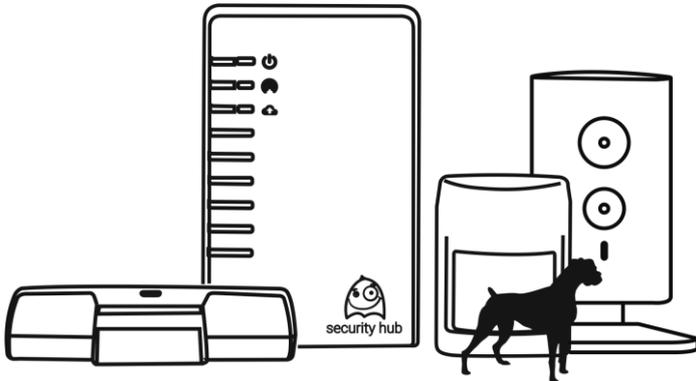


# SECURITY HUB

KIT WITH WI-FI CAMERA

## Technical specifications



This document is intended to study the technical specifications, package contents, operating conditions and warranty obligations for the Security Hub kit with WI-FI camera (hereinafter referred to as the **kit**).

The manufacturer reserves the right to make changes related to the product improvement without notice. All changes will be made to the new edition of the kit specifications.

### 1 Purpose

“**Security Hub**” kit is the first step of the user to the Smart Home system, controlled from anywhere where there is access to the Internet. After installing the application, connecting the controller to the server of the ASTRA hardware and software suite (HSS), placing the radio sensors from the kit and connecting the WI-FI camera, the user gets a simple security system, which can later be expanded by adding compatible devices\*.

### 2 Key information and features

**2.1** The kit consists of a terminal on-site Security Hub device (hereinafter referred to as the **controller**) with a rechargeable battery, a network adapter with a USB cable, **wireless** motion and door/window sensors with batteries and a **WI-FI camera**. The functionality of the kit can be expanded by compatible devices\*.

**2.2** The **controller** is configured and maintained using an Internet application (mobile or web application) and a step-by-step user instruction built into it. The smartphone application is installed from the app store\*.

**2.3** The controller provides the exchange of information with Internet applications through the "ASTRA" cloud server:

- over a wired channel, via RJ45 connector (Ethernet 10BASE-T) and the provider's network,
- via a wireless channel, via two SIM-cards (GPRS/EDGE) of the GSM mobile operators.

The main data exchange channel is wired, followed by SIM1, SIM2 by priority.

**2.4** The controller communicates with sensors in the frequency range (434.42 ± 0.2%) MHz using the Astra-RI-M protocol and supports a maximum of **30 wireless sensors**.

**2.5** The configured controller provides:

- work with the server via TCP channel,
- registration (adding) of wireless sensors,
- status processing of wireless sensors,
- delivery of wireless sensors statuses to the built-in indicator and the Internet application,
- facility management via an Internet application and with Touch Memory keys.

- outputs control (relay and "open collector").

**2.6** The controller has a built-in **Touch Memory (TM)** input for connecting an iButton key reader and/or Astra-KTM-S keypad. TM codes are registered from Internet applications.

**2.7 Terminal device of facility** has 4 pairs of individually programmable terminals **+CON1-**, **+CON2-**, **+CON3-**, **+CON4-**, which can be used in the mode of:

- **inputs** of alarm loops (AL) for connecting wired intrusion detection, in-process and fire safety sensors,
- open collector **outputs** for connecting sirens and warning lights.

**2.8** The controller has two built-in signal relays **RELAY1**, **RELAY2**, the operating modes of which are programmed using Internet applications.

**2.9** The controller is powered from an in-home network of 230 V 50 Hz through the network adapter supplied.

**2.10** The controller has the possibility to power from external sources (main and backup) with a nominal voltage of 12 V through the terminals **+12V-** and/or **+12VR-**.

**2.11** To ensure power backup inside the controller, there is a battery holder and a socket for connecting a lithium-ion (Li-Ion) rechargeable battery (BAT) of the size 2/3 A with a nominal voltage of 3.7 V, a capacity of 600 or 700 mA/h (depending on the current configuration).

#### Notes

**1** The connection of the BAT is made immediately before the external power supply to the controller. The controller cannot be started from the BAT.

**2** When switching to the BAT power:

- the controller provides communication only via the GSM wireless channel;
- the controller does not support the operation of wired fire safety sensors.

**2.12** The controller has **three** built-in **indicators** (see Table 1).

**2.13** The **Astra-5121 motion sensor** is designed to detect intrusion into the protected confined space, generate an alarm notice and send the notice to the controller through the radio channel. The sensor does not respond to the movement of pets weighing up to **20 kg**.

**2.14** The **Astra-3321 door opening sensor** is designed to block opening or moving structures made of magnetically non-conducting (aluminum, wooden, plastic, etc.) materials, generate an alarm notice and sending the notice to the controller through the radio channel.

**2.15** The **WI-FI camera** is designed for remote monitoring of a home or business via the Internet. The camera can be connected to a router via Wi-Fi. The camera is powered from an in-home network of 230 V 50 Hz through the power adapter included. Setup is done using the applications\*\*.

Table 1 - Controller LED Indication

POWER SUPPLY	Power state
On	External power supply, BAT charged
Flashing <b>1 time every 2.5 s</b>	No external power, switching to BAT power

\* Information is available on the website [security-hub.ru](http://security-hub.ru)

\*\* See Instructions included

	Double flash every <b>2.5 s</b>	No external power, BAT critical discharge (less than 2 hours of operation)
	Flashing <b>1 time every 0.7 s</b>	External power supply, BAT missing or should be replaced.
	Goes off every <b>2.5 s</b>	External power supply, BAT charge mode
	<b>WIRELESS NETWORK/AL</b>	<b>Object status</b>
	<b>Green flash every 2.5 s</b>	Ready for arming
	<b>Red flash every 2.5 s</b>	Not ready for arming
	Double <b>red flash every 2.5 s</b>	Malfunction or sensor has a low battery
	<b>Green flash 1 time every 0.7 s</b>	Countdown of entry or exit delay
	<b>Green light on</b>	All sections armed
	<b>Red flash 1 time every 0.7 s</b>	Alarm in the section
	Switching <b>green-red</b> (not more than 60 s)	Waiting for user action (adding a sensor or TM key to the controller's memory)
	Off	There are no sensors in the memory
	<b>CONNECTION</b>	<b>Server connection status</b>
	<b>Green light on</b>	Connected
	Flashes <b>green</b>	Data transfer
	<b>Red flash every 2.5 s</b>	Wired channel unavailable
	Double <b>red flash every 2.5 s</b>	GSM channel unavailable
	<b>Red light on</b>	Connection unavailable

### 3 Specifications

#### Controller

**Mains voltage, V** ..... from 110 to 240  
**Power consumption, W, not more**.....5  
**Power from USB:**  
- supply voltage, V .....5±5%  
- maximum current consumption, mA, not more .....500  
- rated current consumption, mA, not more .....200

#### Power supply from an external source of 12 V:

- main (terminals **+12V-**) and backup (terminals **+12VR-**) power supply voltage, V .... from 10.5 to 13.6  
- maximum current consumption, mA ..... 300  
- rated current consumption, mA, not more ..... 150

#### BAT power:

- supply voltage, V .....from 3.3 to 4.2  
- rated current consumption, mA, not more ..... 50  
- BAT runtime, h .....from 4 to 8  
- the threshold for the information transfer of battery discharge, V .....3.5  
- charge time of fully discharged battery, h, not more ..... 10  
Time of technical readiness, s, not more ..... 60

#### Relay 1, Relay 2 (RELAY 1, RELAY 2 terminals):

- maximum load voltage, V ..... 100  
- maximum load current, A ..... 0.1

#### Terminals +CONx- (x = 1, 2, 3, 4):

**Parameters in open collector output mode** (terminals CONx-):  
- maximum load voltage, V .....24  
- maximum load current, A.....0.25

**Parameters in AL input mode** (terminals +CONx, 12V- or 12VR- for security/process AL, terminals +CONx- for fire AL):

- terminal voltage at rest, V:  
- with 12V power supply.....from 9.3 to 12.4  
- with 5V power supply..... from 3.8 to 4.0  
- current at the terminals of the AL for power supply of sensors, mA, not more .....3  
- short circuit current, mA, not more than:  
- with 12V power supply.....24  
- with 5V power supply.....10  
- time of AL integration, ms .....40±10  
- AL wires resistance, Ohm, not more.....220  
- leakage resistance between wires or each wire and the "Earth", kOhm, not less .....50

Resistance\* for **intrusion/technological** type AL, kOhm, in the state:  
- "Normal" .....from 3 to 5  
- "Violation" ..... from 0 to 3 or more than 5

Resistance\* for **fire** type AL, kOhm, in the state:  
- "Normal" .....from 3 to 5  
- "Violation" ..... from 1.5 до 3 and from 5 to 12  
- "Fault" ..... from 0 to 1.5 or more than 12

Resistance\* for **fire** type AL in **double triggering mode**, kOhm, in the state:  
- "Normal" .....from 3 to 5  
- "Violation" ..... from 0 до 1.5 and from 5 to 12  
- "Fire Danger" (with resistor Radd) .....from 1.5 to 3  
- "Fault" .....more than 12

#### Touch Memory input (terminals +TM-):

Maximum length of the interface line, m ..... 15

Overall dimensions, mm, not more than ..... 136 × 86 × 38

Weight without BAT, kg, not more .....0.14

#### Operating conditions:

- temperature range, °C ..... from - 20 to + 55  
- relative humidity  
of air, % ..... up to 98 at +25°C  
without condensing

#### Motion sensor Astra-5121

Motion speed detection  
range, m/s .....from 0.3 to 3.0  
Supply voltage, V..... from 2.2 to 3.0  
Overall dimensions, mm .....70 × 51 × 42  
Operating conditions:  
- temperature range, °C ..... from - 10 to + 50  
- relative humidity  
of air, % ..... up to 98 at +40°C  
without condensing

#### Door/Window sensor Astra-3321

Triggering distance, mm .....from 20 to 30  
Recovery distance, mm .....from 13 to 23  
Supply voltage, V..... from 2.6 to 3.6  
Overall dimensions, mm ..... 109 × 34 × 27  
Operating conditions:  
- temperature range, °C ..... from - 20 to + 50  
- relative humidity  
of air, % ..... up to 98 at +40°C  
without condensing

#### Radio channel

Operating frequency, MHz ..... 433.42 (letter "1")  
Wireless coverage range (line of sight), m\*\*, not less ..... 100

\* The allowable spread of resistance values is not more than 10%, for a value of 12 kΩ - not more than ± 2 kΩ.

\*\* Wireless coverage range significantly depends on the design features of the room, jamming environment. Maximum range parameters are provided when the best conditions for the installation of SH and the sensor are met.

## WI-FI camera

Video .....	1280x960@30FPS
Matrix.....	1.3 megapixel, 1/3" CMOS
Focal distance, mm .....	2.3
Viewing angle (horizontal), ° .....	125
Infrared lighting, m.....	up to 10
Wi-Fi: IEEE802.11b/g/n, m .....	up to 50
Interface .....	MicroUSB
MicroSD memory card, GB.....	up to 128
Audio .....	built-in speaker and microphone
Overall dimensions, mm .....	76 × 65 × 107
Operating temperatures, °C.....	from -10 to +45

## 4 Delivery set

<b>Controller "Security Hub"</b> .....	1 pc.
Rechargeable battery 2/3 A (Li-Ion), 3.7V, 600 mA*h (or 700 mA*h) .....	1 pc. (installed)
Network adapter .....	1 pc.
Cable USB 2.0 AM-BM.....	1 pc.
UTP Patch Cord .....	1 pc.
Resistor C1-4-0.25-3.9 kΩ ± 5% .....	4 pcs.
Screw 3×30 .....	4 pcs.
Expansion bolt shield 6×30 .....	4 pcs.
<b>Motion sensor Astra-5121</b> .....	1 pc.
Battery CR123A .....	1 pc.
Bracket .....	1 pc.
Screw 3×30 .....	2 pcs.
Expansion bolt shield 6×30 .....	2 pcs.
<b>Door/window sensor Astra-3321</b> .....	1 pc.
Control magnet.....	1 pc.
Battery LS14500, 3.6V, AA .....	1 pc.
Crowbar switch .....	4 pcs.
Screw 2.9x13.....	4 pcs.
<b>Wi-Fi camera Nobelic NBQ-1110F</b> .....	1 pc.
MicroSD memory card 16 GB.....	1 pc. (installed)
Power adapter .....	1 pc.
Cable USB 3.0.....	1 pc.
Wiring base .....	1 pc.
Screw .....	2 pcs.
Wall plug.....	2 pcs.
Quick Setup Guide .....	1 pc.
<b>Quick start guide</b> .....	1 pc.
<b>Technical specification</b> .....	1 pc.

## 5 Marking

On the labels affixed to the controller housings and sensors, the following is indicated:

- trademark of the manufacturer;
- abbreviated name of the product;
- software version;
- date of manufacture;
- conformance mark;
- production serial number;
- bar code duplicating text information.

## 6 Disposal

**6.1** The kit poses no hazard to life, human health, and the environment; after the expiry of its service life, its disposal is carried out without taking special measures of environment protection.

**6.2** Disposal of batteries, BAT shall be carried out by handover to the trading organization, service center, equipment manufacturer or organization engaged in the reception of waste batteries.

## 7 Manufacturer warranty

**7.1** The manufacturer guarantees the compliance of the kit devices with the technical conditions if the consumer observes the conditions of transportation, storage, installation, and operation.

**7.2** The warranty period of storage is 5 years 6 months from the date of manufacture.

**7.3** The warranty period is 5 years from the date of commissioning, but not more than 5 years 6 months from the date of manufacture.

**7.4** The manufacturer is obligated to repair or replace the kit devices during the warranty period.

**7.5** The warranty is not effective in the following cases:

- in case of non-observance of the established technical norms of operation;
- in case of mechanical damage to the kit devices;
- when repairing the kit devices in a service center not authorised by the manufacturer.

**7.6** The warranty applies only to the controller, Astra-5121, Astra-3321. All third-party equipment used together with kit devices shall be covered by their own warranties. The warranty shall not apply to WI-FI cameras, recharge batteries, batteries, power adapters, connecting cables used together with the kit devices.

**The manufacturer is not liable for any damage to health, property or other accidental or intentional loss, direct or indirect damage based on the user's statement that the kit has not fulfilled its functions, or as a result of misuse, failure, or temporary inoperability of the kit devices.**

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