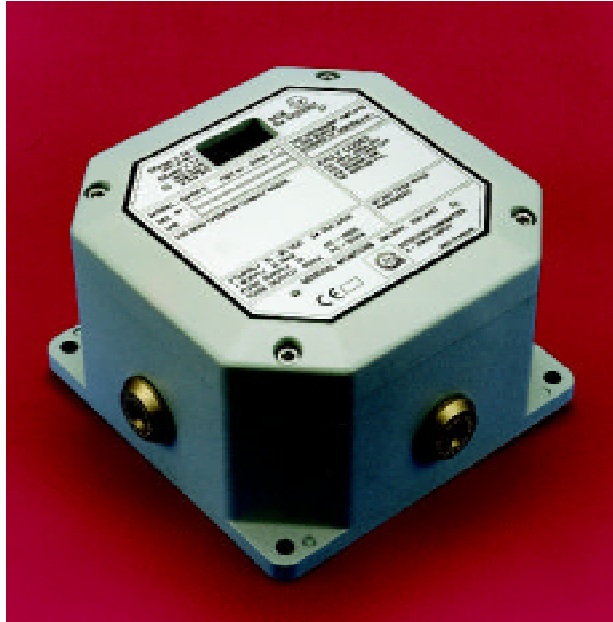


GENERAL MONITORS

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Model S4100E



4-20mA Input Addressable Transmitter

The General Monitors Model S4100E Addressable Transmitter is a highly reliable, self contained, microprocessor controlled 4-20mA Input monitor with integral 3 digit readout. The S4100E can be used with loop-powered sensors and provides loop power generated by the instrument.

The S4100E is designed to measure the 4-20mA Input current, process and display the measurement in one 58 ranges: 5.00 FSD to 1000 FSD. Ranges include oxygen deficiency.

The Addressable Transmitter'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 RS-485 output provides status, alarm, fault and other information for operation, trouble shooting or programming the unit.

A1 and A2 Alarm Trip levels are user selectable: 5% - 95% of measuring range (18.5% for Oxygen Deficiency). Measuring resolution 0.5% FSD.

Applications

- Adds 3-Digit display and digital contacts capability to the IR2100 Combustible Gas Monitor.
- Provides the variable display required when used with loop powered toxic gas sensors as well as providing digital output and Modbus communication capabilities.
- Affords a means of making other system field devices with 4-20mA output fully compatible with a General Monitors Addressable Fire and Gas system, e.g. Temperature Sensors.
- Flexibility of input current and high analogue output load resistance (750ohms) offers capability far outreaching conventional transmitters.

Features

- RS-485 Dual Modbus Serial Interface (Measurement, Set-up & Status)
- 10 - 35VDC Operation
- Open-collector outputs for Alarms and Fault
- Hardware & Software Watchdogs
- 3 Digit Display - flashes for readings greater than 99%
- User selectable display range: 0.00- 5.00 FSD to 0-1000 FSD
- Measuring Resolution 0.5% FSD
- User selectable latching/non-latching and energised/de-energised Alarms
- User selectable Alarm Trip levels
- Automatic fault diagnosis and Alarm Tripped indications
- Sensor loop powered or conventional
- Simple installation
- No adjustments

Specification

Application:
4-20mA Input Current Monitor

Measuring Range:
5.00 FSD to 0-1000 FSD, user selectable

Measuring Resolution:
0.5% FSD

Over-range Indication:
Display flashes for readings greater than 99% FSD

A1 Trip level:
User selectable
5% - 95% of measuring range, default 25% (18.5% for Oxygen Deficiency)

A1 Open Collector Output
User selectable Energised/De-energised and Latching/Non-latching

A2 Trip level
User Selectable
5% to 95% of measuring range, default 50% (17.5% for Oxygen Deficiency)

A2 Open Collector Output:
User selectable Energised/De-energised and Latching/Non-latching

Fault Open Collector Output:
Normally Energised

Analogue Output during Calibration:
User selectable 0.0 mA, 1.5 mA and 2.0 mA

Modbus Baud Rate:
User selectable 2400, 4800, 9600 and 19200 Baud

Modbus Format:
User selectable 1 / 2 stopbits, odd / even / no parity, 8 databits

Modbus Node Address:
1 - 247 for slave units, Address 0 is recognised as broadcast mode

Accuracy:
± 0.1mA (10°C to 50°C)

Response Time (input step):
T50 < 280 ms, T100 < 540ms

Approvals:
Hazardous Area Standards - EN50014, EN50019, EN50028
Code of Protection - EEx em II T5 (-50°C to + 55°C) & EEx em II T4 (-50°C to + 70°C)
Cable insulation rated to 110°C.
IP rating - IP66/67. CE Requirement - Fully compliant EIA 483 Standard & Modicom Protocol

Mechanical Specification

Height excl. Sensor: 150mm (6")
Width: 150mm (6")
Depth: 95mm (3.75")
Weight: 2.2kg (5 lbs)
Mounting holes: 4 x 7 mm (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%

EMI/RFI Susceptibility:
Meets EN50082 @ 10V/m

EMI/RFI Emission:
Meets EN50081-1/2

Electrical Specifications

Supply voltage min/max:
10 VDC / 35VDC

Supply current consumption, including loop power typ/max:
100mA/210mA @ 24 VDC, 200mA/420mA @ 12VDC

Supply fuse rating:
18VDC - 35VDC operation 500mA Char 'T' PC 1500A*
10VDC - 35VDC operation 1A Char 'T' PC 1500A*
* Must be increased to 4000A when used with IR2100 or Zero Switch

4-20mA Input current range:
0-22mA

4-20mA Input current abs max.
25mA

Analogue output current range:
0-22.0mA

Analogue output fuse rating:
63mA Char 'F' PC 1500A

Cable lengths at 24VDC assuming relay drivers not used.
For other voltages and with relays in use consult manual.

Conductor Size		Maximum Cable Length	
sq.mm	AWG	metres	feet
0.75	20	345	930
1.0	18	450	1460
1.5	16	690	1865
2.0	14	900	2960
2.5	12	1125	4580

Maximum 4-20mA Input Cable Length for various conductor sizes:

Conductor Size		Maximum Cable Length	
sq.mm	AWG	metres	feet
0.75	20	3000	8130
1.0	18	4000	12590
1.5	16	6000	16125
2.0	14	8000	25470
2.5	12	10000	39000

Represented by: