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:	Fourier transform infrared, FTIR
Performance:	Simultaneous analysis of up to 50 gas compounds
Response time, T_{90}:	Typically < 120 s, depending on the gas flow and measurement time
Operating temperature:	Short term 0 – 40 °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 cm^{-1} or 4 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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v1.15

Sample cell

Structure:	Multi-pass, fixed path length 9.8 m
Material:	100 % rhodium coated aluminum
Mirrors:	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 N_2 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
Gas filtration:	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)

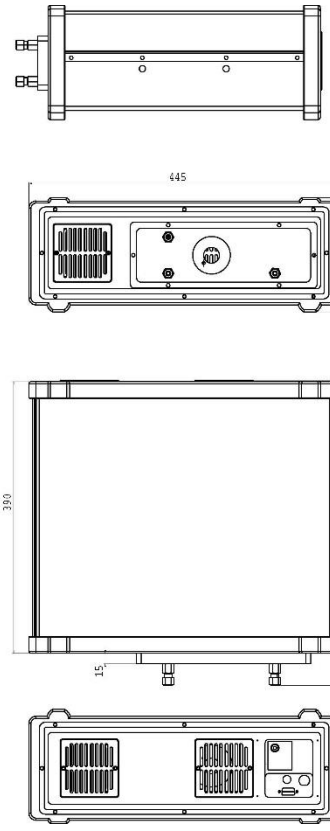
Operating system:	Windows 7 or Windows 10
Analysis software:	Calumet for Windows

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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