

IR Thermometer with Dewpoint

800111

Instruction Manual

SPER
SCIENTIFIC

Environmental Measurement Instruments

TABLE OF CONTENTS

INTRODUCTION	3
FEATURES.....	4
MATERIALS SUPPLIED	4
CARE AND MAINTENANCE.....	4
FRONT PANEL DESCRIPTION.....	5
LCD DISPLAY	6
SET UP	7
MEASUREMENT PROCEDURES.....	8
SPECIFICATIONS	11
WARRANTY	12

INTRODUCTION

The Sper Scientific IR Thermometer with Dewpoint (800111) allows residential and commercial consumers to quickly detect areas prone to mildew growth with a simple scanning motion. Aim the thermometer at questionable areas and view the large multi-line backlit LCD display. The automatic color-coded light alerts the user of areas prone to mold and mildew growth. This all-in-one unit not only measures ambient air characteristics such as air temperature, relative humidity, and dewpoint, but it also measures the surface temperature using infrared technology with Dual-point lasers and emissivity fixed at 0.95. This clever device then compares the surface temperature to the air conditions to accurately predict the possibility of condensation on that surface. The optional audible alarm has distinctive sounds to indicate increasing moisture levels during the scan and also has a hold function to freeze readings on the screen. Comes complete with carrying case, 9V battery, and instruction manual.

FEATURES

Color-coded LCD Display
Separate Color-coded warning light
Audible warning alarm
Hold Function
Measures in °F or °C

MATERIALS SUPPLIED

IR Thermometer with Dewpoint
Carrying Case
9V battery
Instruction manual

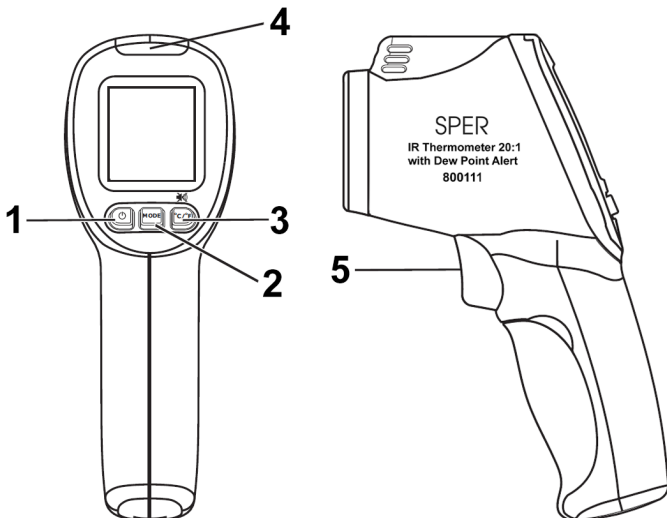
CARE AND MAINTENANCE

Wipe the thermometer with a nonabrasive cloth. Do not use solvents on the thermometer.

Never store the thermometer in a wet case.

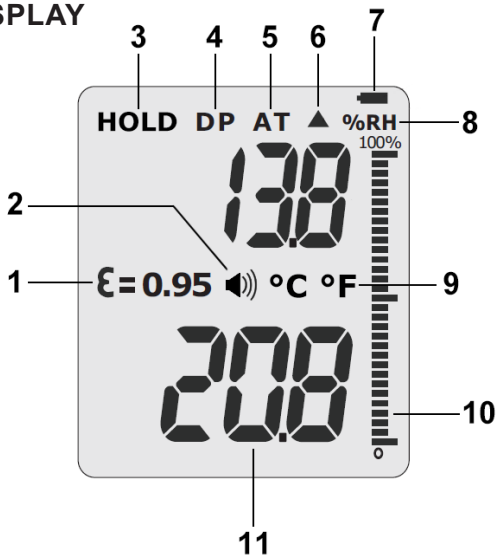
Repairs or services not covered in this manual should be performed by qualified personnel only. Please contact Sper Scientific to speak with a technician.

FRONT PANEL DESCRIPTION



1. POWER \odot
2. MODE
3. TEMPERATURE UNIT $^{\circ}\text{C}/^{\circ}\text{F}$
4. TRI-COLORED ALERT LIGHT
5. TRIGGER/HOLD

LCD DISPLAY



1. Current Emissivity
2. Audible Alarm Activated
3. Hold Function Activated
4. Dewpoint
5. Air Temperature
6. IR Laser Guide Activated
7. Low Battery Indicator
8. Relative Humidity
9. °F or °C units
10. D-value Bar graph
11. Surface Temperature (IR) Reading

SETUP

Battery Installation



This thermometer uses one 9V battery. To install the battery before first use:

1. Flip open the battery cover, located on the hand grip, using one of the two finger tabs.
2. Carefully install a 9V battery into the snap closure, ensuring correct polarity.
3. Tuck the battery back into the handle without pinching the wires.
4. Flip the battery cover closed.

Replace the batteries when the low-battery icon appears on the LCD.

Note...Before replacing the batteries, turn the thermometer off.

Turning the Thermometer on and off

1. Press  to turn the meter **on**.
2. Press  again to turn the meter **off**.

Changing the Unit of Measure:

1. Turn the thermometer **on**.
2. Press **°C/°F** to toggle between °F and °C.

Setting the Audible Alarm

1. Press and hold °C/°F to turn the audible alarm **on/off**.
2. The icon will appear on the screen to indicate that the audible alarm is underway.

Note: The audible alarm sounds in a pulse format during the amber warning and continuously during the red warning.

Backlight

The backlight of this thermometer is always on when the power is on.

Measurement Procedures

1. Hold the IR thermometer in a manner that does not block the top of the barrel. This is important because the ambient air temperature and humidity sensor is located there. Blocking it will produce inaccurate results.
2. Aim the dual laser indicators at an area of interest to measure surface temperature.
3. Read the surface temperature from the bottom number of the LCD screen. The IR surface temperature will always be the bottom number.
4. To compare this surface temperature to the conditions in the room, toggle through the ambient conditions by pressing **MODE**. This will display Air Temperature (AT), Relative humidity (%RH), and Dew Point (DP).

5. To hold value of interest on the LCD, press the trigger. This will allow you to move away from the object while the screen will still contain the data.

*Note: while HOLD is underway, the audible alarm will stop. The red indicator will remain lit according to its moisture level.

6. If you are uncertain of the areas where moisture may be present, you can sweep the room with the thermometer and observe the D-Value bar graph on the right-hand side of the LCD. This will give you an estimate increasing risk of moisture levels. Scanning of a room is done in a sweeping motion without pressing the trigger. Pressing the trigger by mistake will activate the hold function and cause no readings to occur.

7. Use the color chart on the next page for reference to possible moisture conditions.

Light Color	Alarm type	D-Value*	Moisture Possibilities
Green	None	Surface temp. is greater than 1/3 of the difference between the air temperature and the dew point.	Presence of moisture is not likely
Orange	Repeating alert	Surface temp. is between 1/3 and 2/3 of the difference between the air temperature and the dew point.	Conditions are favorable to moisture collecting on the surface in question.
Red	Single tone constant alert	Surface temp. is lower than 2/3 of the difference between the air temperature and the dewpoint.	Moisture may be present on the surface. Corrections to remedy the moisture situation should be performed.

*Note: The D-Value helps to indicate the likelihood of condensation, because if any surface temperature matches the dew point in a room, liquid will generate on that surface. So, D-Values describe this situation as a percent of likelihood. As the surface temperature approaches the dewpoint within the current ambient air temperature and humidity settings the d-value approaches the point of condensation.

SPECIFICATIONS

	Range	Resolution	Accuracy
Ambient Air Temperature	-22 to 212°F (-30 to 100°C)	0.1	±3.6°F (2°C) below freezing ±1.8°F (1°C) for all other temperatures
Infrared Thermometer Temperature	-58 to 482°F (-50 to 250°C)	0.1	±5.4°F (3.5°C)
Relative Humidity	20 to 90%RH	0.1	±3.5%RH
Dew Point	Calculation based on Ambient Air and RH. No stated accuracy.		
Infrared Distance to Spot Ratio	20:1		
Emissivity	Fixed at 0.95		
Battery Type	1 x 9V battery		

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 batteries, battery leakage, or damage resulting from accident, tampering, misuse, or abuse of the product. Opening the thermometer 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
(480) 948-4448

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.



Please note: The most current version of the manual can always be found at www.sperdirect.com