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Status Scientific Controls
Gas Detection Technology

STATUS SSC SCIENTIFIC

FGD10A Flameproof (Ex d) Gas Detector
For Detection of Oxygen, Toxic and Flammable (Hydrocarbon) Gases

Features

- 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
- Optional weather guard
- Plug-in replaceable gas sensors
- Wide power supply range of 12 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)

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

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.

The unit may be optionally fitted with a protective weather guard.

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.

Available gas types & sensor ranges

GAS TYPE	SENSOR TECH	RANGES AVAILABLE
Ammonia	Electrochemical	0-1000ppm
Carbon Dioxide	Infrared	0-500ppm 0-1000ppm 0-2000ppm 0-5000ppm 0-10000ppm 0-2% 0-5% 0-100%
Carbon Monoxide	Electrochemical	0-50ppm 0-100ppm 0-1000ppm
Flammable	Infrared & Pellistor	0-100% LEL 0-100% Vol
Hydrogen Sulphide	Electrochemical	0-50ppm 0-100ppm 0-200ppm
Oxygen	Electrochemical	0-21%

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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	12 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 RS485 output	Communications with PC at 19200 baud (FGD10A) Communications with PC at 9600 baud (FGD10A-M)
Sensor types	NDIR Infrared, Electrochemical or Pellistor
Measurement range	Dependant upon sensor type
Response time	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	Varies with sensor type, typically - 20 to +40 ^oC
Humidity range	0 to 95% RH non-condensing
Dimensions	190mm x 145mm x 127mm

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 ^oC to +60 ^oC) T5 (Ta -20 ^oC to +50 ^oC) - not applicable to infrared versions. T6 (Ta -20 ^oC to +35 ^oC) - not applicable to infrared versions.
Zones	1 & 2

Accessories

Sampling Adaptors

Sampling adaptors are available for applying calibration gases to the detector and for permanent installations where the sample gas can flow over the sensor.

Weather Guard

An optional weather guard is available for installations exposed to the atmosphere or contaminants and reduces the possibility of water or other contaminants entering into the gas sensor thereby improving the overall reliability of the gas detector in harsh environments

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