Model **S4100C**

Combustible Gas Addressable Transmitter

General Monitors

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

Features & Benefits

- RS-485 dual Modbus serial output in addition to 4-20mA provides measurement, setup and status of up to 247 nodes.
- 10-35 VDC operation allows for longer cable runs and lower cost installation.
- Selectable calibration gas level offers non-standard gas concentration options.
- Three-digit display provides up to 120% LEL and alarm status.
- Fully adjustable alarm levels with open collector outputs lower wiring costs and offer 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.

S4100C records the number of successful calibrations, computes sensor output as a percentage of the new sensor reference output during calibration and stores information in non-volatile memory, along with calibration and setup parameters.

S4100C's user interface is menu-driven. In addition, the instrument may be addressed via the dual modbus RTU interface that 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 fewer than two minutes. All parameters are tested by advanced software routines before being accepted.

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General Monitors by MSA

Specification	
APPLICATION SENSOR TYPE	Combustible gas monitor 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
ANALOG 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 112G- 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 EN 60079-0:2009, EN 60079-7:2007, EN 60079-18:2009, EN 60079-29-1:2007

** User selectable*

Environmental Specification	
OPERATING TEMPERATURE RANGE (CONTINUOUS) MIN/MAX	-40°C to +70°C
STORAGE TEMPERATURE RANGE MIN/MAX	-50°C to +85°C
RELATIVE HUMIDITY MIN/MAX	10% to 95%, non-condensing
EMI/RFI SUSCEPTIBILITY	Meets relevant standards: EN 50270, EN 55011:ENV50204
EMI/RFI EMISSION	Meets relevant standards: EN 50270, EN 55011:ENV50204
Electrical Specification	
SUPPLY VOLTAGE MIN/MAX OPERATING	10VDC/35VDC
ELECTRICAL CONNECTION	Screened and armoured cable
POWER CONSUMPTION	6 watts (typ)
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
ANALOG OUTPUT CURRENT RANGE	0 - 22mA
ANALOG OUTPUT TERMINATION RESISTANCE MIN/MAX	(Including total cable resistance) 0-750 ohms
ANALOG OUTPUT OPEN-CIRCUIT DETECTION CURRENT RANGE MIN/MAX	1mA - 22mA
ANALOG OUTPUT FUSE RATING	63mA Char 'F' PC ≥ 1500A
STANDARD CONFIGURATION	**S4100C-12-0-1-1** 11159-1 sensor, no additional sensor housing, 2x 20 mm cable entries

Specifications subject to change without notice.

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