

Status Scientific Controls

gas detection technology...

STATUS



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FGD10A Series of Flameproof (Ex d) Gas Detectors



Infrared, for Hydrocarbons and CO2



FGD10A-M



Oxygen, Toxic & Pellistor

Certificate Numbers

IECEX SIR 08.0009X, Code Ex d IIC

SIRA 08ATEX1031X, Code Ex d IIC

Versions available for the detection of:-

- ❖ Hydrocarbon Gases - using temperature-compensated infrared sensors.
- ❖ Carbon Dioxide - using temperature-compensated infrared sensors.
- ❖ Oxygen or Toxic Gases - using electrochemical sensors.
- ❖ Flammable gases - using 'Pellistor' technology.

Features

- ❖ Competitively priced
- ❖ Available in pressure die cast aluminium or stainless steel grade 316
- ❖ LCD Display (FGD10A) and OLED display (FGD10A-M)
- ❖ Relay outputs for 2 alarm levels and fault
- ❖ Non-intrusive calibration and configuration via a magnetic pen
- ❖ Compact and lightweight
- ❖ Optional weather guard
- ❖ Plug-in replaceable gas sensors
- ❖ Wide power supply range of 8 to 24 volts dc
- ❖ Industry standard 4 to 20 mA, RS232 outputs (FGD10A), RS485 Modbus (FGD10A-M)
- ❖ Non-display version available - FGD10B (see separate data sheet TD18/022)

Description

The FGD10A is an explosion protected ATEX and IECEX certified fixed gas detector for use in potentially explosive atmospheres.

It comprises an instrument enclosure with two cable gland entries. The enclosure contains the connection terminals, electronics, display window and gas sensor which is located in the base of the enclosure or screwed to the base in a stainless steel housing. The unit may be optionally fitted with a protective weather guard as shown in the photograph opposite.

Magnetically operated switches allow the unit to be calibrated through the display window using the magnetic pen without the need to remove the cover from the unit.

Three control relays are fitted to provide Alarm Level 1, Alarm Level 2 and Fault outputs via individual changeover contacts. In addition to the 4 to 20 mA analogue, an RS 232 communications output is also provided for FGD10A and RS485 Modbus communications output for FGD10A-M.

Refer to our website for details of order codes and gas sensor ranges.

Specification

Materials	:	Instrument Body - Aluminium Pressure Die Casting or Stainless Steel 316 Sensor Insert - Stainless Steel Grade 316 IR Sensor Housing - Stainless Steel Grade 303 (Grade 316 available) Magnetic Pen - Stainless Steel Grade 316 Optional Weatherguard - Stainless Steel Grade 304 & Nylon 66
Cable entries	:	2 x 20mm or ½” NPT or ¾” NPT
Weights	:	FGD10A Oxygen, Toxic, Pellistor (excluding weatherguard) - 1.75Kg FGD10A Infrared 2Kg FGD10A-M (excluding weather guard) - 1.5Kg Magnetic Pen - 60 grams Weatherguard - 225 grams
Gas types	:	Flammable, Oxygen or Toxic,
Input voltage	:	8 to 24 volts dc
Input power	:	5 Watts maximum
Internal fuse	:	1 Amp antisurge 'Nanofuse'
Relay contact rating	:	3 Amps, 300 Volts ac
Analogue output	:	4 to 20mA (10 bit resolution)
RS232 output	:	Communications with PC at 19200 baud (FGD10A)
RS485 output	:	Communications with PC at 9600 baud (FGD10A-M)
Sensor types	:	NDIR Infrared, Electrochemical or Pellistor
Measurement range	:	Dependant upon sensor type
Response time	:	Flammable Gases - typically T ₉₀ < 15 sec (CH ₄) Toxic and Oxygen sensor response times vary according to the sensor type.
Measurement resolution	:	Flammable gases - 1% LEL or 1% volume. Toxic gases - 0.1ppm for FSD < 50ppm, 1ppm for FSD > 50ppm. Oxygen - 0.1% volume.
IP rating	:	Enclosure IP68, Sensor IP65
Display	:	4 Digit, 7 segment liquid crystal (FGD10A) 160x128 graphics OLED display (FGD10A-M)
Keypad	:	4-Button magnetically operated
Software	:	Software configuration provided via display and multifunction keypad
Operating temperature	:	- 20 to +60 °C
Humidity range	:	0 to 95% RH non-condensing
Operating pressure	:	Atmospheric + or - 10%

Hazardous Area Certification

Certificate numbers	:	IECEX SIR 08.0009X, Code Ex d IIC SIRA 08ATEX1031X, Code Ex d IIC
Standards	:	IEC 60079-0 : 2004 (Edition 4) IEC 60079-1 : 2007-04 (Edition 6) EN 60079-0:2018 EN 60079-1:2014 EN50270:2006
Temperature Codes	:	T4 (Ta -20 to +60 deg C) T5 (Ta -20 to +50 deg C) - not applicable to infrared versions. T6 (Ta -20 to +35 deg C) - not applicable to infrared versions.
Zones	:	1 & 2

Available gas types and sensor ranges.

Gas Type	Sensor Type	Ranges Available	Resolution
Ammonia	Electrochemical	0-1000ppm	<12ppm
Carbon Dioxide	Infrared	0-500ppm 0-1000ppm 0-2000ppm 0-5000ppm 0-10000ppm 0-2% 0-5% 0-100%	10ppm 0.1% 1%
Carbon Monoxide	Electrochemical	0-50ppm 0-100ppm 0-1000ppm	1ppm <12ppm
Flammable	Infrared & Pellistor	0-100%LEL 0-100%Vol	1%LEL 1%Vol
Hydrogen Sulphide	Electrochemical	0-50ppm 0-100ppm 0-200ppm	1ppm
Oxygen	Electrochemical	0-21%	0.1%

* Specifications are valid at 20°C, 50% RH and 1013 mBar.

Designed and Manufactured in the UK
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