



www.innov-analysis.com

## ON LINE TOTAL SULPHUR GAS ANALYSER NOVASULF™ TG400

- **Measurement specific to Total Sulphur**  
No interference from other components
- **Wide range capability**  
Measures between 0-250ppb to 0-2000ppm
- **Low volume humidifier**  
Response times as low as 20 seconds
- **Single optical sensor**  
Eliminates temperature drift
- **No instrument air / N<sub>2</sub> required**  
Lowers running costs
- **Fibre optic link between housings**  
Reduces affects caused by ambient temperature swings
- **Up to- 2 detection modules per controller**  
Minimises capital investment
- **Multi-streaming capability**  
Will control up to 2 streams with one controller



### APPLICATIONS:

With its wide-ranging ability to measure Total Sulphur and/or H<sub>2</sub>S from % levels down to ppb levels, the TG400 range of Total Sulphur process analysers can be utilised in many process industries, including:

Ethylene / Propylene Plants	Reformer recycle gas
Offshore gas production	Fuel gas monitoring
Catalyst protection	Sour gas treatment plants



### PRINCIPLE OF OPERATION

The metered sample is mixed with a continuous flowing stream of hydrogen. The mixed gases are heated together in a reducing catalytic furnace at a temperature between 650°C and 1200°C, depending on application, where the sulphur compounds in the sample are converted to H<sub>2</sub>S.

Using the NOVASULF™ TG series colorimetric analyser, the resulting H<sub>2</sub>S is measured. Temperature (zero) drift is eliminated in this analyser by the use of a single optical sensor.

Since the patented catalytic element is self regenerating and due to the high hydrogenation and cracking properties of this element, there is absolutely no need for manual or automatic regeneration of the furnace. No carbon build-up occurs in normal operation, even in the case of unsaturated hydrocarbon applications such as ethylene, propylene, butadiene, where full catalytic conversion can be achieved at 650°C, compared to 1200°C with a conventional thermal cracking conversion. This new concept of catalytic conversion, coupled with the field-proven NOVASULF™ H<sub>2</sub>S analyser, makes the TG SERIES the most state-of-the-art process Total Sulphur Analyser available today.






www.innov-analysis.com

# ON LINE TOTAL SULPHUR GAS ANALYSER NOVASULF™ TG400

## SPECIFICATIONS

### ANALYSER:

Measurement principle	Conversion of sulphur compounds to hydrogen sulphide (reduction in presence of hydrogen). Colorimetric ( complies with ASTM D4045, D4084, D4323, D4468)
Software	C++ Windows XPe based, SIL 2 certified
Electronics	PC104, Intel Celeron 400MHZ microprocessor, 256Mb SDRAM, 512Mb compact flash for the operating system, application, customised parameters and calibration curves storage
Keypad	Accessible through flameproof box using <i>Touchsense™</i> technology
Measurement range	0-250 PPB/V up to 0-2000 PPM
Repeatability	± 1.5% full scale
Drift	Zero
Multiplexing	Up to 2 detection modules on one controller
Output	1 x 4-20mA per module (Modbus optional)
Alarms	1 x measurement alarm, 1 x instrument failure alarm. Additional optional alarms available
Area classification	ATEX approved,  Ex d [ia] IIC T4
Ambient temperature limits	-20°C to +40°C
Tape life	Up to 60 days depending on application.
Weather protection	IP66
Response time	Depends on application but typically 20secs for 0-10ppm range

### UTILITIES

Power	120 / 240 VAC 50 / 60 Hz
Power rating	40 VA
Process sample	Max pressure 1.5 – 4.0 bar, flow rate 0.15 to 0.3 l/min , 40°C max temp

### INSTALLATION

Process connections	1/8" OD inlet, 1/4" NPT female vent (to atmospheric vent)
Analyser Vent	To Atmospheric, no back pressure or vacuum allowed
Weight	30 Kg approx
Dimensions	700(w), 1400(h), 300(d) mm

### ORDERING INFORMATION:

- Application
- Range
- Process conditions
- Wall mounting or free standing frame
- Power supply

### REPRESENTED BY:

Rev 2011-02