

LCD 4

Lightweight Chemical Detector
and Threat Management System



The LCD 4 provides advanced warnings of gas and vapour chemical warfare agents (CWA) and toxic industrial chemicals (TIC) detected and identified at or below immediately dangerous to life and health (IDLH) levels. It is also able to determine the agent or type, class, concentration and dosage of chemical exposure to support an informed response and proactive risk management.

The versatility of the LCD 4 allows the same system to be body-worn, hand-held, vehicle mounted, or deployed for temporary or fixed site continuous detection.



LCD 4 takes less than 90 seconds to become mission available, will run for up to 96 hours on commercial AA batteries and holds at least 72 hours of detection data. The LCD 4 can be rapidly shut down at any time without detriment to the equipment.

Tough and rugged enough to with-stand a wide range of environmental and climatic conditions without degradation, it can be operated in temperatures between -32°C and +52°C (-25.6°F and 120.2°F).

The LCD 4 is the latest version of the widely deployed LCD series, which detection performance, reliability and ease of use has led most major NATO military government customers trusting it to provide timely warning and protection from threat chemicals. Over 150,000 systems are currently in operational service around the world today.

The LCD 4 is a highly versatile, easy to use, laboratory validated and operationally proven life-saving chemical detector.

MISSION APPLICATIONS

- Body-worn personal protection
- Perimeter monitoring / Area protection
- Customs checks at ports and borders
- Inspecting vehicles, people or places
- Vehicle protection
- Cargo screening
- Intercepting narcotics
- Military operations
- First responders

Capabilities

- Protection from chemical vapour, solid or liquid threats
- Allows continuous early warning
- Ruggedised to MILStd 810G for extreme environmental conditions
- Fixed point and vehicle mounted detection
- Detection and identification of chemical threats
- Integrates with external networks and communications systems
- Compatible with CBRN threat modelling and incident management software

Proven Technology

Smiths Detection's world leading Ion Mobility Spectrometry (IMS) technology is trusted across the globe to provide reliable, robust and sensitive chemical detection. It is independently accredited by aviation and transport security regulators and OPCW accredited laboratories.

Smiths Detection's IMS technology offers mobility, flexibility, and agility in the detection and identification of a wide range of chemical threats, providing cumulative exposure levels and sensitivity down to miosis thresholds.



Optional Capability Extensions

Hardware

The LCD 4 capabilities can be enhanced by several extensions which increase its detection capabilities, address various mission requirements and threat scenarios. All extensions have been developed using market-leading technology and architecture designed for interoperability.

LCD 4 XID Adapter: Trace solid and liquid threat detection

The XID enables repeatable detection of explosives, narcotics (including fentanyl), and fourth-generation A-series (novichok) agents. Using a probe with a disposable swab, trace residues are collected from surfaces and inserted into the device. The swab is then heated, vaporising the sample for analysis by the LCD 4 housed within the XID — delivering fast, accurate results in the field.



Remote Detection Capability

Providing mechanical and electrical interfaces needed to integrate the LCD 4 into fixed and mobile locations and manned or unmanned platforms or to operate remotely at fixed locations. The external power and communications connectivity makes the LCD 4 ideally suited for protecting critical, static locations such as government buildings, mass transit systems or stadiums. It also enables integration into vehicle management systems, robots, UASs and UGVs. Compatible with vehicle (8 – 32 volts, mil standard 1275) and mains (110 – 240 volts) power supplies. Data integration options include RS422, RS232, USB, and analogue remote alarm contacts. If currently in use with the previous LCD 3.3 version, the remote detection capability will be compatible with the new LCD 4.





Wireless Connectivity Capability

The LCD 4 can be configured to connect wirelessly to the user's preferred communications system whilst worn, vehicle mounted or remotely deployed. It enables the rapid deployment of a remote network of LCD 4s which can be integrated into any C2 system to enhance situational awareness and early warning. The LCD 4's small, lightweight design retains the portability and flexibility that allow low burden transportation to the monitoring location.

LCD Remote Manager (LRM): Monitoring and control

Remote monitoring solutions can replicate the LCD 4 display for remote monitoring and control of units via wired or wireless connection. They allow the user to remotely monitor LCD 4 status, replicating audio and visual alerts, and give detector alert information such as agent identity and bar level. The user can acknowledge alerts and change detector settings, for example detection mode. Our solutions can be based on a Windows enabled systems and be deployed on ruggedised wireless devices.



Software

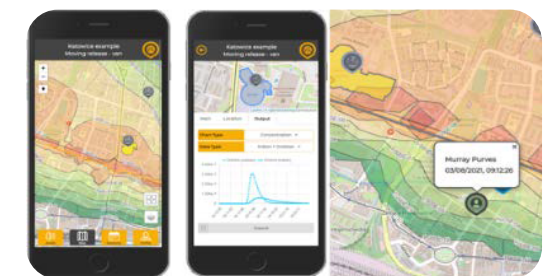
Link sensors and other data sources into a network, applying data fusion and analytics to quickly deliver accurate, high fidelity situational awareness.

CBRN Threat Management Solution

Developed by Smiths Detection and Riskaware, who are specialists in hazard modelling solutions, the UrbanAware threat management solution provides integrated situational awareness that allows early warning, modelling and incident management software for CBRN threats.

The capability of UrbanAware to simulate and model CBRN threat scenarios assists with contingency planning, consequence risk management and training and rehearsal exercises. When combined with sensor data, it allows the rapid identification of the source of the hazard as well as real-time prediction of threat dispersion based on the real-world environment. It is a highly accurate aide to incident response management and allows the incident commander to dynamically manage the threat to personnel and quickly recover from it.

The advanced modelling techniques used within UrbanAware account for real-world terrain and climactic conditions allowing commanders to precisely understand moving hazards and the consequences of CBRN attacks or ROTA (releases other than attack) on personnel and local population.



Smiths Detection works alongside defence and security agencies to ensure the highest standards of product performance, availability, and operational support throughout the lifecycle of our advanced detection technologies. Our products are built with cutting-edge technology and designed for ease of use, but to achieve full performance in the field, correct operation and maintenance are essential.

To support this, we offer a complete training solution for all our detection products. Trusted globally, our training programmes are delivered by certified Smiths Detection instructors and developed by subject matter experts and education specialists. Designed to meet the needs of operational, technical, engineering, and security personnel, training combines technical knowledge with real-world application, ensuring teams are equipped to meet the demands of evolving threat environments.

Courses are offered in flexible formats to suit operational needs, including classroom-based training, virtual instruction, and self-paced online modules. Sessions can be delivered on-site or at a Smiths Detection facility, with small class sizes that promote discussion and interactivity. Each programme is tailored to suit both individual and organisational requirements, supporting performance, safety, and long-term mission success.

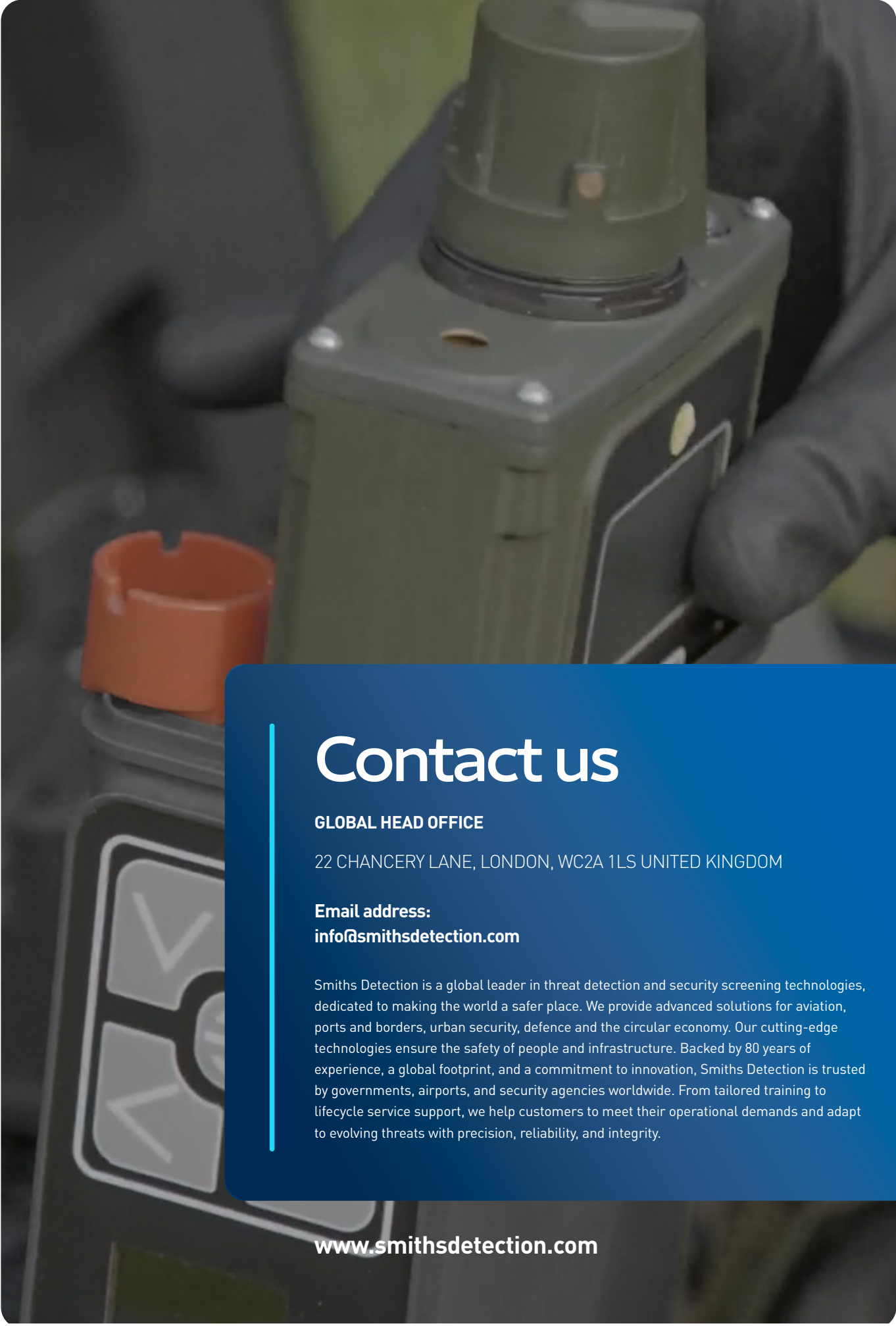
In parallel with training, our flexible service and support packages are designed to maximise equipment availability, extend operational life, and reduce total cost of ownership. We offer five-year maintenance and consumables support agreements, which can be customised to meet specific operational needs. Fixed pricing options provide cost stability and eliminate the risk of unexpected maintenance expenditure.

All hand-held products come with a standard one-year warranty, with options to extend or upgrade as required. With an extensive global network of specialist engineers, service centres, logistics hubs, and training teams, Smiths Detection provides the long-term support defence and security organisations rely on — keeping critical systems operational, efficient, and mission-ready wherever they are deployed.

To ensure an easy transition to the LCD 4, the consumables, ease of use and portability will be very familiar to anyone who has worked with earlier versions. There is also an upgrade package allowing users of existing LCD 3.3 detectors to extend the operational life of their detectors and gain access to new LCD 4 capabilities, including the LCD 4 XID cradle, circuit board and display available for the LCD 3.3.

Original Equipment Manufacturer Service & Support





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Smiths Detection is a global leader in threat detection and security screening technologies, dedicated to making the world a safer place. We provide advanced solutions for aviation, ports and borders, urban security, defence and the circular economy. Our cutting-edge technologies ensure the safety of people and infrastructure. Backed by 80 years of experience, a global footprint, and a commitment to innovation, Smiths Detection is trusted by governments, airports, and security agencies worldwide. From tailored training to lifecycle service support, we help customers to meet their operational demands and adapt to evolving threats with precision, reliability, and integrity.

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