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EC9842

Ammonia Analyser

The EC9842 Chemiluminescence NH_3 Analyser combines a high performance ammonia converter and proven chemiluminescence detection to measure ammonia (NH_3), oxides of nitrogen (NO_x) and total nitrogen compounds (N_x). N_x is the sum of $NO+NO_2+ NH_3$ i.e. total oxides of nitrogen including ammonia.

To measure N_x concentration, NO_2 and NH_3 are converted to NO in a quartz converter heated to 750°C. In a separate reaction, NO_x ($NO+NO_2$) is passed through a molybdenum converter heated to approximately 325°C.The resulting NH_3 concentration is determined by subtracting the N_x result from the NO_x .

The 9842 displays N_x (NH_3 + NO_2 + NO), NO_x (NO + NO_2) and NH_3 (N_x—NO_x) concentrations. Units can be displayed in ppm or ppb.

Features

- High temperature NH_3 converter uses Pt catalyst with a conversion efficiency of ≥ 92%.
- NO_2 molybdenum converter has less than 3% conversion for NH_3.
- NH_3 ranges 0-50 to 2000 ppb. (other ranges are available on request)
- EC9842/EC9842S analysers have independent N_X and NH_3 analogue output channels.
- Inbuilt data logger uses Flash ROM to store up to 175 days of 5 minute data averages.
    - Stored data can be retrieved via RS232, USB interface or the optional Ethernet connection and uploaded to a TCP/IP network.
    - Ethernet option facilitates data download from an analyser connected to the internet via a standard web interface. This feature also supports remote access to instrument parameters and the status screen.

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Specifications

Ranges Display:	Auto-ranging configurable 0-50 ppm/0-2000 ppb
Resolution:	0.0001ppm
Analogue Out:	0 - full scale from 0-50 ppm/0-2000 ppb with 0%, 5%, 10% offset. Auto-ranging between two user specified full-scale values. Zero offset on NO_X and N_X channels: $\pm$ 100 ppb
Noise (RMS):	0.25 ppb of concentration reading with Kalman filter active
Lower Detectable Limit:	1 ppb with Kalman filter active
Zero Drift:	0.2 ppb per ºC Time dependent at fixed temperature 24 hours: less than 1 ppb
Span Drift:	0.2% per ºC Time dependent at fixed temperature 24 hours: 0.5% of reading; 30 days: 1% of reading
Temperature/Pressure Compensation:	Temperature/Pressure compensation with selectable reference temperature of 0ºC, 20ºC, 25ºC at 101.3 kPa.
Lag Time	Less than 120 sec
Rise/Fall Time:	95% of final value less than 120 seconds after detection of change
Precision:	Better than 0.5% of reading with Kalman filter active
Linearity:	<1% of FSD
Sample Flow rate:	0.355 cc/min
Sample Pressure:	All readings compensated. A 5% change in pressure produces less than 1% change in reading
Temperature Range:	5ºC to 40ºC
Data Logging:	Supports internal data logging capability with storage up to 175 days of 5 minute data stored in flash memory.
Power:	99-132 VAC, 196-264 VAC 47-63 Hz
Converter:	120 VAC, 50/60 Hz, 360 VA, 240 VAC, 50/60 Hz, 180 VA
Weight:	Analyser: 27.7 kg (61 lbs), Converter 11kg (25 lbs)
Analogue Outputs:	Jumper selectable voltage output of 100mV, 1V, 5V, 10V, with menu selectable zero offset of 0, 5 or 10% or menu selectable current output 0-20mA, 2-20mA, 4-20mA
Digital Outputs:	Multidrop RS232 port shared between analysers for data, status and control. DB50 with discrete status, user controls and analogue output.
Converter Efficiency:	92%
Operating Temperature:	450-600ºC
Sample Gas Capacity:	0-50ppm (9842), 0-300ppm (9842S)
Flow rate:	0.120 to 0.355 litres/minute

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BRO0024 13-JUL-09

ISO/IEC 17025