Ambient Temperature	0~50°C
Relative Humidity	5~85%RH (Non-condensing)
Ambient Pressure	86~108 kPa

Online Biogas Monitoring System

Gasboard-9060

Introduction

Gasboard-9060 Online Biogas Monitoring System is designed to measure the concentration of CH4, CO2, H2S and O2 continuously in different biogas applications. It consists of four parts: Gas sampling and conditioning unit, Gas analysis unit, Control unit for auto drain and Data transmission, multiple sampling points are supported. Automatically proceed sampling, analyzing, drainage and so on . Realized unattended operation 7*24hrs biogas monitoring.

Features

- Wall-mounted stainless steel cabinet for easy installation and high corrosion resistance.
- Integrated gas sampling & conditioning devices, flexible for different site conditions.
- Modular sensor design ensures simple maintenance.
- Independent sensor and signal processing for each gas component.
- Inbuilt air purging module to prolong H2S sensor lifetime.
- Thermostatic design for sensors to reduce temperature fluctuation influence.
- Support up to 4 sampling channels.

Specifications

Component	CH4, CO2, O2, H2S
Technology	NDIR, ECD
Measuring range	CH4: 0-100%; CO2: 0-50%; O2: 0-25%; H2S: 0-9999 ppm
Resolution	CH4: 0.01%; CO2: 0.01%; O2: 0.01%; H2S: 1ppm
Precision	CH4, CO2 ≤ ± 2% FS; O2, H2S ≤ ± 3% FS
Repeatability	CH4, CO2 ≤ ± 2% FS; O2, H2S ≤ 2% FS
Dimension(L*W*H)	700x450x220mm
Material	stainless steel, plate thick 2 mm
Installation parts	4 brackets for wall mounting
Operating temperature range	-15°C to +45°C
Operating humidity range	0-95% RH (Non-condensing)
Environment pressure range	80-120 kPa

Handheld Biogas Analyzer

Gasboard-3200Plus

Introduction

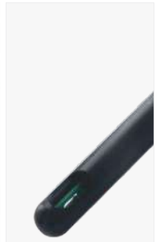
Gasboard-3200Plus handheld biogas analyzer is designed to measure CH4, CO2, O2, H2S and optional H2, CO gases in biogas. This model is powered by lithium battery and with very compact design that very suitable for remote use onsite. Its modular sensor design ensures easy operation and maintenance. It provides reliable data reference for both research purpose and daily inspection in different biogas applications, such as anaerobic digestion, landfill, wastewater treatment, biomethane upgrading, RNG injection to gas grid and so on.

Features

- Modular NDIR and ECD sensors design, easy for maintenance.
- Compact design with weight of 1.2kg only, easy carrying among different sites.
- Auto temperature compensation to guarantee excellent precision.
- Fine filters to remove moisture and dust in sample gas for analyzer protection.
- Rechargeable Lithium battery supports up to 8 hours continuous working.
- In-built memory for up to 2560 units of records, easy to download the data to PC.

Specifications

Measurements (Standard)	CH4, CO2, H2S, O2
Measurements (Optional)	CO, H2
Technology	CH4, CO2 (NDIR); H2S, O2, CO, H2 (ECD)
Measurement Range	CH4: 0~100%; CO2: 0~50%; H2S: 0~9999ppm; O2: 0~25%; CO: 0~2000ppm; H2: 0~2000ppm (Note: measurement range can be customized.)
Resolution	CH4, CO2, O2: 0.01%; H2S, CO, H2: 1ppm
Accuracy	CO2, CH4: <2%F.S.; H2S, O2, CO, H2: <3%F.S.
Inlet Gas Flow	0.7~1.2 L/min
Inlet Gas Pressure	2kPa~50kPa
Sampling Gas Condition	No Dust, No Water, No Tar
Response Time(T_{90})	<10s (NDIR)
Display	High-Resolution Colored 3.2-inch
Communication Interface	USB Port
Lithium Battery Pack	Rechargeable
Working Temperature	-10°C~40°C
Relative Humidity	<95% (Non condensing)
Ambient Pressure	70~120kPa
Dimension	295*196*62mm (L*W*H)
Weight	1.2kg



Portable Biomethane Analyzer

Gasboard-3200L

Introduction

The Gasboard-3200L is a portable analyzer designed specifically for biomethane applications. It combines advanced TDLAS, NDIR, and electrochemical technologies to deliver accurate, real-time measurement of high-concentration CH4, as well as low levels of H2S, CO2, and O2. The unit also automatically calculates and displays calorific value. With exceptional selectivity and reliability, it is ideal for process control, quality assessment, and transaction analysis in biogas production, processing, and grid injection.

Features

- Highly selective: Utilizing TDLAS technology, it delivers highly accurate methane (CH4) measurements with better than 0.5% FS accuracy and exceptional selectivity.
- Ultra-low H2S measurement range: Accurate hydrogen sulfide (H2S) measurements at ultra-low concentrations (0-20 ppm) in biomethane with exceptional precision.
- Fast and convenient: Rapid measurement results without time-consuming sample preparation, offering significantly improved operational efficiency compared to GC systems.
- Cost-effective: With fewer consumables and reduced maintenance, it offers a highly economical alternative to GC systems.
- Portable and field-ready: Lightweight, rugged, and easy to use, designed for quick and efficient biogas testing in the field.

Specifications

Measurement Components	CH4, CO2, O2, H2S
Measurement Principle	TDLAS, NDIR, ECD
Measurement Range	CH4: 0-100%*,CO2: 0~100%,O2: 0~5%,H2S: 0~20ppm (can be customized)AS, NDIR, ECD
Accuracy	CH4: ±0.5%F.S. (for CH4>60%),CO2: ±1%F.S.,O2/H2S: ±2%F.S.
Repeatability	1%F.S.
Resolution	CH4/CO2/O2: 0.01%,H2S: 1ppm
Response Time (T90)	<30S
Power Supply	100~240VAC, 50~60Hz (standard)
Inlet Flow Rate	0.7~1.2L/min
Inlet Gas Pressure	2~50kPa
Sampling Gas Condition	No dust, no vapor, no tar
Dimension (L*W*H)	412*152*294 (mm)
Weight	9kg
Communication	RS-485/RS-232
Power Supply	Built-in rechargeable lithium battery, External 12.6V charger
Display	LCD
Function	Built-in sampling pump; with the ability to freely switch between heat value units of Kcal/m^3 and Mj/m^3; It also features self-diagnosis functionality, allowing online checking of sensor status.

Portable Calorific Value Analyzer

Gasboard-3110P

Introduction

Gasboard-3110P is engineered for rapid, on-site assessment of biogas and biomethane quality. It accurately measures CH4, CO2, and CnHm, and instantly calculates critical parameters including heating value and Wobbe Index. It is the ideal tool for verifying calorific value for CHP engine efficiency and grid injection.

Features

- Patented NDIR technology for reliable measurement of CO2, CH4, CnHm. (EU and US Authorization No.: EP2796856 , US9857323).
- Replacement to gas chromatography, mass spectrometry.
- Real time calculation of calorific value and wobbe index.
- High-selectivity CH4 gas sensor, no interference from CnHm.
- Built-in battery for multi-site measurement.
- Data logging included.
- Built-in sampling pump, flow meter and filters.

Specifications

Gas	CH4, CO2, CnHm*, Heat Value
Measurment Principle	NDIR
Measurment Range	CH4, CO2(0~100)%; CnHm: (0~10)%
Accuracy	±1%F.S.
Resolution	0.01%
Repeatability	T90 < 10s (NDIR)
Response time	(0.7~1.2) L/min
Optimal flow Rate	(2~50) kPa
Inlet Gas Pressure	No Tar, No Dust and No Water
Communication	RS-485/RS-232
Power Supply	Internal rechargeable Li-ion battery, External 12.6V charger
Display	LCD Display

Online UV-DOAS Biogas Analyzer

Gasboard-3200UV

Introduction

The Gasboard-3200UV is a new-generation, rack-mounted biogas analyzer. Its core utilizes UV-DOAS technology for precise H2S measurement before and after scrubbers. The system is extended with modular sensors for CH4 (NDIR), CO2 (NDIR), and O2 (ECD), enabling continuous online biogas quality monitoring without purging cycles. Featuring a dual-range H_2S detector, it is ideally suited for monitoring concentration differences across scrubbers. This provides a complete solution to guarantee scrubber efficiency, protect downstream equipment from H2S overload, minimize customer investment, and optimize the entire monitoring process.

Features

- High-accuracy H2S measurement based on UV-DOAS technology.
- Continuous monitoring with no purging required.
- Modular sensor design for easy maintenance and replacement.
- Automatic air zeroing with built-in pump to minimize drift.
- Long-service-life H2S sensor, eliminating electrochemical replacements.
- Online self-diagnosis for real-time sensor status monitoring.

Specifications

Measurements	H2S/CH4/CO2/O2
Technology	H2S: UV-DOAS; CH4/CO2: NDIR; O2: ECD
Measurement Range	H2S: 0~500/5000ppm; CH4: 0~100%; CO2: 0~50%; O2: 0~25%
Accuracy	±2%F.S.
Resolution	H2S: 1ppm; CH4: 0.01%; CO2: 0.01%; O2: 0.01%
Repeatability	≤2%
Response Time	T_{90}<60s
Warm-up Time	800s
Inlet Flow	(0.7~1.2) L/min
Output	RS-485/RS-232, (4~20)mA
Power Supply	220V AC, 100W

Laser Raman Gas Analyzer

LRGA-3100

Introduction

LRGA-3100 laser raman gas analyzer is an advanced multi-gas analysis equipment independently researched and developed by Cubic Instrument (a wholly-owned subsidiary of Cubic sensor and Instrument Co., Ltd). Based on the principle of laser raman scattering, which enhances, collects, processes and identifies the characteristic raman scattering spectra of the gas to be measured and quantifies the content, LRGA-3100 can provide online real time measurement for various gases simultaneously with the shortest response time in seconds. With optimized optical path and structure, the new generation laser raman gas analyzer LRGA-3100 is much more compact and transportable.

LRGA-3100

LRGA-6000

Features

- Employs laser Raman fingerprint spectroscopy for exceptional specificity and anti-interference capability.
- Simultaneously analyzes multiple key gases, including N2, O2, H2, CO, CO2, CH4, C2H6, C3H8,i-C4,n-C4, NH3, H2S.
- Delivers real-time, online monitoring for the entire industrial process with a single instrument.
- Features an intuitive touchscreen interface and supports external connectivity for easy data access and control.
- Serves as a modern, efficient alternative to traditional GC/MS systems.

Specifications

LRGA-3100 Specifications	
Measurements	N2, O2, H2, CO, CO2, CH4, C2H6, C3H8,i-C4,n-C4, NH3, H2S
Measurement Range	0~100% (Can be customized based on actual application condition)
Accuracy	≤±1%F.S.
Response Time	100s
Repeatability	1%
Working Temperature	10°C~35°C
Power Supply	AC 220V/50Hz
Communication	USB, RS-232
Dimension	590*480*177mm (L*W*H)

In-Situ Laser Raman Gas Analyzer

LRGA-3200EX

Introduction

The LRGA-3200EX In-Situ Laser Raman Analyzer delivers real-time, multi-component gas analysis for critical processes like biogas-to-grid injection. It ensures gas composition meets grid specifications by providing rapid, consumable-free monitoring of nearly 20 parameters directly at the source. With multi-explosion-proof probe capability, it guarantees safety in hazardous areas while significantly reducing operational costs compared to traditional GC systems, making it an ideal solution for efficient and compliant biogas upgrading and grid integration.

LRGA-3200EX

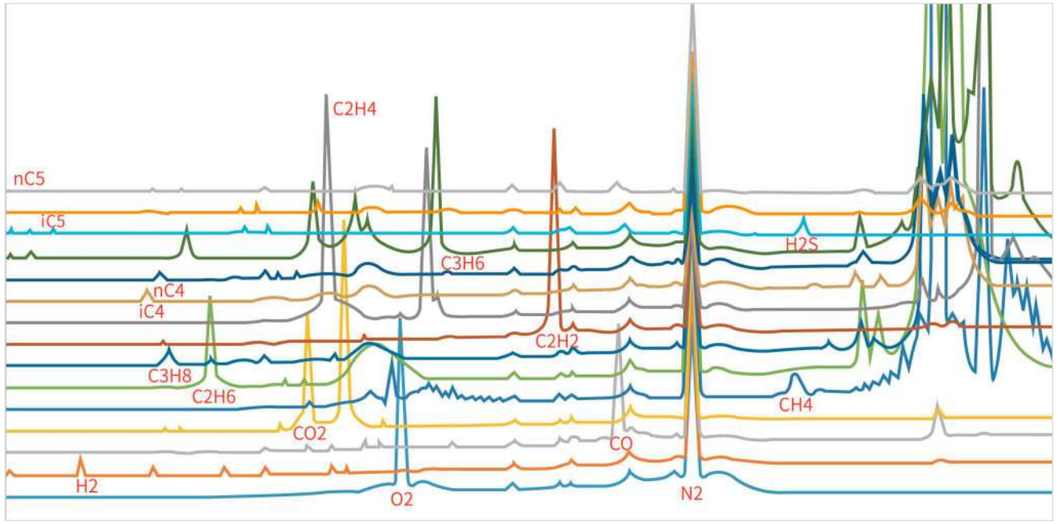
Features

- Non-destructive continuously analysis of gases like CO, CO2, CH4, C2H2, C2H4,C2H6, C3H8, H2O, H2S, NH3, iC4, nC4, etc., including homonuclear diatomics like H2, N2, O2.
- Reliable measurement based on Laser Raman gas characteristic fingerprint spectrum technology.
- Similtaneous monitoring of multiple points gas monitoring for comprehensive process control.
- In-situ Raman probes installation at sampling ponits, suitable for long-distance and harsh conditions.
- Positive pressure explosion-proof design prevents toxic and flammable gas entry.
- No consumables required (chromatographic column, valve, gas pump, etc.), ensuring extended service intervals.

Specifications

Measurement Components	H2, N2, O2, CO, CO2, H2S, CH4, C2H2, C2H4, C3H6, iC4, nC4, Calorific Value, etc.
Measurement Range	0-100% (can be customized)
Accuracy	±1%F.S.
Repeatability	1%F.S.
Power Supply	100~240VAC, 50~60Hz (standard)
Maximum Power	＜200W
Communication	RS-232/RS-485, TCP/IP, USB, 4~20mA
User Interface	Exproof Touch Screen
Dimension (L*W*H)	540*300*900 (mm)
Weight	75kg
Probes	Up to 4 pcs
IP Degree	IP65
Ex-proof Degree	ExdIICT4Gb
Operating Temperature (Probe/Sample Gas)	-20~600℃
Operating Temperature (Analyzer)	-35~40℃
Opetating Humidity	95%RH (non-condensed)
Max Working Pressure	4MPa
Optic Fiber Cable Length	5m (can be customized)

Raman Spectra of Common Gases



Comparison of Common Technical Principles

Advantages of Laser Raman Spectroscopy	Compare with Other Gas Analysis Technologies
➤ Adopting laser raman gas characteristic finger print spectroscopy technology, online measuring and monitoring concentration of gases like N2, O2, H2, CO, H2S etc in real time. ➤ Strong anti-interference ability, effectively avoiding the influence of water. ➤ Response time as fast as 30 seconds. ➤ No carrier gas or chromatographic column needed, low maintenance cost.	**Gas Chromatograph Analyzer** ➤ The detection time is as long as 15 minutes each measurement. ➤ Not only consumables such as carrier gas and chromatographic column are required, but also professional training is required. ➤ Water vapor has a great influence on the measurement, and it is not suitable for the analysis of high boiling point, non-volatile and unstable substances. **Online Mass Spectrometer** ➤ Difficult to distinguish isomer gas, complicated operation. ➤ Large, heavy, slow and expensive. ➤ Easy to be polluted, high operation and maintenance costs, not suitable for online analysis of industrial sites. **Fourier Transform Infrared Spectroscopy** ➤ Moving parts inside, poor stability. ➤ Only analyzing a single component at one time, narrow measurement range . ➤ No measurement of diatomic molecules, such as H2, O2, N2, etc.

Ultrasonic Biogas Flowmeter

BF-3000

Introduction

BF-3000 ultrasonic biogas flowmeter can be commonly used with various industrial gas streams (biogas, natural gas, air, etc.), with special design to enable it withstand the wet and corrosive gas conditions in biogas application. The built-in temperature and pressure sensors enable to make real time compensation and reach higher accuracy. The unique CH_4 composition reading function requires no additional device and input, which making it possible to continuously monitor the biogas quality and quantity with lowest investment.

Features

- Ultrasonic TOF principle, routine maintenance free.
- Temperature & pressure compensated, high precision.
- Methane concentration reading in the same unit.
- Ceramic coated probe with high corrosion resistance.
- No moving parts, no pressure drop.
- All-in-one detect probe provides readings of flow velocity, totalized volume, temperature, pressure and methane concentration directly.
- Built-in industrial lithium battery for backup power supply.

Specifications

Applicable Pipeline	DN32	DN50	DN80	DN100	DN125	DN150	DN200	DN250	DN300
Flow Range (m^3/h)	3-65	8-160	12-240	20-400	30-600	40-800	80-1600	120-2400	160-3200
Connection Interface	1"1/4	2"	Convex flange						
Accuracy	Class 1.5								
Working Pressure	0~200kPa								
Working Temperature	-10°C~40°C								
Environment Humidity	≤99% RH								
CH4 Composition	Range 30~100%Vol, Accuracy±5%F.S.								
External Power Supply	Safety Barrier Ui=5V, Li=100mA (Main power supply)								
Internal Battery	3.6V Er26500 (Backup power supply)								
Communication	RS-485								
Ex-proof Grade	ExibIIAT4Gb								
IP Grade	IP65								

Ultrasonic Biogas Flowmeter

BF-3000B

Introduction

BF-3000B ultrasonic biogas flowmeter is developed based on technology combination of pressure differential and ultrasonic transit time differential measurement methods. With a bypass structure in the flow meter, gas flow in the main line is inferred by measuring the gas flow in the small bypass line. It can effectively eliminate the problems such as moisture condensation and core parts corrosion, improve the measurement accuracy and extend life span.

Features

- Combination of the pressure differential and ultrasonic transit time differential principle, higher precision & longer lifetime.
- Measurement occurred in bypass line, effectively solved signal attenuation problem in high concentration CO2 and big diameter duct applications, reduced the interference of flow field distribution uniformity factors, and eliminated the corrosion problem caused by water condensate.
- Stainless steel design with stronger corrosion resistance.
- Easy maintenance, no effect on main pipeline during installation and maintenance.
- Low power consumption, more than 5 years battery lifetime.

Specifications

Applicable Pipeline	DN32	DN50	DN80	DN100	DN125	DN150
Flow Range (m^3/h)	3-65	8-160	12-240	20-400	30-600	40-800
Connection Interface	Convex Flange					
Working Pressure	(0~200) kPa					
Accuracy	Class 1.5					
Working Temperature	-10°C~40°C					
Environment Humidity	≤99%RH					
External Power Supply	Safety Barrier Ui=5V, Li=100mA (Main power supply)					
Internal Battery	3.6V LS26500 (Backup power supply)					
Communication	RS-485					
IP Grade	IP65					

Infrared Methane Gas Transmitter

CJH Series

Introduction

CJH series infrared methane transmitter adopts international advanced NDIR non-dispersed infrared technique. It is mainly used in coal mine, natural gas, CBM (Coal bed methane), rubbish filling, sewage treatment, anaerobic fermentation and other fields for CH4 gas leakage detection and high concentration CH4 measurement.

Features

- Proprietary infrared gas analysis technology, with high accuracy, high resolution, long life and easy maintenance.
- High and low alarm settings, with output to prevent accidents and ensure the safety of life.
- Automatic zero calibration with air.
- Diffusion-type sampling methods.
- Fast response and immune from poisoning.
- Real-time displaying gas concentration with LED.
- Metal case with Ex-proof design for industrial online monitor.

Specifications

Technology	NDIR
Measurement Range	CH4: 0~5%Vol (0~100%LEL) , 0~100%Vol
Accuracy	For range 0~1%Vol: ±0.06% For range 1~100%Vol: ±6% of reading For range 0~100%LEL: ±5% LEL
Warm-up Time	30s
Response Time (T_{90})	<30s at 20°C
Working Voltage	9v~27v
Output	RS-485/4~20mA
Working Temperature	-10°C~55°C
Dimension	195*145*105mm
Lifespan	≥10years

APPLICATION CASES

Case 1 Farm Waste Anaerobic Digestion Biogas Project

Model	Quantity	Measurements	Measurement Points
Gasboard-3500	1	CH4/H2S/CO2	Scrubber Outlet
Gasboard-3200Plus	1	C H4/CO2/H2S/O2	All Biogas Sampling Points
BF-3000	1	Biogas Flow/ CH4/ Pressure	Main Pipeline After Scrubber
Temp. Transmitter	2	Fermentation Temp.	Digester
PH Meter	2	PH Value	Digester

Case 2 Kitchen Waste Harmless Treatment Project

Model	Quantity	Measurements	Measurement Points
Gasboard-3500	1	CH4/H2S/CO2/O2	Biogas Purification Outlet

Case 3 Sugar and Ethanol Plant Biogas Monitoring Project

Model	Quantity	Measurements	Measurement Points
Gasboard-3500UV	2	CH4/H2S/CO2/O2	Before and After H2S Scrubber

Case 4 Carbon Credit Transaction Project

Model	Quantity	Measurements	Measurement Points
Gasboard-3200	1	CH4/H2S/CO2/O2	Before Biogas Engine
BF-3000	1	Biogas Flow Rate	Before Biogas Engine