

TW-800R-EXB

Instruction Manual V1.00

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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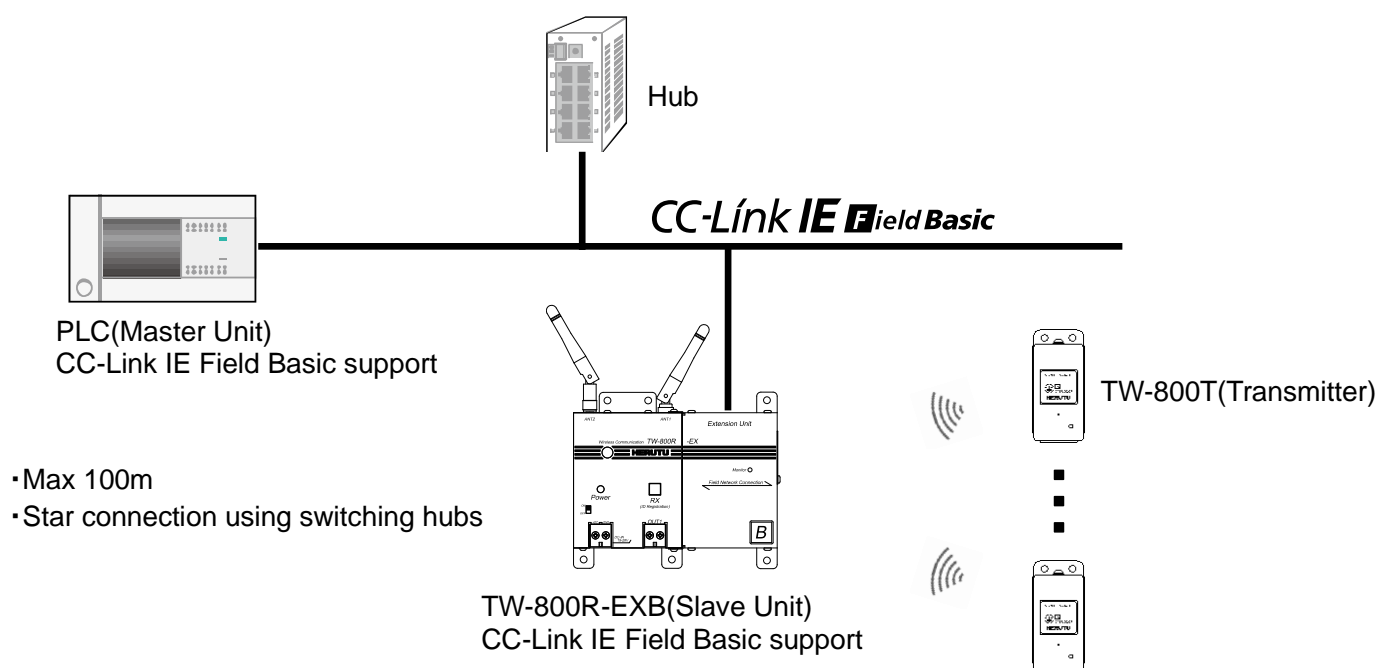
■General outline

This instruction manual describes "TW-800R-EXL" (hereinafter referred to as "receiver").

The TW-800R-EXB is a receiver that can be connected as a slave unit for the TW-800 series supporting CC-Link IE Field Basic. Also, the receiver can communicate with multiple TW-800T (hereinafter referred to as transmitter).

This instruction manual mainly describes the functions of the receiver. For details about the functions of the transmitter, please refer to the "TW-800 Instruction Manual".

The CC-Link IE Field Basic system is a CC-Link IE communication utilizing general-purpose Ethernet technology that is easy to use and develop, and easy to apply to small-scale equipment that does not require high-speed control. CC-Link IE Field Network cyclic communication is realized by software.



<Feature>

◆ The receiver can communicate with multiple transmitters by doing "pairing".

The number of transmitters which can register pairing to one set of a receiver does not have restriction.

Receiver doesn't remember ID number of transmitter. (It cannot read from a receiver ID of the transmitter which is registered pairing, and how many set pairing is registered.)

◆ The receiver outputs data received from the transmitter using the CC-Link IE Field Basic protocol.

When the receiver receives a signal from the transmitter, it sounds a buzzer and turns on the relay output.

(Buzzer sounding and relay output time depend on the setting. If the signal from the transmitter is sent at the same time, the relay output and buzzer will be sounded only once instead of twice.)

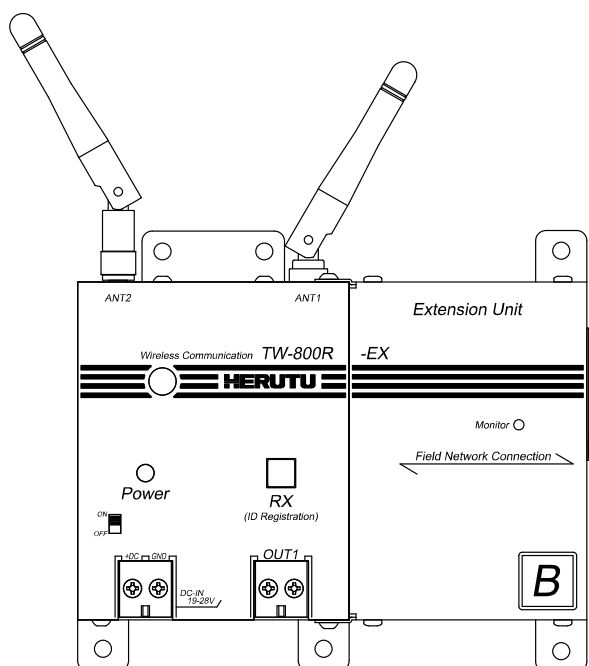
* "Pairing" used within this operation manual means the work which registers a transmitter and a receiver.

* CC-Link IE Field Basic is a registered trademark of CC-Link Partner Association.

* For CC-Link IE Field Basic reference, please refer to various documents of CC-Link Partner Association or Mitsubishi Electric Corporation.

■Main part and accessories

Receiver TW-800R-EXB



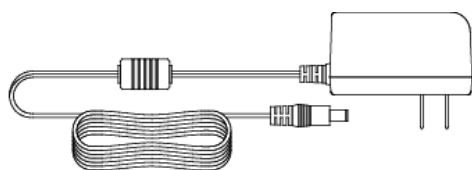
TW-800R-EXB ×1

(Dipole antenna for ANT2 is set at shipment)

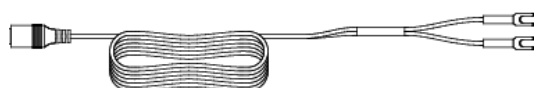
*ANT2 is fixed by resin before shipment by regulation of FCC/IC in an applicable country.

Option

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

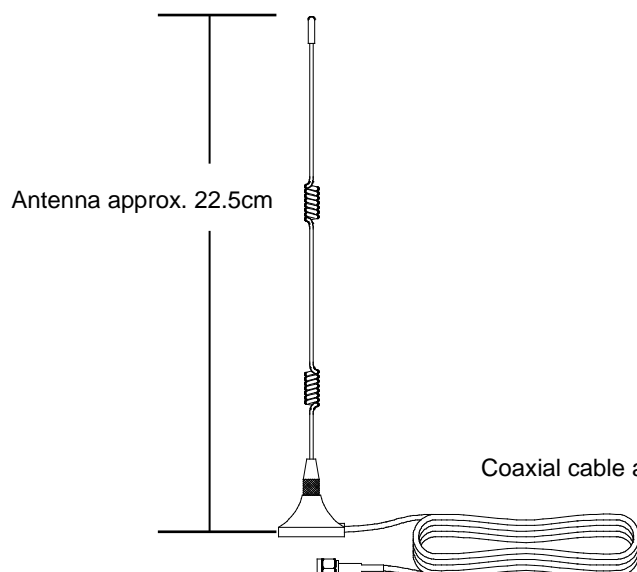


Cable approx. 1.5m



Cable approx. 1.8m

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



Antenna approx. 22.5cm

Coaxial cable approx. 1.5m

*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.

■ 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

●Receiver TW-800R-EXB

Items	Specification
Interface	RJ-45 Ethernet * 1 10BASE-T or 100BASE-TX (Auto sense determination)
Output	Contact output * 1point (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) * 1point (Combination lighting switch for pairing) Power LED (Red) * 1point Communication monitor LED(Orange) * 1point
Power source	DC24V±20% (DC19-28V) Terminal block: M3(2P)
Consumption current	150mA or less (At CC-Link IE Field Basic communication)
Operating environment	Temperature 0-50 degree Humidity Under 80%
Dimension	150W * 100H * 30D mm (Except projection)
Weight	Approx. 500g
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-position DIP switch for setting * 2point Lighting switch for pairing * 1point

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

●Communication Specification

Item	Specification	
Ethernet port	Number of ports	1 port
	Interface	1-BASE-T/100BASE-TX
	Connector shape	RJ-45
	Comm. speed	10/100Mbps
	Compatibility	CC-Link IE Field Basic Version 2.0 support

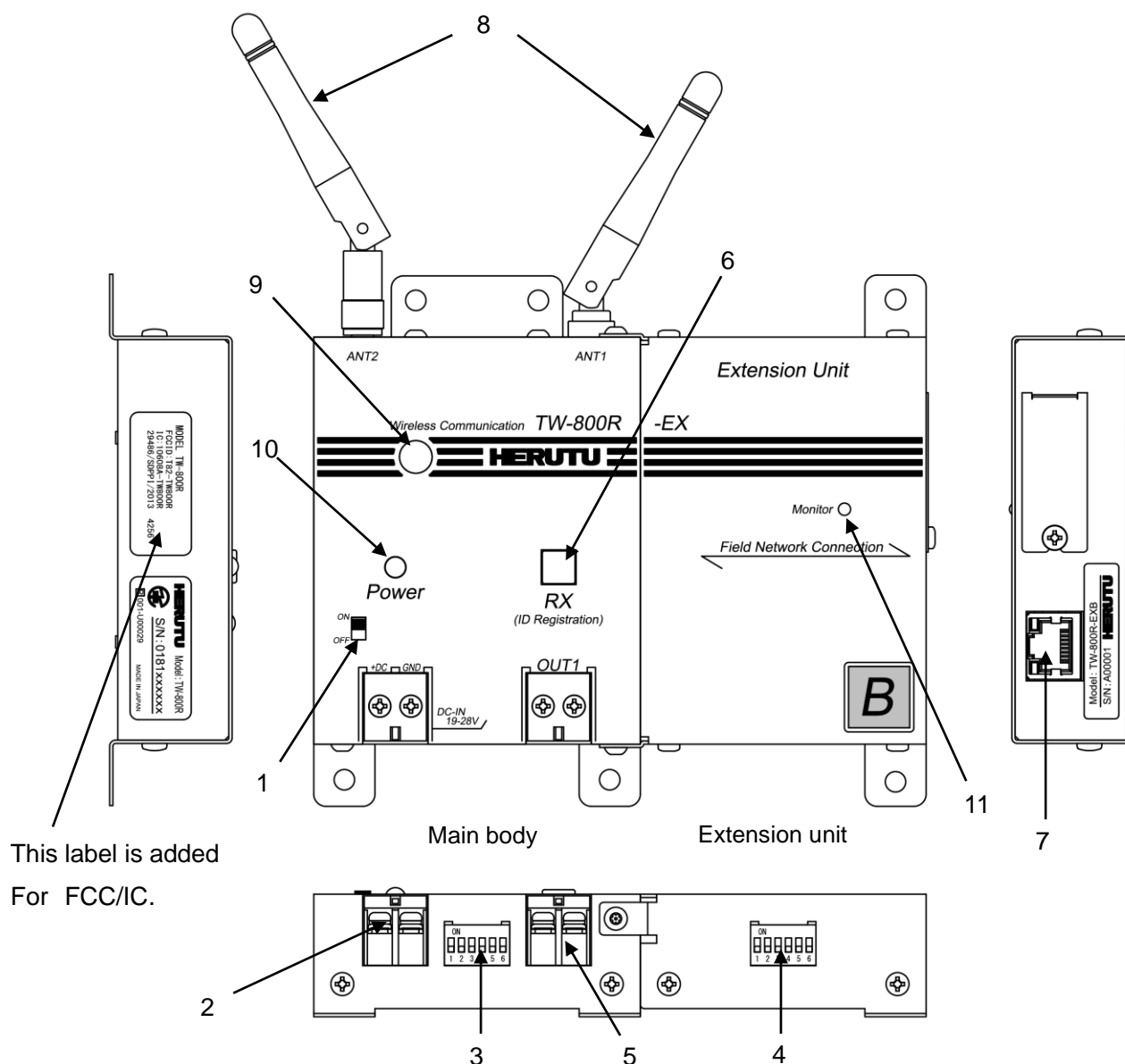
●CC-Link IE Field Basic Unit Specification

Item	Specification
Target Controller	TW-800R-EXB
Station type	Slave station
Number of occupied stations	1 station
communication speed	100Mbps
CC-Link IE Field Basic Number of input/output points	64 points
Supported Versions	CC-Link IE Field Basic Version 2.0
Data acquisition cycle	Approx.40~80msec *1

*1 : Data acquisition cycle is a theoretical value. It may vary depending on actual operational conditions.

■Name and function of each part

●Receiver TW-800R-EXB



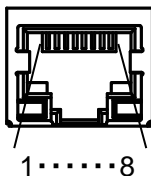
This label is added
For FCC/IC.

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 1	DIP switch for setting (6 selection)
4.DIP switch 2	DIP switch for setting (6 selection)
5.Output terminal block	Photo-mos relay output terminal block(M3)
6.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.
7.LAN connector	Connector for LAN (RJ-45)
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.
11.LED of communication monitor	It is LED for monitoring communication situation.

■Communication

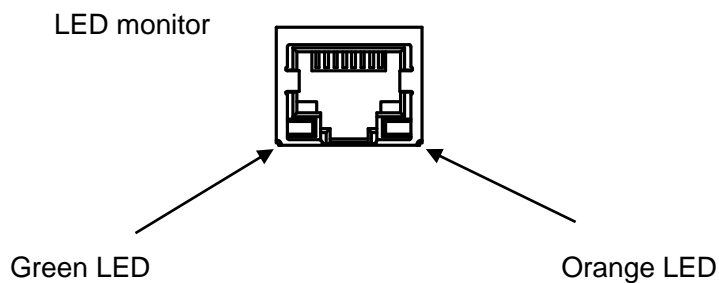
● Connector

For the connector use RJ45 type.



The pin specifications are shown in the following table.

Pin number	Signal name
1	TX+ [Transmission data(+)]
2	TX- [Transmission data(-)]
3	RX+ [Receiving data(+)]
4	Unused
5	Unused
6	RX- [Receiving data(-)]
7	Unused
8	Unused



LED	Display pattern
Green LED	Lights up at connected with LAN
Orange LED	Lights up at communicated

●Cable

Please Use a cable of category 5 or higher.

●Communication Specification

CC-Link IE Field Basic Response message format (link device assignment)

Device №	Contents
RX0	Data ready
RX1	Unused
·	
·	
RX63	

Device №	Contents
RY0	Data request
RY1	Data reception complete
·	Unused
·	
·	
RY63	

Device №	Contents
RWr0	Preamble
RWr1	Preamble·STX
RWr2	ID number
RWr3	ID number
RWr4	ID number
RWr5	ID number
RWr6	ID number
RWr7	Fastening information, test switch battery information
RWr8	Data
RWr9	Data
RWr10	Data
RWr11	Data
RWr12	Data
RWr13	Data
RWr14	Data
RWr15	Data
RWr16	Data
RWr17	Data
RWr18	Maintenance Data
RWr19	Transmitter Data
RWr20	ETX·CRC
RWr21	CRC
RWr22	Unused
RWr23	
RWr24	
RWr25	
RWr26	
RWr27	
RWr28	
RWr29	
RWr30	
RWr31	

Device №	Contents
RWw0	Unused
RWw1	
·	
·	
·	
RWw31	

●Data Contents

Data name	Description
Preamble	FFH, FFH, FFH
STX	02H
Transmitter ID number	ID number 10 digit is converted to ASCII data (Hexadecimal). Example) "010100004A" (30H,31H,30H,31H,30H,30H30H,30H,34H,41H)
Fastening information, test switch battery information	2byte ASCII data Transmission Limit switch signal "01" (30H,31H) Transmission test switch (Battery voltage OK) "02" (30H,32H) Transmission test switch (Battery voltage low) "12" (31H,32H)
Data	When TW-800T is used for the transmitter, all data is "00" (30H30H).
Maintenance Data※	2byte ASCII data "00"(30H,30H) -"FF"(46H,46H)
Transmitter Data	2byte ASCII data Normal "00"(30H,30H) Batteries need to be replaced "01"(30H,31H)
ETX	03H
Checksum	Calculated XOR from "Transmitter ID" to "ETX". And it is converted to ASCII data for 2byte.

* When TW-800T is used for the transmitter, the data is unused and all becomes "00" (30H30H).

* When DIP Switch 2-5 is set to OFF, the data (RWr8-RWr19) area is deleted from the device No.

*This information is exclusive to the manufacturer. Details will not be disclosed.

Regarding the output data from receiver about battery level, "Test switch transmission (battery voltage low)" is notified first, and then "Batteries need to be replaced" is notified when the battery level further drops.

*Sample of Check sum calculated

Transmitter ID number: 010100004A

Tightening information: Transmission Limit switch signal "01"(30H,31H)

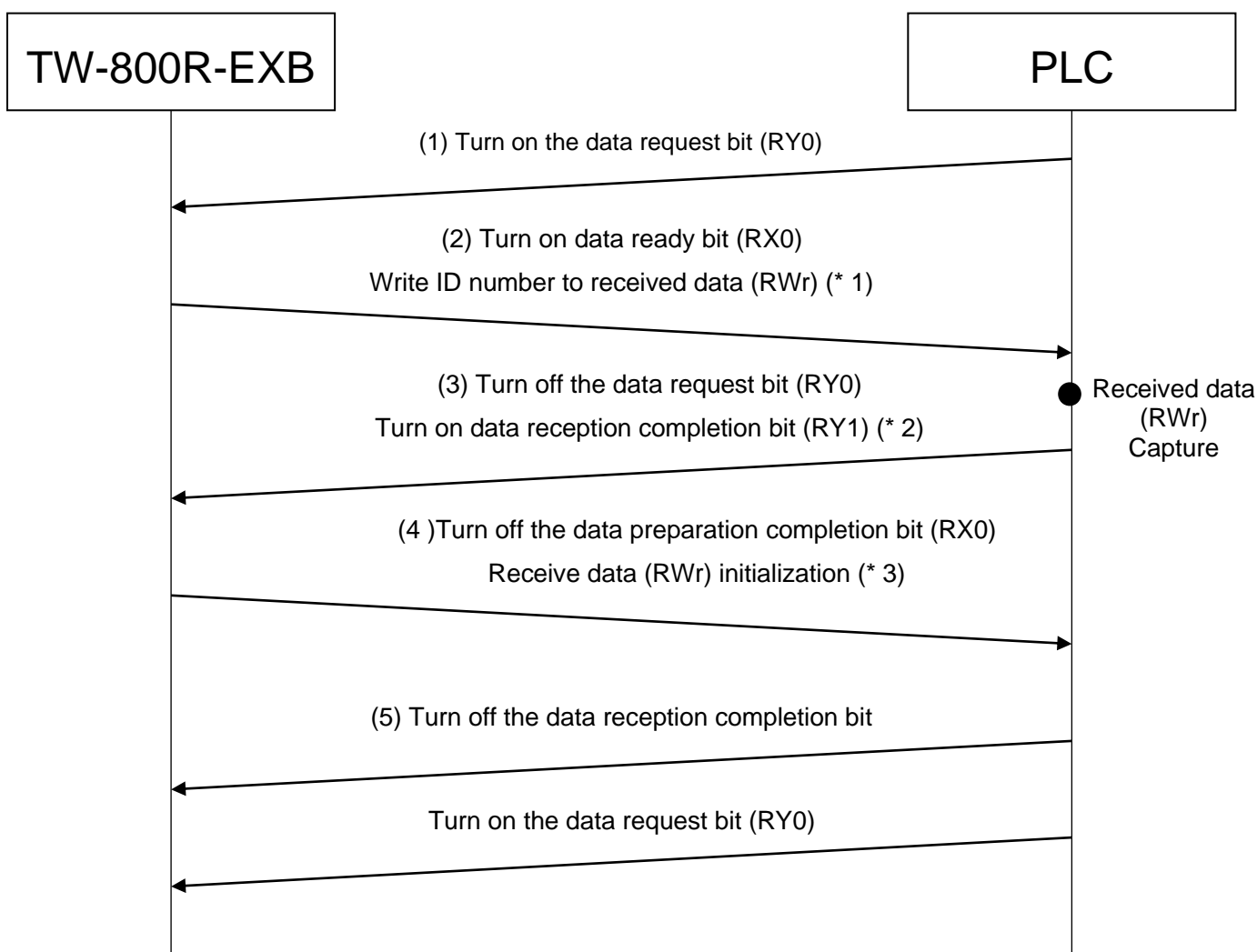
Maintenance Data: "00"(30H,30H)

Transmitter Data: "00"(30H,30H)

Check sum→(37H,37H)

●Communication procedure with receiver

- (1) Turn on the data request bit (RY0) and request the received data (RWr) held by the receiver.
- (2) When the receiver is receiving data from the transmitter, the data ready bit (RX0) is turned on. Check that the data ready bit (RX0) is turned on, and Take in (RWr).
- (3) After data acquisition, set the data request bit (RY0) to OFF and the data reception completion bit (RY1) to ON.
- (4) When the receiver confirms that the data reception completion bit (RY1) is ON, it turns OFF the data preparation completion bit (RX0) and initializes the reception data (RWr).
- (5) Check that the data preparation completion bit (RX0) is OFF, and turn OFF the data reception completion bit (RY1).



(*1) If the receiver is not receiving data, the data ready bit (RX0) will not turn ON.

Also, the received data (RWr) remains initialized and does not proceed to the next communication step.

(*2) Do not turn ON the data request bit (RY0) and the data reception completion bit (RY1) at the same time.

An error occurs if both are turned ON at the same time.

(*3) Write 0 to the received data (RWr) for data initialization.

■ Web server function

Using the Web server function, you can configure the receiver's network settings (IP address, network mask, gateway), set passwords, update firmware, check logs and download log information.

Start a Web browser on your PC and enter the IP address of the receiver in the address bar.

*Please use Google Chrome, IE (Internet Explorer) 11 or higher, Microsoft Edge, etc.

TW-800R-EXB Factory default setting IP address **192.168.3.100**

When accessing the receiver, you will be asked to enter your user name and password.

If this is your first time logging in or if you have performed a password reset, enter the factory default user name and password. See p. 16 for password reset instructions. After logging in, the System Information screen will appear.

The screen is divided into two parts: the left side is the menu screen and the right side displays the contents.

After logging in, if the password is the factory default, the password change screen will be displayed forcibly, so please change the password. Enter the changed password when logging in thereafter.

--- Default password ---

User name	Password
root	Herutu001

<System Information screen>

The screenshot displays the web interface for the TW-800R-EXB receiver. On the left, there is a navigation menu with the Herutu logo at the top. The menu items are: System Information (selected), Network Setup, Password Setup, Firmware Update, and Log Information. Below the menu, a message reads: "(Please wait until the log information is displayed.)". The main content area shows the "System Information" screen, which includes a breadcrumb trail "> Menu > System Information" and a back link "<< System Information". The System Information table contains the following data:

System Information	
Version:	1.0.0
MAC Address:	00:80:a3:c4:59:42
IP Address:	192.168.3.100

<Password Setup screen>

●Password Setup

You can change the password for logging in to the Web server.

Enter your password(Password) and confirmation password(Password(Confirm)) according to the rules below, and click the “Submit” button.

available characters : Half-width alphanumeric characters only

(Use at least one uppercase letter, one lowercase letter, and one number each.)

character limit : 8-30 characters

*If the rules are not followed, an error message will be displayed and the password will not be changed.

●System Information

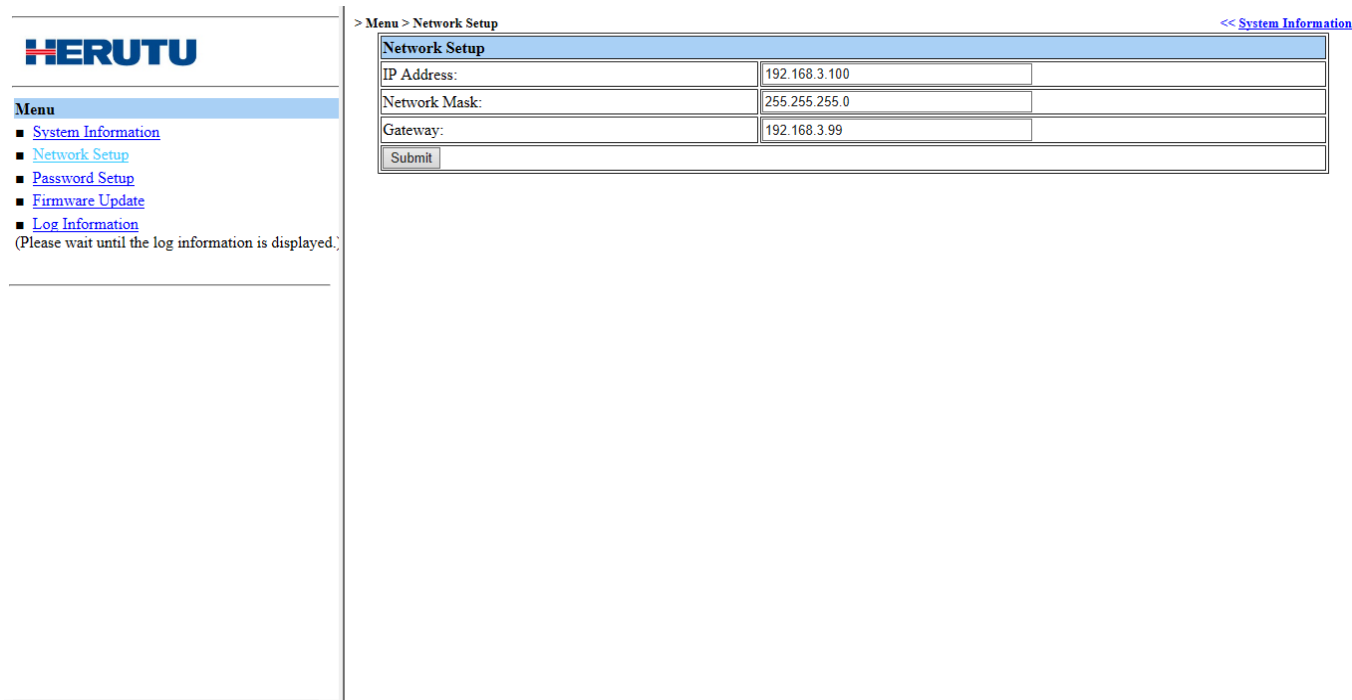
Immediately after login, the system information screen is displayed.

The System Information screen displays the following information.

Display name	Description	Entry example
Version:	Firmware Version	1.0.0
MAC Address:	MAC address	00:80:a3:c4:58:ac
IP Address:	IP address	192.168.3.100

●Network Setup

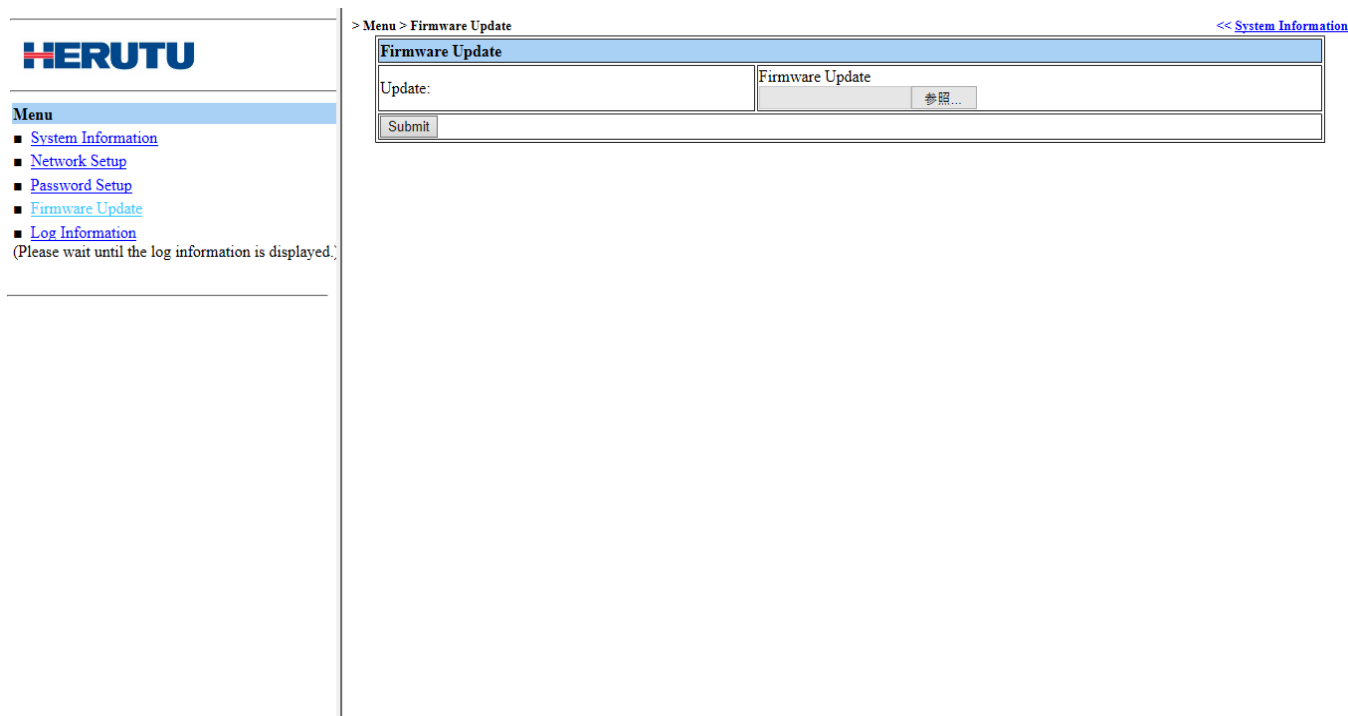
Click “Network Setup” from the menu, and the “Network Setup” screen will appear on the right side of the screen. To change the network settings, change the necessary items and click the ”Submit” button.



*If you change the IP address from a web browser, turn the power back on.

●Firmware Update

Click on “Firmware Update” from the menu, and the “Firmware Update” screen will appear on the right side of the screen. Select the file to be updated and click the “Submit” button.



■Setting

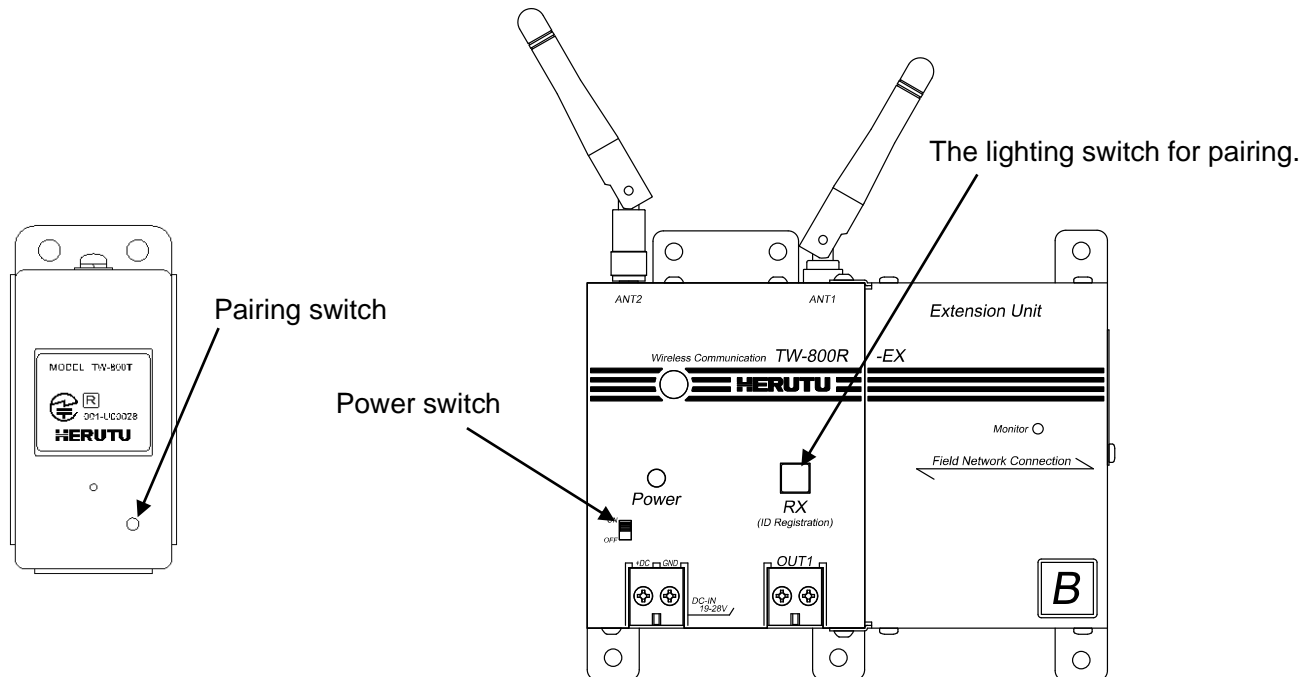
It needs doing “pairing” a transmitter and a receiver before using. The number of transmitters which can register pairing to one set of a receiver does not have restriction.

ID number of receiver is memorized in transmitter. Transmitter transmits the signal included ID number of receiver. Receiver can receive the signal attached ID number itself.

●Pairing (Registration)

1. Power Switch is turned on pushing the lighting switch.

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.

*It needs to do a “Pairing” for every transmitter when you need to register a number of transmitters.

●Delete the pairing

At receiver is not “Paring situation”, transmitter cancels the paring information (registration information on a receiver) when the paring switch is pushed over 3 seconds continuously. By this operation, transmitter can not communicate a receiver is registered “Paring”.

●Setting of receiver

You can set “relay output time”, “Double count protect time”, “Behavior of buzzer” by 6-position DIP switch.

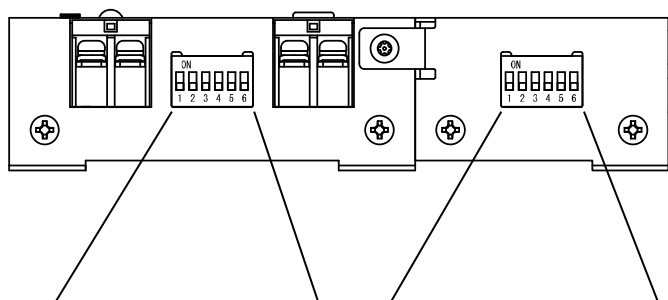
Please set by your operation.

When setting or changing DIP switches, be sure to turn off the power.

DIP switch 1 (Main body side)

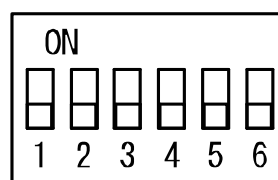
◆Buzzer ON/OFF

DIPSW	1
Buzzer does not sound	ON
Buzzer sounds	OFF

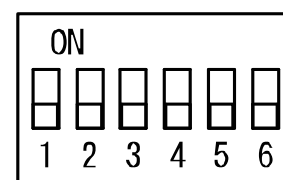


◆Relay output time (4 kinds)

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



DIP Switch1



DIP Switch2

◆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

DIP switch 2 (Extension unit side)

◆ Password reset

DIPSW	4
Password reset Enabled	ON
Password reset Disabled	OFF

← Factory default setting

When the receiver is turned on with DIP Switch2-4 turned on, the password to log in to the web server is reset to the factory default. The receiver LED (green) will blink at 100msec intervals from the time the power is turned on until the password reset is completed.

When the receiving LED (green) changes from blinking to lit and the buzzer sounds, the password reset is complete. Turn off DIP Switch2-4 and turn on the power again. See P.11 for the factory password.

*Be sure to set the password, as leaving the password at the factory setting will not ensure the security of this product.

◆ Ethernet Output data types

DIPSW	5
Long data	ON
Short data	OFF

← Factory default setting

When DIP Switch2-5 is set to ON, the data area (RWr8) through transmitter Data area (RWr19) of the message data is included, When DIP Switch2-5 is set to OFF, the data area (RWr8) through transmitter Data area (RWr19) are deleted.

*DIP Switch2 1 to 3 and 6 are fixed at factory. Do not change them.

DIP Switch2-1→ON/ DIP Switch2-2→OFF/ DIP Switch2-3→OFF/ DIP Switch2-6→OFF

***Caution**

•When the signal from another transmitter is received while the receiver was carrying out the relay output, the relay output for transmitters received later is not performed. Receive data output is performed.

•When a receiver receives the signal from same transmitter during double count prevention time, relay output time, and buzzer sound, a receiver does not process a signal but transmits the "BUSY" signal to a transmitter.

When a transmitter receives "BUSY" signal to a receiver, Green LED of transmitter flashes 4 times.

•When the signal from another transmitter is received while buzzer of receiver sounds, the buzzer sounds for transmitters received later is not performed. Receive data output is performed.

•The receiver holds the data from a transmitter until each processing (a relay output and the prevention from a double count) is completed. A limit is among the quantity which a receiver can hold temporarily, and when the signal from the transmitter exceeding the number of maintenance limits of another ID is transmitted before each processing was completed, a receiver may transmit the "BUSY" signal to a transmitter.

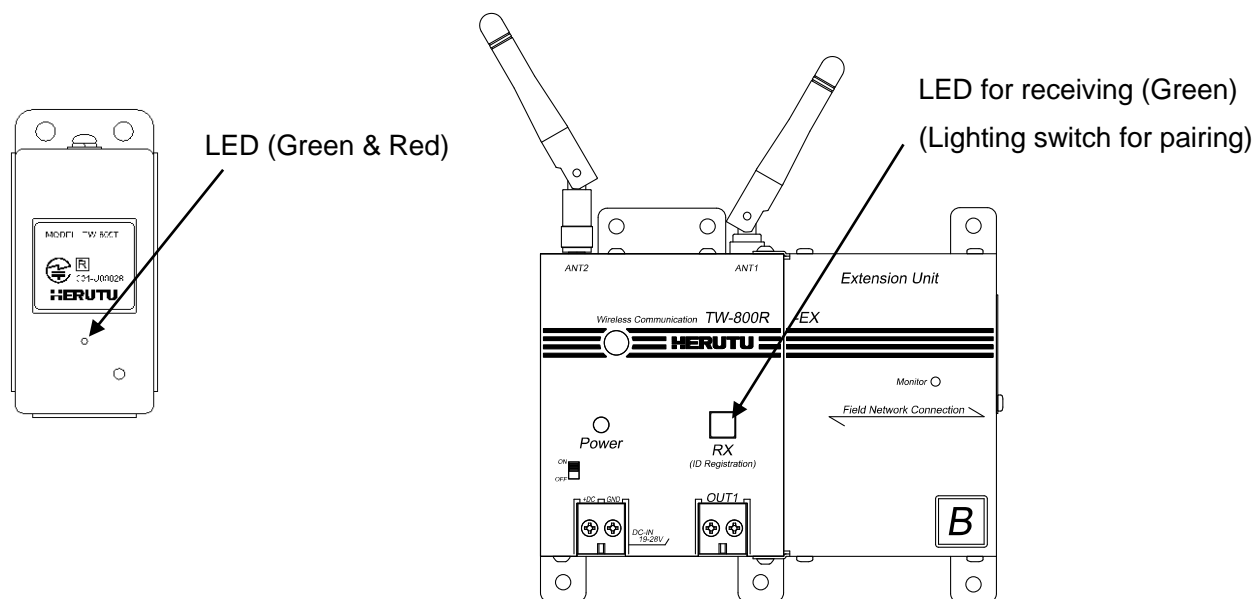
(When a transmitter receives "BUSY" signal to a receiver, Green LED of transmitter flashes 4 times.)

When you set up relay output time and double count prevention time in long time, please be careful.

■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. The transmitter transmits the signal when the limit switch is turned on.

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

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 or while buffer of receiver is full, receiver transmit the "BUSY" signal to transmitter. When the transmitter receives the "BUSY" signal, the Green LED of transmitter is flashed 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	—

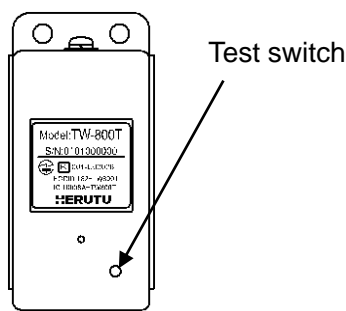
Buzzer sound time is usually for 100ms. When the relay output is set 50msec and double count protect time is set 10msec, Buzzer sound time is 50msec.

*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 transmits the signal by test switch not limit switch, receiver doesn't output relay output. But LED of the 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.

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



	Transmitter	Receiver
Communication check	OK: Green LED 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

*Transmitter 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.

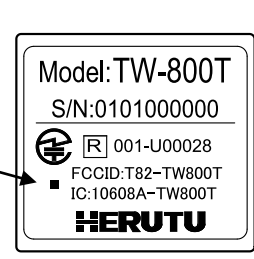
- ①Notification of low battery level with test switch: It is possible to check the battery level with the test switch. When the battery is low, the red LED will light for 1 second.
- ②Battery replacement notice: If the battery level is lower than in ① and the battery needs to be replaced, the green LED 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.

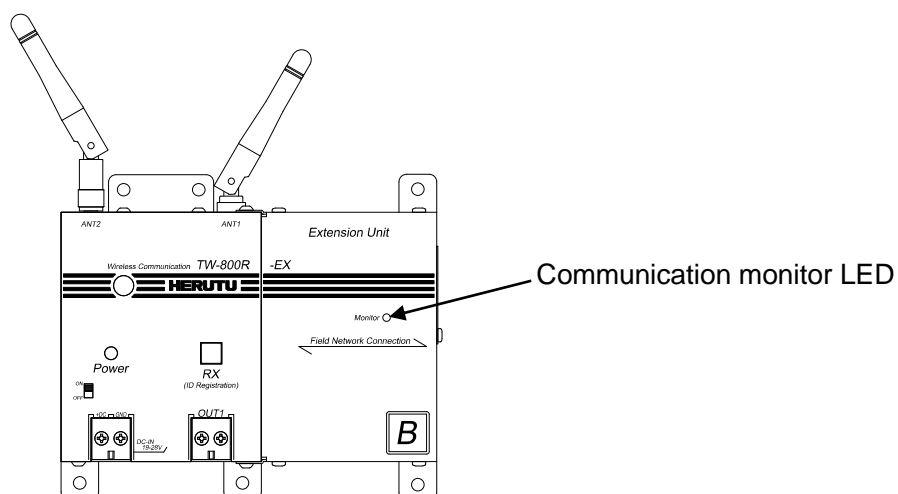
Regarding the output data from receiver about battery level, "Test switch transmission (battery voltage low)" is notified first, and then "Batteries need to be replaced" is notified when the battery level further drops.

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



●Communication Monitor

The main unit of the receiver has LEDs to indicate the communication status of CC-Link IE Field Basic, and the following indications are made according to the communication status.



Display Pattern	Description
Lighting	During cyclic transmission (normal communication)
turning off the light	Cyclic transmission stopped (communication stopped)
Flashing at 1 second intervals	Unsent IDs over 1,000
Flashes at 0.5 second intervals	Error occurred

■Note on use

■Caution for communication

○If the transmitters transmit at the same time without any difference of 1 msec, one receiver can receive up to four transmitters.

○The receiver has a buffer that temporarily holds the data sent from the transmitter. The buffer can hold up to 6 data. While buffer of receiver is full, receiver transmit the "BUSY" signal to transmitter. Even if the transmitter transmits the data in this state, the data can not be output from the receiver, so it is necessary for the connected external device to receive the data promptly.

■Caution for "Pairing"

The number of transmitters which can register pairing to one set of a receiver does not have restriction.

Receiver doesn't remember ID number of transmitter. It cannot read from a receiver ID of the transmitter which is registered pairing, and how many set pairing is registered.

■Caution for wireless Law

○Radio device in this product has been certified by the Radio Law. It does not need 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.

■Note on LAN Connection

○Be sure to set an IP address for the slave device.

○Please make sure that the subnet masks of the master and slave stations match.

○Please make sure that the network addresses of the master and slave stations match.

○Please be careful not to duplicate IP addresses.

○Ensure that the router is not straddled between the master and slave stations.

■List of errors and log messages

●CC-Link IE Field Basic Error Description and Log Message

In the event of the following errors, the receiver's communication monitor LED blinks at 0.5 second intervals.

Error Description	CC-Link IEF Basic error response	Log Message
CC-Link IEF Basic initialization error	×	ERR : CC-Link IEF Basic Initialization Error
Error in obtaining SLMP information in the request packet	×	ERR : SLMP_GetSlmpInfo:errno
SLMP Service Error	×	ERR : SLMP Service:errno
Error when a request comes from another master station during cyclic transmission	○	ERR : Found the duplicate Master!
If a slave with the same Slave ID already exists Error in	×	ERR : Slave duplication or timeout!
Error when the wrong number of occupied stations is received from the master	○	ERR : Invalid the occupied stations number from the master!
Error when creating SLMP response message	×	ERR : SLMP_MakePacketStream:errno
SLMP error Error when creating response message	×	ERR : SLMP_MakeErrorData:errno
Error when master performs shutdown	×	ERR : recvfrom failed with error: disconnected:errno
File write error when setting IP	×	ERR : Could not open file:file_path
Socket initialization error	×	ERR : socket failed with error:errno
Bind time error	×	ERR : bind failed with error:errno
Setsockoptopt error	×	ERR : setsockopt : SO_BROADCAST:errno
Error in recvfrom when receiving (Except EAGAIN)	×	ERR : recvfrom failed with error:errno
Error in transmission	×	ERR : send to failed with error:errno
Device control error when setting default gateway	×	ERR : ioctl error by set_gateway:errno
Socket open error	×	ERR : Socket not open:errno
Error when acquiring network interface list	×	ERR : Can not get the interface list:errno
IP address acquisition error	×	ERR : Can not get the IP address:errno
Subnet mask address acquisition error	×	ERR : Can not get the Mask address:errno
MAC address acquisition error	×	ERR : Can not get the Mac address:errno
Gateway address acquisition error	×	ERR : Can not get the Gateway address
IP address setting error	×	ERR : Can not set the IP address:errno
Subnet mask address setting error	×	ERR : Can not set the Mask address:errno
CC-Link IEF Basic module initialization error	×	ERR : CCIEF-BASIC Slave Station initialization error!:errno
SLMP server module initialization error	×	ERR : SLMP Server initialization error!:errno
Error when the wrong number of occupied stations is received from the master	×	ERR : Invalid number of occupied stations! 1~64

HOLD/CLEAR output setting error	×	ERR : Invalid number of output hold/clear setting! 0~2
Packet error when acquiring default gateway	×	ERR : received packet error
Error when the master station sets both the data request bit and the data reception completion bit to 1 at the same time	○	ERR: Invalid data of ry0 and ry1

●Web Browser Error Description and Log Message

Error Description	Log Message
Error changing password (Password not entered)	Please enter password.
Error changing password (Confirmation password not entered)	Please enter password(confirmation).
Error changing password (Password and confirmation password are different)	The password and the confirmation password do not match. Please re-enter the passwords.
Error changing password (Password is less than 8 characters or more than 30 characters long)	The password must be 8-30 characters long.
Error changing password (Password does not contain uppercase letters)	The password must contain at least one capital letter.
Error changing password (Password does not contain lowercase letters)	The password must contain at least one small letter.
Error changing password (Password does not contain numbers)	The password must contain at least one number.
IP Address is not entered	Please enter the IP Address.
Network Mask is not entered	Please enter the Subnet Mask.
Gateway is not entered	Please enter the Default Gateway.
IP Address is formatted incorrectly	The IP Address is incorrectly formatted. Please enter the correct one.
Network Mask is formatted incorrectly	The Subnet Mask is incorrectly formatted. Please enter the correct one.
Gateway is formatted incorrectly	The Default Gateway is incorrectly formatted. Please enter the correct one.
Firmware file is not selected	Please select a firmware file.
Firmware file open error	Failed to open the firmware file.
Firmware file read error	Failed to read the firmware file.
Firmware file write error	Failed to update the firmware file.
Firmware file is 0 byte	The firmware file is 0 byte.
Log file does not exist	Log file missed.

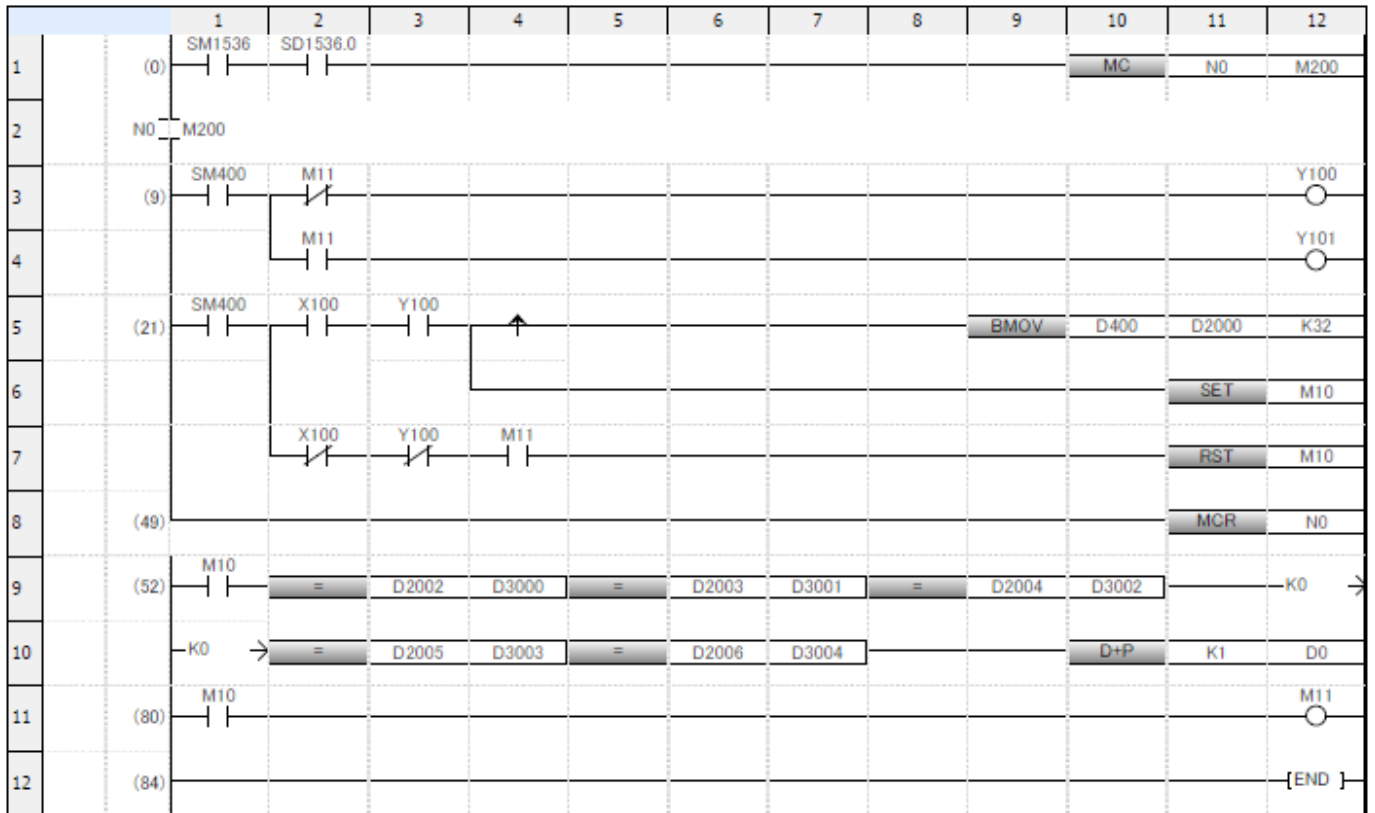
■ Sample (example program)

● Allocation table

Cyclic communication data	Device name
Cyclic transmission status	SM1536
Station No. 1 cyclic transmission status	SD1536.0
Station No. 1 data ready	X100
Station No. 1 data request	Y100
Station No. 1 reception complete	Y101
Station No. 1 received data	D400~D431
Flag data	Device name
Data reception flag	M10
Data processing completion flag	M11
Received data	Device name
Received data	D2000~D2031
Comparison data	D3000~D3031
Count data	Device name
Station No. 1 count	D0

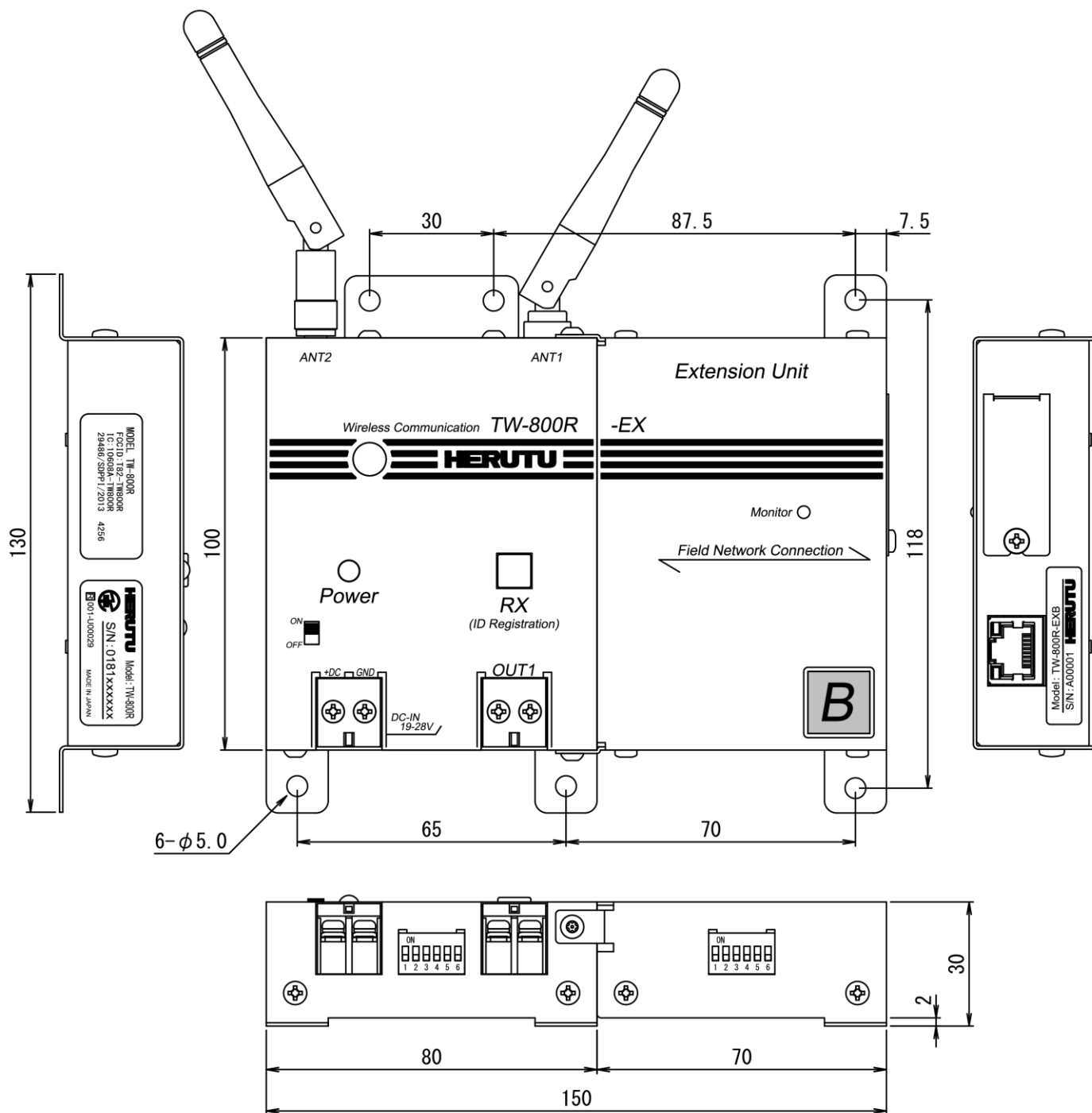
●Ladder program (Example program)

This is a sample program that communicates between the receiver and the PLC, compares the received data with the ID number data prepared in advance, and counts up if they match.



■ Dimensional drawing

● Receiver TW-800R-EXB



■ 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.



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