

# TW-800R-EXP

Manual V1.10

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-800R-EXP] is a product to be fixed expansion unit of 3 relay output to [TW-800R].

This manual is described about only a function of expansion unit. Please read [TW-800 manual] about transmitter [TW-800T] and receiver [TW-800R] and wireless specification.

We don't make a sale only expansion unit. If you want to add an expansion unit with TW-800R, please inform our sales department.

<Feature>

◆TW-800R-EXP has 4 relay output by being attached an expansion unit additional to TW-800R.

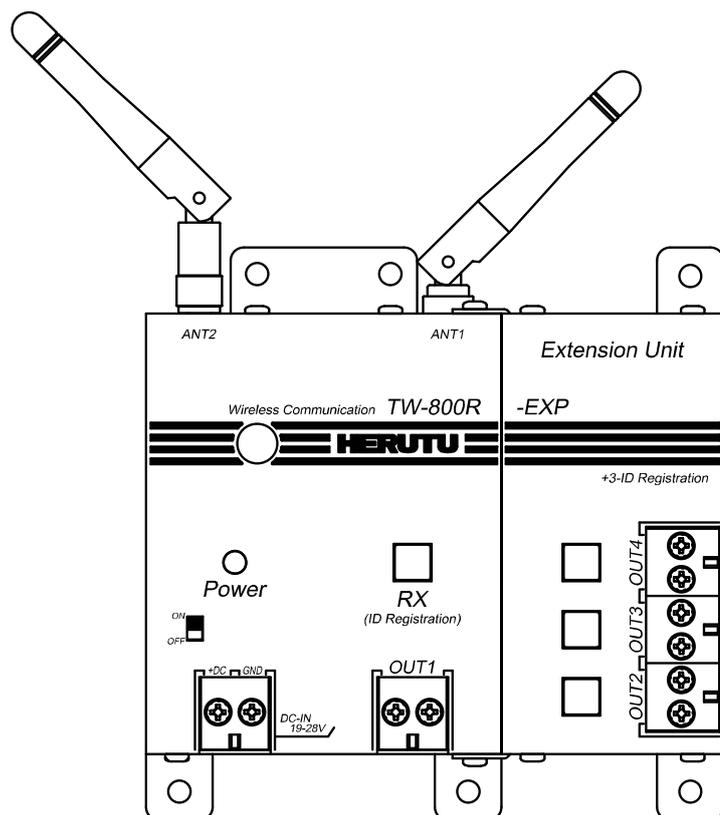
It can be used 4 transmitters "TW-800T" with 1 receiver "TW-800R-EXP".

◆The contents set up by TW-800R are reflected also in OUT2/OUT3/OUT4 of an expansion unit.

◆The Pairing for expansion unit is done by each pairing switch of OUT2/OUT3/OUT4.

## ■Main part and accessories

Receiver TW-800R-EXP



TW-800R-EXP ×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.

## ■ 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.

- About use environment and safekeeping environment

● Because it may cause trouble and malfunction, characteristic deterioration, a fire, the electric shock, please avoid the use at the following place and the safekeeping.

- The use at a place getting the direct rays of the sun and safekeeping
- The use at the place where a liquid and an alien substance, corrosive gas or flammable gas may be in in a product and safekeeping
- A place and lamp soot having high moisture, dust, the use at the place with much sand and safekeeping
- Use at the unstable place including the top of the stand which shook and the place that declined
- Use at the place with the vibration



Warning

- For handling this machine:

● In the use that extremely high reliability affecting human life is required, please do not become the use.



Warning

- During use, I outrun a power supply plug from an outlet, and, please ask store or us for repair because it causes a fire, the electric shock when abnormality occurred.

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



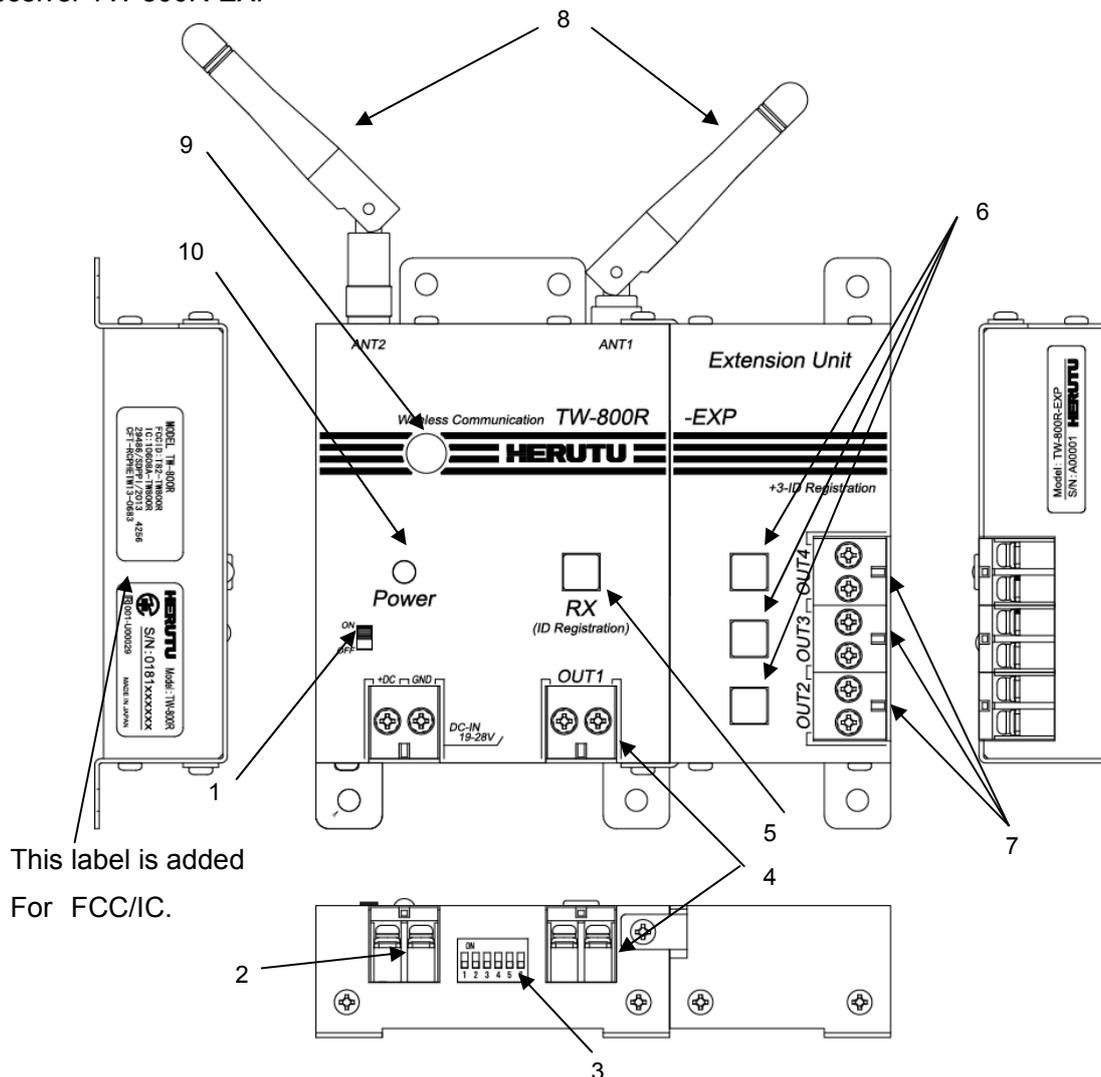
● Do not use this product in a place where it is uncertain about whether or not radio waves reach.



When you use this machine, please be sure to read "cautions on safety and use" of "TW-800 operation manual" before using it.

# ■Name and function of each part

## ●Receiver TW-800R-EXP



This label is added  
For FCC/IC.

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 for OUT1 normally. Also RX light switch is used for paring.
6.RX light switch for expansion unit:Green (for Pairing switch)	Led lights at receiving the signal from transmitter for OUT2/OUT3/OUT4 normally. Also RX light switch is used for paring.
7.Output terminal block for Expansion unit	Photo-mos relay output terminal block(M3) for OUT2/OUT3/OUT4
8.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.
9.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
10.Led of Power(Red)	It lights at power ON.

## ■ Installation

Make a wiring for the output terminal block of OUT2/OUT3/OUT4.

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)**

## ■Setting

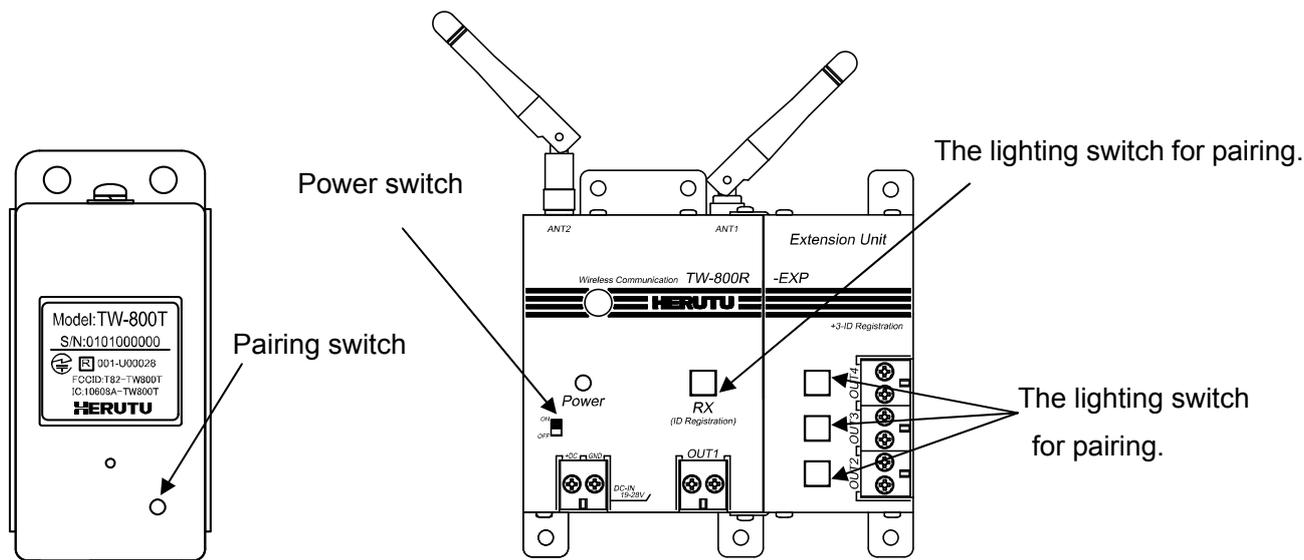
It needs “pairing” a transmitter and a receiver before using for OUT2-OUT4.

Transmitter and receiver communicate by recognizing the other party's recognition signal by pairing.

### ●Pairing for OUT2-OUT4(Registration)

1. Power Switch is turned on pushing the lighting switch of output (OUT2-OUT4) that you want to register of a TW-800R-EXP.

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



2. You continue pushing the “pairing switch” over 3seconds 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.

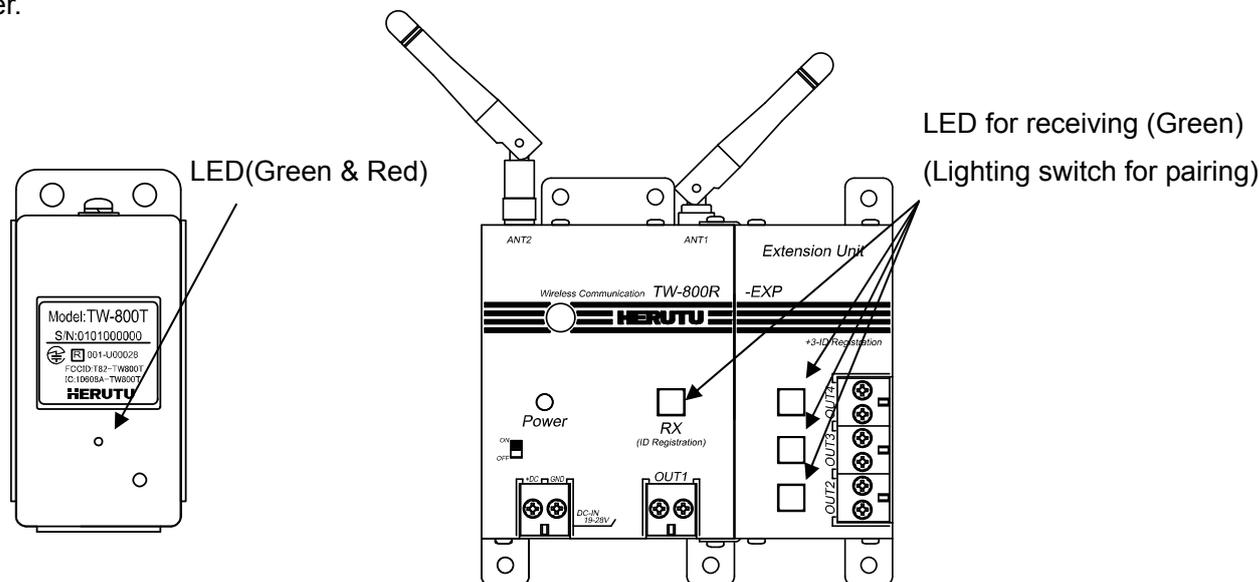
### ●Output setting of OUT2-OUT4

Since an output setting (relay output time, double count prevention time, buzzer operation) of output OUT2-OUT4 of the extension follows a setting of the DIP switch of TW-800R main part, OUT1-OUT4 becomes the same output setting. It cannot set up for every output.

## ■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. Transmitter transmits the signal at striking the limit switch by tightening the bolts from torque wrench.

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 signal from other transmitters is normally received while buzzer sounds, because buzzer sounds overlaps, it will be 1 time. Relay output is operated, respectively.

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

Red LED of Transmitter flashes 10 times

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 is flashed 3 times.

	Transmitter	Receiver
Communication OK	Green LED 1 time flashing	LED 1 time flashing
Communication NG	Red LED 10 times flashing	—
BUSY	Green LED 3 times flashing	—

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

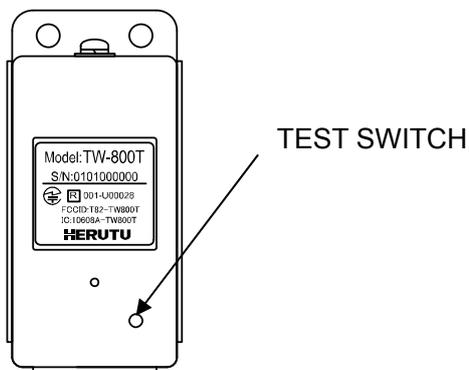
\*When the transmitter is not done "Pairing" transmits, Red LED will be flashing 3 times.

●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 transmits the "paring signal". Please take care



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

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

# ■ Specification

## ● Receiver TW-800R-EXP

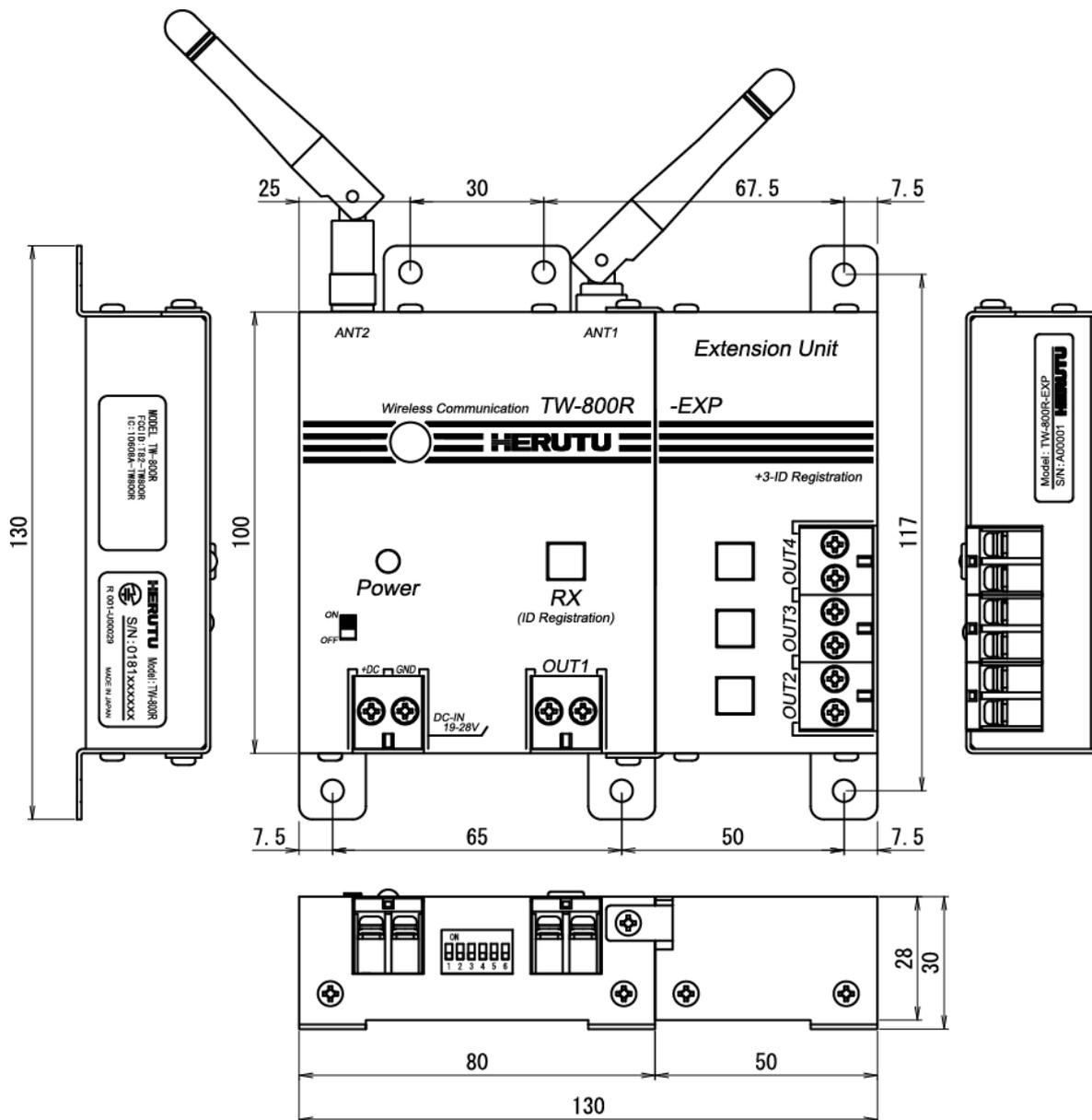
Items	Specification
Output	Contact output* 4point (Terminal block:M3(2P)) Contact mechanism MOS-FET/1a Rated load voltage AC/DC30V per point Rated load current 0.5A per point
Buzzer	Piezoelectric Buzzer 95dB/m
Display	LED for receiving(Green) * 4point (Combination lighting switch for pairing) Power LED(Red) * 1point
Power source	DC24V±20%(DC19-28V) Terminal block: M3(2P)
Consumption current	Under 80mA
Operation temperature range	Temperature 0-50 degree      Humidity Under 80%
Dimension	130W*100H*28Dmm(Except projection)
Weight	Approx 430g
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"

\* The above-mentioned specification is a thing in the state where the extension unit was connected with main part TW-800R.

# ■ Dimensional drawing

● Receiver TW-800R-EXP



## ■ 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 following items and contact the outlet store through which you purchased the product or our Sales Office.

Product name / Serial No. / Working environment,  
External devices connected,  
Operating sequence to error initiation,  
Specific description of error, etc.

### ■ Provisions of warranty

The provisions of warranty are set forth by us for warranty of the product after shipment so that the product can be used with a sense of security after purchased. In case our product is out of order, we will provide repair or replacement under the provisions of warranty.

### ■ Warranty period

Besides, as long as there is not providing, the warranty period shall be 13 months after shipping the products. During the warranty period, we will provide free-of-charge repair subject to the provisions of warranty set forth in the warranty certificate.

If you have anything unclear about the repair or follow-up service during the warranty period, please contact the outlet store through which you purchased the product or our Sales Office.

### ■ Scope of warranty

If the product should get out of order under the normal conditions of use by the customer, we will repair the failed section(s) free of charge or exchange the new one free of charge subject to the provisions of warranty. Please contact the outlet store through which you purchased the product or our Sales Office.

Also, the warranty period shall be 13 months after shipping the product or shall be 6 months after shipping substituting goods. The warranty periods will be applied the period visited later.

Note, however, that free-of-charge repair under this warranty is limited to the hardware components of the product. Even during the warranty period, the customer shall be responsible for repair cost if any of the following applies:

1. Troubles or damages occurring due to improper handling by the customer, such as a fall, a shock, etc.  
During transportation or movement of the product by the customer.
2. Troubles caused by overhaul or remodeling of the main body by the customer.
3. Troubles or damages caused by fire, earthquake, flood damage, or other natural disasters, as well as by abnormal voltage.
4. Troubles resulting from any trouble of devices connected to the product, which Devices are other than those designated by us.
5. Troubles with the accessories (AC adapter, antenna, connection cables, or the like) except the main body.
6. Repairing, adjustment, modification by except our company

## 7. Replacement of consumables and limited-life items (including batteries).

Consumables and limited-life items include, but not limited to:

- (1) Switches (limit switches, pushbutton switches, or the like)
- (2) Battery cells or batteries (dry batteries, button batteries, or the like)
- (3) Other items subject to consumption or limitation of life caused by use.

## 8. Troubles occurring due to handling against the use instructions or precautions specified in this operation manual.

### ■ Initial defects

The period within 30 days from the date of shipping the product is defined as the initial defect period for the product. The product will be replaced with a new one or repaired free of charge provided that it is returned to the outlet store through which you purchased the product or our Sales Office, checked, and recognized as having initial defects. For initial defects, we shall be responsible for the shipping cost.

But it is in Japan only. In case of purchasing the products out of Japan, it will be decided after conference about shipping cost for returning back, insurance cost, custom duty.

### ■ Disclaimer

We will assume no liability for any damages or monetary losses, direct or indirect, arising out of troubles, failures, or use of the product.

### ■ Repair service period

Only if we have the stock of parts for repairing, even if after finishing the warranty period, we will repair the product within 5 years after end of production for a fee. However, we reserve the right to use substitute parts or devices for repairing purposes if there are unavoidable reasons such as unavailability of service parts.

### ■ Others

- Independent of the warranty period, the product to be repaired shall in principle be brought into our site because of the necessity of using measuring instruments or the like for adjustments etc., and the shipping cost etc. incurred in bringing the product into our site shall be borne by the customer.
- In such cases where you request a trip to your place for repair or need substitute devices during the warranty period, please contact the outlet store through which you purchased the product or our Sales Office. We will correspond for a fee.
- We reserve the right to refuse replacement or repair if we are unable to reproduce the concerned failure at our engineering department after receipt of a request for repair.  
In addition, an additional charge may be made to the customer for the technical examination cost incurred in reproducing the failure.
- The information in this manual, our website, catalog we supply, is subject to change without prior notice. Please be forewarned.





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