

# EXPLOSIVE TRACE DETECTOR

## "MO-8-TVIN-Desktop"

The Latest in the series of advanced MLDM technology Explosive Vapor Detectors developed by the engineers and scientist of SIBEL Ltd, Russia.

**Completely automatic rapid-response, Desktop explosive detector for detection of explosives residues in particulate and vapour mode.**

### APPLICATION

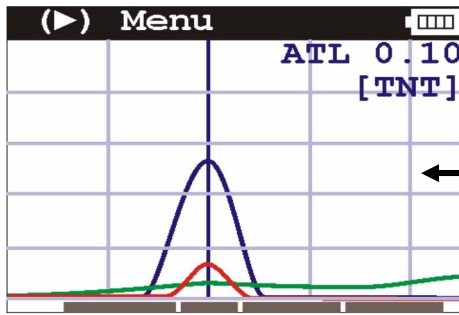
The MO-8-TVIN-DESKTOP is an explosive detector designed for inspection of persons, baggage, vehicles, trains, aircraft and large areas as offices and apartments, etc., by sampling and analyzing of residual particulates collected (swabbed) from suspect surface.

The MO-8-TVIN-DESKTOP is capable of detecting military and industrial explosives such as TNT, NG, PETN, RDX, C4, Dynamite, SEMTEX, HMX, Gelatin, Sheet Explosive, Ammonium Nitrate, and their mixtures.



### SPECIFIC FEATURES

- **Inbuilt lithium ion rechargeable battery**
- **In addition to the visual indication of the type of explosive and its concentration, the ionogram is also displayed on the inbuilt LCD.**
- **Storage of ionogram in memory**
- **Blue tooth capability, PC compatible**
- Specially designed "Io Scan 2.7" software with programmable windows.
- The program can be updated to include detection of new explosives as they become known.
- High sensitivity and selectivity, false alarm rate less than 1%.
- Completely automatic desktop detector
- Ready to operate in less than 10 seconds after cold start.
- Constant operational adjustment to changes in environmental conditions.
- No gas-carrier, no calibration accessories, no consumables required
- Safe, simple to use controls, no operator interpretation required.
- Impact-resistant case.
- Identification parameters adjustment by user
- Microprocessor based, no electromagnetic interference to / of other electronic / electrical devices.



**Design:**

Sampling system (front part) includes a sampling nose, gas tract consisting of analytical and reference channels and a built-in vortex generator.

**Advantages of the Portable Automatic Thermal Vapours Intensifier TVIN:**

- ◆ Detect explosive residues in vapours, particles and liquid phases.
- ◆ Increase significantly the sensitivity of the **MO-8-TVIM-DESKTOP** detector to substances having low vapours pressure (poor volatility), such as PETN, RDX, plastic explosives, etc. It becomes possible due to the heating in TVIN and pre-concentration by particulate,
- ◆ Perform several sampling procedures simultaneously.

**Application**

Equipment is designed for the inspection of:

- Carried luggage
- Shipment and consignments
- Post and Parcels
- Persons and Cloths
- Buildings, Apartments, Furniture
- Vehicle, etc.

**Batteries:**

The built-in Li-Ion battery is used for autonomic powering of the detector.



**Complete Set:**

1. Detector MO-8-TVIN-DESKTOP
2. Trolley
3. AC power adapter (100-240V/50-60Hz/1.0A)
4. Li-Ion storage batteries (14.4 V, 3.4 Ah)
5. Battery Charger
6. TNT vapor generator
7. Collet
8. Cleaning ramrod
9. Interface cable
10. Operating manual and CD with software «IoScan 2.7»
11. Specially designed rugged case for transportation and storage
12. Container with 2 TNT reference cartridges
13. Key
14. Sampling device
15. TVIN
16. Sample card package
17. Sample trap package
18. USB-Bluetooth module for PC
19. UPS
20. Laptop
21. Laser Printer

*The complete set may be changed according to the current modification of the detector*

## **TECHNICAL SPECIFICATIONS of "MO-8-TVIN-Desktop"**

<b>Detection principle</b>	Non Linear Dependence of ion Mobility on an electric field — NLDM
<b>Sampling and response time</b>	air sampling with the simultaneous (real time) analysis: normally 10 seconds
<b>Detectable substances</b>	explosives such as TNT, NG, PETN, RDX, C4, Dynamite, SEMTEX HMX Gelatin Sheet Explosive Ammonium Nitrate and their mixtures.
<b>Signal processing</b>	i) Variable integration time. ii) Ionogram. iii) Recognition of multiple explosives in particulate / vapour mode.
<b>Sensitivity (to TNT at 20°C and relative humidity of 50%)</b>	less than 10 ng in particulate mode
<b>Warm.up time</b>	Less than 10 seconds
<b>Calibration time after switching on</b>	Automatic Calibration in less than 10 seconds after switching on and after sampling operation.
<b>Decontamination time</b>	Less than 1 min.
<b>Alarm indicators</b>	audible, visible (earphones are available optionally) Ionogram is also displayed in the LCD High Selectivity, no response to non explosive substances false alarm rate less than 1%
<b>Power supply</b>	AC adapter: input: 100-240 V/50-60 Hz /1.0 A output: 18V DC Rechargeable battery (14.4 V, 3.4 Ah): type: Li-Ion, battery life: - at least 5 hours in vapor detection mode; - at least 3 hours in particles detection mode with the use of the TVIN evaporating chamber. The charging time is 2.5 hours per each battery.
<b>Carrier gas &amp; Consumables</b>	not required
<b>Power consumption</b>	not more than 12 VA
<b>Weight</b>	5 kg
<b>Operating temperature</b>	-20 to +55° C
<b>Storage temperature</b>	-30° C +70° C (humidity up to 95% non condensing)
<b>Low battery alarm</b>	Audio, Visual
<b>Maintenance and Safety</b>	Simple to maintain with complete decontamination kit, no special skills required. No radiation hazards to operator.

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*Manufactured by:*

***SIBEL Ltd.***

*Russia*

*Due to our policy of continuous product improvement, specifications are subject to change without prior notice.*