

Installation Manual

POS901

POS901L

POS901S





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Warning and safety instructions



- Read intended use before putting it into service.
- The unit must only be connected to a 15W limited power supply.
- Avoid direct sunlight.
- 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

POS901 is a transmitter designed to send positions to KNOP 901 series products with built-in position receiver, e.g., TX901AP. These products must be set to different modes of operation when a position is received.

POS901/POS901L require advanced product settings to be set during installation and commissioning. Please refer to the KNOPtool manual for advanced settings.

The POS901/POS901L requires no subsequent operation or setting.

POS901 is with a built-in antenna and POS901L is used for loop antennas e.g., outside underground, inside under floor or above/at ceiling.

POS901S is an external/extra antenna for POS901.

Factory settings of POS901:

ID = 1

Coverage area (typical) = 70%

Factory settings of POS901L:

ID = 1

Coverage area (typical) = 50%

Coverage depends on building materials!

Normally as a minimum the "ID" of POS901/POS901L must be set in KNOPtool afterwards, in addition other products must be set to the desired functionality.



Indicator of POS901/POS901L

The product's LED may indicate the following:

- Lights green when POS901/POS901L is running under normal conditions.
- Flashes green when POS901/POS901L is calibrated.
- Lights yellow when POS901/POS901L has reduced power e.g., too hot.
- Flashes red when POS901/POS901L has a fault - contact your dealer for service.
- Flashes fast red when POS901/POS901L is connected to KNOptool.

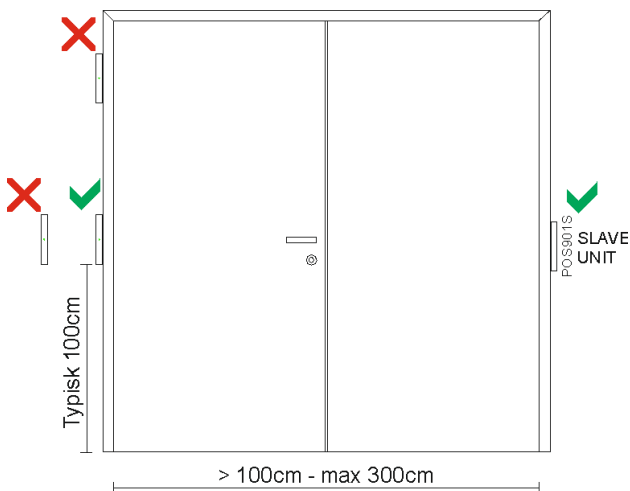
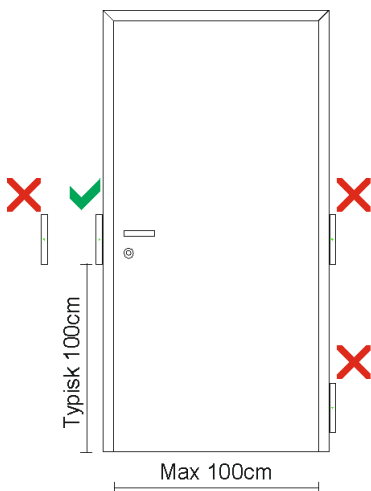
Note that in settings, via KNOptool, the indicator can be switched off but not in case of an error.



Mounting the POS901

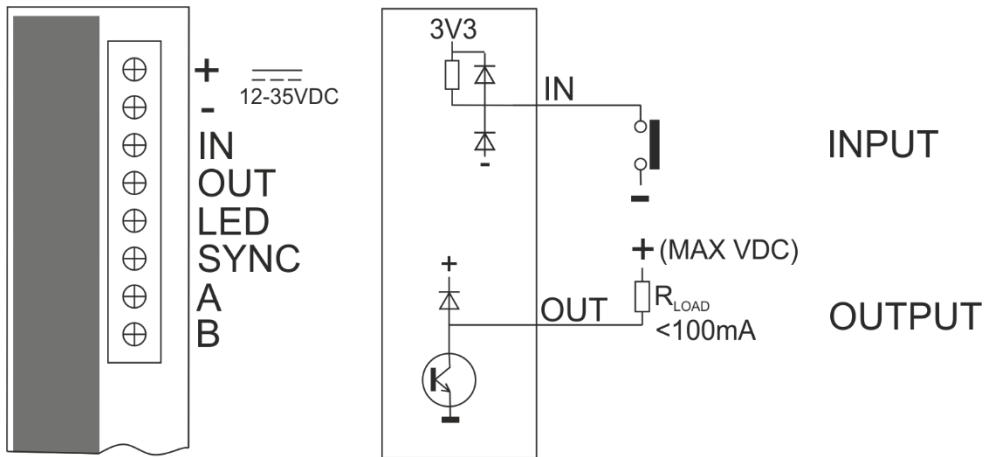
It is important to:

- POS901 is mounted close to the door opening or frame and at a height of approx. 100cm.
- POS901 must be mounted vertically.
- POS901 must NOT be mounted on or near metal e.g., aluminium frames on doors. We recommend keeping a distance of minimum 30cm.
- POS901 can be turned with the screw terminals either up or down. POS901S must be turned the same way as POS901.
- POS901 is mounted with appropriate screws and any wall plugs as appropriate (not supplied).
- The cable must be pulled into the box at the clamping strip through the bottom or at the break in the top.
- Remove the top - mark the required screw holes - drill - wall plugs - fit the wires - assemble the unit - unscrew the unit.





Connecting the wires



Power supply +/-:

POS901 requires a supply of 12-35 VDC (max 15W) either as a mains adapter 12VDC/1A or a central power supply with battery backup if desired.

NOTE, the device may only be connected to a limited power supply of max 15W.

Power supply not included.

OUT:

The output is activated if the automatic door open/lock function is enabled in the product settings, see KNOPTool.

LED:

Data for POS901S.

IN:

Feedback whether the door is closed or not. If the entrance is low, the door is closed. It is possible to send two different positions depending on whether the door is closed or not. See KNOPTool.

SYNC:

P.T. no use.

A/B:

Connection points for slave POS901S.



Setting up the POS901

It is important that POS901 is set in KNOPtool.

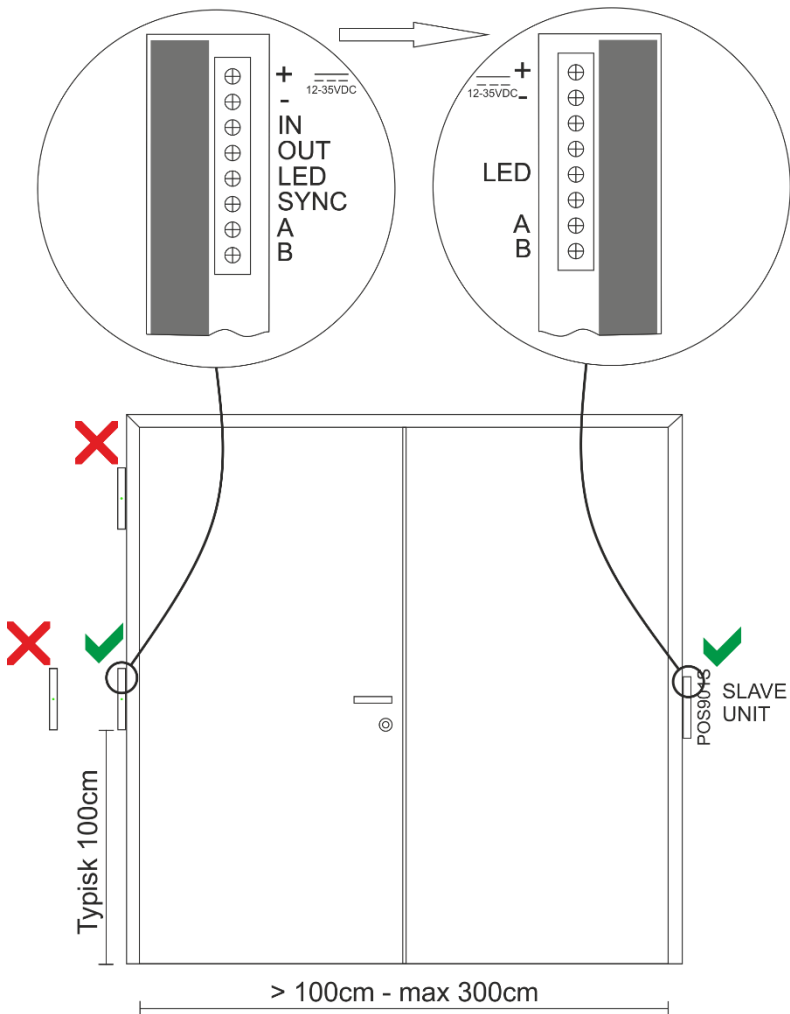
- The position number must be changed as a minimum. The factory position is "1".
- The other products which want to use the position number must be programmed to handle this.
- For functional testing it may be necessary to adjust the range.
- The range of POS901 can be set in KNOPtool between 10% and 100%. Typically, 100% corresponds to 200cm depending on the building materials the device is mounted on. It is possible to select "Reduced range" if a very small range is desired approx. 5 - 50cm.
- If the POS901 is used together with the POS901S (external/extra antenna) the range is increased too about double. The POS901S function must be selected in the KNOPtool.
- Typically, the range is set to 70-80%.
- If POS901 is used together with POS901S, the range is doubled, i.e. the range is set in KNOPtool to half the door width + 50%.
E.g., POS901, 100cm (door width) is typically set to 70%
E.g., POS901 + POS901S, 200cm (door width) typically set to 70%
- It is always necessary to test the installation. Use KNOPtool "LF position" tester.



Mounting the POS901S

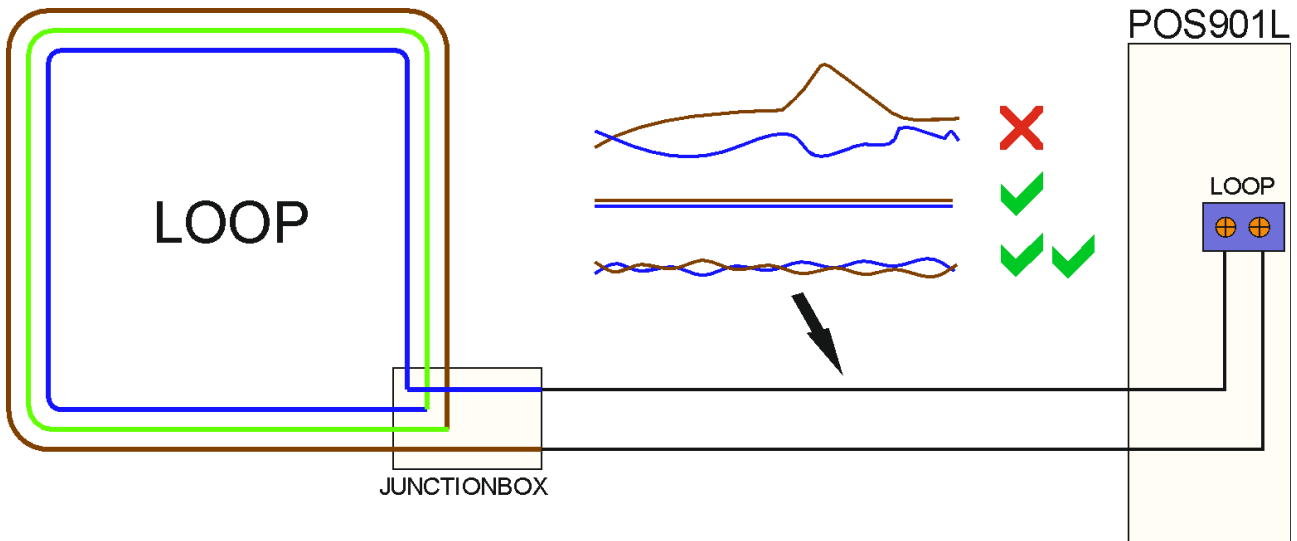
It is important to:

- POS901 and POS901S are turned the same either with terminals upwards or downwards on both units.
- POS901S is connected to POS901 terminal A, B, LED, +, -.
- POS901S must be activated on the used POS901 via KNOPTool.





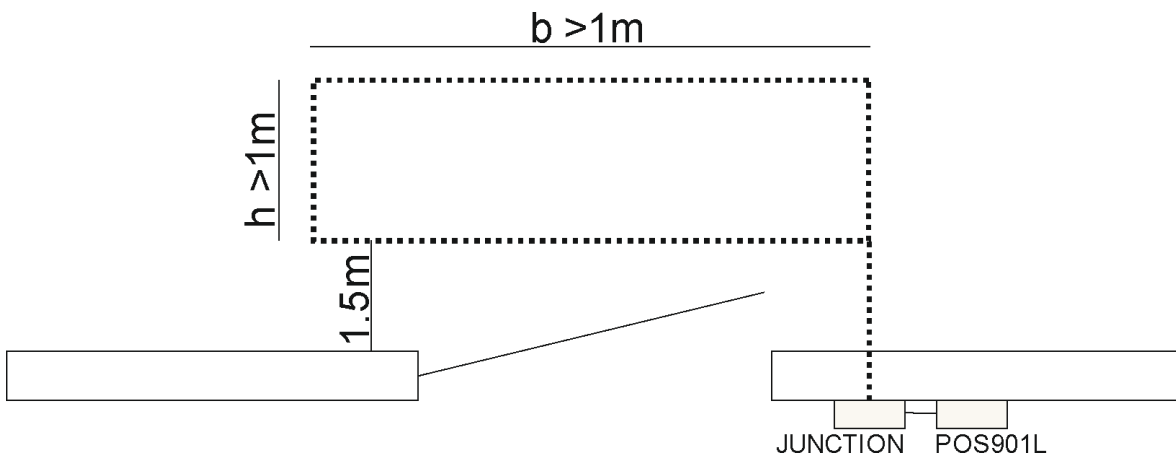
Mounting the POS901L



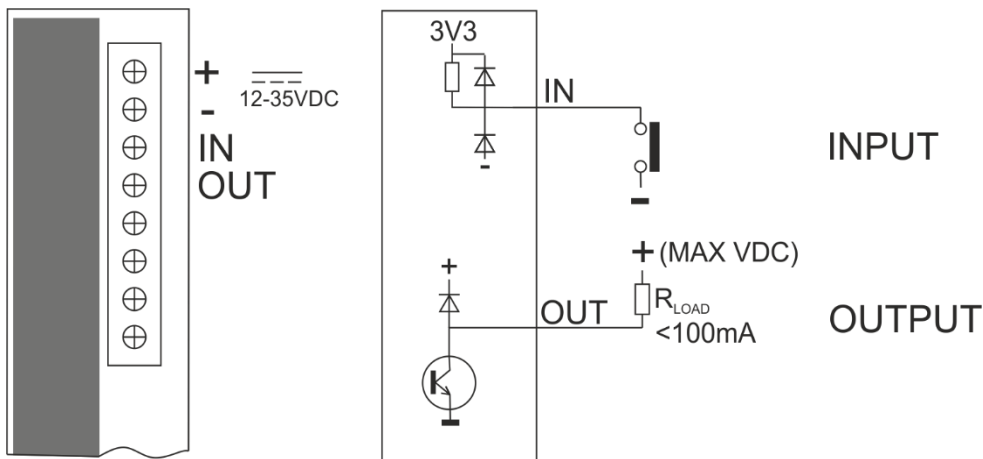
Loop turns:	Size:
1 loop	50m2 ->
2 loop	10 – 50m2
3 loop	1 – 10m2

It is important during installation to:

- The antenna is more than 1 x 1m and be up to 2 x 100m
- Max 20cm below ground, floor or ceiling.
- Distance between antenna and house wall may be necessary externally to avoid too much radiation inside the house. Remember that if the distance is too great, you can slip past.
- Junction box and POS901L can be mounted typically slightly above floor level considering the room and applicable regulations it is mounted in.
- May be difficult to use in multi-storey buildings due to radiation between floors but this depends on the installation.



Connecting the wires POS901L



Power supply +/-:

POS901 requires a supply of 12-35 VDC (max 15W) either as a mains adapter 12VDC/1A or a central power supply with battery backup if desired.

NOTE, the device may only be connected to a limited power supply of max 15W.

Power supply not included.

OUT:

The output is activated if the automatic door open/lock function is enabled in the product settings, see KNOptool.



IN:

Feedback whether the door is closed or not. If the entrance is low, the door is closed. It is possible to send two different positions depending on whether the door is closed or not. See KNOPtool.

Setting up the POS901L

It is important that POS901L is set in KNOPtool.

- The position number must be changed as a minimum. The factory position is "1".
- The other products which want to use the position number must be programmed to handle this.
- For functional testing it may be necessary to adjust the range.
- The range of the POS901L can be set in the KNOPtool between 10% and 100%.
- Typically, the range is set to 50%.
- It is always necessary to test the installation. Use the KNOPtool "LF position" tester.



Cleaning

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

Spare parts and accessories

Spare parts and accessories can be ordered from Knop Elektronik A/S at www.knop.dk.

Installation box for outdoor use, see POS901O.



Technical data

Frequency HF:	869.2125 MHz
Range:	Up to 1500m in free sight for an RX901B. ⁽¹⁾
Frequency LF/Loop:	17kHz +/- 1kHz
Range:	Up to 240cm depending on wall conditions.
External power supply:	10–24VDC
Power supply, typical:	Limited power supply of maximum 15W 150 mA
Surrounding environment:	Indoor use. <90% humidity non-condensing.
Surrounding temperature:	0-40° C
Cabinet type:	White RAL9010 ABS
Cabinet dimensions:	B: 27mm, H: 237mm, D: 21mm.
Density:	IP20
Connections:	Inputs, outputs and supply. External slave rod or loop.
Weight:	POS901: 150g POS901L: 80g

The right to make changes is reserved















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⁽¹⁾ Measured outdoors with free sight between transmitter and receiver. In buildings, the range is reduced.



Symbol explanation and approvals

	<p>This product complies with:</p> <p>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</p>
	<p>The product must not be used if the packaging is damaged.</p>
	<p>Medical Device Class 1, rule 1</p>
	<p>Manufacturer KNOP Elektronik A/S, Fabriksvej 20, DK-7600 Struer, Denmark</p>
	<p>Read the manual(s) before installation and commissioning at www.knop.dk.</p>
	<p>Interference may occur in the environment of equipment marked with this symbol.</p>
	<p>Must be protected against liquids.</p>
	<p>0°C to +40°C, temperature limit for transport/storage and use.</p>
	<p>The product must not be disposed of with normal household waste.</p>
	<p>Single registration number DK-MF-000025631</p>
	<p>Unique Device Identifier 05744002850441 05744002853442 05744002855446</p>
	<p>Product reference POS901, Position Rod POS901L, Position Loop POS901S, Position Slave</p>
	<p>Serial Number The serial number is located on the product.</p>
	<p>Ingress Protection Code IP20</p>