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# Digital RTD Thermometer
# Part# RD0370

## Instruction Manual



# Table of Contents

Features..... 3

Specifications.....3-4

Instrument Description.....5-6

Operating Instructions.....7-9

Temperature Measurement.....10

Battery Replacement..... 15

Product Maintenance..... 16

Temperature Probe..... 16

## Features

This digital RTD thermometer is to be used with platinum-type . temperature sensors. The temperature indication follows the IEC751 . temperature table for PT-type sensors.

- IP67 waterproof housing
- Platinum resistor temperature sensor requires less temperature . compensation than thermocouple units
- 4-digit LCD readout with LED backlight
- °C/°F switchable
- Min/Max/Avg functions
- Relative mode and Data hold
- Low battery indication with auto power off
- Includes piercing type temperature probe . (Pt-100, IEC751 Class A accuracy)
- Ideal for food service applications

## Specifications:

| | |
|---|---|
| Measurement Range: | -100°C ~ 300°C; -148°F ~ 572°F |
| Resolution: | 0.1°C; 0.1°F; |
| Sensor types: | Platinum resistance temperature sensor for . pt-100, pt-500, pt-1000 (selectable) 4 wires. ALPHA=0.003850 |
| Measurement current: | Approx 0.53mA |
| Maximum Voltage at thermocouple input: | 60V DC, or 24Vrms AC |

Environmental:

- Operating Temperature and Humidity: .
  0°C ~50°C (32°F - 122°F); 0 - 80% RH
- Storage Temperature and Humidity: .
  -10°C to 60°C (14°F - 140°F); 0 - 80% RH
- Altitude up to 2000 meters, Accuracy (at 23 ± 5°C):

| Range | Accuracy |
|---|---|
| -100°C ~ 300°C | ±(0.1% reading + 0.4°C) |
| -148°F ~ 572°F | ±(0.1% reading + 0.8°F) |

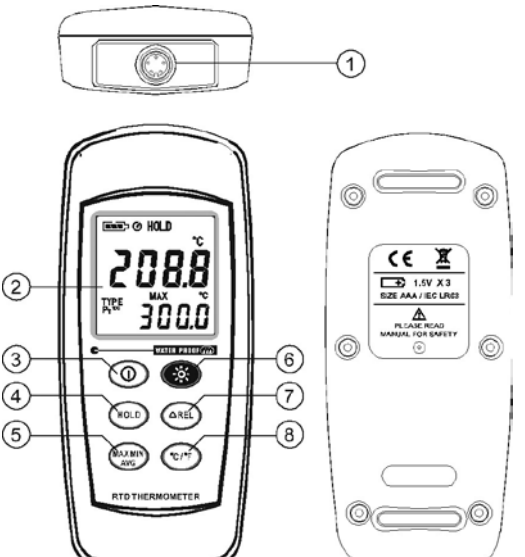
Temperature Coefficient:

For ambient temperatures from 0°C to 18°C and 28°C to 50°C, for each degree celcium ambient below 18°C or above 28°C add the following tolerance into the accuracy specification ...
**0.01% of reading + 0.03°C ( 0.01% of reading + 0.06°F )**

The basic accuracy Specification does not include the error of . the probe, refer to the probe accuracy specifications (on page 16) for . additional details.

| | |
|---|---|
| Sample Rate: | 2 times per second |
| Water resistance: | IP67 |
| Power Supply: | Battery 1.5V x 3 size AAA |
| Battery Life: | Approx. 100 hours with alkaline batteries |
| Dimensions: | 150 × 66 × 31mm |
| Weight: | 175g Approx. |
| Accessories: | Pt-100 Probe (class A) (model TP-R01), . batteries and instruction manual |
| Optional Accessories: | Pt-100 Probe (class A) (model TP-R01),. soft carrying case (model CA-05A) |

# Instrument Description




1 — Pt type temperature sensor connector

2 — LCD display

3 — Power ON/OFF button

4 — HOLD button

5 — MAX/MIN/Average control button

6 — Back light button

7 — Relative readout button

***Display***

Symbol definitions .
and button locations




| | |
|---|---|
| **-** | This indicates that the minus temperature is sensed |
| **°C/°F** | Celcius and Fahrenheit indication |
| **Pt xxx** | Platinum Type Indication |
| **HOLD** | This indicates that the display data is being held |
| **MAX** | The Maximum value is being displayed |
| **MIN** | The Minimum value is being displayed |
| **AVG** | The Average value is being displayed |
| **△REL** | The reading is under Relative Mode |
| | The battery power level indication |
| | This indicates Auto Power Off is enabled |

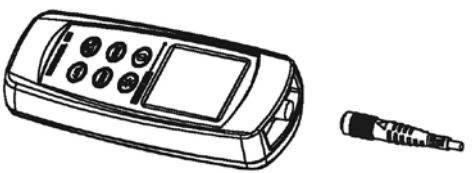
# Operating Instructions

***Turning the meter on***

Press the ⏻ button to turn the thermometer ON or OFF.

***Connecting the temperature probe***

For measurement, plug the temperature probe into the input connectors.



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***Selecting the Temperature Scale***

When the meter is first turned on, the default scale setting is set to the Celsius (°C) scale. It can be changed to Fahrenheit (°F) by pressing "**°C/°F**" button and vice versa back to Celsius.

***Data-Hold Operation***

To hold the present reading and keep it on the display, press the "**HOLD**". button. When the hold data is no longer needed, release the data-hold operation by pressing "**HOLD**" button again.

When the meter is under Data Hold operation, the "**△ REL**", AVG MAX MIN .. and "**°C/°F**" buttons are disabled.

***Back light Operation***

Press the "**Back Light**" button to turn the back light on, press it once again to turn it off. The meter will turn the back light off automatically if the "**Back Light**"..button is not pressed after 10 seconds

### *Relative Operation*

When the "**Δ REL**" button is pressed, the meter will memorize the present reading and the difference between the new reading and the memorized reading and the result will be shown on the display. Press the "**Δ REL**". button again to exit the relative operation.

### *MAX/MIN/AVG Operation*

When the AVG MAX MIN button is pressed, the meter will enter the . MAX/MIN/AVG mode. Under this mode the maximum value, minimum value and average value will appear simultaneously. The average value is calculated using the last 8 readings from the memory, it will update with every new reading.

When the MAX symbol is displayed, the Maximum value is shown on the display.

Press. AVG MAX MIN again and the NIN symbol is on the display and also the minimum reading.

Press. AVG MAX MIN again and the AVG symbol is on the display as well as the average reading.

Press. AVG MAX MIN again and the MAX, MIN and AVG will blink together. This means that all these readings are updated in the memory and the reading is the current temperature.

Press. AVG MAX MIN to circulate the display mode among these options.

When the meter is AVG MAX MIN operation, the "**Δ REL**" and "**°C/°F**". under functions are disabled.

To exit the MAX/MIN mode, one may press and hold AVG MAX MIN for two seconds.

### *Auto Power Off*

By default, the meter is in auto power off mode. The meter will power itself off after 30 minutes without operation.

To disable the auto power off, press and hold the "**HOLD**" button and turn the meter on. There will be two successive beeps to indicate that the auto power off has been disabled.

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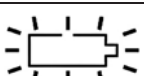
### *Low Battery*

This meter indicates the battery power level directly on the display. Use this reference guide to establish battery power level.

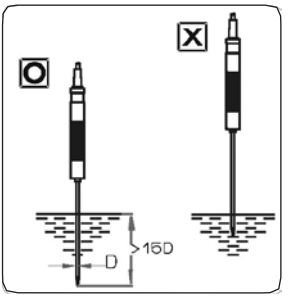
| | |
|---|---|
|  | Battery power level is FULL, you can still . take measurements. |
|  | Battery power lever is LOW, the battery . will need to be replaced, you can still take measurements. |
|  | Battery power lever is EMPTY, the batteries need to replaced (size AAA, 1.5V x 3). You can no longer take measurements. |

For complete instructions on how to replace the batteries see page 15.

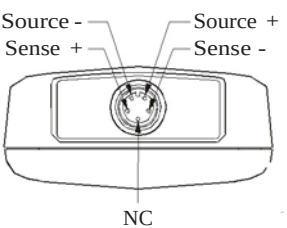
# Temperature Measurement

### *Correct Measurement Method*

The temperature sensor is located at the end of the metal sheath of the sheath type temperature probe. To accurately test in- ternal temperatures, insert the probe to a distance of at least 15 times the diameter of the sheath directly into the item you want to measure.




### *Connector Configuration*

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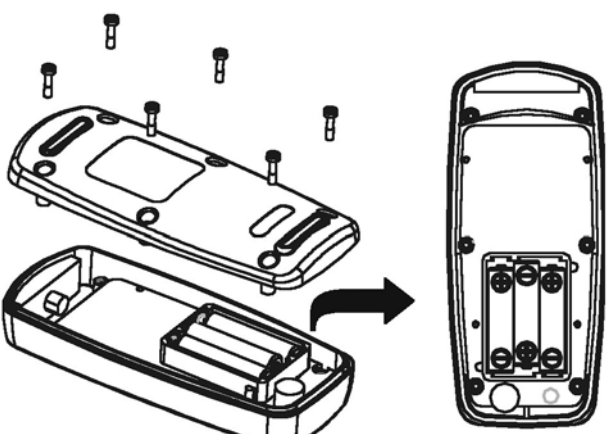
## Battery Replacement

1) Remove all of the back cover screws to be able to remove the cover.
2) Verify the polarity of the batteries and install the new LR03 (AAA size) alkaline batteries into the instrument.
3) Replace cover properly onto the meter and tighten screws.

The unit's back cover is fitted with rubber rings. After replacing the batteries, check that the rubber rings are properly placed before reinstalling the back cover. Improper placement of the rubber rings will compromise the unit's water-resistant structure, and possibly result in damage to the meter.



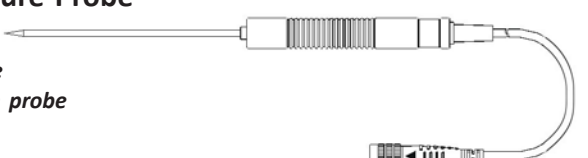
## Product Maintenance

In order to ensure the accuracy of the thermometer for a long period of time it should be calibrated once a year. For service (repairs or calibration) on this or any other Scigiene product or information on other Scigiene products, contact Scigiene at 416-261-4865 or visit our website at: www.scigiene.com

Clean the device and the window of the display with a clean, lint-free, antistatic and dry cleaning cloth.

Do no use cleaning agents that contain carbon or benzenes, alcohol or anything similar to clean the meter as these . substances will damage the surface of the meter. Do not use tools with sharp edges, screwdrivers, metal brushes or anything similar to clean the meter.

## Temperature Probe



***Piercing type temperature probe***

***Piercing type temperature probe Specification***

| | |
|---|---|
| Sensor Type | Platinum resistance thermometer sensor Pt 100 (4 wires) |
| Accuracy | IEC751, class A<br>±0.15°C ±0.002 measurement temperature |
| Measurement Range | -100 to 400°C |
| Temp. Sensor Dim. | Approx. 3.2mm ( 0.125”) |
| Temp. Sensor Length | Approx. 120 mm (4.72”) |
| Cable Length | Approx. 1100 mm (43.3”) |
| Water-resistant | EN60529:1991, IP67 |