

TW-800

Instruction Manual V2.00

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

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■General outline

TW-800 is constituted by a Transmitter[TW-800T] and a Receiver [TW-800R].

The transmitter can be mounted on various kinds of tools like torque wrench/plier wrench and it's work completion signal can be transmitted to the receiver wirelessly

<Feature>

◆Reliable communication

TW-800 can communicate automatically by selecting the channel from 76ch in 2.4GHz bandwidth.

TW-800 transmits the signal reliably by 2way communication. (You can look see the communication OK/NG by LED lighting and flashing.)

◆TW-800T uses CR2032 type of battery for small size and light weight.(Size is same as TW-510T)

◆The case of TW-800T is used polypropylene for protecting broken the case.

◆TW-800 uses the communication band which can be used worldwide.

◆TW-800T has test switch for test communication and battery remaining check.

◆It is easy to set the registry of TW-800T and TW-800R.

It is easy to do "Pairing" with TW-800T and TW-800R.It is not necessary to manage the channel and ID.

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

◆TW-800R can be set various setting

- 1.Buzzer: On/Off
- 2.Buzzer volume:2 kinds Small/Big
- 3.Output time of Photo-Mos relay: 4kinds 50ms/200ms/400ms/1s
- 4.Double-count protect time: 4 kinds 10ms/200ms/1s/2s

◆The power source of TW-800R is DC24V.

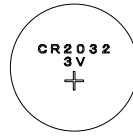
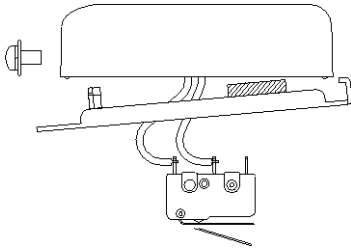
The power source of TW-800R that is often connected with controlled equipment is DC24V.

It can be used AC100-240V by using AC adapter of option

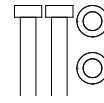
※For the cause of transmitter "TW-800T" and receiver "TW-800R" recognize both sides by pairing, equipment configuration is set to 1to 1.It can't be used two or more sets of transmitter for one set receiver.

■Main part and accessories

Transmitter TW-800T



Coin battery CR 2032×1



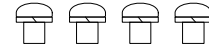
For Limit switch

Hex socket head cap bolt M2×L10×2pcs
Washer M2(φ2.2) M4×2pcs

TW-800T ×1

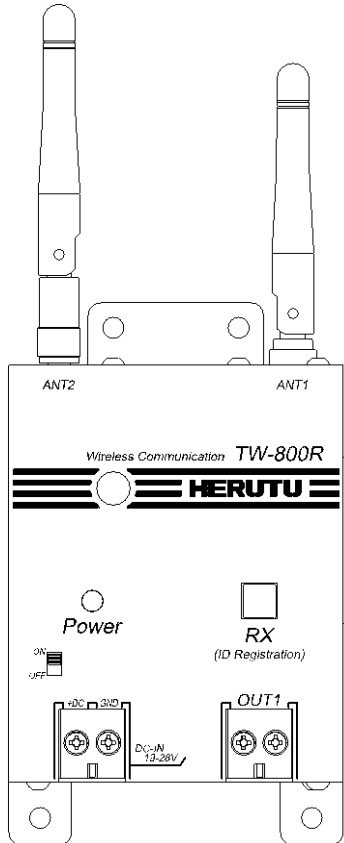
(Screw for fitting a mainpart, Limit switch)

Fitting platex1



Screw for fitting M4×L5×4

Receiver TW-800R



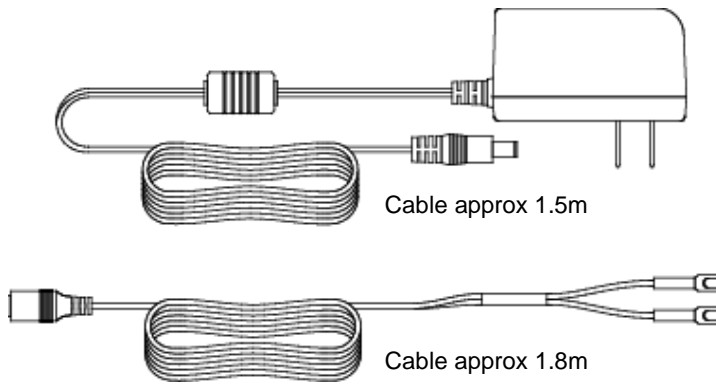
TW-800R ×1

(Dipole antenna for ANT2 is set at shipment)

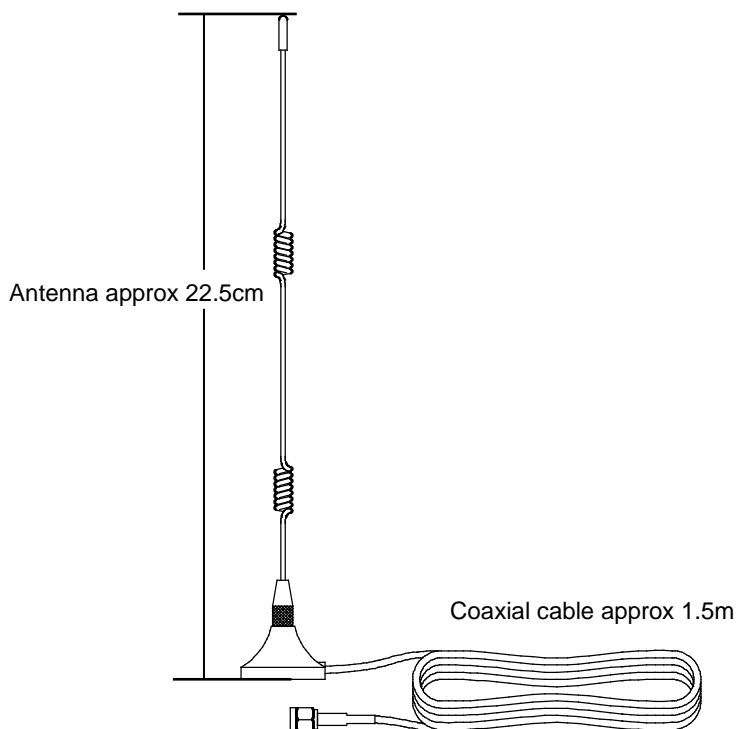
※ANT2 is fixed by resin before shipment by regulation of FCC/IC
in an applicable country.

Onerous option

- AC Adapter ADB24050-C(With connecting cable 1.8m)

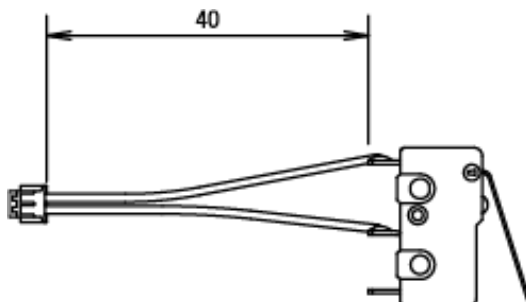


- External antenna MB-13F(With magnet base/Coaxial cable approx 1.5m)



※ANT2 is fixed by resin before shipment by regulation of FCC/IC in an applicable country.

- Cable connector with limit switch TW800T-HCL(please purchase 10pcs/lot)



■ Safety concerns

Safety concerns (Be sure to read)

To prevent human injury of user or damage in property from occurring, be sure to observe the precautions shown below.

- The degree in safety hazard and damage generated by the wrong usage while ignoring the descriptions is classified by the following displays.



Warning

Using in an improper way while ignoring this pictorial symbol might cause a death or serious human injury.



Caution

Using in an improper way while ignoring this pictorial symbol might cause a human injury or property damage.

- The type of descriptions you should observe is classified by the following pictorial symbols.



This pictorial symbol indicates a “Reminder” to attract an attention.



This pictorial symbol indicates a “Prohibition” to prohibit a certain action.



- For the usage to be commonly applied in all the models:

- Avoid using in a place with a plenty of humidity or dust. Otherwise, absorbing a dust or water contents may cause machine trouble, fire or electrical shock.



- For handling this machine:

- This is the electronic devise or wireless radios composed of the precision parts. Do not overhaul/remodel. It may cause accident or machine trouble.



Warning

- For handling this machine:

- Do not use this product for the application needing the high reliability related to human lives.



- Do not use this product in a place where it is uncertain about whether or not radio waves reach.





■ For handling the power source:

Be sure to observe the following precautions to prevent the AC adapter and Power cord from being heated, damaged, or ignited.

● Do not approximate the AC adapter and Power cord to a fire, or do not put them into a fire. The AC adapter and Power cord can be broken or ignited, resulting in an accident.	
● You can use the AC adapter and main body only with the specified power voltage to protect them from the damage and fire accident.	
● Do not use the AC adapter and main body in a wettable atmosphere. It may cause accidents or troubles such as heating, igniting or electrical shock.	
● Do not touch the AC adapter, main body, Power cord and Plug outlet with wet hands. It may cause an accident such as electrical shock, etc.	
● Do not damage the Power cord. A short-circuit or heating may cause a fire or electrical shock.	
● Do not use the Power plug with dust being adhered. A short-circuit or heating may cause a fire or electrical shock.	
● Do not give a strong impact onto the AC adapter. It may cause an accident or machine failure.	
● If you find out deformed AC adapter, do not use it. It may cause an accident or machine failure.	
● Do not charge this equipment in a place where flammable gas can be generated. It may cause a fire accident.	
● Never overhaul the AC adapter. It may cause an accident or machine failure.	

■ When trouble happens during use:

Since it may cause a fire or electrical shock, disconnect a power plug, and immediately ask outlet store or our company to repair.

● When smoke or abnormal odors are generated, stop using, immediately disconnect a power plug, and ask outlet store or our company to repair.	
● Once the Power cord is damaged, do not use it. Using it as is may cause a fire or electrical shock.	

■Caution for wireless Law

○Radio device in this product has been certified by the Radio Law. It does not needs a license of radio stations according to using this product.

○Do not use it close to a person with a cardiac pacemaker.

Electromagnetic interference may affect it, putting his/her life at risk.

○Do not use it close to medical equipment.

Electromagnetic interference may affect the cardiac pacemaker to cause loss of human life.

○Do not use it close to an electric oven.

Electromagnetic interference may affect the medical equipment to cause loss of human life.

○Radio device in this product has been certified by the Radio Law. Do not disassemble or modify this product.

■Caution for Radio Interference with 2.4GHz Wireless communication

Take the following precautions for communication by 2.4GHz wireless communication.

Within this product's frequency range, industrial, scientific, and medical equipment, such as electric oven, as well as RFID premises radio stations (license required) and specified low power radio station and ham radio station (license not required) used in factory manufacturing lines are operated.

○Before using this device, confirm that no RFID premises radio station, specified low power radio station, or ham radio station is operating close to it.

○If this product caused radio interference with an RFID premises radio station, immediately change the product's frequency or stop radio emission, and contact representative for actions to take to prevent cross talk.

■FCC/IC Warning (TW-800T,TW-800R)

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 device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interface, and (2) This device must accept any interface received, including interface that may cause undesired operation:

Information about FCC Standard and IC standard.

This device complies with Part 15 of FCC Rules and Industry Canada licence-exempt RSS standard(s).

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 la partie 15des règles de la FCC et 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, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

■Information about SDoC(Thailand)

This telecommunication equipment conforms to technical standard NTC TS 1010-2550.

This telecommunication equipment conforms to NTC technical requirement.

■Information about SDPPI(Indonesia)

TW-800

(TW-800T/TW-800R/TW-800R-EXP)

85352/SDPPI/2022

3441

■Information about CMIIT(China)

•CMIIT ID

TW-800T : 2013DJ9940

TW-800R : 2013DJ9941

1.

- 使用频率:2400~2483.5MHz
- 等效全向辐射功率(EIRP)≤10mW
- 频率容限: ±75kHz

2.不得擅自更改发射频率、加大发射功率(包括额外加装射频功率放大器),不得擅自外接天线或改用其它发射天线;

3.使用时不得对各种合法的无线电通信业务产生有害干扰;一旦发现有干扰现象时,应立即停止使用,并采取措施消除干扰后方可继续使用;

4.使用微功率无线电设备,必须忍受各种无线电业务的干扰或工业、科学及医疗应用设备的辐射干扰;

5.不得在飞机和机场附近使用。

Production label is changed only for China as below.

Transmitter TW-800T

型号:TW-800T

序号:0101000000

CMIIT ID:2013DJ9940

HERUTU ELECTRONICS
CORPORATION

HERUTU

Receiver TW-800R

型号:TW-800R

序号:0181000001

CMIIT ID:2013DJ9941

HERUTU ELECTRONICS CORPORATION
MADE IN JAPAN

■Korea Certification



모델명 :TW-800R / 등록번호 : R-R-HRTE-TW-800R

모델명 :TW-800R-EXP / 등록번호 : R-R-HRTE-TW-800R-EXP

모델명 :TW-800R-EXL / 등록번호 : R-R-HRTE-TW-800R-EXL

적합성 평가를 받은 자 : HERUTU ELECTRONICS CORPORATION

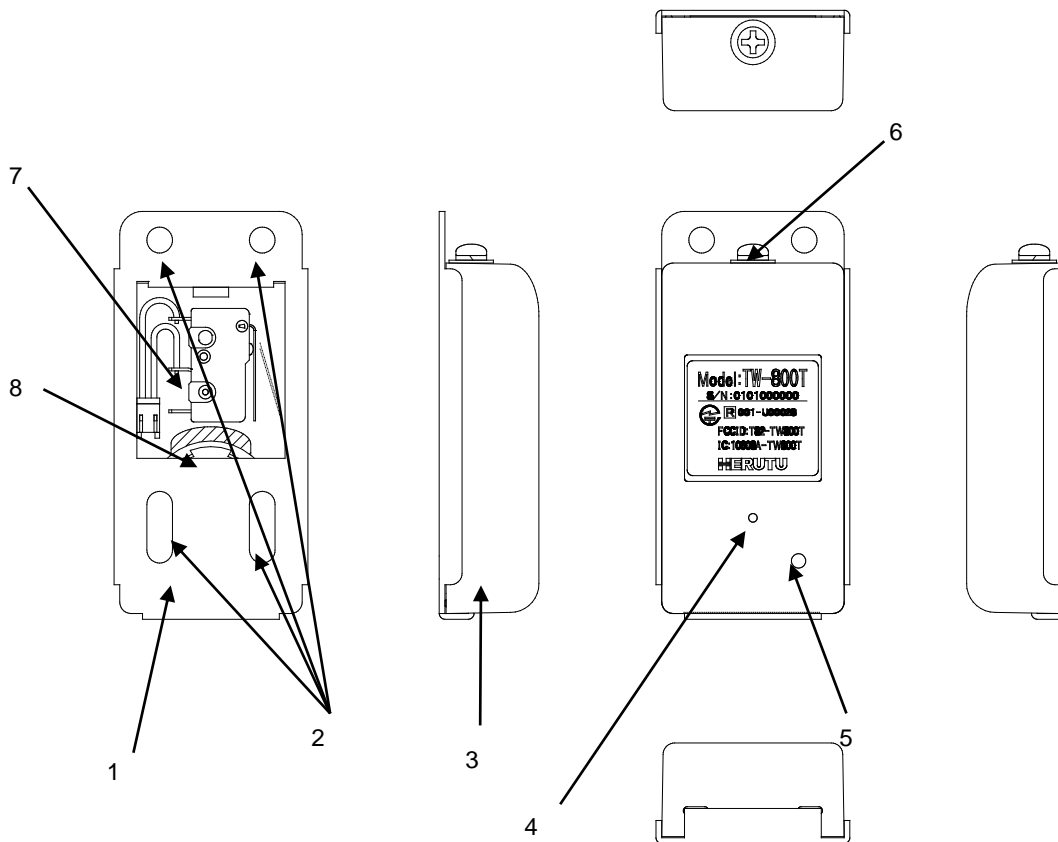
기자재 명칭 : Wireless Device

제조사 및 제조국가 : Made in Japan

이 기기는 업무용 환경에서 사용할 목적으로 적합성평가를 받은 기기로서 가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다.

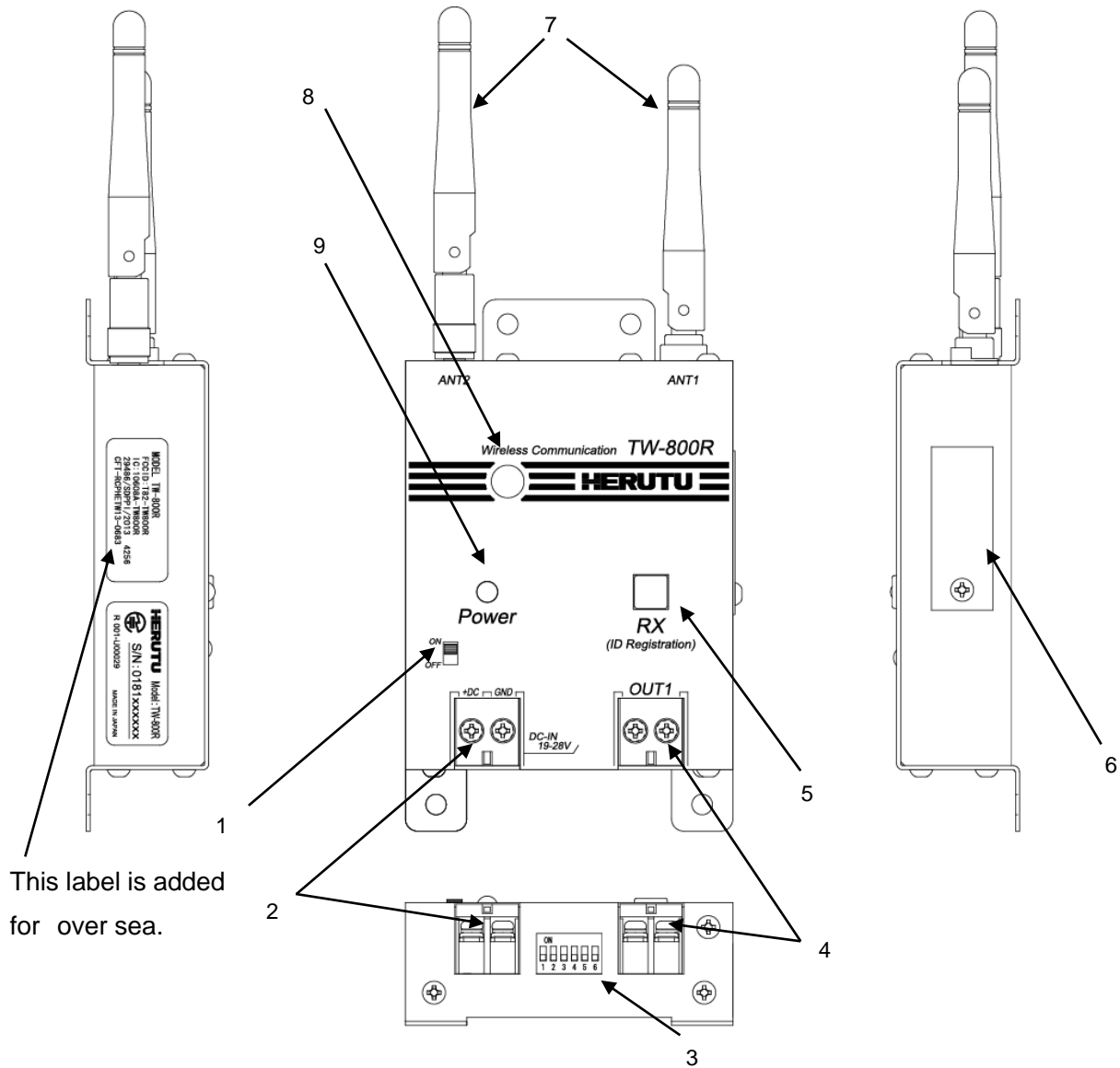
■Name and function of each part

●Transmitter TW-800T



1.Seat	Seat is for setting torque wrench and plier wrench and so on.
2.Hole of bracket	The hole is for mounting the base of torque wrench of LS type and seat
3.Case	Case for main body. It is used indestructible polypropylene materials.
4.LED(Red/Green)	LED is for confirmation of communication and battery level notification. Depend on the situation, LED is lighting and flashing
5.Test switch (Pairing switch)	For Test switch and paring switch.
6.Screw for fixing	The screw is for mounting main body and seat
7.Limit switch	Limit switch is for input the signal from torque wrench. It is fixed the mount base of torque wrench by hexagon screw.
8.Battery	Battery is coin battery. Type is CR-2032

●Receiver TW-800R



This label is added
for over sea.

1.Power switch	For power ON and OFF
2.Terminal block of power source	Terminal block for power source of DC24V(M3)
3.DIP Switch	For setting DIP switch(6 selection)
4.Output terminal block	Photo-mos relay output terminal block(M3)
5.RX light switch:Green (for Paring switch)	Led lights at receiving the signal from transmitter normally. Also RX light switch is used for paring.
6.I/F for Expanding unit	At connecting Expand unit, the cover is unfixed.
7.Antenna	2 antennas for Diversity type. Antennas is dipole type. One is all-in-one, one is possible to take off. When it is set external antenna, it is set by means of taking off ANT2. ※ANT2 is fixed by resin before shipment by regulation of FCC/IC in an applicable country.
8.Buzzer	Buzzer sounds at receiving the signal from transmitter. It is possible to set sounds on and off, or big and small. Sound pressure 95dB/m
9.Led of Power(Red)	It lights at power ON.


■Installation

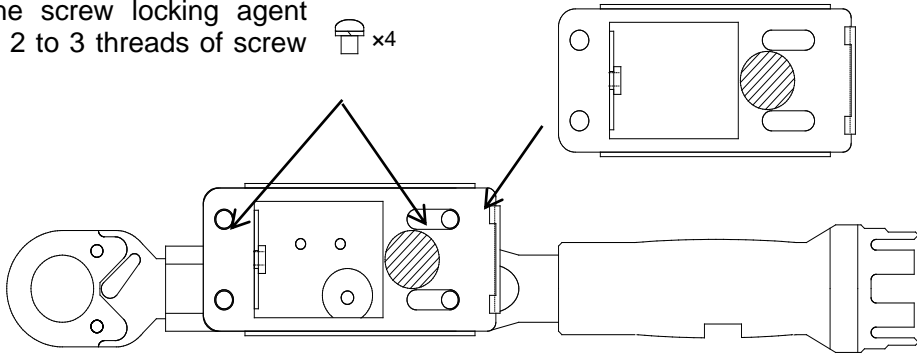
<Installation the transmitter to torque wrench>

To install the seat

Fix the Seat with four fixing screws.

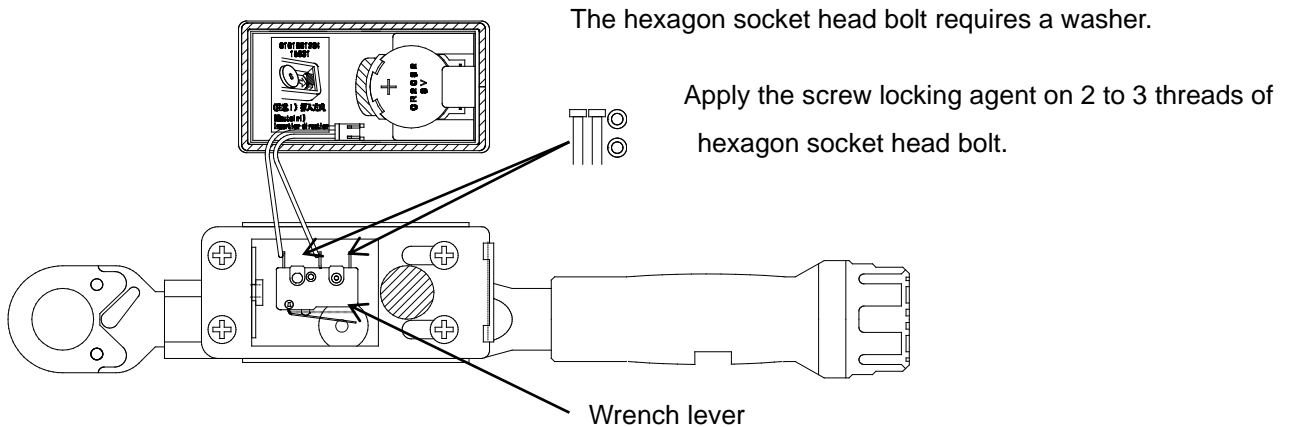
For the application with heavy oil mist, fill up the caulking agent between Wrench seat and Seat and also between Wrench shaft and Wrench seat to protect the internal board.

Apply the screw locking agent onto the 2 to 3 threads of screw  x4

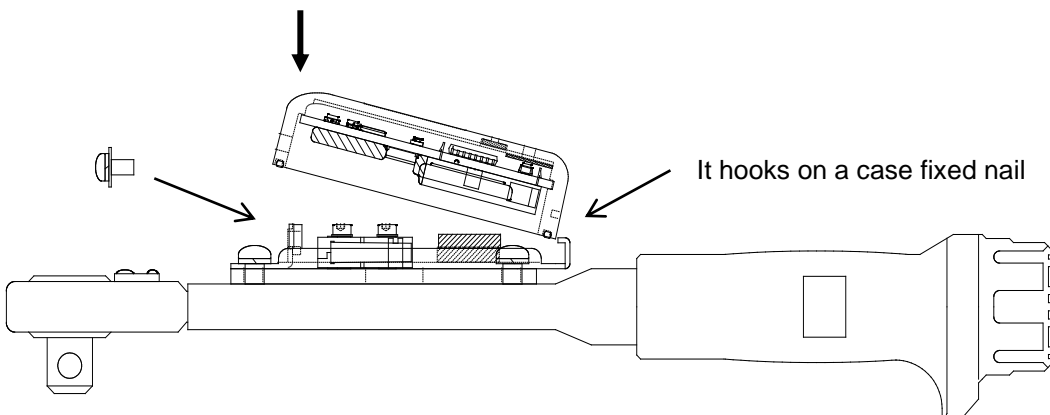


Fix the Transmitter Limit SW with two hexagon socket head bolts(which was removed).

Verify that the moving range of wrench lever is well suited for the movement range of switch during the wrench in movement.



Hook the Transmitter on the Case holder of Seat, set it with an attention being paid not to bite the cord, and fix it with the set screw as firmly pushing the case.



<The attention and the check method on limit switch attachment>

When the lever working range of a torque wrench is small, a limit switch cannot be struck and a transmitter may not send. In limit switch attachment, be careful enough and carry out.

<Input Judgment time for transmitter>

Transmitter don't transmit when the signal from limit switch is within 40ms.

This function prevent transmitting the signal at striking the limit switch when the torque wrench is fallen.

When you install a limit switch and a transmitter, it can not send the signal that you strike a limit switch by your finger. But it is based on the abovementioned processing.

In the case of tightening the limit switch in normal, the time is approx 100ms-170ms.

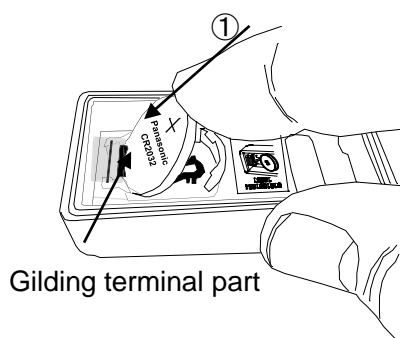
In the case of striking the limit switch by being fallen, the time is approx 20-30ms.

Input judgment time of transmitter is set by above cause.

<Installation and removing the coin battery for transmitter>

●Installation the coin battery for transmitter

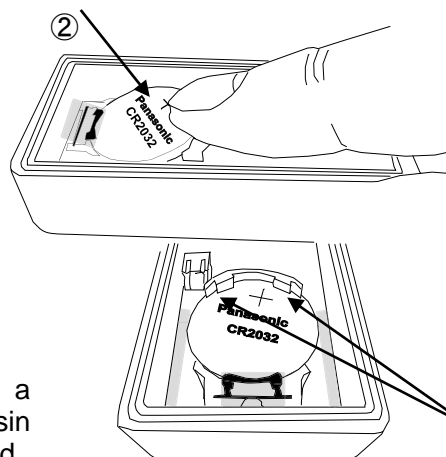
"+" terminal side" of a coin battery (CR2032) is turned up. A coin battery is previously inserted in a gilding terminal part like following figure ①. Then, as shown in the following figure ②, a coin battery is lightly pushed in from a top. Please push until it snap on so that it may get hung up to two pawls of the resin part of a battery holder.



Gilding terminal part

[Caution!]

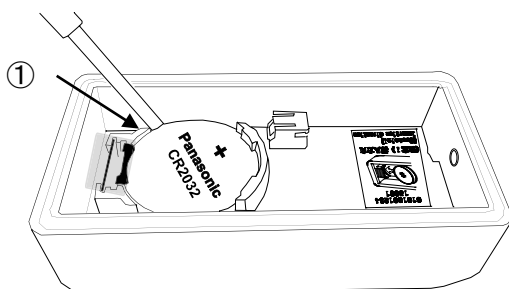
Please be sure to insert a battery from a gilding terminal part. If it inserts from a resin part, a gilding terminal part may be damaged.



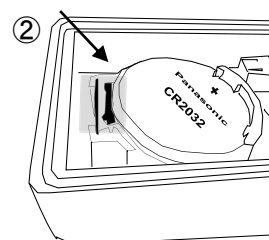
Pawls of the resin part

●Removing the coin battery for transmitter

When removing a coin battery by exchange etc., as a tip is not sharp and shown in the following figure①, It inserts so that the bottom portion of a battery may be raised lightly. As shown in the following figure②, a battery removes from the pawl of a gilding terminal part.



A battery removes from the pawl of a gilding terminal part.



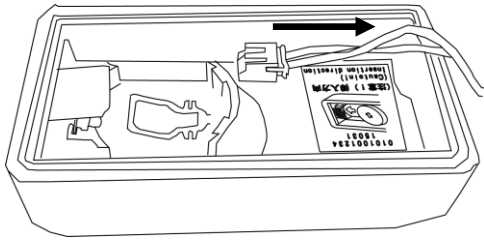
[Caution!]

In the case of installation a battery and removing, please carry out carefully so that the limit switch cable of TW-800T is not broken. We recommend you to work removing a limit switch cable from a connector.

<Changing way of limit switch(TW800T-HCL)>

When you exchange a limit switch cable, please remove a coin battery, and as shown in the following figure, carry out.

①

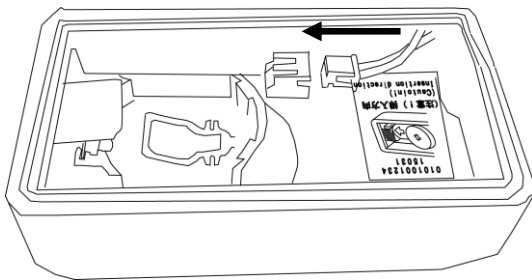


Please pull horizontally and extract from a connector so that a connector mating portion separates from the cable near the connector of a limit switch cable.

(Caution)

Since the connector mounted in the substrate may be bent and damaged if it pulls upwards when removing the connector of a limit switch cable, please work by taking care.

②



Please push a new limit switch cable connector portion, and insert in the connector of TW-800T. Please push in firmly until it sounds. When you push in, please push a white connector portion at the point of a nail, etc. Moreover, please put after checking whether the direction of a connector is correct.

(Caution)

Please take care not to put pressure with a cable impossible for, when inserting in a connector.

<Installation the receiver>

■ Install this machine in the place where it can be easily viewed from the Transmitter and also an electric wave can be stably received.

■ Set the antenna so that it is not parallel to the metal plates and keep away it from metal plates as far as possible.

■ Feed the stable power supply (DC24V) with less variation.

Terminal block:M3(2P)

Input power source:DC24V(DC19~DC28V)

When you use with AC power supply, please use the AC/DC adaptor "ADB24050" of an option.

■ Make a wiring for the output terminal block.

Output turns on with relay contact. Once output turns on, short-circuited condition is made between terminals.

Once the rated contact load is exceeded, inner circuit might be damaged. Use an extreme care.

Rated load voltage AC/DC30V per point

Rated load current 0.5A per point

Contact mechanism MOS-FET/1a

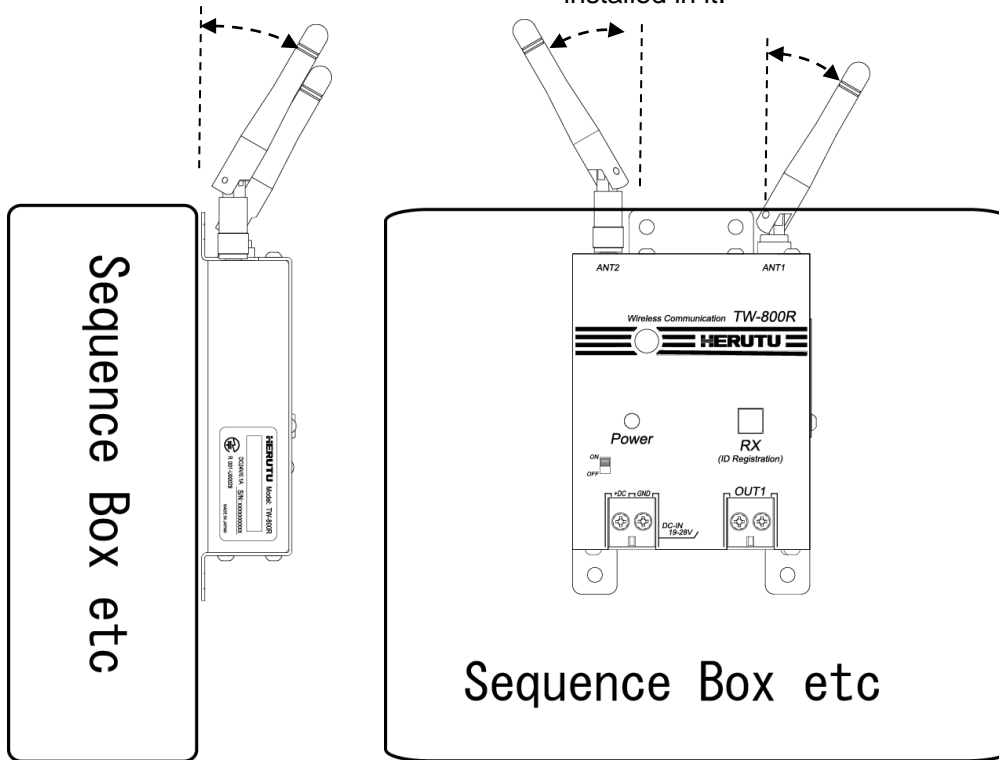
Terminal block:M3(2P)

The antenna of a receiver should install so that there is no obstacle in the circumference of an antenna.

Receiver has 2 antennas and it is diversity type. Both antennas should install that there is no obstacle in the circumference of an antenna.

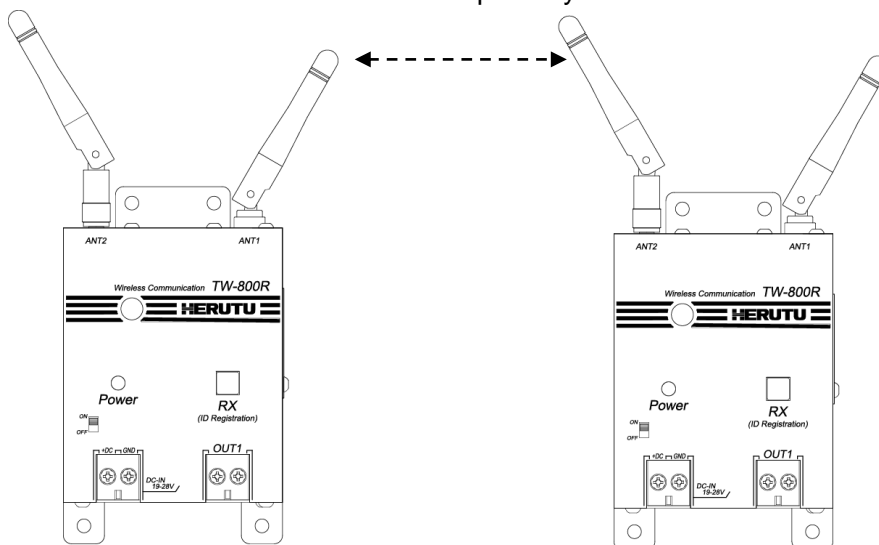
Antenna should install 30-45 degree of the directions of the front.

An antenna is seen from the front, is opened in the direction of outside 0-45 degree, and is installed in it.

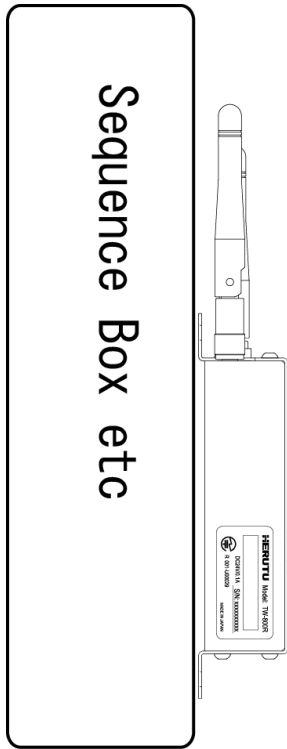


Also in case of setting installation 2 receivers for parallel, it should install separately over 5cm from each antenna at least.

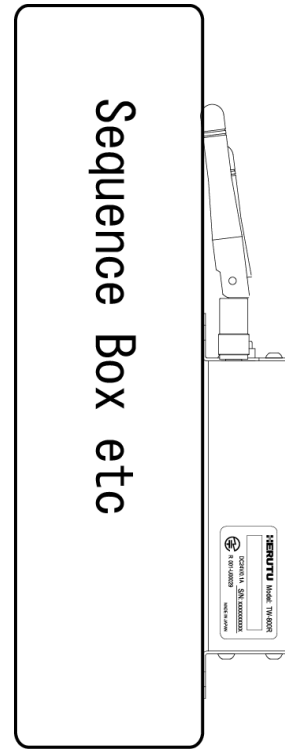
It should be installed separately over 5 cm at least



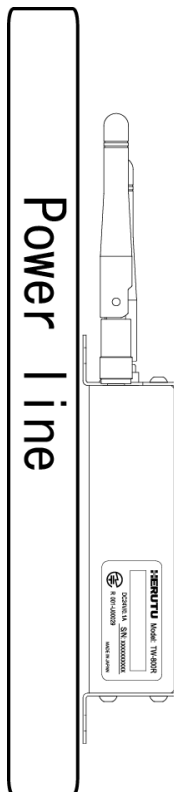
Please do not set the following installation.



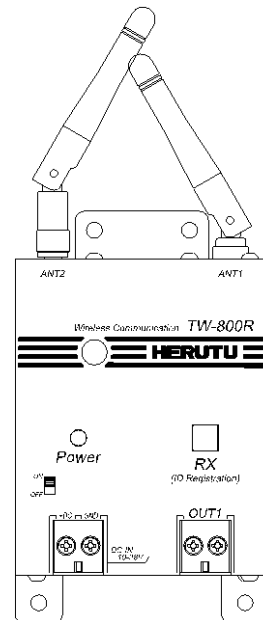
✗ It is parallel with sequence box and antenna



✗ It is touched antenna with sequence box.



✗ It is installed bear power line.



✗ Each antennae are in touch.

- This product serves as a minus (-) ground.

In the case of the place which is fixed this receiver is steel such as an operator control panel and a pillar of a production line, please fix this receiver after confirming minus grounding or plus grounding.

Please keep in mind that the short circuit breaker of equipment may operate if it fixes with equipment of a plus earth accidentally.

When fixed with equipment of a plus earth, I avoid the fixing to a metal thing, or please give me the disposal of fixing on both sides of an insulator.

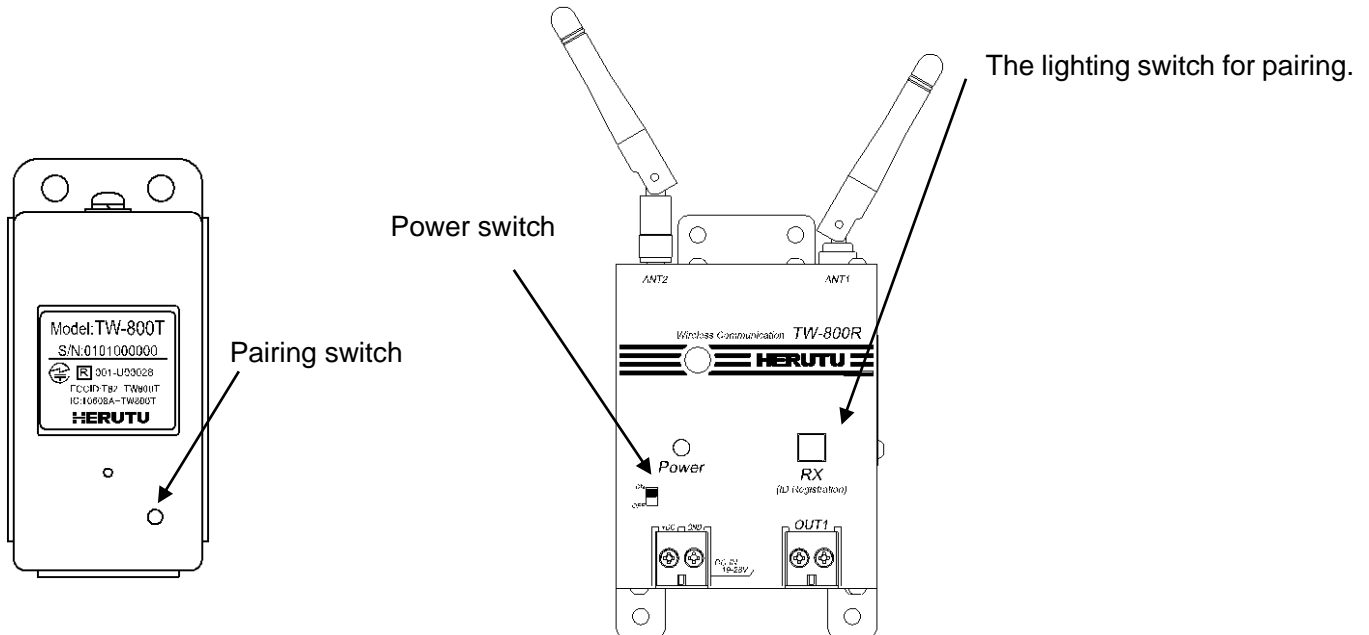
■Setting

It needs “pairing” a transmitter and a receiver before using. Transmitter and receiver communicate by recognizing the other party's recognition signal by pairing.

●Pairing (Registration)

1. Power Switch is turned on pushing the lighting switch for pairing of a receiver.

To enter “Pairing mode” only 10 seconds with flashing the lighting switch for pairing.



2. You continue pushing the “pairing switch” over 3 seconds of transmitter by a long and slender thing.
3. It is completed the pairing between transmitter and receiver, then the lighting switch of receiver is turned off.
4. It can communicate with transmitter being pairing, you turn off the power switch of receiver once.

●Delete the pairing

1. Power Switch is turned on pushing the lighting switch for pairing of a receiver.

To enter “Pairing mode” only 10 seconds with flashing the lighting switch for pairing.

2. You continue pushing the “lighting switch for pairing” over 2 seconds, then the lighting switch is turned on.

The transmitter which is register by pairing is deleted.

◆Caution

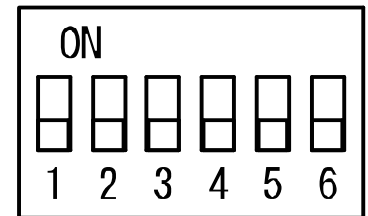
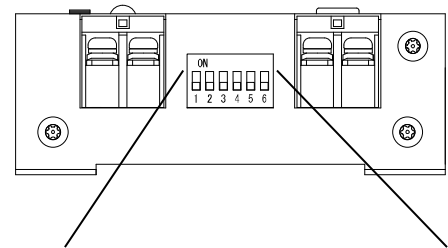
Please keep in mind that a transmitter cancels the pairing information (registration information on a receiver) which was carrying out the memory, and the communication with the receiver which was carrying out pairing becomes impossible if a receiver carries out the long aggressiveness of the pairing switch of a transmitter 3 seconds or more in the state where it is not in pairing mode.

●Setting of receiver

You can set “relay output time”, “Double count protect time”, “Behavior of buzzer” by six dipswitch.
Please set by your operation.

◆Buzzer ON/OFF

DIPSW	1
Buzzer does not sound	ON
Buzzer sounds	OFF



◆Relay output time (4 kinds)

DIPSW	2	3
50ms	OFF	OFF
200ms	ON	OFF
400ms	OFF	ON
1S	ON	ON

◆Double count protect time (4 kinds)

DIPSW	4	5
10ms	OFF	OFF
200ms	ON	OFF
1S	OFF	ON
2S	ON	ON

*When “Relay output time” is set 50ms and “Double count protect time is set 10ms, Buzzer sounds 50ms.
Buzzer sounds 100ms ordinarily.

◆Buzzer sounds Big/Small

DIPSW	6
Small	ON
Big	OFF

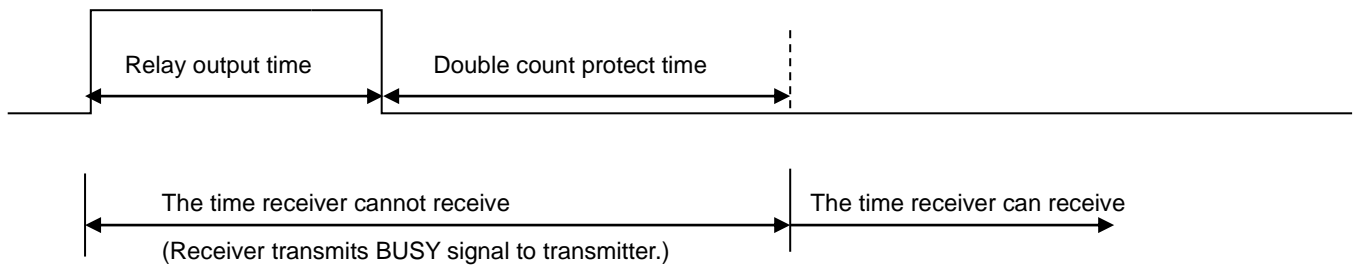
◆Caution

While the receiver output relay output or while receiver is in double count protect time, receiver transmit the busy signal to transmitter. Then receiver doesn't move.

When the transmitter receives the busy signal, the Green LED of transmitter flashes 4 times.

According to setting relay output time and double count protect time, a difference is made for a transmitting intervals. Please set depend on your situation.

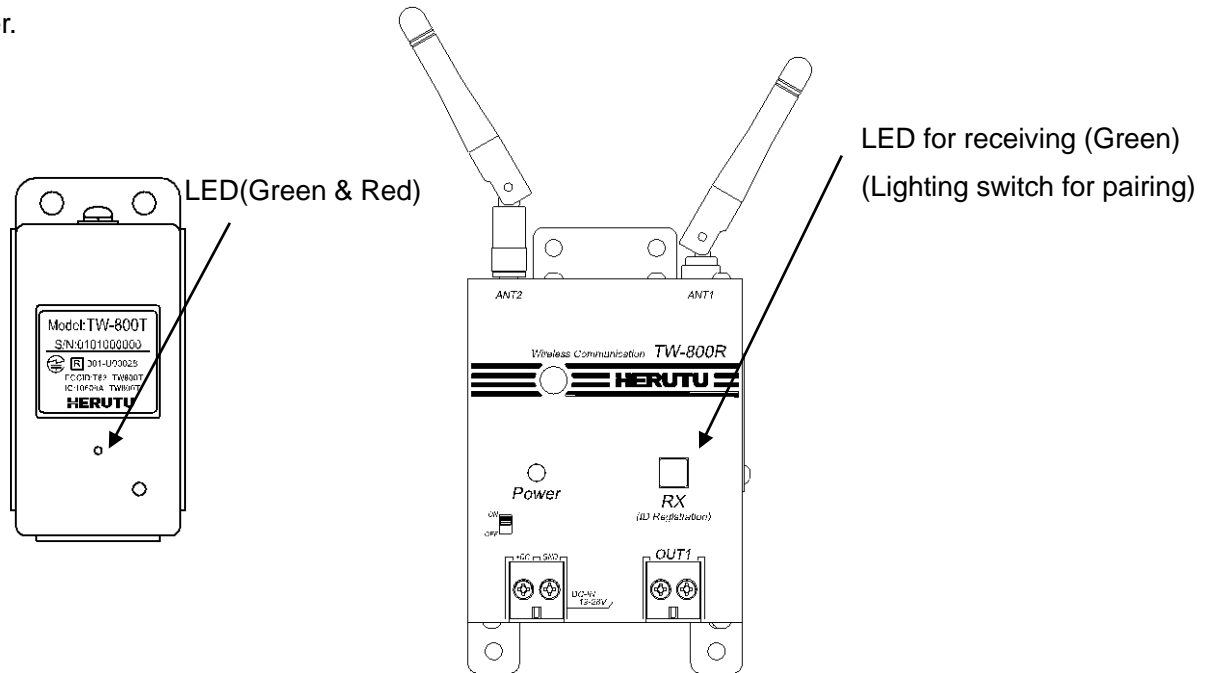
<Receiver>



■How to use

1. Power switch of receiver is turned on. Please confirm the LED situation as turning off.

When the LED for receiving turns on, the transmitter is not registered by pairing. Please make a pairing with transmitter.



2. By working with tools, when the limit switch is hit, the transmitter will send the signal.

When the communication is done normally, receiver output the relay output and receiver sounds the buzzer according to setting. Green LED of transmitter turns on 1 time.

When the communication is not done normally, receiver doesn't move.

While the receiver output relay output or while receiver is in double count protect time, receiver transmit the busy signal to transmitter. When the transmitter receives the busy signal, the Green LED of transmitter flashes 4 times.

	Transmitter	Receiver
Communication OK	Green LED 1 time flashing	LED 1 time flashing
Communication NG	Red LED 10 times flashing	—
BUSY	Green LED 4 times flashing	—

Buzzer sound time is usually for 100ms. When the relay output is set 50ms and double count protect time is set 10ms, Buzzer sound time is 50msec.

*When the transmitter is not done "Pairing" transmits, Red LED will be flashing 3 times.

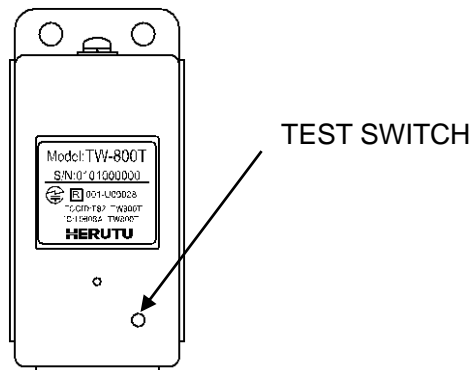
●TEST SWITCH

There is a test switch for checking the battery and communication. 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.

Also transmitter make a checking the battery at pushing the test switch. You can know the battery situation by transmitter LED and Receiver LED

TEST SWITCH is combination with Pairing switch. To continue pushing the switch over 3 seconds, transmitter remove the registration with a receiver. Transmitter become impossible communication with a receiver.

Then please do a pairing again for using same receiver.



	Transmitter	Receiver
Communication check	OK: Green LED 1 time flashing NG: Red LED 10 times flashing	LED 1 time flashing
Battery low level	Red LED 1 seconds lighting	LED 2 times flashing

*Trasnmitter displays the situation of battery power low level after transmitter displays communication check result (OK or NG).

●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.

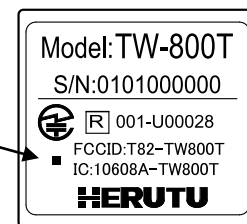
When the battery is low, the red LED will light for 1 second.

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



■Specification

●TW-800 common specification

Items	Specification
Standard	2.4GHz Small electric power data communication system
Emission designation	F1D
Frequency band	2,403MHz-2,478MHz
Channel	76CH
Modulation way	GFSK
Communication way	Simplex
Power of antenna	2.1mW

●Transmitter TW-800T

Items	Specification
Input	Limit switch*1 point Test switch* 1point
Display	LED *1 point(Red/Green)
Power source	Coin battery(CR2032)
Operating temperature range	Temperature 0-50 degree Humidity under 80%
Dimension	34W*71D*17.5Hmm(Except projection)
Weight	Approx 40g
Antenna	Built in foundation
Battery life time	Approx 300,000 shots(It changes with operating conditions.)

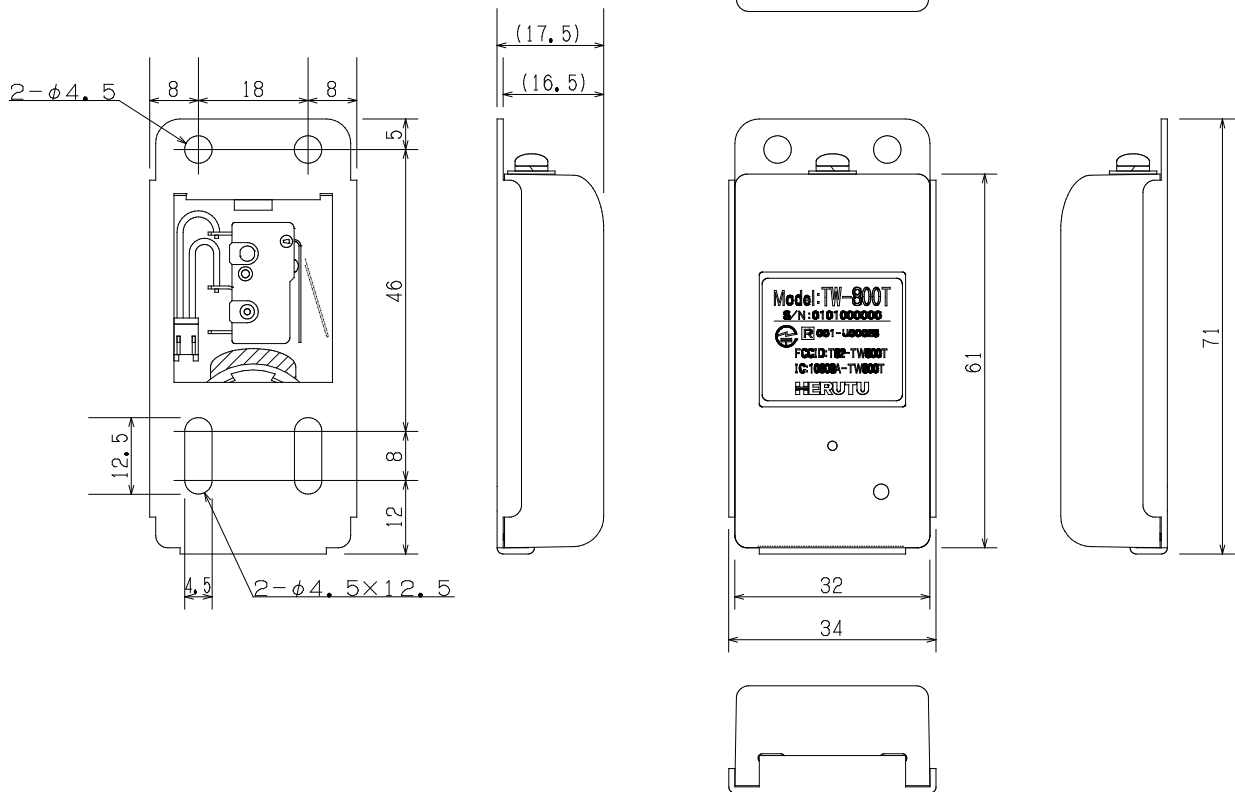
●Receiver TW-800R

Items	Specification
Output	Contact output* 1point Contact mechanism MOS-FET/1a Terminal block:M3(2P) Rated load voltage AC/DC30V per point Rated load current 0.5A per point
Display	LED for receiving(Green) * 1point (Combination lighting switch for pairing) Power LED(Red) * 1point
Power source	DC24V±20%(DC19-28V) Terminal block: M3(2P)
Consumption current	Under 60mA
Operation temperature range	Temperature 0-50 degree Humidity Under 80%
Dimension	80W*100H*28Dmm(Except projection)
Weight	Approx 250g
Antenna	Dipole antenna(Diversity type) ※ANT2 is fixed by resin before shipment by regulation of FCC/IC in an applicable country.
Switch	Power switch *1 point 6 DIP switch for setting * 1point

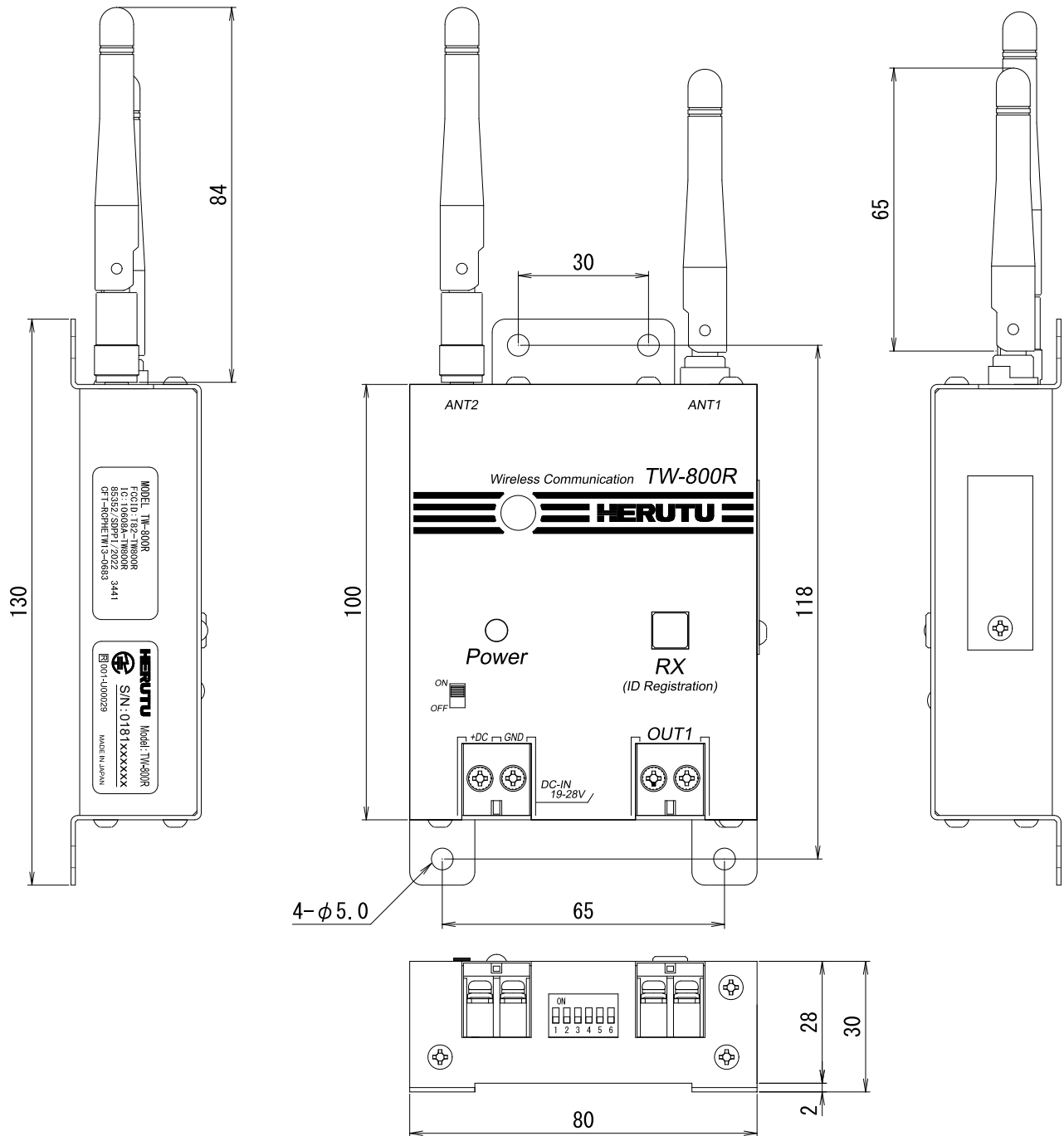
*SMA Connector antenna type for ANT2 is “M3.5-S SMA-P-MALE”

■Dimensional drawing

●Transmitter TW-800T



●Receiver TW-800R



■Before thinking failure

TW-800(Transmitter)

Phenomenon	A cause and measure
No transmitting (Not lighting LED Red or Green)	Battery level is low.
	→Please change a new battery (CR2032).
	Limit switch is separated from transmitter.
	→Please check that the connector and limit switch connector of a transmitter circuit board have connected firmly.
	Limit switch is not hit.
	→Please adjust the location of limit switch. Please check that limit switch hits.
Flashing RED LED 3 times.	It has not done "Pairing" (No registration)
	→Please do "Pairing" with receiver. Ref P17
Flashing RED LED 10 times	Receiver power is off.
	→Please check that receiver power is ON.
	Communication distance is too far.
	→It is over the distance of this machine which can be communicated.
	The installation situation of receiver's antenna is not good.
	→Please check that the antenna situation of receiver will be good. Depending on the situation, please consider to use the external antenna. Ref P3
	It is impossible to communicate by outside cause.
	→Please check that there are productions uses 2.4GHz radio wave. Please inform us with detail situations.
Flashing GREEN LED 3 times	Receiver is busy situation.
	→Receiver situation is within relay output time or double count protecting time. Please check the setting of receiver. Ref 18
Lighting RED LED after transmitting	Battery level is low.
	→Please change a new battery(CR2032).
Impossible do "Pairing"	Receiver is not "Pairing mode".
	→Please made into "Pairing mode". Please push the pairing switch of a transmitter 3 seconds or more. Ref17

TW-800R(Receiver)

Phenomenon	Cause and measure
Power LED doesn't turn on	Power is not input.
	→Please input stable power source DC24V.
Not receiving the signal from transmitter.	It has not done "Pairing" (No registration)
	→Please do "Pairing" with receiver. Ref P17
Not sound the buzzer	Buzzer setting is OFF.
	→Please set the buzzer setting ON. Ref P18
Not input the count signal from receiver to connecting equipment.	Relay output time is too short.
	→Connecting equipment can't count that relay output time is too short. Please set and change the relay output time setting. Ref P18

■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.

[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.



HERUTU ELECTRONICS CORPORATION

422-1 Higashimikata-cho, Chuo-ku, Hamamatsu, Shizuoka, 433-8104 Japan

(Sales dept) TEL.+81-53-438-3555 FAX. +81-53-438-3411

Website URL <https://www.herutu.co.jp/en/> E-mail info@herutu.co.jp