

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

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

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## 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		

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