

# MINCO MODEL TI142

## Handheld Digital Thermometer

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### Operating Instructions

#### **DESCRIPTION:**

The Minco TI142 is a handheld digital thermometer designed for accurate temperature measurement in the laboratory or field. High accuracy, normally found only in expensive bench instruments, is achieved when the meter is used with a Minco Model S900 series handheld probe. The meter can also interface with any 100ohm @ 0°C, Platinum RTD by using the optional AC742 binding post adaptor.

#### **OPERATION:**

- 1) Install a 9 volt battery in the battery compartment.
- 2) Insert the sensor plug into the jack on top of the meter.
- 3) Move the power switch to the on position.
- 4) Select the appropriate scaling (Fahrenheit or Celsius).  
For maximum resolution and accuracy, use the °C scale.

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## TROUBLESHOOTING GUIDE:

Condition	Causes	Remedy
Display shows "1" continuously in only the leftmost digit.	RTD is open.	Disconnect from meter, ohm RTD continuity and connections. Replace the RTD if faulty.
	Over range temperature.	Switch to °F scale. System is only accurate to 400°F, but meter will read to 600°F.
Reading shows "-1" continuously in only the leftmost digit.	The RTD is shorted.	Disconnect from meter, ohm RTD continuity and connections. Replace the RTD if faulty.
"□" or "LO BAT" reading in upper left corner of LCD display.	Battery is worn out.	Replace battery.
	Poor battery connections.	Clean connections.
LCD display shows nothing.	Dead or missing battery.	Replace battery.
Display shows very unlikely temperature.	Wrong scale setting.	Move switch on front panel to appropriate position. (Fahrenheit or Celsius).
	Faulty RTD.	Ohm the RTD connections. Replace if faulty.
	Wrong Element type. (e.g. The PD in S902 <u>PD</u> 60 must match the meter's code T1142 <u>PD</u> .)	Use correct RTD. Meter's code is listed inside battery compartment.

## GENERAL SPECIFICATIONS:

Display: 3.5 digit LCD (Liquid Crystal Display).  
Display Mode: Fahrenheit or Celsius.  
Input: Models available for 100 ohm at 0°C (Pt) and 604ohm at 0°C.  
Sensor Connection: Two standard .75" spaced banana plugs.  
Power Supply: 9 volt alkaline battery (supplied).  
Ambient Temperature:  
    Operating: 0 to 50°C (32 to 122°F)  
    Storage: -20 to 65°C (-4 to 149°F).  
Dimensions: 5.75" x 3.6" x 1.32" (146mm x 91mm x 34mm).  
Weight: 7.3 ounces (207g) with battery.

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## Specifications: Models TI142PA, PB, PD, AND PF

Sensor type: Platinum RTD, 100ohm (PA, PB, PD) or 1000ohm (PF) at 0°C  
Sensor TCR: PA= .00392 ohm/ohm/°C,  
PB= .00391 ohm/ohm/°C, and PD= .00385 ohm/ohm/°C  
(PD works with S900 series probes and other DIN platinum RTD's)  
PF= .00385 ohm/ohm/°C

	<u>°C Scale</u>	<u>°F Scale</u>
Temperature Range:	-40 to 199.9°C	-40 to 400°F
Resolution:	0.1°C	1°F
Accuracy:		
Meter alone:	±0.2°C	±1.5°F
System:	±0.4°C	±2°F

(System accuracy applies when using model TI142PD and an S900 series handheld thermometer.)

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## Specifications: Models TI142FA

Sensor type: Nickel-iron, 604ohm at 0°C, TCR=.00518 ohm/ohm/°C

	<u>°C Scale</u>	<u>°F Scale</u>
Temperature Range:	-15 to 199.9°C	-15 to 400°F
Resolution:	0.1°C	1°F
Accuracy:		
Meter alone:	±0.6°C	±3°F

## **WARRANTY INFORMATION:**

Items returned within one year from the date of sale, transportation prepaid, which Minco Products, Inc. (the Seller) reasonably determines to be faulty by reason of defective materials or faulty workmanship will be replaced or repaired at the Seller's discretion, free of charge.

This remedy is to be the sole and exclusive remedy available to the buyer in the event of a breach by the seller. Items that show evidence of mishandling or misapplication may be returned by the seller at the customer's expense.

Furthermore, the seller is not to be held responsible for the consequential damages caused by its product except as required under Minnesota Statutes, Section 336.1-719 (3).

This warranty is expressly in lieu of any other expressed warranty or implied warranty of merchantability or fitness for a particular purpose, and of any other obligations or liability on the part of the seller or its employees or agents.

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