

Flammable Gas (LEL) Monitoring

Flammable gas monitors should be considered where combustion is possible. When a chemical reaction between oxygen and another substance that results in a rapid release of energy mainly as heat. Therefore, O₂ monitoring should also be considered

Gas detectors should monitor the limits of flammability. The lower explosive limit (LEL) of a gas is the concentration up to a point where insufficient gas is available to produce an explosion. The upper explosive limit (UEL) of a gas concentration is value that a gas is too rich to ignite.



Figure 1-Multizone - Touch Screen & Sensing Unit

Series Overview

Britannia's solution for ammonia monitoring and alarming is the LELSAFE Series. Whether it be a standalone single zone sensor, or up to a 32 multi-zone system a solution is available.

The range of LELSAFE units allows a bespoke and cost-effective solution depending on your requirements.

LELSAFE Standalone– Standalone, single sensor oxygen monitor with advanced options

LELSAFE Multi-zone– Multi-zone touch screen system, up to 32 sensor flammable gas (LEL) monitors with advanced features

Sensor Details

The LEL sensor used is an electro-catalytic cell that continuously operates and monitors by diffusion. The cell has an infinite life span but requires routine calibration to maintain accuracy.



Figure 2 – LELSAFE Standalone w/ Display option

LELSAFE Series

Models	Sensors	Range/Accuracy	Features
Standalone	1 x built in Sensor	<ul style="list-style-type: none"> • Range: 0-100% LEL of Flammable gas. • Long term zero drift: smaller \pm 5% LEL/ Year • Long term span drift: smaller \pm 2% LEL/ Year 	<ul style="list-style-type: none"> • Power & Status Indicators • Internal Sounder • Supplied with 1 remote alarm (sounder & xenon) • LCD Display (<i>Optional</i>) • Analogue Output (<i>Optional</i>) • Additional Single Relay (<i>Optional</i>) • Wireless Transceiver (<i>Optional</i>)
Multi-Zone	Up to 32 sensing units	As Standalone	<ul style="list-style-type: none"> • + 7-inch coloured touch screen • + Dual Relay • + user interaction is very intuitive • + up to 32 remote zones • + Sensor measurement data is recorded • + Graphing of data is available • + User levels can be assigned that are password protected. • + Audit trail is recorded • + Up to 8 configurable relays typically used for. <ul style="list-style-type: none"> ○ Supply Tank Shut Off feature ○ Supply Tank Override ○ Fan control ○ Activate Klaxons/ additional remote alarms • Connect to Building Management Systems

Additional Hardware Options

Hardware Option	Usage
LCD Display	LCD Display installed on the sensing unit to show the gas concentration
Analogue Output	Output to monitor the gas concentration on third party equipment
Additional Single Relay	Additional Relay to control other items of equipment
Battery Back-up	Allows the unit to stay operational if the power supply is interrupted
Remote Alarms & Klaxons	Additional remote alarms to warn of any alarms <i>(all entrances should have a remote alarm)</i>
Remote alarms with Displays	Inclusion of a display to the remote alarm to indicate gas measurement
PIR	An infrared (IR) light sensor that once triggered by objects in its field of view can activate/ deactivate. <ul style="list-style-type: none"> • Fans (Ventilation & Extraction) • Remote Alarms & Klaxons • Door Locks
Emergency buttons/ key switches	An emergency button or key switch that once operated can activate/ deactivate. <ul style="list-style-type: none"> • Fans (Ventilation & Extraction) • Remote Alarms & Klaxons • Door Locks
Ventilation + Extraction	Wall mounted or Inline fans to provide ventilation to remove hazardous gases or deliver fresh air.
Wireless Hardware	Additional wireless hardware that allows the sensing zones and remote alarms to be installed without long cable runs.
Perspex stand	Stand to house portable units
Secondary Touch Screen	Touch screens with restricted functionality, that display the gas concentration
Britannia's Wireless Monitoring System	Wireless monitoring system to allow thorough logging and analysis for the gas measuring data.

For any site-specific requirements, please contact Britannia.



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The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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