

# Itemiser® 3 Enhanced

EXPLOSIVES AND NARCOTICS DETECTION IN A DESKTOP SYSTEM



Morpho Detection's flexible, lightweight desktop detector simultaneously analyzes both positive and negative ions, allowing for advanced explosive and narcotic contraband detection.

The Itemiser 3 Enhanced is the first trace detector in the world to simultaneously detect positive and negative ions, enabling the detection of a broad range of explosives and narcotics. Detection of both positive and negative ions allows for effective identification from a single sample. It delivers fast, simultaneous explosives and narcotics detection in a package that is ergonomic and portable.

## Benefits

- World's first simultaneous dual-mode explosives and narcotics detector
- Can detect a wide range of targeted substances
- Results in as little as 8 seconds
- Easy to learn and operate
- Expandable libraries
- A comprehensive history of saved data and alarm files can be recalled and printed

## Simultaneous Dual-mode Detection

In recent years, the arsenal of explosives used by terrorist groups has expanded beyond the range of substances easily detected by instruments utilizing traditional Ion Mobility Spectrometry (IMS) technology. Traditional IMS instruments operate in either positive or negative mode, but not both modes simultaneously.

While negative mode operation detects the majority of explosives, certain explosives are detected in positive mode. Therefore to rule out the presence of all explosives, conventional IMS detectors require operators to sample and test using two separate detectors.

## Easily Transported and Flexible Desktop Trace Detection

The Itemiser 3 Enhanced was designed with portability and flexibility in mind. This unit offers a compact footprint, folding touch screen, easy-carrying handle, a 60-minute battery backup, and the potential to be relocated quickly.

**Particle swipe:** Reusable sample traps are swiped across a surface and then inserted into the Itemiser 3 Enhanced for analysis. Typical surfaces include baggage, cargo, vehicles, containers, tickets, and ID cards.

**Optional vacuum sampling:** An optional vacuum sampler draws vapors into a sponge-like sample trap, which is then inserted into the Itemiser 3 Enhanced for analysis. Applications include cargo containers, car trunks, and luggage.

## Easy-to-Use Operator Interface

Results require minimal interpretation, so operators may concentrate on obtaining a good sample. Itemiser 3 Enhanced's onboard computer automatically handles all data logging, including time, date, and sample analysis for each alarm. A complete history of saved data and alarm files can be recalled and printed at any time.



Inserting a sample trap initiates detection.



Optional vacuum sampler.



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## SIMULTANEOUS DUAL-MODE DESKTOP DETECTION

### Sensitivity/Selectivity

- Patented ITMS™ technology helps increase ion population, enabling detection of microscopic traces of explosives and narcotics
- Patented switching mechanism simultaneously detects positive and negative ions, enabling the detection of a broad range of explosives, while also detecting narcotics

### Versatile

- Remote monitoring capable
- Detects both explosives and narcotics
- Semi-permeable membrane excludes dust and dirt to allow continued operation in environments that have high traffic, humidity or contamination
- Expandable libraries to accommodate unique user requirements
- Three default user levels (operator, maintenance and administrator) for greater access control

### Cost Effective

- Helps reduce capital investments by providing a single solution for both narcotics and explosives detection
- Patented regenerative dryer can eliminate the need for monthly dryer replacement, and may reduce maintenance downtime, and lower consumables cost
- Folding monitor screen automatically shuts off backlight to extend life of display

### Reliable

- Automated calibration helps assure operational accuracy
- Maintains a low, stable, humidity level in the detector allowing for consistent and reliable detection results
- Automatically saves test results, preventing deletions

### Ease of Use

- On screen keyboard
- Touch screen menus on a graphical user interface can be easy to learn and operate
- Built in printer for fast hard copy results or printing at a later date
- Quick analysis and results in approximately 8 seconds
- Software upgrades can be easy to install
- Local language options available

### Portable

- Lightweight (26.5 lb/12 kg) with built-in handles and soft case for easy transport
- Operates from a vehicle's 12 VDC power outlet
- Internal, one-hour battery allows instrument relocation without having to shut it off, eliminating warmup time

## TECHNICAL SPECIFICATIONS

System Dimensions (with display opened)	Height: 14.9 in (37 cm) Width: 18.9 in (48 cm); Depth: 19.8 in (50 cm) Display Clearance: 16.3 in (41 cm)
System Dimensions (with display closed)	Height: 7.1 in (18 cm) Width: 18.9 in (48 cm); Depth: 18.0 in (46 cm)
Handwand Dimensions	Length: 11 in (28 cm) Diameter: 1.1 in (2.8 cm); Weight: 2.3 oz (65 g)
Optional Vacuum Sampling Unit	Length: 16.8 in (42 cm) Diameter: 3.4 in (8.5 cm); Weight: 18.9 oz (535 g)
Weight (with battery)	26.5 lb (12.02 kg)
Detector Type	Ion Trap Mobility Spectrometer
Analysis Time	Default 8 seconds
Sample Acquisition	Surface wipe or optional vacuum collection
Warmup Time (initial/daily)	Allow 30 minutes for system to stabilize
Operating Temperature	0 to 40°C (32 to 104°F), IP20 protection rating
Storage Temperature	0 to 50°C (32 to 122°F)
Power	AC Input: 100-120 VAC, 200-240 VAC, 47-63 Hz, 150W max, 65W nominal DC Input: 11-18 VDC Battery Backup: Up to 60 minutes of standby time daily for transport
Computer	AMD Geode® LX800 Processor, 500 MHz, Fanless Consumption: +5VDC @ 1.29 Amps
Display	10.4 in (26.4 cm), 640 x 480 pixel, 300 nits brightness, TFT-LCD monitor with resistive touch screen
Signal Processing	Recognition on multiple peaks and multiple controlled drugs and explosives Output to 4 different display types, including bar graph display or time-of-flight plasmagram display
Data Transfer Capability	Two USB 2.0 ports; Ethernet port
Detection Modes	Explosives (optimized negative ion mode); Narcotics (optimized positive ion mode)

## KEY MISSIONS, KEY TECHNOLOGIES, KEY TALENTS

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