



# S2000-STIK

## ADDRESSABLE COMBINED PIR MOTION AND GLASS BREAK DETECTOR

### INSTRUCTION MANUAL

#### DESCRIPTION

S2000-STIK Addressable Combined Volumetric Photoelectric PIR Motion and Superficial Glass Break Detector is designed to recognize intrusions (attempts of intrusions) to the protected areas of indoor premises as well as shattering / breaking of common windows or film-coated glass, generating an alarm signal and transmitting it to a polling loop controller. S2000-STIK detects shattering / breaking of glass being 2.5 to 8 mm in thickness and at least 0.1 square meters, one side being at least 0.3 m in length.

S2000-STIK is powered and transmits alarm signals if happened through the two-wire addressable multiplex polling loop being the part of Orion safety system and controlled by an S2000-KDL controller. Consult the S2000-KDL controller instructions for compatibility.

Functionally, the detector combines together a photoelectric (infrared) sensor and an acoustic (glass break) sensor.

The S2000-STIK detector features:

- Red and green light indicators to monitor its operability
- Programming addresses and bidirectional data communication with the S2000-KDL
- Discrete adjustment of sensitivity of the glass break sensor
- Test mode for the glass break sensor for adjusting
- Tamper proofing

The glass break sensor offers high false alarm immunity, withstanding nondestructive mechanical shocks, harmonic sound signals with an actual frequency and sound pressure levels below 70dB (for the first actual frequency) and 80 dB (for the second actual frequency), and white noise with sound pressure level below 70 dB.

S2000-STIK is intended for round-the-clock operation.

#### SPECIFICATIONS

Input Power	Via the Polling Loop
Consumed Current	4 mA max
Range of the Glass Break Sensor	6 m
Range of the Infrared Sensor	0.3 to 12 meters
Target Speed	0.3 m/s to 3 m/s
White Light Immunity	6500 Lux min
Ingress Protection Rating	IP41
Number of Actual Frequencies	2
Operating Temperature Range	-10 C to +45 C
Relative Humidity	up to 95% (for +25 C) non-condensing
Pre-Operation Time	15 s max
Overall Dimensions	130 mm × 68 mm × 44 mm
Weight	100 gram max

## WIRING THE DETECTOR

### ATTENTION!

Summarized current consumption of all the addressable devices connected to an S2000-KDL must not exceed 65 mA. If, for example, the polling loop of the S2000-KDL comprises only S2000-STIK detectors, their maximum number will be equal to:

$$n = \frac{65 \text{ mA}}{4 \text{ mA}} \approx 16 \text{ pcs.}$$

(15 pcs. are advisable for reliable operation)

Parameters of the polling loop must correlate with parameters described in the manual of the S2000-KDL.

You can check the correctness of the mounting and the correctness of the estimated number of the detectors to be connected to the polling loop by requesting for the value of the polling loop voltage at the location of the detector by means of UProg Configuration Tool. This value must be at least 9 V.

Figure 1 shows the typical schematic of wiring the detector to the multiplex addressable polling loop of an S2000-KDL.

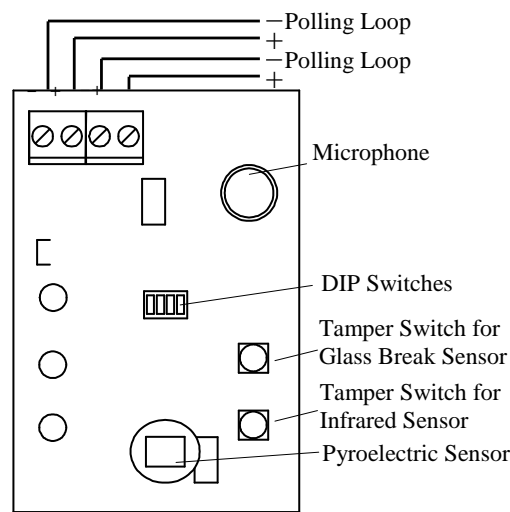


Figure 1: S2000-STIK Wiring Diagram

## PROGRAMMING S2000-STIK ADDRESSES IN THE POLLING LOOP

Each S2000-STIK detector is to be assigned to two addresses of the polling loop, one address being for the infrared sensor and another address being for the glass break sensor. These addresses are stored in the non-volatile memory of the detector. The addresses can take on the values within the range of 1 to 127.

In order to change the address of the infrared sensor or the glass break sensor, connect the S2000-STIK to the S2000-KDL and send a Change the Device Address command with the old address and the new address as parameters from the connected PC using UProg software. Please be careful not to assign the infrared sensor and the glass break sensor of the same detector to a single address.

Also you can set the required address by a Program the Device Address command. It can be useful if the same address has been incorrectly assigned to two or more detectors or sensors. To program the address of the glass break (infrared) sensor of the detector, send from the computer a Program the Device Address command with the required address as a parameter. Then press the tamper switch for the glass break (infrared) sensor in the LLLS pattern, where L stands for long pressings (between 0.6 s and 5 s) while S stands for short pressings (shorter than 0.6 s), pauses between pressings not exceeding 1 s each.

Changing the address of the infrared sensor of the detector will be indicated by a three-time switching on of the red indicator.

Changing the address of the glass break sensor of the detector will be indicated by long lighting of the green indicator.

Refer to S2000-KDL, S2000M, or Orion Pro User's Manuals for more detailed information.

## MOUNTING LOCATION CONSIDERATIONS

Considering a location to mount the detector please take into account the following:

- Do not locate the detector above heaters, radiators, etc. or close to vent openings.
- Do not locate the detector in places where it can be exposed to direct sun rays.
- In capital facilities the detector should be mounted on a wall or in a corner.
- Within light metal structures the detector should be mounted on structural frames (columns, trusses) rather than on a wall or a corner.
- To avoid condensation on the lens and case of the detector, do not attach the detector just over the entrance opening.
- There should not be any waving things like curtains and incandescent lamps in the detection area.
- In the premises where the detector is to be installed, for the time of protection all the windows, air-vents, balcony doors, etc. must be closed; all ventilators, heaters, air conditioners must be switched off; and there should not be any birds or animals.
- Non-transparent objects in the detection area (such as cabinets, room dividers, etc.) as well as glass or mesh partitions obscure the detection and result in forming of dead zones through which human's moving can be not detected.
- Being co-operated with a dynamic supersonic detector, S2000-STIK must be placed no nearer than 1 meter from it.
- A sound noise level in the protected premises should not exceed 65 dB, which approximately corresponds to noise made by talking between two persons.
- Do always close all doors and windows within armed area and shut off all equipment being able to generate acoustic noise signals.
- Attach the detector within direct visibility and a clear view of all the protected glass given that microphone viewing angle is approximately 120°.
- Locate the S2000-STIK detector within 6 m from the glass to be protected (see the examples of mounting location below).

The recommended mounting height for the detector is 2.1 meters above the floor.

## DIP SWITCHES

DIP switches #1 and #2 provide setting the sensitivity of the glass break sensor of the detector:

**Table 1**

Switch #1	Switch #2	Sensitivity
OFF	OFF	Max
ON	OFF	High
OFF	ON	Low
ON	ON	Lowest

DIP switch #3 provides activating the test mode of the detector adjusting and checking its operability. If there are no alarms, the test mode is indicated by flashing of the green indicator once per two seconds. In case of an alarm the green indicator double flashes in series.

## ADJUSTING GLASS BREAK SENSOR OF THE S2000-STIK

- ☞ Set DIP switch #3 to ON position.
- ☞ The green indicator shall display the test mode by flashing once per 2 seconds.
- ☞ Set DIP switches #1 and #2 to ON position (for minimum sensitivity).

- ☞ Carefully strike the glass at its most distant part by means of Ø21 mm steel ball fixed at a string of approximately 0.35 m in length and deflected up to a 30-60° angle. The strict value of swing angle can be taken from the Table 2. Don't stand between the detector and the glass surface while striking.
- ☞ If you don't see a series of double flashes of the green indicator, scale up the sensitivity of the detector by DIP switches #1 and #2 until the green indicator flashes.
- ☞ Put the cover on the detector and make sure the detector operates correctly with the closed cover.
- ☞ After adjusting has been completed set the DIP switch #3 to OFF position.

**Table 2**

<b>Thickness of the Glass (mm)</b>	<b>2.5-3</b>	<b>3.5-4</b>	<b>4.5-5</b>	<b>5.5-6</b>	<b>6.5-7</b>	<b>7.5-8</b>
Angle of swing for a common window glass	30	35	40	45	50	55
Angle of swing for a film-coated glass	45	50	55	60	65	70

**STANDARD DELIVERY**

S2000-STIK Detector	1 pc.
Instruction Manual	1 pc.
Wood Screws	2 pcs
Wall Plugs	2 pcs.
Machine Screw	1 pc.

## WHERE TO INSTALL THE S2000-STIK DETECTOR

Figures 2 to 4 shows the variants of correct installation of the detector while Figure 5, otherwise, shows the variants of incorrect installation.

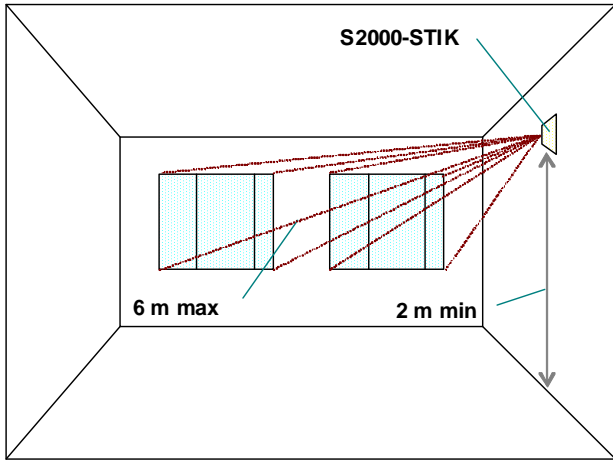


Figure 2: Adjacent Wall Mounting

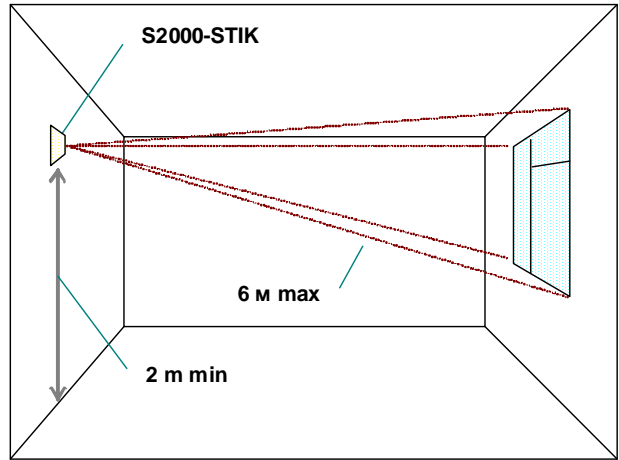


Figure 3: Opposite Wall Mounting

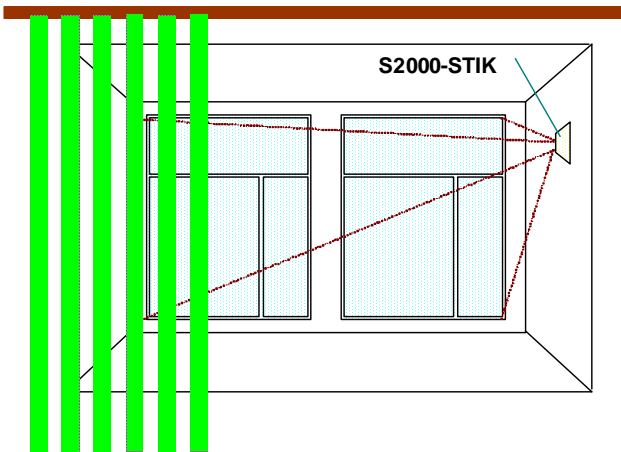


Figure 4: Mounting Behind a Window Covering

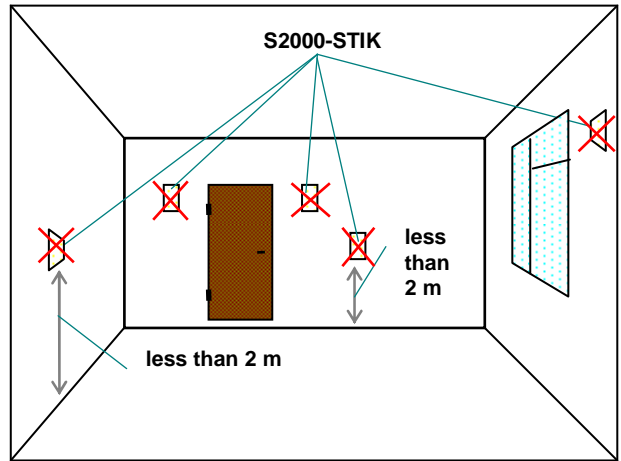
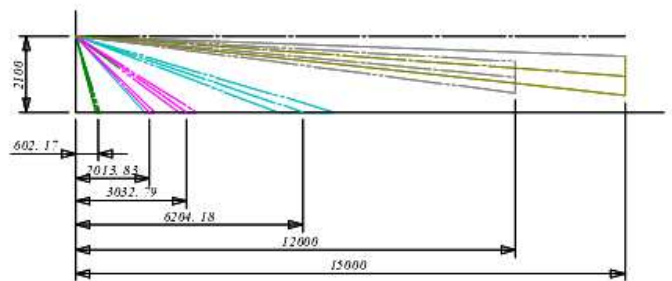
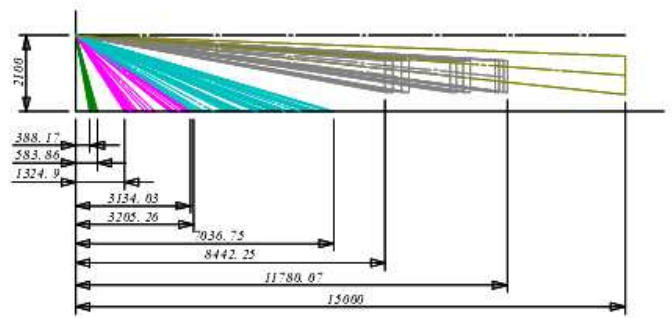
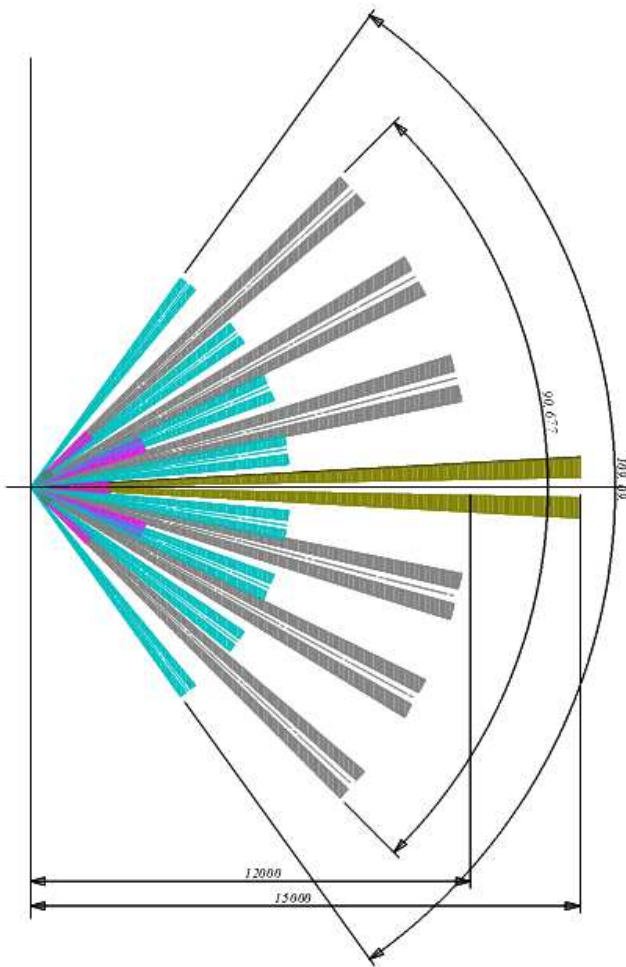


Figure 5: Inadvisable Mounting Location

# DETECTION PATTERN OF THE INFRARED SENSOR OF THE DETECTOR



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