

**DUOSCAN™****Hand-Held Explosives, Narcotics and Liquids Detector****DUOSCAN™ Stops Them First**

DUOSCAN™ is a currently developed hand-held and ruggedized explosives, narcotics and liquids detector capable of trace particle and vapor detection in less than 6 seconds.

DUOSCAN™ provides security professionals with the latest dual-mode detection capabilities uniquely developed to address the global terror and drug trafficking with specific operational requirements such as extreme temperatures, wind, rain, sand, drop and shock. These enhanced capabilities enable to address an expanded customer base to include aviation security, air and cargo screening, law enforcement, coast guards, ports and border control – in other words, security personnel who require a robust, lightweight and a highly reliable system.

DUOSCAN™ improves on the current Ion Mobility Spectrometry (IMS) based detectors by using green and safe HF-QCM sensor technologies and not containing any radioactive source. It will include a touchscreen display and sensor-fusion array, which provides enhanced explosives, improvised materials, narcotics and liquids detection. As such, it will open up opportunities with customers who cannot use IMS in adverse field conditions.

DUOSCAN™ is an integral and essential part of the security checkpoint and provides a complementary technological solution to X-ray and CT scanners, Millimeter Wave (MMV) portals and walk-through metal detectors. It closes security loopholes by detecting microscopic particles that remain on clothing, luggage, ID Cards, vehicles and more.

[www.ms-detection.com](http://www.ms-detection.com)

**Feature Highlights**

- No radioactive source
- Easy installation
- Simple operation
- Fast warm-up time
- Short recovery time
- Easy-to-use touchscreen display
- Remote, unattended operation capability
- Up to 6 hours of rechargeable battery

**Key Market Applications**

- Military and Defense
- Aviation Security
- Air Cargo Screening
- Customs & Border Control
- Rail & Mass Transit
- Police and Law Enforcement
- People Screening
- Baggage and Parcel Inspection
- Cargo and Vehicle Inspection

# DUOSCAN™

## Cutting Edge HF-QCM Sensors

The proprietary and patented High-Frequency Quartz Crystal Microbalance sensors detect a wide range of substances with great accuracy and speed. The detection sensors are successfully integrated in DUOSCAN™ with a unique design of a sensor matrix coated with selective polymers. The detection and identification of target materials is based on the piezoelectric effect where changes in the mass of HF-QCM sensors affect their resonating frequency by the adsorption of a foreign material on their selective coatings. These changes in frequency are accurately detected and measured.

Due to the HF-QCM sensor matrix unique design, DUOSCAN™ has proven and reliable operation in

dusty, humid, and high-traffic areas, maintaining its precision performance even in harsh “real world” environments.

## Efficient Operation

DUOSCAN™ is lightweight and easy to operate, it comprises of a single hand-held detector and disposable sampling swabs. Traces are collected via particle swipe or vapor sampling, inserted for analysis, thermally drawn into the sensor matrix and then analyzed in real-time by pattern recognition algorithms.

DUOSCAN™ automatically self-calibrates and monitors its operating environment. No user intervention or calibration consumables are required; this results in a constant state of sampling readiness with minimal effort and cost.

## Software

DUOSCAN™ utilizes a specially developed proprietary software that offers a color touch screen display, multi-language support and automatic collection of the sampling history. A complete history of the saved data and alarm files can be easily viewed, analyzed, downloaded and printed.

## Lower Total Cost-of-Ownership

DUOSCAN™ comes fully equipped in a rugged carry-on case ready for all types of field deployments. The system offers a maintenance free solution to the high-cost of consumables, spare parts and overall cost-of-ownership that is often associated with other trace detection systems.

## Technical Specifications

|                             |   |
|-----------------------------|---|
| Sensor Technologies         | High-Frequency Quartz Crystal Microbalance (HF-QCM) Sensor Technologies. No gas carrier. No radioactive source.   |
| Sample Collection           | Trace Particle and Vapor  |
| Operating Modes             | Simultaneous Explosives/Narcotics<br>Explosives only, Narcotics only.   |
| Explosives Detected         | Military and plastic explosives, including: TNT, C4, RDX, Semtex, PETN, Detasheet and others.<br>Improvised and homemade explosives, including: TATP, H <sub>2</sub> O <sub>2</sub> , Urea Nitrate, Ammonium Nitrate and others.<br>Propellants and Taggants, including: Black and Smokeless powder, EGDN and others.<br>Additional explosives upon expandable threat library |
| Volatile Liquids Detected   | H <sub>2</sub> O <sub>2</sub> , TATP, EGDN and Nitroglycerine   |
| Narcotics Detected          | Heroin, Cocaine, Amphetamine, Methamphetamine, MDA, THC, LSD, Ecstasy.<br>Additional narcotics available upon expandable threat library   |
| Sensitivity                 | Particle: low nanogram (ng) range.<br>Vapor: low parts per million (ppm) range  |
| False Alarm                 | Less than 1%  |
| Warm up Time                | Less than 60 seconds  |
| Analysis Time               | Less than 6 seconds   |
| Alarm Type                  | Audio and visual, with substance identification   |
| Display                     | 3.5" Color TFT Touchscreen LCD Display  |
| Multi-Language Support      | English, French, Spanish, German, Russian, Chinese, Polish Italian, Japanese, Arabic and others   |
| Data Storage                | Unlimited   |
| Battery                     | Rechargeable battery with 6 hours of field operations   |
| Weight                      | 850 gr.   |
| Operating Temperature Range | 20°F to 130°F (-7°C to + 54°C), less than 95% relative humidity, Non-condensing   |
| Hardened Specifications     | Wind, rain, shock and 1 meter (3') drop resistance, ability to operate wind conditions  |

## Technical Services & Support

Our team is dedicated to providing a prompt, effective and personalized response that exceed your expectations. With technical support, spare parts inventory and skilled technicians all over the world, you can be certain MS Detection will always be prepared with a solution to address your requirements. By measuring response time, parts delivery and support status, our team embraces a customer centric philosophy to ensure continual improvement of our products and services.

## Corporate Headquarters

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