

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

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|----------------------------|--|
| 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

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|-------------------------|---|
| 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

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|-------------------------------------|---|
| 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 visibility | 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 ₂ S) | 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 ₂ H ₄ O) [*] | 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 Detectiv+

⁺ 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:

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|----------------|---------|-------------|----------|----------------------|
| 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 | |