



Wireless Call Systems

AN426T II

AN426R II -TH series

Instruction Manual V1.20

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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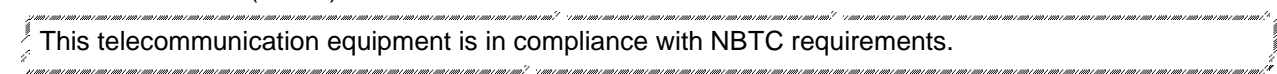
1. Overview

1-1. Introduction

This instruction manual describes the information required for using this product including overview, installation, and operation of this product. Read this manual carefully before using this product. Keep this manual handy so that you can take it out immediately.

■ This system has acquired the certification of the Thailand Radio Law (SDoC). The Radio Law is only effective within the territory of Thailand. To use this system outside Thailand, make sure that it conforms to the local laws in the country where you are going to use it. Besides, you are not allowed to use the system in a condition that it is connected with an electrical communication line.

Thailand Radio Law (SDoC)



The transmitter of this system is a device certified to comply with the technical standards for “radio equipment for specified low-power radio stations telemeter & telecontrol in Japan.”

Information on radio equipment for telemeter & telecontrol

● Radio equipment for telemeter

Refers to radio equipment which is intended to utilize radio waves to automatically display or record the measurement results of a remotely located measuring instrument.

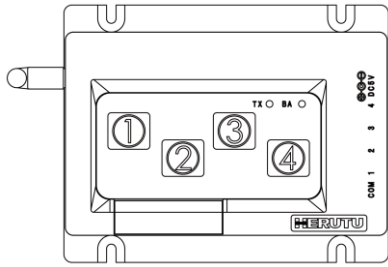
● Radio equipment for telecontrol

Refers to radio equipment which is intended to utilize radio waves to transmit the signals for starting, changing, or stopping the functions of a remotely located device.

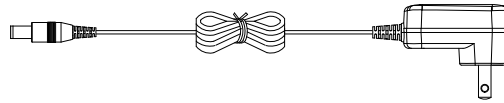
1. Do not use this system for any applications that could cause harm or damage to human life or to other equipment or devices. Also, do not use it in the vicinity of any devices that could malfunction due to the radio waves from the transmitter.
2. Disassembling or making modification to any equipment or devices certified to comply with the technical standards is prohibited by law.
3. The casing of the transmitter bears a certification label for compliance with the technical standards. Do not remove the label from the casing of the transmitter. Using the transmitter with the certification label removed is prohibited by law.
4. The communication performance varies depending on the ambient environment. Before installation, ensure that the installation location is within the coverage.

1-2. Main Unit and Accessories

■AN426T II



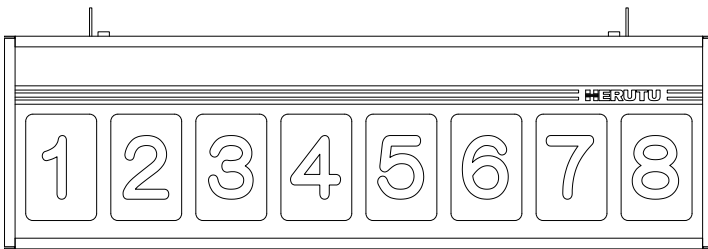
Transmitter main unit x1



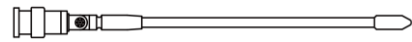
(Cable Approx. 1.5 m)

AC adapter x1

■AN426R II -TH (Large-sized 8-indicator type)

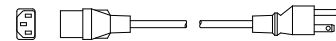
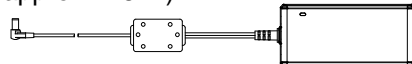


Receiver main unit AN426R II -TH



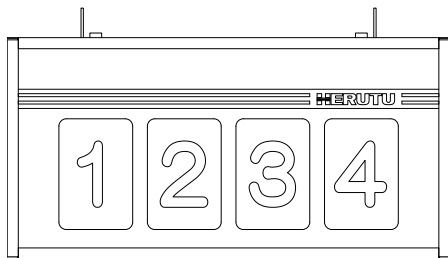
Antenna x 1

(Cable: DC-code approx. 1.5 m + AC-cord approx. 1.8 m)



AC adapter x1

■AN426RH II -TH (Large-sized 4-indicator type)

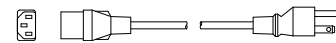
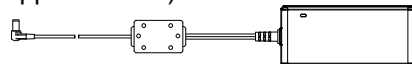


Receiver main unit AN426RH II -TH



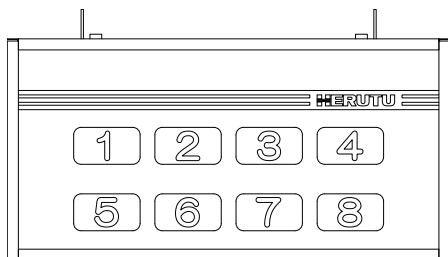
Antenna x 1

(Cable: DC-code approx. 1.5 m + AC-cord approx. 1.8 m)



AC adapter x1

■AN426RM II -TH (Medium-sized 8-indicator type)

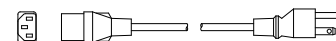
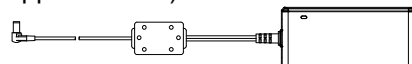


Receiver main unit AN426RM II -TH



Antenna x 1

(Cable: DC-code approx. 1.5 m + AC-cord approx. 1.8 m)





AC adapter x1

1-3. 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.


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

Caution

- Common matters in handling



<ul style="list-style-type: none">● Avoid using this product in the humid or dusty place. Dusts or water enters the product, which may cause the fault, fire, or electric shock.	
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- Handling this product

<ul style="list-style-type: none">● This product is the wireless communication equipment made of precision parts. Do not disassemble or modify it. Or the accident or fault may occur.	
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Warning









- Handling this product

<ul style="list-style-type: none">● Do not use this product for application that requires the extremely high reliability affecting the human life.	
<ul style="list-style-type: none">● Do not use this product in the area which the radio wave reaches or not.	

- Handling the power supply



Be sure to observe the followings in order to prevent the accidents such as heat generation, damage, or ignition of AC adapter and power cord.

<ul style="list-style-type: none">● Do not place the AC adapter and power cord close to fire or insert them into fire. Or they may be burst and ignited, resulting in the accident.	
<ul style="list-style-type: none">● Use the AC adapter and main body only at the specified power supply voltage in order to prevent burst and ignition accidents.	

<ul style="list-style-type: none"> Do not use the AC adapter and main body at the location where they easily get wet. Or the accidents including heat generation, ignition, or electric shock and faults may occur. 	
<ul style="list-style-type: none"> Do not touch the AC adapter, main body, power cord, and outlet with wet hands. Or the accident such as an electric shock may occur. 	
<ul style="list-style-type: none"> Do not damage the power cord. Short-circuit or heat generation may cause fire or electric shock. 	
<ul style="list-style-type: none"> Do not use the power plug with dusts attached. Short-circuit or heat generation may cause fire or electric shock. 	
<ul style="list-style-type: none"> Do not give a strong shock to the AC adapter. Or the accident or fault may occur. 	
<ul style="list-style-type: none"> If you find a deformation in the AC adapter, do not use it. Or the accident or fault may occur. 	
<ul style="list-style-type: none"> Do not charge the main body at the location where the flammable gas is generated. Or the ignition accident may occur. 	
<ul style="list-style-type: none"> Never disassemble the AC adapter. Or the accident or fault may occur. 	

■ Never disassemble the AC adapter.

Remove the power plug from the outlet because it may cause fire and electric shock. Request the dealer or our company to repair it.

<ul style="list-style-type: none"> 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. 	
<ul style="list-style-type: none"> If the cord is damaged, do not use it. Using the cord damaged continuously may cause fire or electric shock. 	

■ Reliability of wireless communication

As wireless communication has properties that are different from those of wired communication, communication errors may occur due to the following.

- Exceeds the communication distance.
- Enters a dead zone.
- Interfered by strong jamming

If signals are often jammed, or being jammed leads to operational problems, stop using the systems and restart using the systems after removal of the cause.

Radio waves may not be received due to various reasons other than the above. Please understand this before using the systems.

*A dead zone is an area where the radio wave transmitted from the transmitter becomes extremely weak due to radio waves reflected from walls or other objects.

1-4. General

AN 426 R II -TH series are wireless call systems that support calling from distant people and objects.

The wireless call systems comprise one or transmitters and a receiver. The transmitter transmits a code in response to a pushbutton input or a terminal block input. The receiver receives signals from each transmitter, and a particular color LED illuminates each indicator on the receiver, according to the corresponding input from the transmitter.

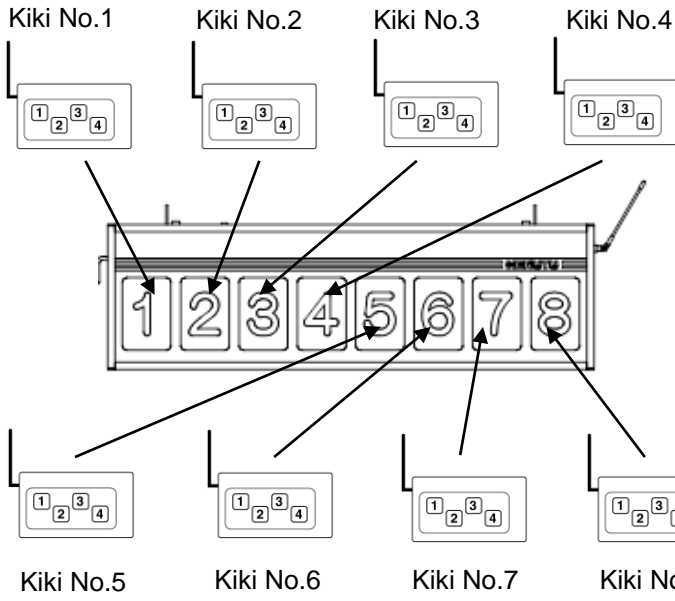
Operators and machines can inform of a shortage of production parts or alert of an unusual occurrence by using the systems.

Several types of receivers are available with different number and size of indicators. They can be used in combination with AN426T II transmitters.

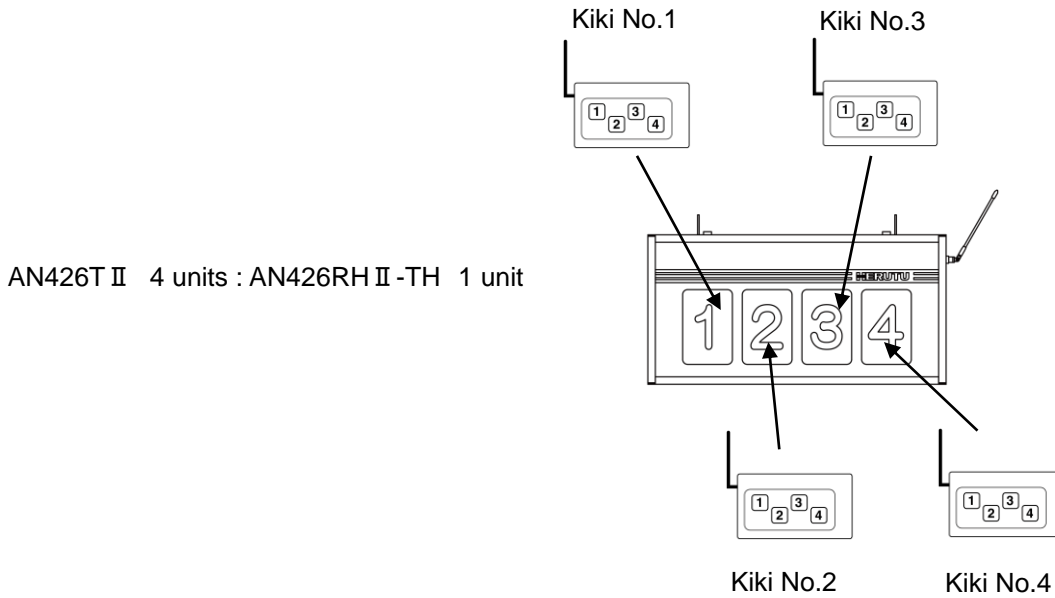
Receiver	Without speaker	With speaker	The number of corresponding transmitters
Large-sized 8-indicator type	AN426R II -TH	AN426R II -TH -MRD	8
Large-sized 4-indicator type	AN426RH II -TH	AN426RH II -TH -MRD	4
Medium-sized 8-indicator type	AN426RM II -TH	AN426RM II -TH -MRD	8

1. The communication distance is approx.120m indoors and approx. 300m line of sights.
2. Wireless channels can be selected from 10 types, and code settings can be selected from 100 types. Totally, a maximum of 1,000 configurations can be set.
3. The transmitter is equipped with 4 push buttons (1(Orange)/ 2(Red)/ 3(Green)/ 4(White)) and 4 external inputs (1(Orange)/ 2(Red)/ 3(Green)/ 4(White)).
4. The included AC adapter or AA batteries (3 pieces) are used for the power source for the transmitter. The included AC adapter is used for the power source for the receiver. (AC100-240 V)
5. Double-sided indicator.
6. An optional speaker enabling sound notifications can be installed on the receiver. (Models with an optional speaker have “-MRD” at the end.)

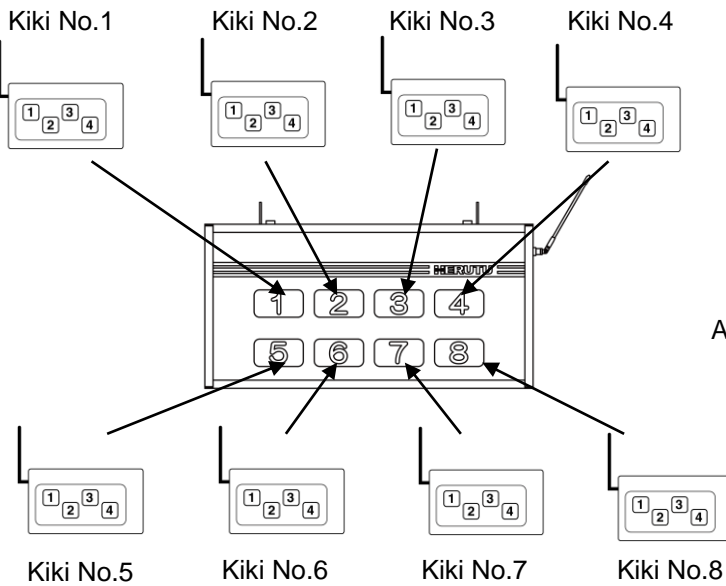
1-5. System Configuration



AN426T II 8 units : AN426R II -TH 1 unit



AN426T II 4 units : AN426RH II -TH 1 unit



AN426T II 8 units : AN426RM II -TH 1 unit

2. Specification

2-1. Common Specification

Item	Specification
A destination country	Thailand
Frequency Band	426.0250MHz - 426.1375MHz (12.5kHz steps - 10 channels)
Type of radio wave	F1D
Antenna	$\lambda/4$ whip antenna
Modulation System	Direct binary FSK modulation
Modulation Speed	977bps

2-2. Transmitter AN426T II

Item	Specification
Device category	<ul style="list-style-type: none"> • Thailand Radio Law (SDoC) • A specified low-power radio station in compliance with ARIB STD-T67. (Radio equipment for specified low-power radio stations telemeter & telecontrol)
Antenna Power	1mW +20% -50%
Communication method	Simplex communication x Sporadic communication (*1) [Transmission time constraints] <u>Transmission time: 5 seconds or shorter</u> <u>Transmission pause time: 2 seconds or longer (*2)</u>
Indicator Element	1 Red LED (for power alarm) 1 Green LED (lights during transmission)
Input(s)	4 Push-Button (1(Orange)/ 2(Red)/ 3(Green)/ 4(White)) 4 External-Input (1(Orange)/ 2(Red)/ 3(Green)/ 4(White))
Power Source	DC5V AC 100-240V (Using included AC Adapter) or size AA battery x 3
Current Consumption	Max 105mA (DC5V) (*3)
External Dimensions	(W x H x D)120 x 95 x 37.5 mm (4.7 x 3.7 x 1.5") (with projections excluded)
Weight	Approx. 170g
Operating Environment	Temperature: 0 - +50°C Humidity: 85% or less (without condensation)
Switches	2P DIP switch x 1 (for switching a transmission mode) 10P Rotary switch x 4 (for setting Channel, Set No., Unit No., and Kiki No.)
Included	1 AC Adapter

(*1) "Simplex communication" is a type of communication in which a transmitting device can only engage in one-way transmission to a single receiving device.

(*2) Based on the Radio Law, this equipment can execute a transmission only after the emission of radio waves has been stopped during a transmission duration after the start of emission and the time of a transmission pause has elapsed after that.

However, it can re-execute a transmission without a transmission pause of 2 seconds or longer intervened only if the emission of radio waves has been stopped within five consecutive seconds after the start of emission. (This feature is a requirement for this equipment being certified as "radio equipment for specified lower-power radio stations telemeter & telecontrol.")

(*3) The power consumption is as follows.

Condition	Consumption current	
	Using Battery (DC4.5V)	Using AC adapter (DC5.0V)
Push-button transmission	Approx. 35mA	Approx. 85mA
Push-button transmit pause	Approx. 6.5mA	Approx. 60mA
Terminal input transmission (*4)	Max 60mA	Max 105mA
Terminal input transmit pause (*4)	Max 30mA	Max 80mA
Standby (*5)	Approx.0.5μA	Approx. 55mA

(*4) The maximum state at the time of external input is when all external input terminals (terminals 1 - 4) are short-circuited with COM.

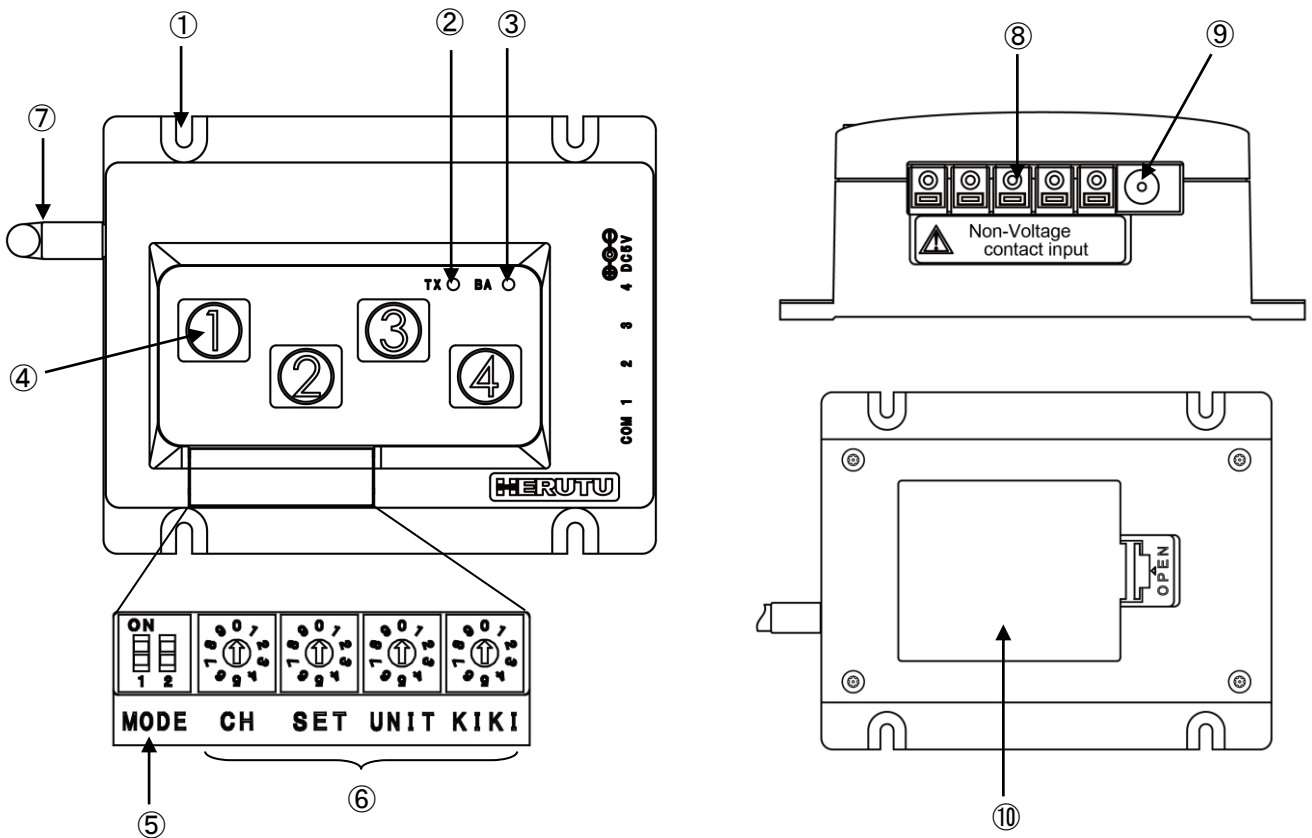
(*5) "Standby" is a state in which 5 seconds or more have passed since all the push buttons and external input terminals were released.

2-3. Receiver AN426R II -TH/ AN426RH II -TH/ AN426RM II -TH

Item	Specification		
Product type	AN426R II -TH	AN426RH II -TH	AN426RM II -TH
Communication	Receive only		
Indicator Element	8 Indicator Lamps Indicator Dimensions (HxW)150x100mm (5.9x3.9") Double-Sided Indicator 3-Color LED (Orange, Red, Green)	4 Indicator Lamps Indicator Dimensions (HxW)150x100mm (5.9x3.9") Double-Sided Indicator 3-Color LED (Orange, Red, Green)	8 Indicator Lamps Indicator Dimensions (HxW)50x90mm (2.0x3.5") Double-Sided Indicator 3-Color LED (Orange, Red, Green)
Output(s)	4 Open Collector Outputs (Max. Rated Load AC/DC 35V 50mA) 1 Relay Output (Photo MOS relay) (Max. Related Load AC/DC 30V 0.5A)		
Input(s)	2 Non-voltage Contact-Input 1 Reset ALL / 1 Reset Output * Output: Open collector output / Relay output		
Power Source	AC100-240V (Using included AC Adapter)		
Wattage	Max.90W	Max.44W	Max.33W
External Dimensions	(WxHxD)1000 x 300 x 80mm (39.4x11.8x3.1") (except any protruding object such as an antenna)	(WxHxD)600 x 300 x 80mm (23.6x11.8x3.1") (except any protruding object such as an antenna)	(WxHxD)600 x 300 x 80mm (23.6x11.8x3.1") (except any protruding object such as an antenna)
Weight	Approx.8kg	Approx.5.3kg	Approx.5.8kg
	*The weight of the receiver with an optional speaker is approx.1.7kg heavier than that of a receiver without a speaker.		
Operating Environment	Temperature: 0 - +40°C(32-104°F) Humidity: 85% or less (without condensation)		
Setting Switch	8P DIP switch x 1 10P Rotary switch x 3 (for setting Channel, Set No. and Unit No.)		
Included	1 AC adapter, 1 Antenna		

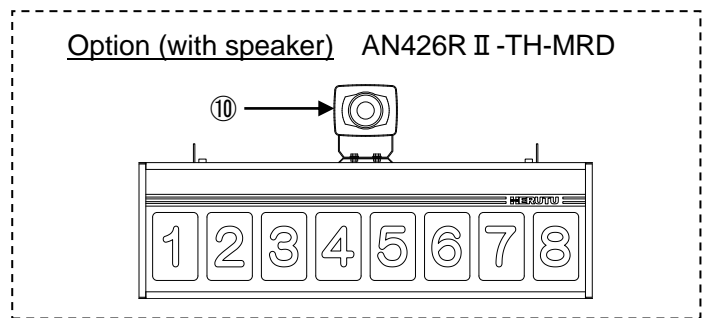
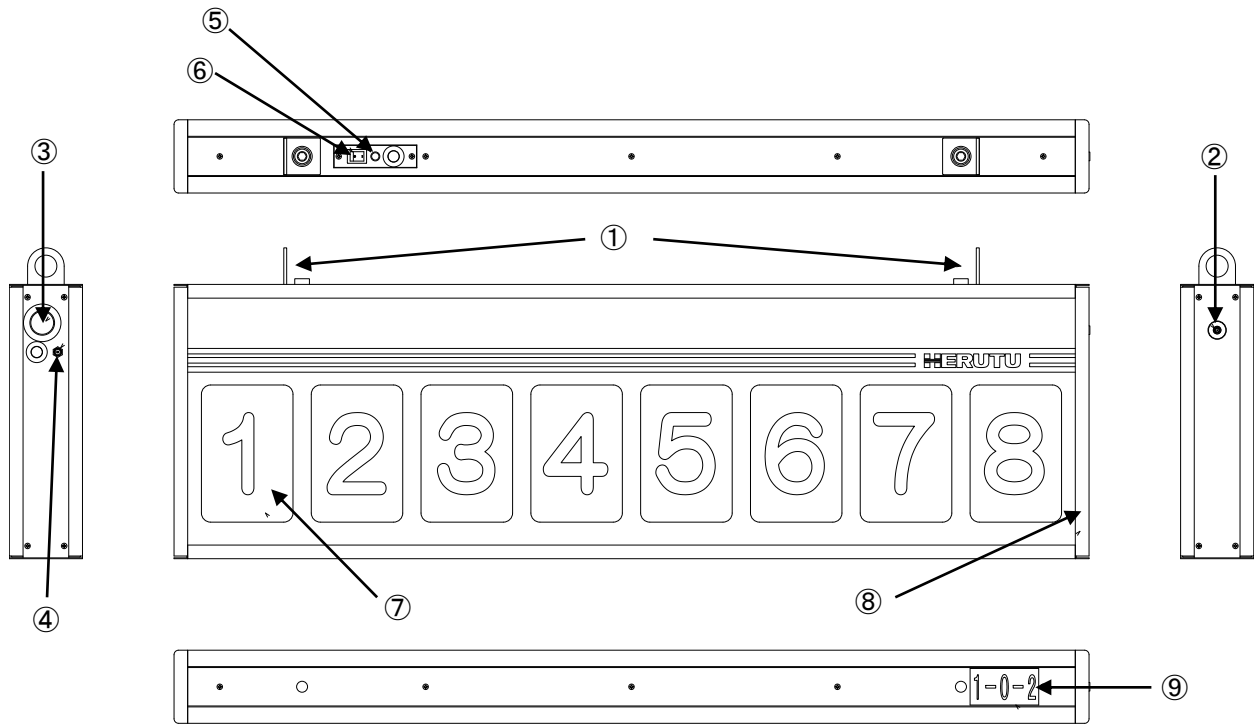
3. Part Names and Descriptions

3-1. AN426T II



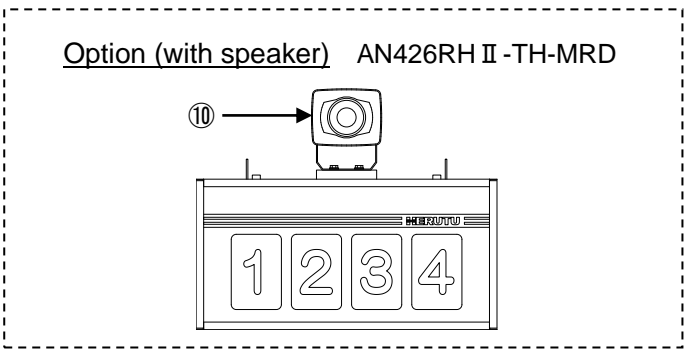
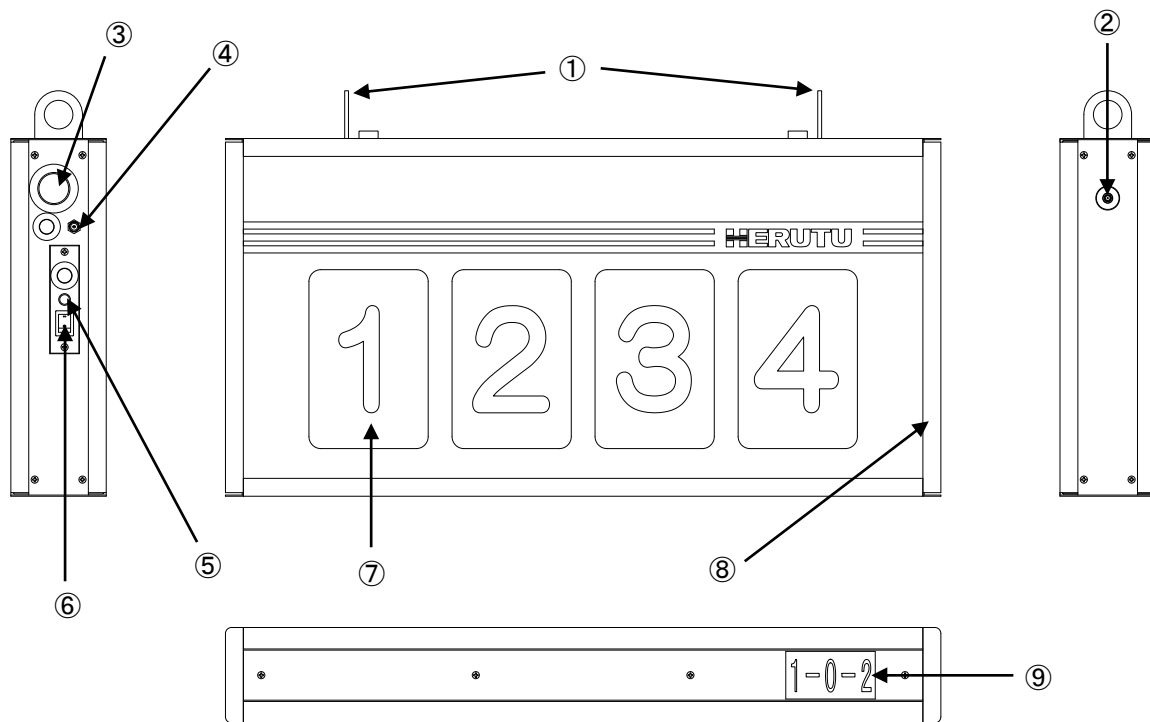
Item	Description
① Mounting holes	Used to anchor the transmitter to a panel etc. R1.75 mm, R central pitch: 85 x 85 mm
② TX LED	Lights during transmission.
③ BA LED	Power supply alarm LED. If the LED remains lit during transmission in response to a push button input or a external input, then the battery voltage has dropped. If the LED is blinking, the battery voltage has more dropped. It is the situation not to transmit. If batteries are used for the power supply, replace them with new ones as soon as possible
④ Button switch	Button switches in 1(Orange)/ 2(Red)/ 3(Green)/ 4(White). Do not press more than one button at the same time.
⑤ MODE setting switch	1: Toggles between AN426TII mode & AN426T mode. 2: Toggles between Normal transmission mode & Event transmission mode.
⑥ Setting switch	Configures the settings for Channel, Set No., Unit No. and Kiki No.
⑦ Antenna	Antenna.
⑧ Input terminal block for external contact	External inputs in 1(Orange)/ 2(Red)/ 3(Green)/ 4(White). Input a no-voltage contact signal. Do not input multiple external inputs at the same time.
⑨ DC jack	DC jack for connection of the included AC adapter.
⑩ Battery case cover	When using dry batteries as a power supply, insert 3 AA batteries.

3-2. AN426R II -TH



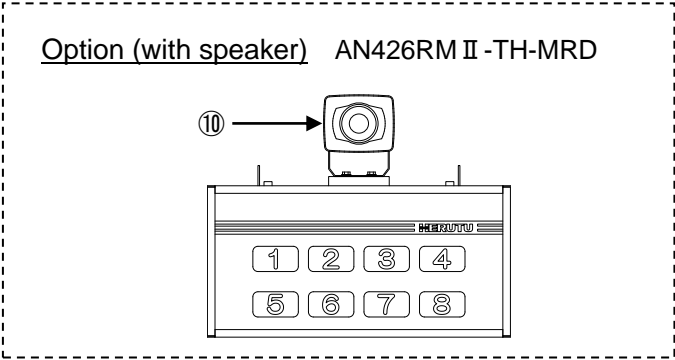
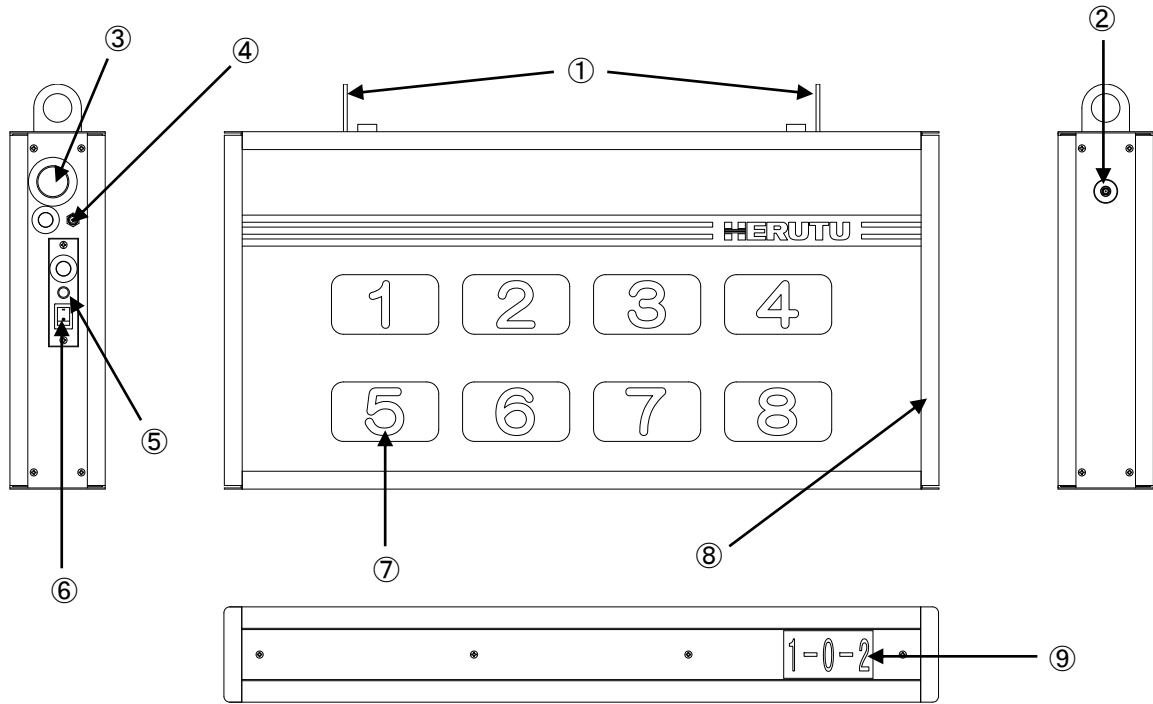
Item	Description
① Mounting bracket	Use the mounting metal fittings for fixing the receiver.
② BNC connector	Connects the included antenna.
③ Signal line take-out hole	Connect the signal lines to the internal input/output terminal block by drawing them through this takeout hole.
④ DC jack	DC jack for connection of the included AC adapter
⑤ Power lamp	Lamp for the power source. Lights up when the power source is switched on.
⑥ Power switch	Power switch of the main unit
⑦ Indicator	3 color LED (Orange/ Red/ Green). The indicator lamp corresponding to the ID of the transmitter received illuminates (or flashes).
⑧ Side panel	Remove the side panel to connect signal lines to the input/output terminal block or configure Channel/ Indication mode/ Unit No./ Set No.
⑨ Setting label	Label showing factory default Channel/ Set No./ Unit No. e.g. "1-0-2" : Channel 1/ Set No. 1/ Unit No. 2
⑩ Speaker (Option)	Attach the speaker to the top of the receiver. The melody sounds in sync with the display.

3-3. AN426RH II -TH



Item	Description
① Mounting bracket	Use the mounting metal fittings for fixing the receiver.
② BNC connector	Connects the included antenna.
③ Signal line take-out hole	Connect the signal lines to the internal input/output terminal block by drawing them through this takeout hole.
④ DC jack	DC jack for connection of the included AC adapter
⑤ Power lamp	Lamp for the power source. Lights up when the power source is switched on.
⑥ Power switch	Power switch of the main unit
⑦ Indicator	3 color LED (Orange/ Red/ Green). The indicator lamp corresponding to the ID of the transmitter received illuminates (or flashes).
⑧ Side panel	Remove the side panel to connect signal lines to the input/output terminal block or configure Channel/ Indication mode/ Unit No./ Set No.
⑨ Setting label	Label showing factory default Channel/ Set No./ Unit No. e.g. "1-0-2" : Channel 1/ Set No. 1/ Unit No. 2
⑩ Speaker (Option)	Attach the speaker to the top of the receiver. The melody sounds in sync with the display.

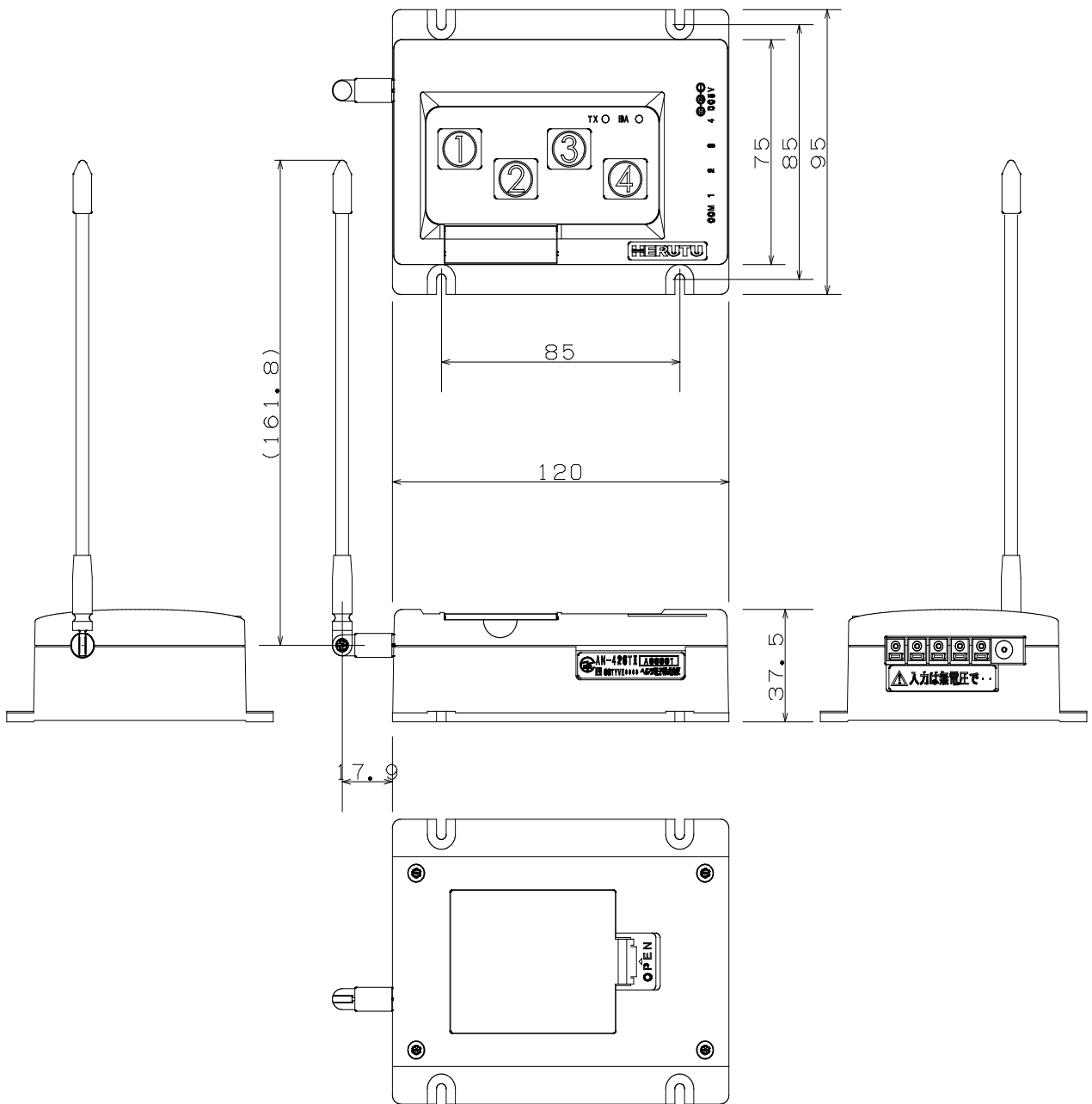
3-4. AN426RM II -TH



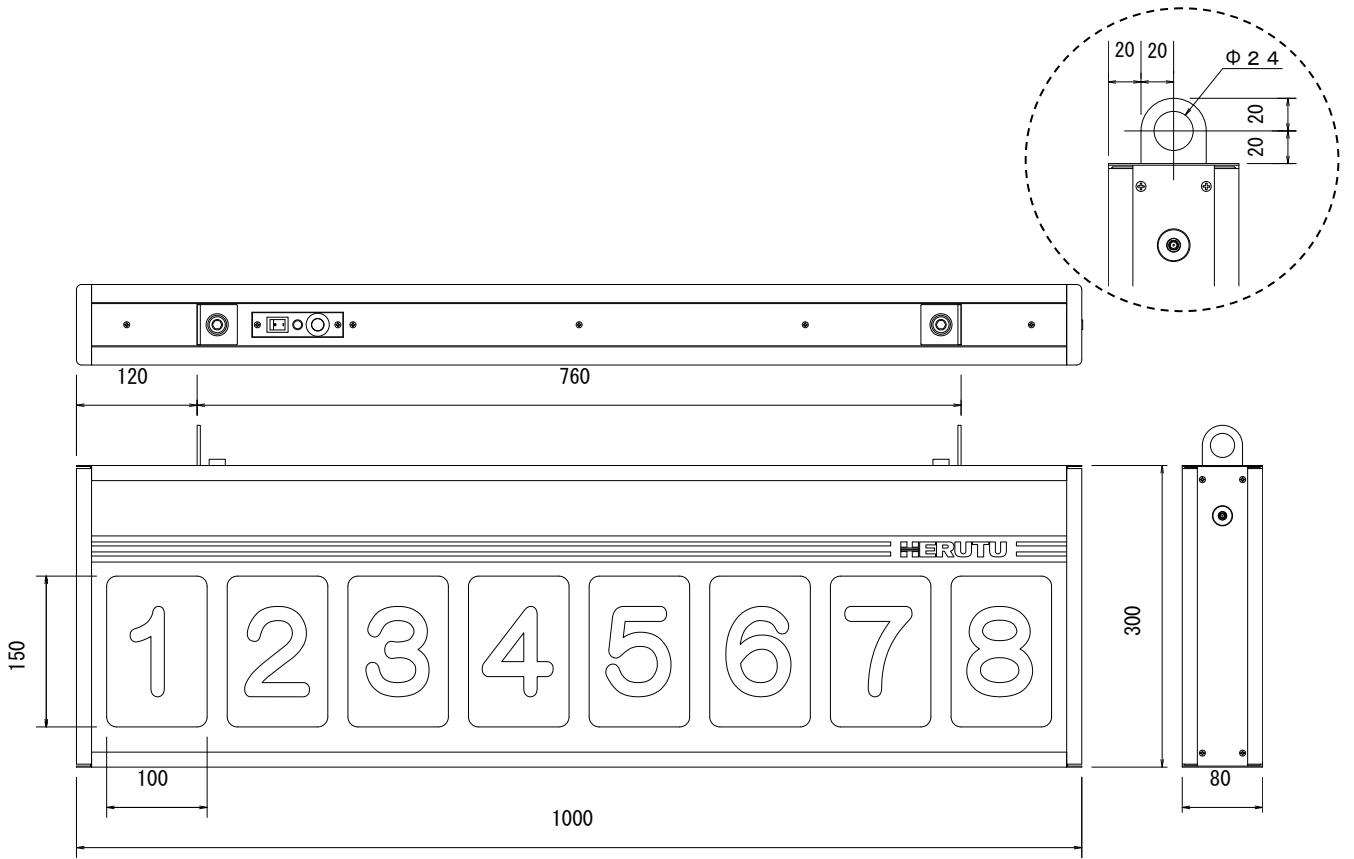
Item	Description
① Mounting bracket	Use the mounting metal fittings for fixing the receiver.
② BNC connector	Connects the included antenna.
③ Signal line take-out hole	Connect the signal lines to the internal input/output terminal block by drawing them through this takeout hole.
④ DC jack	DC jack for connection of the included AC adapter
⑤ Power lamp	Lamp for the power source. Lights up when the power source is switched on.
⑥ Power switch	Power switch of the main unit
⑦ Indicator	3 color LED (Orange/ Red/ Green). The indicator lamp corresponding to the ID of the transmitter received illuminates (or flashes).
⑧ Side panel	Remove the side panel to connect signal lines to the input/output terminal block or configure Channel/ Indication mode/ Unit No./ Set No.
⑨ Setting label	Label showing factory default Channel/ Set No./ Unit No. e.g. "1-0-2" : Channel 1/ Set No. 1/ Unit No. 2
⑩ Speaker (Option)	Attach the speaker to the top of the receiver. The melody sounds in sync with the display.

4. Drawing

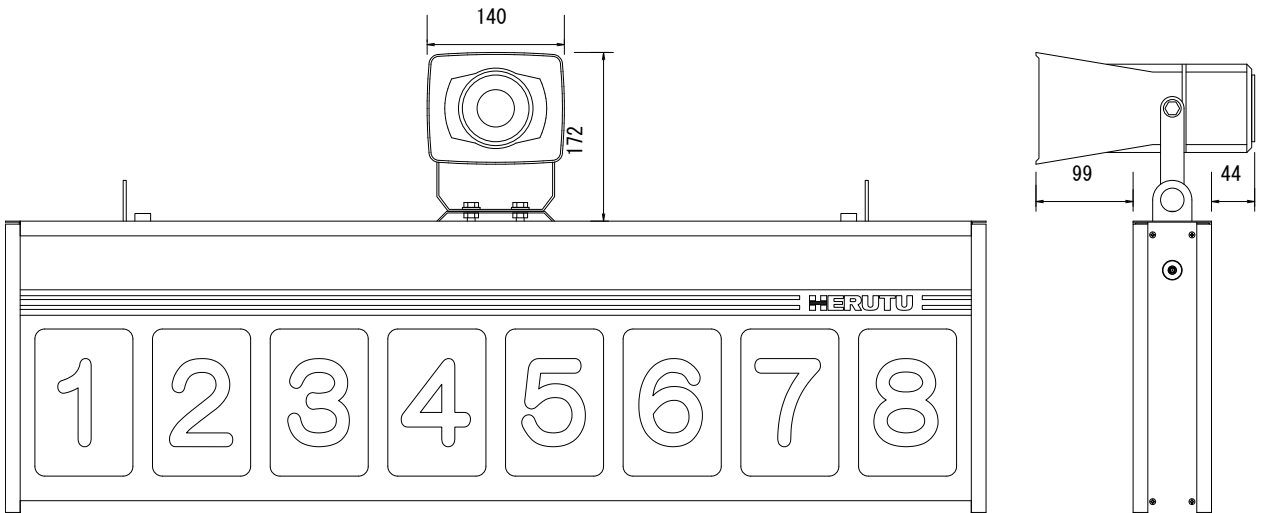
4-1. AN426T II



4-2. AN426R II -TH

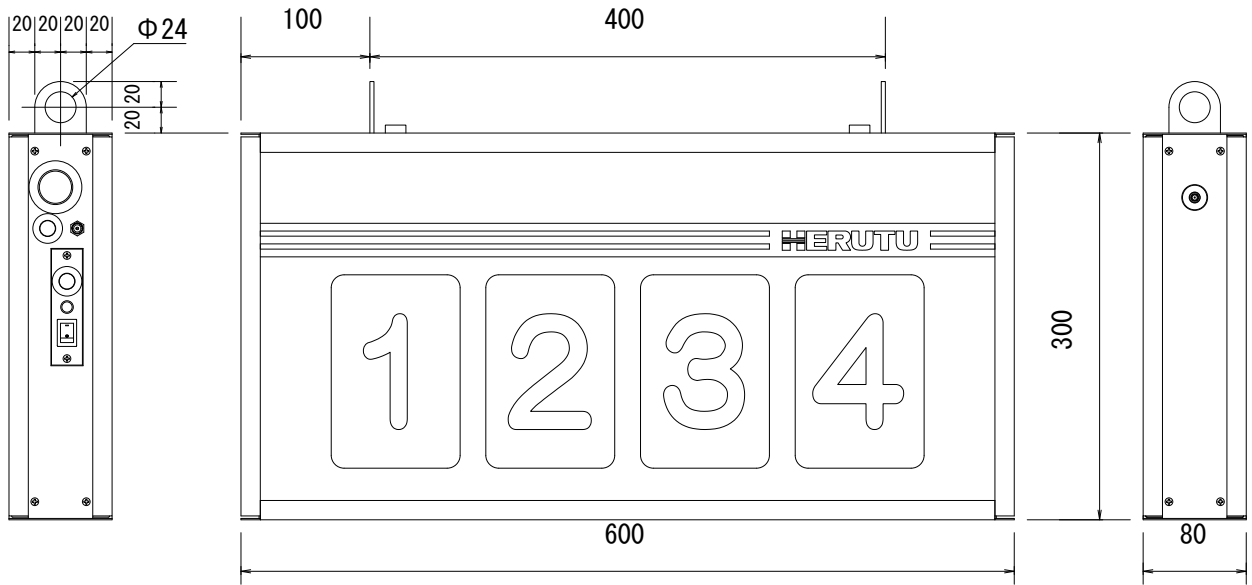


(AN426R II -TH-MRD)

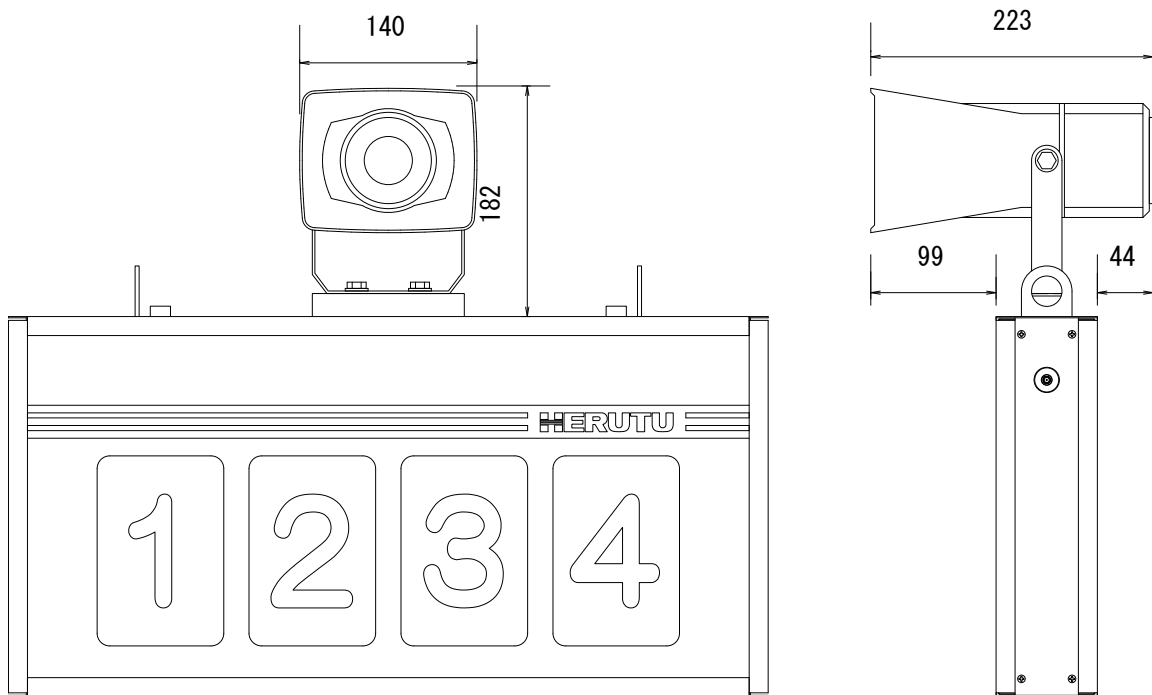


*The weight of the receiver with an optional speaker is approx.1.7kg heavier than that of a receiver without a speaker. Please be careful when installing.

4-3. AN426RH II -TH

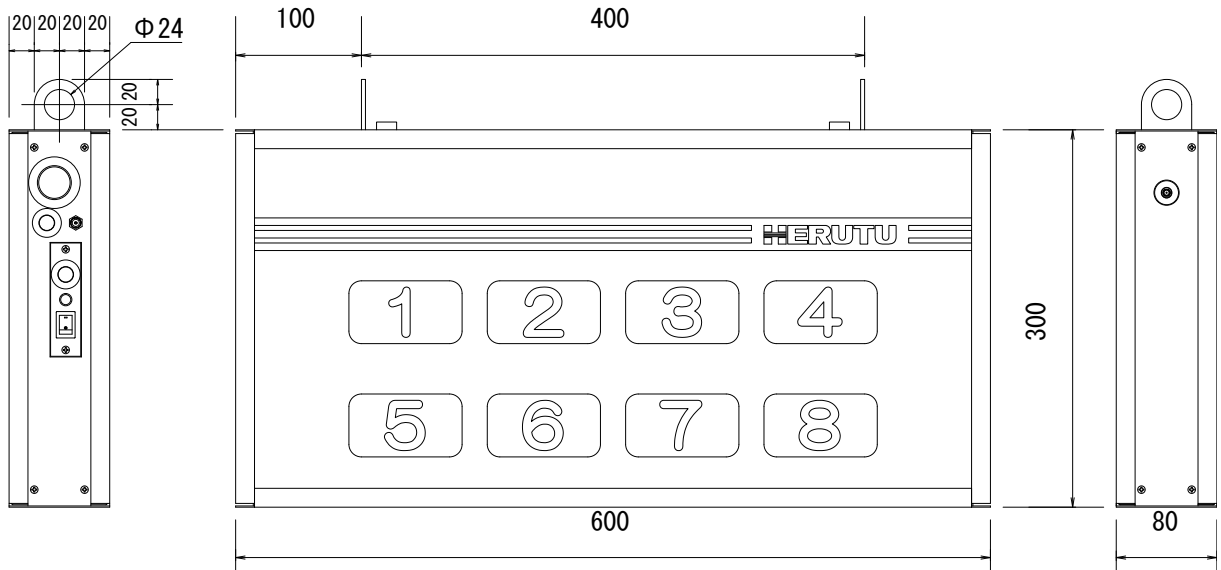


(AN426RH II -TH-MRD)

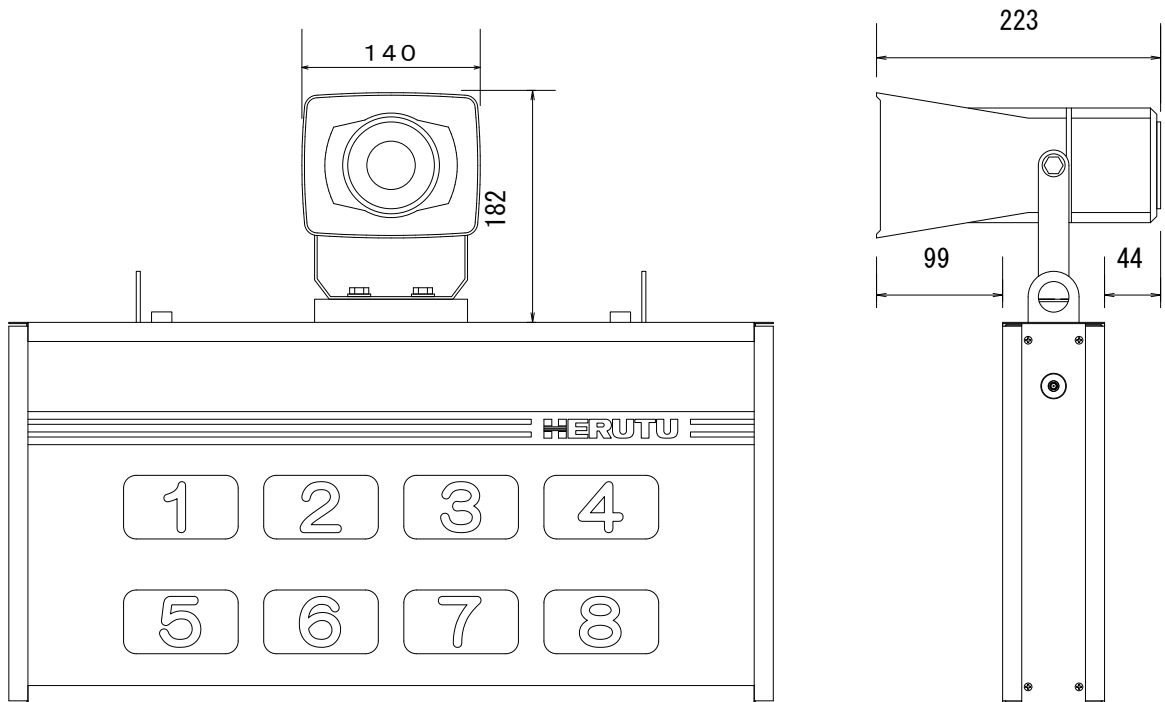


*The weight of the receiver with an optional speaker is approx.1.7kg heavier than that of a receiver without a speaker. Please be careful when installing.

4-4. AN426RM II -TH



(AN426RM II -TH-MRD)



*The weight of the receiver with an optional speaker is approx.1.7kg heavier than that of a receiver without a speaker. Please be careful when installing.

5. Settings

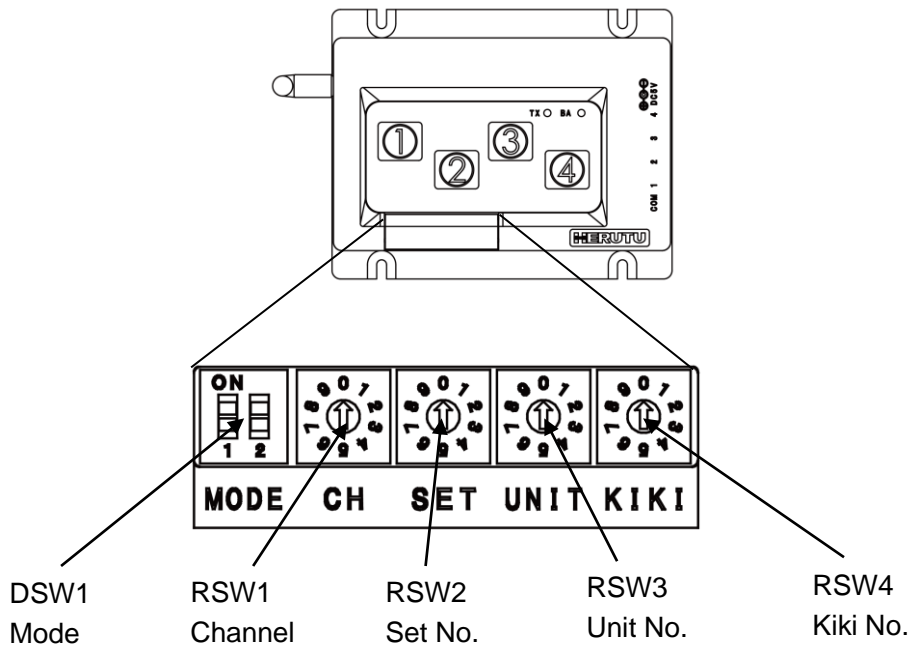
Channel numbers (1-10)/ Set numbers (0-9)/ Unit numbers (0-9) can be set for the receiver.

Channel numbers (1-10)/ Set numbers (0-9)/ Unit numbers (0-9)/ Kiki numbers (1-8) can be set for each transmitter. The transmitter and receiver with the same Channel/ Set No./ Unit No. can communicate with each other. The indicator number of the receiver is determined by the Kiki No. set in the transmitter.

Customers who purchased the transmitter and receiver as a set do not need to configure the settings, as they are configured at factory.

5-1. Transmitter Setting

For settings of the transmitter, use the DIP switches and rotary switches.



■ Communication settings

- Set the operation mode.

* Set to **AN426T II mode (ON)** to use in combination with AN426R II -TH/ AN426RH II -TH/ AN426RM II -TH.

DSW1—1	Settings
OFF	AN426T mode
ON	AN426T II mode

- Set the transmission mode.

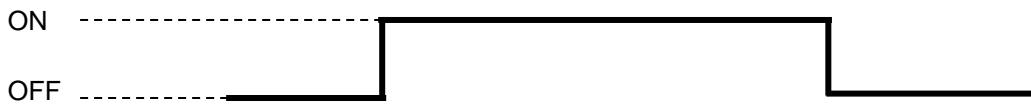
DSW1—2	Settings
OFF	Event transmission mode
ON	Normal transmission mode

***Note:** When using the external input to input an unusual signal from the machine, set to Event transmission mode to prevent interference.

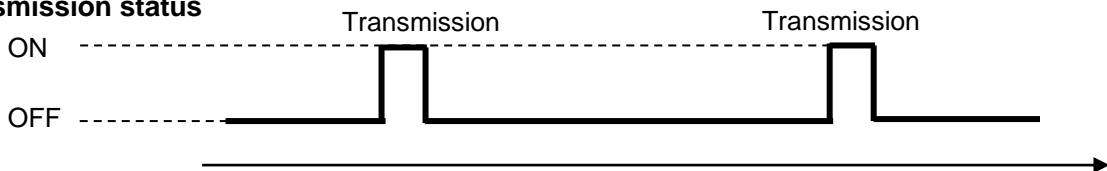
■Event transmission mode

The transmitter transmits one time every time the input state is changed.

Push-button or External input



Transmission status

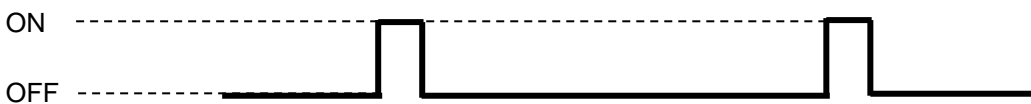


■Normal transmission mode

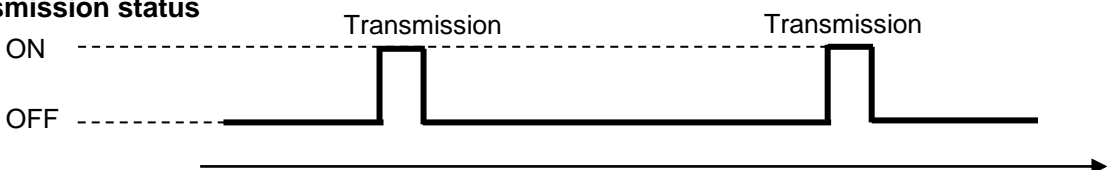
The transmitter repeats transmission for 5 seconds and pause for 2 seconds during the input is performed.

Single input (minimum transmission)

Push-button or External input



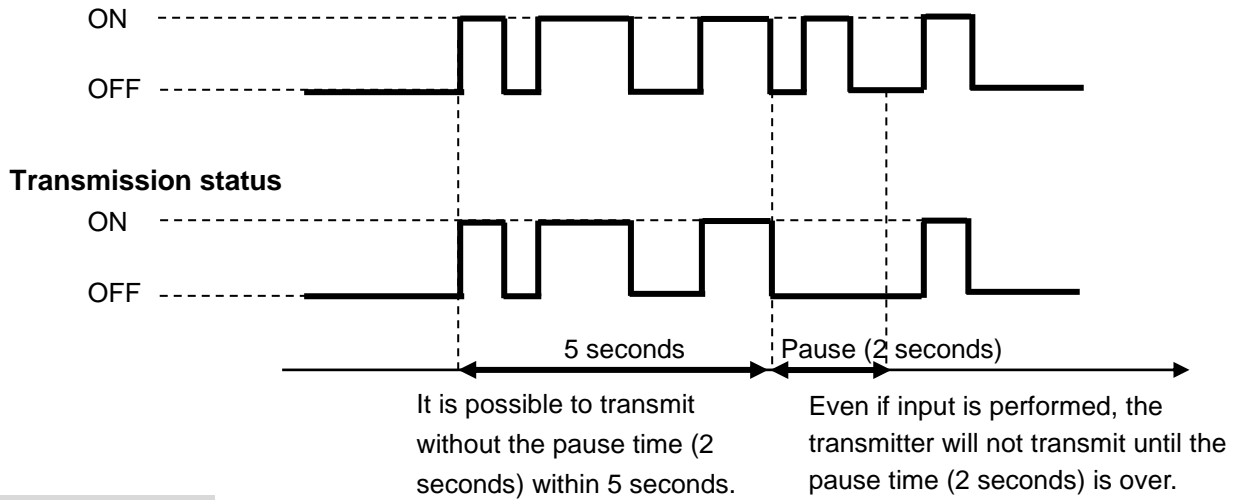
Transmission status



Multiple inputs

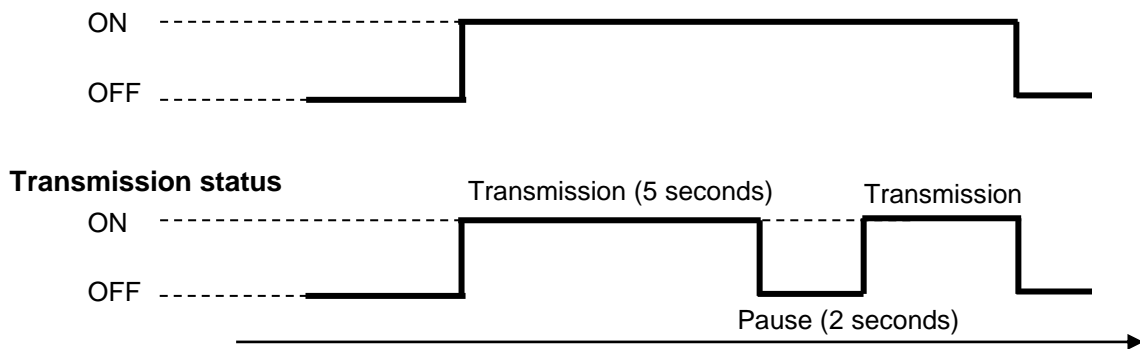
Only within 5 consecutive seconds after the start of a transmission, the transmitter can transmit without waiting for the transmission pause time (2 seconds).

Push-button or External input



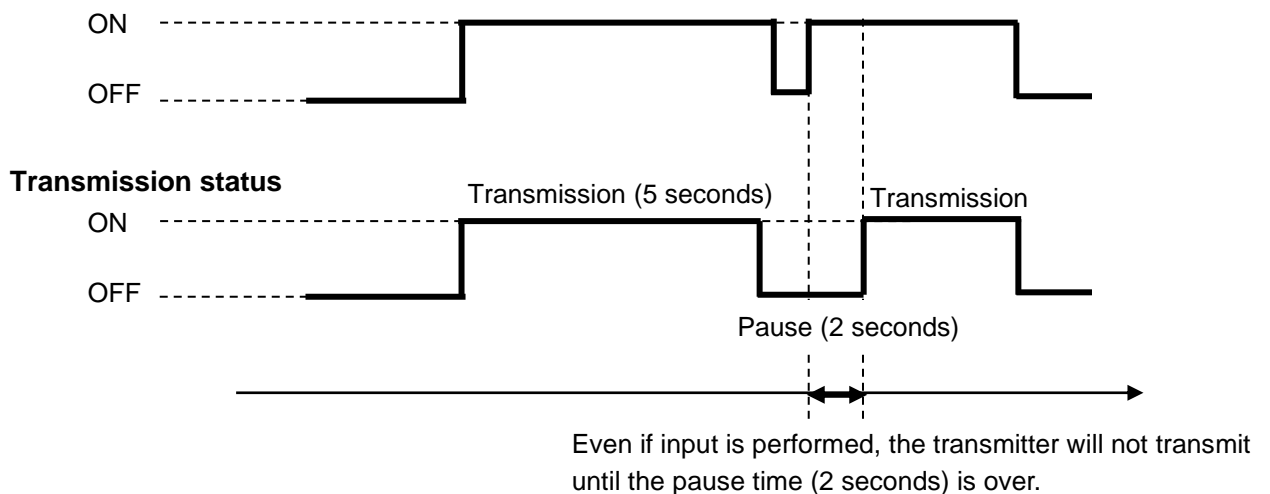
Continuous input

Push-button or External input



The transmitter pauses transmission for 2 seconds after transmitting for 5 seconds. The input is ignored during transmission pause. The input status is confirmed after the pause time has elapsed.

Push-button or External input



■ Channel / Set No. / Unit No. / Kiki No.

Match the settings for Channel/ Set No. /Unit No. with those of the receiver to communicate with. For the settings of the receiver, see the configuration label affixed to the lower part of the receiver. The indicator to be illuminated is determined by Kiki No.

< Channel >

RSW1	Channel	Frequency (MHz)	RSW1	Channel	Frequency (MHz)
1	1	426.0250	6	6	426.0875
2	2	426.0375	7	7	426.1000
3	3	426.0500	8	8	426.1125
4	4	426.0625	9	9	426.1250
5	5	426.0750	0	10	426.1375

< Set No. >

RSW2	Set No.
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

< Unit No. >

RSW3	Unit No.
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

< Kiki No. >

RSW4	Kiki No.	Indicator number
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8

*Kiki No. 0 and 9 are not used in this product.

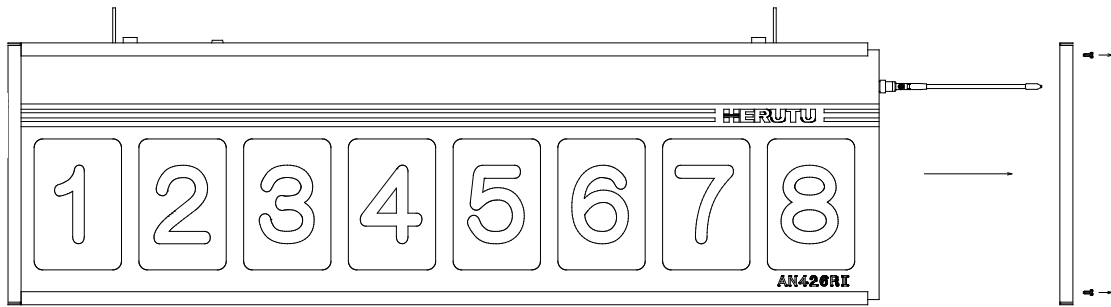
In addition, Kiki No. 5 to 8 are not used in AN426RH II -TH.

5-2. Display Setting

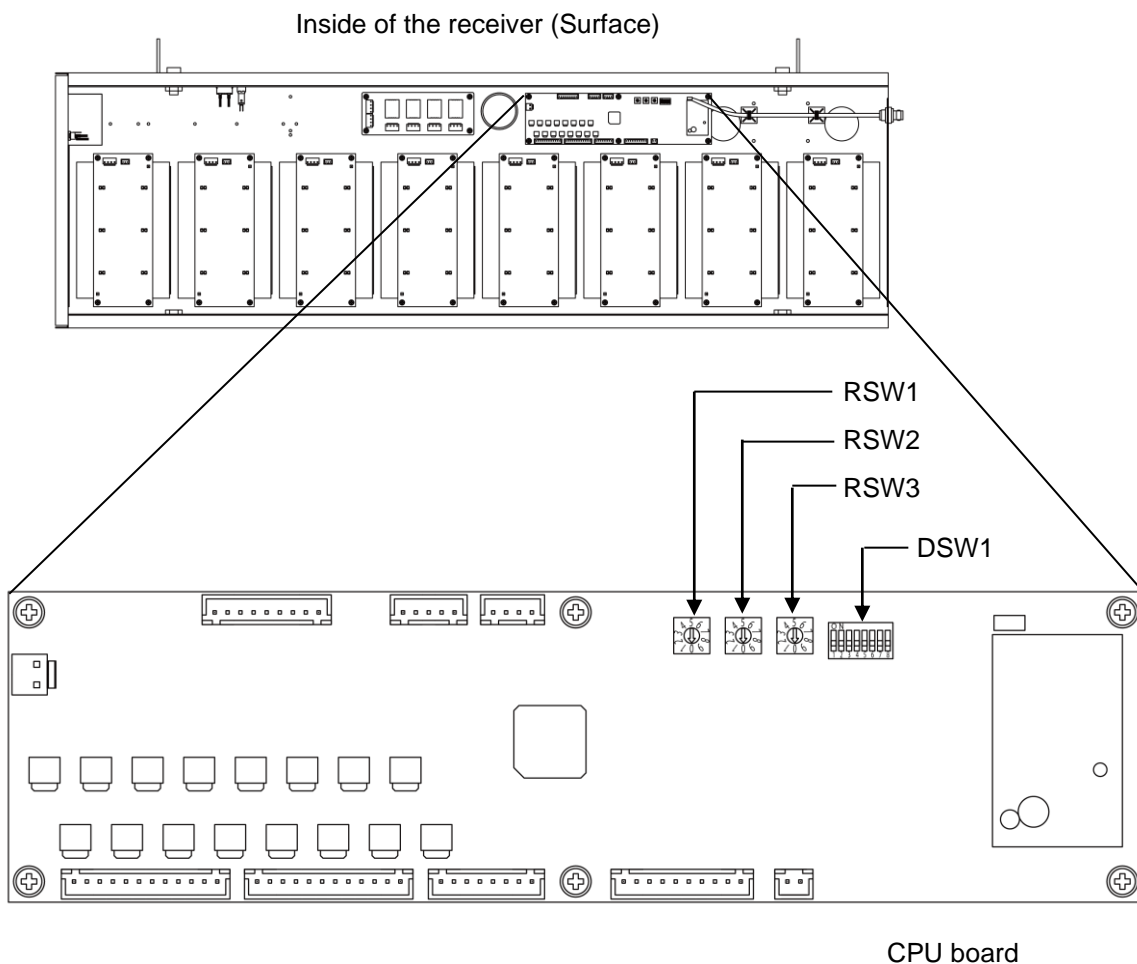
Set the receiver using the RSW1-3 (rotary switches 1-3) and the DSW1 (DIP switch 1) on the CPU board inside the receiver. Remove the antenna and remove the screws (4) securing the side panel. Move the side panel and remove the side panel.

When you set and change the setting of receiver, please set it after turning off the power.

Customers who purchased the transmitter and receiver as a set do not need to configure the settings, as they are configured at factory. The label affixed to the lower part of the receiver showing factory default settings.



As the CPU board is in the front, remove the front acrylic sheet by sliding it out.



■ Channel / Set No. / Unit No.

Configure the settings of Channel/ Set No. /Unit No. to match those of the transmitter to communicate with.

< Channel >

RSW1	Channel	Frequency (MHz)	RSW1	Channel	Frequency (MHz)
1	1	426.0250	6	6	426.0875
2	2	426.0375	7	7	426.1000
3	3	426.0500	8	8	426.1125
4	4	426.0625	9	9	426.1250
5	5	426.0750	0	10	426.1375

< Set No. >

RSW2	Set No.
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

< Unit No. >

RSW3	Unit No.
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

The setting contents of Channel, Set No. and Unit No. can be confirmed by the lighting pattern of numbers at power on.

It is indicated in the order of channel->Green LED / Set->Orange LED / Unit->Red LED.

Channel Set No. Unit No.	AN426R II -TH AN426RM II -TH	AN426RH II -TH
0	All indicators light up	All indicators light up
1	Indicator 1 lights up	Indicator 1 lights up
2	Indicator 2 lights up	Indicator 2 lights up
3	Indicator 3 lights up	Indicator 1 and 2 light up
4	Indicator 4 lights up	Indicator 3 lights up
5	Indicator 5 lights up	Indicator 1 and 3 light up
6	Indicator 6 lights up	Indicator 2 and 3 light up
7	Indicator 7 lights up	Indicator 1, 2 and 3 light up
8	Indicator 8 lights up	Indicator 4 lights up
9	Indicator 1 and 8 light up	Indicator 1 and 4 light up
10	Indicator 2 and 8 light up	Indicator 2 and 4 light up

Ex) AN426RH II -TH

Channel 9

Set No. 4

Unit No. 0

Channel: Indicator 1 and 4 light up in green

↓

Set No.: Indicator 3 lights up in orange

↓

Unit No.: All indicators light up in red

Setting range : Channel 1-10 / Set No. and Unit No. 0-9

■ Display mode

Set the display mode using the DSW1—1 and DSW1—2. Four display modes are available.

Display mode	DSW1—1	DSW1—2	Button input	Terminal input
1	OFF	OFF	Illumination	Illumination
2	ON	OFF	Blinking	Illumination
3	OFF	ON	Illumination	Blinking
4	ON	ON	Blinking	Blinking

■ Setting the output time

Set the open collector output time and relay output time with the DSW1—3.

- ① Continuous output: Generates a continuous output in synchronization with illumination (or blinking) of the indicator.
- ② Output for 5 seconds: Generates an output in synchronization with illumination (or blinking) of the indicator for 5 sec.

Status of the DSW1—3	OFF	ON
Output time	Continuous	5 seconds

*Please do not change DSW1—4, DSW1—5, DSW1—6, DSW1—7 and DSW1—8.

Changing the factory settings may cause problems with normal operation.

6. Installation

6-1. Installation of Transmitter

When installing the product, pay attention to the following

1. Install the transmitter in a location where the antenna is not surrounded by metal or shielding and stable communication is possible.
2. Mount the antenna away from metal objects to prevent them from becoming parallel to each other.

*Do not install the transmitter in the following locations:

- Locations exposed to direct sunlight.
- Locations with high humidity.
- Near a television or radio.
- Near machines that spark, such as a welding machine.
- Locations where strong magnetic field is generated.
- Locations surrounded by steel frames or metal walls.
- Near any devices that could malfunction due to radio waves from the systems.

3. When fixing the transmitter to a panel, etc., use mounting holes.

6-1-1. External Input

When using external inputs (1(Orange)/ 2(Red)/ 3(Green) / 4(White)), connect the non-voltage contact inputs that meets the following conditions to the external contact input terminal block.

Select the inputs that is less susceptible to chattering.

- For the included AC adapter: Steady ON/OFF switching of voltage/current 5 V/3 mA
- For dry batteries: Steady ON/OFF switching of voltage/current 3.0 V/2.5 mA

Set the input signal to 50ms or more.

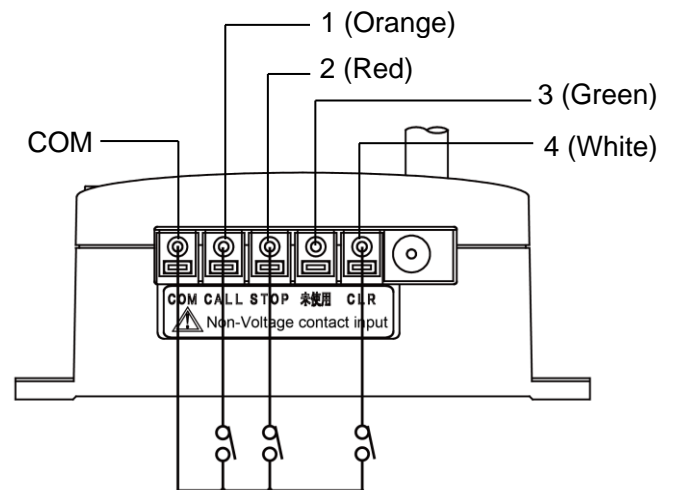
(Screwless terminal block)

Applicable wire range:

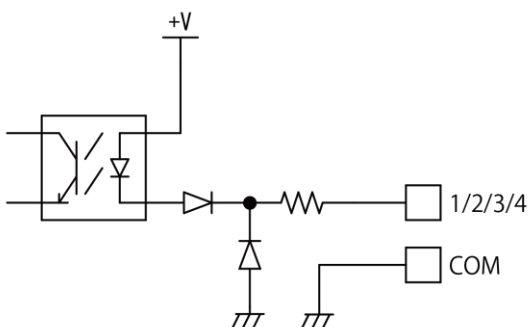
Single wire: $\phi 0.4$ mm (AWG26) – $\phi 1.0$ mm (AWG18)

Stranded wire: $\phi 0.3$ mm² (AWG22) – $\phi 0.75$ mm² (AWG20)

Strand diameter of $\phi 0.18$ or more



6-1-2. Input Circuit



When installation and connection to the external input are completed, supply power.

Supply voltage input range: AC 100 - 240V

+ V depends on the type of power supply.

- For the included AC adapter : 4.0V
- For dry batteries : 4.5V - 3.3V

6-1-3. Power Supply

When using the external inputs, turn on the power after completing the connection to the external input.

Input the power to the DCIN jack for AC adapter connection, or use AA batteries

The polarity of the DCIN jack for a connection to the AC adaptor is center-negative.

When using an adapter other than the attached AC adaptor, pay attention to its polarity.

Also, choose an adapter that is designed for an output voltage of DC 5V and an output current of 400mA.

The power supply voltage input range of the included AC adapter is AC 100-240V.

* Notes for using dry batteries

1. Remove the dry batteries when leaving the transmitter out of service for a long time or when storing it.
2. When using the AC adapter for power, remove the batteries in the interest of safety.
3. If the BA LED continues to lit during transmission, the supply voltage is low. If the lamp flashes, the battery voltage has more dropped. It is the situation not to transmit. Please replace it with the new batteries as soon as possible.
4. For all of the three replacement dry batteries, be sure to use new ones of the same kind.
Using exhausted dry batteries or a mixture of different dry batteries will not only shorten their lives, but it could also be a cause of failure.
5. If an AC adapter is used, the unit will operate using dry batteries if no voltage is input from the adapter.

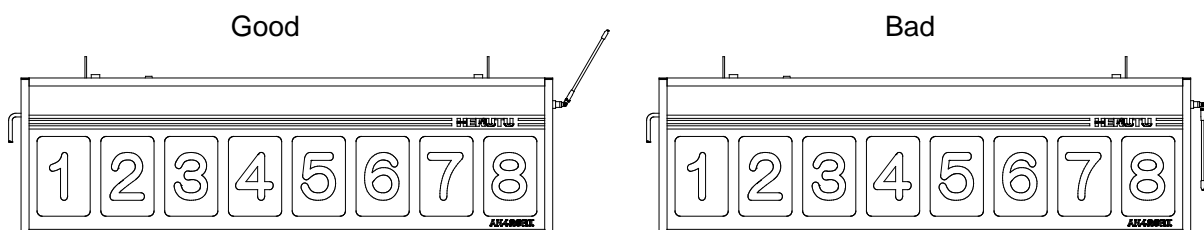
6-2. Installation of Receiver

Install the receiver following the precautions below.

1. Keep the antenna away from metal sheets or wires.
2. Keep the antenna away from noise sources.
3. Select a location where there are no shielding objects between the antennas of the transmitter and the receiver.
4. The communication performance varies depending on the installation environment. Make sure communication is possible before installation.
5. The receiver is neither dust-proof nor drip-proof.

*Do not install the receiver in the following locations:

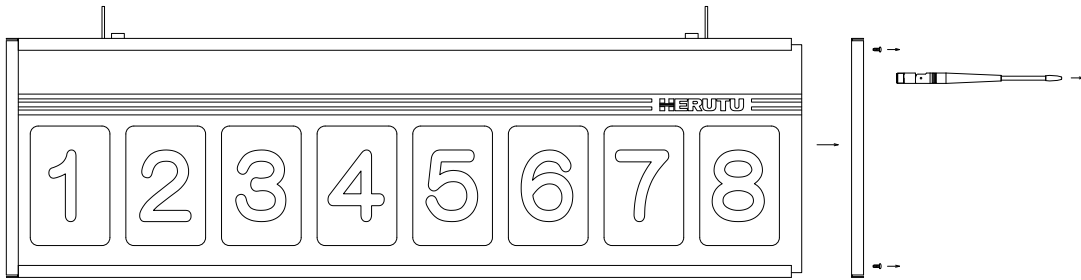
- Locations exposed to direct sunlight.
 - Locations with high humidity.
 - Near a television or radio.
 - Near machines that spark, such as a welding machine.
 - Locations where strong magnetic field is generated.
 - Locations surrounded by steel frames or metal walls.
 - Near any devices that could malfunction due to radio waves from the systems.
6. Place the receiver where it can be seen easily and clearly from the transmitter. When using the mounting fittings, secure the receiver to a location stable enough to support the weight.
Direct the antenna diagonally upward. Do not direct it downward in parallel with the side of the receiver.



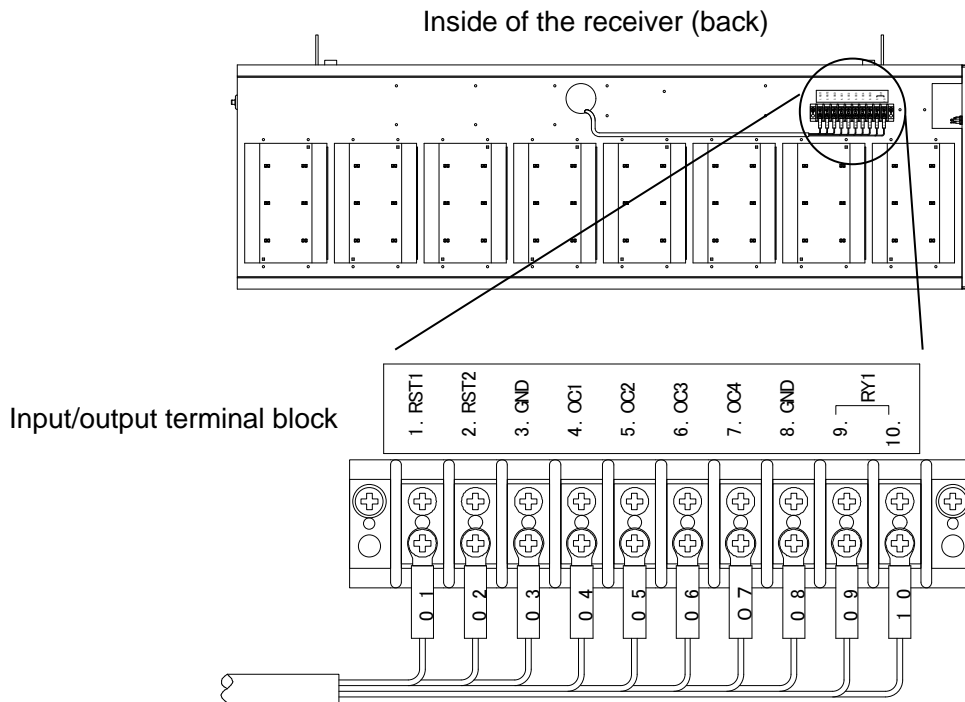
6-2-1. Input / Output Terminal Block

External output in synchronization with LED illumination is generated at the input/output terminal block inside. Remove the antenna and remove the screws (4) securing the side panel.

Move the side panel and remove the side panel.



As the input/output terminal block is on the back side, remove the acrylic sheet on the back by sliding it out.



Terminal block	Contents
1.RST1	All reset input (Returns the settings to default.)
2.RST2	Output reset input (Stop external output.)
3.GND	GND
4.OC1	Open collector output (Synchronized with orange LED illumination.)
5.OC2	Open collector output (Synchronized with red LED illumination.)
6.OC3	Open collector output (Synchronized with green LED illumination.)
7.OC4	Open collector output (Synchronized with orange/ red/ green LED illumination.)
8.GND	GND
9/10.RY1	Relay output (Synchronized with orange/ red/ green LED illumination.)

Pass the signal line through the signal line takeout hole before connecting it to the terminal block.

*Input/output terminal block: M3 screw

6-2-2. Power Input Unit

The polarity of the DCIN jack for a connection to the AC adaptor is center-plus.

When using an adapter other than the attached AC adaptor, pay attention to its polarity.

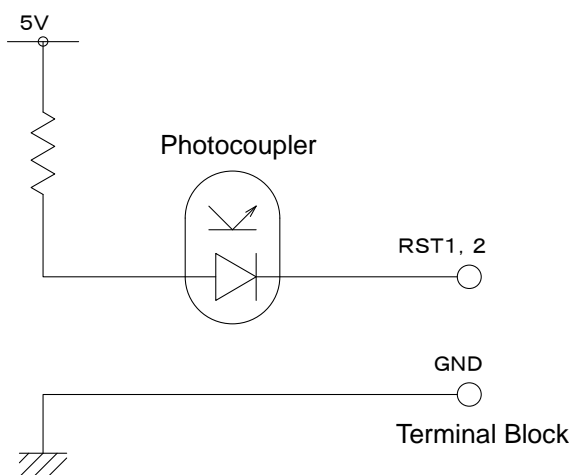
Also, choose an adapter that is designed for an output voltage of DC 24V and an output current of 500mA.

The power supply voltage input range of the included AC adapter is AC 100-240V.

6-2-3. Input circuit

For the Non-voltage contact input to be connected to the “All Reset” Input and “Output Reset” Input, use the circuit with less chattering which can steadily turn on/off the voltage/current of DC5V/15mA.

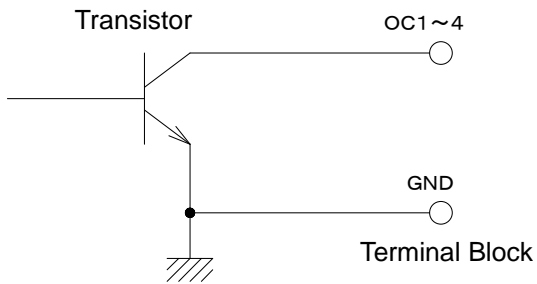
“Reset” Input Circuit



6-2-4. Output circuit

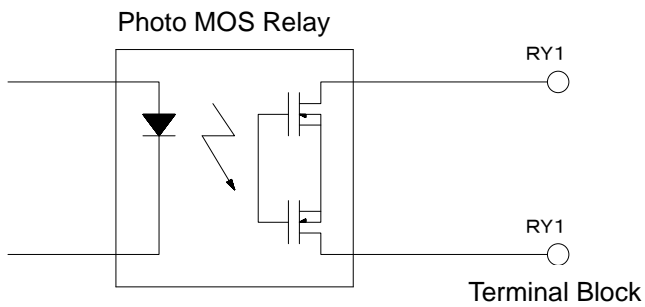
Max. Rated Road of open collector is AC/DC35V 50mA.

Open Collector Output circuit



Max. Rated Road of relay output is AC/DC30V 0.5A.

Relay Output Circuit



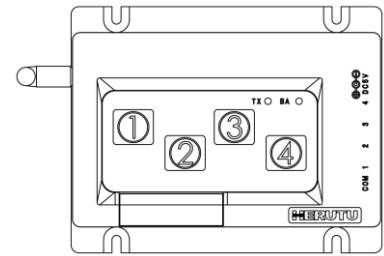
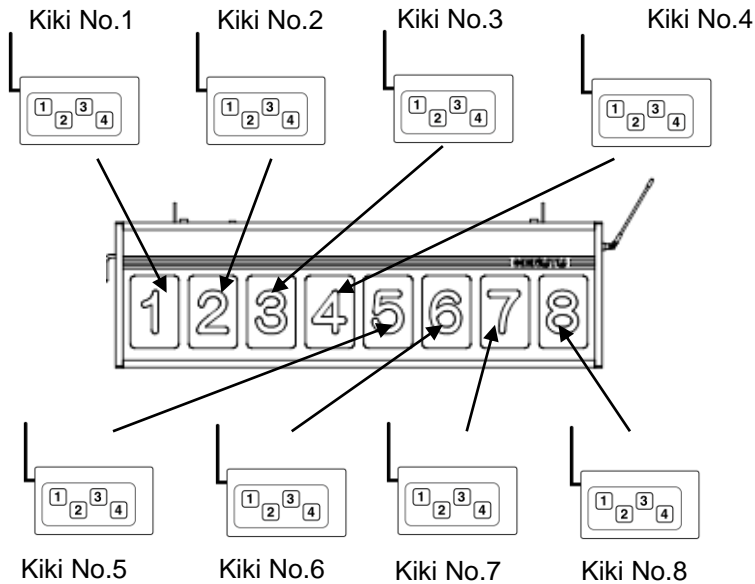
When installation and connection to the external input and output are completed, connect the included AC adapter to the receiver main unit. Supply voltage input range: 100 – 240 V AC

7. Description of Operation

7-1. Basic Operation

When the receiver receives a signal sent from the transmitter, a LED illuminates the corresponding indicator according to the set ID, and the receiver produces a relay output and an open collector output.

According to the color of the transmitter push button and external input, the corresponding LED color illuminates and the corresponding open collector output OC1-OC3 is activated.



Tx (Green) LED : Lights during transmission

BA (Red) LED : Indicates the status of the power supply

•Lights → The state that the power supply voltage decreases.

•Blinks → Unable to transmit.

- Kiki No. set in the transmitter and the indicator number of the receiver are paired.
- The push buttons are not prioritized. The signal received later takes priority.
- Pressing several push buttons on a single transmitter simultaneously becomes invalid.
- When several external inputs on a single transmitter turn ON simultaneously, it becomes invalid.

The operation of the transmitter differs between the push button and external input.

■Action performed when the push buttons of transmitter are operated

When using the push button, "Event transmission mode" and "Normal transmission mode" have the same operation.

Example) Action of the receiver when the push buttons of the transmitter Kiki No.1 are operated.

Transmitter Kiki No.1	Receiver		
	Indicator	Relay output Terminal block:RY1	Open collector output Terminal block:OC1-OC4
1 (Orange) Button	Indicator Number 1 Orange: illuminates or blinks	ON (Output continuation or 5 seconds)	OC1/OC4 ON (Output continuation or 5 seconds)
2 (Red) Button	Indicator Number 1 Red: illuminates or blinks	ON (Output continuation or 5 seconds)	OC2/OC4 ON (Output continuation or 5 seconds)
3 (Green) Button	Indicator Number 1 Green: illuminates or blinks	ON (Output continuation or 5 seconds)	OC3/OC4 ON (Output continuation or 5 seconds)
4 (White) Button	Indicator Number 1 Off	OFF	OFF

■Action performed when the external inputs of transmitter are used

The operation of the receiver differs depending on the transmission mode set for the transmitter. For details on the transmission mode, refer to “5-1. Transmitter Settings”.

Event transmission mode

While the external input (1(Orange)/ 2(Red)/ 3(Green)) of the transmitter is ON, the indicator number lights or blinks in the color according to the input, and the external outputs of the receiver are ON.

When the external input of the transmitter is turned off, the indicator number of the receiver is turned off and the external outputs are stopped.

Example) Action of the receiver when the external inputs of transmitter Kiki No.1 are used.

Transmitter Kiki No.1	Receiver		
	Indicator	Relay output Terminal block: RY1	Open collector output Terminal block: OC1-OC4
1 (Orange) external input (Hold the ON state)	Indicator Number 1 Orange: illuminates or blinks	ON (Output continuation or 5 seconds)	OC1/OC4 ON (Output continuation or 5 seconds)
2 (Red) external input (Hold the ON state)	Indicator Number 1 Red: illuminates or blinks	ON (Output continuation or 5 seconds)	OC2/OC4 ON (Output continuation or 5 seconds)
3 (Green) external input (Hold the ON state)	Indicator Number 1 Green: illuminates or blinks	ON (Output continuation or 5 seconds)	OC3/OC4 ON (Output continuation or 5 seconds)
4 (White) external input	-	-	-

Normal transmission mode

While the external input (1(Orange)/ 2(Red)/ 3(Green)) of the transmitter is ON, the indicator number lights or blinks in the color according to the input, and the external outputs of the receiver are ON.

Even if the external input of the transmitter is turned off, the receiver holds its status.

When the external input (4 (white)) of the transmitter is turned on, the indicator number of the receiver is turned off and the external outputs are stopped.

Example) Action of the receiver when the external inputs of transmitter Kiki No.1 are used.

Transmitter Kiki No.1	Receiver		
	Indicator	Relay output Terminal block: RY1	Open collector output Terminal block: OC1-OC4
1 (Orange) external input	Indicator Number 1 Orange: illuminates or blinks	ON (Output continuation or 5 seconds)	OC1/OC4 ON (Output continuation or 5 seconds)
2 (Red) external input	Indicator Number 1 Red: illuminates or blinks	ON (Output continuation or 5 seconds)	OC2/OC4 ON (Output continuation or 5 seconds)
3 (Green) external input	Indicator Number 1 Green: illuminates or blinks	ON (Output continuation or 5 seconds)	OC3/OC4 ON (Output continuation or 5 seconds)
4 (White) external input	Indicator Number 1 Off	OFF	OFF

7-2. Receiver Test Operation

After receiving test codes, the receiver performs the following as shown in the table below. During test execution, receiving signals becomes invalid.

Test codes are valid only when they are test codes combined by button inputs on the transmitter. Test codes combined by an external terminal input and a button input are ignored.

Receive test code	Name	Operation
Button Orange + Red + White (Button: Press orange, red and white simultaneously.)	Indication test	Red LED1-8 ON (every 0.5SEC) Green LED1-8 ON (every 0.5SEC)
Button Orange + Green +White (Button: Press orange, green and white simultaneously.)	Output test	Relay output RY1 ON (every 0.5SEC) Open collector outputs OC1-OC4 ON (every 0.5SEC)

Depending on the timing of pressing the buttons simultaneously, the button code pressed a little earlier than the others is transmitted, but not as a test code. The receiver may not execute a test action.

8. SPEAKER (Option)

8-1. Speaker Operation

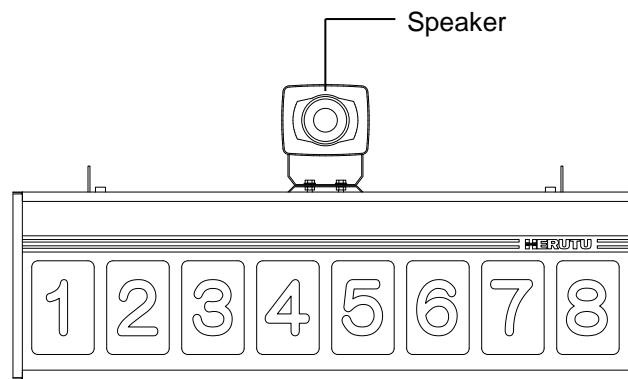
A speaker can be installed on the receiver (top) and it produces sound in synchronization with illumination (or blinking) of the LED indicators.

The speaker generates sounds corresponding to 3-color LED indication.

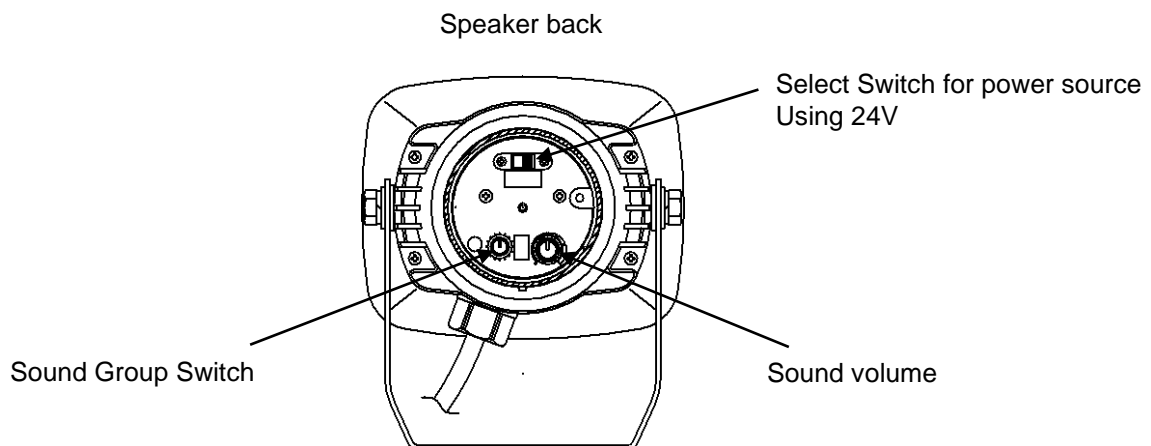
*The speaker sounds are prioritized.

*As the sounds are generated by using the open collector outputs "OC1-OC3", the open collector outputs cannot be used for connection of other devices.

The models with a speaker are as follows.



Receiver	With speaker	The number of corresponding transmitters
Large-sized 8-indicator type	AN426R II -TH-MRD	8
Large-sized 4-indicator type	AN426RH II -TH-MRD	4
Medium-sized 8-indicator type	AN426RM II -TH-MRD	8



8-2. Sound Selection

The speaker sounds can be selected from 15 groups.

The receiver is shipped with a Shneider's speaker "ST-25MM" (or "ST-25MM2") connected as follows.

Output OC1: In synchronization with orange LED indication (push button 1 (Orange))

⇒ Connected to CH1 of the speaker

Output OC2: In synchronization with red LED indication (push button 2 (Red))

⇒ Connected to CH2 of the speaker

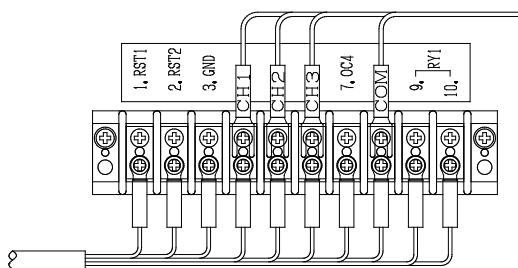
Output OC3: In synchronization with green LED indication (push button 3 (Green))

⇒ Connected to CH3 of the speaker

The speaker is prioritized. When signals are input simultaneously, the speaker sounds in the following priority order.

CH1 > CH2 > CH3

To change the LED indicator color (Orange, Red, Green) and sound (and priority order), change the connection of the terminal block inside the receiver.



The speaker sound can be selected from 15 sound groups A-O. Select your desired sound group and set the sound using the sound changeover switch of the speaker.

■ Settings of the speaker sounding time

The speaker playing time can be selected from continuous/ 5 sec. by the internal settings.

(For the setting method, refer to "5-2. Display Setting".)

*The speaker is set to continuous output setting at factory default.

*The speaker volume can be adjusted between 0 and 102dB without steps using the volume control.

Speaker(ST-25MM) sounds list

Group	Color of line from speaker			
	CH1(Green)	CH2(Yellow)	CH3(Brown)	CH4(Blue)
A	ASHITA GA ARUSA	ELECTRICAL PARADE	SAZAE-SAN	TOUTCH
B	CHIME	PiPiPiPi	KINJIRARETA ASOBI	KATSUSHYA
C	KINJIRARETA ASOBI	KATSUSHYA	SHEEP OF MERY	KUSAKEIBA
D	CHIME	PiPiPiPi	SHEEP OF MERY	KUSAKEIBA
E	CHIME	PiPiPiPi	FLICKER	PiLaLa
F	CHIME	PiPiPiPi	AMARYLLIS	MOZART'S 40TH
G	AMARYLLIS	MOZART'S 40TH	ASHITA GA ARUSA	ELECTRICAL PARADE
H	CHIME	PiPiPiPi	ASHITA GA ARUSA	ELECTRICAL PARADE
I	PiLaLa	DOWN	EMERGENCY	FLICKER
J	CHIME	PiPiPiPi	SAZAE-SAN	TOUTCH
K	SHEEP OF MERY	KUSAKEIBA	AMARYLLIS	MOZART'S 40TH
L	EMERGENCY	FLICKER	CHIME	PiPiPiPi
M	DOWN	EMERGENCY	CHIME	PiPiPiPi
N	PiLaLa	FLICKER	SHEEP OF MERY	KUSAKEIBA
O	DOWN	EMERGENCY	SAZAE-SAN	TOUTCH

CH4(Blue) is no connected at shipment.

9. 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 useIf 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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