REED
INSTRUMENTS

Laser
Distance
Meter

1 YEAR
WARRANTY

Instruction
## Manual

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Introduction

Thank you for purchasing your REED R8005 Laser Distance 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 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.

CAUTION

LASER RADIATION
DO NOT STARE INTO BEAM

DIODE LASER
<1 mW Output at 630-670nm
CLASS II LASER PRODUCT

- Use extreme caution when the laser beam is turned on.
- Do not let the beam enter your eye, another person's eye or the eye of an animal.
- Be careful not to point the beam off a reflective surface and strike your eye.
- Do not allow the laser light beam to impinge on any gas which can explode.
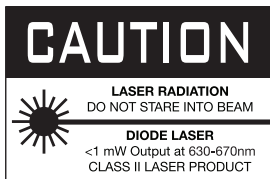
Features

- Designed for one-handed operation
- User selectable unit of measure (imperial/metric)
- Laser target pointer
- Reference point selection (front or rear of instrument)
- Quick, self calculation with real-time readout
- Backlit multi-line LCD display
- Area, Volume and Max/Min functions
- Addition, Subtraction and indirect 2/3 point (Pythagoras) calculations
- Integrated bubble level (Horizontal and vertical)
- Continuous measurement mode
- Internal memory saves up to 99 readings
- Low battery indicator and auto shut off
- Includes carrying case and batteries

Applications

- Measuring conduit and wire lengths
- Light Retrofitting Projects
- Piping/exhausts/ventilation and equipment installation
- Conduit layout and installation
- Air ventilation and duct work positioning
- Air volume calculations
- Hot/cold water piping locations
- Determining wire length and duct sizing
- Floor plans
- Network room layout

Specifications

|	
Measuring Range:	164' (50m)
Accuracy:	±(2.0mm + d x 0.005 %)
Measuring Units:	m, ft, in, ft + in
Sensor Type:	Laser
Laser Type:	630 to 670nm, <1mW
Display:	LCD (multi-line)
Backlit Display:	Yes
Start Point Selection:	Yes (Front/Back)
Reading Mode:	2 (Single/Continuous)
Maximum and Minimum Functions:	Yes
Calculation Functions:	Addition, Subtraction, Area, Volume, Sum of Lengths, 2 point indirect (pythagoras), 3 point indirect
Internal Memory:	Yes (up to 99 readings)
Response Time:	2 seconds
Auto Shut-off:	Yes (after 3 minutes)
Low Battery Indicator:	Yes
Power Supply:	2 x AAA Batteries
Laser Class:	Class II
Product Certifications:	CE, RoHS
Operating Temperature:	32 to 104°F (0 to 40°C)
Storage Temperature:	-4 to 140°F (-20 to 60°C)
Operating Humidity Range:	<85 % RH
Dimensions:	4.8 x 2.05 x 1.16" (122 x 52 x 29.5mm)
Weight:	3.5oz (100g)

Instrument Description
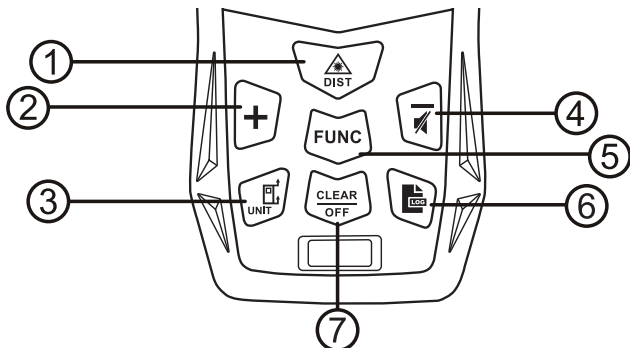
1. Power/Measure Button
2. Plus (+) Button
3. Measurement Point/Unit Selection Button
4. Minus (-)/Audible On/Off Button
5. Function Button
6. Log Button
7. Power OFF/Clear Button

Display Description

1. Measurement Mode Indicator
2. Laser Emission Indicator
3. Main Measurement Display Area
4. Secondary Measurement Display Area
5. Battery Status Indicator
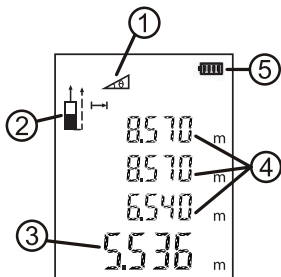
Operating Instructions

Power ON/OFF

To turn the meter on, press and hold the ⬚ button. To turn the meter off, press and hold the ⬚ button for approx. 3 seconds. The device will power off automatically after idling for 180 seconds.

Backlight

The backlight will turn on after pressing any button, and turn off after 15 seconds of idling to save battery life.

Calibration Procedure

The R8005 includes a self-calibration mode to ensure measurement accuracy.

1. While the meter is powered off, press and hold the ⬚ button while turning the meter on.

2. Release both buttons when "CAL" and a flashing number appear on the display indicating that the meter is now in self-calibration mode.

3. Use the ⬚ button and the ⬚ button to adjust error value. The adjustment range is -9 to 9mm.

    For example, if the meter appears to be measuring 2mm lower than the actual distance, press the ⬚ to increase the calibration value by 2mm. If the meter appears to be measuring 3mm above the actual distance, press the ⬚ button to decrease the calibration value by 3mm.

4. Press the ⬚ button to save the set calibration result and resume normal operation.

Reference Point Setting

The default reference point setting is from the bottom of the meter. Press the 🔲 button to toggle between the bottom and top reference points of the meter. A beep will emit whenever the reference setting is changed.

Note: The meter does not automatically save the selected reference point when turned off.
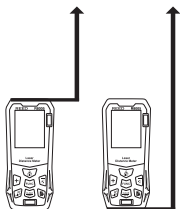
Setting the Unit of Measure

Hold the 🔲 button to toggle between units of measure while in a measurement mode. The default unit of measure is 0.000m. There are a total of 4 selectable units.

Measurement Units

Length	Area	Volume
0.000m	0.000m²	0.000m³
0.00m	0.00m²	0.00m³
0.0in	0.00in²	0.00ft³
0 1/16 in	0.00ft²	0.00ft³
0'00" 1/16	0.00ft²	0.00ft³
0.00ft	0.00ft²	0.00ft³

Distance, Area, Volume, Pythagorean, Cumulative and Regressive Measurement

Single Measurement

Press the 🔲 button in measurement mode to emit laser and lock the measurement point. Press the 🔲 button again for single distance data measurement. Measurement result will be displayed on the main display area.

Continuous Measurement

Hold the ⬆️ button on measurement mode to enter continuous measurement mode. Secondary display area will display the maximum/minimum measurement values during continuous measurement mode. Main display area will display the current measurement value. Press the ⬆️ button or the ᴄʟᴇᴀʀ button to exit continuous measurement mode.

Area Measurement

Press the ꜰᴜɴᴄ button and the display will show a rectangle. One side of the rectangle will flash. Complete the following operations:

1. Press the ⬆️ button to measure the first side (length)
2. Press the ⬆️ button to measure the second side (width)

The device will calculate the area automatically and the result will be shown on the main display area.

Secondary display area shows the measurement values of the rectangle's length and width.

During measurement, use the ᴄʟᴇᴀʀ button to clear the measurement result and restart measurement.

Press the ᴄʟᴇᴀʀ button twice to exit area measurement mode.

Volume Measurement

Press the ꜰᴜɴᴄ button twice to enter volume measurement mode and a square will flash on the display. One side of the rectangle will flash. Complete the following operations:

1. Press the ⬆️ button to measure the first side (length)
2. Press the ⬆️ button to measure the second side (width)
3. Press the ⬆️ button to measure the third side (height)

The device will automatically calculate the volume and the result will be shown in the main display area.

Secondary display area shows the measurement values of the square's length, width, and height.

During measurement, use the ᴄʟᴇᴀʀ button to clear the measurement result and restart measurement.

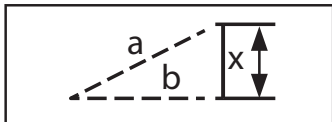## Indirect Measurement

This meter has four modes that use the Pythagorean Theorem to measure the distance of one side of a triangle, which helps users perform indirect measurements in complex situations.
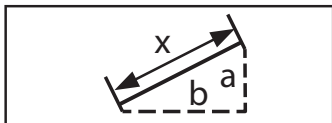
Indirect Measurement 1

1. Press the FUNC button 3 times.
2. The hypotenuse of ◁ will flash on the display.
3. Press the DIST button to measure the length of the dotted hypotenuse (a) as indicated on the LCD display.
4. Press the DIST button to measure the length of the dotted angle side (base) (b) as indicated on the LCD display.
5. The meter will automatically calculate the length of the solid right-angle side (x).

Indirect Measurement 2

1. Press the FUNC button 4 times.
2. The right-angle side of ◁ will flash on the display.
3. Press the DIST button to measure the length of the dotted leg (a) as indicated on the LCD display.
4. Press the DIST button to measure the length of the dotted base-side (b) as indicated on the LCD display.
5. The meter will automatically calculate the length of the hypotenuse (x).

Indirect Measurement 3
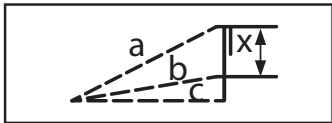
1. Press the FUNC button 5 times.
2. The hypotenuse of ◁ will flash on the display.
3. Press the △DIST button to measure the length of the dotted hypotenuse (a) as indicated on the LCD display.
4. Press the △DIST button to measure the length of the other dotted hypotenuse (b) as indicated on the LCD display.
5. Press the △DIST button to measure the length of the dotted base-side (c) as indicated on the LCD display.
6. The meter will automatically calculate the length of the leg (x).

Indirect Measurement 4

1. Press the FUNC button 6 times.
2. The hypotenuse of ◁ will flash on the display.
3. Press the △DIST button to measure the length of the dotted hypotenuse (a) as indicated on the LCD display.
4. Press the △DIST button to measure the length of the dotted base-side (b) as indicated on the LCD display.
5. Press the △DIST button to measure the length of the other dotted hypotenuse (c) as indicated on the LCD display.
6. The meter will automatically calculate the length of the leg (x).
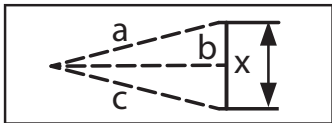
Note: In the Pythagorean measurement mode, the length of the right-angle side must be less than the hypotenuse, or a calculation error will be shown on the display. To ensure measurement accuracy, measurement must be taken from the same starting point followed by the hypotenuse, then the angle side.

Cumulative Mode (Single Measurement Mode)

1. After obtaining a single distance measurement reading, press the ⊕ button to enter the cumulative mode.
2. The "+" symbol appears in the secondary measurement display area confirming you are now ready to proceed.
3. Press the ⟨DIST⟩ button to measure another single distance.
4. The main measurement display area will now display the sum of both measurements.

Subtraction Mode (Single Measurement Mode)

1. After obtaining a single distance measurement reading, press the ⊟ button to enter the subtraction mode.
2. The "-" symbol appears in the secondary measurement display area.
3. Press the ⟨DIST⟩ button to measure another single distance.
4. The main measurement display area will now display the difference between both measurements.

Cumulative Mode (Area Measurement Mode)

1. After obtaining an area measurement reading, press the ⊕ button to enter the cumulative mode.
2. The "+" symbol appears in the secondary measurement display area confirming you are now ready to proceed.
3. Measure another area.
4. The main measurement display area will now display the sum of both area measurements.

Subtraction Mode (Area Measurement Mode)

1. After obtaining an area measurement reading, press the 🔲 button to enter the subtraction mode.
2. The "-" symbol appears in the secondary measurement display area confirming you are now ready to proceed.
3. Measure another area.
4. The main measurement display area will now display the difference between both area measurements.

Cumulative Mode (Volume Measurement Mode)

1. After obtaining a volume measurement reading, press the ➕ button to enter the cumulative mode.
2. The "+" symbol appears in the secondary measurement display area confirming you are now ready to proceed.
3. Measure another area.
4. The main measurement display area will now display the sum of both area measurements.

Subtraction Mode (Volume Measurement Mode)

1. After obtaining a volume measurement reading, press the 🔲 button to enter the subtraction mode.
2. The "-" symbol appears in the secondary measurement display area confirming you are now ready to proceed.
3. Measure another area.
4. The main measurement display area will now display the difference between both area measurements.

Saving Measurement Values

To save a measured value in the meter, press and hold the 🔲 button for approx. 2 seconds. The meter will emit a beep and automatically store the current measurement value. While in area, volume or Pythagorean measurement modes, the log function can only be activated when all measurements are completed.

Browse/Delete Saved Measurement Values

1. Press the ▣ button to enter the saved measurement values screen.
2. Press the + button to move up the list of saved measurement values.
3. Press the CLEAR/OFF button to clear the selected saved measurement value.
4. Press the DIST button to exit the saved measurement values screen and resume normal operation.

Battery Replacement

1. When the low battery symbol appears on the display, replace the batteries.
2. Remove the battery cover on the back and insert two new AAA batteries.

Note: If the unit will not be used for a long period of time, remove the batteries to avoid battery leakage and corrosion of the battery contacts.

Troubleshooting Error Codes

Code	Problems	Solutions
204	Calculation error	Follow the instructions and operate again
220	Low battery	Please replace the battery or charge it
255	The reflected light received is weak, or the measurement time is too long	Please improve the reflective surface (use a reflector, white paper, etc.)
256	The received signal is too strong	Please improve the reflective surface (use a reflector, or do not aim at strong light)
261	Over range	Please measure within the range
500	Hardware malfunction	If it still appears after the meter has been turned on/off multiple times, please contact your dealer.

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 email at 1-877-849-2127 or 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.

REED
INSTRUMENTS

TEMPERATURE & HUMIDITY

SOUND

MOISTURE

AIR VELOCITY

ELECTRICAL