

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.

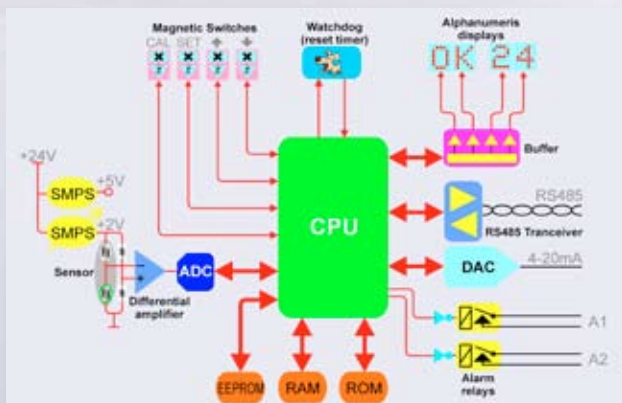


Typical Applications for the S500

- 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 Wheatstone 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	<i>Nominal 24Vdc (operates from 20Vdc to 35Vdc)</i>
Power consumption	<i>2W nominal, 2.3W maximum</i>
Circuit protection	<i>Electronic current limiter, 1.5A auto-reset</i>
Transient Protection	<i>PCB mounted, 3 Joule, Metal Oxide Varistor</i>
Analogue output	<i>4-20mA current source referenced to 0V</i>
Analogue output load	<i>500 Ohms maximum</i>
Operating temperature	<i>-18°C to +60°C</i>
Storage temperature	<i>-40°C to +66°C</i>
Humidity range	<i>5%RH to 95%RH (Non-condensing)</i>
Preconditioning Requirements	<i>Operational: 30 seconds, Specification: 60 minutes</i>
Full-Scale range	<i>0 - 100% LEL (Lower Explosive Limit)</i>
Response time (T90)	<i>Typically <15 seconds</i>
Drift, S.T.P. continuous duty in air	<i><7% over three months (complies with EN50057)</i>
Linearity	<i>±5%</i>
Repeatability	<i>±2%</i>
Resolution	<i>1%</i>
Sensor life	<i>Typically 5-7 years</i>
Weight	<i>1.8Kg (including sensor)</i>
RS485 operating mode	<i>Slave mode, half duplex, polled</i>
Max. units on RS485 loop	<i>100</i>
RS485 comm parameters	<i>1200-N-8-1</i>
RS485 error checking	<i>1 byte checksum</i>
Unit interrogation time	<i>40mS</i>
Relay contacts	<i>3SPST, NO, 125V @ 0A5 (30V DC @ 1A) each for A1 & A2</i>
Option setting	<i>Digital setting (all options fitted as standard and user selectable)</i>
Alarm setting	<i>Digital setting (fully adjustable between 10% and 90% of full scale)</i>
Alarm types	<i>Energised/de-energised. Enrichment/deficiency. User selectable</i>
ATEX certification	<i>Eexd IIC T6 (Certificate number 02ATEX1151)</i>
Recommended calibration flow rate	<i>300mL per minute</i>
Mounting holes	<i>2 holes, diam 8mm, spaced 82.5mm</i>
User variable storage	<i>Non-volatile RAM (EEPROM)</i>
Electromagnetic Conformance (EMC)	<i>Complies with EN50081 and EN50082</i>
Cable gland entries	<i>2 entries, each M20 x 1.5</i>
Terminations	<i>PCB mounted terminal blocks to accept 1.5mm² cable</i>
Enclosure material	<i>Sand-cast, copper-free aluminium with blue epoxy finish.</i>
Literature supplied	<i>30-page detailed instruction manual with wiring diagram</i>

