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# Portable Explosives Detector BittCom-3030



## 1、 Introduction:

The Explosive Detector is a new generation portable photoionization product made based on the advanced high-resolution photoionization Ion Mobility Spectrometry(PIMS). The Explosive/Narcotics Trace Detector, characterized by quick detection, high sensitivity, low power consumption, small size, light weight, portable design, easy maintenance and high adaptability for different conditions /requirements, is suitable for detecting black powder as well as all exploders specified by the International Civil Aviation Organization accurately and widely used for safety inspection, national **defense/ security** and public safety works in important places such as airports and stations etc.。

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## 2、 Features:

- The first product with exclusive performance for detecting black powders such as fireworks, crackers and commercial explorders, improvised explorders etc. at a nanogram level in the world;
- Quick detection, the result can be obtained within 2s;
- One-key detection, easy operation;
- Provided with a 2.8" TFT color touch screen;
- Provided with a self-cleaning function for interior cleaning of the instrument;
- The operation parameters can be shown directly for checking the instrument for normal operation;
- Open database and trace quantity type detection. The sample database can be updated at any time;

## 3、 Optional functions:

**Single mode and dual mode:** Single mode means the detector just has one mode of testing the explosive or drug; and dual mode means the detector has two modes of testing both explosive and drug

**Air suction port:** Add the air suction port sampling function

**USB port:** The function of exporting detection results and data through USB.

## 4、 Specifications:

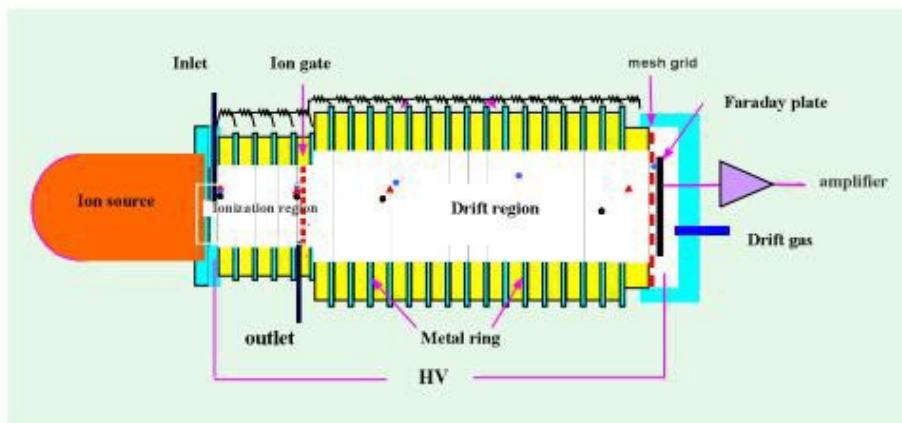
Items	Specification
<b>Technology</b>	High resolution PIMS
<b>Detectable Explosives</b>	Explosives (only appropriate for explosive test mode): Various military, civil and homemade explosives, etc; such as the black powder, ammonium Nitrate (AN), trinitrotoluol (TNT), dinitrotoluene (DNT), trinitrophenylmethylnitramine (Tetryl), pentaerythritol tetranitrate (PETN), gun powder, NG explosive, hexogen (RDX), Semtex explosive and C4, etc; New samples can be added to two detection types according to requirements
<b>Detectable Narcotics</b>	Narcotics (only appropriate for Narcotics test mode): cocaine(COC), heroin, morphine, Amphetamine, tetrahydrocannabinol (THC), dehydrogenation, ephedrine

	methamphetamine, and ecstasy, etc. New samples can be added to two detection types according to requirements
<b>Sampling</b>	Test paper wipe picking
<b>Sensitivity</b>	ng level
<b>Alarming pattern</b>	Audio message+screen information
<b>Analyzing time</b>	≤ 2 s
<b>Warning up time</b>	<20 min
<b>Rate of false alarm</b>	≤1%
<b>Detectable rate</b>	≥ 99%
<b>Working condition</b>	-10℃~55℃ Relative humidity 45%~85%
<b>Power supply</b>	220V AC 50-60Hz/Lithium battery power supply
<b>Power adapter</b>	Input: 220V/AC 50-60Hz; output: 19V/DC
<b>Battery parameter</b>	Lithium battery 14.8V/4400mAh Continuous power supply,no less than 2h
<b>Weight</b>	3.82 Kg
<b>Overall dimension</b>	450mm(L) ×160mm(W) ×200mm(H)

<b>Technical Standard of Detections and Functions</b>	
<b>Capacity</b>	C4, NG, Ammonium, Nitrate H-6, HBX, Mmol-2, Amatol, Primacord, Telritol, Gunpowder, Cordite, TNT, CE TNT, PEK, RDK, PETN, Semtex, PE, Dynamite, Trinitol, Octols, Explosive, HMI<, PEX, Sheet Explosive, gelatin, TATP, LTPE others with programmable detection capacity, able to program any existing for new developed explosive into the detection library.
<b>Chemical Warfare Agents</b>	Other detectable substance can easily program by user to create customize Library for detection. Explosive can detect even if mixed with chemical warfare agents. Never and blister agents such as Tabun, Sarin, Soman, cyclosarin, Agent VX and Vx or equivalent.
<b>Toxic Industrial Chemicals</b>	Toxic Industrial Chemicals. Hydrogeh. Cyanide (HCN), Phosgene, SO2, NH3 and others or equivalent.
<b>Vapor/ Non Vapor Substances</b>	Vapor & Non Vapor substances.
<b>Vapor Type Sampling</b>	Vapor & particulate sampling
<b>Non Vapor Type Sampling</b>	Non-contract sniffer for paper sample traps. Signature/molecular/resonance/particle model.

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## 5、 Operating principle

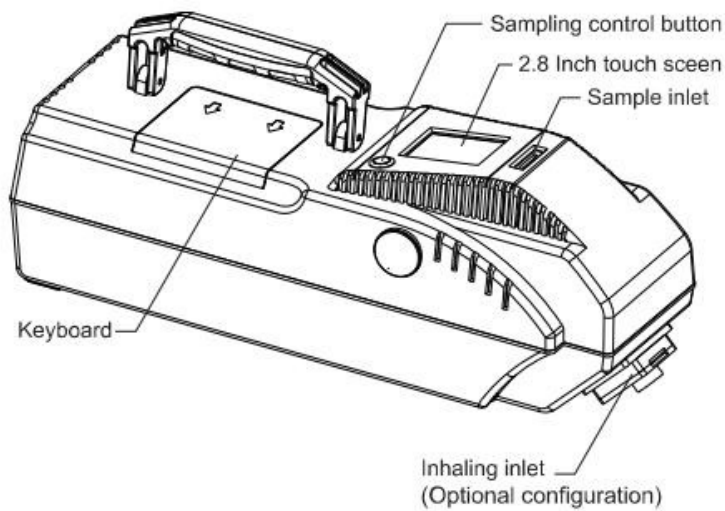


**Principle introduction:** Different sample molecules, after thermally desorbed under high temperature in the sample inlet system, enter the ionization zone of the IMS ion migration tube from the sample inlet for ionization by the ionization source, thus neutral molecules can become ions; Then these ions enter the ion migration zone via the ion gate opened periodically and reach the Faraday receiving disc for converting into current signals, which, after being amplified by the operational amplifier, will be sent to the data collecting and processing system. These signals are so called IMS

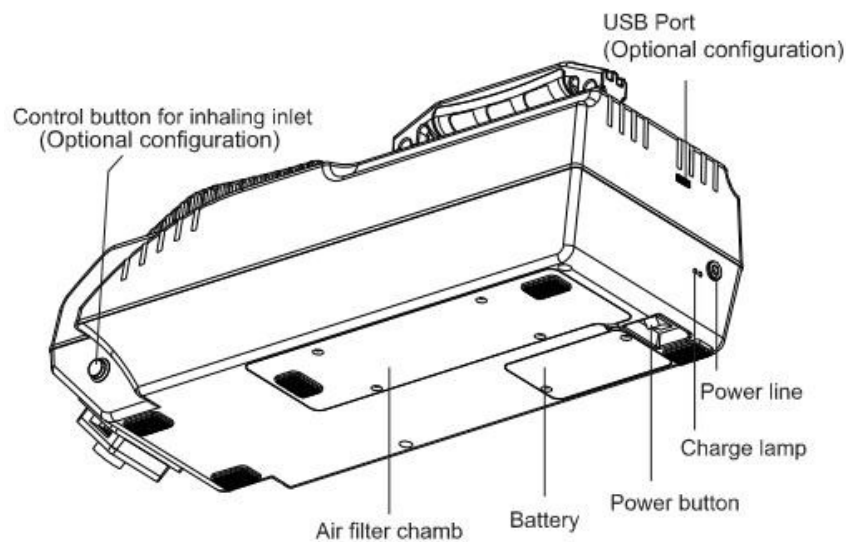
detected signals.

Different sample molecules form different ratio of ion mass to charge number (mass charge ratio) and therefore the motion velocities are different in the ion migration zone (constant electric field zone) and the time values for reaching the receiving disc are different, too. The IMS can be used to identify the samples based on this migration time difference.

## 6、 Product structure



**Fig. 3 Top side**



**Fig. 4 Bottom side**

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## 7、 Product picture

