

TS03NKHA Series

315MHz Low Power Radio Remote Control



Nomura Engineering Co., Ltd.
Since 1997

Please do not use this product in a way that its failures and errors may involve human lives.

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TS03NKHA Series Specification

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TS03NKHA Series Specification

1. Outline

TS03NKHA is a compact key holder type wireless remote control transmitter that has acquired the specified low power technical standard conformity certificate.

Depending on the number of switches, we have several kinds such as TS03NKHA1 of 1 switch, TS03NKHA2 of 2 switch, TS03NKHA3 of 3 switch, TS03NKHA4 of 4 switch.

When the switch is pushed, the LED flashes to indicate that it is transmitting, and when battery becomes low the LED will not flash, so change the coin battery CR2032.

Receiver is used in combination with TS03GRX. Since the transmitter has a 16-bit unique ID, register it on the receiving side and construct a pair.

2. features

- It has acquired Technical standard conformity certificate.
- It does not require licensing procedures, can be used immediately.
- The communication distance is approx. 50 m or more.
- Uses 315 MHz band for transmission / reception frequency.
- Highly reliable digital code modulation.
- Compact key holder type case.
- Supports from 1 switch to 4 switches as standard.
- Low battery indication LED.
- The ID is a unique number, and pairing by registering the ID on the receiver side.
- The surface label sheet can be customized. You can make a custom label with your desired design, including logo and addition information. For details, please contact us.

3. typical use

Digital data transmission, general purpose wireless remote control, electric shutter, garage opener, doorbell ...

Security, anti-theft, motion detection, markers ...

Model, teaching materials ...

★ We will respond to your consultation for incorporation into products.

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4. Electrical characteristic

- Radio standard ARIB STD-T 93 compliant, certified to technical standards acquired
- Transmit / receive frequency 315 MHz band
- Transmission output 250 μ W (EIRP)
- Modulation method ASK
- Number of control switches 1 to 4 Switch ON / OFF control ·
- ID setting 16 bits (unique ID) * Can not be changed by customer.
- Communication distance prospect About 50 m or more

* Communication distance varies depending on surrounding environment, such as obstacles, noise conditions, etc. The above is a reference value under ideal conditions without obstacles.

- Consumption current approx. 3 mA @ When transmitting, <1 μ A @ standby
- Power supply 3 V CR 2032 lithium coin battery
- Battery life time more than 2 years (3 seconds / time at 25 °C, the transmission 5 times / time, in the case of the one-day 8-hour operation)

* The above figures are estimated values (reference values) by calculation. May vary with temperature and battery usage.

- Low battery flashing LED blinks, low battery off
- Operating temperature -10 to +60 ° C (without condensation)
- Antenna built-in pattern antenna
- Size about 55 * 32 * 6.5 (Vertical * Horizontal * Thickness mm)
- Weight Approximately 12 g (including batteries)

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5.How to use

When you press the switch, the LED flashes and ON data is transmitted. Combination data will be transmitted even if you press two or more switches at the same time.

If you hold down the switch, transmission stops in about 80 seconds after transmission starts. If you want to send again, please release your hands from all switches once and then press the desired switch again.

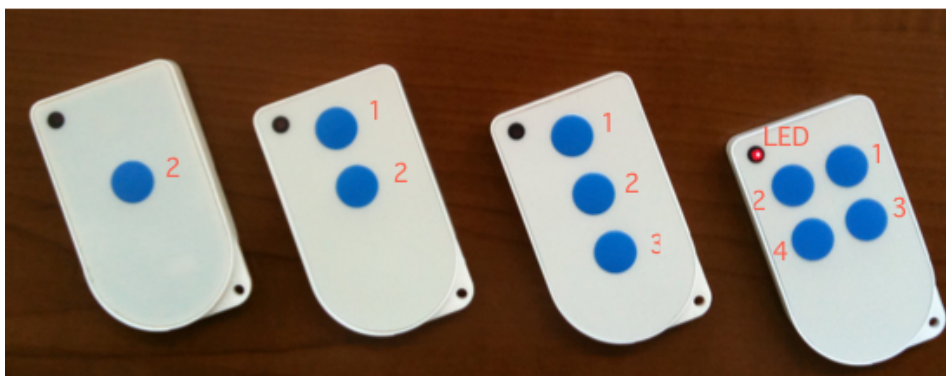
(Even if you change the combination of SWs to be turned on in the middle, transmission stops in 80 seconds from the first transmission.)

While transmitting, the LED will light up. If the LED does not turn on even if you press the switch, the battery voltage is low, so please replace the battery.

While pressing the switch, radio waves are output and the output of the corresponding receiver turns on (H level). TS03GRX is used for the receiver.

● Correspondence with receiver ports of transmitter switches 1 to 4;

Transmitter switch#	Receiver port output
1	P1
2	P2
3	P3
4	P4

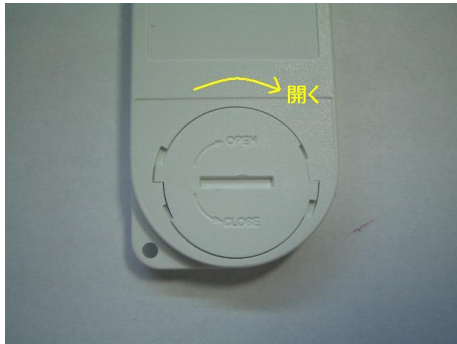


★ For the receiver output ports P1 to P4, refer to TS03GRX specification sheet.

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6.How to replace the battery

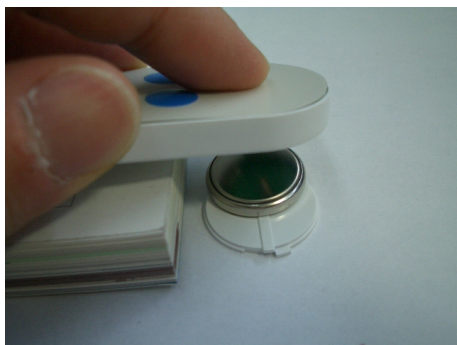
Please insert a coin etc in the groove of the battery lid on the back side and turn it until it stops in the direction of the arrow.



Hold the back of the case downwards, magazines etc. If you hit lightly on objects of moderate hardness, the back lid and batteries will come off.

* In order to prevent breakage of the battery fittings, even when the battery does not come off do not mess with a screwdriver etc. Please remove it by lightly tapping it.

* Please be careful not to touch the metal fittings with the battery removed. It may not operate properly due to deformation, dirt, etc.



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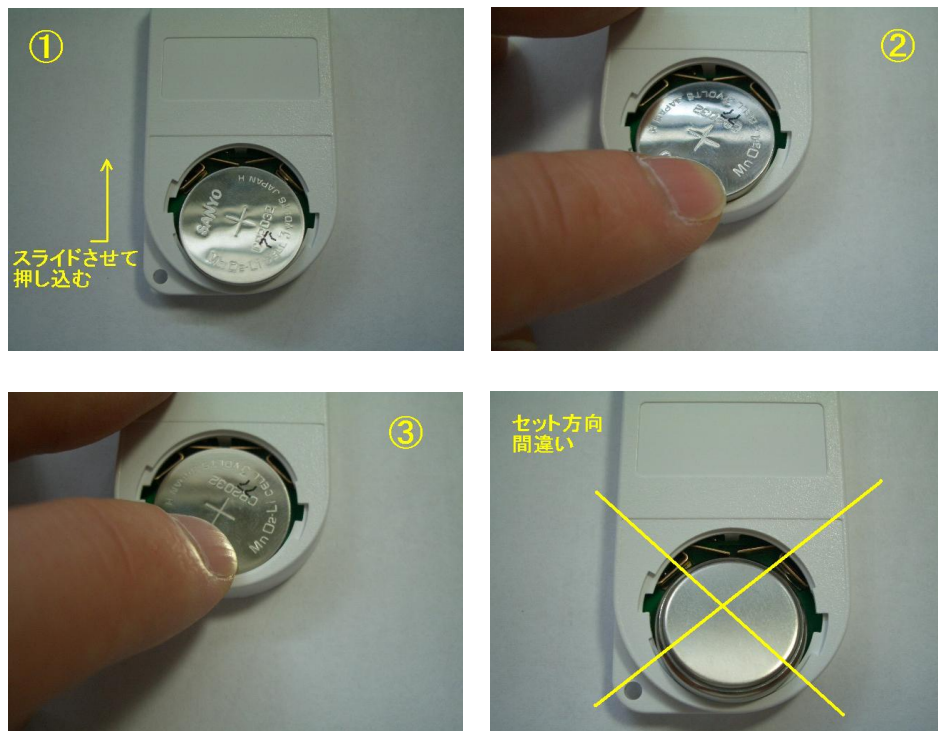
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Turn the case over and insert the batteries. The back cover side becomes the + terminal of the battery.

* As shown in the picture below, please push in so that the top side of the battery is first and slide upward from the bottom side.

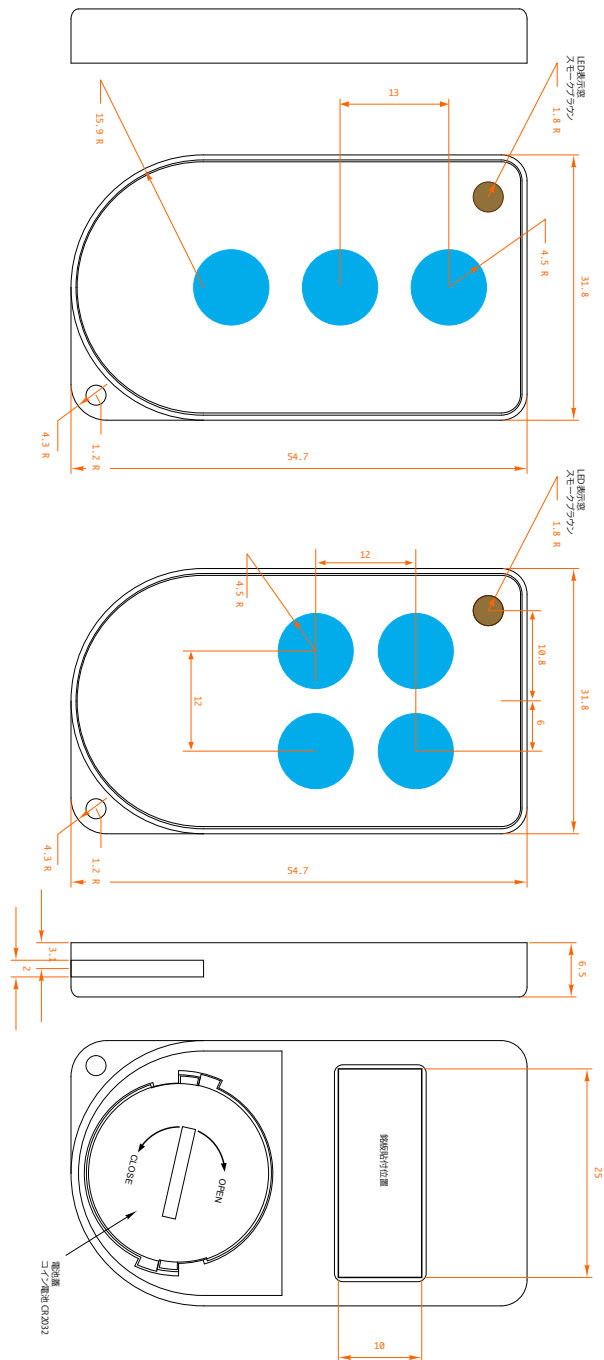
Never use batteries other than the lithium coin battery CR 2032.



Fit the back cover and turn it in the direction of the arrow until it stops.



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7. Cautions

★Notes on Radio Law

- This product complies with the Radio Law in Japan. Can not be used outside of Japan.
- Disassembling / remodeling of this product is prohibited according to the radio wave law. Please disassemble / remodel it.
- Please use the certificate of conformity certification label on the back of the case without removing it.

★Handling Precautions

- Never use such a way that product malfunction or malfunction directly relates to human life.

This product is not designed in consideration of applications that require high reliability which may cause danger to the body at the time of breakdown, such as medical equipment and transport equipment. Please do not use it directly for the purpose of affecting human life.

- Never use batteries other than the lithium coin battery CR 2032.
- Do not apply strong shock or soak it in water or other solution as it may cause malfunction.
- Even if the battery is reversely inserted, there is no short circuit of the battery, and there is no damage to the equipment, but please do check it carefully as it will not work.
- Because this product uses radio waves, communication may become impossible due to the influence of noise etc. Even if it becomes impossible to communicate, please be careful in designing the external circuit so that there is no safety problem.
- Depending on the nature of the radio waves, dead points may occur due to the positional relationship with the receiver, and communication may become impossible even within communication distance. In this case, if you move the transmitter or receiver about 25 cm, you may be able to communicate.
- The communication distance may be lowered near motors or other noisy equipment. In this case, it may be improved by adding measures such as adding a spark killer, strengthening the shield, taking measures against noise sources, or devising such as keeping the receiver away from noise sources.

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