

Thermo Recorder Push Wireless Warranty

Customer's name: _____
 Address: _____
 Phone No.: _____

Dealer's name: _____
 Address: _____
 Phone No.: _____

Guarantee period	12 months from date of purchase
Date of purchase	

Thermo Recorder Push Wireless
 Wireless Core Temperature Data Logger
 User's Manual

Statement of Limited Warranty

- 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 return 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 maintained at any time.
- 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.
- 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 concerning a defective product, customers should contact the nearest authorized T&D sales representative. A list of these can be found on the company's website, www.tand.com, or can be obtained by contacting T&D US direct.
- 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 ascertain the limited warranty statement is inconsistent with local law, this statement shall be deemed modified to be consistent with such local law.
- 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
 9652-169 Sasaga Matsumoto, NAGANO Japan 399-0003
 Monday to Friday 9:00 - 12:00 / 13:00 - 17:00 (excluding company holidays (GMT +9:00 Tokyo Time))
 Home Page: <http://www.tand.com>

© Copyright 2008 T&D Corporation. All rights reserved. 2007.XX 1600-430000X
 This is printed on recycled paper.

Product Specifications

Measurement Item	Temperature
Measurement Channels	1 Channel
Measurement Range	-20°C ~ 250°C
Temperature Sensor	Thermistor
Measurement Accuracy	10°C以下 ± 1.5°C
	40°C ~ 10°C ± 1.0°C
	150°C ~ 180°C ± 1.5°C
	180°C ~ 200°C ± 2.0°C
Measurement Accuracy	85°C ~ 110°C ± 0.5°C
	110°C ~ 130°C ± 0.8°C
Measurement / Display Resolution	0.1°C
Measuring / Display Interval	0.5sec
Number of Recorded Data	1800 data readings
LCD Display	Date and Time / Measured Value / Battery Life Warning
	Unit of Temperature (°C / °F) / User / Items
Temp. Judgment LED Display	Out of Range: Red LED Blink
	Within Range: Green LED Blink
Clock Resolution	Month / Day / Year / Hour / Minute / Second
Clock Accuracy	Within ±1 second per day (at 25°C)
Battery	AAA Alkaline Batteries (LR03) x 2
	(AAA Ni-Cd, Ni-MH Batteries also compatible)
Battery Life	About 1 month (when used for PUSH recording every 10 minutes for 16 hours a day)
	Wireless Communication / Optical Communication
Interface	Wireless Communication / Optical Communication
Optical Communication Speed	400bps (When downloading 1 unit of full data: about 2 minutes and 30 seconds)
	1Mbps (When downloading 1 unit of full data: about 6 minutes)
Wireless	Wireless Method: Special Short Wave Radio Type (ARIB STD-T67) Frequency: 426MHz
	Wireless Transmission Rate: When downloading 1 unit of full data: about 6 minutes
Antenna	Internal Type
	Unit Water Resistance: IP64 (dust / splash resistant - rated for use in daily life)
Dimensions	146.8mm x 40mm x 37.8mm (excluding sensor part)
	Unit Weight: About 83g (including 2 AAA batteries, excluding sensor)
Operating Environment	-10°C ~ 60°C

Notices about this User's Manual

- Please read this manual carefully before using the product.
- All rights of this User's Manual belong to T&D Corporation. It is prohibited to use, duplicate and/or arrange a part or whole of this User's Manual without the permission of T&D Corporation.
- Please follow the safety precautions carefully. We cannot guarantee nor are we responsible for safety if this product is used in any manner other than as intended.
- 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.
- T&D Corporation accepts no responsibility for any result or effects from using this User's Manual.
- Figures and illustrations in this manual may be slightly simplified and may differ from the actual product.
- We sincerely hope that the contents of this manual are true and complete. If you find any information to have been omitted, or if the information within is confusing or mistaken please contact your retailer or T&D Corporation.
- Please carefully read this User's Manual and Free Repair Warranty.
- The warranty that is included in this User's Manual cannot be reissued, so please keep it in a safe place.
- This manual has been written using °C as the standard unit of temperature.

Safety Precautions and Instructions

*Please carefully observe the following safety measures when using our product. To prevent any loss or damage to our customers, other people and / or property, and to ensure the proper use of our products we ask that before using our product you carefully read, understand and follow the safety rules and precautions for our products as outlined below.

[Explanation of Symbols]

	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.
	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. Inside or near the symbol will appear another symbol giving details. (EX: ⚠ - Be careful of electrocution)
	Denotes a forbidden action. Inside or near the symbol will appear another symbol giving details. (EX: ☞ Do not use in wet areas.)
	Denotes an action that you must take. Inside or near the symbol will appear another symbol giving details. (EX: ⏏ Unplug power plug from outlet)

DO NOT POINT THE SENSOR TOWARD HUMANS OR USE IN WAYS OTHER THAN THOSE FOR WHICH THIS PRODUCT 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 and store in a safe place when not in use.



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.



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 unit in order to prevent the growth of bacteria.



Daily Maintenance

If the unit gets dirty, wipe it with a clean cloth dipped in alcohol. DO NOT WASH with WATER. NEVER use an acid, alkaline, or chlorine based detergent. This will cause harm to the electric components in the unit.



DANGER

- Do not take apart, repair or modify the main unit. This may cause fire or electrocution.
- If any smoke or strange smells are emitted from the unit, immediately cease using it. Continued use may cause fire, electrocution or damage.
- Do not use any batteries other than those that are recommended. It may cause fire or damage.
- If water or a foreign object enters the case, immediately cease using it. Continued use may cause fire, electrocution or damage.
- The RTR-61 is a device to measure temperature. Do not use this unit for any purpose other than temperature measurement.
- Store all batteries, sensors and Thermo Recorder units out of the reach of children. It is dangerous to swallow batteries.

Wireless Regulations

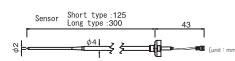
Radio, EMC and Safety Regulations
 This device complies with part 15 of the Federal Communications Commission (FCC) rules and with RSS-210 of the Industry Canada (IC). Operation is subject to the following conditions:
 (1) This device may not cause harmful interference, and
 (2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

RTR-61 Series

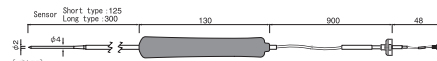
Temperature Sensor (Optional)

All-in-One Short Type



RTR-6110 Short Type Sensor
 RTR-6130 Long Type Sensor

Separate Short Type



RTR-6210 Short Type Sensor
 RTR-6230 Long Type Sensor

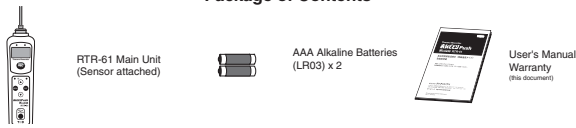


- RTR-61-110 : All-in-One Short Type Sensor
Main Unit + All-in-One Short Type Sensor
 - RTR-61-130 : All-in-One Long Type Sensor
Main Unit + All-in-One Long Type Sensor
 - RTR-61-210 : Separate Short Type Sensor
Main Unit + Separate Short Type Sensor
 - RTR-61-230 : Separate Long Type Sensor
Main Unit + All-in-One Long Type Sensor
- *Common Items Included: 2 AAA alkaline batteries, User's Manual (this document)

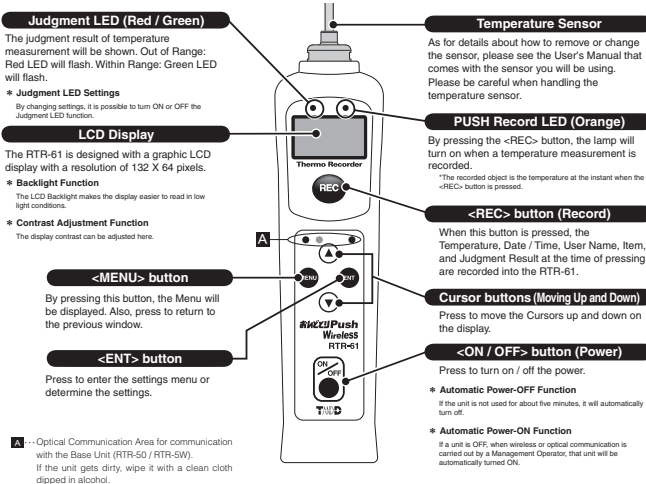
What is RTR-61?

- Thermo Recorder Push Wireless RTR-61 is a handy-type device which acts both as a thermometer and a temperature recorder, which has been designed to easily measure and record the internal temperature of food items and liquid temperature using a needle-type sensor.
- This product has been designed to meet IP64 standards (splash resistant; rated for use in daily life). RTR-61 measures and records core temperature, which makes it suitable for use in the food production industry especially temperature management for HACCP.
- The unit incorporates a battery life warning function, which informs the user when it is time to replace the battery. When the battery power becomes low, all normal operations will stop in order to protect the data.
- The LCD Backlight allows the display to be easily read even in low light. The LCD contrast can also be easily adjusted for better viewing.
- These units are also designed with special short wave radio functions that when coupled with our exclusive software set "Push Wireless Communication Set (RTR-61SK)", makes it possible to carry out wireless communication, allowing for easy and effective management of multiple RTR-61 units.

Package of Contents



Part Names and Functions

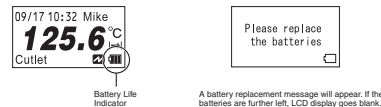


1 Installing the Batteries

Read the following for details about battery life and battery installation.

Battery Life Indicator

The battery indicator on the LCD display allows you to view the status of the battery life. If the remaining battery power becomes zero, a battery replacement message will appear. Once the message appears, please change the battery as soon as possible.



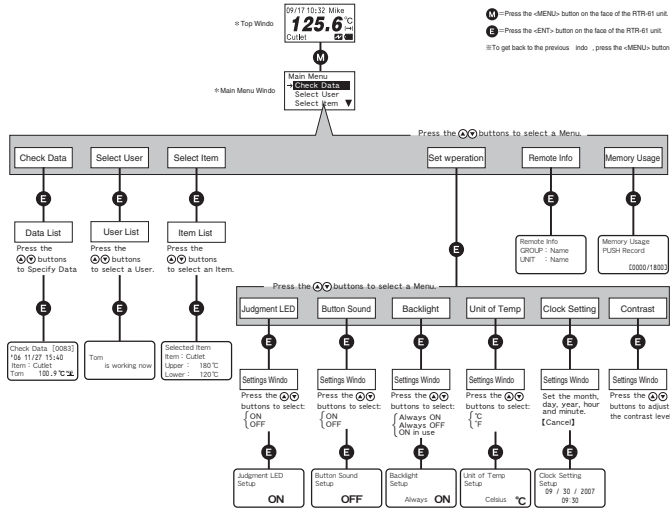
Installing the Batteries

NOTE
 -If the LCD display goes blank and batteries are further left unchanged, recorded data may be erased. Please replace the batteries as soon as possible.
 -Make sure that the + and - are in the correct direction. If the battery terminals + / - are mistaken and a short occurs, all data stored in the main unit will be erased.
 -When opening the battery case to change the batteries, make sure no water or foreign object gets inside the case.
 -Make sure to change both batteries at the same time and use two batteries of the same type.

- Open the RTR-61 by pushing up on the bottom of the battery case on the back of the unit.
- Insert 2 AAA alkaline batteries, making sure that the + and - are in the correct direction. (The + of two batteries should face toward the bottom of the case).
- Be sure to securely close the cover until you hear a clicking sound.

② Operations Table

This is a table of operations for RTR-61. When using, please refer to the following chart.

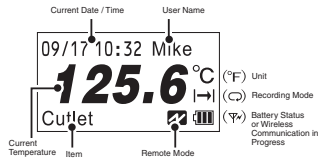


③ Main Window Names and Functions

See the following for the items displayed in the Top Window and the Main Menu Window.

■ Top Window

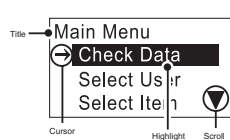
By turning the Power ON, the Top Window will appear. Following are the main display items and marks that appear in the Top Window.



- Current Temperature:** The currently measured temperature will be displayed.
- Item:** Up to 12 characters can be entered.
- User Name:** Up to 8 characters can be entered.
- Current Date / Time:** Current Time (Month / Date / Hour / Minute)
- Unit [°C/°F]:** Select from Fahrenheit / Celsius
- Recording Mode [∞/1]:** Select from Endless / One Time
- Battery Status []:** The remaining amount of battery power will appear.
- Wireless Communication in Progress []:** While wireless communication is occurring, this mark will appear.
- Remote Mode []:** The recording of temperature measurements is being controlled by wireless communication.

■ Main Menu Window

While the Top Window is being displayed, pressing the <MENU> button on the face of the unit will display the Main Menu.



- Title:** The title of the menu will be displayed
- Highlight:** The cursor selected item is displayed in white letters on a black background.
- Cursor:** Select the item by moving the Cursor up and down by pressing the arrow buttons <↑> <↓> on the face of the unit. Press the <ENT> button on the face of the unit to select the desired menu. Press the <MENU> button on the face of the unit to return to the previous window.
- Scroll:** The scroll up and down arrows show that data exists outside of the display area.
 - ▲ Press <↑> button on the face of the unit to scroll up.
 - ▼ Press <↓> button on the face of the unit to scroll down.

Depending on the settings, some operations are restricted from being carried out by manipulating the buttons on the unit. Refer to the following for details:

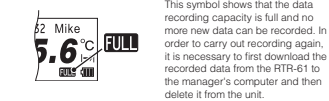
■ Remote (Remote Mode)



- When an RTR-61 unit has been set to "Remote Mode" by the Management Operator, it is not possible to use the "PUSH Recording" function without first receiving a "Measurement Command" from the Operator. Even while the power is OFF, when an RTR-61 unit receives a "Measurement Command", the LCD backlight will begin to flash and a beeping sound will notify the user that it is time to carry out a recording.
- To record a measured temperature while in Remote Mode, please carry out the following procedures:

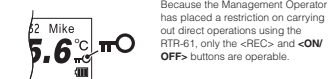
- Measurement Command Message example:** When a Measurement Command is received, push the <ENT> button on the face of the unit to return to the Top Window. The backlight flashing and beeping sound will continue until the <ENT> button is pressed.
- Top Window:** When the display switches to the Top Window, the specified item will be on display.
- REC:** Please measure and record the temperature of the specified item.

■ FULL when in One-time Mode



This symbol shows that the data recording capacity is full and no more new data can be recorded. In order to carry out recording again, it is necessary to first download the recorded data from the RTR-61 to the manager's computer and then delete it from the unit.

■ Key Lock Function

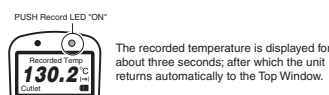


Because the Management Operator has placed a restriction on carrying out direct operations using the RTR-61, only the <REC> and <ON/OFF> buttons are operable.

④ About the PUSH Recording Window

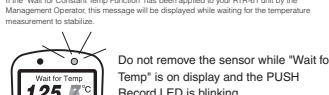
This window will appear by pressing the <REC> button on the RTR-61 unit to record temperature.

■ Recorded Temp (Displayed normally after PUSH Recording)



The recorded temperature is displayed for about three seconds; after which the unit returns automatically to the Top Window.

■ Wait for Temp (Measuring in progress and waiting for the constant temp)



- Do not remove the sensor while "Wait for Temp" is on display and the PUSH Record LED is blinking.
- When the "Wait for Constant Temp Function" is active, the temperature will not be recorded until temperature stabilization has been achieved. Due to this, after pressing the <REC> button it may take some time before the temperature is actually recorded.
- 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 Window.
- If the Button Sound has been set to "ON", the unit beeps both when the "Wait for Temp" operation has been started and when the temperature has been recorded.

⑤ Menu Contents

Details about the Main Menu and the Operational Settings Menu are as follows.

Menu	Settings Window	Details
Check Data		Data List All recorded data is displayed in descending order (from the newest to the oldest data). Specify data by moving cursors and press the <ENT> button to view detailed information.
Select User		Check Data Data details (Date/Time of Recorded Data, Measurement Item, User Name, Temperature, and Judgment Result) can be viewed.
Select Item		Select User Select and set the User Name of the persons who will measure temperature. (Up to 63 user names can be registered into an RTR-61 unit.)
Set Operation		Select Item Select and set the Measurement Items. (Up to 63 items can be registered into an RTR-61 unit.)
Remote Info		Set Operation Judgment LED: It is possible to turn ON / OFF the blinking of Upper and Lower Limit Judgment LED. Button Sound: It is possible to turn ON / OFF the beep which sounds when pressing a button. Backlight: The Backlight factory default setting for the RTR-61 is "ON in Use", which will backlight the window for 3 seconds only when in operation. Here you can shift the setting to "Always ON" or "Always OFF". Unit of Temp.: Select Fahrenheit [°F] or Celsius [°C]. Clock Setting: The RTR-61 clock settings can be made here. (See the following section "How to Make Clock Settings" for details.) Contrast: It is possible to adjust the contrast of the display.
Memory Usage		Remote Info Before carrying out wireless communication, it is necessary for the Management Operator to register Data Loggers (RTR-61 units) as Remote Units and register them into Groups. The Group Name and Remote Unit Name can be viewed here for the RTR-61 unit being used.
		Memory Usage Each RTR-61 can record and store up to 1,800 of data readings. The number of stored data can be viewed here.

⑥ How to Make Clock Settings

In order to make the clock settings for the RTR-61 unit, please follow the directions as written below.

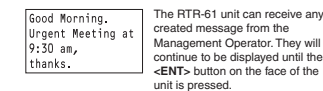
- Clock Setting** 09/01/2007 00:00 [Cancel] [OK] Open the [Clock Setting] window.
- Clock Setting** 09/01/2007 00:00 [Cancel] [OK] By pressing the <ENT> button, "Month" will blink. By pressing the arrow buttons <↑> <↓>, the numerical values get larger or smaller.
- Clock Setting** 09/01/2007 00:00 [Cancel] [OK] Press the <ENT> button to determine the value. Then press the arrow buttons <↑> <↓> to move the cursor.
- Clock Setting** 09/01/2007 00:00 [Cancel] [OK] By pressing the <ENT> button, "Day" will blink. By pressing the arrow buttons <↑> <↓>, the numerical values get larger or smaller.
- Clock Setting** 09/30/2007 10:00 [Cancel] [OK] Press the <ENT> button to determine the value. After this, please make all settings in the same way. Pressing <↑> - Moves the cursor in the order of Month-Day-Year-Minute. Pressing <↓> - Moves the cursor in the order of Minute-Hour-Year-Day-Month.
- Clock Setting** 09/30/2007 10:00 [Cancel] [OK] Finally, move the cursor to the position of "OK" and press the <ENT> button to complete the settings.

- To stop making clock settings at anytime, move the cursor to "Cancel" and press the <ENT> button.

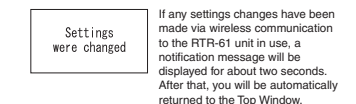
⑦ About the Message Display

Even when the power is OFF, an automatic Power-ON may occur to display a message.

■ Created Messages



■ Settings Change Messages

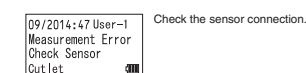


- By making the backlight light up or the beeping sound occur, the user can be informed that a message has been received.
- Messages can be received regardless of mode settings in the RTR-61.
- Note that there is no message storing function, so messages will not be redisplayed once you press the <ENT> button.

- Messages will be displayed regardless of any mode settings in the RTR-61.

⑧ Measurement Error Messages

If a temperature measurement error occurs, there may be a poor sensor connection. In such a case, an Error Message will appear.



Check the sensor connection.

Compliance Statement

This device complies with part 15 of the FCC rules and RSS-210 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.

Warning to users

The user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.