Wireless Thermo Recorder

RTR-53

User's Manual

Thank you for purchasing this product. Carefully read and fully understand these instructions before using this unit.

T&D CORPORATION
Shimadachi 817-1, Matsumoto, Nagano 390-0852 JAPAN
Tel: 81-263-40-0151 Fax: 81-263-40-3152
E-mail: support@tand.com
Homepage: http://www.tand.com

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Wireless Regulations

FCC Statement

This device complies with Part 15 of the Federal Communications Commission (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.

Caution:

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

Note about Antenna Usage:

This device has been designed to operate with the supplied antenna only. Use of any other antenna is strictly prohibited.

IC Statement

This device complies with RSS-210 of the Industry Canada (IC). 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) Cet appareil ne doit pas créer de brouillage déterminant et (2) Cet appareil doit accepter tout brouillage reçu, incluant celui qui peut causer un fonctionnement indésirable.

Product Specifications

External Temp. / Humidity

- Temperature Range: -20 to 130 °C (0 to 131 °F)
- Humidity Range: 0 to 95%RH

Measurement Temp. / Humidity Accuracy

±0.1 °C / ±1%RH

Recording Interval

1 min, 5 min, 10 min, 15 min, 30 min, 1 hour, 1 day, 2 day, 4 day, 6 day, 1 week

Recording Capacity

3 hours, 6 hours, 12 hours, 24 hours, 1 week, 1 month

Recording Mode

- Event: When the temperature exceeds the set point or the recorded value exceeds the set value
- Continuous: Continuously records any value exceeding the set point

Communication Speed

50 bps, 1200 bps, 2400 bps, 9600 bps

Dimensions

100 x 25 x 161 mm

Weight

100 g

Accessories Included

- Lithium Battery (LS14250 (SAFT)) x 1
- User’s Manual (Warranty) x 1

Warranty

T&D Corporation warrants to the original owner that this product is free from defects in material and workmanship for a period of two years from the date of purchase. In the event of a defect under these conditions, the customer’s exclusive remedy shall be repair or replacement of this product, at T&D Corporation’s option. This warranty will not apply to: (1) any damage caused by accident, misuse, abuse, or neglect; (2) any damage caused by unauthorized repair, alteration, or modification; or (3) any damage caused by unauthorized use. This warranty is void if the serial number or model number is defaced, altered, or removed. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

Safety Precautions and Instructions

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 Warning 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 may lead to physical injury or damage to persons or things.

[Explanation of Picture Symbols]

If water or a foreign object enters the case, immediately cease using it.

Do not drop or expose the unit to strong impact.

Do not use any batteries other than those that are recommended. It may cause fire or damage.

Battery life depends on the measurement environment, communication frequency, recording interval and battery quality. Please use the latest version of our software which can be downloaded free of charge from our Website.

[Explanation of Maintenance]

Remove batteries from any unit that is not to be used for a long period of time. Batteries left in a unit not being used for a long time may leak and cause a malfunction.

Do not put your fingers or foreign matter into the sensor connection.

Battery terminals may provide insufficient contact due to age or vibration. Please be careful not to lose data due to insufficient contact.

Pay attention to water leakage or foreign objects entering the unit case in the following cases:
- The case was closed with dust, hair, etc., on the rubber packing or in the battery compartment
- The rubber packing becomes damaged. (In this case, please purchase the optional maintenance set.)
- The unit suffered from significant temperature change while wet. (Especially if the temperature change is from high to low.)
- The unit was exposed to excessive dust or smoke.

About the TR-2310, the standard temperature and humidity sensor for RTR-53:
- Use the sensor only within the measurable temperature and humidity range (Temperature: 32 to 131 °C / Humidity: 10 to 95% RH)
- The Temperature/humidity sensor cable cannot be extended.

We are not responsible for any malfunction or trouble caused by the use of our product or by any problem caused by the malfunction of our unit. Please be fully aware of this before using our product.

Battery life depends on the measurement environment, communication frequency, recording interval and battery quality. Please use the latest version of our software which can be downloaded free of charge from our Website.

About DANGER:

This symbol denotes an important warning or caution. Inside or near the symbol will appear another symbol giving details.

This symbol denotes an action that must be taken. Inside or near the symbol will appear another symbol giving details.

Battery life depends on the measurement environment, communication frequency, recording interval and battery quality. Please use the latest version of our software which can be downloaded free of charge from our Website.

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 static electricity
- Areas exposed to fire or overheating
- Areas exposed to excessive dust or smoke

Avoid using the lithium batteries, LS 14209 for long periods at temperatures over 60 °C.

The battery life may be significantly decreased.

Cracks may develop in the unit casing if it is left in contact with hazardous substances such as oil products. When using the unit in such an environment, protect the unit by placing it inside a polyethylene bag.

Do not take apart, repair or modify the main unit. It may cause fire, electrocution or damage. Ask the shop where you purchased the product or T&D Corporation to carry out any repairs.

If any smoke or strange smells are emitted from the unit, immediately cease using it.

Continued use may cause fire, electrocution or damage.

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1. Wireless Thermo Recorder RTR-53

- Outline of System
  This system requires that the RTR-53 unit to measure and record temperature and humidity data, which can then be downloaded via wireless transmission to our handheld RTR-57U Data Collector Unit. The RTR-57U can then be connected to your computer for data analysis and management with our exclusive software.

- Basic Functions of RTR-53
  - Wireless Communication Function
    - Via short wave radio communication, recorded data can be downloaded from an RTR-53 unit and saved to the RTR-57U Data Collector Unit. Recording settings and recording start can also be controlled via wireless communication.
  - Humidity Measurement Range: 10 ~ 95%RH
    - With the included sensor, the RTR-53 can simultaneously measure temperature (32 ~ 150°F) and humidity (10 ~ 95%RH). Our newly designed sensor for RTR-53 can withstand a certain amount of condensation.

2. Getting Started

- Insert the batteries
  1. Remove the screw and take off the back case.
  2. Insert the battery in its tube and place it in the unit as shown in the diagram.
  3. Make sure that + and - are correct.

- Connect the Temperature and Humidity Sensor
  1. Make sure that the sensor is properly connected by inserting it until you hear a clicking sound.
  2. Measurement range: 10 ~ 95% (Temperature) and 10 ~ 100% (Humidity)

3. Settings and Communication

- To start and stop recording, make or change the various recording settings and/or collect data please see the following instructions.
- For details about communication please see the User’s Manual that accompanies the software and in the Help Menu of the software.
- Using Wireless Communication with an RTR-57U Unit
  By registering an RTR-53 unit as a Remote Unit of an RTR-57U, it is possible to carry out wireless communication (special short wave radio) allowing you to start and stop recording, make recording condition settings and collect data without having to be in the same location.

4. Part Names and Functions

- Part Names
  - LCD Display
  - Sensors
  - Data Capacity: 8000 Readings x 2 Channels
  - Recording Condition Settings
    - Settings such as Recording Mode, Recording Interval, Immediate Start, and Unit of Display can be easily made via computer or an RTR-57U.
    - Recording Start / Stop
      - Recording can be started / stopped via computer and started via RTR-57U.
    - Data Capacity: 8000 Readings x 2 Channels
  - Data Capacity: 8000 Readings x 2 Channels
  - Recording Data Collection (Data Collection)
    - Data downloaded to your computer can be processed into graphs, lists, saved to files, changed Unit of Measurement, and management with our exclusive software.

5. Changing the Battery

- If you do not change the battery and continue using the unit, the measurement display will intermittently display "batts.
  - If at this time a new battery is placed in the unit, recording will continue and downloading of saved data can be done.
- If you do not change the battery even under conditions in 2 above, the REC indicator will disappear and measurement display area will display [SLP].
  - Recording will stop and recorded data until this point will be saved.
  - At this time a new battery is placed in the unit, downloading of saved data can be done.