User manual

PIR900

Fabriksvej 20 ● DK-7600 Struer ● knop@knop.dk ● knop.dk ● +45 97840444

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Warnings and safety instructions

- The battery in this product must compile with the relevant IEC safety standards for batteries.
- Do not consume or eat the battery, risk of chemical burns.
- Keep new and used batteries away from children.
- If the battery compartment cannot be closed properly, discard the product and keep it away from children.
- Read the intended use before use.
- Batteries should be checked regularly.
- The product is not water-resistant unless noted in product specification.

Contraindications

In general, the product cannot be used if:

- The disabled client/patient is mentally ill.
- The disabled client/patient is critically ill.
- The client/patient is unable to use the transmitters.

Lifetime after mounting of the device

The battery, if applies, must be replaced when the battery replacement information appears on the display and according to the user manual.

Lifetime is evaluated in relation to the pressure button. This is made according to the supplier's specification.

Lifetime battery (products using battery, only)

KNOP calculates the life of the batteries. See specification in the user manual.

Intended use

In general, the different variants of the medical device (transmitters/receiver system from KNOP Elektronik) are made as assistive aid for impaired/disabled patients to be able to call for assistance.

The various variants of the medical equipment consist of a combination of products (transmitter and receiver) designed to call for help to impaired/disabled patients; The transmitter-receiver system can be activated in different ways:

- For example, patients who actively do this and are aware that they are calling for help, such as e.g., people with walking difficulties who need help going to the toilet.
- Or disabled patients who are not aware that they are inadvertently putting pressure on the sendere.g. during a seizure.

- Or patients with intellectual and cognitive deficits who are not aware that a receiver is receiving a signal from their transmitter when they leave a house or room.

The system is not designed for critically or mentally ill persons.

General product description

The products manufactured by KNOP elektronik consist of several variants of transmitters and receivers that can be combined with each other. In addition, these products are used in combination with positioning and repeater systems.

These products are medical devices intended to call for assistance and are used for disabled/mobile people, such as those with walking difficulties who need help going to the toilet. The transmitters are activated, for example, by a sound or by pressure (e.g. by pressure with a finger or a breath through the mouth). The recipient is supervised by health care personnel or lay people in private homes.

The system is not designed for critically or mentally ill people.

Part of product	**Function in the product system**
Transmitter	The transmitter can send the signal obtained from the patient to the receiver monitored by the healthcare personnel or lay person. The transmitter products can be activated by button, sound, blow or movements.
Receiver	The transmitters can be coded into all the receivers and to several receivers at the same time. Some receivers also have a summon button for calling assistance from their coworkers.
Repeatersystem	If it is needed to cover a more comprehensive and larger area a repeater system is used. The repeater system also gives an increased functionality as e.g. that an alarm automatically is received at first at the healthcare person closest to the client.
Positionsystem	If a sender is equipped with a position receiver it can be used in connection with a Position system. Not all product variants include position receivers. Typically, it is seen in connection with nursing homes and security for patients with dementia. The receivers can be portable or stationary.

Product description

PIR900 is a transmitter designed to send codes to a KNOP 900 series wireless receiver.
The transmission takes place when a person moves over the edge of the bed or when the person walks on the floor. Please note the interval described in the section
"Checking the coverage area".
PIR900 can also detect the opening and closing of a door using the magnet provided.
Once PIR900 is in place, it must be tested.
Stand outside the activation area. Enter the activation area and see if the LED "IT" flashes on the front of PIR900 each time it is activated.

Commissioning

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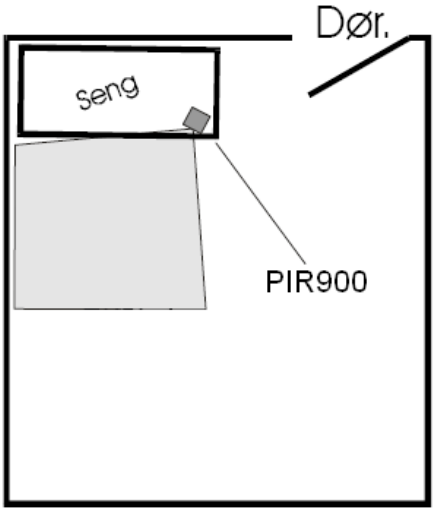
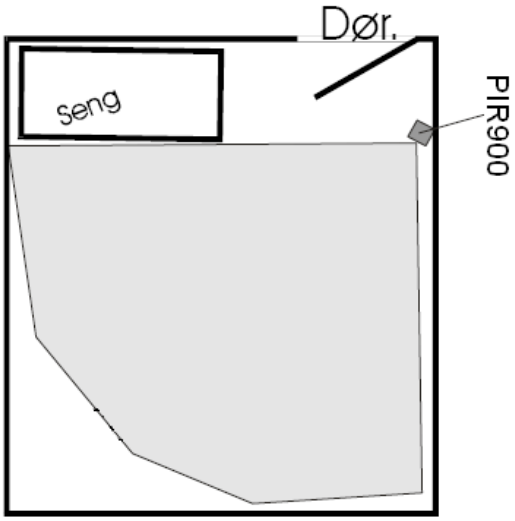




Placement of PIR900 as a bedside monitor

Attach PIR900 to the wall using the Velcro straps or insert it into the socket for floor placement.
Please note that PIR900 is an infrared detector that reacts to temperature changes,
Therefore, do not place it directly in the sun, close to drafts from open windows and doors, or other objects that can change the temperature significantly.

Installation of PIR900 as a door guard

Mount the PIR900 on the door frame with the supplied Velcro straps.

Mount the supplied magnet on the door next to PIR900 so that the top edges are aligned. The distance between PIR900 and the magnet must not exceed 10 mm. The magnet can be placed on either the right or left side of PIR900.

Switching between the bed and doorman

PIR900 is always delivered from the factory in the bed position.

By pressing F1 for about 5 seconds, the PIR900 switches between the bed and door protection.
When PIR900 has switched mode, it will be confirmed with a sound.

The display shows  or  for either bedside or doorman mode.

Service

NOTE: The service is the same for both the bed and door cover.

Press ON OFF for about 2 seconds to turn on PIR900.
The light now turns on or off and PIR900 is acknowledged with a sound.
PIR900 can then be used.

Pressing ON OFF will toggle the PIR900 between OFF and ON.

When PIR900 is switched on, check that it is in the desired position (see section "Switching between the bed and door protection").

Service with ByPass

NOTE: The service is the same for both the bed and door cover.

If  it is set to ON in the programming menu (see section "Programming Guide"),
this function allows you to start a delay. This allows you to get away from the PIR900's activation area before it detects movement. The delay is 10 seconds.

If PIR900 is activated, it will only send an alarm after the delay  has expired.

This allows the caregiver to cancel the alarm by briefly pressing F1 or ON OFF to switch off the PIR900.

Programming Guide

Note: If no selection is made within 15 seconds, programming is terminated, if PIR900 leaves the programming menu no changes are saved.

- Press ON OFF and hold F1 or 5 seconds (start with F1).
- The display flashes 
- The PIR900 then switches to the programming menu.
- The display now shows  and the indicator **OFF** or **ON** lights up.
- Pressing F1 displays the status of the indicators **OFF** and **ON**.
- Pressing ON OFF displays the options (these are discussed later in the "Options" section).
- After  the software version  is displayed and the next press ON OFF will exit the programming menu.
- PIR900 remembers the changes made to the settings.

Alternativ

ByPass: Select whether the delay is OFF or ON.
(ByPass is factory-set to OFF) (see section "ByPass/Delay Setting Options".)

Delay: specifies the time that elapses between an alarm and the next alarm. 0-9 min.
(Delay is factory set to 1) (see section "ByPass/Delay Setting Options").

Pulse: Indicates how many activations are required within 4 seconds to trigger an alarm.
(Pulse is factory set to 2)

Enable **L**ed: Select whether the indicator status should be OFF or ON.
(Enable Led is factory set to ON)

Device / Separate: Transmit codes (For future use).
(Device is factory set to ON)

Door**C**lose: Specifies whether to send an alarm or status when the door is closed.
(DoorClose is factory set to OFF, i.e. a status is sent.)

HF: Sets whether RF alarm and status are sent when the product is in use.
(HF is factory set to ON) (see section "HF/Relay options".)

Ao: Specifies whether the device can be turned off by the user.
(Ao is factory set to OFF)

Software version: indicates the software version of the product.

ByPass/Delay options

You can set the ByPass and delay time in several ways in PIR900.
In this section, we will try to explain two examples of how they can be set.

In the first example, ByPass is set to on and Delay is set to d1.

When ByPass is on, PIR900 starts counting down from 9 to 1, after which it starts sending an alarm. If Delay is set to d1, PIR900 cannot send messages again until after one minute of silence in front of the PIR element.

In the second example, ByPass is set to off and Delay is set to d0.

When ByPass is set to off, PIR900 starts sending an alarm when it is activated. If Delay is set to d0, PIR900 can send notifications when there is an activity in front of the PIR element.

Battery alarm

Each time an alarm is sent, the battery is checked.
If the battery voltage is low, a beep will be heard every 7-10 seconds. When an alarm is sent, "LO BA" flashes in the display.

At the same time, low battery status is sent to the receiver in the system.

Replacement of batteries

- Remove the battery cover at the back of the product.
- Insert two new LR6 Alkaline batteries.
- Remember to insert them correctly. See marking in the battery compartment.
- Check the product is working correctly.

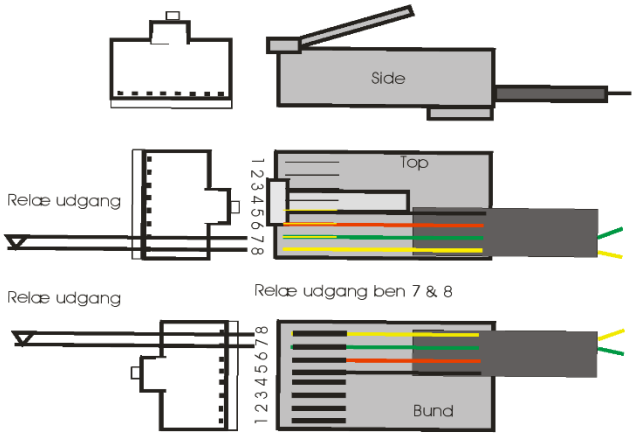
Setting options for HF/Relay

You can choose to disable the RF module in the PIR900 if you only want to use the relay output of the product. This way the PIR900 will not send alarms repeatedly because there is no feedback. This is done by entering the menu and setting HF to AV.

Relay output

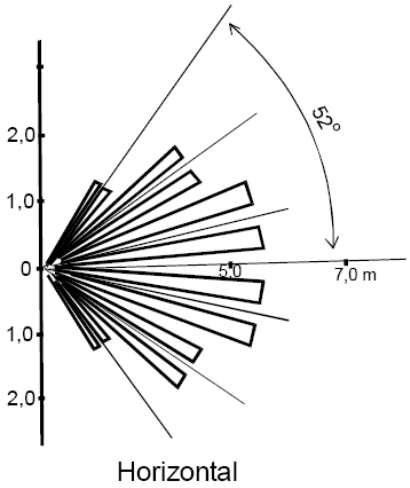
Potential-free relay output max. 24V/100mA: Ben 7 and 8.

DC supply: pin 1 GND. Leg 2 +3 volts.

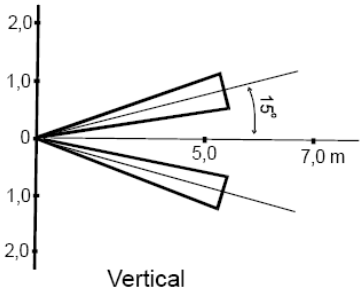


Activation area

The infrared activation range of the PIR900 is ±52° in the horizontal plane and ±15° in the vertical plane. Straight ahead, 5-10 meters, decreasing periphery.



Horizontal



Vertical

Cleaning

The product can be cleaned with a moist cloth or a wet wipe.

Check the coverage area

One person activates PIR900 at short intervals, while another person systematically walks around the area and marks on a sketch the building and the area where there is coverage. The sketch is placed in the office so that everyone who must manage the system can see where there is coverage. Outside the coverage area, alarms cannot be received.
The coverage area can be extended by using a repeater system from KNOP Elektronik.

Contact your retailer for more information.

Accessories

Product:	**Item number:**
Intermediate	Cable MK-201
Socket	Socket-PIR2003
Magnet	2301

Technical data

Frequency HF:	869.2125 MHz
Range:	Up to 50 m range to an RX901B (1)
Battery type:	2 x 1,5V LR6/AA/E91 ProAlkaline (2700mA/h)
Operating voltage:	3V
Operating time (expected):	12 months with 10 transfers per day.
Low battery alarm/indicator:	Approx. 1/3 of the remaining capacity.
Power consumption in standby:	<150µA.
Power consumption inactive:	<230µA.
Power consumption active:	<50mA on average a transmission.
Surrounding environment:	Indoor use. ≤ 90% non-condensing
Ambient temperature:	0°C to +40°C
Cabinet type:	Colour RAL9001 ABS
Cabinet dimensions:	W: 65mm, H: 120mm, D: 22mm.
Density:	IP20
Connections	8-pole modular contact: potential-free relay output, pins 7 & 8 max. 24V/100mA. Pin 1 and 2 DC supply, other pins must not be used.
Weight:	145g

The right to make changes is reserved.

(1) Measured outdoors with an unobstructed view between transmitter and receiver. In buildings, the range is reduced.

Explanation of symbols and approvals

CE	**This product complies with:** Directive 2017/745/EU MDR Directive 1907/2006/EU REACH Directive 2011/65/EU RoHS Directive 2012/19/EU WEEE ISO 14971:2019 Risk Management for Medical devices EN 301 498-1 V2.2.3 Electro Magnetic Compatibility EN 301 489-3 V3.1.1 Electro Magnetic Compatibility EN 50130-4:2011 + 2014 Immunity alarm systems EN 300 220-1 V3.1.1 Short Range Devices EN 300 220-2 V3.1.1 Short Range Devices EN 300 220-3 V2.1.1 Short Range Devices EN 60601-1-2:2014 + 2015 Electromagnetic compatibility (Medical) EN 62368-1:2020 Electrical safety EN 50581:2012 Hazardous substances
	The product must not be used if the packaging is damaged.
MD	**Medical Device** Class 1, rule 1
	Manufacturer KNOP Elektronik A/S, Fabriksvej 20, DK-7600 Struer, Denmark
	Read the manual(s) before installation and commissioning at www.knop.dk.
	Interference may occur in an environment with equipment marked with this symbol.
	Must be protected against liquids.
	0 °C to +40 °C, temperature limit for transport/storage and use.
	The product must not be disposed of with normal household waste.
SRN	**Single Registration Number** DK-MF-000025631
UDI	**Unique Device Identifier** 05744002850021
REF	**Product reference** PIR900 Motion Alarm
SN	**Serial number** Placed on the product
IP	**Ingress Protection Code** IP20