Detective+

Temporary Area Monitor

Rugged tripod design

Loud and clear alarms

Network ready

Detective+

Transportable Multigas Area Monitor

Detective+ is a multi-gas temporary area monitor for use in turnaround/shutdown procedures, hotwork maintenance, confined space entry work and many other utility, construction and oil and gas industry applications. Go solo or link together using Detective Net or cables to form a perimeter, Detective+ gives a loud and clear alarm providing effective warning of gas hazards. The rugged, water and impact resistant design make Detective+ the ideal choice for your transportable gas detection needs.

Versatile and user friendly

Infrared sensors available	Allows sampling of highly flammable gas levels and carbon dioxide Unaffected by poisoning and has a very fast response time
Built in pump option	Provides sampling versatility
Built-in display	Provides clear information, allows identification of gas hazard

Rugged, tripod design

Raised sensor apertures	Prevents water ingress
Triple leg design	Increases unit physical visibility and is the perfect height to allow 360 gas inlet
Folding leg option	Allows stacking for easier storage and transportation
IP65 specifications	Provides excellent sensor protection for use in challenging environments

Loud and clear alarms

Network ready	Detective NET 25 units: 25 units can be networked together forming effective perimeter defence. When one alarms, all units on the network alarm. Detective+ with cables 12 units
Intelligent & flexible	Units on the network can be placed up to 100m from each other. When in alarm the unit which triggered the alarm flashes faster than the others
Audible and visible confidence blip	Provides guarantee to the user that the unit is functioning properly and that they are protected
High visibilty	Vivid red LED clusters combine with an extra loud siren to give very clear alarm notifications
Multiple beacons	Ensures 360° visibility

Gases and ranges

Gas	Range	Typical alarms
Flammable gas	0-100 LEL	20% LEL
Oxygen (O_2)	0-25%	19% & 23%
Hydrogen sulphide (H_2S)	0-50ppm	10ppm
Carbon monoxide (CO)	0-500ppm	30ppm
Sulphur dioxide (SO_2)	0-10ppm	2ppm
Chlorine (Cl_2)[+]	0-5ppm	0.5ppm
Nitrogen dioxide (NO_2)	0-10ppm	2ppm
Phosphine (PH_3)	0-5ppm	0.5ppm
Ammonia (NH_3)	0-50ppm	25ppm
Ammonia (NH_3)	0-1000ppm	25ppm
Hydrogen (non-flammable levels)	0-2000ppm	n/a
Hydrogen cyanide (HCN)	0-25ppm	10ppm
Hydrogen chloride (HCl)*/[+]	0-10ppm	5ppm
Chlorine dioxide (ClO_2)[+]	0-1ppm	0.1ppm
Hydrogen fluoride (HF)[+]	0-10ppm	1ppm
Ethylene oxide (C_2H_4O)*	0-10ppm	5ppm
Volatile organic*/[+]	0-100ppm	n/a

Required ranges and alarms may vary by country and application and these can be configured as required.

* One biased sensor per Detective+

[+] Reactive gas, care required during sampling, contact Crowcon for details.

Infrared sensors

Infrared (IR) sensors for flammable gas can be supplied as a single range, 0-100% LEL, utilising a single display channel, or as a dual range, 0-100% LEL/0-100% volume, which then occupies two display channels.

Carbon dioxide sensors are supplied as 0-5% volume. Only one IR sensor can be fitted, and IR sensors can only be used in combination with oxygen and toxic sensors.

Gas	Range	Typical alarms
Flammable gas	0-100% LEL	20% LEL
Flammable gas	0-100% v/v	None
Available for methane, propane, butane or ethylene		
Carbon dioxide (CO_2)	0 to 5% v/v	0.5 and 1.5% v/v

Detective Net 433

Detective Net is a wireless module that can replace the interconnecting cable for Detective and Detective+ allowing for 12 devices to be networked wirelessly.

For full specification please visit our website.

Specification

Size	640 x 455 x 455mm (25.2 x 17.9 x 17.9ins)
Weight	7.5kg (19lbs)
Visible Alarms	Three large, top mounted red LED clusters and a single red LED on front panel. Alarm mode: LED clusters flash in quick succession. LED clusters of linked Detectives repeating the alarm, flash slower than LED lights on those Detectives sensing the hazard. Normal working: Slow flashing green LED Battery low: Rapid flashing green LED
Audible Alarms	Wailing, omni-direction siren, 104 dBA at 1m
Display	High contrast LCD with backlight. Values and units for up to 4 gases displayed simultaneously at current, TWA or peak levels, low battery, real time and elapsed time calibration and configuration data also displayed
Battery	Standard 6V, 7.2Ah, sealed lead acid battery pack Optional 6V, 12Ah high capacity pack
Battery Life	Up to 36 hours with 7.2Ah battery Up to 60 hours with optional 12A battery
Typical response times	Methane 20s, oxygen 10s, typical toxic gas 20s, IR 20s
Expected sensor life	Flammable 5 years, toxic 3 years (typical), oxygen 2 years minimum, IR>5 years
Operating temperature range	-20°C to + 50°C (-4°F to 122°F)*
Humidity	15–95% RH non-condensing**
Approvals	Europe: ATEX II 2G Ex ib d IIC T4 (Tamb -20°C to + 50°C) International: Ex ib d IIC T4 (Tamb -20°C to + 50°C)
Standards	EN 50014: 1997 + A1 & A2; EN 50018: 2000: EN 55011: 1998; DD ENV 50204:1999:EN 61010-1: 2001; EN50020: 2002: IEC 60079-0: 2000, IEC 60079-1: 2003: IEC 60079-11: 1999
Ingress protection	IP65
EMC	EN 50270, FCC CFR47 Part 15, Directive 2014/30/EU EN50270
PC interface	Via RS232 lead. Portables PC software can be used to set alarms, clock, data logging interval and password, manages data logging giving graphical display of instrument log file and allows to export to spreadsheet
Calibration	Quick calibration using internal menu command, Portables PC
Accessories	Baffle plate, interconnecting leads, RS232 communications lead, Detective NET
Sampling	Internal electric sampling pump option, manual aspiration
Linked detectives	With cable connection, up to 12 units can be linked to provide perimeter or area monitoring With Detective NET , up to 25 units can be linked to provide perimeter or area monitoring

* Toxic and oxygen sensors are not rated for continuous operation at high temperatures.
   Consult Crowcon if operating temperatures are likely to exceed 40°C (104°F) for extended periods.
** Toxic and oxygen sensors RH specifications vary, consult Crowcon for specific operating humidities.

Detective Net radio frequency 433 MHz certified in:

Austria	Estonia	Ireland	Poland	Switzerland
Belgium	Finland	Italy	Portugal	Singapore
Bulgaria	France	Latvia	Romania	Trinidad and Tobago
Cyprus	Germany	Lithuania	Slovakia	United Arab Emirates
Czech Republic	Greece	Malta	Slovenia	
Denmark	Hungary	Netherlands	Spain	
UK	Iceland	Norway	Sweden	

CROWCON
Detecting Gas Saving Lives

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