

,User's Manual

**EXTECH**  
INSTRUMENTS

## RTD Thermometer

Model 407907



### ***Introduction***

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Congratulations on your purchase of the Heavy Duty Extech 407907 RTD Thermometer which offers high precision and selectable 0.1° and 0.01° resolution. The LCD display provides low battery and overload indication. Selectable temperature units °C & °F provides measurement versatility. Careful use of this meter will provide years of reliable service.

## Warranty

EXTECH INSTRUMENTS CORPORATION warrants this instrument to be free of defects in parts and workmanship for one year from date of shipment (a six month limited warranty applies on sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department at (781) 890-7440 ext. 210 for authorization or visit our website at [www.extech.com](http://www.extech.com) (click on Contact Extech and go to Service Department to request an RA number). A Return Authorization (RA) number must be issued before any product is returned to Extech. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. Extech specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. Extech's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.

## Specifications

### General Specifications

Display	4-1/2 digit (20,000 count) LCD display with over-range and low battery indication
Measurement	Temperature (selectable °C & °F units)
Data Hold	Freezes displayed reading
RTD Sensor (optional)	4-wire platinum 100Ω RTD; 0.00385 alpha coefficient (meets DIN IEC 751)
RTD Sensor jack	Proprietary 4 pin circular connector (uses optional Extech RTD sensor)
Sampling Time	Approximately 0.4 seconds
Memory record/recall	Meter stores Maximum and Minimum readings
Data Output	RS-232 PC Interface
Operating conditions	Temperature: 32°F to 122°F (0°C to 50°C); RH: < 80%
Power Supply	9V battery
Power consumption	15 mA DC (approx.)
Weight	0.62 lbs. (285g)
Dimensions	7.1 x 2.8 x 1.3" (180 x 72 x 32 mm)

### Range Specifications

Temperature Ranges		Resolution	Accuracy (% of reading)
°F	-199.99° to 392.00°F	0.01° F	± (0.1% + 0.4°F)
	392.0° to 1562.0°F	0.1° F	
°C	-199.99° to 199.00°C	0.01° C	± (0.1% + 0.2°C)
	200.0° to 850.0°C	0.1° C	

*Accuracy specifications apply to the meter only. Probe accuracy is additional.*

## Meter Description

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1. RTD probe connector
2. RS232 connector
3. LCD display
4. Keypad
5. RTD probe
6. Battery compartment (rear)
7. Protective holster



## Operation

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### Connecting the optional RTD probe

Plug the optional 4-wire RTD probe into the jack at the top of the meter. The jack is keyed so that the probe cannot be incorrectly inserted; however use care when inserting to avoid pin damage.

### Powering the meter

To power the meter, slide the **OFF/ON** switch to the **ON** position. If the display remains blank, check the 9V battery (rear compartment). Slide the switch to the **OFF** position to turn the meter off. Remove the battery if the meter is to be stored for long periods.

### Selecting units of measure

Press the **°F/°C** button to select the desired temperature units. The LCD display will show the **°C** or the **°F** symbol to indicate the currently selected unit of measure.

### Selecting the resolution

The meter offers 0.1° and 0.01° display resolution. To select the resolution use the **0.01°/0.1°** switch. The display will reflect the currently selected resolution. Use the specifications shown earlier in this manual to determine the best resolution for the measurement range of a given application.

### Taking measurements

Once the meter has been setup and a probe has been inserted in the jack at the top of the meter, place the temperature probe in the area under test. Give the meter several seconds to stabilize. Read the temperature measurement on the LCD. If dashes appear on the display, either the reading is out of range or the RTD probe is not connected (or defective).

### Maximum and Minimum (MAX/MIN) Record and Recall

When selected, the recording function stores the MAX/MIN readings for later recall.

1. Press the **RECORD** button once. The **RECORD** indicator will appear on the display.
2. After readings are taken, press the **RECALL** button to view the maximum reading. The **MAX** indicator will appear on the display to inform the user that the reading now on the display is the highest reading since the **RECORD** button was first pressed.
3. Press the **RECALL** button again to view the minimum reading. The **MIN** indicator will appear on the display to inform the user that the reading now on the display is the lowest since the **RECORD** button was first pressed.
4. To return to normal operation, press the **RECORD** button again. The **RECORD**, **MAX**, and **MIN** indicators will extinguish.

## Data Hold

To freeze a reading on the LCD, press the **HOLD** button. Temperature readings do take several seconds to stabilize, therefore use Data Hold only after a reading has fully stabilized. Press the **HOLD** button again to return the meter to normal operation.

## RS-232 PC Interface

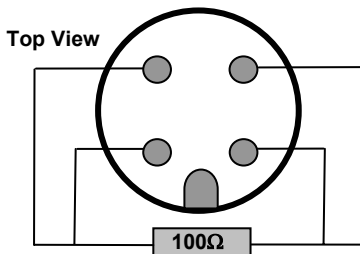
The meter includes a built-in RS232 serial data port. This interface was designed to operate with the Extech Data Acquisition Software (Extech Part Number 407001) and enables the user to store readings on a PC. For more information, contact Extech or refer to the manual accompanying the software for details.

## Battery Replacement

The low battery indicator (battery symbol) appears on the LCD when the 9V battery needs replacing. Reliable readings can be obtained for several hours after the first appearance of the low battery indicator. To replace the battery:

1. Remove the meter's rubber protective holster.
2. Remove the battery compartment cover (back of meter) using a small coin or screwdriver.
3. Replace the 9V battery (heavy duty, alkaline type) and reinstall the cover.
4. Replace the rubber holster.

## 4-wire RTD input jack pin-out



## Calibration and Repair Services

**Extech offers complete repair and calibration services** for all of the products we sell. For periodic calibration, NIST certification or repair of any Extech product, call customer service for details on services available. Extech recommends that calibration be performed on an annual basis to insure calibration integrity.



### Support Hotlines (781) 890-7440

Tech support: Ext. 200; Email: [support@extech.com](mailto:support@extech.com)

Repair>Returns: Ext. 210; Email: [repair@extech.com](mailto:repair@extech.com)

Website: [www.extech.com](http://www.extech.com)

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