

# Passport of the Smart Intercom Sokol Plus (rev. 5)

## 1. General Information

The multi-apartment intercom ISCOM X1 rev.5 (trademark name — Sokol Plus) is designed for organizing authorized access to residential multi-apartment buildings and office premises.

The intercom allows for video surveillance of the area in front of the entrance door, supports voice and video communication with visitors, has a built-in IR illumination, motion detector, and OSD with configuration options.

The intercom connects to the Internet and, through an installed application on the subscriber's smartphone, enables video communication with visitors. Audio and video are transmitted using the SIP and RTSP protocols. It features an RFID Mifare reader. The door can be opened using wireless RFID tags or via API commands. In addition to the main output, there is an option to connect an additional output. The primary output is controlled via an integrated lock control board (magnet-intercom). The additional output is managed by connecting an external lock control board.

The intercom is housed in a metal, vandal-resistant, dust- and moisture-proof casing.

The intercom features an optical tamper that alerts in case the housing is opened, removed from its mount, or detached from the surface.

The device has a wide power supply range and the capability to measure and adjust input voltage.

It can be installed both outdoors and indoors. Operating temperature range is from -50 to +50 °C, with a permissible relative humidity of 75% at +15 °C.

## 2. Completeness

The intercom is manufactured as a monoblock device, including a keypad, display, microphone, speaker, video camera, RFID key reader, LED indicator showing the operating mode of the device, and connector blocks for connecting call panels and power supply.

The panel is made of durable aluminum alloy, with all components having a concealed design, ensuring high vandal-resistant properties.

### 3. Technical Specifications

Purpose	Fully functional IP intercom
Design	Monoblock
Reader/Keys	RFID MIFARE reader. Option to connect an external Wiegand reader
Display	6-character 14-segment LED display with adaptive brightness. Option to connect an OLED display
<b>Operation</b>	
Power Supply	9-27V 3A (DC)
Supported Switches	<p>The intercom supports simultaneous connection of up to four coordinate-matrix switches (up to three for Vizit).</p> <p><b>Analog:</b> Recommended: Cyfral KMG-100 Beward KKM-100S2</p> <p>Tested and supported: Vizit BK-4 Vizit BK-10 Vizit BK-100M Metakom COM 80 U Metakom COM 80 UD Eltis KM100-7.2</p> <p><b>Digital:</b> Daxis DP-K2D</p>
Supported Tubes	<p><b>Analog:</b> Recommended: Cyfral KM-2NO</p> <p>Tested and supported: Vizit UKP-7, Vizit UKP-12, Faktorial</p> <p><b>Digital:</b> Laskomex LM-8D</p>
Power Consumption	No more than 12W
Operating Temperature Range	-50 to +50 °C
Protection Class	IP66, IK08
Body	Metal vandal-resistant housing and vandal-proof backlit keypad

Weight (net)	800 g
Dimensions	293.6 x 98.9 x 43 mm 293.6 x 98.9 x 6 mm (when mounted flush)
Amount of Keys	25,000 (7 bytes)
Number of Subscribers	10,000 apartments
<b>NETWORK AND INTERFACES</b>	
Network Interface	10BASE-T/100BASE-TX
Supported Data Transmission and Control Protocols	TCP/IP, SIP v.2.0, HTTP, DDNS, DHCP, RTSP, UDP, NTP, TCP, ICMP, ARP, IGMP, FTP, DNS
Connection	DHCP, статический адрес
Connectors and Interfaces	<p>RJ45 - for network connection (connection cable — twisted pair (UTP 4PR 24AWG, CU, CAT5e) or patch cord)</p> <p>Terminal Blocks:</p> <ul style="list-style-type: none"> <li>• 5-pin - for power supply and lock control;</li> <li>• 10-pin - for peripheral connection (switches up to 3 pcs, exit button, exit button backlight);</li> <li>• 12-pin - for connecting an analog output (if the option is available), external Wiegand reader, external board for controlling the second output;</li> <li>• 5-pin for connecting other peripherals</li> </ul>
Analog Video Output	NTSC 976x494 (additional option)
Additional	Support for external readers according to Wiegand standards 26, 34, 36, 40, 42, 56, 58, 64. Availability of a separate output for connecting peripherals
<b>CAMERA</b>	
Camera	HD camera Goke k7205V300 5 MP, fixed wide-angle lens 110 degrees horizontally
Camera Features	High-quality image even in challenging lighting conditions with 2D/3DNR noise suppression technology
Night Shooting	IR illumination with a range of up to 10 m, intelligent IR illumination (smart IR) without overexposing objects in the range from 0.1 to 5 m, light-sensitive matrix (no more than 0.01 lux (color) and 0.001 lux (black and white))
Additional	Motion detector; Wide Dynamic Range (WDR) technology

CMOS Matrix	1/2.8"
<b>VIDEO</b>	
Video Format	H.264 (High Main and Baseline)
Resolution (Main and additional streams)	1080p, 720p, 576p, 480p, 360p
Frame Rate	Up to 30fps depending on the selected resolution
Supported Bitrate Range	32 Kbps - 6144 Kbps, default value - 1536 Kbps
Additional	Support for bitrate in CBR format with variation: $\pm 10\%$
<b>AUDIO</b>	
Sound	Integrated speaker and microphone with software audio signal processing and echo cancellation system
Compression	G.711 (a-law, u-law), AAC
Data Transmission	Audio in duplex format and video transmitted using SIP, RTP over TCP, with mechanisms for echo and noise suppression
<b>ADDITIONAL</b>	
Number of Simultaneous Video Streams	up to 5
Programmable Buttons	SOS and Concierge
Voice Alerts	Playback of pre-recorded audio messages in intercom during entry/exit
Displaying Captions (OSD)	Display of up to three lines (text, date, time)

## 4. General Appearance

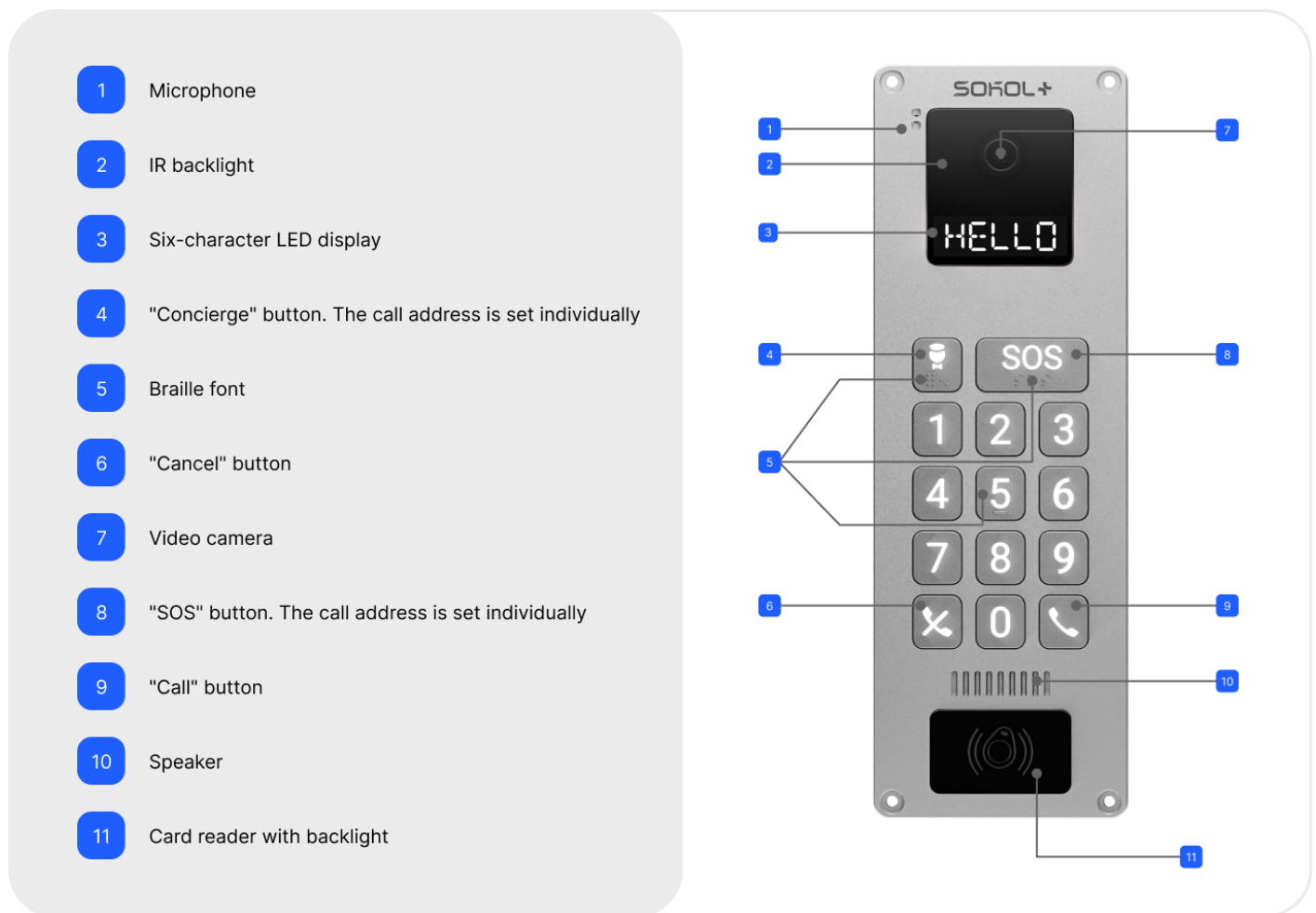


Figure 1 — General view of the device

## 5. Functionality

### 5.1. Analog Functions

- Access control;
- Unlocking the door with a contactless MIFARE key or access codes;
- Calling a subscriber's apartment by dialing its number on the keypad;
- Remote unlocking the door from the subscriber's handset;
- Opening the door from the entrance by pressing the "Exit" button;
- Dynamic backlighting of buttons;
- Audio signals when buttons are pressed and upon calling.

### 5.2. Digital Functions

- IP video surveillance (2 MP camera);
- Unlocking the door via a mobile application;
- Video calls from the intercom to the user's mobile application;
- Remote management and settings: access, sound, image, keys;

- Playback of pre-recorded audio messages in intercom during entry/exit;
- Open API.

## 6. Safety Requirements

In terms of safety, the intercom complies with the requirements of the Technical Regulation of the Customs Union "Electromagnetic Compatibility of Technical Devices" (TR TS 020/2011).

All work with the intercom (installation, maintenance) must be performed only when the power supply is OFF.

The inclusion of all devices in the 230V network is done after the entire system is installed. The final installation of the entire system is carried out after checking its operability.

### Prohibited:

- Use the intercom in explosive and aggressive environments;
- Operate the intercom with any mechanical damage (defects in the housing or cable). In case of cable damage, contact the operating organization for its replacement.

## 7. Preparation for Use

Before powering on the equipment, carefully read the Instructions for Connection and Operation

Remember, incorrect installation and configuration of the equipment may lead to dysfunction and damage!

### 7.1. Installation

To ensure the reliable operation of the intercom, a stabilized source with a DC voltage of 9-27 V should be used.

The intercom consists of a front panel and a mounting housing, the rear side of which is mounted in a specially prepared niche in the wall of the building or in the fixed leaf of the door. A stencil can be used.

The recommended installation height for the intercom is  $158 \pm 5$  cm to the upper edge. It is not recommended to install the intercom on the moving part of the door, as this may lead to displacement of the video module.

The mounting location should be selected considering the camera's horizontal field of view. Screws or bolts should be used for mounting through the holes on the front panel of the intercom.

When installing the intercom, avoid allowing foreign particles to enter the openings of the speaker and microphone. This may lead to audio distortion.

## 7.2. Connection

Connection of peripheral devices (switches, exit button from the entrance) is done through terminal blocks located on the rear side of the housing. The terminal marking for connections is shown below (Figure 2).

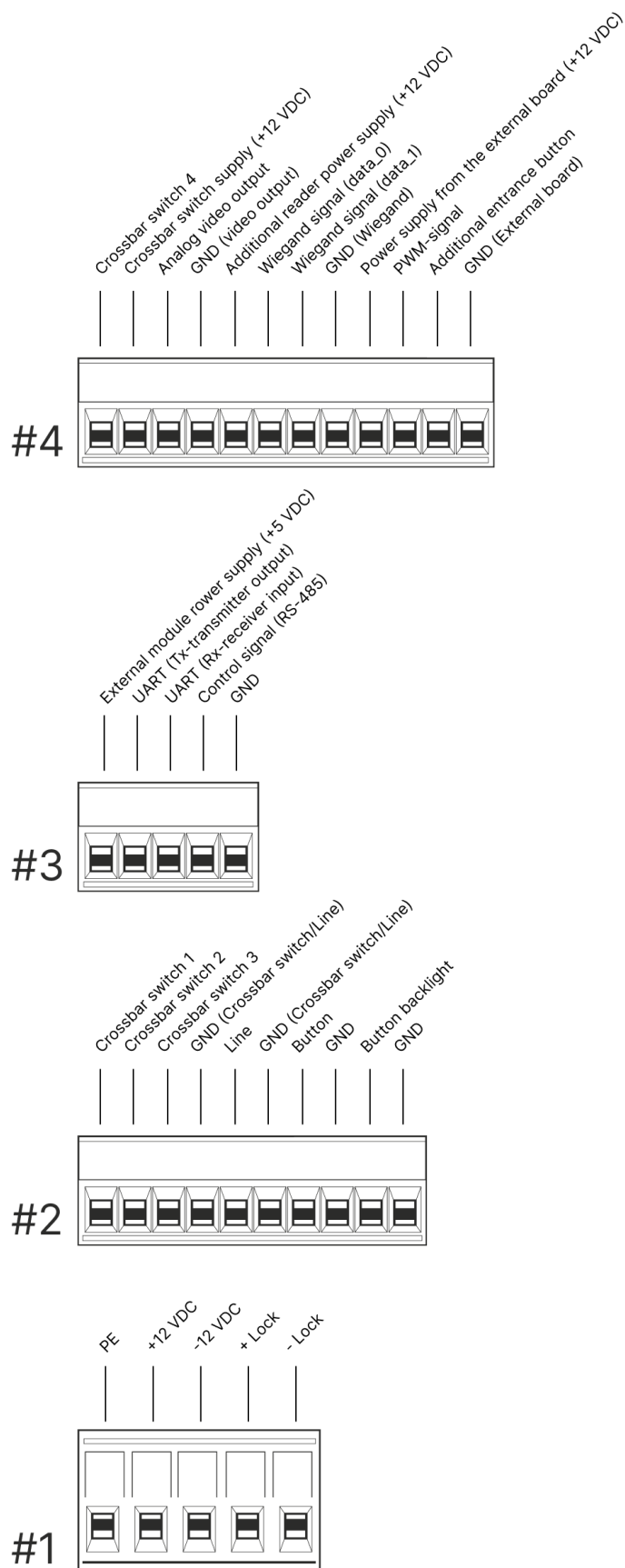


Figure 2 — Terminal Marking for Cable Connections.



Connecting wires can only be done with the power OFF..

For electrical safety and to ensure noise immunity, the intercom body must be connected to the ground terminal (earth). For this purpose, there is a connector for grounding (Figure 2).

#### **Recommendations for Communication Line Installation:**

- The length of the communication line should not exceed 50 m with a wire cross-section of 0.2 mm<sup>2</sup>;
- To avoid sound quality degradation, do not run the communication line near power lines (up to 0.5 m);
- It is undesirable to run the trunk line near sources of strong electromagnetic fields: power transformers, fluorescent lamp ballasts, etc.;
- Wires forming the trunk must be checked for short circuits before powering on the intercom. The line resistance is established during intercom installation using line measurements.

### **7.3. Configuration**

After checking all connections, the power supply can be connected. The power supply must meet the requirements specified in section "7.1. Installation".

Then, it is necessary to perform all checks and configure the intercom through the web interface according to the operating instructions.

### **7.4. Maintenance**

Before carrying out periodic maintenance, disconnect the intercom from the power supply.

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## **8. Technical Malfunctions and Their Resolution**

Malfunctions of the intercom in certain modes may be caused by incorrect programming on site. In this case, check the configuration parameters and reconfigure the device according to the operating instructions.

Disruption of the intercom's standard functioning may occur due to foreign voltage or short circuit on the line, in which case it is necessary to find and eliminate the cause of the short circuit. A list of the most frequently occurring problems is available via the link.

## 9. Transportation, Storage, and Service Life

Transportation conditions for the products follow group Zh GOST 23216, and in terms of exposure to climate factors, group 5 (OZh4) GOST 15150.

Intercom transportation is allowed by any type of covered transport ensuring protection from mechanical damage.

Finished products should be stored in packaging, in closed rooms with natural ventilation without artificially regulated climate conditions according to group 3 (Zh) of GOST 15150 in a temperature range of -50 °C to +50 °C and relative humidity of 52% at +25 °C, in conditions excluding exposure to direct sunlight, atmospheric precipitation, acid, alkaline, and other contaminants, materials that are sources of aggressive vapors, as well as other aggressive environments.

Service Life: Not less than 20,000 hours.

Upon reaching the service life, the operating organization is recommended to conduct a technical diagnosis of the intercom and make a decision regarding its suitability or unsuitability for further operation.

The criteria for the limiting condition of the intercom, beyond which further operation is not permitted, include:

- Destruction of housing units and parts (integrity violation of the housing, etc.)
- Impairment of intercom functionality resulting in an inability to perform stated functions
- Exceeding total repair costs beyond 50% of the cost of a new product

To prevent harm to the environment and human health during disposal, the following requirements apply: the intercom must be disposed of, parts sorted by material types and directed for disposal.

## 10. Delivery Package

- Smart Intercom Sokol — 1 pc.
- Packaging box — 1 pc.

## 11. Warranty Obligations

The purchased intercom requires specialized installation and maintenance. Organizations performing installation and maintenance must have the appropriate permits for these services or works (licenses, certificates, etc.). These persons are solely responsible for compliance with the work carried out and the services provided according to the requirements set out in this device Passport, as well as in the Instruction for Connection and Operation. Remember, proper installation

of the product is vital for its subsequent correct functionality and warranty service.

If during the operation of the product you find that its performance parameters differ from those stated in the operating manual, we recommend contacting the manufacturer for consultation.

The manufacturer provides a 12-month warranty from the date of purchase, but no more than 18 months from the date of manufacture. The warranty only covers manufacturing defects. A warranty case is recognized if there are no signs of tampering with the panel or damage to the warranty seal located at the attachment point of the front and rear covers. The warranty does not cover damages resulting from improper connection or operation of the device, lack of technical maintenance, failure to comply with transportation and storage guidelines, detection of signs of external interference, DIY repairs, or unauthorized changes in the design of the product or if the product was operated not according to its intended purpose or under conditions for which it is not designed, nor if there are damages caused by improper connection to the power supply.

The manufacturer sets a service life for this product of 20,000 hours from the date of sale, provided the buyer adheres to the transportation, storage, connection, and operation rules outlined in this device Passport, as well as in the Instruction for Connection and Operation.

Keep documents attached to the product upon sale (invoices, passport, receipt) throughout its service life.

The manufacturer is not responsible for:

- Direct, indirect, or consequential losses, loss of profits, or commercial losses associated with the product in any way;
- Any possible harm directly or indirectly inflicted by the product on individuals, pets, or property if this occurred due to failure to comply with operation and installation rules and conditions or through the intentional or negligent actions of the buyer or third parties.

The manufacturer's liability cannot exceed the product's own cost. In case of defects during the warranty period, it is necessary to send a written notification to the manufacturer about the detected deficiencies within one business day following the date of discovery, and then contact the place of purchase.

To repair the product during the warranty period, it is required to provide a complaint report specifying the conditions under which the fault was detected, and present the product along with its passport to the manufacturer or its official representative.

## 12. Information on Disposal

Intercoms are classified as low-hazard solid household waste and must be disposed of in accordance with GOST R 55102.

To prevent harm to the environment and human health during disposal, the following requirements apply: intercoms must be disposed of, parts sorted by material types and directed for disposal.

# 13. Manufacturer's Contacts

SOKOL LTD

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Tower, Shams Abu Dhabi, Al Reem  
Island, Abu Dhabi, United Arab Emirates  
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