

# ADDRESSABLE COMBINED SECURITY DETECTOR «Udar-A»

## Installation Guide

### 1 General Information

1.1 The addressable combined security detector «Udar-A» (hereinafter referred to as the Detector) allows to counteract to any attempts to break into and/or steal ATMs, safes and other banking security units by transmitting notifications via an addressable loop (hereinafter referred to as the ADL) in accordance with the «Rielta-Contact-ADR» protocol to a Control Panel (hereinafter referred to as CP).

1.2 The Detector has two independent detection channels: a burglary detection channel and the angle of inclination change detection channel.

1.3 The Detector is resistant to electromagnetic interference, single impacts on the protected structure and acoustic noise.

1.4 The Detector provides the ability to select an operating mode depending on the material of the protected structure and the ability to gradually adjust the sensitivity on the burglary detection channel.

1.5 The Detector is powered from the ADL.

1.6 The Detector generates and ensures transmission of the following notifications via the ADL:

- «Normal» – in the absence of influences in the detection channels;
- «Opening» – when the case is open or removed from the place on mounting.
- «Destruction» – when attempts to break into, destroy and (or) steal a protected structure are detected.

- «Tilt» – when changing of the angle of inclination of the protected structure is detected;

- «Power failure» – when the supply voltage in the ADL is low.

1.7 The Detector can report the current value of the supply voltage in the ADL in response to a corresponding request from the CP.

1.8 The Detector is designed for continuous 24-hour operation.

1.9 The Detector is resistant to electromagnetic interference.

### 2 Technical specification

Table 1

Parameters	Values
Controlled area, not less than: - solid concrete, brick or wood structure - metal cabinet, door, upper ATM cabinet - safe, lower ATM cabinet	12 m <sup>2</sup> 6 m <sup>2</sup> 3 m <sup>2</sup>
Tilt change detection	5° and more
Average power consumption	8 mA
Technical readiness time	10 s
Protection class	IP30
Dimensions	101x43x34 mm
Weight	150 g
Average service life	8 years
Operational conditions	
Operating temperature range	-30...+55 °C
Permissible relative humidity at a temperature of +25°C	до 90 %

### 3 Scope of Delivery

Table 2

Name	QNT
Addressable combined security detector «Udar-A»	1 pc.
Accessories set:	
Screw A.M4-6gx40.48.016	2 pcs.
Washer 4.65G.029	2 pcs.
Cyanoacrylate glue	1 pcs.
Instructions for the Addressable combined security detector «Udar-A»	1 copy
Serial interface matching device «US-PI»	*
* Supplied upon special request	

### 3 Design

The Detector consists of a case cover and a case base (1) with an installed printed circuit board (2).

The base of the case with a printed circuit board is shown in Picture 1.

The base of the case contains:

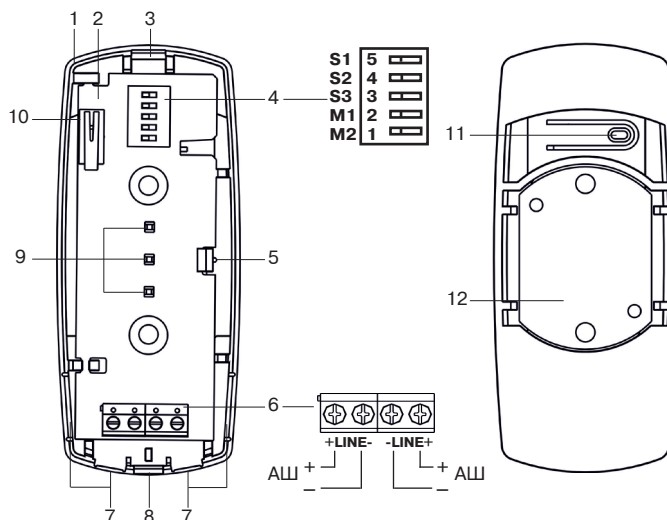
- case cover hook (3);
- printed circuit board latch (5);
- openable holes for the passage of cables (7);
- case cover latch (8);
- pin of the detector removal control sensor (11);
- sensitive element (12).

The printed circuit board contains:

- dip switch (4);
- terminal blocks (6) for connecting to ADL;
- indicators (9);
- tamper switch (10).

a) top view (no case cover)

b) bottom view



Picture 1 – Case base with PCB

### 5 Indication

- The Detector generates the following types of indication:
- indication of successful registration/deletion of the Detector in the CP;
  - «Identification» indication turns on after receiving the corresponding command from the CP and remains active for 15 minutes;
  - «Initialization» indication turns on immediately after power is applied for 10 s.
  - indication of the status of the detection channels turns on after power is supplied and after initialization or upon receipt of the corresponding command from the CP and stays active for 15 minutes in the absence of other types of indication.

The modes of the indicator's operation are presented in Table 3.

Table 3

Detector status	Indication	Notes
«Initialization»	Alternating short switching of red, green and yellow indicators	After power is supplied
Successful registration/deletion	Simultaneous short switching on of the red, green and yellow indicators for 3 s	
«Identification»	Alternating short switching of yellow and green indicators	The corresponding command has been received from the CP
«Destruction»	Frequent short flashing of the red indicator	Status indication is ON and «Initialization» and «Identification» indications are OFF
«Inclination»	Frequent short flashings of the yellow indicator	
Vibration	Frequent short flashing of the green indicator	
«Norm»	Off	

### 6 Registration

6.1 Connect the Detector to the ADL (up to 20 detectors can be connected).

6.2 Prepare the CP for Detector registration in accordance with the instructions for the CP.

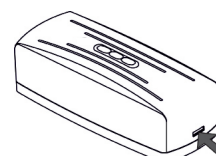
6.3 Register the Detector in the CP.

### 7 Installation of the Detector

Installation of the Detector and adjustment of its sensitivity is done with the removed cover. To remove the cover, you need to release the latch by pressing it through the rectangular hole in the cover (Picture 2).

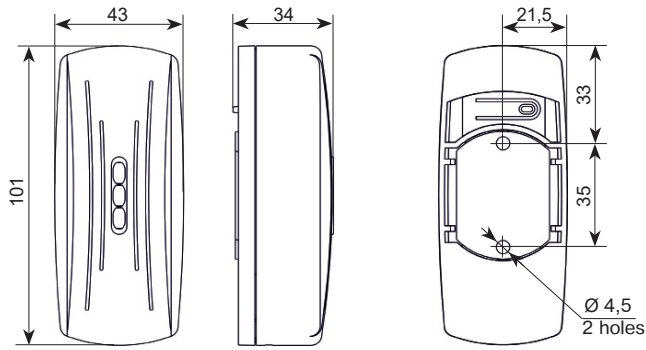
Depending on the type and material of the secured structure, the Detector is fastened with screws through holes in the base of the case (the distance between the holes is 35 mm) or using glue. Make sure the installed Detector has direct mechanical contact with the surface of the secured structure.

To mount the Detector on metal structures, it is recommended to use M4 screws through holes or M4 screws through blind holes with pre-cut threads. It is recommended to install the Detector inside of a safe, including the lower cabinet of an ATM, using M4 screws or cyanoacrylate glue, in accordance with the instructions for using the glue given in its accompanying documentation or on the packaging. Adhesive connection of the Detector is also allowed on other metal structures if it is not possible to use a screw fastening.



Picture 2 Press

**Dimensions (mm)**



Picture 3

**8 Detector controls**

Switches M1 and M2 switch the signal processing algorithm depending on the material of the protected structure (see Table 4).

Table 4

Material of the secured structure	Switch position	
	M1	M2
<b>SAFE</b> (Safe or metal structure (cabinet, door, grille))	OFF	OFF
<b>CONCRETE</b> (Concrete or brick structure)	ON	OFF
<b>WOOD</b> (Wooden structure)	OFF	ON
<b>ATM</b> (Bank machine)	ON	ON

Switches S1, S2, S3 adjust the sensitivity of the Detector's burglary channel (see Table 5).

Table 5

Switches			Sensitivity level (SENS)
S1	S2	S3	
ON	ON	ON	Maximum (MAX)  ↑  Minimum (MIN)
OFF	ON	ON	
ON	OFF	ON	
OFF	OFF	ON	
ON	ON	OFF	
OFF	ON	OFF	
ON	OFF	OFF	
OFF	OFF	OFF	
			PCC-PC CONFIG User mode (see clause 10)

**9 Adjustment procedure**

Set switches M1 and M2 to the position corresponding to the material of the secured structure (see Table 4).

Set switches S1, S2, S3 to ON, ON, ON (maximum sensitivity).

Turn on the power supply and check for the indication of «Initialization» and «Normal» notifications. The presence of the «Vibration» indication in standby mode and the absence of impacts indicates that the level of interference at the secured facility is too high. Eliminate the source of interference if possible. Set switches S1, S2, S3 – to ON, OFF, OFF position (minimum sensitivity).

Apply a steel plate to the surface of the protected structure at the most remote point of the controlled zone. Drill several holes 2–3 mm deep\* in the plate. At each drilling, make sure you get the «Vibration» indication, and after the third drilling, make sure you get the «Destruction» notification. If a «Destruction» notification is generated, the sensitivity adjustment can be considered completed.

In case of absence of a «Destruction» notification, perform a step-by-step increase of sensitivity (see Table 5) until the moment when the «Destruction» notification is generated when imitation impacts are applied.

When the sensitivity level is set, the Detector should not generate a «Vibration» indication in the absence of impacts on the secured structure.

\* drill  $\varnothing (4 \pm 0,5)$  mm, time of one drilling is not less than 10 s. Pause between drillings should be less than 10 s.

**10 User mode**

The user mode, which is activated using switches (see Table 5), allows the Detector to adapt to a complex noise environment at a secured facility by separately adjusting sensitivity to various types of destructive influences.

In this mode, sensitivity adjustment is carried out using a personal computer connected to the detector through a serial interface with «US-PI» (supplied by LLC NPP REALTA on a special request). The instructions for configuring the Detector in the User mode are given in the accompanying documentation for «US-PI».

**11 Storage and transportation**

11.1 The Detector in the manufacturer's transport container allows transportation by any type of transport in covered vehicles over any distance, in accordance with the rules for the transportation of goods in force for the relevant types of transport.

11.2 The conditions for transporting the Detector must comply with storage.

11.3 Conditions for storing the Detector in packaging in the warehouses of the manufacturer and consumer must comply.

The storage room should be free of conductive dust, acid and alkali vapors, as well as gases that cause corrosion and destroy insulation.

11.4 The time the Detector is ready for operation after transportation in conditions other than operating conditions is at least 6 hours.

**12 Manufacturer's Guarantees**

12.1 The manufacturer guarantees conformity of the Detector to the Technical Specifications requirements provided the transportation, storage, installation and operation conditions are observed.

12.2 The warranty period for storing the Detector is 63 months from the date of manufacture.

12.3 Warranty period of operation is 60 months from the date of commissioning within the warranty period of storage.

12.4 Detectors that, during the warranty period, subject to compliance with the operating and installation rules, are found to be non-compliant with the requirements of the technical specifications, are repaired by the manufacturer.

**13 Packing Certificate**

Addressable combined security detector «Udar-A» has been manufactured in compliance with the active technical documentation, classified as fit for operation and packed by «Development and Production Enterprise RIELTA» LLC.

Packing date \_\_\_\_\_  
month, year