



NovaSulf II TM HG500 Series H₂S Analysers

- **Measurement specific to H₂S**
No interference from other components
- **Wide range capability**
Fully configurable between 0-50ppb to 0-100%
- **Single point calibration**
Low operational costs
- **Auto Validation system**
On board calibration system management
- **Integrated dilution software**
Low cost & improved efficiency
- **Multi-streaming capability**
Will control up to 4 streams with one controller
- **Optional On-board Web server**
Complete open communication.
- **On-board Data logging & Diag. Functions**
Complete storage capabilities.
- **Modbus TCP/RS485**
Open communication protocols
- **Density compensation (ppm/w) (option)**
4-20 mA Real Time density compensated
- **Dual-Range software (option)**
Dual ranges possibilities



APPLICATIONS:

With its wide-ranging ability to measure H₂S from % levels down to ppb levels, the HG500 range of H₂S process analysers can be utilised in many process industries, including:

Natural gas pipelines	Reformer recycle gas	Gas processing
Offshore gas production	Fuel gas monitoring	Biogas



PRINCIPLE OF OPERATION

A reel of paper tape impregnated with lead acetate is exposed to the gaseous process sample in the sample chamber. Hydrogen sulphide (H₂S) in the process sample reacts with the lead acetate, after humidification, to form lead sulphide (PbS), a brown compound that stains the tape. The higher the concentration of H₂S is the faster the darkness of the stain is. A bi-directional fibre optic measures the darkening stain and the analyser computes concentration of H₂S.

Incremental measurements are made on the same spot until saturation occurs, when the tape is advanced to a fresh portion of tape. This avoids the need for frequent zero or span calibrations.



SPECIFICATIONS ANALYSER:

Measurement principle	Colorimetric (complies with ASTM D4045, D4084, D4323, D4468)
Software	Embedded software
Keypad	Accessible through flameproof box using <i>Touchsense™</i> technology
Typical ranges	0-100 ppb/v, 0-1 ppm/v, 0-50 ppm/v, 0-1% Other ranges on request
Repeatability	± 1% full scale (with auto-cal/val option) or ± 1.5% full scale without auto-val option, ambient temperature stability ± 5°C
Output	1 x 4-20mA per detection module ; Modbus TCP/RS485
Alarms	1 x measurement alarm, 1 x instrument failure alarm. Other alarms available
Area classification	2014/34/UE Directive marking  II 2 (1) G D (*)  II 1 G D (**) ATEX / IECEx gas marking: Ex db [ia op is Ga] IIC T6 Gb (*) Ex h ia op is IIC T6 Ga (**) ATEX / IECEx dust marking: Ex tb [ia op is Da] IIIC T85°C Db (*) Ex h ia op is IIIC T85°C Da (**)
	Ambient temp.: -20°C to +55°C
	(*) Valid for electronic box (***) Valid for detection box
Tape life	Up to 90 days depending on application.
Weather protection	IP66
Response time	Depends on application but typically 20secs for 0-10ppm range
Auto validation	Optional

UTILITIES

Power	85 / 250 VAC 50 / 60 Hz, 40 VA
Process sample	Mini/Max pressure 0.5 – 4.0 barg, Mini/Max flow rate 100 to 300 cc/min , Mini/Max 0°C - 80°C temp
Nitrogen or Inst. Air	Dry, pressure 3.0 – 10.0 BarG, flow 100 to 500 cc/min (models 502 & 503), optional for model 501
Detection box purge	Optional – 2 L/min (typical)

INSTALLATION

Process connections	1/8" OD inlet, 1/4" NPT female vent (to atmospheric vent)
Analyser Vent	To atmosphere, no back pressure or vacuum allowed
Size	Weight 35 Kg approx., dimensions 378(w), 975(h), 235(d) mm

MODELS:

Model 501 for low range (up to 80ppm)
 Model 502 for mid-range (80 - 1000ppm)
 Model 503 for high range (1000ppm – 100%)

REPRESENTED BY: