



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

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