

BIRUCH C04

Explosive Detector

The explosive detector C04 Biruch using innovation methods successfully detects explosives in gas phase and particles form with extremely high sensitivity, not reachable by other explosive detectors.

It was confirmed during inspection of personal belongings, baggage, mail, parcels, packages, vehicles, buildings, etc even in smoky and dusty environment, without extra tools, without the risk to fail due to excessive explosive concentration and without long term cleaning and service procedures. List of detected explosives can be expanded even in field conditions.

Device operation is based on the principle of nonlinear dependence of ion mobility on the electric field.



Advantages

- Direct non-contact detection of TNT vapor and less volatile explosives, including RDX and HMX, as well as Nitroglycerin, Ethylene glycol dinitrate (EGDN), Pentaerythritol tetranitrate (PENT) and its compounds, Semtex, Cyclotriacetone Tripperoxide, Ammonium nitrate, Dynamite;
- Detection of traces of low-volatile explosives on the surface using a piezo desorber;
- Direct operation in smoky and dusty areas, without usage of extra tools and without the risk to fail due to excessive concentration of explosive vapors;
- Explosives detection by using defining points, allows confident detection in wide range of temperatures and humidity;
- Self-cleaning and automatic protection against concentration overload – detector stays in operable mode without long cleaning procedures;
- Expandable list of detected explosives via USB or Bluetooth connection, or directly via detector interface. Entering new explosives can be done even by operator in field conditions without a computer.
- Small size and weight, long-term usage under the operational situation.



Technical characteristics

Parameter	Unit	Value
Sensitivity to TNT vapors, not worse	g/cm^3	10^{-14}
Analysis time, not more	sec	2
Detection certified and sensitivity measured for explosives	-	TNT, RDX, HMX, PENT
Start time from stand-by mode	sec	6
Distance of vortex sampling, range	mm	60-100
Operating temperatures range	$^{\circ}\text{C}$	5..50
Battery life for mixed operation mode	hour	6-10
Dimensions, LxWxH,	mm	350x103x94
Weight, max	kg	1,7

Explosives Detector C04 Biruch exceeds characteristics of the best mass-produced devices because of the optimal construction, that combines sensitivity, compact size of basic elements, and low power consumption.

Delivery set

- Explosive detector C04 Biruch
- Safety cover
- Additional battery unit
- External power supply GS60A18-P1J or of similar characteristics
- Power cord
- Source of TNT vapor imitator
- Evaporation chamber of piezo desorber
- Removable filter grids (3 units)
- Manual book
- Device passport
- Passport to the sources of ionization radiation (2 units)
- Packing case for storage and transportation.



Achievements and Confirmations

- Explosives Detector C04 is certified in the Federal State Unitary Enterprise "State Research Institute of Civil Aviation" for compliance with the special technical means to ensure aviation security.
- The detector has been tested in FSB RF to meet the requirements of the means of transport security.
- The stated sensitivity is confirmed by test protocol of FSUE "VNIIM named after D. Mendeleev".
- Having successfully passes the tests in real conditions during the postal items control and transport inspection.

