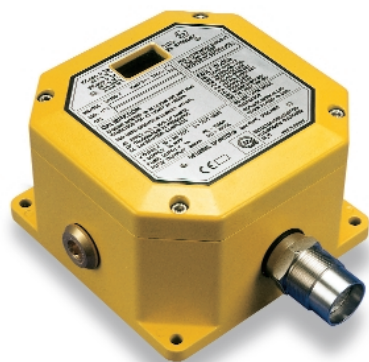




# Model S4100T

## H<sub>2</sub>S Addressable Transmitter



### Features

- RS-485 Dual MODBUS Serial Interface in addition to 4-20mA
- 18.5-35VDC Operation
- User changeable H<sub>2</sub>S range
- 3 Digit Display
- Single-point calibration
- Fully adjustable and configurable open-collector outputs

### Benefits

- Provides measurement, set-up and status of up to 247 nodes
- Allows longer cable runs and lower cost installation
- Convenient, flexible operation
- Displays over-scale readings and alarm status
- Easy, fast and simple one-man calibration
- Lower wiring cost and flexible operation

### Description

The General Monitors Model S4100T Hydrogen Sulphide Addressable Transmitter is a highly reliable, self contained, micro-processor-controlled single point monitor with integral 3 digit readout. It is designed to measure and display concentrations of H<sub>2</sub>S in three ranges: 0-20ppm, 0-50ppm or 0-100ppm, but will continue to display concentrations up to 120% FSD. The sensing element may be incorporated in the transmitter housing or remotely mounted at distances in excess of 600m.

The S4100T will record the number of successful calibrations and compute the sensor resistance in Kohms during calibration and store sensor condition data in a non-volatile memory, together with calibration and set-up parameters.

The S4100T's user interface is menu driven. In addition the instrument may be addressed via the Dual MODBUS RTU interface which is based on the RS-485 standard. The MODBUS output provides status, alarm, fault and other information for operation, trouble-shooting or configuration of the unit.

A1 and A2 Alarm Trip levels are user selectable in 1ppm increments from 1-19ppm for 0-20ppm, 5-45ppm for 0-50ppm or 10-95ppm for 0-100ppm measuring range. Calibration level is 50% of selected measuring range.

### Applications

- Refineries
- Drilling Platforms and Rigs
- Gas and Oil Production Platforms
- Mud Logging Operations
- Desulphurisation Facilities
- Heavy Water Nuclear Facilities
- Wastewater Treatment Plants
- Chemical Plants
- Well Head Sites
- Oil Recovery/Reinjection Sites



# MODEL S4100T

## Specification

**Application:** Hydrogen Sulphide Gas Monitor  
**Sensor Type:** Continuous diffusion, Thin-film MOS, adsorption type

**Measuring range:** \* 0-20ppm, 0-50ppm and 0-100ppm

**Measuring Resolution:** 1 ppm

**Over-range Indication:** Display flashes for readings greater than 99% FSD, but continues to display gas concentration up to 120%

**Calibration level:** 50% of selected measuring range

**A1 Trip level:** \* 1ppm increments 1-19ppm for 0-20ppm measuring range, default 5ppm  
5-45ppm for 0-50ppm measuring range, default 10ppm  
10-60ppm for 0-100ppm measuring range, default 25ppm

### A1 Open Collector

**Output:** \* Energised/de-energised and latching/non-latching

**A2 Trip level:** \* 1 ppm increments 1-19ppm for 0-20ppm measuring range, default 10ppm  
10-45ppm for 0-50ppm measuring range, default 25ppm  
10-95ppm for 0-100ppm measuring range, default 50ppm

### A2 Open Collector

**Output:** \* Energised/de-energised, latching/non-latching

### Fault Open Collector

**Output:** Normally energised

### Analogue Output during

**Calibration:** \* 0.0mA, 1.5mA or 2.0mA

### Serial Communications

**Interface:** Dual RS485 MODBUS, min. 2400, max. 19200 Baud  
EIA 485 Standard & Modicon

### Stability, Long

**Term:** ± 4ppm or 10% of applied gas whichever is greater (over 21 days)

### Accuracy

**(Linearity)** ± 2ppm or 10% of applied gas whichever is greater (10°C to 50°C)

**Response Time:** T50 < 30 seconds

### Approvals:

Hazardous area standards - ATEX II2G EEx em II T5 (-40°C to +55°C) & T4 (-40°C to +70°C)  
IP66,67.  
Approved for Russia and Kazakhstan  
Tested to EN45544

The Electronics and Detector are suitable for a SIL 3 Stand Alone, Non Voting application and have a Safe Fail Figure of >99%(SFFF)

\* User selectable

## Mechanical Specification

**Height excl. sensor:** 150mm (6")  
**Height incl. sensor:** 200mm (8")  
**Width:** 150mm (6")  
**Depth:** 95mm (3.75")  
**Weight incl. sensor:** 2.5kg (5.5 lbs)  
**Mounting holes:** 4 x 7mm (0.28") dia holes  
**Termination:** EExe II Terminal Block

## Environmental Specification

### Operating temperature range (continuous)

**min/max:** -50°C to +70°C

### Storage temperature range

**min/max:** -50°C to +85°C

### Relative humidity

**min/.max:** 5% to 100% non-condensing

### EMI/RFI

**Susceptibility:** Meets EN50082 @ 10V/m

### EMI/RFI

**Emission:** Meets EN50081 - 1/2

## Electrical Specification

### Supply voltage

**min/max:** 18.5VDC to 35VDC

### Electrical connection:

Screened and armoured 3 core cable

### Supply current consumption, including sensor typ/max:

140mA/200mA @ 24VDC,  
240mA/360mA @ 12VDC

### Supply fuse rating:

18VDC - 35VDC operation  
500mA Char 'T' PC ≥ 1500A

### Analogue output current range:

0-22 mA

### Analogue output termination resistance min/max (including total cable resistance):

0-750 ohms

### Analogue output open-circuit detection current min/max:

1mA - 22mA

### Analogue output fuse rating:

63mA Char 'F' PC ≥ 1500A

### Standard Configuration:

S4100T-15-0-1

*Specification subject to change without notice*

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