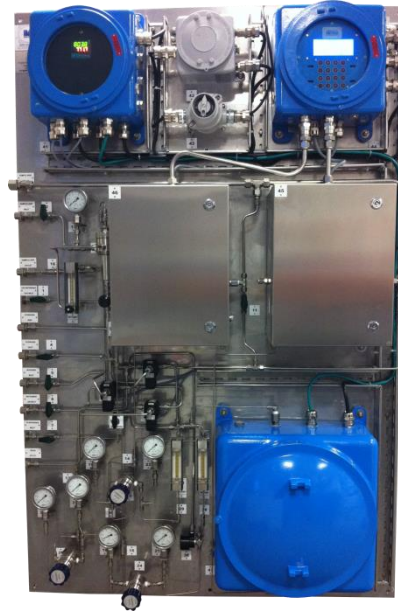




# DualSulf™ H<sub>2</sub>S/Total Sulphur Analyser

- **Separate channels for both H<sub>2</sub>S and total sulphur**  
Reduces capital expenditure
- **Wide range capability**  
Measures between 0-250ppb to 0-2000ppm
- **Simultaneous analysis for H<sub>2</sub>S and total sulphur**  
No loss of measurement
- **Self-regeneration of catalyst**  
Increases instrument availability
- **Hydrogen/process sample shut-down system**  
Increased safety
- **Response times as low as 20 seconds**  
Ideal for plant control
- **ATEX approved for hazardous areas**  
Suitable for onshore and offshore applications



## PRINCIPLE OF OPERATION

The metered process sample is split into two arms. One arm is directed to a detection module where the H<sub>2</sub>S is measured using interference free ASTM approved tapes. The gas is humidified and passed over a sensing tape which becomes stained by the H<sub>2</sub>S, the amount of staining being proportional to the H<sub>2</sub>S concentration. A focused LED and single photo detector system continuously measures the darkening stain and the analyser reports this as a linear 4-20mA output of the concentration of H<sub>2</sub>S.

The second arm is mixed with a continuous flowing stream of hydrogen. The mixed gases are heated together in a reducing catalytic furnace at a temperature between 650-1050°C (depending on application), where the sulphur compounds are converted to H<sub>2</sub>S. The resulting H<sub>2</sub>S is measured using interference free ASTM approved tapes.

Since the patented catalytic element is self-regenerating, there is no need for manual or automatic regeneration of the furnace. No carbon build-up occurs in normal operation, even in the presence of unsaturated hydrocarbons.

The local LCD display provides the current H<sub>2</sub>S / total S readings, alarms if any and failure indicators.



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**CONFIGURATION** The analyser consists of:

One Detection Module for measurement of H<sub>2</sub>S in a gas stream

One Conversion Module and one Detection Module to measure Total Sulphur in a gas stream

One Electronic Module for controlling all the above modules

**ANALYSER SPECIFICATIONS:**

Measurement principle	Conversion of sulphur compounds to H <sub>2</sub> S and subsequent measurement of the H <sub>2</sub> S using colorimetric techniques
Software	C++ Windows XPe based, SIL 2 certified (optional)
Electronics	PC104, AMD Geode LX800 processor 500MHz performance, 256Mb SDRAM, soldered on RAM for high reliability 512Mb industrial bootable compact flash card for the operating system, application, customised parameters and calibration curves storage
Keypad	Accessible through flameproof box using <i>Touchsense</i> <sup>™</sup> technology
Measurement range	Between 0-250ppb H <sub>2</sub> S to 0-2000ppm H <sub>2</sub> S/total sulphur
Repeatability	± 2% full scale
Output	2 x 4-20mA per module (Modbus optional)
Alarms	1 x measurement alarm, 1 x instrument failure alarm.
Area classification	ATEX approved,  Ex d [ia] IIC T4
Ambient temperature limits	-20°C to +40°C
Weather protection	IP66
Response time	Depends on application but typically 60secs for 0-10ppm range

**UTILITIES**

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

**INSTALLATION**

Process connections	½" OD inlet, ¼" NPT female vent (to atmospheric vent)
Analyser Vent	To Atmospheric, no back pressure or vacuum allowed
Weight	60 Kg approx.
Dimensions	1100(w), 1700(h), 550(d) mm

**ORDERING INFORMATION:**

**INNOV DISTRIBUTED & REPRESENTED BY:**



**Innov**  
Innov Analysis Systems



Application  
Ranges  
Process conditions  
Power supply

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INNOV: AN ISO 9001:2008 COMPANY

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- INNOV ANALYSIS SYSTEMS PROCESS ANALYSERS DISTRIBUTED BY MICHELL MINSTRUMENTS ARE BASED ON A OEM GLOBAL AGREEMENT

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