

Gas detection in **GDS 2000**  
the new millennium



Gas Alert Systems



## Control Unit

This houses the sampling system, hydrocarbon detection unit and electronic control system (ECS).

As with the whole unit, every component of the sampling system has been selected with its MTBF, as well as its performance in mind, once again ensuring a low maintenance product. It is fully sour gas compatible – essential since H<sub>2</sub>S detection is available as an option, or easily installed as an upgrade.

The detector for Total Hydrocarbon content is of the latest design, offering the benefits of immunity to sensor poisoning and saturation effects, which have plagued earlier gas detection systems. The technology used is now well proven, and in this generation benefits from the use of surface mount components, improving reliability, stability and accuracy.

A state of the art microcontroller system lies at the heart of the ECS, providing the flexibility of features and user friendliness, which we all expect in a modern instrument. Setting of alarms or defaults is simply a matter of selecting them from the menu driven display, using the external keypad. As well as handling the routine tasks of data acquisition & display, alarm monitoring and information exchange with any external systems, the ECS constantly monitors the performance of major components. A failing pump diaphragm would, for example, bring up a clear text message to on-site personnel, whilst activating an alarm to gain their attention.



## Gas Trap

A floating gas trap, designed and manufactured by M<sup>c</sup>Combie Engineering Services, is used here, to ensure trouble free operation, without the need for constant supervision and adjustments as flow rates and header tank levels change. Its high and stable gas extraction efficiency ensure that the best possible sample is made available to the rest of the system.



## Rig Floor Display (Option)

A robust stainless steel enclosure houses this unit, which is Zone 1 certified – all parts being intrinsically safe. A clear back lit LCD display provides a constant read out of the Total Hydrocarbon content, in % methane equivalent. Clear bright LED lamps indicate system status and Low / High gas alarms. A built in sounder gives audible warning, (user selectable sound type).



Where H<sub>2</sub>S has been chosen as an option, a dual channel display is used.

## Specifications

### Control Unit

Dimensions	H 600 x W 600 x D 300
	Weight 40kg
Power Requirement	90-132 or 180-264 VAC, 47-440 Hz
Environmental	Stainless Steel external construction IP66 for use in safe areas Purged for use in Zone 1 or 2 hazardous areas EExpT3 IIB certified by DNV Sour gas compatible internals
Air Requirements	50 Scfh
Detection Mode	IR detection of total hydrocarbon content
Range	0-100% methane equivalent
Accuracy	+/- 3% of reading (+/- 1 digit)
Response Time	< 5 seconds 0-100%
Stability	+/- 1% overall for temperature and ageing
Calibration	Factory pre-set, no field adjustment necessary
Alarms	Low and High alarms user settable
Display Mode	Digital read out of % methane equivalent, visual and audible alarms at control unit

### Gas Trap

Air Requirement	14 Scfm max at normal rig supply pressures Air filter/ regulator and lubricator assy supplied
Installation	Various secondary designs may be supplied should lack of space etc. make use of the standard model difficult. These are tailored to maintain the same quantitative analysis
Speed control	An optional speed sensor is available for remote monitoring. Closed loop speed control is also possible.

### Remote Display for Drill Floor and other locations

Dimensions	H 240 x W 240 x D 150mm
Power requirement	None – supplied from control unit
Environmental	Stainless Steel external construction IP66 EExiaT6 IIC certified for hazardous areas
Display Mode	Back lit LCD display of % methane equivalent Visual and audible Low/High alarms and resets Optional ppm display of H <sub>2</sub> S

### Options

H <sub>2</sub> S	H <sub>2</sub> S detection available, built into control unit and fully interfaced to drill floor display and other parts of system
Chart Recorders	Hazardous or safe area , paperless or conventional are available
Customer Interface	Available as 4-20mA loop or serial link. Software can be supplied for Data Acquisition and Archiving, running under Windows95/98/NT on a safe area PC

The **GDS2000** is a **cost efficient**

**integrated solution** to the determination of

gas content in drilling mud returns. It is a **new**

**generation design**, with particular emphasis

on the **stand alone, low maintenance**

requirements for its use on drilling rigs today.



Gas Alert Systems Ltd

Tel: +44 (0) 1224 580767  
Fax: +44 (0) 1224 580768  
[www.gasinst.com](http://www.gasinst.com)  
Old Ford Road  
Aberdeen AB11 5RB  
SCOTLAND