AKA 7202M

Portable Metal Detector

Operation Manual

1. GENERAL INFORMATION

AKA-7202M eddy-current metal detector is designed to search for metal objects in dielectric and low conductive media.

The detector can be applied by the departments of the Ministry of Internal Affairs, traffic police, customs services, in archeology, animal farming, medicine etc. as well as to detect hidden metal objects, including weapons in constructions, luggage, and on human body.

The device can also be applied as a lighting tool to inspect documents during dark hours, as well as to illuminate the number of nodes and units of vehicles in hard-to-reach and dark places. This option is provided by a special order.

The metal detector is designed to operate under the following conditions:

- Ambient temperature from -10 °C to +40 °C;
- Relative humidity of up to 98% at temperature of +25 °C;
- Atmospheric pressure from 630 to 800 mm Hg.

2. MAIN TECHNICAL CHARACTERISTICS

Maximum detection range of metal objects at least, sm:

F-1 grenade	15
Makarov pistol	18
Sword-bayonet for AKM submachine carbine	12
Bandsaw blade of 150 mm length	9
Safety razor (non-magnetic stainless steel)	3

Technical characteristics:

Dimensions, mm	415x85x35
Power source	DC 9V (6F22 type battery)
Continuous operational time powered by fresh 6F22 type battery, at least, hours	40
Weight up to, g	410
Operating temperature range, ° C	-10+40
Threshold of low battery automatic audio signal, V	7 ± 0,4

Current consumption up to, mA:

in Search Mode	1,5
in Detection Mode	5
in Flashlight Mode	20

3. OVERLOOK

Metal Detector's Appearance Figure 1.

AKA-7202M is a portable eddy current metal detector featuring parametric applicator converter with effective bobbin of 140 mm diameter.

Signal of metal objects' detection is produced by sending a signal to the built-in piezoelectric transducer.

The characteristic peculiarity of the device is its high located sensitivity. At the same time the detector identifies small metal items and has moderate sensitivity to large objects.

The device features dynamic operation mode, i.e. metal object can be detected (producing sound signal) only while moving the locator bobbin of the device over this metal object. This operation mode has been implemented due to the built-in system of automatic maintenance of sensitivity level, which provides long-term stability of operation regardless of battery discharge and the change in environmental conditions.

AKA-7202M is also equipped with a built-in system of battery discharge. If battery discharge level is below allowable value (7 ± 0,3)V, the panel of the device reads BAT, which means the battery must be replaced.

To replace battery, remove battery compartment cover, pressing it according to the arrow. The device has the following controls and indication (Figure 1).

-Power Switch
- Sensitivity Control
- LED Discharge Indicator
- Signal LED of metal objects
- Flashlight Power Switch

4. PREPARATION AND OPERATION ORDER

Turn the metal detector on. This should be followed by a sound signal and the LED power indicator lights up. 2-3 seconds after activation using Control Knob set the desired sensitivity of the device. To do this, bring any metal object (watch, coin etc.) to the sensor. By rotating the Control Knob, wait till there is a sound signal at maximum distance between locator bobbin of the device and the metal object. The detector is ready to start operating.

In case of searching for metal objects in low-conductive objects (human body, ground or nearby), after the above operations, check the detector's sound activation due to low conductivity of the environment under study and increased sensitivity of the device. Such testing can be conducted by scanning the low-conductive object, where there are no metal objects.

For example, at customs examination of a person, the body conductivity can be tested by bringing the metal detector to the chest. If there are weak sounds of the device, then sensitivity should be set lower by rotating the Control Knob counterclockwise until sound signals stop.

5. TROUBLESHOOTING

Trouble: The device does not turn on
Reason: Poor contact of the battery block with the battery itself
Troubleshooting: Press petals of the block and battery

6. WARRANTY

The manufacturer guarantees proper operation of the device provided all the operation conditions have been met.

Warranty is 36 months from the date of purchase.

During warranty period, any manufacturing defect is eliminated by the manufacturer upon presentation of this Operation Manual with the mark on the acceptance date.