

S2000-PIK

Addressable Ceiling Mount Volumetric PIR Motion Detector

INSTRUCTION MANUAL



GENERAL

S2000-PIK Addressable Ceiling Mount Volumetric Passive Infrared (PIR) Motion Detector (hereinafter referred to as the detector) is designed to be used indoors (within shops, offices, museums, apartments, etc.). It detects intrusion into protected areas and sends an alarm message to the connected S2000-KDL controller via the two-wire multiplex addressable polling loop.

The detector is intended to work as a part of an Orion Integrated Security System.

The detector provides increased immunity against lighting and radio frequency interference.

KEY FEATURES

- ✓ Ceiling Mounted
- ✓ Employs two dual-element pyro-electric infrared sensors
- ✓ The special lens provides the volumetric detection zone with high-density coverage offering high probability of detecting an intruder in every direction
- ✓ Protected against insects entering to the pyro-electric infrared sensors
- ✓ Microcontroller signal processing
- ✓ Powered via the multiplex addressable polling loop of the S2000-KDL
- ✓ Supports DPLS_v2.xx protocol

SPECIFICATIONS

Detection Range	Coverage diameter of 9 m at 5 m mounting height
Detection Area	Volumetric, cone-type, 10 far/ 1 mid/ 1 near zones
Optics	Fresnel lens
Input Voltage (from a S2000-KDL)	8 ÷ 10 VDC
Current Consumption (via the loop of the S2000-KDL)	0.5 mA max when indication is off
Operating Temperatures	-30 to +50°C
Humidity	95% at 25°C, non-condensing
Overall Dimensions (diameter x height)	105 × 45 mm max
Weight	0.1 kg max

MOUNTING LOCATION CONSIDERATIONS

Considering a location to mount the detector, please take into account that the detection zone must not be obscured by curtains, curtain tracks, door moulding, glass partitions, etc.

Do not locate the detector where it can be exposed to false alarm sources such as: air conditioners, heaters, radiators, etc.

The maximum mounting height is 5 meters.

Wires of the multiplex addressable polling loop should be located away from high-voltage electric cables.

The view of the detection area is shown in Figure 1.

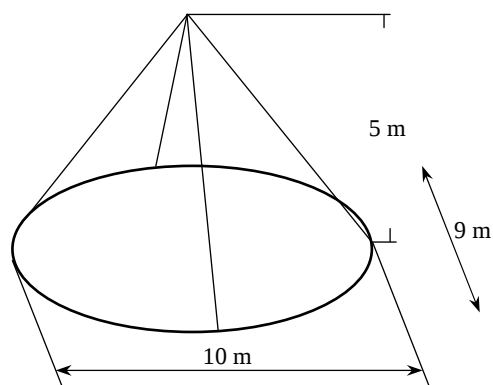


Figure 1: Detection Area

INSTALLING THE DETECTOR

1. Release the front detector cover by turning it counterclockwise until stops in the notch at the outer end of the rear cover, and then remove the cover (see Figure 2)
2. Remove the PCB, pushing the detent
3. Drill out the required holes in the rear cover (see Figure 2), the holes being used to mount and to wire the detector
4. Having selected the mounting location, mark the positions of the fixing holes taking into account mounting holes in the rear cover, and drill holes at the marked places
5. Insert wires into the wire hole leaving some centimeters for connecting wires to the terminal blocks
6. Fix the rear cover at the selected place
7. Finally, put the PCB and the front cover on their places

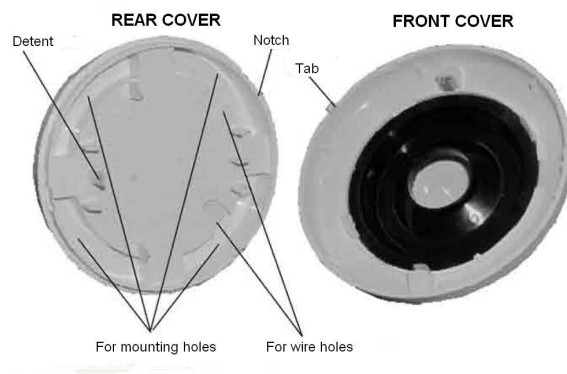
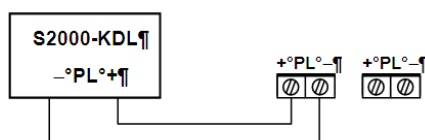


Figure 2: Rear Cover and Front Cover of the Detector

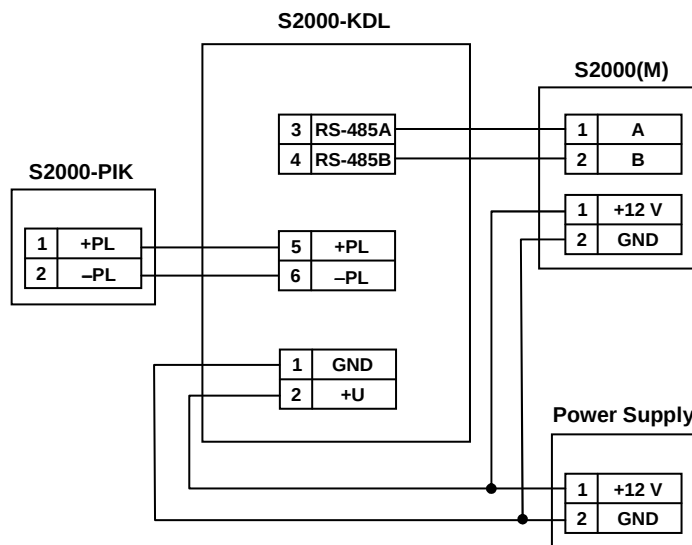
WIRING

Figure 3a shows the way to connect detector's PL contacts to the relevant contacts of the S2000-KDL.

Figure 3b shows the wiring diagram for connecting the detector to the multiplex addressable loop of the S2000-KDL controller which is in turns connected to the network controller and the power supply.



a) Connection Terminals



b) Detector's Wiring Diagram

Figure 3 Connecting the Detector

PROGRAMMING

The S2000-PIK to operate properly within two-wire addressable loop of the S2000-KDL controller, it must be assigned to a unique number 1 to 127 within the loop – the address which is stored in the S2000-PIK non-volatile memory. This address provides identifying the detector by the S2000-KDL controller. Moreover, the monitoring strategy must be defined which will be used by the S2000-KDL controller while processing signals received from the S2000-PIK.

Programming the S2000-PIK Address within the S2000-KDL Addressable Loop

An S2000-PIK is supplied with the default address of 127. This address value can be changed using either S2000(M) console tools or PC tools such as UProg Configuration Tool.

In order to program the unique S2000-PIK loop address, connect it to a S2000-KDL controller which is in turns connected to a network controller (an S2000(M) console or PC under UProg software). Then send one of the following commands to the S2000-KDL controller (for getting more information see the relevant User's Manual):

Change the Device Address

Use the *Change Device Address* command specifying the old detector address and the new detector address as the parameters (see more information in the referred Manuals). The network controller will display the messages about disconnecting the device with the old address and then detecting the device with newly programmed address.

Program the Device Address

If the device address is unknown or two devices have the same address then use the *Program Device Address* command specifying a required address as the parameter. Then remove the detector cover and ensure the LED is flashing indicating programming mode (frequent short flashes every 2 s). Next, press the tamper switch in LLLS pattern, where L stands for long pressings (longer than 0.5 s) while S stands for short pressings (shorter than 0.5 s), pauses between pressings not exceeding 1s each. If the address has changed successfully, the LED will be lit steady and a message about detecting the device with the newly assigned address shall be displayed by a network controller (S2000(M) or UProg Configuration Tool). If you failed to assign the address, wait for 2 s and repeat programming.

Programming the S2000-KDL to Operate the S2000-PIK

To handle signals from an S2000-PIK correctly, the S2000-KDL controller which the detector is connected to must be programmed with the *Zone Type* parameter for this S2000-PIK being set to value 4 (*Intrusion*), or 5 (*Intrusion with Tamper Check*), or 7 (*Entrance*), or 11 (*Panic*), or 6 (*Auxiliary*). To program the S2000-KDL, connect it to a PC under UProg Configuration Tool and follow the relevant programming instructions in accordance with the S2000-KDL User's Manual.

WALK TEST

Connect the detector to the multiplex addressable polling loop as shown in Figure 3a. Then power on the controller and wait for about two minutes. Next, walk through the detection pattern with the speed of 0.5 m/s to 1 m/s. The detector should issue an alarm and its LED should flash. Wait until the LED finishes flashing, and then begin crossing the detection pattern from another side. The detector should issue an alarm. If nobody is moving within the detection pattern, no alarms should be issued.

ENABLING/DISABLING LED INDICATION

LED indication can be controlled either *via a PC* or by means of the *detector tamper switch*.

If LED indication is to be controlled via a PC, by the connected S2000-KDL, the S2000-KDL should be specifically configured from the PC using the UProg Configuration Tool. The parameter *Device Indication Control* of the S2000-KDL polling loop input zone which is assigned to the S2000-PIK should be set to a proper value. By default, Device Indication Control is set to the value of 1, providing LED indication in accordance with the detector's own pre-determined algorithm. To disable indication, set this parameter to zero.

If LED indication is to be controlled by the tamper switch, the algorithm is as follows. On detector's switching on the LED indication is enabled (unless the input S2000-KDL zone assigned to the detector is configured with disabled indication). To disable indication, press the tamper switch in LLSL pattern; otherwise, to enable indication, press the tamper switch in LLSS pattern, where L stands for a long pressing (longer than 0.5 s) while S stands for a short pressing (shorter than 0.5 s). Pauses between pressings must not exceed 1 s each.

WARNING



To ensure proper operation, perform testing the S2000-PIK detector annually as described above.



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