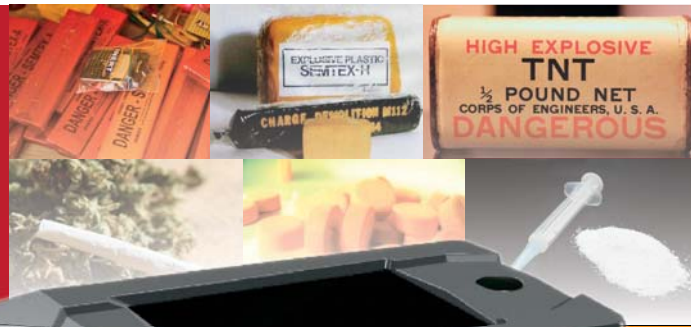


DUOSCAN™

Hand-Held Explosives, Narcotics and Liquids Detector



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 8 seconds.

DUOSCAN™ provides security professionals with the latest dualmode 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 & 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.



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 hot swappable 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 the DUOSCAN™ with a unique design of a sensor matrix array coated with selective polymer coatings. The detection and identification of target materials is based on the piezoelectric effect where changes in the mass an HF-QCM sensor affect its resonating frequency by the adsorption of a foreign material on its chemical coating surface. 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 handheld detector and disposable swabs. Traces are collected via particle swipe or vapor sampling, inserted for analysis, thermally drawn into a sensors' chamber then analyzed in real-time by pattern recognition algorithms.

DUOSCAN™ automatically selfcalibrates 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 highcost 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, Explosives only, Narcotics only.
Explosives Detected	Military and plastic explosives, including: TNT ,C4, RDX, Semtex, PETN, Detasheet and others. Improvised and homemade explosives, including: TATP, H2O2, Urea Nitrate, Ammonium Nitrate and others. Propellants and Taggants, including: Black and Smokeless powder, EGDN and others. Additional explosives upon expandable threat library
Volatile Liquids Detected	H ₂ O ₂ , TATP, EGDN and Nitroglycerine
Narcotics Detected	Heroin, Cocaine, Amphetamine, Methamphetamine, MDA, THC, LSD, Ecstasy. Additional narcotics available upon expandable threat library
Sensitivity	Particle: low nanogram (ng) range. Vapor: low parts per million (ppm) range
False Alarm	Less than 1%
Warm up Time	Less than 60 seconds
Analysis Time	Less than 8 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, Thai and others
Battery	Hot swappable battery with 6 hours of field operations
Weight	Less than 850 gr.
Operating Temperature Range	20oF to 130oF (-7oC to + 54oC), less than 95% relative humidity, Non-condensing
Hardened Specifications	Wind, rain, shock and 1 meter (3') drop resistance, ability to operate wind conditions

HF-QCM

Sensor



Warm Up : < 60 s.
Analysis : < 8 s.



Color TFT Touch
screen LCD Display



Weight
< 850 gr.

The DUOSCAN™ trademark are the properties of MS Detection (a MS Tech Division).



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