

DX4015 FTIR Gas Analyzer



Multicomponent FTIR Gas Analyzer

Gasmet On-site Series includes portable multicomponent gas analyzers for demanding applications. The Gasmet DX4015 features a Fourier transform infrared (FTIR) spectrometer, a temperature-controlled sample cell with a built-in pump, and signal processing electronics. The sample cell can be heated to 50 °C. Sample cell absorption path length is selected according to the application. This analyzer offers versatility and high performance for different applications.

The Gasmet DX4015 is designed for on-site measurements at low concentrations in ambient air. Typical usage areas include industrial hygiene and emergency response situations.

The Gasmet DX4015 is factory calibrated using certified single component calibration gases. There is no need for the user to do any span calibrations after that. The user can also easily configure the analyzer for a new set of compounds.

General parameters

Measuring principle: <u>F</u>ourier <u>t</u>ransform <u>i</u>nfra<u>r</u>ed, FTIR

Performance: Simultaneous analysis of up to 50

gas compounds

Response time, T₉₀: Typically < 120 s, depending on

the gas flow and measurement

time

Operating temperature: Short term $0 - 40 \, ^{\circ}\text{C}$

long term 5 – 30 °C non-condensing

Storage temperature: -20 - 60 °C, non-condensing

Power supply: 100-115 or 230 V / 50 -60 Hz

12 VDC

Power consumption: Average 150 W, maximum 300 W

Spectrometer

Resolution: $8 \text{ cm}^{-1} \text{ or } 4 \text{ cm}^{-1}$ **Scan frequency:** 10 scans / s

Detector: Peltier cooled MCT

Source: SiC, 1550 K
Beam splitter: ZnSe

Wave number range: 900 - 4 200 cm⁻¹

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Sample cell

Structure:Multi-pass, fixed path length 9.8 mMaterial:100 % rhodium coated aluminumMirrors:Fixed, protected gold coating

Volume: 0.4 liters

Connectors: Inlets Swagelok 6 mm

Outlet Swagelok 6 mm

Gaskets: Viton® O-rings
Temperature: 50 °C, maximum

Valve: Manual Swagelok

Window material: Ar coated ZnSe

Measuring parameters

Zero-point calibration: 24 hours, calibration with nitrogen

(5.0 or higher N₂ recommended)

Zero-point drift: < 2 % of measuring range per

zero-point calibration interval

Sensitivity drift: none

Linearity deviation: < 2 % of measuring range

Temperature drifts: < 2 % of measuring range per 10 K

temperature change

Pressure influence: 1 % change of measuring value

for 1 % sample pressure change. Ambient pressure changes measured and compensated

Electrical connectors:

Digital interface: 9-pole D-connector for RS-232

Analyzer is connected to an external computer via RS-232C cable. The external computer

controls Gasmet.

Power connection: Standard plug CEE-22

Gas inlet and outlet conditions

Gas temperature: Non-condensing, the sample gas

temperature should be the same as the sample cell temperature

Flow rate: Approximately 1.5 liters/minute

 $\textbf{Gas filtration:} \qquad \qquad \text{Filtration of particulates (2 μ)}$

required

Sample gas pressure: Ambient

Sample pump: Internal, for ambient air only

Electronics

A/D converter: Dynamic range 95 dB

Signal processor: 32-bit floating point DSP

120 MFLOPS speed

Computer: External, not included

Analysis software (for external PC)

Operating system: Windows 7 or Windows 10

Analysis software: Calumet for Windows

Options

Sample cell: Multi-pass, fixed path

2.5 m or 5.0 m

Pressure measurement: Inside sample cell

Analog signals (ext. PC): TCP module (for analog inputs,

outputs, relays)

Sample cell gaskets: Kalrez®

Power connection: 12 VDC

Power supply cables: 12 V cables with battery clips or

cigarette lighter connector

Trolley: Wheeled cart for the analyzer and

laptop computer

Enclosure

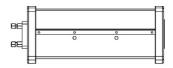
Material: Aluminum

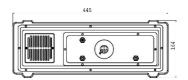
Dimensions (mm): 438 * 164 * 445

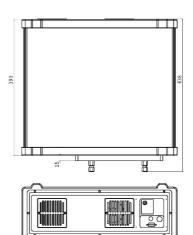
Weight: 14.9 kg

CE label: According to EMI guideline

89/336/EC







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