



Personal Monitor for oxygen, toxic and flammable gases

Tetra

A personal monitor you can trust

Designed using the latest technologies, Tetra is simple to use, reliable, robust and fully weather protected. Single button operation and intelligent sensor modules guarantee simplicity and flexibility of use. The shockproof internal construction and self checking software assure reliable gas detection in the most arduous of environments.

Reliable

- True single button operation – the most user friendly product available
- Li-ion rechargeable battery gives full 12 hours operation
- Easy to read backlit graphic display for gas readings and diagnostics
- Simple indications of operating status can be viewed at a glance
- 30 day countdown warning of calibration due date

Flexible

- Fully interchangeable intelligent sensor modules
- Available with internal electric sampling pump
- Rechargeable and alkaline battery versions available

Robust

- Tough plastic construction with flexible internal assembly to resist shock and vibration
- Overmoulded rubber for added protection
- Water and dust resistant to IP65

Assurance

- 94dBA audible alarm
- Piercingly bright dual red/blue visual alarm
- Internal vibrating alarm
- Two levels of instantaneous alarm
- Time weighted average alarm for 8 hours and 15 minute averages

Tetra

Specification

Weight	498g (1.1lb)
Dimensions	122 x 128 x 57mm (4¾ x 5 x 2½ inches) rechargeable 134 x 128 x 57mm (5¼ x 5 x 2½ inches) non-rechargeable

Typical ranges and alarms

Gas	Range	Alarm UK	Alarm US
Flammable	0-100%LEL	20%LEL	10%LEL
Oxygen	0-25%	19/23%	19.5/23.5%
Hydrogen Sulphide	0-100ppm	5ppm	10ppm
Carbon Monoxide	0-500ppm	30ppm	35ppm
Sulphur Dioxide	0-20ppm	1ppm	2ppm
Chlorine	0-20ppm	0.5ppm	0.5ppm
Nitrogen Dioxide	0-20ppm	1ppm	3ppm
Ammonia	0-100ppm	25ppm	25ppm
Ozone	0-1ppm	0.1ppm	0.1ppm
Hydrogen	0-1000ppm	N/A	N/A
Hydrogen Cyanide	0-25ppm	5ppm	5ppm
Hydrogen Fluoride	0-10ppm	1ppm	1ppm
Phosphine	0-5ppm	0.2ppm	0.2ppm
Fluorine	0-1ppm	0.1ppm	0.1ppm
Phosgene	0-1ppm	0.1ppm	0.1ppm

Required ranges and alarms may vary by country and application and these can be configured as required. Each gas channel can have two instantaneous alarm levels set. Toxic channels also have Time Weighted Average alarms. Flammable gas calibration is available for methane, propane, butane, pentane, hydrogen and ethylene as standard. Tetra is also available in non-certified CO₂ option replacing the flammable sensor.

Typical Response Times Flammable 20 s, Toxic gas 20 s, Oxygen 10 s

Audible Alarms	94dB @ 30cm (1ft) Multiple alarm sounds allow selection of distinctive tones for different alarm levels
Visible Alarms	Dual colour red/blue flashing LED pair in gas hazard
Vibrating Alarm	Internal vibrating alarm
Display	128 x 64 graphic LCD with backlight, giving simultaneous display for all gas channels. Graphic symbols for battery (with proportional indication of remaining operation time), pump operation, healthy operation or fault warning. Start up indication when calibration is due within 30 days, calibration overdue, or service required.
Display Modes	Normal display for real time gas concentration levels. Display recall for Peak readings and TWA
Datalogging	Timed datalogging: 50 hours at 1-minute data rate Event logging: >1500 events
Battery Types	Rechargeable Li-ion battery Non rechargeable pack 3xAA Alkaline cells
Operating Time	Based on pumped four gas unit with flammable sensor Rechargeable 12 hours minimum.
Sampling	Hand aspirator or internal electric sampling pump

Operating Temp. Range -20°C to +55°C (-4°F to +131°F)
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.

Humidity	20-90% RH
Ingress Protection	IP65
Approval Codes	ATEX II 2G EEx iad IIC T4 (T _{amb} -20°C to +55°C) BASEEFA 03ATEX0193
USA & Canada	CSA UL/cUL Class I Division 1 Groups A, B, C, D.
Safety Standards	EN60079-0, EN60079-11, EN60079-1, 94/9/EC UL913, CSA22.2, 152
Operation Standards	EN50270, EN50271, IEC61508, EN61779, EN45544
PC Interface	IR link for RS232 connection. USB/RS232 Converter available. Portables PC software package provides full configuration control, calibration and access to the Data and Event files.
Calibration	Tetra can be routinely calibrated manually using the menu, using Portables PC Software or automatically using Checkbox IMH.
Accessories	Tetra is supplied with an integral belt/pocket clip. Pumped units are supplied with a sampling kit (flowplate and 2m(6ft) tubing)
Optional accessories	Universal harness plate, shoulder strap, chest harness, carry case, aspirator assembly (flow plate bulb and 2m/6ft tubing), fixed and telescopic sample probes, and an in-line water trap.

Plug in charging power supplies are available in UK, European or US style. In line versions for 110V or 230V AC have flying lead for fitment of suitable mains plug. A vehicle lighter socket charger is available.

Gas Test Kit

The Gas Test Kit provides a simple and convenient means of carrying out either a pre-use (bump) test to verify that a Tetra is working within acceptable limits, or a simultaneous four gas calibration for flammable gas, oxygen, carbon monoxide and hydrogen sulphide. (Calibration gas supplied separately)

The kit includes a special 'Trigger' regulator, a magnet and a clip-on flow plate configured either for diffusion or pumped units, all supplied in a convenient carry case. Separate kits are available for diffusion and pumped instruments.

Swiping the magnet past the Tetra display initiates a special test mode, then the gas is applied. The Tetra evaluates the response to the gas components against values stored in its memory and if it is within defined limits the Tetra signals a successful test. A test failure brings up an advisory calibration warning.

If the user performs a manually selected zero prior to test initiation Tetra offers the option of running a simultaneous four-gas calibration rather than just a verification test.

