

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 II 2 G Ex d IIC T6
- Low power consumption
- Standalone operation

The Monicon S500L 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 S500L will operate as a standalone instrument or in conjunction with a controller or a computer. The S500L 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 S500L 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.

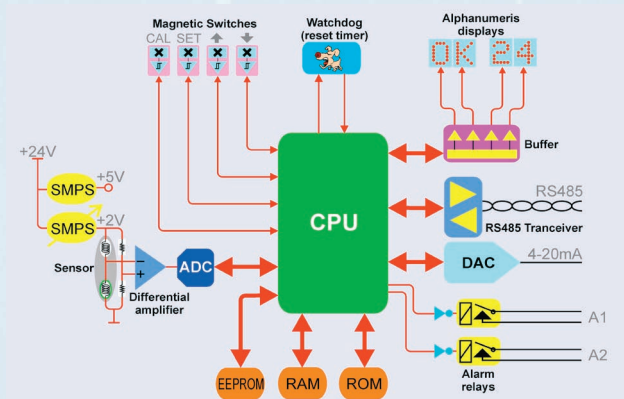


Typical Applications for the S500L

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

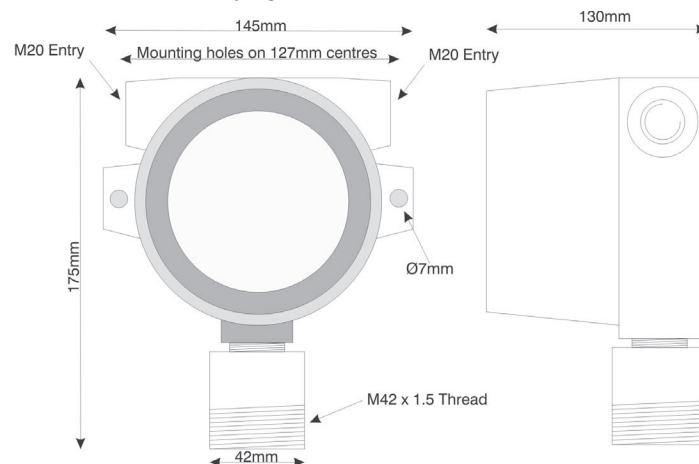
The S500L uses the proven Monicon CGS500 thermocatalytic sensor combined with advanced, surface-mount microprocessor and firmware technology. Combustible gas oxidising on the surface of a thermocatalytic element causes an imbalance in a Wheatstone bridge circuit. This imbalance is amplified to give a 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 S500L 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.



S500L 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	-20°C to +60°C
Storage temperature	-40°C to +66°C
Humidity range	5%RH to 95%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	SPST, 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	II 2 G Ex d IIC T6 Tamb -20°C to +60°C (Certificate number Baseefa08ATEX0056)
Recommended calibration flow rate	300mL per minute
Mounting holes	2 holes, diam 7mm, spaced 127mm
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 1.5mm ² cable
Enclosure material	Aluminium pressure die-casting, chromated with blue epoxy finish.
Literature supplied	30-page detailed instruction manual with wiring diagram



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