Kansai Automation

SENSOR TECHNOLOGY

Gasmet™

CEMS System

FTIR GAS ANALYZERS

COMPLETE CONTINUOUS EMISSIONS MONITORING SYSTEM

FTIR: Fourier Transform Infrared Spectroscopy
Continuously monitor the components of more than 12 different gases in the specific algorithm !!

CAT. No. ZZ-025-0802E

KANSAI Automation Co.,Ltd.

CEMS System
FTIR GAS ANALYZERS

In-Situ
Continuous Gas Analysis

GAS ANALYZER, APPLYING THE FTIR PRINCIPLE, CAN MEASURE MANY DIFFERENT GAS COMPOUNDS.

Up to 50 different mixed gases from low(ppm) to high(%) concentration can be measured simultaneously. This is analyzers made by Gasmet Technologies Oy, which have a high reputation and confidence in the market in each European country promoting environmental preservation..

FEATURES

- It can measure water-soluble gas (HCL and others) as well as high temperature/ pressure gas, analyzing sample gas being kept at the high temperature. (180°C)
- Being of pyrometry, it is corrosion-resistant and yet a simple measurement requiring no fluid-removal.
- It adopting quantitative analysis, there is usually no need of calibrated gas, but zero gas calibration only with N_2 gas.

MEASUREMENT PRINCIPLE

A molecule of a material vibrates at the specific frequency. Accordingly, as it absorbs infrared spectrum corresponding to the frequency, it can identify the substance from what sort of frequency appears in an absorption peak.
The infrared spectrum emitted by an interferometer as an interfering light may be absorbed by a sample gas in a cell, and the frequency strength characteristic of the molecule can be obtained. By acquiring spectrum from the process of Fourier transformation, the analyzer specifies the gas and determines its concentration with reference to library and CLS algorithm through cross interference compensation and absorption band selection,

SPECIFICATION

•OUTLINE

Measurement principle	: FTIR
Measurable	: 50 gases
Operating temperature	: 20 ±20°C
Response time	: <120sec
Gas cell temperature	: 50~180°C

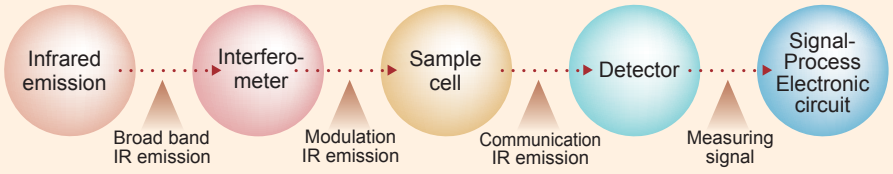
•MEASURING PARAMETERS

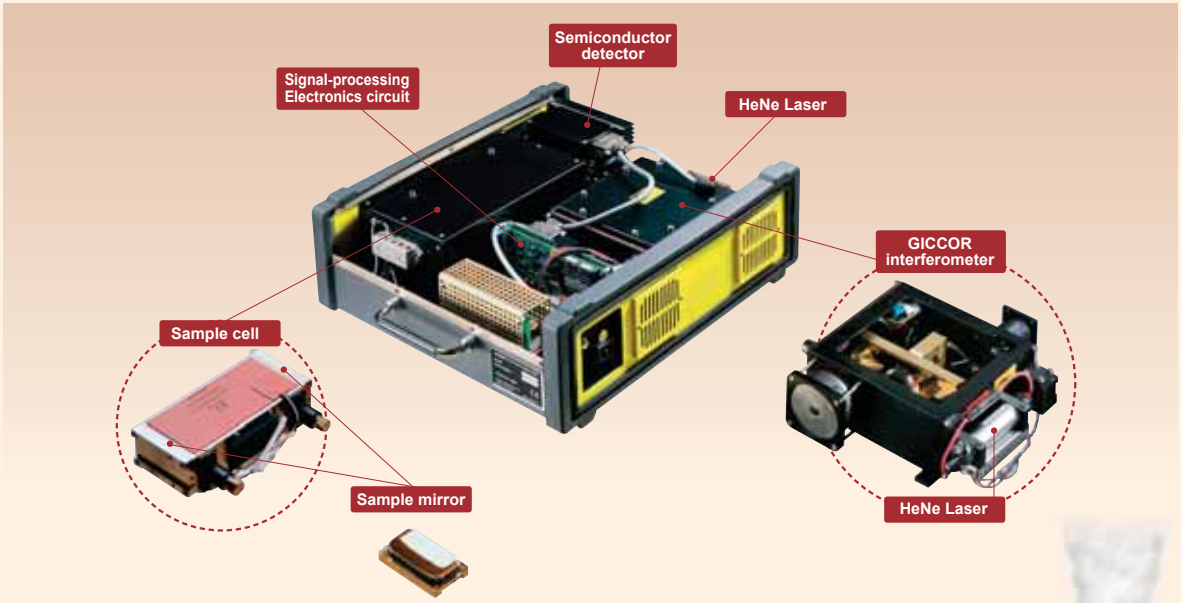
Zero point calibration	: 24 hours (N_2 gas)
Zero point drift	: < 2% (24hour calibration with N_2 gas)
Sensitivity drift	: None
Linearity deviation	: < 2% of measuring range
Temperature drift	: < 2% of measuring range
Pressure influence	: 1% change of measuring value for 1% sample pressure change

•OUTPUTS

Analog output	: DC4~20mA, isoslated 8ch (option 16ch)
Digital output	: ModBus ASCIICOMLIDDlink Other protocols on request

GAS ANALYZER-CX-4000 Transform Infrared Spectroscopy





CEMS BASIC CONFIGURATION

❶ ENCLOSURE

Material : Bake painted steel (cream)
Dimensions : 2530×800×800mm
Weight : 550kg (full system)
Protection : IP54

❷ AIR CONDITIONING

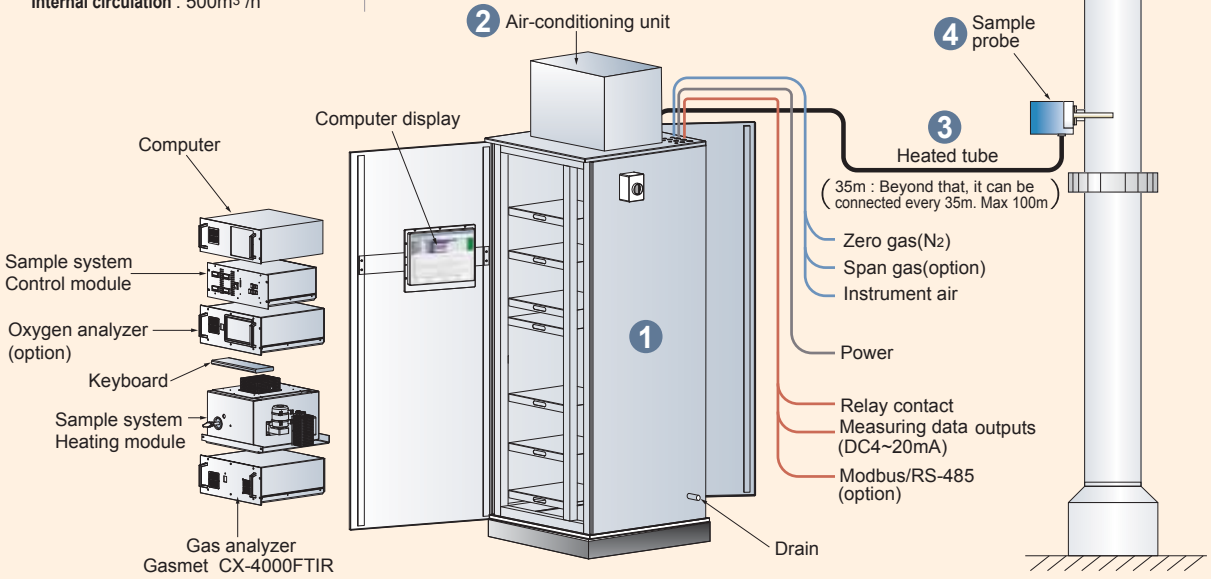
Cooling capacity : A35°C/A35°C1500W
A50°C/A35°C1000W
Internal circulation : 500m³ /h

❸ HEATED TUBE

Material : Teflon
Operating pressure : Max 400kPa
Temperature : Max 200°C
Power supply : 230VAC
(Option 115VAC)
120W/meter

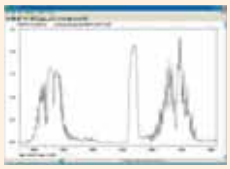
❹ SAMPLE PROBE SP2000H

Power consumption : 800W
Operating temp. : 180°C
Filter element : Ceramic 2μm
Dust loadings : <2g / m³
Probe tube : Material -SUS316
Probe length : 1m
Sample temp. : Max 600°C
Sample pressure : 0.4~6bar



Calcmet Quantitative Argorithm Software

CEMS SYSTEM, Standard Flue Gas Application



It can analyze the absorption spectrum by way of the Calcmet software. Fully utilizing cross interference compensation of mixed gas /absorption band selection /gas library /CLS algorithm, the software enables detection, identification and quantification up to 50 different gas compounds and can report on either a wet or dry basis.

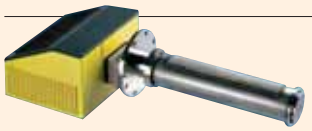
CEMS System is normally equipped with Calcmet Quantitative Application Software.

COMONENTS	Min Measuring range	Std Measuring range	ppm → mg/Nm³
H^2O	0~5 vol-%	0~25 vol-%	
CO^2	0~10 vol-%	0~20 vol-%	
CO	0~60 ppm	0~500 ppm	1ppm = 1.25 mg/Nm³
N^2O	0~50 ppm	0~100 ppm	1ppm = 1.96 mg/Nm³
NO	0~150 ppm	0~300 ppm	1ppm = 1.34 mg/Nm³
NO^2	0~100 ppm	0~300 ppm	1ppm = 2.05 mg/Nm³
SO^2	0~25 ppm	0~100 ppm	1ppm = 2.86 mg/Nm³
NH^3	0~20 ppm	0~100 ppm	1ppm = 0.76 mg/Nm³
HCL	0~10 ppm	0~100 ppm	1ppm = 1.63 mg/Nm³
HF	0~20 ppm	0~100 ppm	1ppm = 0.89 mg/Nm³
CH^4	0~50 ppm	0~100 ppm	1ppm = 0.72 mg/Nm³
TOC	0~15 mgC	0~40 mgC	

In-Situ Continuous Gas Analysis

In-Situ is an integrated version of sample system and gas analyzer

On top of easy maintenance as well as the excellent analytical features and calibration function, it is compact designed.
This performance can be comparable to that of CEMS system.



Dimensions : 1018 × 390 × 250mm
Weight : 30kg
Operating temp : -30 ~ 40°C
Power supply : 100 ~ 115V or 230VAC Max500W
Probe material : 316SS

Probe dimensions : Φ134 L589
Sample gas temp. : 250°C max
Air supply : 120L/min for probe cleaning/cooling
100L/min for zero calibration
(15minutes at 24 hour intervals)

Line of business

- Rotary Paddle Type Level Switch
- Vibration Type Level Switch
- Swing Type Level Switch
- Acoustic Level Switch
- Capacitance Type Level Switch
- Capacitive Proximity Sensor
- Capacitance Type Level Indicator
- Diaphragm Type Level Switch
- Tilt Switch
- Leak Type Level Switch
- Microwave Switch
- Sounding Bob Type Level Indicator
- Flow Switch
- Conductance Type Level Switch
- Float Switch
- Float Type Level Indicator
- Ultrasonic Type Level Indicator
- Equipments For Conveyor Lines
- Dust Monitor System
- Zirconia Oxygen Analyzer
- Laser Type Level Indicator
- RADAR Type Level Indicator
- On-line Sensors for Accurate Liquid Analysis
- Ultrasonic Flow meter

*Please be sure to read USER'S GUIDE, Installation & Operation Instructions before using the instrument.
*The specifications herein may be subject to change without advance notice.

Nuclear Power Generation to Rice Milling
All-round Manufacturer of Level Controllers for Powder, Granules and Liquid

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Agent