Tetra

Intrinsically Safe Personal Multigas Monitor

Tetra, is a unique multigas monitor for the detection of flammable gases, oxygen and toxic gases; Tetra offers flexibility, assurance, robustness and real value for money. Intrinsically safe, Tetra is the only portable gas detector with embedded software designed to the exacting requirements of IEC 61508-3 guaranteeing reliable and dependable operation.

- Up to four gases measured
- Digital interchangeable i-module sensors for full flexibility
- Loud 90dBA audible alarm with selectable tones Unique dual colour red/blue visual alarm
- Built in vibrating alarm as standard
- Rugged and robust, IP65 ingress protectio
- Simultaneous 4 gas display with automatic backlight
- Peak mode operation
- TWA reading recall
- Data & Event logging
- Simple IR interface to PC

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.
Tetra, a personal monitor you can trust.

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

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 (@30cm)
- 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

Specification

Weight	498g (1.1lb)	
Dimensions	122x128x57mm (43/4 x5x21/2 inches) rechargeable	
	134x128x57mm (51/4 x5x21/2 inches) non-rechargeable	

Gas	Range	Alarm UK/ ROW	Alarm US
Flammable	0-100%LEL	20%LEL	10%LEL
Oxygen	0-25%	19/23.5%	19.5/23.5%
Hydrogen Sulphide	0-50ppm	5ppm	10ppm
Carbon Monoxide	0-500ppm	30ppm	35ppm
Sulphur Dioxide	0-20ppm	2ppm	2ppm
Chlorine	0-20ppm	0.5ppm	0.5ppm
Nitrogen Dioxide	0-10ppm	3ppm	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 Chloride	0-10ppm	1ppm	1ppm
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
Ethylene oxide	0-10ppm	1ppm	1ppm
Nitric oxide	0-100ppm	25ppm	50ppm

Other ranges and alarm levels are available on request. 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.

Typical response times	Flammable 20 s, Toxic gas 20 s, Oxygen 10s
Audible Alarms	94dBA @ 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	128x64 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 Mode	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	Rechargable Li-ion battery Non rechargeable pack 3xAA Alkaline cells
Operating time	Based on pumped four gas unit with flammable sensor Rechargeable 12 hours minimum Non-rechargeable 11 hours minimum
Sampling	Hand aspirator or internal electric sampling pump

Operating temp. range	-20oC to +55oC (-4oF to +131oF)
Humidity	0-99% RH
Ingress Protection	IP65
Approval Codes Europe:	ATEX II 2G EEx iad IIC T4 (Tamb -20oC to +55oC) BASEEFA 03ATEX0193
USA	UL/cUL Class I Division 1 Groups A, B, C, D.
Safety Standards Europe	EN50014, EN50020, EN50018, 94/9/EC
USA & Canada	UL913, CSA22.2, 152
Operation Standards	EN50270, EN50271, IEC61508, EN61779
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.
Autocalibrator	Tetra can be routinely calibrated using the Castle Autocalibrator II in conjunction with the Portables PC software.
Accessories	Tetra is supplied with an integral belt/pocket clip. Pumped units are supplied with a sampling kit (flowplate and 2m(6ft) tubing)

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.

Optional accessories include: 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.

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.

The kit includes a 34 litre gas bottle containing a multigas mix with 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