FGD10B Flameproof (Ex db) Gas Detector

For Detection of Oxygen, Toxic and Flammable (Hydrocarbon) Gases

DYNAMENT
INFRARED GAS SENSORS
a **DwyerOmega** brand

- Compact and lightweight (160 x 125 x 127mm)
- Available in pressure die cast aluminium or stainless steel grade 316
- Plug-in replaceable gas sensors
- Wide power supply range of 8 to 24 volts dc
- Industry standard 4 to 20 mA
- Optional weather guard
- Display version with control relays available – FGD10A (see separate data sheet TD18/020)

Description

The FGD10B is an ATEX and IECEx certified explosion protected fixed gas detector for hazardous areas. It allows calibration via internal ZERO and SPAN buttons or an optional handheld configuration unit. A protective weather guard is also available for added protection.

Specifications

Material	Instrument Body – Aluminium Pressure Die Casting or Stainless Steel 316 Sensor Insert – Stainless Steel Grade 316 GSH4 Sensor Housing – Stainless Steel Grade 303 Optional Weatherguard – Stainless Steel Grade 304 & Nylon 66
Cable entries	2 x 20mm or ½" NPT
Weights	FGD10B Oxygen, Toxic, Pellistor – 1 Kg FGD10B Infrared – 1.25Kg Weatherguard – 225 grams
Gas types	Flammable, Oxygen or Toxic
Input voltage	8 to 24 volts dc
Input power	5 Watts maximum
Internal fuse	340mA surface mount 'Multifuse', Bourns, MF-MSMF014-2
Analogue output	4 to 20mA (10 bit resolution)
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. EC Toxic gases - 0.1ppm for FSD < 50ppm, 1-12ppm for FSD 50-1000ppm. CO_2 - 10ppm for FSD < 10000ppm, 0.1% for FSD $\leq$ 5%, 1% for FSD > 5%. Oxygen - 0.1% volume
IP rating	Enclosure IP68, Sensor IP65
Operating temperature	Varies with sensor type, typically - 20 to +50^{0}C
Humidity range	Oxygen - 0 to 95% RH non-condensing Toxic - 15 to 90% RH non-condensing typically Infrared - 0 to 95% RH non-condensing Pellistor - 15 to 90% RH non-condensing typically
Operating pressure	Atmospheric + or - 10%
Dimensions	160mm x 125mm x 127mm

Available gas types & sensor ranges

Gas Type	Sensor Tech	Ranges Available
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% 0-25%

Hazardous Area Certification

Certificate numbers	CSAE 23UKEX1031X IECEx SIR 08.0009X Sira 08ATEX1031X
Standards	EN IEC 60079-0:2018 EN 60079-1:2014 IEC 60079-1:2014 Edition:7.0 IEC 60079-1:2007 Edition:6
Code	II 2 G Ex db IIC T6...T4 Gb
Temperature codes	T4 (Ta -20 ^{0}C to +60 ^{0}C) T5 (Ta -20 ^{0}C to +50 ^{0}C) - not applicable to GSH4 versions. T6 (Ta -20 ^{0}C to +35 ^{0}C) - not applicable to GSH4 versions
Zones	1 & 2

Accessories

The FGD10B can be calibrated via a purpose designed keypad. The keypad allows the user to view the current gas level, calibrate the sensor with the ability to change the span level and calibrate the 4 to 20 mA loop.

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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