

NEW

# S4 NEBULA

## TDLS Ammonia analyser



Tunable Diode Laser Spectroscopy (TDLS) based ammonia analyser for fast and accurate measurement in process & environmental monitoring, automotive and research applications.

### Flexible

- Low detection limit 0.2ppm
- Large dynamic range
- Quick warm-up time

### Easy to Use

- Contactless measurement
- Fast response
- Low maintenance

### Accurate

- High resolution
- Excellent gas selectivity
- Long term stability



**Non-tablet Version**  
available for system  
integrators

**SIGNAL**  
**GROUP**



# S4 NEBULA

## SPECIFICATIONS

### DETECTOR TYPE:

Tunable Diode Laser Spectroscopy

### RANGES:

Range A: 0 - 100ppm  
Range B: 10 000ppm

### DIMENSIONS:

19" X 133.3mm X 550mm  
Weight: 12 Kg

### POWER REQUIREMENTS:

110VAC - 250VAC or 24VDC.  
150W max..

### OUTPUTS:

0-10 volts  
RS232  
Ethernet (remote software is included)  
Optional 4-20 mA.

### OPTIONAL:

Ambient pressure compensation

### ACCURACY

± 2% FDS

### PRECISION:

0.2ppm with 60s averaging time

### CROSS SENSITIVITY:

<4% (15% vol. H<sub>2</sub>O)

### RESOLUTION:

0.1ppm

### T90 TIME:

2s @ gas flow rate of 3l/min

## Alternative: Ammonia measurement

Depending on the application, Signal Group can also offer a high efficiency converter of NH<sub>3</sub> to NO in conjunction with a heated chemiluminescence detector.

The Signal Group 410 Converter uses stainless steel to convert NH<sub>3</sub> and NO<sub>2</sub> to NO. This can be used with our S4 QUASAR Heated vacuum chemiluminescence NO<sub>x</sub> analyser to measure NH<sub>3</sub>+NO<sub>2</sub>+NO.

If this converter is then bypassed, the analyser can be used to measure NO, or ideally with a NO<sub>2</sub> converter to measure NO<sub>x</sub> (NO+NO<sub>2</sub>), and from this value for NH<sub>3</sub>, NO<sub>2</sub> and NO can all be derived. In this arrangement the selection of converter and bypass is operated via a switch on the front panel and the NH<sub>3</sub> value calculated manually. The design in stainless steel utilised in Signal Group' ammonia converters have an efficiency of at least 80%.



This compact 3U high 19" rack enclosure houses both the NH<sub>3</sub> to NO converter as well as a self contained heated filter and calibration gas selection valve.

## S4 QUASAR

### Heated vacuum chemiluminescence NO<sub>x</sub> analyser

#### Flexible

- Very high vacuum with dry vac pump or atmospheric pressure versions
- 'Hot' and 'Cold' version

#### Easy to use

- Totally automatic operation
- Wireless tablet
- Software suite for use over ethernet or RS232

#### Accurate

- Dual detector for continuous NO<sub>2</sub>, NO and NO<sub>x</sub> readings
- Trace PPM measurements standard
- High range % available



Authorised Representative:



www.signal-group.com

#### Signal Group Ltd

Standards House, Doman Road, Camberley, Surrey GU15 3DF  
United Kingdom

Tel: +44 (0)1276 682841 Email: sales@signal-group.com



ISO  
9001 : 2015  
REGISTERED

Cert No. 317012019

Specifications may be changed without notification