



THORNE &
DERRICK
INTERNATIONAL

Thorne & Derrick
+44 (0) 191 410 4292
www.heatingandprocess.com

IRmax

Fixed Point Gas Detector

- Simple to install
- Low maintenance
- Low cost of ownership
- Fail-safe
- Low power
- Local or remote display options



IRmax

Infrared Hydrocarbon Gas Detector



IRmax is a compact, low power and highly rugged infrared gas detector, that delivers rapid, fail safe detection of methane, butane, propane and many other hydrocarbon gases and vapours.

Simple to install

Compact size	Requires less space, effort and time to install
Various installation options	Can be wall mounted, fitted to a 50mm (2 inch) pipe or connected to an auxiliary junction box using a choice of mounting accessories
Industry standard 4-20mA output	
Options for HART communications and RS-485 Modbus	IRmax is compatible with virtually any control system

Easy maintenance

Remote non-intrusive calibration	The Remote Display can be mounted up to 30 metres from the IRmax and test gas can be applied without requiring direct access to the detector
Hand-held Intrinsically Safe (I.S) calibrator	IRmax detectors fitted with an I.S barrier module can be checked and calibrated using an I.S handheld display
STAY-CLIR optics	Prevents condensation on optical components

Low cost of ownership

Low power	IRmax only consumes 1W of power, enabling small power supplies and battery back up systems to be used
Automatic optical obscuration monitoring	
Annual proof-test interval	Minimal routine maintenance keeps costs to a minimum

Gases and ranges

Linearisation			Range
Acetone (C ₃ H ₆ O)	Pentane (C ₅ H ₁₂)	Paraxylene (C ₈ H ₁₀)	0-100% LEL
Butane (C ₄ H ₁₀)	Petrol vapour	Ethane (C ₂ H ₆)	
Ethanol (C ₂ H ₅ OH)	Propane (C ₃ H ₈)	Ethylene dichloride (EDC)	
Ethylene (C ₂ H ₄)	Propylene (C ₃ H ₆)	Cyclohexane (C ₆ H ₁₂)	
Ethyl acetate (C ₄ H ₈ O ₂)	THF (Tetrahydrofuran) (C ₄ H ₈ O)	Butadiene (C ₄ H ₆)	
Heptane (C ₇ H ₁₆)	Xylene (C ₈ H ₁₀)	Toluene (C ₇ H ₈)	
Hexane (C ₆ H ₁₄)	Methyl acetate (C ₃ H ₆ O ₂)	Butene (C ₄ H ₈)	
LPG	Propylacetate (C ₅ H ₁₀ O ₂)	Methyl Ethyl Ketone (MEK)	
Methanol (CH ₃ OH)	Hexene (C ₆ H ₁₂)	Isopropanol (IPA)	
Methane (CH ₄)			

Other ranges & calibrations may be available, please contact Crowcon if your requirement is not shown.

Disclaimer

Every effort has been made to ensure the accuracy of this document at the time of printing. In accordance with the company's policy of continued product improvement Crowcon Detection Instruments Limited reserves the right to make product changes without notice. The products are routinely subject to a programme of testing which may result in some changes in the characteristics quoted. Technical information contained in this document or otherwise provided by Crowcon are based upon records, tests, or experience that the company believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed.

Many factors beyond Crowcon Detection Instruments' control and uniquely within user's knowledge and control can affect the use and performance of a Crowcon product in a particular application.

As the products may be used by the client in circumstances beyond the knowledge and control of Crowcon Detection Instruments Limited, we cannot determine the relevance of these to an individual customer's application. It is the clients' sole responsibility to carry out the necessary tests to evaluate the usefulness of the products and review all applicable regulations and standards to ensure their safety of operation in a particular application.

Specification

Size	IRmax	158 x 75 x 57mm (6.2 x 2.9 x 2.3ins)		
	IRmax with Fixed IR display	230 x 75 x 57mm (9 x 2.9 x 2.3ins)		
	IRmax with IS Barrier Module	261 x 75 x 57mm (2.3 x 2.9 x 2.3ins)		
	Remote IR Display	60 x 54 x 48mm (2.3 x 2.1 x 1.9ins)		
Weight	IRmax	1.58kg (3.5lbs)		
	IRmax with Fixed IR Display	2kg (4.4lbs)		
	IRmax with IS Barrier Module	2.4kg (5.3lbs)		
	Remote IR Display	0.2kg (0.4lbs)		
Enclosure material	316 stainless steel			
Description	Dual-beam infrared hydrocarbon gas detector with optional display			
Ingress protection	IP66			
Connection	One M20 or 1/2" NPT cable gland entry			
Power	12-30 Vdc. < 1W			
Electrical output	4-20mA current sink or source			
	2mA dirty optics warning (at 75% obscuration, configurable)			
	0mA detector fault signal (at 90% obscuration, configurable)			
	RS-485 Modbus (optional), HART 7 (optional)			
IR display	4- digit LCD with back-light			
	Function buttons can be de-activated if required			
	Terminals for connecting HART communicators (optional function)			
	LED	Red: Gas detected	Amber: IRmax fault	Green: Healthy
	Display functions	Gas level, obscuration level, supply voltage, signal current		
	Password protected functions	Zero, calibrate, ramp output, trim zero mA, trim span mA		
Operating temperature	-40°C to +75°C (-40°F to 167°F)			
Humidity	0 to 95% RH non-condensing			
Pressure range	Atmospheric +/- 10%			
Repeatability	+/- 2% FSD			
Zero drift	+/- 2% FSD per year maximum			
Response time	T90 < 4 seconds			
Functional safety	IEC61508, EN50402 SIL2			
Approvals ATEX & IECEx	IRmax without Display	Ex II 2 GD Ex db IIC T6 Gb (Tamb -40°C ≤ Ta ≤ +50°C) Ex II 2 GD Ex db IIC T4 Gb (Tamb -40°C ≤ Ta ≤ +75°C) Ex II 2 GD Ex tb IIIC T135°C Db (Tamb -40°C ≤ Ta ≤ +75°C)		
	IRmax with Remote and Handheld Display	Ex II 2 GD Ex db ia IIC T4 Gb (Tamb -40°C ≤ Ta ≤ +75°C) Ex II 2 GD Ex tb ia IIIC T135°C Db (Tamb -40°C ≤ Ta ≤ +75°C)		
	IRmax with Fixed Display	EX II 2G Ex db ia IIC T4 Gb (Tamb -40°C ≤ Ta ≤ +75°C)		
EMC Compliance	EN50270, FCC CFR47 Part 15B, ICES-003			
Accuracy	+/- 2% of reading			
Linearity	+/- 3% of full-scale			

Check www.crowcon.com for updates.