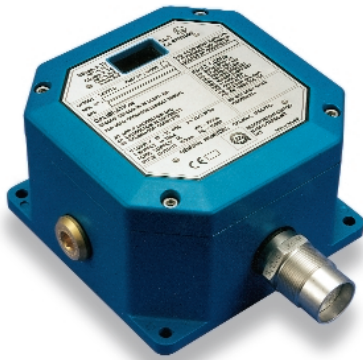




**GENERAL MONITORS**  
Protection for life.

# Model S4100C

## Combustible Gas Addressable Transmitter



### Features

- RS-485 Dual MODBUS Serial Output in addition to 4-20mA
- 10-35 VDC Operation
- Selectable calibration gas level
- 3 Digit display
- Fully adjustable alarm levels with open collector outputs

### Benefits

- Provides measurement, set-up and status of up to 247 nodes
- Allows longer cable runs and lower cost installation
- Calibration with non-standard gas concentrations possible
- Displays up to 120% LEL and alarm status
- Lower wiring costs and flexible operation

### Description

The General Monitors Model S4100C hydrocarbon gas Addressable Transmitter is a highly reliable, self-contained, microprocessor-controlled monitor with integral 3 digit readout. It is designed to measure and display concentrations of combustible gases in the range 0-100% LEL, but will continue to display concentrations up to 120% LEL. The sensing element may be incorporated in the transmitter housing or remotely mounted at distances in excess of 600m.

The S4100C will record the number of successful calibrations, compute the sensor output as a percentage of the new sensor reference output during calibration and store in non-volatile memory, along with calibration and set-up parameters.

The S4100C'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, troubleshooting or configuration of the unit. Calibration level, A1 and A2 Alarm Trip levels are user selectable. Calibration from 25% to 90% LEL in 1% LEL increments and A1 and A2 Alarms from 10% to 60% in 1% increments.

Calibration may be completed in less than 2 minutes. All parameters are tested by advanced software routines before being accepted.

### Applications

- Refineries
- Drilling and Production Platforms
- Fuel Loading Facilities
- Compressor Stations
- Oil Well Logging
- LNG/LPG Processing and Storage Facilities
- Wastewater Treatment Facilities
- Gas Turbines (remote high temperature sensor approved to 180°C)
- Solvent Vapours
- Chemical Plants



# MODEL S4100C

## Specification

**Application:** Combustible Gas Monitor  
**Sensor Type:** Continuous diffusion, low temperature catalytic bead

**Measuring Range:** 0-100% LEL  
**Measuring Resolution:** 1% LEL  
**Location:** Hazardous area  
**Overrange Indication:** Display flashes for readings greater than 99% LEL, but continues to display gas concentration up to 120% LEL

**Calibration Level: \*** 25% - 90% LEL in 1% LEL increments  
**A1 Trip level: \*** 10% - 60% LEL in 1% LEL increments  
**A1 Open Collector Outputs: \*** Energised/de-energised and Latching/non-latching  
**A2 Trip level: \*** 10% - 60% LEL in 1% increments  
**A2 Open Collector Output: \*** Energised/de-energised and Latching/non-latching  
**Fault Open Collector Output:** Normally energised  
**Analogue Output during calibration: \*** 0.0 mA, 1.5 mA or 2.0 mA  
**Serial Communications Interface:** Dual RS485 MODBUS, min. 2400, max. 19200 Baud. EIA 485 Standard & Modicon

**Zero Drift:** Less than 5% of full scale per year

**Accuracy (Linearity):** ± 5% LEL  
**Response Time (input step):** T50 < 10 seconds  
**Approvals:** Hazardous area standard - ATEX II2G- EEx em II T5 (-40°C to +55°C) & T4 (-40°C to +70°C) IP rating - IP66/67. Approved for Russia and Kazakhstan Complies with EN61779-1 EN61779-4

\* User selectable

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

## Mechanical Specification

**Height excl. sensor:** 150mm (6")  
**Height incl. sensor:** 200mm (8")  
**Width:** 150mm (6")  
**Depth:** 95mm (3.75")  
**Weight incl. sensor:** 2.5 kg (5.5lbs)  
**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:** -55°C to +85°C  
**Relative humidity min/max:** 5% to 100%, non-condensing  
**EMI/RFI Susceptibility:** Meets EN50082-2 @ 10V/m  
**EMI/RFI Emission:** Meets EN50081-1/2

## Electrical Specification

**Supply voltage min/max:** 10VDC/35VDC  
**Electrical connection:** Screened and armoured cable  
**Power Dissipation:** 6 watts  
**Supply current consumption, including sensor typ/max:** 250mA/310mA @ 24 VDC, 500mA/620mA @ 12 VDC  
**Supply fuse rating:** 18VDC - 35VDC operation, 500mA Char 'T' PC ≥ 1500A 10VDC- 35VDC operation, 1A Char 'T' PC ≥ 1500A  
**Analogue output Current Range:** 0 - 22mA  
**Analogue output termination resistance min/max:** (Including total cable resistance) 0-750 ohms  
**Analogue output open-circuit detection current range min/max:** 1mA - 22mA  
**Analogue output fuse rating:** 63mA Char 'F' PC ≥ 1500A

**Standard Configuration:** S4100C-12-0-1-1

*Specification subject to change without notice*

## Represented by:

## General Monitors Worldwide



[www.generalmonitors.com](http://www.generalmonitors.com)

### Lake Forest, CA

26776 Simpatica Circle  
 Lake Forest, California, 92630  
 Tel: +1-949-581-4464  
 Fax: +1-949-581-1151  
 email: [sales@generalmonitors.com](mailto:sales@generalmonitors.com)

### Houston, TX

9776 Whithorn Drive  
 Houston, Texas, 77095  
 Tel: +1-281-855-6000  
 Fax: +1-281-855-3290  
 email: [gmlhou@worldnet.att.net](mailto:gmlhou@worldnet.att.net)

### Ireland

Ballybrit Business Park  
 Galway  
 Republic of Ireland  
 Tel: +353-91-751175  
 Fax: +353-91-751317  
 email: [info@gmil.ie](mailto:info@gmil.ie)

### Singapore

No. 2 Kallang Pudding Road  
 #09-16 Mactech Building  
 Singapore 349307  
 Tel: +65-6748-3488  
 Fax: +65-6748-1911  
 email: [genmon@gmpacifica.com.sg](mailto:genmon@gmpacifica.com.sg)

### United Arab Emirates

P.O. Box 61209  
 Jebel Ali  
 Dubai  
 United Arab Emirates  
 Tel: +971-4-815751  
 Fax: +971-4-817927  
 email: [gmme@emirates.net.ae](mailto:gmme@emirates.net.ae)

### United Kingdom

Heather Close  
 Lyme Green Business Park  
 Macclesfield, Cheshire  
 United Kingdom, SK11 0LR  
 Tel: +44-1625-619583  
 Fax: +44-1625-619098  
 email: [info@generalmonitors.co.uk](mailto:info@generalmonitors.co.uk)