

**Thermo Recorder  
Push Wireless RTR-61 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 RTR-61

### Wireless Core Temperature Data Logger User's Manual



**T&D CORPORATION**  
Shimadachi 817-1, Matsumoto, Nagano 390-0852 JAPAN  
Tel: +81-263-40-0131 Fax: +81-263-40-3152 E-mail: support@tand.com  
Website: <http://www.tand.com/>

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#### Statement of Limited Warranty

- If the unit does not work properly despite the fact that the customer used it properly and in line with the User's Manual, the unit shall be repaired free of charge through the distributor from which the unit was purchased.
- If the customer requests free repair because of trouble within the warranty period, bring or send the unit along with the warranty to the dealer. A service charge may be added if a repairperson must be sent out to the place of use for repair.
- If you have moved after purchasing, or the product was received as a gift, or there are some difficulties contacting the shop from which you purchased the unit, please contact us directly for service.
- Free repair is not available in the following cases even though it is within the warranty period.
  - Trouble or damage was caused by careless operation, natural disaster, fire, public pollution, or use of a power source other than specified.
  - If repair, adjustment, disassembly or modification of the unit has been carried out by a person other than a T&D authorized engineer.
  - Trouble or damage was caused by transportation, movement or dropping of the unit after purchase.
  - Failure to submit the Warranty or failure to fill in all items required in the Warranty.
- The Warranty cannot be reissued.
 

\* This Warranty only promises customers free repair within the period and conditions identified in this Warranty. Therefore, the customer's legal rights will not be limited by this Warranty. For further information on repair and other service questions after the termination of the warranty period, contact your dealer.

#### T&D CORPORATION

### Product Specifications

Measurement Item	Temperature
Measurement Channels	1 Channel
Measurement Range	-25 °C to 230 °C
Temperature Sensor	Thermistor
Measurement Accuracy	Less than 10 °C : ±1.0 °C
	10 °C to 150 °C : ±1.0 °C
	150 °C to 180 °C : ±1.5 °C
	180 °C to 200 °C : ±2.0 °C
	More than 200 °C : ±2.5 °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 Accuracy	Day / Month / Year / Hour / Minute / Second
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)
Interface	Wireless Communication / Optical Communication
Optical	Communication Speed 2400bps (When downloading 1 unit of full data about 2 minutes and 30 seconds)
Wireless	Wireless Method ETSI EN 300-220, Frequency: 433MHz Communication Speed When downloading 1 unit of full data about 6 minutes Wireless Transmission Range About 100m (if direct and unobstructed)
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 85g (including 2 AAA batteries, excluding sensor)
Operating Environment	-10 °C to 60 °C

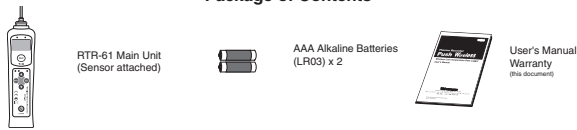
### Notices about this User's Manual

- 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 was 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 that has 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.

### 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 short range wireless 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

**Judgment LED (Red / Green)**  
The judgment result of temperature measurement will be shown. Out of Range: Red LED will blink. Within Range: Green LED will blink.

**Judgment LED Settings**  
By changing settings, it is possible to turn ON or OFF the Judgment LED function.

**LCD Display**  
The RTR-61 is designed with a graphic LCD display with a resolution of 132 x 64 pixels.

**Backlight Function**  
The LCD Backlight makes the display easier to read in low light conditions.

**Contrast Adjustment Function**  
The display contrast can be adjusted here.

**<MENU> Button**  
By pressing this button, the Menu will be displayed. Also, press to return to the previous window.

**<ENT> Button**  
Press to enter the settings menu or determine the settings.

**Temperature Sensor**  
As for details about how to remove or change the sensor, please see the User's Manual that comes with the sensor you will be using. Please be careful when handling the temperature sensor.

**PUSH Record LED (Orange)**  
By pressing the «REC» button, the lamp will turn on when a temperature measurement is recorded.

**<REC> Button (Record)**  
The recorded object is the temperature at the instant when the «REC» button is pressed.

**Cursor Buttons (Moving Up and Down)**  
Press to move the Cursors up and down on the display.

**Power Button**  
Press to turn on / off the power.

**Automatic Power-Off Function**  
If the unit is not used for about five minutes, it will automatically turn off.

**Automatic Power-On Function**  
If a unit is OFF, when wireless or optical communication is carried out by a Management Operator, that unit will be automatically turned ON.

**Optical Communication Area for communication with the Base Unit (RTR-50 / RTR-5W).**  
If the unit gets dirty, wipe it with a clean cloth dipped in alcohol.

### Safety Precautions and Requests

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 circumstances 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.



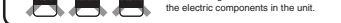
#### CLEAN AND STERILIZE UNITS BEFORE AND AFTER USE

Before and after using, please clean to remove any substances attached to the surface and sterilize the units 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

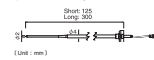
- Do not take apart, repair or modify the main unit. This may cause fire or electrocution.
- If any smoke or strange smells are emitted from the unit, immediately cease using it.
- Continued use may cause fire, electrocution or damage.
- Do not use any batteries other than those that are recommended. 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.

#### CAUTION

- We are not responsible for any damage, malfunction or trouble, whether direct or indirect, caused by the use of our product. Please be fully aware of this before using 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.
- 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.
- Use these units under conditions with an ambient temperature of 10 °C to 60 °C.
- The RTR-61 only becomes water resistant (IP64 splash resistant) if the temperature sensor has been connected.
- Without the sensor connected, the connector part of neither the main unit nor the temperature sensor is water resistant; make sure not to get wet.
- Do not expose the unit to harmful gases or chemicals. It may cause corrosion and/or other damage to the unit and to people handling the unit.
- Do not drop the unit, or expose the unit to a strong impact. If that happens to the unit, immediately remove the batteries and stop using it.
- Continued use may cause fire or electrocution.
- Battery terminals may provide insufficient contact due to age or vibration. This may lead to data loss.
- Battery life depends on the measurement environment, communication frequency, recording interval and battery quality.
- If the unit will not be used for period of time, for safety reasons please remove the battery.
- If left in the unit, it may leak and lead to malfunctioning.
- Do not use or store the unit in places such as listed below:
  - Areas exposed to direct sunlight
  - Areas exposed to water or high-pressure water flow.
  - Areas exposed to organic solvents and corrosive gas.
  - Areas exposed to strong magnetic fields
  - Areas exposed to static electricity
  - Areas exposed to fire or overheating.
  - Areas exposed to excessive dust or smoke.

### Temperature Sensor (Optional)

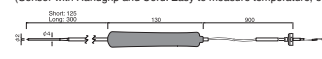
#### All-in-One Type Temperature Sensor (Sensor directly attached to the RTR-61 Main Unit)



**RTR-6110 : Short Temperature Sensor**  
Sensor Length: 125mm

**TR-6130 : Long Temperature Sensor**  
Sensor Length: 300mm

#### Separate Type Temperature Sensor (Sensor with Handgrip and Cord. Easy to measure temperature, even in steam.)

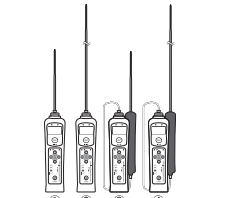


**RTR-6210 : Short Temperature Sensor**  
Sensor Length: 125mm / Cord Length: 900mm

**RTR-6230 : Long Temperature Sensor**  
Sensor Length: 300mm / Cord Length: 900mm

Sensor Materials: Stainless pipe(SUS316)  
Handgrip Materials: Polypropylene Resin (Temperature Durability: About 170 °C)  
Cord: Teflon® Resin(FEP) Shielded  
Common Items Included: Sensor Spacer 1 / Rubber Packing 1 / Sensor Replacement Tool 1 / Sensor User's Manual 1  
\*Teflon® is a registered trademark of U.S. company Du Pont.

### RTR-61 Series



- RTR-61-110 : All-in-One Short Type Set**  
Main Unit (RTR-61) + All-in-One Short Type Sensor (RTR-6110)
  - RTR-61-130 : All-in-One Long Type Set**  
Main Unit (RTR-61) + All-in-One Long Type Sensor (RTR-6130)
  - RTR-61-210 : Separate Short Type Set**  
Main Unit (RTR-61) + Separate Short Type Sensor (RTR-6210)
  - RTR-61-230 : Separate Long Type Set**  
Main Unit (RTR-61) + Separate Long Type Sensor (RTR-6230)
- \*Common Items Included:  
2 AAA alkaline batteries, User's Manual (this document)

### 1 Installing 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.

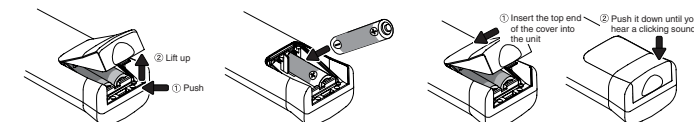


Please change batteries

A battery replacement message will appear. If the batteries are further left, LCD display goes blank.

#### Installing the Batteries

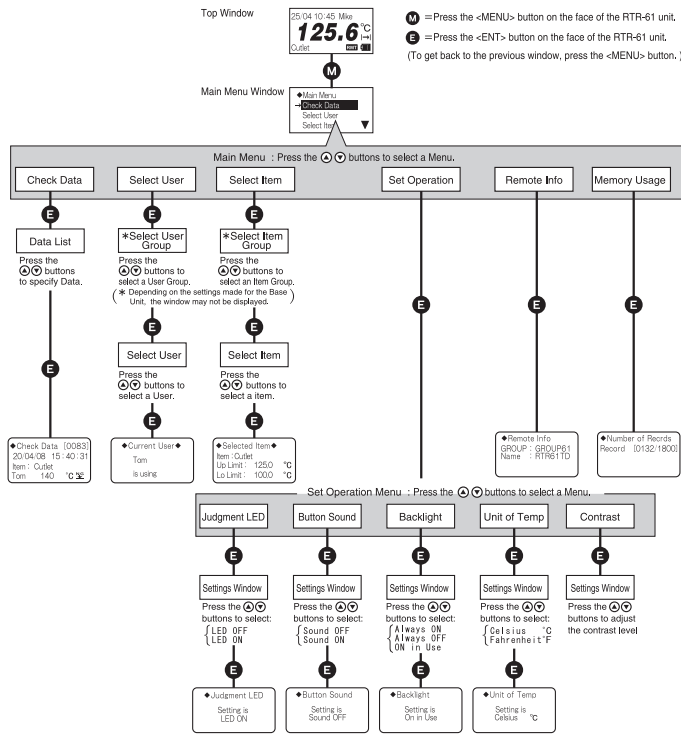
- NOTE**
- If the LCD display goes blank and batteries are further left unchanged, recorded data may be erased. Please replace the batteries as soon as possible.
- Make sure that the + and - are in the correct direction. If the battery terminals + / - are mistaken and a short occurs, all data stored 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.

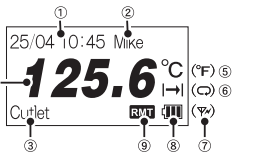


## ③ Main Window Names and Functions

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

### ■ Top Window

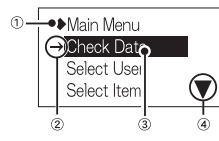
By turning the Power ON, the Top Window will appear. Following are the main display items and marks that appear in the Top Window.



- Current Date / Time:** The current date and time (Month / Date / Hour / Minute) will be displayed. It is not possible to make clock settings from an RTR-61 unit. The Clock Settings can be made from the Base Unit (RTR-SW / RTR-50) by the Management Operator using Wireless or Optical Communication.
- User Name:** By pressing the <REC> button, the user whose name is shown here will be recorded as the person who is making the temperature measurement.
- Item:** By pressing the <REC> button, the item name shown here will be recorded as the measurement item whose temperature is being measured and recorded. While the <ENT> button is pressed, the Group Name to which the Item belongs will be displayed.
- Current Temperature:** The currently measured temperature will be displayed.
- Unit [ C / F ]:** Select from Fahrenheit / Celsius.
- Recording Mode [Endless C] / Onetime [ ]:** The symbol displayed here shows Recording Mode. It is not possible to make Recording Mode settings from an RTR-61 unit. The Clock Settings can be made from the Base Unit (RTR-SW / RTR-50) by the Management Operator using Wireless or Optical Communication.
- Wireless Communication in Progress [ ]:** While wireless communication is occurring, this mark will appear.
- Battery Status [ ]:** The remaining amount of battery power will appear.
- Remote Model [ ]:** 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.
- 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.
- Highlight:** The cursor selected item is displayed in white letters on a black background. 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**  
Take Temp of: Burger
- Top Window**  
04/25 11:25 Fried  
125.6 °C  
Burger
- 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.

### ■ Button Lock Function

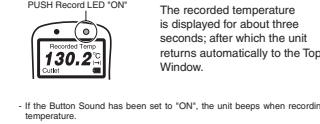
Because the Management Operator has placed a restriction on carrying out direct operations using the RTR-61, only the <REC> and <POWER> buttons are operable. Note that if a Message (see Section 6) or a Measurement command is received from the Management Operator, the <ENT> button will become operable.

## ④ About PUSH Recording Window

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

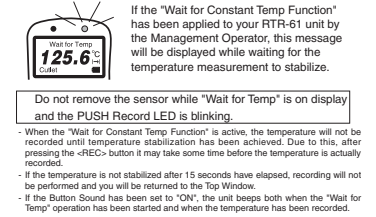
### ■ Recorded Temp

(Displayed normally after PUSH Recording)



### ■ Wait for Temp

(Measuring in progress and waiting for the constant temp)



## ⑤ Menu Contents

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

Menu	Settings Window	Details
<b>Check Data</b>	<ul style="list-style-type: none"> <li>Data List [0083]</li> <li>25/04/08 10:45</li> <li>25/04/08 10:45</li> <li>24/04/08 10:45</li> </ul> <p>The 83rd data reading is highlighted by the cursor.</p> <ul style="list-style-type: none"> <li>Check Data [0083]</li> <li>25/04/08 15:40:30</li> <li>Item: Coutlet</li> <li>Tom: 125.6 °C</li> <li>Judgment Result</li> </ul>	<b>Data List</b> 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.
<b>Select User</b>	<ul style="list-style-type: none"> <li>Select User Group</li> <li>Group1</li> <li>Group2</li> <li>Group3</li> </ul> <ul style="list-style-type: none"> <li>Select User</li> <li>Tom</li> <li>John</li> </ul>	Select and set the User Name of the person who will measure and record temperature. If User Registration has been made by creating Groups from a Base Unit, first, select the Group Name from the list in the [Select User Group] window. Then select the User Name from the list in the [Select User] window.
<b>Select Item</b>	<ul style="list-style-type: none"> <li>Select Item Group</li> <li>Line 1</li> <li>Line 2</li> <li>Line 3</li> </ul> <ul style="list-style-type: none"> <li>Select Item</li> <li>Fried Chicken</li> <li>Biscuit</li> </ul>	Select and set the Measurement Items. If User Registration has been made by creating Groups from a Base Unit, first, select the Group Name from the list in the [Select Item Group] window. Then select the User Name from the list in the [Select Item] window.
<b>Set Operation</b>	<ul style="list-style-type: none"> <li>Judgment LED</li> <li>LED OFF</li> <li>LED ON</li> </ul> <ul style="list-style-type: none"> <li>Button sound</li> <li>Sound OFF</li> <li>Sound ON</li> </ul> <ul style="list-style-type: none"> <li>Backlight</li> <li>Always ON</li> <li>Always OFF</li> <li>ON in Use</li> </ul> <ul style="list-style-type: none"> <li>Unit of Temp</li> <li>Celsius °C</li> <li>Fahrenheit °F</li> </ul> <ul style="list-style-type: none"> <li>Contrast</li> <li>Current: 30/63</li> </ul>	<b>Judgment LED</b> It is possible to turn ON / OFF the blinking of Upper and Lower Limit Judgment LED.
<b>Remote Info</b>	<ul style="list-style-type: none"> <li>Remote Info</li> <li>GROUP: GROUP61</li> <li>Name: RTR61TD</li> </ul>	Before carrying out wireless communication, it is necessary for the Management Operator to register 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.
<b>Memory Usage</b>	<ul style="list-style-type: none"> <li>Number of Records</li> <li>Record [0132/1900]</li> </ul> <p>132 of data readings are recorded.</p>	Each RTR-61 can record and store up to 1,800 of data readings. The number of stored data can be viewed here.
<b>Button Sound</b>	It is possible to turn ON / OFF the beep which sounds when pressing a button.	
<b>Backlight</b>	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".	
<b>Unit of Temp.</b>	Select Celsius [ °C ] or Fahrenheit [ °F ].	
<b>Contrast</b>	It is possible to adjust the contrast of the display.	

## ⑥ About Message Display

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

### ■ Created Messages

Good Morning, Urgent Meeting at 9:30 am. Thanks.

The RTR-61 unit can receive any created message from the Management Operator. They will continue to be displayed until the <ENT> button on the face of the unit is pressed.

### ■ Settings Change Messages

Settings were changed

If any settings changes have been made via wireless / Optical communication to the RTR-61 unit in use, a notification message will be displayed for about two seconds. After that, you will be automatically returned to the Top Window.

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 any 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.

## ⑦ 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.

