

# User manual

# TX901A





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## **Warning and safety instructions**



- The battery in this product must compile with the relevant IEC safety standards for batteries.
- Do not ingest/eat the battery, chemical burn hazard.
- Keep new and used batteries away from children.
- If the battery compartment cannot be closed securely, discard the product and keep it away from children.
- Read intended use before putting it into service.
- 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 sender e.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

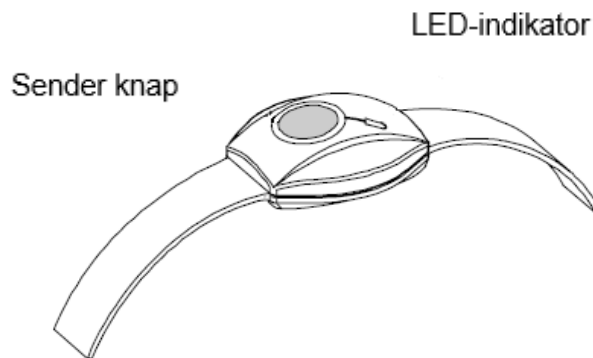
TX901A is a small battery-powered waterproof transmitter, available both as a wrist transmitter (TX901A) and a neck transmitter (TX901A-H).

TX901A-T has an additional pressure plate, which is designed for people who, for example, have arthritis in their fingers or have difficulty hitting the red alarm button.

If the transmitter is encoded in a receiver with a display, the citizen's name and possible apartment number can be shown in the display, if this is encoded when the transmitter is activated.

On activation of the red button or the keypad, the indicator lights up briefly in green. When the alarm is received by the receiver, the indicator lights green again briefly whereas if the transmission is unsuccessful, the indicator lights red. The product will repeat the transmission up to 2 times at 30-second intervals.

If the indicator flashes red/green rapidly after activation, the battery needs to be written to.



## Commissioning

The product is ready to use and only requires encoding in the desired receivers.



## ***Checking the coverage area***

One person activates the TX901A (as described above) at short intervals, while another systematically walks around the area and marks a sketch of the building and the area where there is coverage. The sketch is placed in the office so that anyone who needs to operate the system can see where there is coverage.

Outside the coverage area, alarms cannot be received.

The coverage area can be increased by using a repeater system from Knop Elektronik.

Contact your dealer for details.

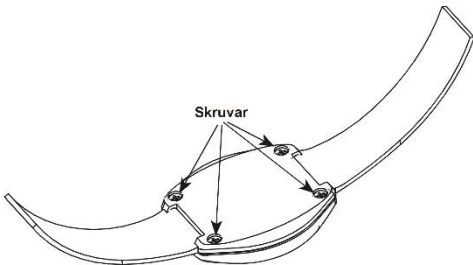
## **Battery alarm**

Each time you have activated the product, the battery is checked.

When the product is activated and the product has low battery voltage, the indicator flashes rapidly red/green, and "Low battery" appears on the display of the receiver.

## **Battery change**

TX901A uses a lithium battery, type CR2450. Replace by removing the screws on the back and disassembling TX901A. See figure A. Carefully slide the battery out of the holder and fit a new one.



Figur SEQ Figur \\*

## **Replacement of bracelet or necklace**

Replacing the bracelet or neck strap is done by removing the screws on the back and disassembling TX901A. See figure A.

There are several types of bracelets or necklaces, see accessories on [knop.dk](http://knop.dk).

## **Cleaning**

The product can be cleaned with a damp cloth or tissue.

## **Spare parts and accessories**

Spare parts and accessories can be ordered from Knop Elektronik A/S at [www.knop.dk](http://www.knop.dk).



## Technical data

<b>Frequency HF:</b>	869.2125 MHz (FM)
<b>Range:</b>	Up to 500m in free sight to an RX901B <sup>(1)</sup>
<b>Battery type:</b>	1 pcs. 3V CR2450 type Lithium
<b>Operation time (expected):</b>	3 years with 5 transmissions per day. Up to 10 years, with one transmission per day.
<b>Low battery alarm/indicator:</b>	1/3 residual capacity.
<b>Surrounding environment:</b>	Indoor use. ≤ 90% non-condensing
<b>Ambient temperature:</b>	0°C to +40°C
<b>Cabinet type:</b>	Colour RAL9003 ABS
<b>Cabinet dimensions:</b>	W: 42mm, H: 47mm, D: 16mm.
<b>Density:</b>	IP63
<b>Activation force:</b>	160g
<b>Connections:</b>	None
<b>Weight:</b>	28g
<b>Accessories:</b>	see knop.dk

The right to make changes is reserved

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





## Symbol explanation and approvals

	<p><b>This product complies with:</b></p> <table border="0"> <tr> <td>Directive 2017/745/EU</td> <td>MDR</td> </tr> <tr> <td>Directive 1907/2006/EU</td> <td>REACH</td> </tr> <tr> <td>Directive 2011/65/EU</td> <td>RoHS</td> </tr> <tr> <td>Directive 2012/19/EU</td> <td>WEEE</td> </tr> <tr> <td>ISO 14971:2019</td> <td>Risk Management for Medical devices</td> </tr> <tr> <td>EN 301 498-1 V2.2.3</td> <td>Electro Magnetic Compatibility</td> </tr> <tr> <td>EN 301 489-3 V3.1.1</td> <td>Electro Magnetic Compatibility</td> </tr> <tr> <td>EN 50130-4:2011 + 2014</td> <td>Immunity alarm systems</td> </tr> <tr> <td>EN 300 220-1 V3.1.1</td> <td>Short Range Devices</td> </tr> <tr> <td>EN 300 220-2 V3.1.1</td> <td>Short Range Devices</td> </tr> <tr> <td>EN 300 220-3 V2.1.1</td> <td>Short Range Devices</td> </tr> <tr> <td>EN 60601-1-2:2014 + 2015</td> <td>Electromagnetic compatibility (Medical)</td> </tr> <tr> <td>EN 62368-1:2020</td> <td>Electrical safety</td> </tr> <tr> <td>EN 50581:2012</td> <td>Hazardous substances</td> </tr> </table>	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
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	The product must not be used if the packaging is damaged.																												
	<b>Medical Device</b> Class 1																												
	<b>Manufacturer</b> KNOP Elektronik A/S, Fabriksvej 20, DK-7600 Struer, Denmark																												
	Read the manual(s) before installation and commissioning at <a href="http://www.knop.dk">www.knop.dk</a> .																												
	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.																												
	<b>Single Registration Number</b> DK-MF-000025631																												
	<b>Unique Device Identifier</b> TX901A: 05744002850304 TX901A-H: 05744002853305 TX901A-T: 05744002855309 TX901AP: 05744002850359 TX901AP-H: 05744002853359 TX901AP-T: 05744002855359																												
	<b>Product reference</b> TX901A: Transmitter TX901A-H: Transmitter with necklace TX901A-T: Transmitter with activation pad TX901AP: Transmitter with position TX901A-H: Transmitter with position and necklace TX901A-T: Transmitter with position and activation pad																												
	<b>Serial Number</b> Placed on the product																												
	<b>Ingress Protection code</b> IP63																												