

POKAYOKE (MISTAKE PREVENTION) TOOLS

TW-850T

Instruction Manual V1.10

Please use this Instruction manual correctly on reading well.
Please keep it carefully to be able to read immediately, when required.

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1. Overview

“TW-850T”(below referred to as “the transmitter”) is a Pokayoke compact transmitter that can be attached to Pokayoke compatible tools, except torque wrenches and pliers wrenches.

The transmitter can be attached to various Pokayoke-compatible tools to transmit work completion signals to receivers wirelessly.

The transmitter can communicate with a Pokayoke receiver “TW-800R-***” series.

<Features>

◆Reliable communication

The transmitter can communicate automatically by selecting the channel from 76ch in 2.4GHz bandwidth.

The transmitter transmits the signal reliably by 2way communication.

◆The lighting / blinking transmitter LED indicates wireless communication OK/NG.

◆When wireless communication fails, the transmitter notifies users of the problem by causing the LED to blink and sounding the buzzer at the same time.

◆Battery level notification function

A function to notify when the battery level is low (when press with test switch) or when the battery needs to be replaced.

The battery level will be notified by both the transmitter and receiver LEDs when the battery level is low and will be notified by the transmitter LED when the battery needs to be replaced.

◆Uses a small and lightweight coin battery as a power source.

◆Easy battery replacement

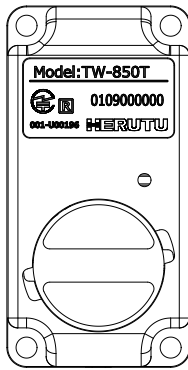
◆Battery life of about 300,000 uses. (depending on usage conditions)

◆Communication distance of approx.30m indoors (varies depending on the operating environment).

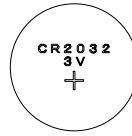
◆Available countries : Japan, Canada, USA, China, Thailand, Vietnam, Philippines and India.

2. Main part and accessories

• Transmitter TW-850T



• Coin battery CR 2032



*TW-850T is delivered with a coin battery installed.

• Cable with a connector

Connect the cable to the cable connecting connector of the main body.



Connector
(ZHR-2 made by JST)

(Cable length Approx. 200mm)

Cable color	Terminal No.	Terminal name
Black	1	GND
White	2	IN

3. Safety Precautions (Be Sure to Read This)

This section describes the matters to be observed in order to prevent harm to the users and other persons and damages to the property.

■The following marks and displays classify and describe the extent of harm and damage caused by failing to observe the display content and using this product wrongly.



Caution

This display column shows "a failure to do observe it could result in only the personal injury or property damage".

■Handling this product

- This product is the wireless communication equipment made of precision parts. Do not disassemble or modify it. Or the accident or fault may occur.



■Use and storage environment

- DO NOT USE OR STORE the product in the following places to prevent defects, malfunction, deterioration, fire, and electric shock:
 - Do not use and store it in places exposed to direct sunlight,
 - Do not use and store it in places where liquids, foreign substances, corrosive gases or combustible gases can enter the product,
 - Do not use and store it in places with high humidity or where there is abundant oil smoke, dust, sand, etc. ,
 - Do not use it in an unstable place such as a wobbling table or an inclined plane,
 - Do not use it in a place with vibration.



■Specific handling of this product

This product is a radio equipment with certification of construction design.

- It is prohibited by law to disassemble or modify certified devices.
- Do not remove the certification label affixed to the case. It is prohibited to use any product without the label.
- This product is only available in the countries where the certification is acquired.



Warning

This display column shows "a failure to do observe it could result in death or serious personal injury".

■Handling this product

- Do not use this product for application that requires the extremely high reliability affecting the human life.
- Do not use this product in the area which the radio wave reaches or not.



■If a problem occurs during use

- When smoke comes or there is a strange smell, immediately stop usage and remove the power plug from the outlet because it may cause fire and electric shock. Request the dealer or our company to repair it.



■Notes on the Radio Law

○The wireless device used for this product is certified as a specific radio device for a radio equipment of a low power data communication system based on the Radio Law. Therefore, a radio station license is not required to use this product.

○This product can be used only in Japan or countries where required certification is acquired. In the case that it is used in other countries, this product may be damaged or it may damage other equipment. It also may conflict with the laws of that country. Please contact our sales department for the countries that the product is certified other than Japan.

○Do not use this product near any person using cardiac pacemaker. The cardiac pacemaker may be disturbed by electromagnetic wave, which may cause risk of life.

○Do not use this product near any medical equipment. The medical equipment may be disturbed by electromagnetic wave, which may cause risk of life.

○Do not use this product near any microwave oven. Electromagnetic wave from microwave oven may disturb radio communication.

○The wireless device of this product is certified under the Radio Law, so that DO NOT disassemble or remodel this product.

■Notes on radio interference of 2.4 GHz radio

When communicating with 2.4 GHz band wireless products, pay attention to the following points.

In this product's frequency band not only industrial, scientific and medical equipment such as microwave ovens but also local radio stations for mobile objects identification (which require the license), specified low-power radio stations (license not required), and amateur radio stations (license required) can be in operation.

○Before using this product, make sure that there are no local radio stations for mobile objects identification, specified low-power radio stations and amateur radio stations operating nearby.

○In event that harmful interference occurs to any radio station by the radio wave from this product, stop using it immediately and consult with us about avoiding interference.

○Also contact us in case of any trouble such as harmful radio interference to specified low-power radio stations for mobile objects identification or amateur radio stations.

TW-850T is equipped with the built-in wireless module HRF-2402.

Available countries : Japan, Canada, USA, China, Thailand, Vietnam, Philippines and India.

■FCC/IC Warning

Information about FCC Standard.

FCC CAUTION

Change or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. This equipment has very low levels of RF energy that is deemed to comply without maximum permissive exposure evaluation (MPE).

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. This equipment has very low levels of RF energy that is deemed to comply without testing of specific absorption rate(SAR).

I Information about ISCED Standard.

This device complies with Industry Canada's applicable license-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- 1) l'appareil ne doit pas produire de brouillage;
- 2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment has very low levels of RF energy that is deemed to comply without maximum permissive exposure evaluation (MPE).

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'IC. Cet équipement émet une énergie RF très faible qui est considérée comme conforme sans évaluation de l'exposition maximale autorisée (MPE).

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment has very low levels of RF energy that is deemed to comply without testing of specific absorption rate (SAR).

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'IC. Cet équipement émet une énergie RF très faible qui est considérée comme conforme sans évaluation du débit d'absorption spécifique (DAS).

This radio transmitter (10608A-HRF2402) identify the device by certification number or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Antenna type:1/4λ Dipole antenna (chip antenna) Gain: 3dBi

Antenna type:1/2λ Dipole antenna Gain: 2dBi

Antenna type:1/2λ Dipole antenna Magnet Base Gain: 2dBi

Le présent émetteur radio (10608A-HRF2402) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Type d'antenne:1/4λ Dipole antenna (chip antenna) Gain: 3dBi

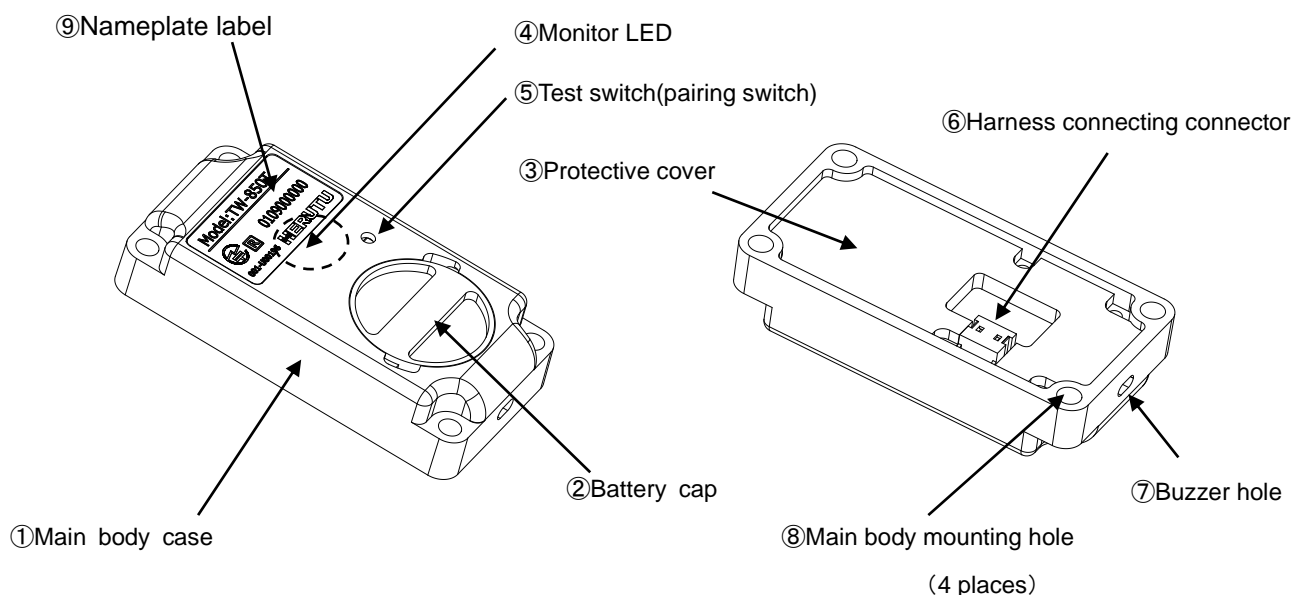
Type d'antenne:1/2λ Dipole antenna Gain: 2dBi

Type d'antenne:1/2λ Dipole antenna Magnet Base Gain: 2dBi

■Thailand Radio Law (SDoC)

This telecommunication equipment is in compliance with NBTC requirements.

4. Name and Function of Each Part



① Main body case	Main body case. POM, a highly durable material, is used.
② Battery cap	Lid for fixing the coin battery (CR2032). The transmitter is delivered with a coin battery installed.
③ Protective cover	Cover for protecting the internal components of the main body. POM, a highly durable material, is used.
④ Monitor LED (green/red)	An LED for communication confirmation/battery check. It lights up/blinks green/red according to the communication result.
⑤ Test switch (Pairing switch)	Used for testing wireless communication or for pairing.
⑥ Harness connecting connector	Connector for connecting the supplied cable with connector. A wireless signal is transmitted by the work completion signal input (No-voltage contact input) to the connector.
⑦ Buzzer hole	When the buzzer of the transmitter is activated, the sound comes out of the hole.
⑧ Main body mounting hole	Mounting hole for fixing the main body to a Pokayoke tool. Four mounting holes are provided. Use M3 screws to fix the main body.
⑨ Nameplate label	Nameplate label of the product. Model No. and serial No. are indicated on the label. Serial No. on the label represents the ID No. of the transmitter.

5. Attachment of TW-850T

<Cable connecting connector>

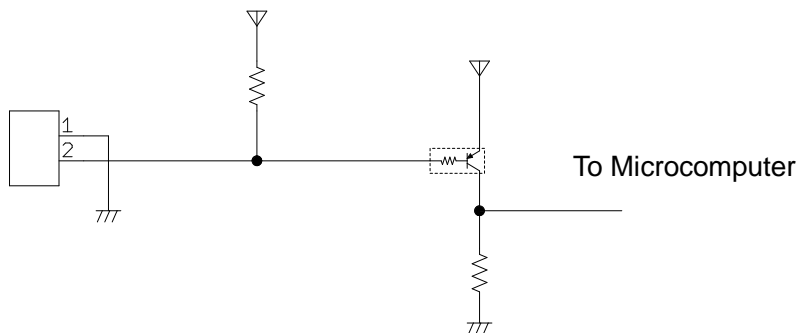
Connector for connecting the supplied cable with connector.

Connector model : S2B-ZR-SM4A made by JST

Terminal No.	Terminal Name	Input condition
1	GND	Connect GND to the ground.
2	IN	Terminal for input of the work completion signal (Non-voltage contact input). A wireless signal is transmitted by a continuous signal input for about 40mSEC or longer.

•Input circuit diagram

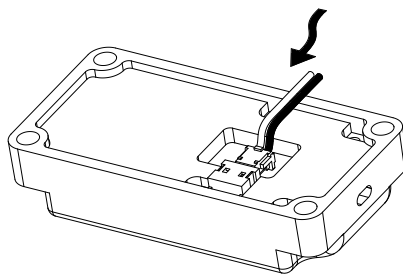
Cable connecting connector
(S2B-ZR-SM4A made by JST)



<Connecting method for the cable with connector>

Connect the cable with connector firmly as shown below.

The connector cannot be inserted in the wrong orientation.



Cable with a connector

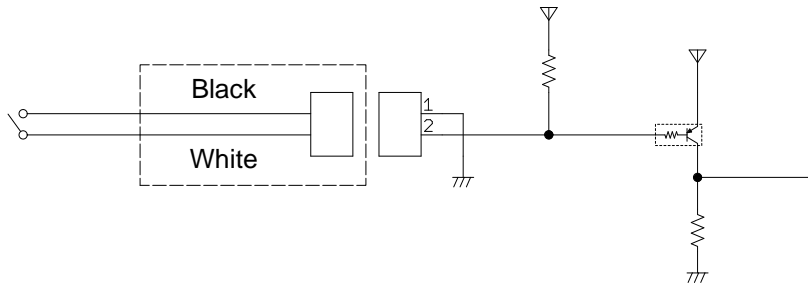
Connector model : ZHR-2 made by JST

Cable color	Terminal No.	Terminal name
Black	1	GND
White	2	IN

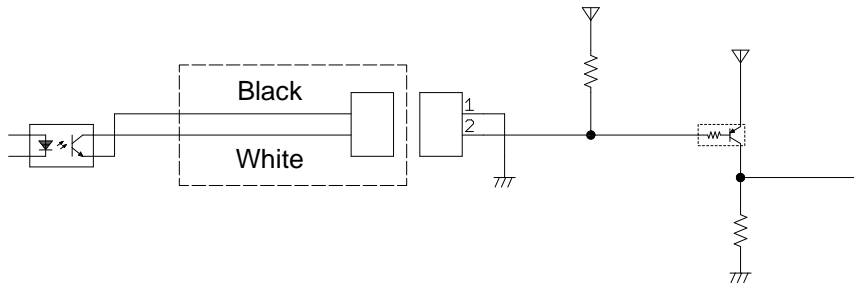
- Connection examples

The area surrounded by dotted lines represents the supplied cable with connector.

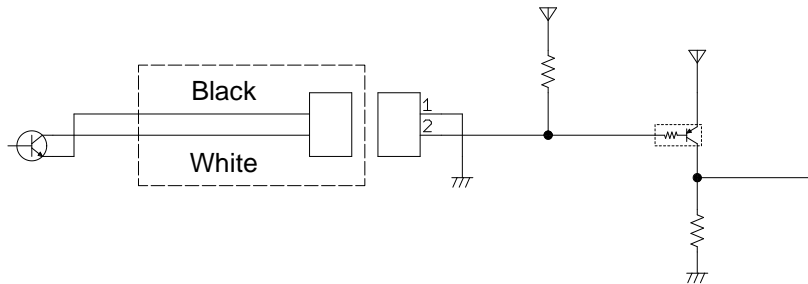
Connecting a switch



Connecting a photocoupler/photo MOS relay



Connecting a transistor



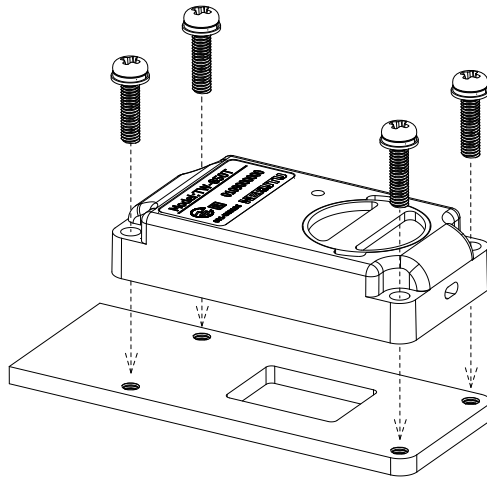
< Input Judgment time for transmitter >

The transmitter is designed not to transmit signals when the signal input time from the limit switch is 40ms or less. This prevents the transmitter from accidentally transmitting signals when dropping the Pokayoke compatible tools.

Due to the above mechanism, the transmitter may not transmit signals even after hitting the limit switch with your finger, etc. for transmitting test signals.

<Attachment of the transmitter>

Attach the transmitter using the main body mounting holes on the main body case and fix it with four M3 screws. ※M3 screws are not included.

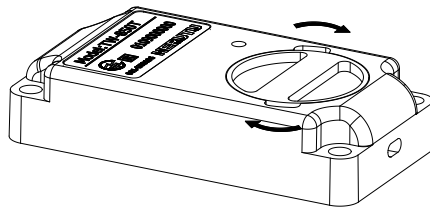


When using metal as fixing material, it is recommended to use metal with plate thickness of 2 mm or more (1mm or more for burring). For transmitter fixing screws, pan small screws with spring washer M3*10 mm or larger are recommended.

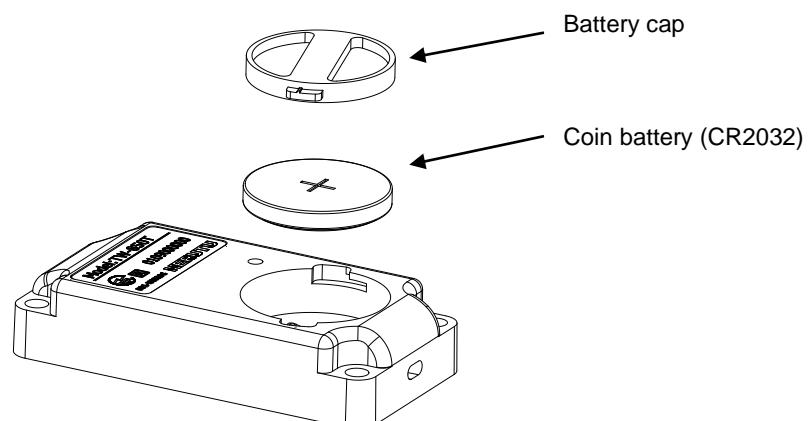
When using resin as fixing material, it is recommended to use resin with plate thickness of 5 mm or more(except when using an insert nut, etc.). For transmitter fixing screws, pan small screws with spring washer M3*12 mm or larger are recommended.

<Insertion or removal of the battery>

To close the battery cap, turn the battery cap securely in the direction of arrow shown below until it snaps into place. To remove the battery cap, turn the battery cap in the opposite direction from the arrow shown below.



When replacing the battery, be sure to insert the coin battery with the correct polarity.



6. Setting

The transmitter and a Pokayoke receiver TW-800R-*** need to be paired before use.

By pairing them, they recognize an identification signal from each other and communicate with each other.

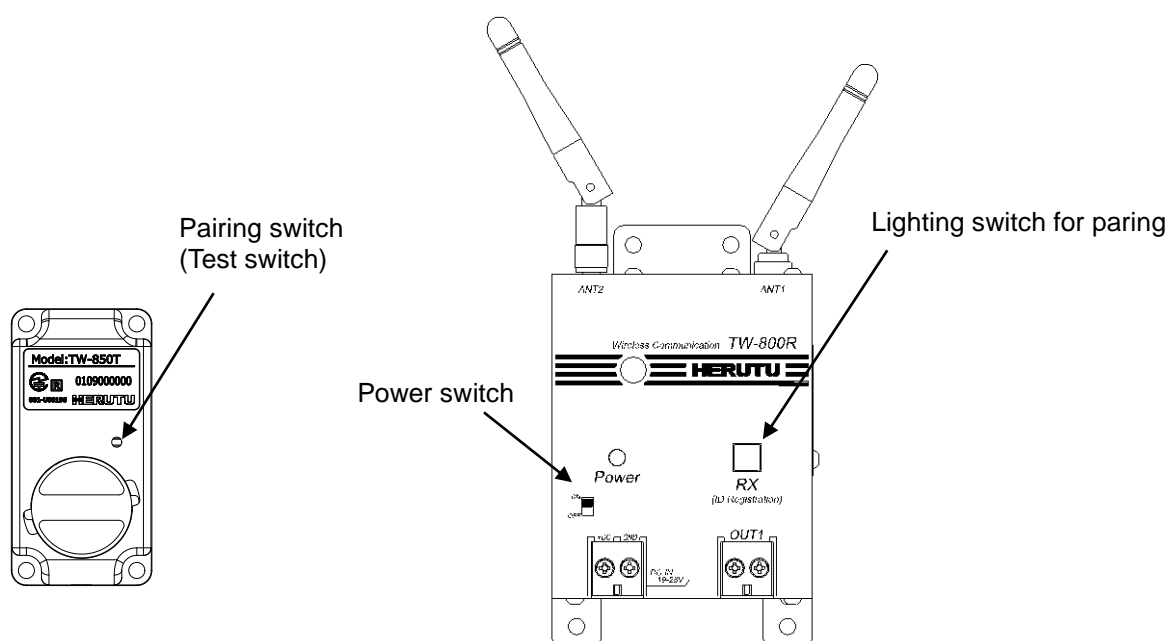
This manual describes how to pair the transmitter with the receiver TW-800R.

For pairing with a receiver other than TW-800R, see the instruction manual of each receiver.

● Pairing (registration)

- ① **Press the lighting switch for paring** of the receiver, **and turn ON the power switch** at the same time.

The lighting switch for paring blinks and the receiver enters **the pairing mode for 10 seconds**.



- ② Long press **the pairing switch** of the transmitter for **3 seconds or longer**.

- ③ **The lighting switch for paring of the receiver goes out** and pairing is complete.

- ④ **Turn OFF the power** of the receiver once and **turn it ON again**, and the receiver can communicate with the paired transmitter.

● Reset pairing

- ① **Press the lighting switch for paring** of the receiver, and **turn ON the power switch** at the same time.

The lighting switch for paring blinks and the receiver enters **the pairing mode for 10 seconds**.

Long press the lighting switch for paring for **2 seconds or longer**, and the **lighting switch for paring lights up** and the paired (registered) data of the transmitter is deleted.

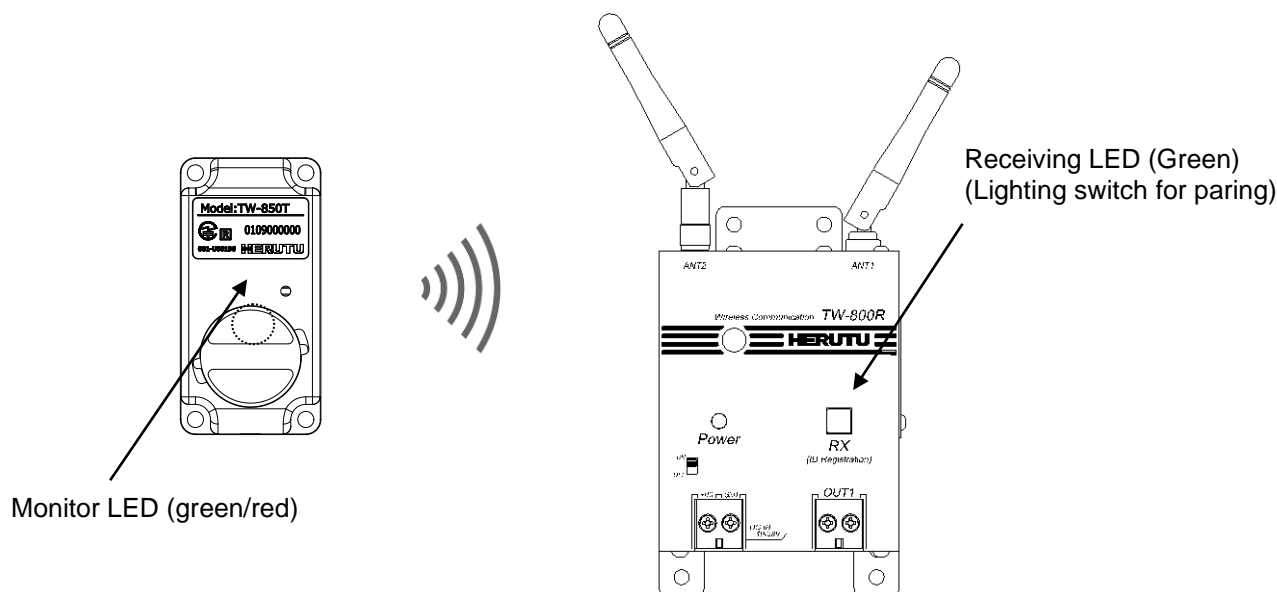
◆ Notes

A long press on the pairing switch of the transmitter (3 seconds or more) when the receiver is not in the pairing mode resets the pairing with the receiver and prevents communication with the registered receiver. When pairing is reset by mistake, perform the pairing procedure again.

7. How to Use the transmitter

- ① Turn ON the power switch of the receiver. Make sure the receiving LED is OFF.

When the receiving LED lights up, the transmitter is not paired. Pair the receiver and transmitter.



- ② A wireless signal is transmitted by inputting a work completion signal to the transmitter.

When wireless communication is normally executed, the receiver generates a relay output and the buzzer of the receiver is activated according to the settings. The green LED of the transmitter blinks once.

When the communication is not executed normally, the receiver is not activated.

The red LED of the transmitter blinks 10 times, and the buzzer of the transmitter sounds in synchronization with the red LED.

While the receiver is generating a relay output or preventing a double count, the receiver returns a BUSY signal to the transmitter. When the transmitter receives a BUSY signal, the green LED blinks four times, and the buzzer of the transmitter sounds in synchronization with the green LED.

	Transmitter		Receiver
Communication OK	Green LED blinks 1 time	No buzzer sound	Receiving LED blinks 1 time
Communication Failed	Red LED blinks 10 times	Buzzer sounds 10 times	—
BUSY	Green LED blinks 4 times	Buzzer sounds 4 times	—

The buzzer sounding time of the receiver is normally 100 msec. Only when the relay output time is set to 50 msec. and the double count prevention time is set to 10 msec., the buzzer sounding time is 50 msec.

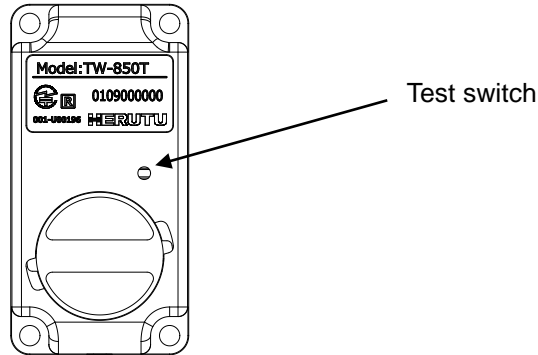
※ When the transmitter not paired with receiver transmits signals, the red LED blinks three times, and the buzzer of the transmitter sounds in synchronization with the red LED.

●Test switch

The transmitter is equipped with a test switch for communication and battery voltage checks.

When the transmitter transmit the signal by test switch not limit switch, receiver doesn't output relay output. But LED of receiver only turns on. When the test switch is pressed, the transmitter checks the battery remaining capacity. The result is indicated by the transmitter LED or the Receiver LED.

The test switch also can be used as a pairing switch. A long press on the test switch (3 seconds or more) resets the pairing with the receiver and prevents communication with the registered receiver. When pairing is reset by mistake, perform the pairing procedure again.



	Transmitter		Receiver
Communication check OK	Green LED blinks 1 time	No buzzer sound	Receiving LED blinks 1 time
Communication check Failed	Red LED blinks 10 times	Buzzer sounds 10 times	—
Battery level low	Red LED lights for 1 second	No buzzer sound	Receiving LED blinks 2 times

※After display of the communication check result (Communication OK/ NG), the transmitter indicates battery level low.

●Battery level notification function

The battery level notification function notifies the battery level status in two stages.

①Notification of low battery level with test switch: It is possible to check the battery level with the test switch.

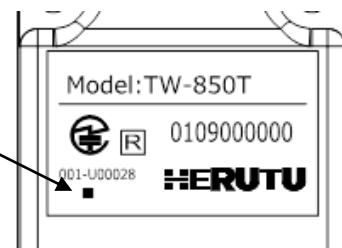
When the battery is low, the red LED will light for 1 second.

②Battery replacement notice: If the battery level is lower than in ① and the battery needs to be replaced, the green LED flashing after transmission will change to an orange LED flashing.

When the orange LED blinks, please replace it with a new battery immediately.

When you replace the battery with a new one, the LED on the transmitter will return to green from the second and subsequent transmissions.

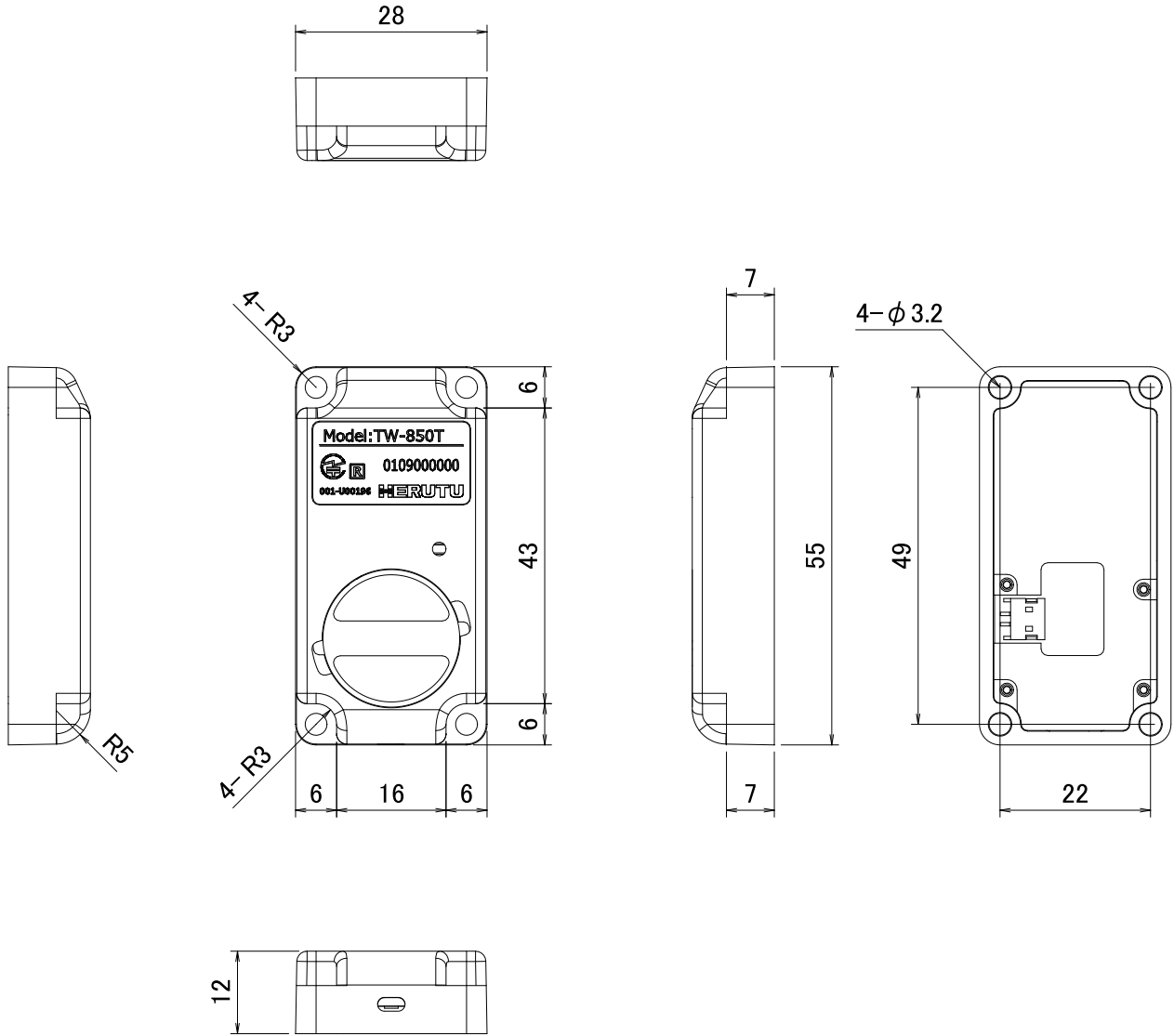
For transmitter that support the battery level notification function(battery replacement notice), ■ is printed on the sticker.



8. Specifications

Item	Specifications
Compliance Standards	<p><Japan> Radio equipment specified in Article 2 paragraph 1 item(19) of the Radio Law *Specialized radio equipment: Low power data communication system in the 2.4 GHz band Article 49-20 paragraph 1 of the Ordinance Regulating Radio Equipment <USA: FCC / Canada: ISED> FCC Part.15-247 <Thailand: NBTC> SDoC <India: ETA> ETA-848/2017-RLO(SR)</p>
Radio format	F1D
Frequency Band	2,403MHz~2,478MHz
Number of Channels	76CH
Modulation Method	GFSK
Communication Method	Simplex
Antenna Power	2.1mW
Input(s)	1 Non-voltage contact input 1 Test Switch
Output(s)	Piezoelectric buzzer 72dB/0.3m
Display	1 LED (Red/Green)
Power Source	1 Coin Battery (CR2032)
Operating Environment	Temperature: 0-50°C (32-122°F) Humidity: 80% or less (without condensation)
External Dimensions (W x H x D)	28W×55H×12D mm (Excluding protrusions)
Weight	approx. 25g
Antenna	Chip antenna
Battery Life	Approx. 300,000 uses (depending on usage conditions)

9. Dimensions Drawing



10. Before Determining Fault

Phenomenon	Cause and remedy
The transmitter does not transmit LED (red or green) does not light up	Battery capacity is low.
	→Please replace the battery (CR2032).
The red LED blinks 3 times after transmitting. (The buzzer of the transmitter sounds 3 times in synchronization with the red LED.)	Pairing is not done. (not registered)
	→Perform pairing with the receiver to communicate with the transmitter.
The red LED blinks 10 times after transmitting. (The buzzer of the transmitter sounds 10 times in synchronization with the red LED.)	The power of the receiver is not ON.
	→Make sure the power of the receiver to communicate with the transmitter is ON.
	The communication distance is too far.
	→The distance is beyond the maximum communication distance of the machine. Install the transmitter in a location where it can communicate with a receiver.
	The antenna installation status of the receiver is not good.
	→Check whether or not the receiver's antenna is surrounded by obstacles blocking radio waves or placed in the control panel (iron), and improve the installation status of the antenna. Also, consider using an external antenna.
The green LED blinks 4 times after transmitting. (The buzzer of the transmitter sounds 4 times in synchronization with the green LED.)	Communication cannot be done due to external factors.
	→Use of a product using the same frequency band (2.4GHz band) as this product may prevent communication. Please contact our Sales Department with your product information.
	The receiver is busy.
Red LED lights up for 1 second after pressing the test switch.	→ The receiver is generating a relay output or preventing a double count.
	For the settings, refer to the instruction manual of the receiver.
Pairing cannot be done	Battery capacity is decreasing.
	→Please replace the battery (CR2032).
	The receiver is not in the pairing mode.
	→Set the receiver to the pairing mode and press the pairing switch of the transmitter for 3 seconds or more.

11. After Service and Warranty

If something is wrong. If you should find anything wrong with the machine when using it under normal conditions, check the warranty and repair regulations and contact the outlet store through which you purchased the product or our Sales Office. The latest warranty and repair regulations can be found on our website.

The user is prohibited by law from disassembling or making modification to the unit or otherwise may be subject to punishment.

[Warranty Regulation]

This regulation (hereinafter referred to as the "Regulation") is for post-shipment warranty provided by HERUTU ELECTRONICS CORPORATION (hereinafter referred to as the "Company") so that you can use the Company's product you have purchased with confidence. The Regulation does not apply to special order products (custom products). In addition, purchased products shall be subject to the relevant manufacturer's warranty regulations, and the Regulation shall not apply.

Please note that in the event that the product you purchased comes with an instruction manual that describes the Company's old repair regulation, the latest Regulation will still apply.

1. Warranty period

Unless otherwise specified, the warranty period shall be "up to thirteen months from the date of shipment of the product by the Company". During the warranty period, the Company will replace the product with a new one or repair it free of charge in accordance with the provisions of the Regulation.

In addition, if a failure occurs during the warranty period due to the Company's responsibility and the product with the failure (hereinafter referred to as the "Product") is replaced with a new one or repaired free of charge, the warranty period of the Product will be "thirteen months from the date of initial shipment of the Product, or six months from the date of shipment of the Product that has been replaced or repaired, whichever comes later".

The warranty period for paid repairs shall be in accordance with the provisions of the Company's repair regulation.

2. Warranty scope

If a failure occurs during the warranty period due to the Company's responsibility, the Company will replace the product with a new one or repair it free of charge.

Even within the warranty period, the warranty does not apply in the following cases:

- A) In the event of failure or damage caused by improper handling by the customer, such as dropping or impact during transportation or movement by the customer
- B) In case of failure due to disassembly or modification of the main unit by the customer
- C) In case of natural disasters such as fires, earthquakes, floods, and in case of failure or damage due to abnormal voltage
- D) In case of failure caused by failure of equipment other than the Company's designated equipment connected to the Product
- E) In case of failure of the Product's accessories (AC adapter, antenna, connection cable, etc.)

F) If damage is caused by the failure of consumables or limited-life parts included in the Product:

1. Consumables: Batteries (rechargeable, batteries, dry batteries, button batteries, etc.), recording media (SD cards, etc.)
2. Limited-life parts: Various switches (limit switches, push button switches, etc.) and various sensors
3. Other items that are worn out or have a service life due to use

If consumables or limited-life parts fail, we will replace or repair the parts for a fee.

G) In case of failure caused by handling contrary to the usage and precautions described in the instruction manual of the Product

H) If repaired, adjusted, or improved by elsewhere other than the Company

I) If the Company is unable to reproduce the failure

3. About repair of the Product

Please note that repairing the Product requires equipment such as measuring instruments and tools, so the Company will handle it as a pick-up repair service at the Company.

4. About the shipping cost for replacement or repair of the Product

Shipping charges for sending the Product to the Company or a distributor, as well as shipping charges for sending the Product that has been replaced or repaired by the Company or the distributor to the customer, will be borne by the Company or the distributor.

5. Disclaimer

The Company is not responsible for any direct or indirect damages or monetary loss caused by failure of the Product or its use.

6. Additional notes

Please note in advance that the information of the Product described on the Company's website and in the catalogs, instruction manuals, technical materials, and other materials provided by the Company are subject to change without notice to customers.

[Repair Regulation]

This regulation (hereinafter referred to as the "Regulation") shall be applied to paid repair service (hereinafter referred to as the "Service") provided by HERUTU ELECTRONICS CORPORATION (hereinafter referred to as the "Company"). The Regulation does not apply to special order products (custom products). In addition, purchased products shall be subject to relevant manufacturer's repair regulations, and the Regulation shall not apply.

Please note that in the event that the product you purchased comes with an instruction manual that describes the Company's old repair regulation, the latest Regulation will still apply.

1. Subject of the Regulation

The Service is provided for the Company's products that are "beyond the scope of the warranty specified in the warranty regulation" and "from the sales start date to the end date of the repair period (seven years from the production end date)". However, please note that the end date of the repair implementation period may be earlier

depending on the availability and procurement status of repair parts.

2. Establishment of contract

The contract shall be established when the customer approves the quotation presented by the Company and issues an order form before the end of the repair implementation period.

3. Purpose of the Service

The Company will provide the Service for the purpose of repairing the function and performance of the Company's product used by the customer if it fails beyond the scope of the warranty specified in the warranty regulation. Please note that the Service requires equipment such as measuring instruments and tools, so the Company will handle it as a pick-up repair service at the Company.

4. Usage fee for the Service

The usage fee for the Service shall be the total of the following fees:

A) Repair service fee

The repair service fee is the total amount of technical fees, parts costs, other expenses incurred, and applicable taxes associated with repairing the Company's product (hereinafter referred to as the "Product for repair") that the customer wishes to repair.

B) Shipping fee (including the cost of packaging boxes)

The Company kindly asks that customers bear the shipping costs for sending the Product for repair to the Company and for returning it from the Company. However, in the event that the Product for repair is sent by payment on delivery by the customer, the shipping cost will be included in the Service charge.

5. Warranty period and scope of the Product for repair

The warranty period for the Product for repair is "up to six months from the date of repair completion". However, please note that failures other than the repaired parts (repaired places or replaced parts) are not covered by the warranty of the Product for repair. In addition, if a failure occurs due to the Company's responsibility within the warranty period, the Company will again repair the product free of charge.

6. Handling of repair parts

A) In order to provide the Service stably for a long time and to promote environmental protection, etc., the Company may use recycled parts or alternative parts at the time of repair at its discretion.

B) The Company may, at its own discretion, collect the removed parts for the purpose of recycling or analysis at the time of parts replacement through the regulation of the Service. Please note that the collected parts are the property of the Company and will be recycled, used or discarded at its discretion.

7. Estimate for the Service

The estimate for the Service is basically free of charge. However, if the Company is unable to reproduce the failure, it will not be able to carry out repairs and will not provide an estimate. If a technical investigation is required to reproduce the failure, the Company will estimate the cost of reproducing the failure.

8. Return of unrepaired product

If the Company does not estimate the cost of the Service due to reasons such as being unable to reproduce the failure, it will return the Product for repair to the customer.

In addition, if the customer does not place an order within three months from the date of creation of the quotation, or if the customer does not accept the quotation and the customer expresses an intention not to carry out the repair, the Company will assume that the customer has canceled the request for the Service, and the Company will return the Product for repair to the customer without carrying out the repair.

In addition, if a shipping fee is incurred for returning the product, it will be borne by the customer.

9. Handling of personal information

The Company will properly handle personal information such as names and addresses being provided in accordance with the privacy policy posted on the Company's website.

10. Compensation for damages

- A) The responsibility of the Company for providing the Service shall be limited to the matters and contents specified in the repair regulation, and shall not include any damages incurred by the customer due to special circumstances (including loss of profits of the customer and damages based on claims for compensation made by third parties against the customer) and damages caused by the customer being unable to use the product due to a failure or defect of the Product for repair. However, this does not apply if the damage was caused by the Company's willful misconduct or gross negligence.
- B) Even if the Company is liable to the customer for damages in connection with the regulation of the Service, the Company's liability shall not exceed the amount equivalent to the value of the Product for repair, except in cases of willful misconduct or gross negligence on the part of the Company. The value of the Product for repair shall be calculated based on the residual value after depreciation or the price of products with equivalent performance sold in the market at the time of damage.

11. Additional notes

- A) The Company cannot restore stickers, LCD protective sheets, and coloring applied to the outer casing parts that you have attached yourself. In addition, if advertisement stickers were affixed at the time of sale, they cannot be newly prepared as repair parts when replacing the outer casing parts. After replacing the outer casing parts, the advertisement stickers will be returned without being affixed.
- B) Please note in advance that the information of the Product on the Company's website and in the catalogs, instruction manuals, technical materials, and other materials provided by the Company are subject to change without notice to customers.



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