THORNE & DERRICK INTERNATIONAL
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CROWCON
Detecting Gas Saving Lives

Crowcon F-Gas Detector

Fixed Point Gas Detectors

- Long-life IR sensor
- Highly reliable
- Low maintenance costs

F-Gas Detector

Refrigerant Gas and SF_6 Detector

When lives and property are at risk and you need gas detection equipment that is totally reliable, you need Crowcon. For over 40 years Crowcon has been developing and manufacturing high quality products with a reputation for reliability and technical innovation.

Crowcon fixed detectors have been proven in many arduous environments, including oil and gas exploration, water treatment, steel and chemical plants. The Crowcon F-Gas detector provides dependable detection of refrigerant gases and sulphur hexafluoride in plant-room or switchgear applications.

Choosing the fixed gas detector for your needs

The Crowcon F-Gas detector is a high quality infrared (IR) fixed-point detector that delivers dependable detection of freon gases. Available for detecting a range of different refrigerant gases and also sulphur hexafluoride (SF_6), the Crowcon F-Gas detector can be connected to any control system that accepts an analogue signal.

The Crowcon F-Gas detector utilises a high quality IR sensor specifically calibrated to detect the F-Gases commonly in use. The F-Gas detector operates from 24Vdc and provides a 4-20mA signal (the output can also be set to 0-20mA, 0-2V, 0-5V or 0-10Vdc).

Housed within an IP54 rugged enclosure, the F-Gas detector is suitable for use in non-hazardous areas such as plant rooms or switchgear rooms.

In addition to protecting personnel from toxic gas risks, installing the F-Gas detector also helps to reduce the risk of leakage of powerful 'greenhouse gases' into the environment.

Accurate and reliable

Superior IR sensor technology	Provides fast, stable and dependable performance with low maintenance and long life. Unlike cheaper semi-conductor type sensors the F-Gas detector is not affected by other types of gas or changes in temperature or humidity.

Simple and versatile

LED indicators	Tri-coloured LED's indicate the operating status of the detector, and in combination with the function keys, facilitate simple adjustments such as zero and calibration.
Choice of output signals	The analogue output signal can be set as 4-20mA, 0-20mA, 0-2V, 0-5V or 0-10Vdc for compatibility with virtually any control system.

Long life with low maintenance costs

No consumable parts	Provides many years of service with no requirement to replace the sensor or any other components.
Simple to test	Requires a bi-annual gas check only. Re-calibration is only necessary if readings are out of range.
IP54 rated enclosure	Provides good protection from dust and water ingress in indoor environments.

Safety and compliance

F-Gas regulations compatible	Enables F-Gas suppliers and users to comply with the mandatory European F-Gas regulations.
Rapid gas leak detection	Provides an early warning that gas is leaking and thus maintains system efficiency and reduces expensive gas replacement costs.
Environmental protection	Helps to reduce the risk of leakage of powerful 'greenhouse gases' into the environment.

F-Gas detector accessories

Calibration adaptor
Enables calibration gas to be applied to the sensor.

Calibration gas and regulators
Freon gases and SF_6 are available to enable sensor checking and calibration.

Please see the back page for full technical specifications.

F-Gas detector specifications:

Size	151 x 80 x 60mm (5.9 x 3.1 x 2.4ins) (Total size with cable gland: 151mm x 102mm x 60mm)
Weight	0.25kg (8.8oz)
Ingress protection	IP54
Measuring principle	Non-dispersive infrared (NDIR)
Range	0-1000ppm
Resolution	1ppm
Power	12-28Vdc
Analogue output	4-20mA current source (can be set to 0-20mA, 0-2V, 0-5V or 0-10V)
Operating temperature	-20 to +40^{0}C
Humidity	0-95% RH non-condensing
Repeatability	+/- 1% FSD
Linearity	+/- 2% FSD
Start up time	<120 seconds
Response time	30 seconds approximately
Pressure	800-1200mBar
Approvals	EMC: EN50270

This product is designed for non-hazardous area operation only.

Refrigerant gas options:

Pure fluids:

Fluids	Formula	Name	Measuring Range
HCFC 22 (R22)	$CHClF_2$	Chlorodifluoromethane	1000ppm
HCFC 123 (R123)	$CHCl_2CF_3$	2,2-Dichloro-1,1,1-trifluoroethane	1000ppm
HFC 125 (R125)	C_2HF_5	Pentafluoroethane	1000ppm
HFC 134a (R134a)	CH_2FCF_3	1,1,1,2-Tetrafluoroethane	1000ppm

Blended fluids used in refrigeration/ air conditioning market:

Refrigerant	Components	Measuring Range
R404a	R143a/125/134a	1000ppm
R407a	R32/125/134a	1000ppm
R407c	R32/125/134a	1000ppm
R410a	R32/125	1000ppm
R507	R143a/125	1000ppm

Speciality fluid used for vehicle refrigeration:

Fluid	Formula	Name	Measuring Range
R1234yf	$CH_2{=}CFCF_3$	Tetrafluropropene	1000ppm

Insulating gas:

Gas	Name	Measuring Range
SF_6	Sulphur hexaflouride	1000ppm

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