

# RTR500B Series Please Read First

## Terms to be Used



Base Unit	RTR500BC / 500BW
Remote Unit	RTR501B / 502B / 503B / 505B / 507B
Repeater	RTR500BC (to expand the wireless communication range)

## Safety Precautions and Instructions




The following items should be strictly obeyed for the safe usage of the product, and for protecting yourself and other people from bodily harm and/or damage to property. Before use, please carefully read and follow the safety precautions outlined below.

### Explanation of Symbols


















#### <Warning Symbols>

 <b>DANGER</b>	These entries are actions that, if taken, may cause serious personal physical damage or death.
 <b>CAUTION</b>	These entries are actions that if taken may lead to physical injury or damage to persons or things.

#### <Picture Symbols>

 Denotes an important warning or caution.	 Denotes a forbidden action.	 Denotes an action that should be carried out.
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### **DANGER To Prevent Serious Accidents**

-  Do not disassemble, repair or modify the product and accessories.
-  Do not use the product in any environment that is exposed to chemicals and harmful gases.  
Doing so may cause corrosion and/or other danger to the product. Also, coming in contact with hazardous substances may cause bodily harm to the user or people nearby.
-  The RTR500B Series Base Units, temp-humidity sensors, and input modules (for RTR505B) are not water resistant. If liquid enters the product, immediately remove the power and stop using it.
-  Do not touch the Base Unit or Repeater with wet hands.  
Do not connect or disconnect the power supply, cables, or sensors with wet hands. These actions may cause electric shock.
-  Do not touch the product or AC adaptor during thunder and lightning.  
It may also cause electric shock.
-  This product has been designed for private and/or industrial use only. It should not be used in situations where strict safety precautions are necessary such as with medical equipment, or in systems directly or indirectly connected with human life or well-being.
-  Do not drop or expose the product to a strong impact.
-  Do not modify or cut the communication cable, AC adaptor cord, or sensor. Also, do not twist, pull on or swing them.
-  To prevent damage to the product from static electricity, remove static electricity from your body by touching metal around you (such as a door knob and window frame) before touching the unit.
-  Please be careful not to touch the product during or after use in overly hot or cold environments. It may cause burns or frostbite.
-  Place and store the product and accessories out of the reach of children.
-  We are not responsible for any damage, malfunction or trouble, whether direct or indirect, caused by the use of our product.
-  Do not use any power, battery, sensor, or cable other than those specified by T&D Corporation.
-  Do not put anything on top of the product, AC adaptor or cable.  
It may cause overheating.
-  Do not disconnect the communication cable during USB, LAN, or wireless communication.  
Doing so may cause adverse effects to the Base Unit and/or PC.
-  Make sure that the cable and AC adaptor are inserted fully, so as not to cause an improper connection. Also, when unplugging the cable from the unit, do not pull the cord, but hold the connector to disconnect.
-  If the unit produces heat, emits smoke or a strange smell, or makes unusual noises, immediately remove the power supply and stop using it. If the unit is connected to the PC, disconnect it before removing the power supply.

### **CAUTION Notes about the Base Unit / Repeater**

- Do not use the product in wet areas or places exposed to water such as bathroom.
- When connecting the product to your PC, make sure to follow all warnings and directions from your computer manufacturer.
- We shall not guarantee the operation of the device if it has been connected to a PC using a USB hub or a USB extension cable.

### **CAUTION Notes about the Remote Unit**

- Contact with oil may cause cracks to appear in the casing of the unit. When using the unit in environments where such oils are present, please insure that it is protected from contact through use of a polyethylene bag or other means.

- The following may cause water or foreign objects to enter the unit
  - Closing the case with dirt, dust, or hair on the rubber packing or between the unit and rubber packing
  - Scratches on the rubber packing
  - Involving a significant temperature change (especially from high to low) while the product is wet

### **CAUTION Places not suitable for installation and storage (Base Unit / Remote Unit)**

- Areas exposed to direct sunlight
- Areas subject to direct flames or heaters, as well as areas in which hot air accumulates and creates extremely high temperatures
- Areas exposed to static electricity
- Areas exposed to strong magnetic fields
- Areas exposed to dampness
- Areas subject to condensation or wet areas
- Areas exposed to excessive vibration
- Areas exposed to excessive smoke, dust or dirt.

### **CAUTION Other Precautions**

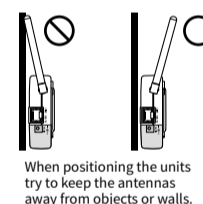
- Use the product in the specified operating environment, and do not use in any other purposes than those intended.
- Condensation may occur inside the case when the product is moved from one environment to another where there is a great difference in temperature. Do not use in areas susceptible to condensation.
- Do not insert any foreign objects into any of the units' jacks.
- If the unit gets dirty, wipe it with a clean cloth.
- Make sure to remove dust and dirt from connection interfaces of the AC adaptor, cables, and sensors.
- Please note that this document 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.
- Please be careful not to let a third party know of your registration code. The registration code cannot be reissued or changed.

### **CAUTION 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 at least 30 cm away from walls or boards containing metal.
- If wireless communication devices 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.



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

- Some industrial instruments, electronic devices (such as computers) and fluorescent lights generate noise. Please place units more than 1 meter away from such devices.
- 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 devices.**

- When measuring temperature in a greenhouse it has been reported that as plants grew, communication errors also increased.
- Do not place the device 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 changes to the frequency channels so they are not the same.

### **CAUTION Notes on the Battery for the Remote Unit**

#### **Battery Installation**

- If a new battery has been installed and recording does not immediately start, nothing appears in the display or any other such malfunction, please remove the battery, check to make sure plus and minus are correct and re-insert the battery.
- When using for the first time, it may take a few seconds after inserting the battery to start recording; this is not a malfunction.
- If + (plus) and - (minus) are mistaken, or if the battery terminals + and - are shorted, the recorded data that is stored in the unit will be lost.

- When inserting a battery, make sure no water or foreign objects get inside the case.
- To maintain waterproof capacity, when changing batteries also change the rubber packing and the drying agent (silica gel).

### Lithium Battery

- When using an LS14250 type lithium battery, even though a new battery has been inserted the [Att] indicator may remain on for a short time. This is due to a special characteristic of the battery. Note that the longer the battery has been in storage the longer the amount of time, from 10 minutes to about 1 hour, the battery warning mark will remain on. If during that time the Base Unit is used to get the current status of the Remote Unit, the remaining battery level will show that the battery level is low.
- Please store the LS14250 in a place that is 20° C or less.
- The estimated battery life of the Lithium Battery LS14250 is about ten months if recorded data is downloaded once a day or the monitoring occurs once every 10 minutes.
- When using lithium batteries other than LS14250 produced by SAFT, such as CR2, product specifications cannot be guaranteed nor can the performance of some functions, such as the battery warning function.
- Please avoid using the CR2 in the following situations:
  - Using the unit in an environment below 0° C or above 60° C
  - Exposing the CR2 to continuous vibration such as in transportation
- When using a CR2 lithium battery, the tube is not necessary
- To maintain waterproof capacity, when changing batteries also change the rubber packing and the drying agent (silica gel). When using a CR2 lithium battery, please purchase the optional Maintenance Set (TR-00P1) to replace the rubber packing and silica gel.

### Operating Environment

- Use in high or low temperature environments will result in a shortening of the battery life. In environments of 60°C or higher, not only will battery life be shortened but the unit itself and its parts will deteriorate more rapidly. Please do not use in such environments for prolonged periods of time.
  - 20°C ----- one half of life compared to normal temperatures
  - 30°C ----- one third of life compared to normal temperatures
  - 60°C ----- one half of life compared to normal temperatures
- Although under normal temperature environments the [bAtt] or [Att] mark may not appear, it may still become impossible to carry out communication in low temperatures.

## Compliance Information

### <For FCC Model>

#### FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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.

**Caution:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

#### ISED Statement

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions: 1. This device may not cause interference. 2. This device must accept any interference, including interference that may cause undesired operation of the device.

This digital apparatus complies with CAN ICES-3(B)/NMB-3(B).

*L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : 1. L'appareil ne doit pas produire de brouillage; 2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*

*Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.*

#### FCC/ISED Radiation Exposure Statement

This equipment complies with FCC/ISED radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the ISED radio frequency (RF) Exposure rules. This equipment should be installed and operated keeping the radiator at least 20cm or more away from person's body.

*Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles des radioélectriques (RF) de la FCC lignes directrices d'exposition et d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'ISDE. Cet équipement doit être installé et utilisé en gardant une distance de 20 cm ou plus entre le radiateur et le corps humain.*

### <For CE Model>

#### CE Statement

Hereby, T&D Corporation declares that this RTR500B Series is in compliance with the essential requirements and other relevant provisions of RE Directive 2014/53/EU and RoHS 2011/65/EU.

The full text of the EU Declaration of Conformity is available at: [tandd.com/manual/pdf/doc-rtr500b-series.pdf](http://tandd.com/manual/pdf/doc-rtr500b-series.pdf)

### Important Notes about Use of Wireless Products

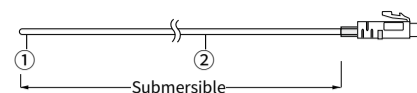
Operations in the 5GHz WiFi band are restricted to indoor usage only.

Wireless products cannot be used in countries other than where those products have been approved for use, according to that country's wireless regulations.

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.

## Precautions Regarding the Sensors Provided with the Remote Unit

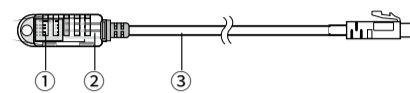
### Temperature Sensor TR-5106 (Provided with RTR502B)



Materials: ① Thermistor ② FEP Coated Electrical Wire

- Do not bend or press the last 5cm to the tip of the sensor, as this may damage it.
- If the FEP coating on the sensor and/or the cable has a defect or tear, the waterproof capacity will be lost. Inspect it before operation.
- Insert the sensor tip to at least 5cm or more to obtain an accurate temperature measurement.
- Use the sensor within its resistance range (-70 to 180° C).

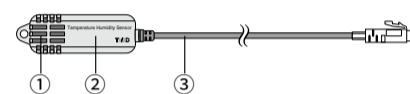
### Temperature-Humidity Sensor TR-3310 (Provided with RTR503B)



Materials: ① Temp-Humidity Sensor ② Polypropylene Resin ③ Vinyl Chloride Coated Electrical Wire

- This sensor is not water resistant. Do not expose to condensation, dampness, corrosive gases or organic solvents. If the sensor gets wet, immediately remove the sensor from the unit and wipe it with a clean cloth as soon as possible. Then allow the sensor to dry in normal room temperature before using it again.
- Do not expose the sensor to a strong impact. This may adversely affect measurement accuracy and cause damage or malfunction.
- Continued use may cause a decrease in the sensor's accuracy and sensitivity even under normal operational conditions. Periodic calibration may be required.
- When the sensor is not to be used for a long period of time, please store it at normal temperature and humidity.

### High Precision Temp-Humidity Sensor SHB-3101 (Provided with RTR507B)



Materials: ① Temp-Humidity Sensor ② ABS Resin ③ Vinyl Chloride Coated Electrical Wire

- This sensor is not water resistant. Do not expose to condensation, dampness, corrosive gases or organic solvents. If the sensor gets wet, immediately remove the sensor from the unit and wipe it with a clean cloth as soon as possible. Then allow the sensor to dry in normal room temperature before using it again.
- When continually used in environments with temperatures above 60°C, accuracy of humidity measurements will decrease over time. Also, humidity cannot be measured at temperatures below -20°C.
- Do not expose the sensor to a strong impact. This may adversely affect measurement accuracy and cause damage or malfunction.
- Continued use may cause a decrease in the sensor's accuracy and sensitivity by about 1% per year even under normal operational conditions.
- When the sensor is not to be used for a long period of time, please store it at normal temperature and humidity.

## Disclaimers

In order to properly use this product, please carefully read all documents that accompany the product before using.

- All rights of the attached documents belong to T&D Corporation. It is prohibited to use, duplicate and/or arrange a part or whole of the attached documents without the permission of T&D Corporation.
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- All registered trademarks, company names, product names and logos mentioned herein or for products being used are the property of T&D Corporation or of their respective owners.
- Specifications, design and other contents outlined in the attached documents are subject to change without notice.
- Please follow the safety precautions outlined in the attached documents carefully. We cannot guarantee nor are we responsible for safety if this product is used in any manner other than was intended.
- On-screen messages in the attached documents 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 the attached documents.
- T&D Corporation accepts no responsibility for any damage or loss of income caused by the use of our product.
- Accompanying documents cannot be reissued, so please keep them in a safe place.
- Please read the included warranty card and provisions for free repair carefully.

## T&D Corporation

For product inquiries, please contact your local distributor. Visit T&D Website for the distributors list. If you can not find a distributor in your area, please contact our main office in Japan or one of our branch offices in Europe or America.

[tandd.com/purchasing/](http://tandd.com/purchasing/)