REED
INSTRUMENTS

Multi-Function Environmental Meter

WARRANTY
1 YEAR
WARRANTY

Instruction Manual

Table of Contents

Introduction

Thank you for purchasing your REED LM-8000 Multi-Function Environmental Meter. Please read the following instructions carefully before using your instrument. By following the steps outlined in this manual your meter will provide years of reliable service.

Product Quality

This product has been manufactured in an ISO9001 facility and has been calibrated during the manufacturing process to meet the stated product specifications. If a certificate of calibration is required please contact the nearest authorized REED distributor or authorized Service Center. Please note an additional fee for this service will apply.

Safety

Never attempt to repair or modify your instrument. Dismantling your product, other than for the purpose of replacing batteries, may cause damage that will not be covered under the manufacturer's warranty. Servicing should only be provided by an authorized service center.

Features

- Measures air velocity/temperature, ambient temperature, relative humidity, contact temperature and light
- Easy to operate, designed for one hand operation
- Air velocity is measured in m/s, ft/min, km/h, mph or knots
- Light levels are measured in foot-candles or lux
- Temperature is measured in °C or °F
- Data Hold and Max/Min functions
- Zero adjustment button (light meter)
- Low battery indicator and auto shut off

Specifications

Air Velocity

Measuring Ranges:	0.2 to 30.0m/s
	1.4 to 108.0km/h
	0.9 to 67.0 mph
	80 to 5910 fpm
	0.8 to 58.3 knots
Accuracy:	<20m/s: ±3% FS
	≥20m/s: ±4% FS
Resolution:	0.1m/s, km/h, mph, knot
	1 fpm

Temperature

Measuring Ranges:	Air Temperature: 32 to 122.0°F (0 to 50°C)
	Contact Temperature (Type K):
	-148 to 2372°F (-100 to 1300°C)
Accuracy:	Air Temperature: ±1.2°C (2.5°F)
	Contact Temperature: ±(1% rdg +2°F(1°C))
Resolution:	0.1°F/°C

Humidity

Measuring Range:	10 to 95%RH
Accuracy:	≥70%RH: ±(4% rdg + 1.2%RH)
	<70%RH: ±4%RH
Resolution:	0.1%RH

Light

Measuring Range:	0 to 20,000 Lux (0 to 2,000 Ft-cd)
Accuracy:	±(5% rdg ± 8 dgt)
Resolution:	1 Lux / 0.1 Ft-cd

General Specifications

Response Time:	1 second
Display:	LCD
Data Hold:	Yes
Min:	Yes

Max:	Yes
Zero Adjustment:	Yes (for Light)
Auto Shut-off:	Yes (after 10 minutes)
Low Battery Indicator:	Yes
Power Supply:	9V Battery
Product Certifications:	CE
Operating Temperature:	32 to 122°F (0 to 50°C)
Storage Temperature:	14 to 140°F (-10 to 60°C)
Operating Humidity Range:	10 to 85%
Dimensions:	6.1 x 2.4 x 1.3" (156 x 60 x 33mm)
Weight:	8.8oz (160g)

Included

- Wrist Strap
- Battery

Instrument Description
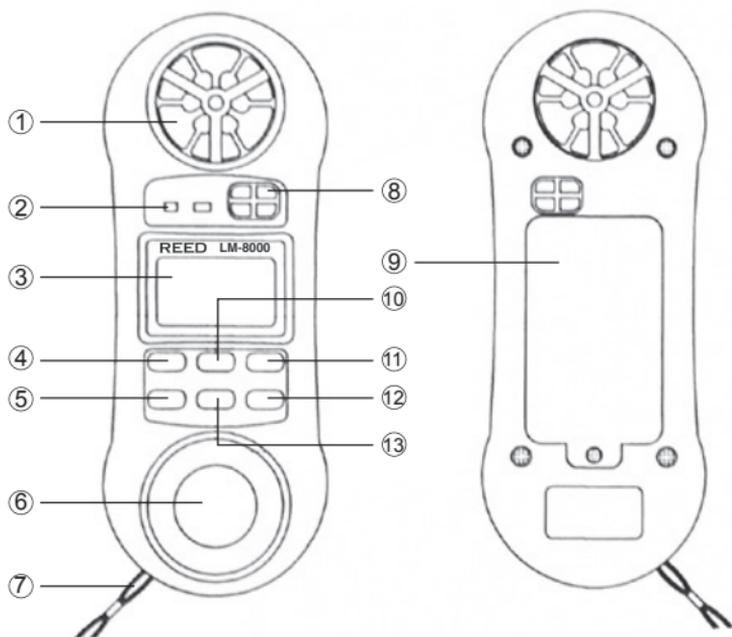
1. Air Flow Sensor
2. Thermocouple Input Socket
3. LCD display
4. POWER Button
5. Unit/Zero Button
6. Light Sensor
7. Wristlet
8. Relative Humidity Sensor
9. Battery Cover
10. Hold Button
11. Max/Min Button
12. Function Button
13. °C/°F Button &
    Lux/Ft-cd Button

Operating Instructions

Power ON/OFF

Turn the instrument on or off by pressing the **POWER** button.

Selecting Measurement Modes

The LM-8000 offers 4 types of measurement modes:

- Air Velocity/Temperature
- Humidity/Temperature
- Type K Thermocouple Temperature
- Light Meter

  1. When the meter is on, press the **FUNCTION** button to cycle through the measurement modes. The display will flash "An" (for air velocity/temperature measurements), "rH" (for humidity/temperature measurements), "tP" (for type K thermocouple temperature measurements), "LigHt" (for light measurements).

  2. Release the **FUNCTION** button once the appropriate measurement mode has been selected.

Air Velocity/Temperature Measurement

1. Select the "An" function (see *Selecting Measurement Modes* section for details). In Air velocity mode, the display will show both Air Velocity and Temperature simultaneously.

2. Press the **UNIT** button to cycle through the units of measurements (fpm, m/s, km/h, mph and knots).

3. When selected, face the Air Flow Sensor to the source of wind.
Note: For the best results when using your instrument, make sure the air stream and the sensor are aligned (±20 degrees maximum) and wait approximately 3 seconds for the reading to stabilize.

4. When the readings are stable, note the measured value.

Thermocouple Temperature Measurement

1. Plug the optional Type K Thermocouple Probe into the thermocouple input jack.
2. Select the "tP" function (see *Selecting Measurement Modes* section for details). In this mode, the LCD display will only show the thermocouple temperature.
3. Press the °**C/°F** button to select between °C and °F.

Note: If no thermocouple is connected, the meter will display "-----".

Relative Humidity and Ambient Air Temperature Measurements

When the meter is introduced into a new environment, it will take a few minutes to fully stabilize.

1. Select the "rH" function (see *Selecting Measurement Modes* section for details). In "rH" mode, the display will show %RH and ambient air Temperature simultaneously.
2. Press the °**C/°F** button to select between °C and °F.

Light Measurements

1. Select the "LIgHt" function (see *Selecting Measurement Modes* section for details).
2. Press the **Lux/Ft-cd** button to select Lux or Foot-candle units of measure.
3. Before taking measurements, a zero offset adjustment should be performed (see *Zero Adjustment* section for details).
4. Hold the sensor toward the light source and note reading.

Zero Adjustment

- For best results you should zero the light sensor prior to first use in a dark environment. To achieve this, place the light sensor end of the meter under a desktop or flat surface to block any light. Press the **Unit/Zero** button to perform the zero adjustment.
- The zero value can drift due to environment temperatures, battery power, as well as various other reasons. It is recommended that the zero be checked frequently using the above procedure.

Data Hold

1. While taking a measurement, press the **HOLD** button to freeze the current readings on the display.
2. While in this mode a "HOLD" symbol will appear on the LCD.
3. Press the button again to resume normal operation.

Recording Maximum and Minimum Readings

1. Press the **MAX/MIN** button to enter recording mode as indicated by "REC" on the LCD. The meter will now begin recording maximum and minimum readings.
2. While in recording mode:
   - A) Press the **MAX/MIN** button once and the maximum value will appear on the display as indicated by "REC MAX" and will automatically update when a new maximum data value is measured.
   - B) Press the **MAX/MIN** button again and the minimum value will appear on the display as indicated by "REC MIN" and will automatically update when a new minimum data value is measured.
   - C) To exit recording mode and resume normal operation, press and hold the **MAX/MIN** button for two seconds.

Note: When in recording mode the **POWER** button is disabled and the meter cannot be turned off.

Auto Power Off

To preserve battery life, the meter is programmed to turn off after 10 minutes of inactivity.

Battery Replacement

When the low battery icon appears on the left corner of LCD display, you will need to replace the batteries. Remove the battery cover using a Phillips head screwdriver, insert a new 9V battery and secure the cover.

Accessories and Replacement Parts

- **R2920** Surface Thermocouple Probe
- **R2930** Right Angle Thermocouple Probe
- **R2940** Air/Gas Thermocouple Probe
- **R2950** Immersion Thermocouple Probe
- **R2960** Needle Tip Thermocouple Probe
- **TP-01** Beaded Thermocouple
- **CA-52A** Soft Carrying Case

Don't see your part listed here? For a complete list of all accessories and replacement parts visit your product page on www.reedinstruments.com.

Product Care

To keep your instrument in good working order we recommend the following:

- Store your product in a clean, dry place.
- Change the battery as needed.
- If your instrument isn't being used for a period of one month or longer please remove the battery.
- Clean your product and accessories with biodegradable cleaner. Do not spray the cleaner directly on the instrument. Use on external parts only.

Product Warranty

REED Instruments guarantees this instrument to be free of defects in material or workmanship for a period of one (1) year from date of shipment. During the warranty period, REED Instruments will repair or replace, at no charge, products or parts of a product that proves to be defective because of improper material or workmanship, under normal use and maintenance. REED Instruments total liability is limited to repair or replacement of the product. REED Instruments shall not be liable for damages to goods, property, or persons due to improper use or through attempts to utilize the instrument under conditions which exceed the designed capabilities. In order to begin the warranty service process, please contact us by phone at 1-877-849-2127 or by email at info@reedinstruments.com to discuss the claim and determine the appropriate steps to process the warranty.

Product Disposal and Recycling

Please follow local laws and regulations when disposing or recycling your instrument. Your product contains electronic components and must be disposed of separately from standard waste products.

Product Support

If you have any questions on your product, please contact your authorized REED distributor or REED Instruments Customer Service by phone at 1-877-849-2127 or by email at info@reedinstruments.com.

Please visit **www.REEDINSTRUMENTS.com** for the most up-to-date manuals, datasheets, product guides and software.

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