MONICON

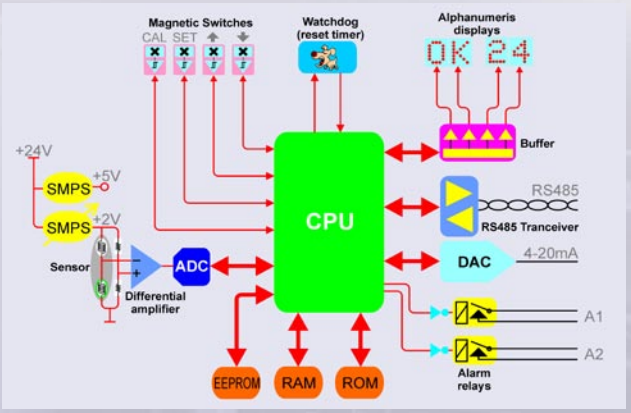
S500 Intelligent Gas Monitor

Features

- **Microprocessor based**
- **4-20mA Analogue Output**
- **Voltage free relay contacts**
- **RS485 digital interface**
- **Alphanumeric dot-matrix display**
- **“One Person” calibration**
- **Small size**
- **Certified ATEX EExd IIC T6**
- **Low power consumption**
- **Standalone operation**

The Monicon S500 is a high quality, self contained, Intelligent gas sensor that offers a host of sophisticated features to provide fast, reliable warnings against explosive concentrations of combustible gases.

The S500 will operate as a standalone instrument or in conjunction with a controller or a computer. The S500 is housed in an attractive, compact diameter enclosure and may be configured or calibrated by one person, without declassifying the hazardous area. The gas concentration is indicated on a 4-character alphanumeric display which also indicates instrument status. The S500 is fully user programmable and no physical adjustments are necessary during calibration as the on-board computer assists the calibration procedure. All user variables are stored in non-volatile memory (EEPROM) and retained indefinitely even during total power failure.



Typical Applications for the S500

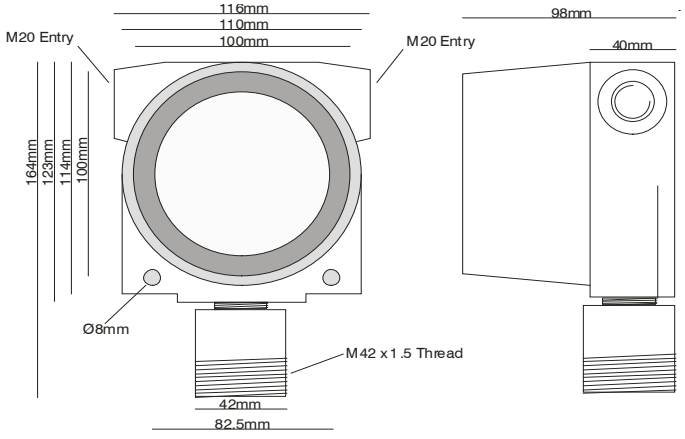
- **Oil refineries**
- **Chemical processing**
- **Offshore platforms**
- **Gas processing**
- **Oil and gas storage depots**
- **Gas pipelines**
- **Tank farms**
- **Laboratories**
- **Petrochemical industry**

The S500 uses the proven Monicon CGS500 thermocatalytic sensor combined with advanced, surface-mount microprocessor and firmware technology. Combustible gas oxidising on the surface of a thermocatalytic element causes an imbalance in a Whetstone bridge circuit. This imbalance is amplified to give a voltage proportional to the gas concentration. This voltage is then processed by the CPU. A watchdog circuit monitors the system operation and resets the CPU if a failure is detected.

The S500 is calibrated or user-programmed by activating the magnetic switches with a magnet. The operator is then guided through a variety of options by a user-friendly menu. The CPU constantly verifies system operation. In the unlikely event of a fault, the operator is alerted with a helpful diagnostic display.

S500 Specifications

Supply voltage	*Nominal 24Vdc (operates from 20Vdc to 35Vdc)*
Power consumption	*2W nominal, 2.3W maximum*
Circuit protection	*Electronic current limiter, 1.5A auto-reset*
Transient Protection	*PCB mounted, 3 Joule, Metal Oxide Varistor*
Analogue output	*4-20mA current source referenced to 0V*
Analogue output load	500 Ohms maximum
Operating temperature	*-18˚C to +60˚C*
Storage temperature	*-40˚C to +66˚C*
Humidity range	*10%RH to 90%RH (Non-condensing)*
Preconditioning Requirements	*Operational: 30 seconds, Specification: 60 minutes*
Full-Scale range	*0 - 100% LEL (Lower Explosive Limit)*
Response time (T90)	*Typically <15 seconds*
Drift, S.T.P. continuous duty in air	*<7% over three months (complies with EN50057)*
Linearity	*±5%*
Repeatability	*±2%*
Resolution	*1%*
Sensor life	*Typically 5-7 years*
Weight	*1.8Kg (including sensor)*
RS485 operating mode	*Slave mode, half duplex, polled*
Max. units on RS485 loop	*100*
RS485 comm parameters	*1200-N-8-1*
RS485 error checking	*1 byte checksum*
Unit interrogation time	*40mS*
Relay contacts	*3SPST, NO, 125V @ 0A5 (30V DC @ 1A) each for A1 & A2*
Option setting	*Digital setting (all options fitted as standard and user selectable)*
Alarm setting	*Digital setting (fully adjustable between 10% and 90% of full scale)*
Alarm types	*Energised/de-energised. Enrichment/deficiency. User selectable*
ATEX certification	*Eexd IIC T6 (Certificate number 02ATEX1151)*
Recommended calibration flow rate	*300mL per minute*
Mounting holes	*2 holes, diam 8mm, spaced 82.5mm*
User variable storage	*Non-volatile RAM (EEPROM)*
Electromagnetic Conformance (EMC)	*Complies with EN50081 and EN50082*
Cable gland entries	*2 entries, each M20 x 1.5*
Terminations	*PCB mounted terminal blocks to accept 1.5mm² cable*
Enclosure material	*Sand-cast, copper-free aluminium with blue epoxy finish.*
Literature supplied	*30-page detailed instruction manual with wiring diagram*



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