

TS03DTX

315 MHz band Specific low power wireless module
(For 4-contact transmission)



Nomura Engineering Co., Ltd.
Since 1997

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1. Overview

TS03 DTX is a 315 MHz band specific low power radio module that supports contact transmission of 4 circuits. Because the Radio Law Certification has been acquired, you can use it immediately after purchase.

It is possible to realize the 4SW remote control by simply connecting the SW and the power supply to the outside.

Since the data format in contact transmission mode is the same as our TS03NKHA * (and A01DTX · maintenance item), it can be controlled with a common receiver.

(If you are using A01 DTX, you can easily extend the communication distance by replacing it with TS03 DTX.)

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2. Product composition

One set of this product has the following composition.

TS03DTX main body × 1

Connection pin header (12 pins) × 1

Battery holder for CR-2032 × 1

Please use the receiver in combination with TS 03 GRX.

3. Specification

Wireless method	315 MHz band Specified low power radio (Radio law construction design certification acquired)
Transmitting output	250 μ W (eirp)
Modulation method	ASK
Antenna type	Printed pattern antenna
Communication distance	maximum 50 m (viewing distance) * The communication distance varies depending on the usage environment.
Number of ID bits	16 bits (Writing unique ID at shipment) * It does not correspond to ID rewriting by the customer.
Power supply	2.1 to 3.6 V (There is no reverse connection protection)
Current consumption	at transmission: average 2.5 mA / standby: 1 μ A or less
External dimensions	29 × 40 × 3.5 [mm] (width × height × height)
Operating temperature range	-10 to + 60 ° C (without condensation)

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4. I / F specification

Terminal arrangement

Applicable connector: 2.54 mm pitch 2 row pin header

※ Please see the right picture for pin number assignment

No.	Name	Function
1	/P1	Contact input 1
2	/P2	Contact input 2
3	/P3	Contact input 3
4	/P4	Contact input 4
5	NC	
6	NC	
7	B+	Power supply +
8	GND	Power supply -
9	NC	Expansion preliminary (※)
10	GND	Power supply -
11	NC	
12	NC	



Leave the expansion terminal open.

Leave unused terminals open.

Terminal function and electrical specification

/ P1 to / P4: 3 V CMOS level input / Low active / pull-up (approx. 20 kΩ) built-in

Voltage is the value at power supply voltage 3V. The signal level depends on the power supply voltage. (Same below)

When Low level is input, the corresponding output of the receiver turns on.

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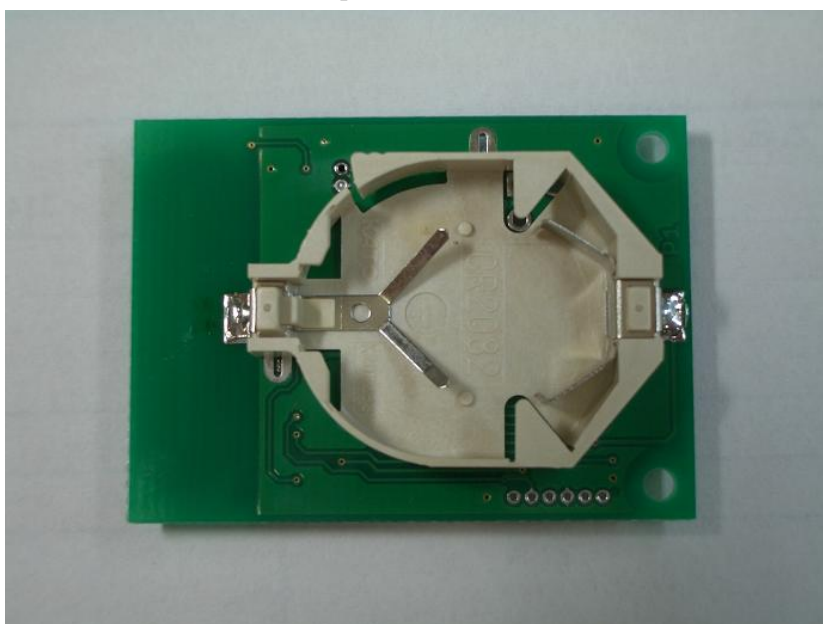
5. How to use

• Power supply

When the power supply is connected, it enters the standby state. In this state, no signal is sent.

When using the supplied lithium battery holder, please solder it to the land on the back side (please pay attention to the installation direction and refer to the photo below).

In this case, the attached pin header can not be used.



• Contact transmission

When / P1 - / P4 is set to Low level in the standby state, the corresponding contact information is transmitted.

Data is transmitted while either input is low level, but transmission stops automatically when 80 seconds elapse from the start of transmission. If you need to send again, please set all inputs to High level once.

If the input state changes during transmission, data corresponding to the changed state is transmitted from the immediately following transmission data.

* Even when the input state changes, transmission stops at 80 seconds after the first transmission.

When all inputs go to High level, transmission stops and returns to the standby state.

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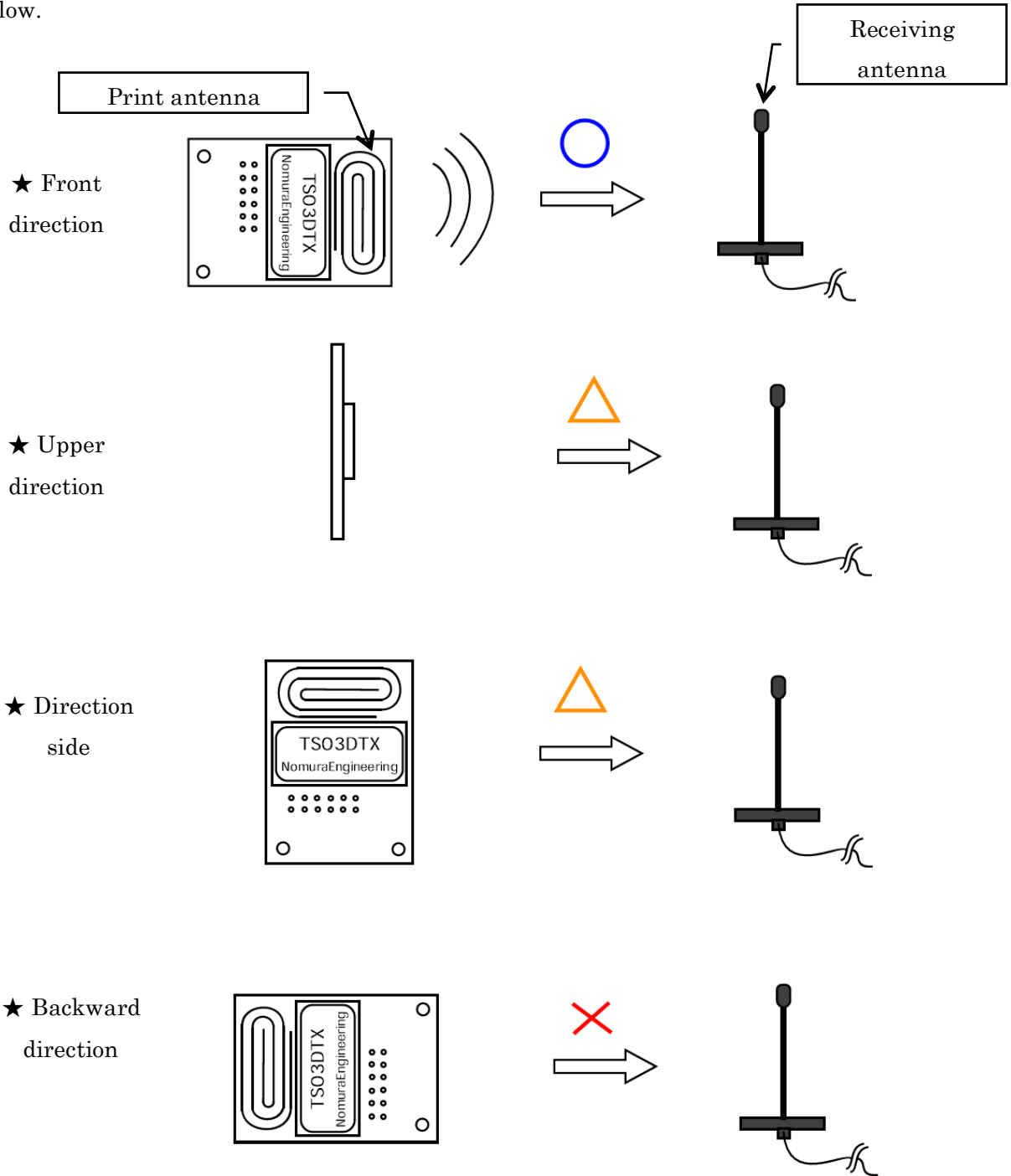
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6. Antenna directivity

The communication distance is influenced by the direction of the printed antenna.

Please consider the mounting method of the transmitting module referring to the figure below.



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7. Change history

Data communication function deletion	2012.5.30
Add dimension drawing	2015.5.1
Layout change	2016.8.30

8. Supplement · notes

This product complies with the Radio Law in Japan. Can not be used outside Japan.

According to the provisions of the Radio Law, disassembly / remodeling is prohibited. Please never disassemble / remodel it. Also, please do not peel off the label on the housing surface.

Since this product uses radio, communication may become impossible due to the influence of noise etc. Please be careful not to cause a problem in safety even if communication becomes impossible.

The spiral shaped part at the top of this product is a printed pattern antenna. When there is an object within 1 cm around the antenna, the communication distance may decrease regardless of metal, resin or other material. Including the printed circuit board to be incorporated, please make sure there is no object around as much as possible.

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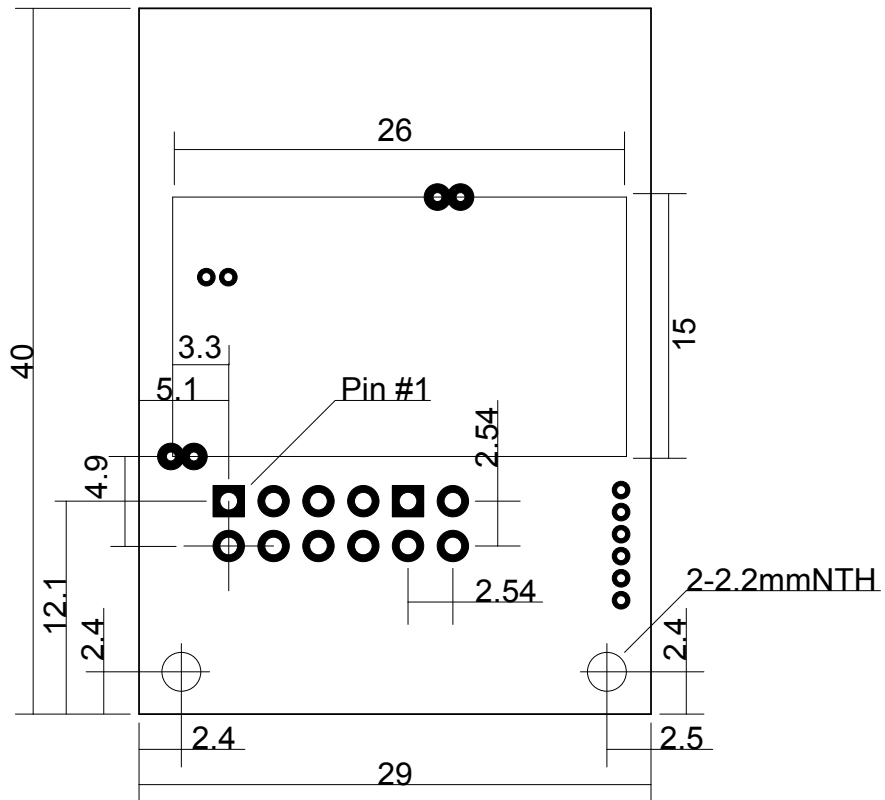
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9. Dimensional drawing



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