

# **Mini Environmental Quality Meter**

850070

Instruction Manual

**SPER  
SCIENTIFIC LTD.**

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### I. INTRODUCTION

For environmental testing anywhere. Combines a light meter, humidity meter, thermometer & anemometer into a single compact unit. Features touch-tone buttons, max-min & hold functions. Comes ready to use with wrist strap, instructions, 9V battery, & soft carrying case.

Fig 1



## II PANEL DESCRIPTION

1. POWER button
2. HOLD button
3. MAX/MIN button
4. UNIT/ZERO button
5. °C/°F, LUX/FT-CD button
6. FUNCTION button
7. Air Flow Sensor
8. Thermocouple Input Socket
9. RH Sensor
10. Light Sensor
11. LCD Display
12. Wrist Strap

### III. OPERATING INSTRUCTIONS.

#### A. MEASUREMENT PROCEDURES

Turn on the instrument by pressing the **POWER** button (fig 1-1). See page 3 for button locations. The full display appears, then counts down to 00000. The meter defaults to the last used unit of measure.

##### 1. Air Velocity Measurement

- Press the **FUNCTION** button (fig 1-6) to select the Anemometer function.
- Press the **UNIT/ZERO** button (fig 1-4) to select the unit of measure: (knot, Km/h, m/S, FPM, mph).
- Press the **°C/°F** button (fig 1-5) to select Centigrade or Fahrenheit.
- Aim the **AIR FLOW SENSOR** (fig 1-7) toward the source to be measured.
- Air velocity, temperature and the unit of measure are displayed on the LCD.

##### 2. Thermocouple Measurement

- Plug a Type K thermocouple probe (not included) in the **THERMOCOUPLE INPUT SOCKET**, making sure that the polarity is correct.
- Press the **FUNCTION** button (fig 1-6) to select the Thermocouple function
- Press the **°C/°F** button (fig 1-5) to select Centigrade or Fahrenheit.
- Make contact between the probe and the object to be measured.
- The temperature and the unit of measure are displayed on the LCD.
- Temperature differences between the probe and the meter can cause inaccurate results. If applicable, allow a few minutes for the probe and meter to adjust to the ambient temperature.

### 3. RH Measurement & Temperature

- Press the **FUNCTION** button (fig 1-6) to select the RH function.
- Press the **°C/°F** button (fig 1-5) to select Centigrade or Fahrenheit.
- The RH results and ambient temperature are displayed on the LCD.
- When environmental changes occur, such as moving the meter to a new location, allow a few minutes for the meter to stabilize.

### 4. Light Measurement

- Press the **FUNCTION** button (fig 1-6) to select the Light function. The reading appears inverted on the LCD.
- Press the **LUX/FT-CD** button (fig 1-5) to select the unit of measure
- Point the **LIGHT SENSOR** (fig 1-10), toward the light source to be measured.
- The results are shown on the LCD.
- The overload indicator (" - - - ") is displayed if the range is exceeded.
- The zero-point may drift because of climate changes or when the battery becomes weak. To reset the zero-point, block out any light source by covering the **LIGHT SENSOR**, then press the **UNIT/ZERO** button (fig 1-4) .

## B. ADDITIONAL FUNCTIONS

1. **Data Hold:** During the measuring procedure, press the **HOLD** button (fig 1-2) to freeze the measured value. The LCD will also display the word: "HOLD." To exit, press the **HOLD** button again.

## 2. Maximum / Minimum (Record)

- Press the **MAX/MIN** button (fig 1-3) once. "REC" appears on the LCD to indicate that the meter is in the Record mode.
- Press the **MAX/MIN** button again. "REC", "MAX" and the maximum measurement appear on the LCD
- Press the **MAX/MIN** button again. "REC," "MIN" and the minimum measurement appear on the LCD.
- To delete the recorded maximum and minimum values, press the **HOLD** button (fig 1-2) once. When released, the LCD displays only "REC".
- To exit this function, press and hold the **MAX/MIN** button for at least 2 seconds, until the display reverts to the current reading.

## 3. Automatic Shut-Off

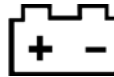
The instrument has an automatic shut off function in order to prolong battery life. After approximately 10 minutes without activity (no buttons pushed), the meter will automatically shut off. To disable this feature, press the **MAX/MIN** button.(fig 1-3). "REC" will appear on the LCD.

## 4. Overload Indicator

When the measurement is out of range, "- - - -" appears on the display.

## 5. Battery Replacement

Replace the battery when the low battery icon is displayed in the left corner of LCD. In-spec measurements may be made for several hours after the low battery icon appears.



#### IV. SPECIFICATIONS

Unit of Measure	Range	Res.	Accuracy
°C ambient	0 ~ 50	0.1	±1.2°C
°F ambient	32 ~ 122		±2.5°F
°C Type K	-100 ~ 1300		±(1% + 1°C)
°F Type K	-148 ~ 2372	0.1	±(1% + 2°F)
RH	10 ~ 95%		±6% 30 ~ 60RH otherwise ±8%
Airspeed m/s	0.4 ~ 25.0	0.1	±(3% + 2d)
Airspeed km/h	1.4 ~ 90.0		
Airspeed mile/h	0.9 ~ 55.9		
Airspeed knots	0.8 ~ 48.6		
Airspeed ft/min	80 ~ 4930		
Lux	0 ~ 20,000	1	±(3% + 20ft/min)
Foot Candle	0 ~ 2,000	0.1	±(5% + 4d)

Display	8 mm LCD display
Operating Humidity	Max. 80% RH
Operating Temp.	0~50°C (32~122°F)
Power Supply	006p DC 9V battery (heavy duty type)
Power Current	Approx. DC 6.2 mA
Weight	5½ oz (160 g)
Dimensions	6" x 2½" x 1" (150 x 65 x 30 mm.)

Precautions: When not in use, store the meter in its closed pouch to preserve light sensor accuracy.

### **FIVE YEAR WARRANTY**

Sper Scientific warrants this product against defects in materials and workmanship for a period of five 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 damage resulting from accident, misuse, or abuse of the product. In order to obtain warranty service, simply ship the unit postage prepaid to:

**SPER SCIENTIFIC LTD.**  
7720 East Redfield, Suite 7  
Scottsdale, Arizona 85260  
(480) 948-4448  
[www.sperscientific.com](http://www.sperscientific.com)

Please Note: The defective unit must be accompanied by a description of the problem and your return address.