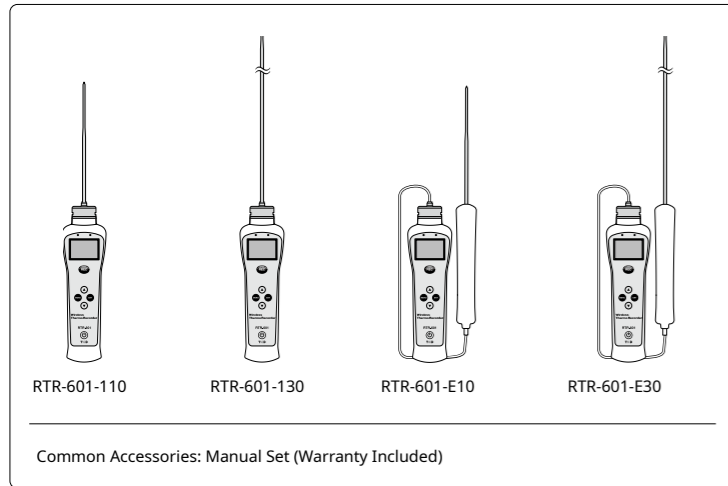




Wireless Food Core Temperature Data Logger

RTR-601 Series User's Manual

Thank you for purchasing our product. Carefully read this instruction manual before using this unit.



Specifications

Measurement Channels	Temperature 1ch
Sensor	Platinum Resistance (Pt1000)
Measurement Units	°C, °F
Measurement Range	-60 to 250°C
Accuracy	±0.5°C at -10 to 150°C ±1.0°C at -60 to -10°C, 150 to 250°C
Measurement Resolution	0.1°C
Responsiveness	Thermal Time Constant: Approx. 12 sec. (in air) / Approx. 2 sec. (in agitated water) Response Time (90%): Approx. 60 sec. (in air) / Approx. 3 sec. (in agitated water)
Measurement / Display Interval	0.5 sec.
Recording Items	Temperature, Measurement Time, User, Item, Judgement Result
Logging Capacity	1,800 readings
Recording Mode	Endless (Overwrite oldest data when capacity is full)
Communication Interfaces	Short Range Wireless Communication Frequency Range: 902 to 928MHz RF Power: 7mW Optical Communication
Wireless Transmission Range	Approx. 50 meters
Communication Time	Data Download Time between RTR-601 and Base Unit: Approx. 2 minutes (for 1,800 readings) An additional 30 seconds should be added for each Repeater. (*1)
Power	Two included AAA Ni-MH batteries (Non-Contact Charging System) (*2)
Battery Life	Approx. 24 hours (for Continuous Operation with Backlight Always ON)
Dimensions	H 165 mm × W 49.8 mm × D 37 mm (excluding sensor) Sensor Length: Short type 135 mm, Long type 310 mm Cable Length: 900 mm
Weight	RTR-601-110 (Short Sensor) Approx. 135 g RTR-601-130 (Long Sensor) Approx. 150 g RTR-601-E10 (Cable Type Short Sensor) Approx. 185 g RTR-601-E30 (Cable Type Long Sensor) Approx. 200 g
Operating Environment	-10 to 60°C
Waterproof Capacity	IP68: Submersible
Software (*3)	Base Unit/Repeater Settings: RTR500BW for Windows Remote Unit Settings: RTR500BW for Windows (for RTR-601)
Compatible Base Units / Repeaters	Base Units: RTR500BW / 500BC (*4), RTR-500NW / 500AW / 500 (*4) Repeaters: RTR500BC, RTR-500

*1: When using RTR500BW as Base Unit and RTR500BC as Repeater. Depending upon conditions it may take up to an additional 2 minutes.
*2: A Battery Charge Dock (RTR-600BD) needs to be purchased separately.
*3: Software can be downloaded free of charge from T&D Website.
*4: Customers wishing to use the RTR500BC or RTR-500 as a Base Unit, please contact your local distributor for the communications protocol specifications to write your own software. The specifications listed above are subject to change without notice.

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Before Using this Product

- The RTR-601 Series Units function as Remote Units. They require Base Units to carry out wireless communication. Before getting ready and setting up the Remote Unit, make sure to first get ready and setup the Base Unit(s).
- To use RTR-601 Series Units, it is necessary to make operation settings via the software "RTR500BW for Windows (for RTR-601)". For details about the operation settings via the software, refer to the "RTR500BW+RTR-601 Setup Guide (PDF)". Both the software and manual can be downloaded from the T&D Website.
- To carry out setup of RTR-601 Series Units, a Battery Charge Dock with USB communication function "RTR-600BD" (sold separately) is also necessary.

Part Names and Functions

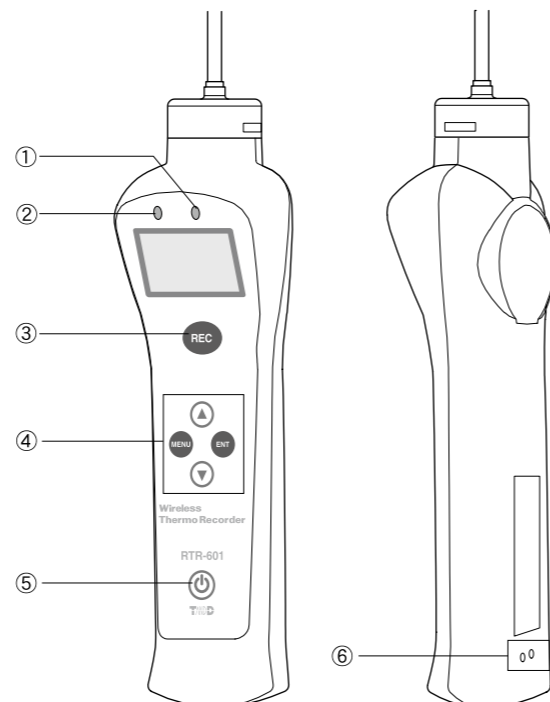
① LED (Orange)	By pressing the <REC> button, the lamp will turn on when a temperature measurement is recorded.
② Judgement LED (Red / Green)	The judgement result of temperature measurement will be shown. Out of Range: Red LED will blink. Within Range: Green LED will blink.
③ <REC> Button	When this button is pressed, the Temperature, Date / Time, User Name, Item, and Judgement Result at the time of pressing are recorded into the RTR-601.
④ Operation Buttons	
<ENT>	Press to enter the settings menu or confirm a setting.
<MENU>	By pressing this button, the menu will be displayed. Also, press to return to the previous screen.
▲ ▼	Press to move the arrow cursor up and down or scroll the screen.
⑤ Power Button	Press to turn the power ON or OFF. The automatic power-off function automatically turns off the power after about five minutes of inactivity.
⑥ Optical Communication Area	Do not shield the communication area with a tape as it may cause communication errors.

RTR-601 Series is referred to as simply the "RTR-601", "unit" or "Remote Unit" in this document.

Sensor Tip Shape

Each sensor type has a different tip shape: the long type sensor has a round tip; and the short type sensor has a sharp tip (for piercing target object).

Sensor Materials: Stainless Steel (SUS316)
Handgrip Materials: Flame-retardant PPE/PA6 (Temperature Durability: About 170°C)
Cable Materials: Fluoropolymer Coated Electrical Wire Cable Length: 900 mm



Safety Precautions and Instructions

To ensure safety obey all of the following warnings.

The following items should be strictly obeyed for the safe usage of this product, 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.

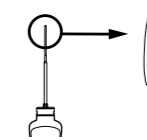
⚠ DANGER Failure to follow the instructions with this symbol could cause serious injury or even death.

DO NOT USE THIS PRODUCT IN WAYS OTHER THAN ITS INTENDED PURPOSE



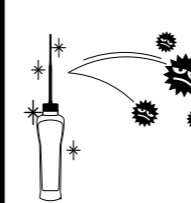
This product has been designed to measure the temperature of food and liquids. Do not use it for any purpose other than for which it was designed. Because the sensor has a sharp tip, there is a risk of accidentally stabbing people and/or objects. Do not use the sensor for any purpose other than measuring the temperature of objects for which it was designed.

PLACE AND STORE IN A SAFE PLACE



Avoid placing the unit in unstable areas exposed to vibration, slippery surfaces, or within reach of small children. When not in use, put a cover on the sensor tip and store in a safe place.

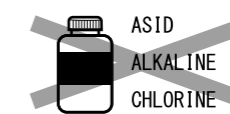
CLEAN and STERILIZE UNITS BEFORE AND AFTER USE



Before and after using, please clean to remove any substances attached to the surface and sterilize the units in order to prevent the growth of bacteria.

If a unit gets dirty or oily, wipe it with a clean cloth dipped in alcohol.

NEVER use an acid, alkaline, or chlorine based detergent. This will cause harm to the electric components in the unit or the battery charger.



DO NOT TOUCH SENSOR IMMEDIATELY AFTER MEASUREMENT

Please be careful when using in extreme hot or cold environments; touching the unit may cause burns or frostbite.



⚠ CAUTION Failure to follow the instructions with this symbol could cause personal injury or physical damage to equipment.

- Do not disassemble, repair or modify the unit and/or accessories.
- Do not forcibly insert the sensor into hard objects such as frozen food. It may cause to sensor breakage, leading to unexpected accidents and injury.
- Do not cut or process the sensor cables. Also, do not twist, pull or swing any of the cables.
- We are not responsible for any damage, malfunction or trouble, whether direct or indirect, caused by the use of our product.
- To prevent damage to the unit from static electricity, remove static electricity from your body before touching the unit.

Important Notices and Disclaimers

In order to properly use this product, please carefully read this document 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.
- All registered trademarks, company names, product names and logos mentioned herein are the property of T&D Corporation or of their respective owners.
- Specifications, design and other contents outlined in this document are subject to change without notice.
- Please follow the safety precautions outlined in this document 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 this document 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 document.
- T&D Corporation accepts no responsibility for any damage or loss of income caused by the use of our product.
- Please read the warranty and provisions for free repair carefully.

Information Regarding Product Disposal

- This product contains recyclable Ni-MH batteries.
- If you wish to dispose of the unit, please contact your local distributor.

Compliance Information

This device complies with Part 15 of the FCC rules and RSS-210 of Industry of Canada. 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.

Ce dispositif est conforme à la norme RSS 210 d'Industrie Canada. L'utilisation de ce dispositif est autorisée seulement aux conditions suivantes : (1) il ne doit pas produire de brouillage et (2) l'utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

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.

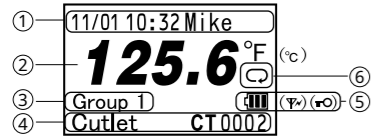
Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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

How to Read the LCD Display

Top Screen

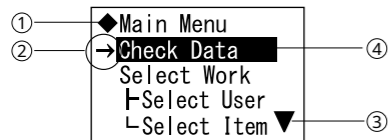
By turning the power to ON, the Top Screen, such as below, will appear.



- Current Date/Time and User Name**
A maximum of 8 characters can be displayed for a user name.
- Current Temperature (°F/°C)**
- Work Group Name**
A maximum of 8 characters can be displayed as a work group name.
- Measured Item and Count No.**
The item being measured and a count number to show how many times this item has been measured are shown here. A maximum of 12 characters can be displayed for a measured item. The count number will be reset to zero every time a Work Group Table is sent via software. The above screen shows the temperature of a cutlet that has been measured two times.
- Icons (Battery Level / Communication Antenna / Button Lock)**
 - This icon shows the remaining amount of battery power. When the battery is too low to measure temperature, the "Please charge batteries" message will appear.
 - This icon appears during wireless communication with the Base Unit.
 - This icon appears when "Button Lock" is set to ON in the software. Button operation will be OFF for all buttons except for the <REC> and Power buttons.
- Recording Mode (Endless)**

Main Menu Screen

By pressing the <MENU> button, the Main Menu will appear as shown below.



- Menu Title**
- Cursor**
Use ▲▼ to move the arrow cursor up and down.
- ▲▼**
Use ▲▼ to scroll the screen up and down.
- Currently Selected Item (Highlighted)**

Details about the LED Light (when REC is pressed)

Orange LED: ON (Normally)

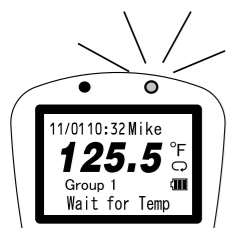
Normally the orange LED turns on, and the recorded temperature is displayed.



After about three seconds, the orange LED turns off and the display automatically returns to the top screen.

Orange LED: Blinking ("Wait for Temp")

When the "Wait for Constant Temp Settings" has been set to ON in the software and temperature is not stable, the orange LED blinks meaning a recording is pending*.



Do not remove the sensor from an object being measured while "Wait for Temp" is on display and the orange LED is blinking.

* If the temperature is not stabilized even after 15 seconds have elapsed, recording will not be performed and you will be returned to the top screen.

Menu Contents

[Check Data] > [Data List] > [Check Data]

By selecting the [Check Data] menu, all recorded data in the Remote Unit is displayed in a list in descending order (from newest to oldest data). Select data by moving the cursor and press the <ENT> button to view detailed information.

The left screen shows the 83rd data reading highlighted by the cursor.

Details of the selected data (date and time of recorded data, measured-item, user name, and judgement result) will be displayed.

Judgement OK
 Lower Limit Error
 Upper Limit Error

[Select User] / [Select Item]

Select from the list of Users and Items setup in the software.

If you have registered Work Groups, it is also possible to select from the [Select Work] menu.

[Judgement LED]

By setting to "LED ON", the Judgement LED will blink when a measurement exceeds the set upper or lower limit*.

* Upper and lower limits can be set using the software.

[Button Sound]

Turn ON or OFF the beep which sounds when a button is pressed.

[Backlight]

The "ON in Use" option will backlight the display for three seconds only during operation.

[Contrast]

Use ▲▼ to adjust the contrast of the display.

[Unit of Temp]

Select Celsius [°C] or Fahrenheit [°F].

[Remote Info]

The Group ID* and Remote Unit Name can be viewed here for the unit being used.

* The Group ID is automatically assigned upon registering a Remote Unit.

Message Display

Settings Change Message

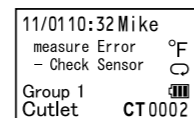
If any settings changes have been made via wireless communication to the unit in use, a notification message will be displayed for about two seconds. After that, you will be automatically returned to the top screen.



This message will be displayed regardless of what settings have been made in the unit.

Even when the power is off, the unit will automatically turn on to display the message.

Sensor Error Message

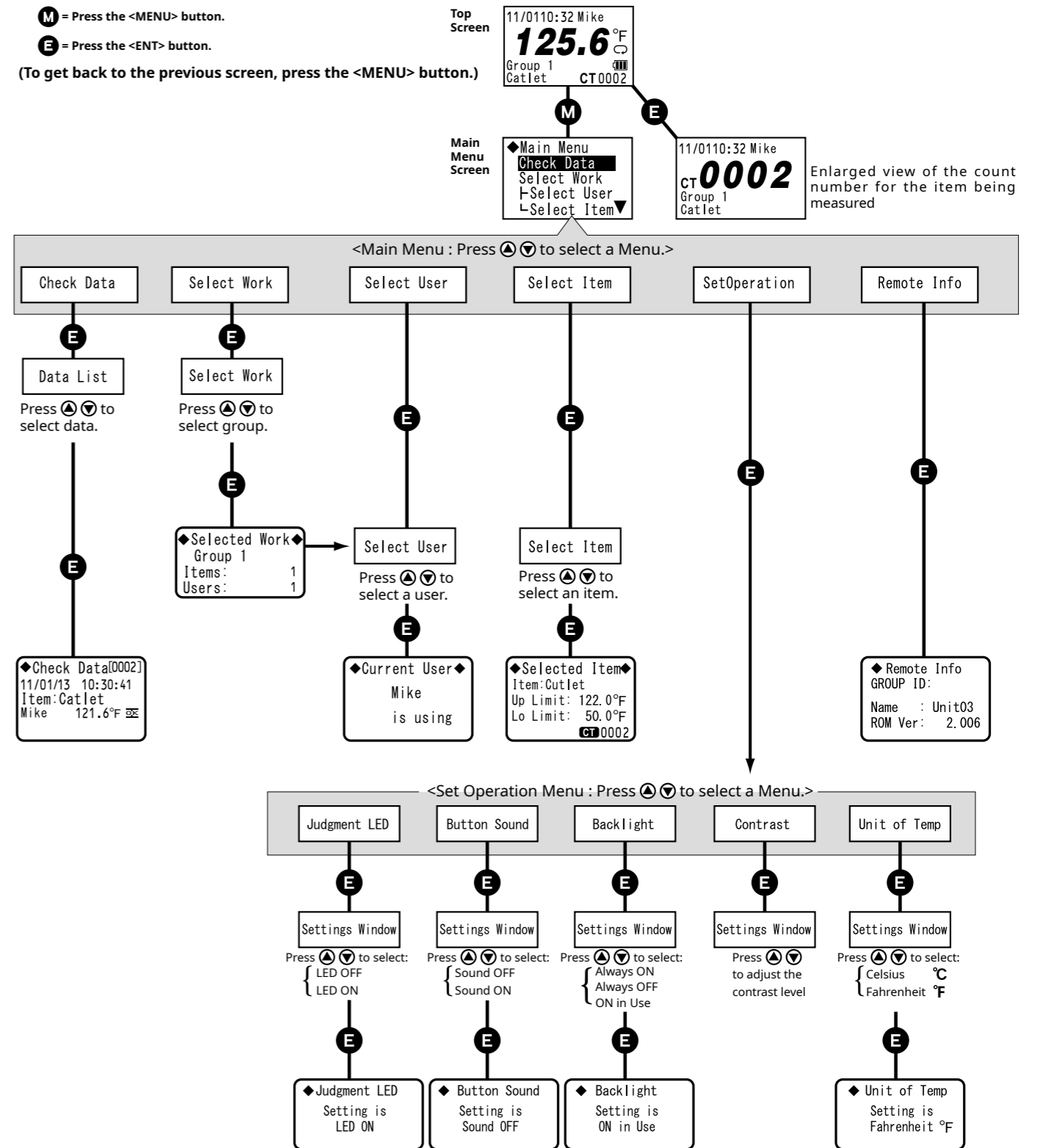


Please contact your local distributor if you see this message.

Operations Table

- M** = Press the <MENU> button.
- E** = Press the <ENT> button.

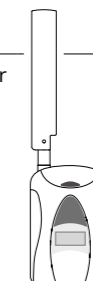
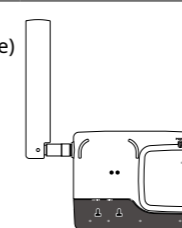
(To get back to the previous screen, press the <MENU> button.)



Compatible Base Units / Repeaters

Network Base Station
 RTR500BW (Wired/Wireless LAN Type)
 RTR-500NW (Wired LAN Type)
 RTR-500AW (Wireless LAN Type)

Wireless Base Station / Repeater
 RTR500BC / RTR-500



Battery Charger for RTR-601 (with USB communication)

Battery Charge Dock
 RTR-600BD

Accessories Included in Package:
 • AC Adaptor AD-05A3
 • USB Cable US-15C
 • Wall Mount Screws x 3

