



Network Base Station

RTR-500NW

RTR-500AW

Introductory Manual

Thank you for purchasing our product. This manual explains in brief how to get an RTR-500NW/500AW unit ready for use and how to install the software.

Details about how to use the software "RTR-500W for Windows" and its functions can be found in the software "Operation Guide (Help)".

For product information or questions contact us at:

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Website

<http://www.tandd.com/>

We have opened an English Website for your convenience. Here you can find information about our company, news, products, upcoming events, software and Introductory Manual downloads, as well as, other support. Please stop by and see what we have to offer.

Network Base Station RTR-500NW/500AW Introductory Manual

Published by T&D Corporation

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Network Base Station RTR-500NW/500AW Warranty

<input type="checkbox"/> RTR-500NW <input type="checkbox"/> RTR-500AW
Customer's name: Address: Phone No.:
Dealer's name: Address: Phone No.:
Guarantee period: 12 months from date of purchase
Date of purchase:

Statement of Limited Warranty

1. This product is warranted to be free from defects in materials and workmanship for a period of one (1) year following the date of purchase. Should the product fail to operate per specification in normal use during this period T&D will repair the Unit or provide a replacement free of charge. T&D will not accept returns for any reason other than defects during the warranty period, and will not accept any product that has been misused, dropped, abused or inappropriately used or mistreated at any time.
2. This warranty is strictly limited to repair or replacement-in-kind for defective product. T&D makes no other warranty, either express or implied, and will not accept liability beyond the remedies stated herein. Specifically, T&D will not accept liability for direct, indirect, special, consequential or incidental damages arising from the use of this product.
3. Customers wishing to submit a defective product for repair or replacement during the warranty period should first contact the dealer from whom it was originally purchased. After receiving a return authorization the defective product should then be packaged along with a description of the difficulties being experienced, proof of purchase and all included accessories and materials, and return it to the dealer. In the event of difficulty contacting the original dealer, customers should contact the nearest authorized T&D sales representative. A list of these can be found on the company's web site, www.tandd.com, or it can be obtained by contacting T&D directly.
4. This limited warranty statement gives the customer specific legal rights. The customer may also have other rights which vary from state to state in the United States, from province to province in Canada, and from country to country elsewhere in the world. To the extent this limited warranty statement is inconsistent with local law, this statement shall be deemed modified to be consistent with such local law.
5. For further information relating to product repair or replacement, or for other service questions after the termination of the warranty period, customers should contact their local authorized T&D sales representative.

T&D Corporation

Table of Contents

Introduction

Notices	2
Software User Agreement	3
Safety Precautions and Instructions	4
Explanation of Symbols	4
Features of RTR-500NW/500AW	10
Make Registration Changes via Network	11
Monitoring Current Readings and Viewing Recorded Data via Web Browser	11
What are "Base Units", "Remote Units" and "Repeaters"?	12
Base Unit: RTR-500NW / RTR-500AW	12
Remote Unit: RTR-501 / RTR-502 / RTR-503	12
Repeater: RTR-500	12
About Registration	13
Basic Procedure Flow	14

Getting Ready

Package Contents	16
Connect the Antenna	16
Appearance Diagram and Part Names	17
Installing the Software	19
Before Installing the Software	19
Procedure for Installing the Software	20
Installing the USB Device Driver	23
Procedure for Installing the USB Device Driver	24
Checking the USB Device Driver	25
Re-installing the USB Device Driver	27

Registering Device and Making Settings

About Applications and the Operation Guide	32
How to Open	32
Registering Devices and Making Settings	33
1. Base Unit Settings	33
2. Remote Unit Registration	33
3. Base Unit Operational Settings	34
4. Repeater Registration (Only if necessary)	34

Notes about Operation

Before Using	36
Connecting the AC Adaptor	36
LED Lamps before Starting Operation	36
Useful Features and Functions	37
Changing Settings during Operation	37
Registering Remote Units via an RTR-500	37
LED Lamp Display	38
External Contact Output / Input Terminals	39
What is the External Contact Output?	39
What is the External Contact Input?	39
Installing and Removing Wires	39
Uninstalling the Software	40
Product Specifications	42
RTR-500NW/500AW	42
Software (RTR-500W for Windows)	44
Options	45
Warranty	Back

Notices

Carefully read this manual so that you can properly use this product. T&D Corporation accepts no responsibility for any malfunction of and/or trouble with this product or with your computer that is caused by the improper handling of this product and will deem such trouble or malfunction as falling outside the conditions for free repair of the attached warranty.

- All rights of this Introductory Manual belong to T&D Corporation. It is prohibited to use, duplicate and/or arrange a part or whole of this Introductory Manual without the permission of T&D Corporation.
- Microsoft ® and Windows ® are registered trademarks of Microsoft Corporation USA and are binding in the USA and all other countries.
- Company names and product names are trademarks or registered trademarks of each company.
- Specifications, design and other contents are subject to change without notice.
- On screen messages in this manual may vary slightly from the actual messages.
- Please notify the shop where you purchased this product or T&D Corporation of any mistakes, errors or unclear explanations in this manual. T&D Corporation accepts no responsibility for any damage or loss of income caused by the use of our product.
- This product has been designed for private or industrial use only. It is not for use in situations where strict safety precautions are necessary such as in connection with medical equipment, whether directly or indirectly.
- We are not responsible for any malfunction or trouble caused by the use of our product or by any problem caused by the use of measurement results of this Unit. Please be fully aware of this before using our product.
- Some of our products, which come under the category of strategic goods in foreign trade law, need the permission of the Japanese government to be exported outside of Japan.
- The Manual itself can be downloaded from our Website:
<http://www.tanadd.com/>

Software User Agreement

Disclaimers

- T&D Corporation does not guarantee the operation of RTR-500W for Windows.
- T&D Corporation shall not accept any responsibility for any damage, whether direct or indirect, that results from the usage of RTR-500W for Windows.
- Specifications of RTR-500W for Windows may be subject to change and service may be terminated without advance notice to the user. In such a case, T&D Corporation shall not be responsible for any damages, whether direct or indirect, from the inability to use RTR-500W for Windows.
- T&D Corporation has no obligation to correct any defects found in RTR-500W for Windows.

Copyright

- The Copyright for RTR-500W for Windows, including the program and relevant documents, belongs solely to T&D Corporation.
- The reprinting or redistribution for commercial purposes whether in part or in whole, in magazines or as a part of any product is strictly forbidden without the expressed consent of T&D Corporation. Any inquires concerning commercial redistribution should be directed to the Sales Department of T&D Corporation.
- Please do not attempt to make any changes or modifications to RTR-500W for Windows.



Safety Precautions and Instructions

The following items should be strictly obeyed for the safe usage of this Unit, and for protecting yourself and other people from bodily harm and/or damage to property.




Before using this product, please read the following carefully and fully understand the contents.

Explanation of Symbols

Explanation of Warning Symbols

 DANGER	These entries are actions that absolutely under no circumstance should be taken. The taking of such an action may cause serious personal physical damage or death.
 CAUTION	These entries are actions that if taken may lead to physical injury or damage to persons or things.

Explanation of Picture Symbols

	Denotes an important warning or caution.
	Denotes a forbidden action.
	Denotes an action that must be taken.

 **DANGER**



When installing and using this Unit, make sure to follow all warnings and directions from your computer manufacturer.



Do not take apart, repair or modify the Unit.
Doing so may cause fire or electrocution.



If water or a foreign body enters the Unit, immediately disconnect cables, remove batteries, and stop using.
Continued use may cause fire or electrocution.



Do not use this Unit in wet or humid places, such as a bathroom.
Doing so may cause fire, electrocution, and/or malfunction.



Store the Unit, AC adaptor and communication cables out of the reach of children.
Not doing so may result in unexpected accidents and injury from playing with or swallowing parts.



Do not connect any communication cables connected to the Unit to telephone line outlets.
Continued use may cause fire or electrocution.



If any smoke or strange smells are emitted from the Unit, immediately disconnect the power and communication cables.
Continued use may cause fire or electrocution.



Do not drop the Unit, or expose it to a strong impact. If that happens, immediately disconnect the power and communication cables and stop using.
Continued use may cause fire or electrocution.



Make sure to periodically remove dust and dirt from the AC adaptor plug. When performing maintenance please make sure to disconnect the plug from the outlet.
If dust accumulates on the plug, moisture may cause poor insulation and result in fire.



Do not unplug the AC adaptor with wet hands.
This may cause electrocution.

CAUTION



Please note that this Introductory Manual has been written based on the presupposition that details about contracts with an Internet provider, specific network environments and the set-up of any other necessary equipment to enable network connection has already been taken care of by the User and that connection has been confirmed as workable.

T&D Corporation shall not be responsible for any damages which a contractor, a user or a third party may suffer, whether direct or indirect, due to the inability to communicate or use communication devices.



Further, T&D is not responsible for any damage, malfunction or trouble, whether direct or indirect, caused by the use of our products.



This Unit has been designed for private and/or industrial use only. It is not for use in situations where strict safety precautions are necessary such as in connection with medical equipment, whether directly or indirectly.



Harmful gases or chemicals may cause corrosion and/or other danger to the Unit. Also, coming in contact with hazardous substances, may cause harm to people handling the Unit. Therefore, do not use or store the Unit in any environment that is exposed to chemicals and/or harmful gases.



This Unit is not waterproof.
If the Unit gets dirty, wipe it with a clean cloth.



Do not store, leave, or use the Unit in any place exposed to direct sunlight, high temperature, extremely low temperatures, or high humidity.

This may cause deformation to both the outside casing and the inside. It may also cause condensation on the inside of the Unit leading to fire or electrocution.



Please do not insert fingers or foreign objects into cable connection jacks.



Make sure that all cable plugs are inserted fully, so as not to cause an improper connection. Also, when unplugging cables from the Unit, do not pull the cord, but hold the connector to disconnect.



Do not cut or process the cords for the AC adaptor or the communication cables. Also, do not twist, pull on or swing any of the cords.



Do not use an AC adaptor other than one that is specified for use with the Unit.

It may cause fire or malfunction.



Do not put anything on top of the AC adaptor.

This may cause overheating.



To prevent damage to the Unit from static electricity, remove static electricity from your body by touching metal around you (door knob, window frame) before touching the Unit.

Static electricity may cause not only damage to the Unit, but may cause breaks in or a loss of data.



Do not disconnect the communication cable during wireless communication or LAN communication.

This may harmfully effect the Unit or your PC.



T&D cannot guarantee the Unit's operation if it has been connected to a PC using a USB hub or a USB extension cable.



Do not use or store the Unit in the following places: This may cause electrocution, fire and/or other adverse effects to the Unit and/or other surrounding devices.

Areas exposed to direct sunlight

This will cause the inside of the Unit to become overheated and may cause fire, deformation, and/or other damage including malfunction.

Areas prone to strong magnetic fields

This may cause damage including malfunction.

Areas exposed to water leakage

This may cause electrocution or other damage including malfunction.

Areas exposed to static electricity.

This may cause damage including malfunction.

Areas exposed to excessive vibration

This may cause injury, malfunction, damage or loss of proper electrical contact.

Areas that are not flat or level

This may cause the Unit to fall and result in injury and/or damage.

Areas exposed to fire or overheating.

This may cause damage including malfunction and deformation.

Areas prone to fire, smoke, dust and dirt

This may cause damage including malfunction.



Notes and Precautions for Installing Wireless Communication Devices

When installing wireless communication devices take special care in selecting locations so as to ensure proper communication.

Note that even after a successful installation, due to changes in environmental conditions, communication errors may occur when restarting the system.

As far as possible, try to keep wireless communication devices away from metals and set them up in high unobstructed positions.

- Please take note that in many instances, walls, floors, stairs, fences and desks will contain metals. In order to carry out communication between indoor and outdoor Units, please locate indoor Units near a window so that radio waves can be easily transmitted.
- Please install these devices more than 30cm away from walls or boards containing metal.
- If wireless communication Units are placed in a metal container such as a freezer or refrigerator, the possible wireless communication range will be shortened. In most cases radio waves are transmitted via doors and door openings so place devices as near to doors as possible.



Place so that the antenna is away from objects or walls.

As far as possible, keep the devices away from noise-emitting sources.

- Equipment such as some industrial instruments, electronic devices or fluorescent lamps generate noise. Please place Units more than 1 meter away from such devices.
- Please place Units more than 1 meter away from computers and other devices which emit noise.
- Keep all wires as far away from wireless communication devices as possible. Please be careful about placing near any wiring or cables such as power supply cables, telephone wires or LAN cables.

Objects which contain lots of water, such as plants or soil, absorb radio waves. We highly recommend that such materials should not be placed between or near wireless communication Units.

- When measuring temperature in a greenhouse it has been reported that as plants grew, communication errors also increased.
- Do not place Units directly on the ground.

Do not place devices which are using the same communication frequency channel in the same area.

- If the same channel is used for multiple devices not only will more communication errors occur, but battery life will also be shortened.
- If there is a possibility that devices with the same frequency channel will be in wireless communication at the same time, please make sure to make changes to the frequency channels so they are not the same. For more details about frequency channels for our wireless products, see the Specifications.

After having made an installation, check the wireless signal strength.

- The supplied software application includes a feature to check for wireless signal strength. In the RTR-500W Settings Utility in the "Wireless Route Settings" menu it is possible to check click signal strength.
- Note that by moving Units 20 cm in any direction may result in communication results being significantly changed.
- If no change occurs after moving the Units to several nearby locations, we strongly suggest adding one or more Repeaters (RTR-500) to enhance communication.

Wireless Regulations

Radio, EMC and Safety Regulations



This device complies with part 15 of the Federal Communications Commission (FCC) rules and with RSS-210 of the Industry Canada (IC). Operation is subject to the following conditions:

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

Changes or Modifications not expressly approved by the manufacturer for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC RF Radiation Exposure Statement:

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment must be installed and operated with a minimum distance of 30cm between the radiator and your body.

This device has been designed to operate with the supplied antenna only. Use of any other antenna is strictly prohibited. The supplied antenna has a maximum gain of 0dBi, and has an impedance of 50 ohms.

Important Notice

We cannot sell these products to distributors or consumers in countries other than where the wireless Units have been approved for use. If these wireless products are used outside of the designated areas of the Americas where the devices have been granted approval, T&D Corporation shall in no manner whatsoever take responsibility for the usage of these products, nor be liable in any manner for legal consequences stemming from the usage of these wireless products in unapproved areas.

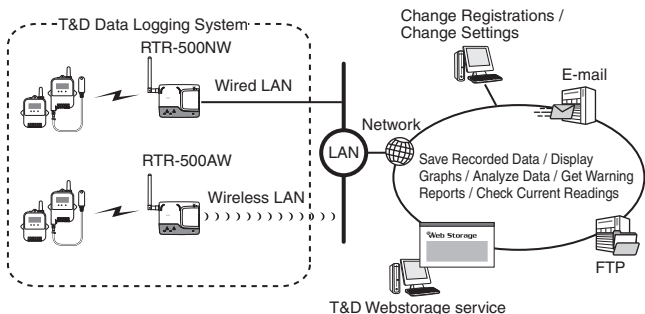
Features of RTR-500NW/500AW



Please note that this Introductory Manual has been written based on the presupposition that details about contracts with an Internet provider, specific network environments and the set-up of any other necessary equipment to enable network connection has already been taken care of by the User and that connection has been confirmed as workable.

T&D Corporation shall not be responsible for any damages which a contractor, a user or a third party may suffer, whether direct or indirect, due to the inability to communicate or use communication devices.

RTR-500NW/500AW are LAN enabled communication base stations designed to carry out wireless communication with our RTR-500 Series Data Loggers.



After having registered an RTR-500NW/500AW as a Base Unit and making various settings, the Unit will automatically carry out a series of actions according to settings.

It can be set up to periodically download recorded data and current readings from Remote Units, and send this data via e-mail to specified addresses, or by FTP to a server including T&D's WebStorage Service. Moreover, the Unit can be set up to monitor for warnings and send warning reports via e-mail.

RTR-500NW is for use with a wired LAN

RTR-500AW is for use with a wireless LAN (802.11b/g)

Make Registration Changes via Network

After making initial settings via USB it is possible to make all registration changes and settings via network.

Monitoring Current Readings and Viewing Recorded Data via Web Browser

By sending recorded data or current readings to the T&D WebStorage Service it is possible to check and share data via a web browser. T&D WebStorage Service is a free web-based storage service provided by T&D Corporation. For details, follow the link below.

T&D Web Storage Service

<http://www.webstorage-service.com/>

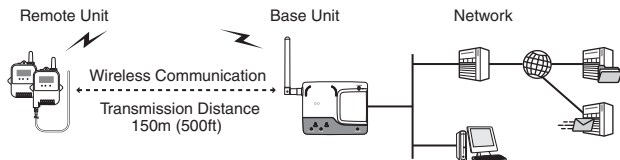
What are "Base Units", "Remote Units" and "Repeaters"?

Base Unit: RTR-500NW / RTR-500AW

Base Unit collects via wireless communication current readings and data measured by and recorded in Remote Units as well as monitors for warnings.

Remote Unit: RTR-501 / RTR-502 / RTR-503

A Remote Unit is a Data Logger designed to measure and record temperature and humidity. The wireless communication range between a Remote Unit and a Base Unit, if unobstructed and direct, is about 150 meters [500 ft].

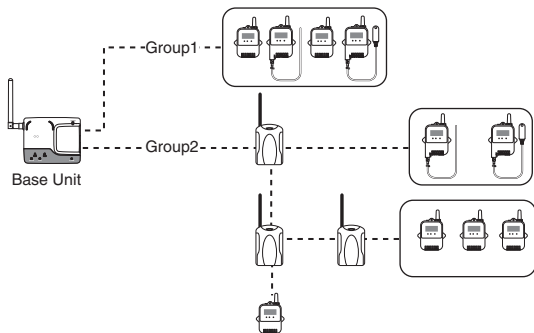


Repeater: RTR-500

If wireless communication cannot successfully be carried out due to obstacles, or if you wish to extend the wireless communication range, please add Repeater(s) between Remote Unit(s) and the Base Unit.

About Registration

It is first necessary to register Remote and Repeater Units (where needed) to a Base Unit. It is possible to register them into Groups by place or by purpose. A Wireless Communication Frequency Channel is then assigned to each Group to help avoid interference and poor transmission. Remote Units and Repeaters cannot be registered to more than one Group.



Basic Procedure Flow

The following shows the basic flow of procedures.

Details about contracts with an Internet provider, specific network environments and the set-up of any other necessary equipment to enable a network connection should be taken care of by the User. Before getting started the connection should be confirmed as workable.



 denotes items found in this Manual.

Getting Ready

1. Getting the Base Unit Ready and Checking the Network

-  Checking the Package Contents and Inspecting the Unit

2. Installing the Software

-  Precautions before Installation and Installation Procedure
-  Software Operating Environment

3. Installing the USB Device Driver



-  Installation Procedure
-  Checking the USB Device Driver

4. Getting Ready the Remote Units and Repeaters (where necessary)

Follow directions in the User's Manual that accompanies the Remote Unit or Repeater.






Registering Devices and Making Settings (using software)

Use the "Settings Utility" application to make Base Unit Settings, Remote Unit Settings, Repeater Settings, Current Readings Settings, Warning Report Settings, and Auto-Download Settings. For details, please see the "Operation Guide" or "Help" menu in the "RTR-500W Settings Utility".

-  Opening Applications and the Operation Guide
-  Registering Devices and Making Settings
(Checking Base Units before making Settings / Connecting Remote Units for Registration)

Starting Operation

Notes about Operation

-  Connecting the AC Adaptor
-  Useful Features and Functions
-  LED Lamp Display
-  External Contact Output / Input Terminals
-  Product Specifications, Other

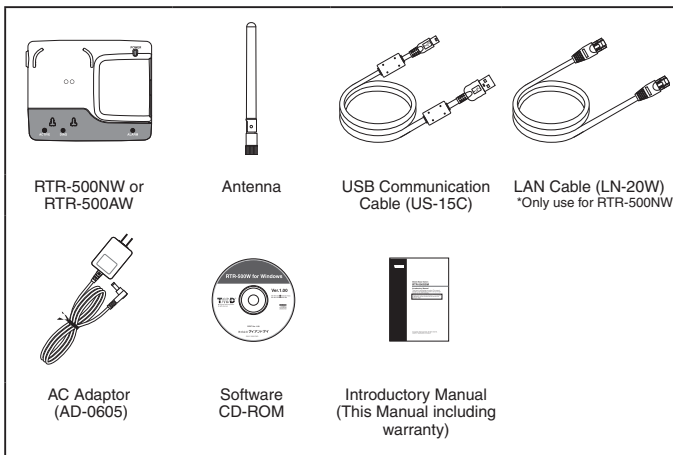
Getting Ready

This section explains what needs to be done before registrations and settings can be made.

Package Contents	16
Connect the Antenna.....	16
Appearance Diagram and Part Names.....	17
Installing the Software	19
Before Installing the Software.....	19
Procedure for Installing the Software	20
Installing the USB Device Driver.....	23
Procedure for Installing the USB Device Driver ..	24
Checking the USB Device Driver.....	25
Re-installing the USB Device Driver.....	27

Package Contents

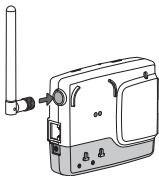
Please check that the following items are included in the package:



Make sure to install the software before connecting the Unit to a PC with the USB cable.

Connect the Antenna

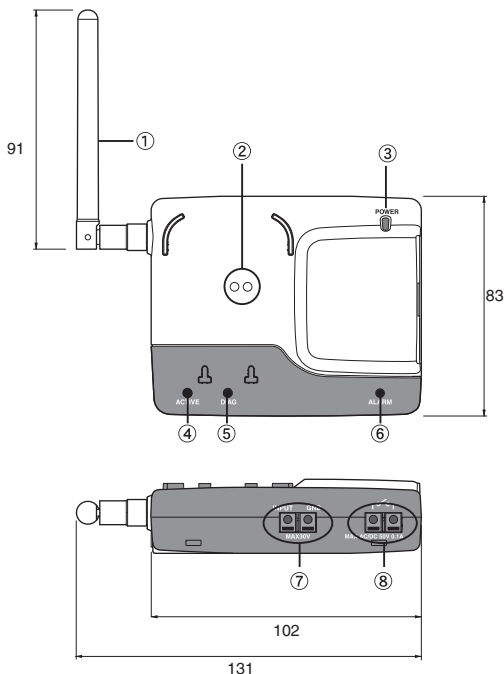
Connect the supplied antenna to the antenna connectors.



Appearance Diagram and Part Names

Front and Bottom

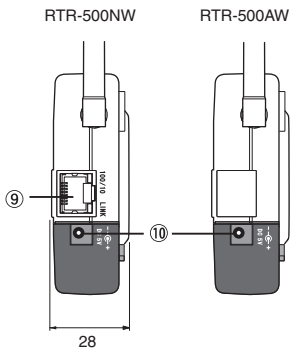
(Unit:mm)



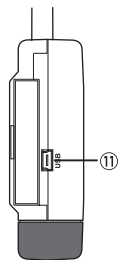
- ① Antenna
- ② Optical Communication Area
- ③ POWER LED
- ④ ACTIVE LED
- ⑤ DIAG (Diagnosis) LED
- ⑥ ALARM LED
- ⑦ External Input Terminal
- ⑧ External Output Terminal

Sides

Right



Left



(Unit:mm)

⑨ LAN Cable Connector (RTR-500NW only)

⑩ AC Adaptor Jack

⑪ USB Mini Connector (Mini-B)

From hereafter in this manual, RTR-500NW/500AW units will be referred to as the "Unit".

Installing the Software



Make sure to install the software before connecting the Unit to a PC with the USB cable.

If you have connected a Unit to your computer before installing the USB device driver, make sure to click the [Cancel] button in the Wizard window when it pops up on the computer display. Then disconnect the USB cable from the Unit.

Before Installing the Software

Is Windows working properly?

If Windows is not operating properly, the software may not be installed correctly or it may not operate properly.

Make sure to check that the OS you are running and "RTR-500W for Windows" are compatible.

Microsoft Windows 7 32/64bit English

Microsoft Windows Vista 32bit English

Microsoft Windows XP 32bit (SP2 or above) English

- For details about the necessary operating environment, see page 44.

Quit all other applications

If you are running other applications, make sure to quit them before installation. If you have any permanently active software, such as a virus check or scan program in your computer, make sure to also quit it.

To install "RTR-500W for Windows", it is necessary to have Administrator rights (Computer Administrator) for the computer in which you wish to install it.

Procedure for Installing the Software

This explanation uses displays from Windows XP SP2.

If your OS is Windows Vista or Windows 7, the window layout may be slightly different. However, the message contents and the button operations are the same, so please follow the directions as written below.

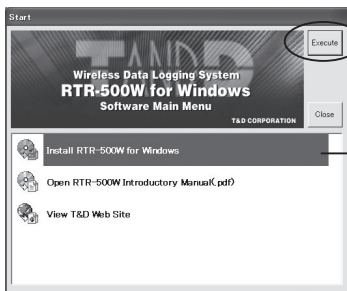
1. Open Windows.
2. Place the supplied software (CD) into the CD-ROM drive. The "Install Program" window will appear soon.



* In Windows Vista or Windows 7, if the [Auto Play] window appears, click on "Run Start.exe".

If the "Install Program" window does not automatically open, please open it by double clicking on the CD drive icon in [My Computer].

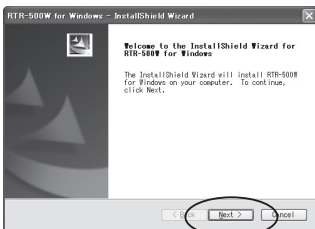
3. Select "Install RTR-500W for Windows" and click the [Execute] button to start the installation.



[Execute] Button

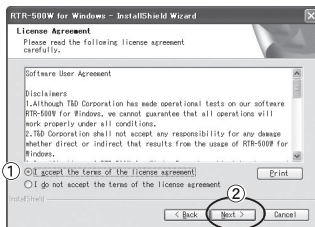
Select "Install RTR-500W for Windows"

4. The "RTR-500W for Windows" Setup Wizard window will appear



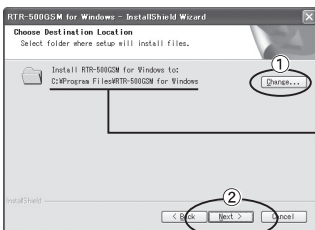
Click the [Next] Button

5. The "Software License Agreement" window will appear.



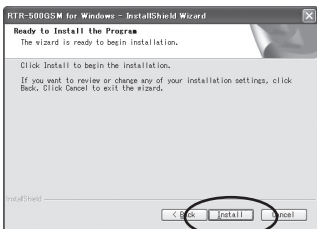
- ① Please read all the terms stipulated in the agreement. Check "I accept the terms of the license agreement" if you accept the terms.
- ② Click the [Next] button.

6. The "Choose Destination Location" window will appear.



- ① By clicking the [Change] Button it is possible to change the installation folder.
- Info for file to be installed
- ② Click the [Next] button.

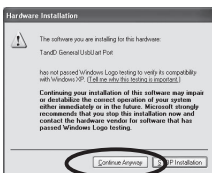
7. The "Ready to Install the Program" window will appear.



Click the [Install] Button to begin installation.

Although a warning message such as below may appear, there is no problem, please move on to the next step.

Warning Message For Windows XP



Click the [Continue Anyway] Button

For Windows Vista and Windows 7



Click the [Install] Button

8. After installation has been completed, please install the USB Device Driver.

- See page from 25 of this Manual for details.

After installation has been completed, "RTR-500W for Windows" will be registered in the Window's [Start] Menu.

Installing the USB Device Driver



Please make sure to first install the software before installing the driver.

Make sure to install the software before connecting the Unit to a PC with the USB cable.

After having completed installing the software, connect the Unit to a PC using the USB cable and proceed with installing the USB device driver.



- Make sure that the USB cable is inserted fully, so as not to cause an improper connection.
- Login using a User Account with Administrator (Computer Administrator) rights.

For Windows XP

By connecting a data logger to your computer, the [New Hardware Detection Wizard] will automatically open. Please follow the procedure on the next pages to install the USB device driver.

- In XP, if the Wizard window does not automatically open, installation may have not been fully completed or failed. Please check the USB device driver as shown in this Manual on page 25.

For Windows 7 / Windows Vista

By installing the supplied software, the USB device driver will also be automatically installed. It is not necessary to carry out any extra steps to install the USB device driver.

- Please check the USB device driver as shown in this Manual on page 25.

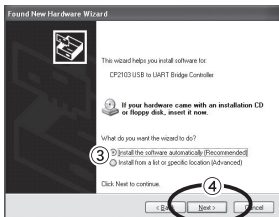
Procedure for Installing the USB Device Driver

Install using the following steps: (for Windows XP only)

1. By connecting a data logger to your computer, the [New Hardware Detection Wizard] will automatically open.

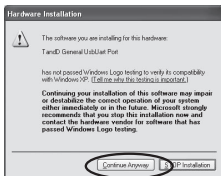


- ① Check "No, not this time".
- ② Click the [Next] Button.



- ③ Check "Install the software automatically (Recommended)".
- ④ Click the [Next] Button.

2. The installation process will begin.



If during installation a window appears such as the one to the left, click the [Continue Anyway] button.

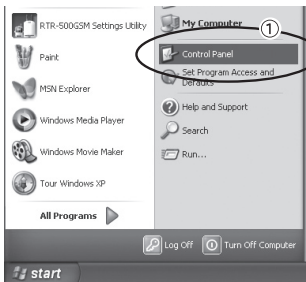
3. Once the completion message appears, installation has finished.

Click the [Finish] Button.

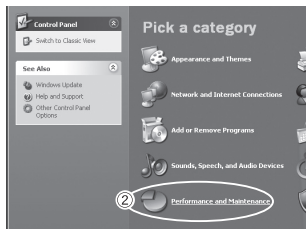
Checking the USB Device Driver

1. Open the Device Manager window.

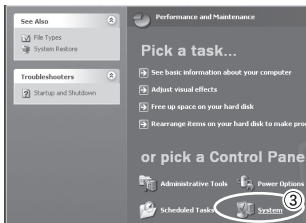
Procedure example: (The screen shots below are from Windows XP SP2)



- ① In the Windows Start Menu, click on "Control Panel" to open.



- ② Click on "Performance and Maintenance".



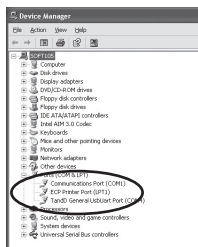
- ③ Click on "System".



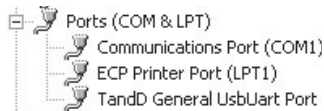
④ In the System Properties Window, click on the [Hardware] tab.

⑤ Click the [Device Manager] Button.

2. Connect the Unit to the computer with a USB cable and look at the icon displayed in the Device Manager window in order to check whether or not the USB device driver has been properly installed.



If successful (example)



If failed (example)



If the icon appears with a "?" or an "!", the PC is not properly recognizing the Unit.

Windows XP



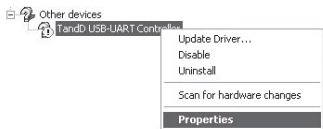
Windows Vista /
Windows 7



3. If an icon for an "Unknown Device" appears, please re-install the USB Device Driver by following the directions on the next pages.

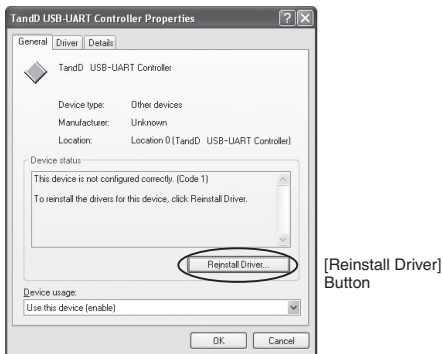
Re-installing the USB Device Driver

1. Right click on the icon.



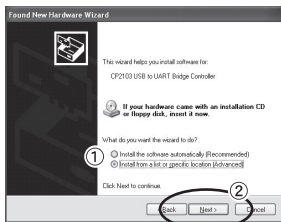
2. From the pop-up menu click on "Properties" .
3. When the following window appears, click on the [Reinstall Driver] button to display the Wizard window.

[General] Tab Window

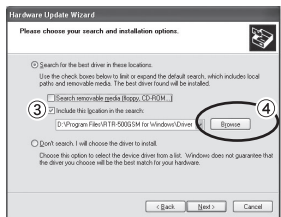


[Reinstall Driver]
Button

4. If you are using Windows XP, please follow the directions below and move on to step 6.

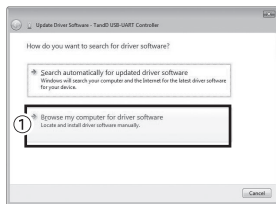


- 1 Check the "Install from a list or specific location (Advanced)".
- 2 Click the [Next] Button.

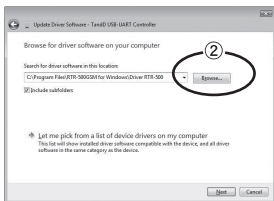


- 3 Check the "Include this location in the search:".
- 4 Click the [Browse] Button.

5. If you are using Windows Vista or Windows 7, please follow the directions below.

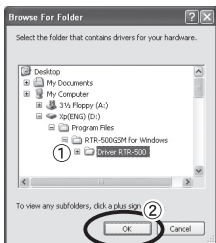


- 1 Click the "Browse my computer for driver software".



② Click the [Browse] Button.

6. Specify the location of the Driver.

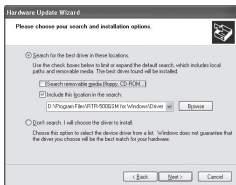


① Click the plus (+) sign next to the folder into which the software was installed and specify "Driver RTR-500" as the driver location. Place the supplied software (CD-ROM) into the CD-ROM drive and select "Driver RTR-500" from the contents in the CD-ROM.

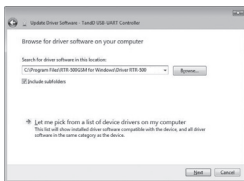
② Click the [OK] button to return to the Wizard window.

7. In the Wizard window, check to make sure that the Driver is specified correctly. Then click the [Next] button.

For Windows XP



For Windows 7 and Windows Vista



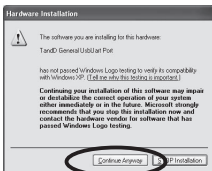
Location Example:

C:\Program Files\RTR-500W for Windows\Driver RTR-500

8. The installation process will begin.

Please note that the following warning messages may appear during installation. However, this will cause no problems with USB device driver installation. Please move on to the next step.

Warning Message For Windows XP



Click the [Continue Anyway] Button

For Windows Vista and Windows 7



Click the [Install] Button

9. After installation has been completed, please click the [Finish] or [Close] button.

10. Check to make sure that the USB Device Driver has been properly installed.

- See page from 25 of this Manual for details.

Registering Device and Making Settings

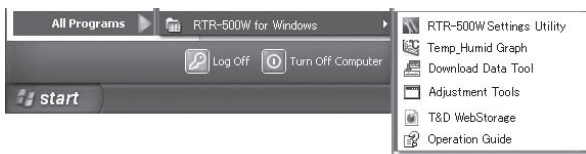
This section explains a few items that need to be checked before registering devices and making settings and the basic processes of both.

About Applications and the Operation Guide	32
How to Open	32
Registering Devices and Making Settings	33
1. Base Unit Settings	33
2. Remote Unit Registration	33
3. Base Unit Operational Settings	34
4. Repeater Registration (Only if necessary).....	34

About Applications and the Operation Guide

How to Open

Click on Windows [Start] - [All Programs] - [RTR-500W for Windows] and then click on the item in the Menu which you wish to open.



MENU:

- **RTR-500W Settings Utility:**
For Base Unit, Remote Unit and Repeater Registration and Settings
- **Temperature / Humidity Graph :**
For Viewing Downloaded Data
- **Data Downloading Tools :**
For Downloading Recorded Data via Optical Communication
- **Adjustment Tool:**
For Making Adjustments to Remote Unit Measurements
- **Adjustment Tool:**
For Making Adjustments to Remote Unit Measurements
- **T&D WebStorage Service**
For details visit the WebStorage Service website.
- **Operation Guide:**
Read this for details about how to operate each of the applications.

T&D WebStrage Service

It contains all of the necessary information for the proper use of "RTR-500W for Windows". Please read before carrying out registrations or making settings.

Operation Guide

It contains all of the necessary information for the proper use of "RTR-500W for Windows". Please read before carrying out registrations or making settings.

Help Menu for Applications

If you become unsure of how to make settings or carry out any operations while using any of the applications, click the [Help] Button in the display to find solutions and guidance.

Registering Devices and Making Settings

This section briefly explains in sequence what needs to be done in order to carry out registration of devices and the making of settings.

1. Base Unit Settings

Before making initial settings please confirm the following:

- Is the Unit connected to a PC with the USB cable?
- Are the "POWER" and "ACTIVE" LED lamps on the Unit both lighted up?
- Is the PC clock showing the correct date and time?

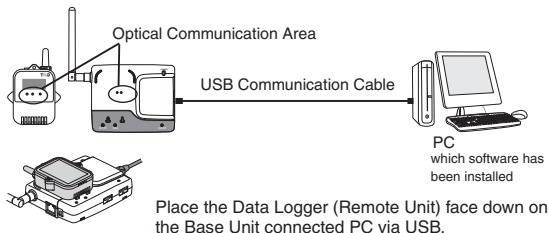
By opening the "RTR-500W Settings Utility" from the Applications Menu, the settings window will automatically be opened.

Settings Items

Settings are made for the Base Unit Name, Unit of Temperature, LAN Password, and so on

2. Remote Unit Registration

1. After having completed the Base Unit Settings, in the RTR-500W Settings Utility, open the [Remote Unit Settings] Menu.
2. When the direction appears in the application window place the Data Logger face down on top of the Base Unit to enable optical communication.



Registration Items

Items that are registered into the Remote Unit include Group Name, Remote Unit Name, Frequency Channel Settings, Recording Mode Settings, Warning Monitoring Settings, Auto-Download Settings and so on.

3. Base Unit Operational Settings

Next please make all Base Unit operational settings from the Menu of the RTR-500W Settings Utility.

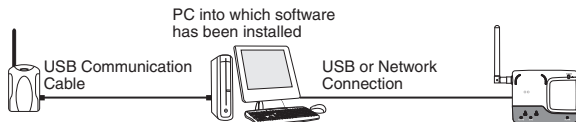
Settings Menu

The following operational settings are made here: Wireless Route Settings, Clock Settings, Network Settings, E-Mail Settings, FTP Settings, Send Current Readings Settings, Warning Report Settings, and Auto-Download Settings.

4. Repeater Registration (Only if necessary)

Repeaters can be registered to help increase range and improve wireless communication. It is also possible to register a Repeater to a Base Unit via a LAN connection.

1. In the RTR-500W Settings Utility, open the [Repeater Unit Settings] Menu.
2. When the direction appears in the application window, connect the Repeater with a USB communication cable to the computer.



Registration Items

Settings are made for Group Name and Frequency Channel

After all registrations and settings have been completed, place the Base Unit, Remote Units and Repeaters in their actual positions and carry out signal strength tests to test transmission.

Notes about Operation

This section explains a few items that should be remembered when carrying out operation.

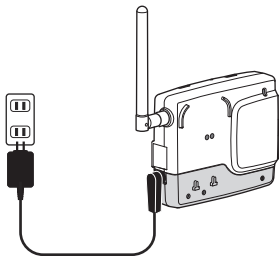
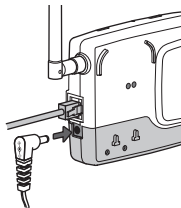
Before Using	36
Connecting the AC Adaptor	36
LED Lamps before Starting Operation.....	36
Useful Features and Functions.....	37
Changing Settings during Operation	37
Registering Remote Units via an RTR-500	37
LED Lamp Display.....	38
External Contact Output / Input Terminals---	39
What is the External Contact Output?	39
What is the External Contact Input?	39
Installing and Removing Wires	39
Uninstalling the Software	40
Product Specifications.....	42
RTR-500NW/500AW	42
Software (RTR-500W for Windows)	44
Options	45

Before Using

Connecting the AC Adaptor

When ready for actual operation, disconnect the USB cable from the Base Unit and supply power by connecting to the supplied AC adaptor.

When using RTR-500W, please connect the LAN cable to the HUB before supplying power.



LED Lamps before Starting Operation

At this point if the Unit is properly running, after having supplied power all the LED lamps should come on and after a short time the POWER and ACTIVE LED lamps should remain on.

- For details about the other LED lamps see page 38 of this Manual.

Useful Features and Functions

Changing Settings during Operation

It is possible to make changes to settings by either connecting the Unit to the same computer used when making the initial registration with a USB cable or via a network connection.

When making changes to settings keep the following two points in mind.

- While the Unit is connected via USB cable to the PC, the processing of recorded data (downloading / sending) as well as warning monitoring cannot be carried out.
- When making changes via a network connection there are some items such as Network Settings, LAN Password Changes or Initialization, which are restricted from being changed.

Registering Remote Units via an RTR-500

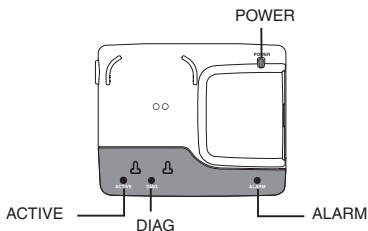
It is possible to use an RTR-500 unit being used as a Repeater to register additional Remote Units. This can be done by sending the Remote Unit info for the unit you wish to add to the Base Unit over the network to which it is connected.

Optical Communication
between an RTR-500
(Repeater) and a Remote Unit



For details about operations please see the "Help" menu in the "RTR-500W Settings Utility".

LED Lamp Display



LED	Status	Reason	Probable Causes
POWER	ON	Power ON	
	OFF	Power OFF	
ALARM	ON	Warning Occurrence	<ul style="list-style-type: none"> - A measurement has exceeded one of the set limits. - The contact input is ON. - There is trouble in the Remote Unit (battery level is low, a sensor connection is poor), etc...
	OFF	Normal	
DIAG (Diagnosis)	ON	In Diagnosis	
	OFF	Normal	
	BLINKING	Error	<ul style="list-style-type: none"> - Clock settings were not carried out or after a power outage the clock settings have been cleared. - The Remote Unit has not been registered.
	"DIAG" and "ACTIVE" both BLINKING	Error	<ul style="list-style-type: none"> - A network failure has occurred. (An IP address cannot be retrieved from the DHCP Server or other such error.)
ACTIVE	ON	Normal	
	OFF	Error	<ul style="list-style-type: none"> - The LAN cable is disconnected. - The RTR-500AW cannot communicate with its access point.
	BLINKING	Communication in progress	<ul style="list-style-type: none"> - Wireless Communication or LAN Communication is in progress.

External Contact Output / Input Terminals

What is the External Contact Output?

When the "ALARM" LED lamp goes on, the external output simultaneously goes ON. If you wish to connect a buzzer, light or other warning device to the external output terminal please see the following important information.

Output Terminal Specifications (during warning)

Voltage when OFF: AC/DC 50V or less

Current when ON: 0.1A or less

Resistance when ON: 35Ω

What is the External Contact Input?

Detection checks for an external electronic signal (ON / OFF); and when an ON signal is detected a warning report mail is sent. If you wish to connect a surveillance system sensor such as a motion sensor, light sensor, or open/close sensor to the external input terminal please see the following important information.

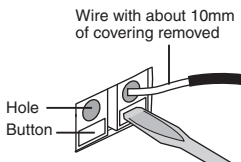
Input Terminal Specifications

Internal Pull-up: 3V 100kΩ

Maximum Input Voltage: 30V

Installing and Removing Wires

1. Use a flat-head screwdriver to press down on the terminal button and insert the wire into the hole.
2. Pull the screwdriver away and make sure that the wire cannot become dislodged.
3. When removing, do not forcibly pull on the wire, but use a screwdriver to push down on the button as done when installing and gently pull the wire out of the hole.



Fit Wires	Single wire: $\phi 1.0$ (AWG18) Twisted wire: 0.75mm^2
Useable Wires	Single Wire: $\phi 0.4$ to 1.0mm (AWG26 to 18) Twisted wire: 0.3 to 0.75mm^2 (AWG22 to 20) Cable core diameter: $\phi 0.18\text{mm}$ or more
Stripping Length	about 10mm

Uninstalling the Software

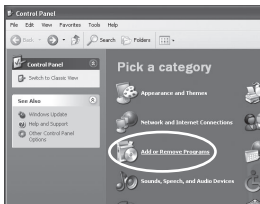


Before running the uninstall program, make sure to quit all software applications.

If it is necessary to uninstall the software please follow the steps below:

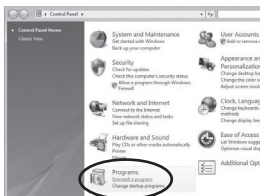
1. In the Windows Start Menu, click on "Control Panel" to open.

Windows XP



Click the "Add or Remove Programs".

Windows Vista / Windows 7

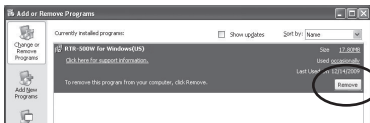


Click the "Programs - Uninstall a Program".

2. All currently installed programs will appear in a list.

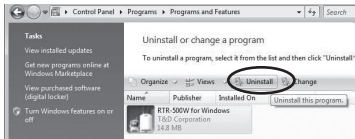
- From the list of currently installed programs, select "RTR-500W for Windows" and click the [Remove] Button or the [Uninstall] Button.

Windows XP



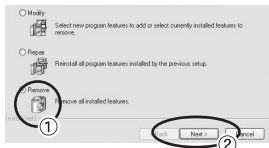
Click the [Remove] Button

Windows Vista / Windows 7



Click the [Uninstall] Button

- The "Install Shield Wizard" window will appear.



- Place a check next to [Remove],
- and click the [Next] button.

- The Uninstall process will begin. Follow the directions as they appear.
- After uninstall has been completed, please click the [Finish] button.



Product Specifications

RTR-500NW/500AW

Main Unit

Compatible Devices	Remote Units: RTR-501/501L, RTR-502/502L, RTR-503/503L Repeater: RTR-500
Features and Functions	1. Auto-downloading of Recorded Data (E-mail or FTP) 2. Automatic Sending of Current Readings (E-mail or FTP) 3. Warning Monitoring (E-mail or Contacts)
Types of Warnings	Remote Unit Temperature / Humidity Measurement Warnings, Remote Unit Wireless Communication Error Warnings, Remote Unit Battery Level Warnings, Remote Unit Sensor Abnormality Warnings, Base Unit External Contact Input Warnings
Power	AC Adaptor AD-0605
Current Consumption	RTR-500NW: 300mA RTR-500AW: 400mA
Communication Interface	USB (MiniB Connector) / Optical Communication Wired LAN (RTR-500NW) / Wireless LAN (RTR-500AW)
LED Indicator	POWER / ACTIVE / DIAG / ALARM
Dimensions	H83mm x W102mm x D28mm (excluding antenna) Antenna Length 87.3mm
Weight	RTR-500NW: about 130g RTR-500AW: about 120g (including antenna for each)
Operating Environment	Temperature: 0 to 60°C Humidity: 20 to 80%RH (No condensation)
Other	Not waterproof, moistureproof, or dustproof

Short Range Wireless Communication Specifications

RF Power	7mW
Communication Method	FCC Part15 Section247 / IC RSS-210 Frequency Range: 902 to 928MHz
Communication Range	150 meters [500 ft] (if unobstructed and direct)
Communication Time	When downloading 1 Remote Unit of full data (16,000 readings): about 2 minutes * The same amount of time will be necessary for each added Repeater.

LAN Communication Specifications

Wired LAN (RTR-500NW)	RJ45 Connector 100Base-TX / 10Base-T AutoMDI / MDI-X
-----------------------	---

Wireless LAN (RTR-500AW)	Internal wireless LAN antenna IEEE 802.11b/g WEP, WPA/WPA2 (PSK)
Data Transfer Protocol	FTP (PASV mode also supported) SMTP (SMTP-AUTH, POP-Before) *SMTP-AUTH supports LOGIN only
Auto-downloading of Recorded Data / Automatic Sending of Current Readings	
Warning Monitoring	SMTP (SMTP-AUTH, POP-Before) *SMTP-AUTH supports LOGIN only

External Contact (Warning Output/Input)

Output Terminal	Voltage when OFF: AC/DC 50V or less Current when ON: 0.1A or less Resistance when ON: 35Ω
Input Terminal	Internal Pull-up: 3V 100kΩ Maximum Input Voltage: 30V

Software (RTR-500W for Windows)

Operating Environment

Compatible Devices	Base Units: RTR-500NW, RTR-500AW Remote Units: RTR-501/501L, RTR-502/502L, RTR-503/503L Repeater: RTR-500
Compatible OS	Microsoft Windows 7 32/64bit English Microsoft Windows Vista 32bit English Microsoft Windows XP 32bit (SP2 or above) English *Operation under a 64bit OS is not guaranteed.
PC/CPU	A Stable Windows Operating Environment
Memory	A Stable Windows Operating Environment
Hard Disk	More than 30 MB of free space (More free space is necessary for data)
Monitor	SVGA (800 x 600) more than 256 colors

Options

Wall Attachment

TR-5WK1

- ① Materials: PC Resin
- ② Screw for fastening to wall x 2
- ③ Double-sided Tape x 1
- ④ Screw for fastening Unit x 1

Dimensions:

W106 x H86 x D17.8mm

Screw holes: 2 - \varnothing 3.2mm

Usage Figure

