

User manual

RX901B





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Warning and safety instructions:



- The battery in this product complies with the relevant IEC safety standards for batteries.
- Please read the safety instructions on the power supply before use.
- The power supply unit must meet the relevant IEC safety standards.
- When replacing the power supply unit or the charging plate, original and/or approved units must be used.
- The battery must not be replaced, and the product must be sent for repair.
- Please read the intended use before putting it into service.



Intended use:

RX901B is a receiver designed to work with KNOP 90X series wireless devices.

The unit can be worn in a pocket or on a necklace around the neck.

Up to 250 transmitters can be encoded and assigned a name of your choice.

The last 50 calls are stored in a list where you can see the time of the call, where the call came from, and whether it was acknowledged.

With an RX901B, it is possible, for example, to divide patients (residents) in a care institution into groups, e.g. in connection with shift schedules, where the night shift has to serve more patients than the day shift.

RX901B is equipped with a position reader, so it can be used in the KNOP positioning system.

With RX901B it is possible to make an emergency call to another colleague with a single touch.

Operation is menu-structured in a graphic display and controlled by the keyboard.

RX901B is equipped with a rechargeable battery and wireless charging.

The product is waterproof (IP65).

Commissioning:

It is recommended that RX901B be charged to 100% before use.

The supplied wireless charger connects to the adapter via the USB cable.

RX901B is placed on top of the charging plate and the RX901B's display lights up, showing the battery's charge level in percent.

If the device is fully discharged, it may take up to 5 minutes for the display to light up.

Package contents:



RX901B in the charger:



When the product is switched on for the first time, the desired language must be selected.



Press to move the green arrow to the desired language.

Press to select a language.



Home screen:

The first time the device is to be switched on after unpacking, it should be placed on the charger.

When RX901B is not connected to the charger, the screen will turn off approximately 10 seconds after the last operation.

Pressing any key turns on the display and shows the time and date.

The user's name is displayed at the top, otherwise, it is coded "RX901B".



Home screen options:



The name of e.g. a product or a location can be changed to the desired name.

The current time and date are displayed in white text.

The clock must be set.

Battery mode:

- Battery OK.
- Charging recommended.
- The battery is almost empty and needs charging.

Alarm sound:

- The alarm sound is on.
- The alarm sound is switched off.

Vibrator:

- The vibrator is activated.
- The vibrator is switched off.

System - displayed only if the system is connected:

- The system is connected.
- Connecting to the system.
- Interruption of the system signal.
- The system signal has been lost.

Press to see the call list.



Reception of alarms:

When the receiver receives an alarm from a coded transmitter, the name, type and time of the reception and any position are displayed.



Client's name
Optional text if encoded.
Type of transmitter.
Positioning for the alarm.
Button/function type.

The individual texts are only displayed if they are encoded or known.

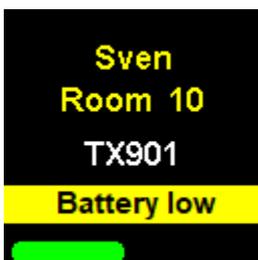
Press  to confirm the alarm.

Press  to reject.

Note: In the simple system, the alarm call is handled in the same way, regardless of whether it is accepted or rejected, instead of the KNOP repeater system (MR90X/RP90X) where the alarm is automatically forwarded to other receivers.

If the alarm is not answered, short sounds are heard approximately every five minutes.

When a message is received from a transmitter, e.g. with a low battery, the message below is displayed.



Press  to confirm the alarm.

Note: "Last call" displays the "low battery" message for the transmitter where the battery needs to be replaced.



Emergency call:

It is possible to send an emergency call (or alarm) from the recipient to e.g. other users to indicate "I need help" at a patient or as an assault alarm.

The emergency call is activated by pressing the KNOP logo.

When the emergency call is sent, the receiver vibrates once and when the emergency call is received by another user, the receiver vibrates three times.

Emergency call Transmit Emergency call!	Emergency call Transmit Emergency call!	Emergency call Transmit Emergency call!
	OK	Error!
Transmitting	Accepted	Failed



Batteryalarm:

The receiver indicates the battery status on the display and in case of discharged battery with sound indications.

Battery mode:

-  Battery OK.
-  Charging recommended.
-  The battery is almost empty and needs charging.

If the symbol changes to red, put the device in the charger immediately.
At the same time, a few short beeps will be heard about every five minutes, indicating low battery, while the screen below is displayed:





Clients and transmitters

Before you can encode a transmitter in the receiver, you must create a client to which the transmitter belongs.

A client can be a person, a room, or something else. For example, the client can be **Sven** (used as an example).

Our examples our client is called **Sven** can have one or more transmitters associated with him.

For example, **Sven** (our client) has a wristband transmitter, a bed alarm, a motion sensor, and other products.

When **Sven** activates an alarm from his products, the display shows that the alarm comes from **Sven** and which product is the sender, so that the cause of the alarm is known from the beginning.

This of course assumes that names etc. are encoded in the desired way.

Clients created under Settings / Client / New client:

Main menu	Settings	Clients
↑ Hibernate Select Group Vibrator: On Sound: Low → Settings	Ver: 3.8.1 ID: 123456 Clients → Edit group Set clock	→ Add client Sven All TX's.

Add under Setting / Client / Client (Sven) / Add TX unit:

Main menu	Settings	Clients	Sven
↑ Hibernate Select Group Vibrator: On Sound: Low → Settings	Ver: 3.8.1 ID: 123456 Clients → Edit group Set clock	Add client → Sven All TX's.	↑ Add TX unit Select group Client name → Client text Delete



Main menu

If you press  and  at the same time, either when the screen is off or on the home screen, the main menu opens.

The green arrow on the left shows which line in the menu can be selected.



Operation:

Press  to move the green arrow either up or to the right in the menu.

Press  to move the green arrow either down or left in the menu.

Press  to leave the menu.

Press  to select the menu item with the green arrow next to it.

NOTE: After about 60 seconds of inactivity, the menu closes automatically.

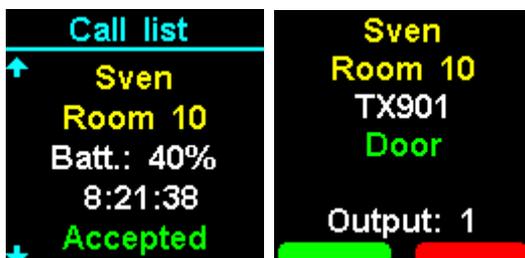
Latest alarms:



  Scroll between alarms.

GREEN Means that the alarm was accepted.
RED Means that the alarm was rejected.
YELLOW Means the alarm went unanswered.

See more information about the alarms:



 See the client's position and which transmitter the alarm is coming from.

  Scroll through multiple alarms.



When an alarm is received from a transmitter that has, for example, a low battery, the message is displayed.

  to scroll through other alarm calls.



Delete the call list:



Press **Ent** to confirm.

Suspend/Hibernate receiver:



Ent Confirm or **Esc** to reject.

The receiver is switched on by pressing **Ent**.

Group selection:



Ent Select or deselect a group.

Esc Return to menu.

↓ **↑** Moves arrow to the group you want to change.

1 Group selected

1 Group deselected

Vibrator function:



Ent Activate or deactivate the vibrator function.

Esc Return to menu.

Sound setting:



Ent Choose between **High**, **Low** or **Off** sound when receiving alarm calls.



Settings and encoding:

Main menu	Settings	Settings	Settings
↑ Hibernate Select Group Vibrator: Off Sound: High → Settings	Ver: 3.8.1 ID: 064067 → Clients Edit group ↓ Set clock	↑ Set clock Click: Low Product name → Passcode ↓ Outgoing	↑ Outgoing System menu Positions Language → Turn off

Ver: 3.3.14

The software version of the product.

ID: 58651

Serial number of the product.

Add new client:

Settings	Clients
Ver: 3.8.1 ID: 123456 → Clients Edit group ↓ Set clock	→ Add client Sven All TX's.

Select **Add client** or select client and press **Ent**.

It will ask for the client's name and optional text.
Remember to add TX devices.

Change client:

Sven	Clients	Sven
↑ Add TX unit Select group Client name → Client text Delete	Add client → Sven All TX's.	Room 10 → TX901 Add TX unit Select group Client name ↓

Sven

Room 10

→ TX901

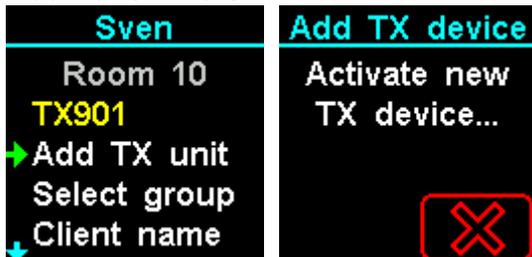
Client name.

Optional text, e.g., name of room.

Product already encoded on the client.



Add transmitters:



Now activate the desired transmitter.

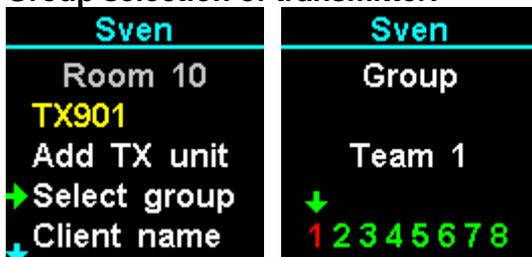


Accept new transmitter.



If the transmitter is already encoded, the menu below appears, allowing you to move a transmitter between clients.

Group selection of transmitter:



- Select or deselect a group.
- Return to menu.
- Moves arrow to the group you want to change.

- Group selected
- Group deselected

Change the client's name:



- Choose letter.
- Select letter.
- Delete last letter.

To save the text select symbol and press .

Add/change client optional text:

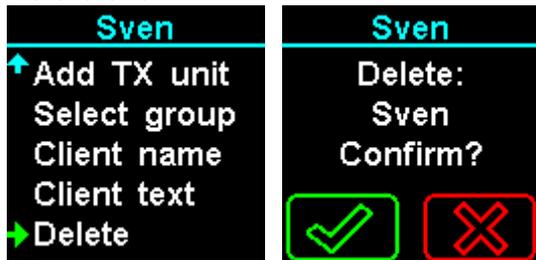


- Choose letter.
- Select letter.
- Delete last letter.

To save the text select symbol and press .



Delete client:



- Ent** Confirm delete.
- Esc** Return to menu.



Change encoded transmitter:

Settings	Clients	Sven	Sven	Sven
Ver: 3.8.0 ID: 48 → Clients Group ↓ Set clock	Add client → Sven Allan All Tx's.	Room 10 → TX901 Add TX unit Select group ↓ Client name	↑ Optional text Alarm signal Call texts → Call: Normal ↓ Timer setup	↑ Alarm signal Call texts Call: Normal Timer setup → Delete

```

TX901
ID: 60372
Ver.: 1.0
Batt.: 40%
Signal 1
    
```

Product name of the transmitter.
 Transmitter ID.
 The software version of the transmitter.
 Battery level in the transmitter (if applies).
 Selected audio signal when alarm is received.

Change name of the transmitter:

Sven	Optional text
↑ Batt.: 40% Signal 1 → Optional text Alarm signal ↓ Call texts	Save? ◆ 456789 a b c d Enter TX optional text

- ↓ ↑ Choose letter.
- Ent Select letter.
- Esc Delete last letter.

To save the text select symbol ◆ and press Ent.

Change alarm signal:

Sven	Sven
↑ Batt.: 40% Signal 1 Optional text → Alarm signal ↓ Call texts	TX901 Signal 1 ↓ 1 2 3 4 5

- ↓ ↑ Scroll between audio signals.
- Ent Select audio signal.

Change call text:

Sven	Edit text	1. Green
↑ Signal 1 Optional text Alarm signal → Call texts ↓ Call: Normal	→ 1. Green 2. Red 3. Yellow 4. Blue ↓ KNOP button	→ Alarm button 1. Green 2. Red 3. Yellow 4. Blue

This is a TX901 example.
 It is possible to change the shown text for a button etc.
 In KNOptool used defined texts can be made.



Reset call text:

Sven	Edit text	Call texts
↑ Signal 1 Optional text Alarm signal → Call texts ↓ Call: Normal	↑ Extern 2 Extern 3 Extern 4 Low battery → Reset texts	Reset texts Confirm? <div style="display: flex; justify-content: space-around;"> <div style="border: 2px solid green; padding: 5px; text-align: center;">✓</div> <div style="border: 2px solid red; padding: 5px; text-align: center;">✗</div> </div>

Restore call texts to factory setup.

Accepted alarm types:

Sven	Sven
↑ Optional text Alarm signal Call texts → Call: Normal ↓ Timer setup	↑ Optional text Alarm signal Call texts → Call: All ↓ Timer setup

Ent Toggle between **Normal** and **All**.

All accepts both types of alarms Normal and Emergency calls.

Transmitter activation timer:

Sven	Sven
↑ Alarm signal Call texts Call: All → Timer setup Delete	→ Timer: Off Start 1 00:00 Stop 1 00:00 Start 2 00:00 Stop 2 00:00

Ent Toggle between **On** and **Off**.

↓ **↑** Change hour/minutes.

Ent Change selection.

Remove unit from client:

Sven	Sven
↑ Alarm signal Call texts Call: All Timer setup → Delete	Delete: TX901 Confirm? <div style="display: flex; justify-content: space-around;"> <div style="border: 2px solid green; padding: 5px; text-align: center;">✓</div> <div style="border: 2px solid red; padding: 5px; text-align: center;">✗</div> </div>

Ent Delete confirm.

Esc Return to menu.



Group settings:

Settings	Setup group
Ver: 3.8.1	Group: 1
ID: 123456	
Clients	↓
→ Edit group	1 2 3 4 5 6 7 8
↓ Set clock	

- ↓ ↑ Move between groups.
- Ent Select group.

Group activation timer on/off:

Group: 1	Group: 1
→ Timer: Off	→ Timer: On
Group name	Group name
Timer setup	Timer setup

- Ent Toggle between **On** and **Off**.
- Esc Return to menu.

Don't forget to set the time in "Settings - Set clock".

Change group name:

Group: 1	Group: 1
Timer: On	Save?
→ Group name	◆ 456789 a b c d
Timer setup	Gruppe: 1
	Enter
	group name

- ↓ ↑ Choose letter.
- Ent Select letter.
- Esc Delete last letter.

To save the text select symbol ◆ and press Ent.

Change the timer:

Group: 1	Group: 1
Timer: On	Start 07:00
Group name	Stop 15:00
→ Timer setup	

- ↓ ↑ Change hours or minutes.
- Ent Select items.
- Esc Return to menu.

Set clock:

Settings	Set clock
↑ ID: 123456	2022-10-27
Clients	11:21
Edit group	Automatic
→ Set clock	Year: 2022
↓ Click: Low	

- ↓ ↑ Change item.
- Ent Scroll between **Year**, **Months**, **Time** and **Date**.

Note: If the receiver receives a clock update from a KNOP product or USB901, the clock is automatically set accordingly.



Button click sound:

Settings	Settings
↑ Clients	↑ Clients
Edit group	Edit group
Set clock	Set clock
→ Click: Low	→ Click: High
↓ Product name	↓ Product name

Ent Toggle between **Low**, **High** and **Off**.

Esc Return to menu

Change the product (user) name:

Settings	Name
↑ Edit group	Save?
Set clock	◆ 456789 a b c d
Click: High	RX901
→ Product name	Enter
↓ Passcode	product name

↓ **↑** Choose letter.

Ent Select letter.

Esc Delete last letter.

To save the text select symbol **◆** and press **Ent**.

Change passcode:

Settings	Passcode
↑ Set clock	New code
Click: Low	Code: 1234
Product name	
→ Passcode	
↓ Outgoing	

↑ **↓** Select digits (0 to 9).

Esc Delete last digit.

The code must always be 4 digits.

Function of the KNOP button:

Settings	Outgoing
↑ Click: Low	→ Call: All
Product name	
Passcode	
→ Outgoing	
↓ System menu	

Ent Change function, choose between **All**, **Normal** or **Off**.

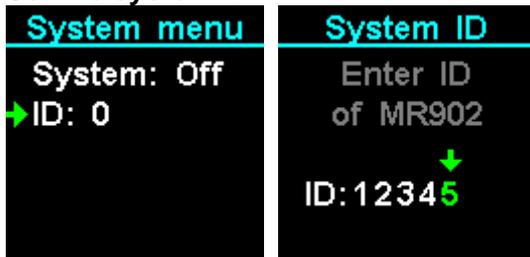
Connecting and changing system code:

Settings	System menu
↑ Product name	→ System: Off
Passcode	ID: 0
Outgoing	
→ System menu	
↓ Positions	

Ent Select either system **Off** or **On**".



Set the system ID:

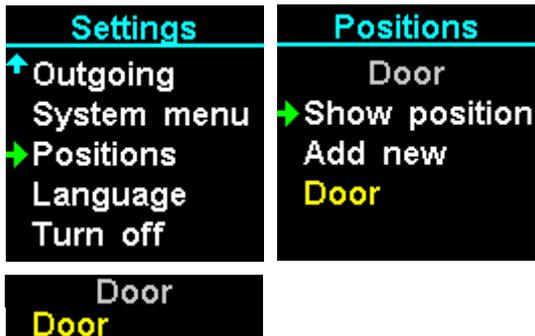


Press to change the value (0 to 9).

Press to select a number.

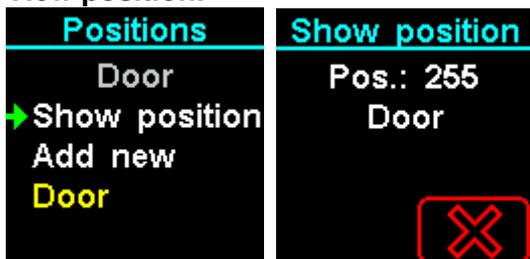
Press to delete the last digit.

Positions:



Current position.
Already encoded.

View position:



Shows the current position of where you are.

Add position:



Save new position

Return to menu.

Note that the receiver must be within range of a position field.

Change position name:



Choose letter.

Select letter.

Delete last letter.

To save the text select symbol ♦ and press .



Remove position:



- Delete position.
- Return to menu.

Languages:



- choose language.
- Accept the chosen language.
- Return to menu.

Turn off the product:



- Confirm **Turn off**.
- Return to menu.

Note: The clock and date are reset.

To turn on the receiver, place the receiver on the charger.



Maintenance

Software update of RX901B:

It is possible to update the software in RX901B, as well as to download and transfer settings with the KNOptool. For further descriptions please check the KNOptool manual.

Cleaning

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

Spare parts and accessories

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



Check the coverage area

One person activates a transmitter (e.g. TX901) 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 has to manage the system can see where there is coverage. Outside the coverage area, alarms cannot be received.

The coverage area can be extended using the KNOP repeater system.

Contact your retailer for more information.



Technical data

Battery:	1 pc. Li-Ion 3.7V 450 mAh
Operating time with battery:	Approximately 3 days with 50 alarm calls per day.
Charging:	Wireless, approx. 4 hours.
Power supply unit:	230VAC adapter USB 5VDC/1.0A
Frequency HF:	869.2125 MHz
Range:	Up to 1500 m free range for an RX901B ⁽¹⁾
Display:	Graphical LCD
Menu texts:	5 languages: Danish, Finnish, English, Norwegian, and Swedish.
Log function:	Saves the last 50 alarm calls.
Memory:	250 transmitters 150 positions POS901
Surrounding environment:	Indoor use. < 90% humidity without condensation.
Ambient temperature:	0 - 40°C
Cabinet type:	Color RAL9003 ABS
Cabinet dimensions:	45 x 90 x 16 mm. Incl. neck strap with safety lock that breaks when you pull it.
Density:	IP65
Weight incl. batteries:	56g

The right to make changes is reserved.

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

Explanation of symbols and approvals

	<p>This product complies with:</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>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	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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EN 50581:2012	Hazardous substances																										
	<p>The product must not be used if the packaging is damaged.</p>																										
	<p>Medical Device Class 1</p>																										
	<p>Manufacturer KNOP Elektronik A/S, Fabriksvej 20, DK-7600 Struer, Denmark</p>																										
	<p>Read manual(s) before installation and commissioning.</p>																										
	<p>Interference may occur in an environment with 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 05744002850298</p>																										
	<p>Product reference RX901B Receiver</p>																										
	<p>Serial Number Placed on the product</p>																										
	<p>Ingress Protection kode IP65</p>																										