



**Model 7000FM Gas Filter Correlation
Non-Dispersive Infra-Red Gas Analyser**

- High sensitivity
- Minimal cross interference
- Wide range of gas species and ranges
- Linearised signal outputs

Overview

Non-dispersive infra-red absorption is a proven measurement technique for the quantitative determination of gases possessing heteroatomic molecules. This range of analysers also utilises a gas correlation rotary filter system for maximum sensitivity.

The filter wheel is filled with the gas to be measured to minimise any cross interference effects. This is particularly effective with weak absorbing gases such as CO where the strong effects of CO₂ cross interference can be eliminated.

Each Model 7000FM is built with an optimised cell length appropriate to the gas species and measurement range selected on ordering.

A heated source provides infra-red radiation which is then interrupted by a rotating filter. The resulting series of pulses is directed through a cell containing the sample gas. A solid state detector responds to the variation in signal as the filter wheel rotates and the output is amplified and displayed.

Operation

A continuous nitrogen purge is provided to the measurement cell to maximise stability and reduce noise.

With fast response, high accuracy and repeatability and continuous measurement, the Model 7000FM is ideal for a wide range of applications from incinerators to combustion research.

The Model 7000FM has a user friendly interface with status pages for simple diagnostics. With automatic calibration and remote control capability, it is ideal for applications where low maintenance is provided.

Options

Signal SIGEMS software is available for logging and control.

The Model 7000FM is available to measure any one of the following gases; CO, CO₂, CH₄, NO, N₂O, HCl, Freon and SO₂. Range required to be specified on ordering.

Specifications

Measurement technique	Non-dispersive infra-red absorption gas correlation rotary filter system
Measuring range	CO: 0-10ppm up to 0-100% CO ₂ : 0-10ppm up to 0-100% CH ₄ : 0-100ppm up to 0-100% NO: 0-100ppm up to 0-100% N ₂ O: 0-100ppm up to 0-100% HCl: 0-100ppm up to 0-1000ppm Freon R22: 0-100ppm up to 0-100% SO ₂ : 0-100ppm up to 0-100%
Resolution	See gas specific datasheet
Response	See gas specific datasheet
Bypass flow sensitivity	Less than 1% from 0.2 to 2L/min
Accuracy and repeatability	Better than 1% of range or 0.2ppm whichever is greater
Noise	See gas specific datasheet
Linearity	Better than 0.5% of range
Ambient temperature effects	Zero: 0.2% per DegC Span: Less than 0.35% range per DegC
Drift	Zero and span drift less than 1% of range per hour
Concentration outputs	0-10Vdc and 4-20mA analogue
Range output	1-8Vdc
Remote control	AK protocol via RS232 port
Sample condition	Sample must not exceed 40DegC with dew point at least 10DegC below ambient
Dimensions	19" rack mounted 3U high 19" x 595mm x 133.5mm
Weight	Approximately 13Kg
Power	Switchable 110/230Vac 200VA maximum during warm up
Services required	50ml/min N ₂ for continuous purge