

Hazard Analysis and Critical Control Point (HACCP) Thermometer

800042

**Hazard Analysis and Critical Control Point
(HACCP) Thermometer - 800042**

Copyright ©2015 by Sper Scientific

ALL RIGHTS RESERVED

Printed in the USA

The contents of this manual may not be reproduced or transmitted in any form or by any means electronic, mechanical, or other means that do not yet exist or may be developed, including photocopying, recording, or any information storage and retrieval system without the express permission from Sper Scientific.

Sper Scientific

8281 E. Evans Rd., Suite #103, Scottsdale, AZ 85260

Tel: (480) 948-4448 Fax: (480) 967-8736

Web: www.sperscientific.com

TABLE OF CONTENTS

INTRODUCTION	4
FEATURES	4
MATERIALS SUPPLIED	4
FRONT PANEL DESCRIPTION	5
LCD DISPLAY	6
SETUP	7
ATTACHING & DETACHING THE PROBE	12
MEASUREMENT PROCEDURES	13
TROUBLESHOOTING	18
ERROR CODES	18
BATTERY REPLACEMENT	18
SPECIFICATIONS	19
WARRANTY	20

INTRODUCTION

This Sper Scientific Hazard Analysis and Critical Control Point (HACCP) Thermometer (Model 800042) is designed for food safety in compliance with HACCP principles. The PT100 penetration probe offers optimal accuracy and a response time of less than one second. The instrument records and time stamps 99 data points and provides differential temperature and minimum and maximum readings. No calibration is required.

The washable, waterproof, sturdy meter provides a large LCD and audible and visual alarms. Other features include a countdown timer, clock, and low battery indicator.

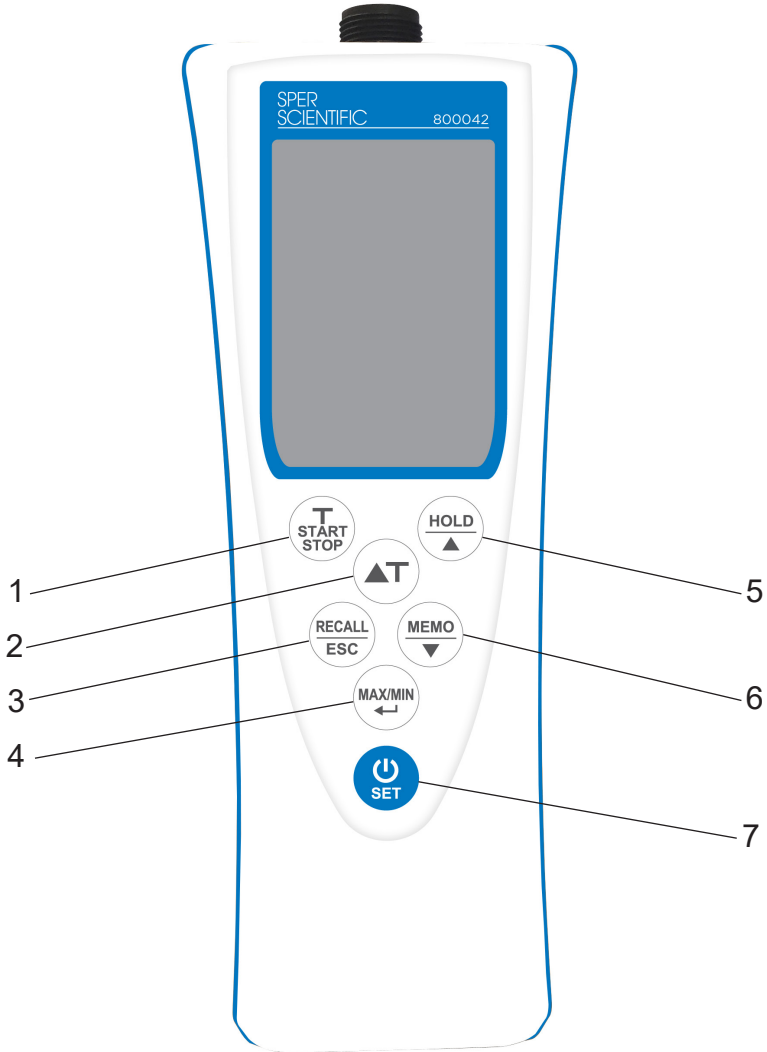
FEATURES

- Floats
- Sturdy, waterproof, washable housing
- PT100 penetration probe
- Records 99 data points
- Monitors temperature in °F or °C
- Large LCD display
- Audible and visual alarms
- Differential temperature function
- Minimum and maximum readings
- Hold function
- Countdown timer
- Clock
- Low battery indicator
- Automatic shutoff

MATERIALS SUPPLIED

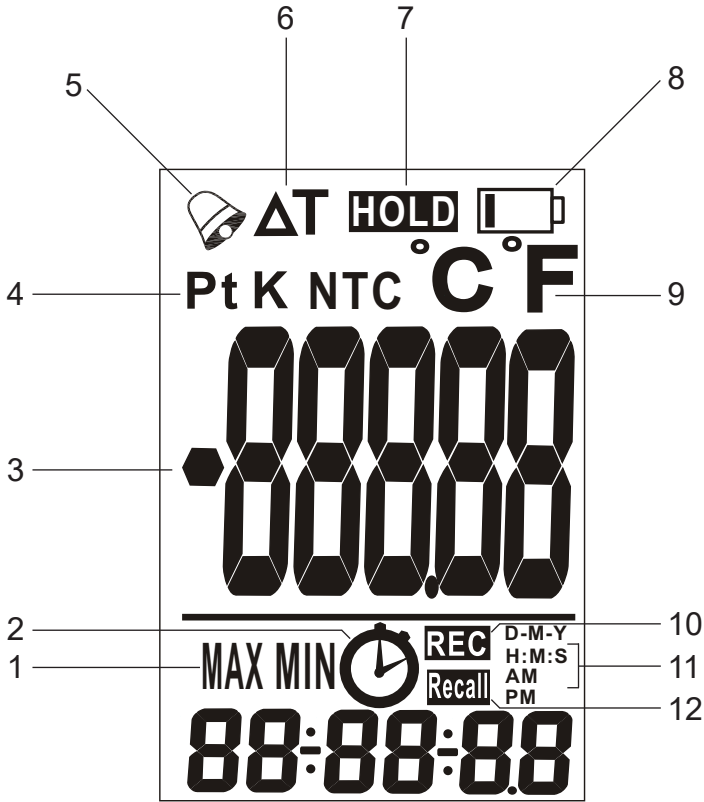
- Thermometer
- Temperature probe
- Four AAA batteries
- Hard carrying case
- Instruction Manual

FRONT PANEL DESCRIPTION



1. T/START/STOP (timer)
2. ▲/T (differential temperature)
3. RECALL/ESC (recall/escape)
4. MAX/MIN/↵ (maximum/minimum, enter)
5. HOLD/▲
6. MEMO/▼ (memory)
7. SET (power)

LCD DISPLAY



1. Maximum/minimum
2. Count-down timer
3. Temperature reading
4. RTD probe type
5. Alarm
6. Differential Temperature
7. Hold indicator
8. Low-battery icon
9. Temperature units
10. Record reading
11. Date and time display
12. Recall reading

SETUP MODE

The Setup Mode allows you to customize the following meter preferences and defaults:

Meter On and Off

1. Press **SET** to turn the meter **on**. The meter will emit a short beep and the full LCD screen will display for 3 seconds before the meter enters Normal Mode.
2. Press **SET** to turn the meter **off**.

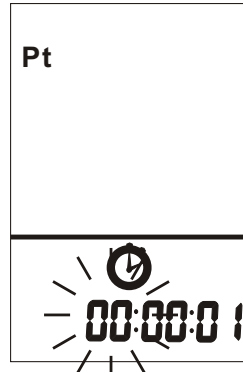
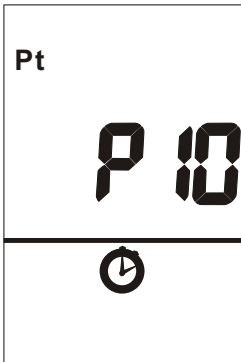
Entering Setup Mode

1. Press **SET** to turn the meter on.
2. Press **SET** for two seconds to enter Setup Mode.
3. Press **▲** or **▼** to select an option.
4. Press **↵** to confirm the selection.

Countdown Timer Setup (P10)

Note...

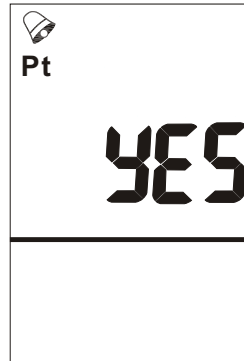
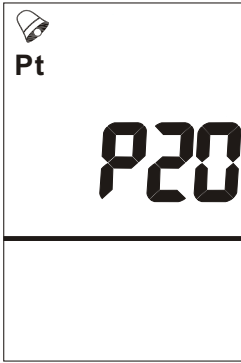
When pressing **▲** or **▼** to adjust a value, you can scroll more quickly by holding down the button.



1. Enter Setup Mode. Press **▲** or **▼** until "P10" is displayed.
2. Press **↵** to confirm.
3. "00:01:00" displays with the hours flashing. Press **▲** or **▼** to adjust the hours.
4. Press **↵** to save the selection. The minutes will flash.
5. Press **▲** or **▼** to adjust the minutes.

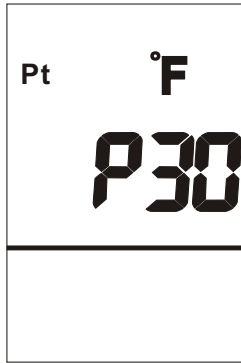
6. Press \leftarrow to save the selection. The seconds will flash.
7. Press \blacktriangle or \blacktriangledown to adjust the seconds.
8. Press \leftarrow to save the selection. "P10" displays.
9. Press \blacktriangle or \blacktriangledown to continue to the next setup parameter, or press **ESC** to exit Setup Mode.

Temperature Alarm Setup (P20)



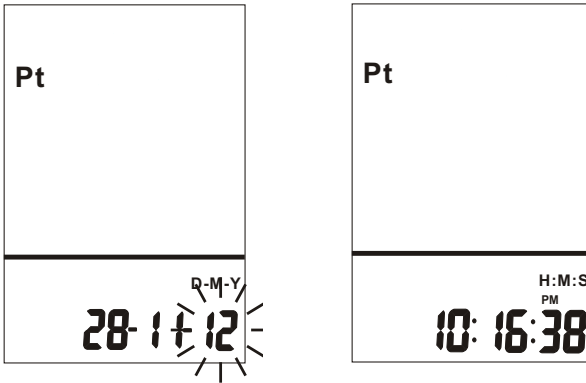
1. Enter Setup Mode. Press \blacktriangle or \blacktriangledown until "P20" is displayed.
2. Press \leftarrow to confirm.
3. Press \blacktriangle or \blacktriangledown to toggle between "Yes" (alarm **on**) or "No" (alarm **off**).
4. Press \leftarrow to save the selection. The alarm threshold value will display.
5. Press \blacktriangle or \blacktriangledown to increase or decrease the value by one degree.
6. Press \leftarrow to save the selection. "P20" displays.
7. Press \blacktriangle or \blacktriangledown to continue to the next setup parameter, or press **ESC** to exit Setup Mode.

Temperature Unit Setup (P30)



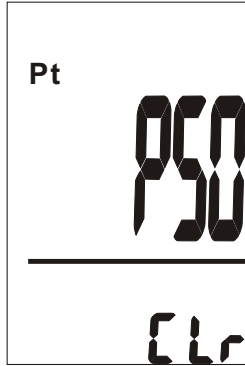
1. Enter Setup Mode. Press ▲ or ▼ until “P30” is displayed.
2. Press ↵ to confirm.
3. The temperature will display and °C or °F will flash. Press ▲ or ▼ to toggle between °C or °F.
4. Press ↵ to save the selection. “P30” displays.
5. Press ▲ or ▼ to continue to the next setup parameter, or press **ESC** to exit Setup Mode.

Date and Time Setup (P40)



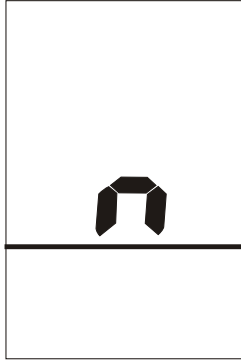
1. Enter Setup Mode. Press ▲ or ▼ until “P40” is displayed.
2. Press ↵ to confirm.
3. The date will display in DD-MM-YY format and the year will flash.
4. Press ▲ or ▼ to adjust the year.
5. Press ↵ to save the selection. The month will flash.
6. Press ▲ or ▼ to adjust the month.
7. Press ↵ to save the selection. The day will flash.
8. Press ▲ or ▼ to adjust the day.
9. Press ↵ to save the selection. “24” or “12” will flash to indicate the time format.
10. Press ▲ or ▼ to toggle between 24- or 12-hour times.
11. Press ↵ to save the selection. The time will display in HH:MM:SS format and the hour will flash.
12. Press ▲ or ▼ to adjust the hour.
13. Press ↵ to save the selection. The minutes will flash.
14. Press ▲ or ▼ to adjust the minutes. The seconds will flash.
15. Press ▲ or ▼ to adjust the seconds.
16. Press ↵ to save the selection. “P40” displays.
17. Press ▲ or ▼ to continue to the next setup parameter, or press **ESC** to exit Setup Mode.

Clear Memory (P50)



1. Enter Setup Mode. Press ▲ or ▼ until “P50” is displayed.
2. Press ↵ to confirm.
3. Press ▲ or ▼ to toggle between “Yes” (clear memory) or “No” (do not clear memory).
4. Press ↵ to save the selection.
 - a. If “No” was selected, “P50” displays.
 - b. If “Yes” was selected, “Done” displays, followed by “P50.”
5. Press ▲ or ▼ to continue to the next setup parameter, or press **ESC** to exit Setup Mode.

Automatic Shutoff



The meter automatically turns off after 20 minutes of inactivity.

To disable this function:

1. If the meter is on, press **SET** to turn the meter off.
2. Press both **SET** and **HOLD** for two seconds.
3. The meter will turn on and “n” will display.

ATTACHING AND DETACHING THE PROBE

*Always turn the power **OFF** before attaching and detaching the probe, and use caution.*

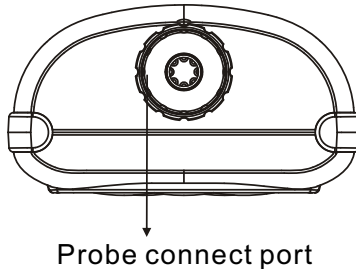
To attach the probe to the meter:

1. Plug the probe into the connector port on top of the meter.
2. Screw down the attached probe guard until it is moderately tight.

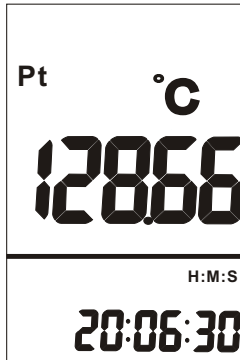
To detach the probe from the meter:

1. Unscrew the attached probe guard (the piece that is directly on top of the meter that connects the probe to the meter).
2. Holding the plug, pull the probe away from the meter. **DO NOT** hold the cable and pull the probe and meter apart as this may damage the probe connection.

Top View



MEASUREMENT PROCEDURES



1. Press **SET** to turn the meter **on**. The meter will emit a short beep and the full LCD screen will display for 3 seconds before the meter enters Normal Mode.
2. The temperature and units display on the screen along with the date and time.

Note...

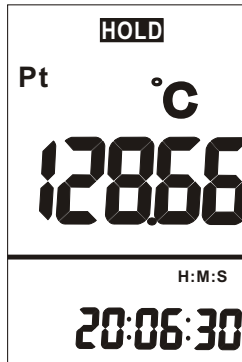
The display backlight will flash red or green to indicate safe or unsafe HACCP temperature levels.

Backlight Flashes Red: Unsafe Temperature	Temperature is above 4°C / 39.2°F
	Temperature is below 60°C / 140°F
Backlight Flashes Green: Safe Temperature	Temperature is below 4°C / 39.2°F
	Temperature is above 60°C / 140°F

Note...

High risk foods are foods where bacteria may multiply if stored at the wrong temperature. Bacteria will grow and multiply at between 5°C to 60°C so this is the danger zone to avoid.

Data Hold Function

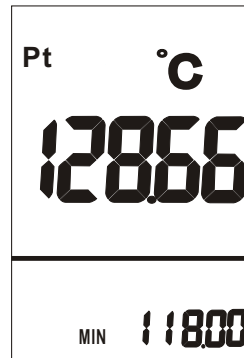
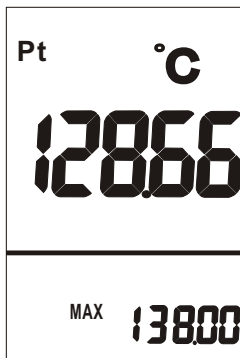


1. Press **HOLD** to freeze the reading on the display. "Hold" appears at the top of the LCD.
2. Press **HOLD** to return to Normal Mode.

Maximum/Minimum Mode

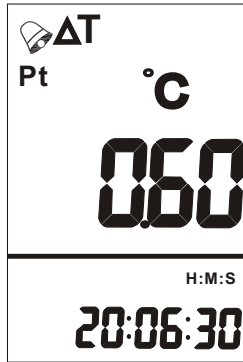
Note...

Viewing the maximum and minimum values will not interrupt temperature measurement. The maximum and minimum values will continuously update as long as the meter is in Maximum/Minimum Mode.



1. Press **MAX/MIN** to enter Maximum/Minimum Mode. The maximum temperature reading since the button was pressed will display at the bottom of the LCD.
2. Press **MAX/MIN** to display the minimum value since entering Maximum/Minimum Mode.
3. Press **MAX/MIN** to toggle between the maximum and minimum values, or press **ESC** to return to Normal Mode.

Differential Temperature

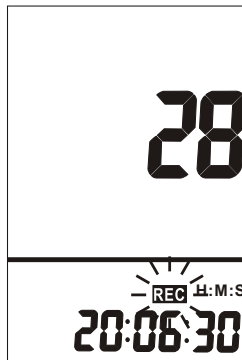


1. Press Δ/T . The current temperature reading is recorded as the baseline value.
2. The difference between the baseline value and the current temperature reading will appear on the display.
3. Press Δ/T to return to Normal Mode.

Note...

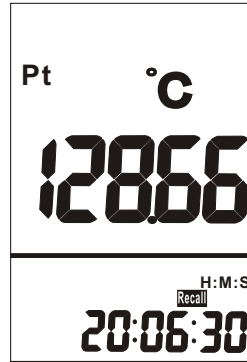
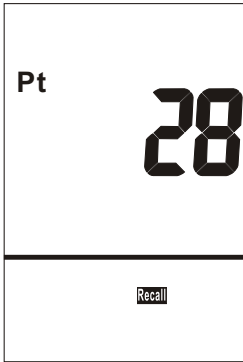
In the event of rapidly changing temperatures, press **HOLD** to freeze the reading before pressing Δ/T to display the differential.

Memory Function



To record a reading:

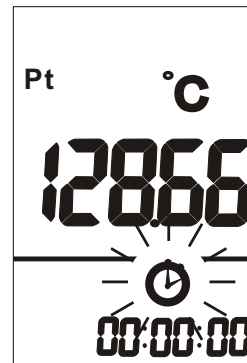
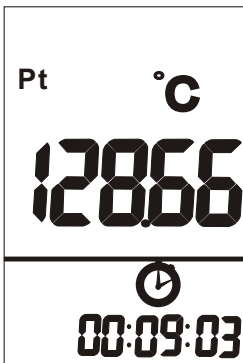
1. Press **MEMO** to record the reading. "REC" will flash on the display.
2. The memory serial number, 1-99, will appear on the LCD.



To recall a reading:

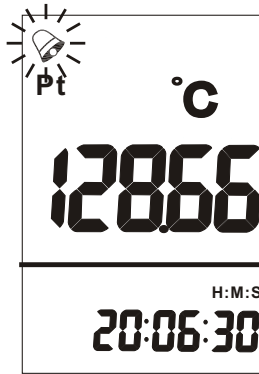
1. With the meter in Normal Mode, press **RECALL**. “Recall” appears on the LCD.
2. Press **▲** or **▼** to select a saved memory serial number.
3. The serial number will display followed by the temperature and time of the reading.
4. Press **ESC** to return to Normal Mode.

Countdown Timer



1. Press **T/START/STOP** to activate the countdown timer.
2. To cancel the timer at any time, press **T/START/STOP**.
3. When the time is up the clock icon will flash on the bottom of the LCD and the timer will beep. Press any key to stop the timer alarm.

Alarm



- The bell icon appears on the LCD whenever the alarm function is activated. Audible and visual alarms will indicate when the measured temperature exceeds the limit.
- The audible alarm (beeps) will stop when the reading falls into the normal range. You may also press any key to turn off the beeps manually.
- The bell icon will continue to flash until the reading returns to the normal range.

TROUBLESHOOTING

Problem	Action
Meter will not turn on	Press SET for more than 0.3 seconds and then try again.
	Check whether the batteries are correctly inserted.
	Remove the batteries for more than 10 minutes and then reinstall them.
Response time is slow	Ensure that the probe is properly connected to the meter
Readings are frozen	Check that the data hold function is not activated, as indicated by a "HOLD" icon at the top of the LCD display.

ERROR CODES

Error Code	Description
E02	The value is under range
E03	The value is over range
E.5	Probe is unplugged
E.8	Probe malfunction
E31	Temperature sensor or AD is damaged
E32	Memory integrated circuit is damaged

BATTERY INSTALLATION AND REPLACEMENT

This meter uses four AAA batteries. When the low battery indicator appears on the LCD, battery replacement is needed.

1. If the meter is on, press **SET** to turn the meter **off**.
2. Unscrew and remove the 3 screws on the back of the meter.
3. Slide off the battery cover.
4. Remove the old batteries and replace with four new AAA batteries, ensuring correct polarity.
5. Replace the battery cover and reinstall the screws.

SPECIFICATIONS

	Range	Resolution	Accuracy (@18 to 28°C ambient temp.)
Temperature	-100 to 300°C	0.01°C	+/- 0.5°C
	-148 to 572°F	0.01°F	+/- 1°F
IP Rating	IP 65		
Temperature Response Time	Approximately 180 sec.		
Operating Temperature	0 to 50°C		
Operating RH%	< 80%		
Storage Temperature	-20 to 50 °C		
Storage RH%	< 90%		
LCD Display Size	36 x 54 mm		
LCD Update Rate	1 second		
Dimensions	180 x 58 x 24.5 mm, 7.25" x 2.5" x 1.33"		
Probe Dimensions	150 x 3.2 mm	Handle: 100 mm	Cable length: 1100 mm
Weight	200 g (7 oz)		Probe: 50 g

WARRANTY

Sper Scientific warrants this product against defects in materials and workmanship for a period of **five (5) years** from the date of purchase, and agrees to repair or replace any defective unit without charge. If your model has since been discontinued, an equivalent Sper Scientific product will be substituted if available. This warranty does not cover probes, batteries, battery leakage, or damage resulting from accident, tampering, misuse, or abuse of the product. Opening the meter to expose its electronics will void the warranty.

To obtain warranty service, ship the unit postage prepaid to:

SPER SCIENTIFIC LTD.
8281 E. Evans Rd., Suite 103
Scottsdale, AZ 85260

The defective unit must be accompanied by a description of the problem and your return address. Register your product online at www.sperwarranty.com within 10 days of purchase.

