REED

Model R8010

Laser Distance Meter



Instruction Manual

www.reedinstruments.com

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Safety

- Read and follow manual instructions before using this instrument
- Do not use this instrument outside the stated specifications
- Do not deactivate the safety systems or remove explanatory and hazard labels
- Do not open this instrument with any tools unless specifically indicated to do so in this manual
- Do not modify or change the product in any way
- Do not aim directly towards the sun
- Do not stare into the laser beam or direct it towards others

Features

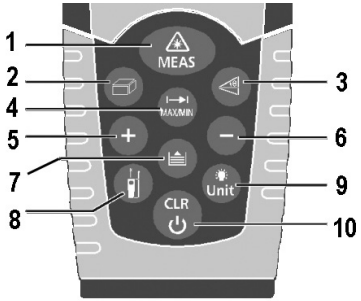
- Designed for one-handed operation
- User selectable unit of measure (imperial/metric)
- Laser target pointer
- Reference point selection (front or rear of instrument)
- Backlit multi-line LCD display
- Calculates Area, Volume and Sum of Lengths
- Addition, Subtraction and indirect 2/3 point (Pythagoras) calculations
- Max/Min functions
- Continuous measurement mode
- Internal memory saves up to 20 readings
- Dust and splash-proof (IP54)
- Low battery indicator and auto shut off

Specifications

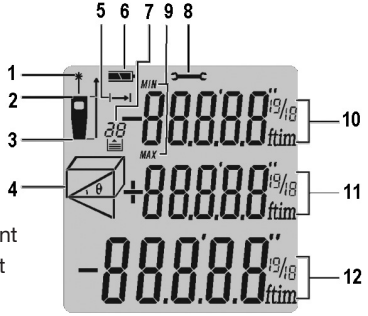
Measuring Range	1.92" to 328' (5 cm to 100 m)
Accuracy	±0.06" (1.5 mm)
Measuring Units	Meters, inches, feet
Sensor Type	Laser
Laser Type	630 to 670nm, <1mW
Display	LCD (multi-line)
Backlit Display	Yes
Start Point Selection	Yes (Front/Back)
Reading Mode	2 (Single/Continuous)
Maximum and Minimum Functions	Yes
Calculation Functions	Addition, Subtraction, Area, Volume, Sum of Lengths, 2 point indirect (pythagoras), 3 point indirect
Internal Memory	Yes (up to 20 readings)
Response Time	2 seconds
Auto Shut-off	Yes (after 3 mins)
Low Battery Indicator	Yes
Power Supply	2 "AAA" batteries
Battery Life	Up to 4,000 measurements
Laser Class	Class II
Product Certifications	CE, RoHS, IP54
Operating Temperature	14 to 122°F (-10 to 50°C)
Storage Temperature	-4 to 140°F (-20 to 60°C)
Operating Humidity Range	<95% RH
Dimensions	4.5x 1.9 x 1.1" (110 x 46 x 28 mm)
Weight	3.5 oz (100 g)

Instrument Description

1. On/Measure button
2. Area/Volume button
3. Indirect Measurement button
4. Single/Continuous Distance Measurement function
5. Plus (+) button
6. Minus (-) button
7. Storage button
8. Reference button
9. Backlight/Unit button
10. Clear/Off button



Display Description



1. Laser is active
2. Reference level (front)
3. Reference level (rear)
4. Measurement indicator
   - Area measurement
   - Volume measurement
   - Indirect measurement
   - Indirect (second) measurement
5. Single distance measurement
6. Battery status
7. Memory history, call up values
8. Instrument error warning
9. Continuous/Max & Min measurement
10. Primary display
11. Secondary display
12. Previous result

Operating Instructions

Measuring Range

The measuring range is limited to 328' (100m). If measuring at night or dusk and the target is in a dark area, the measuring range will increase. To increase the measurement range during daylight or if the target has poor reflection properties you can use a target plate.

Target Surfaces

Measuring errors can occur when taking measurements of colorless liquids (e.g. water) or dust free glass, styrofoam or similar semi-permeable surfaces. Aiming at high gloss surfaces may deflect the laser beam and lead to measurement errors. When measuring against non-reflective and dark surfaces the measuring time may increase.

On and Off

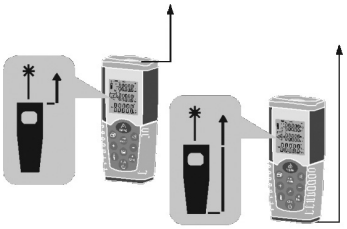
The On/Measure button turns the instrument and laser on. Press the **CLEAR** button for a few seconds to turn the instrument and laser off. The instrument switches off automatically after three minutes of inactivity.

Clear Button

This button cancels the last action and clears the display.

Reference Level Setting

The default reference setting is from the rear of the instrument. Press the **REFERENCE** button to take the selection from the top of the instrument. A special beep sounds whenever the reference setting is changed. After re-starting the instrument the reference returns automatically to the default setting.



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Backlight

Press the **BACKLIGHT/UNIT** button to turn the backlight on and off.

Distance Unit Setting

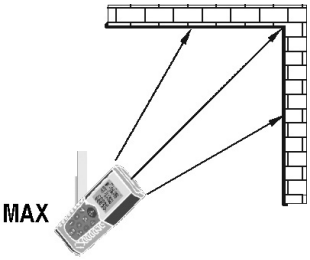
Hold down the **BACKLIGHT/UNIT** button for a few seconds to change the unit of measure. Continue to press the button to toggle between all units of measure. You can choose between m, ft, in.

Single Distance Measurement

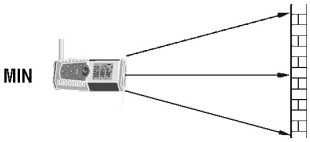
Press the **ON/MEASURE** button to activate the laser. Press the button again to trigger the distance measurement. The measured value will be displayed immediately.

Continuous (Tracking)/Max & Min Measurement

The continuous measurement function (tracking) is used for the transferring of measurements. In continuous measurement mode, the meter can be moved to the target, whereby the measured value is updated approx. every 0.5 seconds. The corresponding max and min values are displayed dynamically in the first and second line.



For example, the user can move from a wall to the required distance, while the actual distance can be read continuously. For continuous measurement, press the **MAX/MIN** button until the indicator for continuous measurements appears on the display. Press it again or press the **ON/MEASURE** button to stop the function. The meter resumes normal operation after 100 continuous measurements.



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Addition/Subtraction

Press the **PLUS** button to add the current measurement to the previous measurement. Press the **ON/MEASURE** button to add the second measured value; the result will automatically display.

Press the **MINUS** button to subtract the current measurement from the previous measurement. Press the **ON/MEASURE** button for the result to be shown in the summary line and the previous measurement will be shown in the second line. Press the **CLEAR** button for the last step to be cancelled. Press the **MAX/MIN** button to return to single distance measurement mode.

Area Measurement

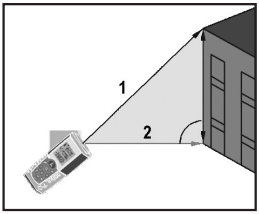
Press the **AREA/VOLUME** button once to enter Area Measurement mode. The  icon will appear on the display to confirm you are in the correct mode. Press the **ON/MEASURE** button to take the first measurement (ie: length), press the **ON/MEASURE** button again to take the second measurement (ie: width). Then the area/surface is automatically calculated and displayed in the summary line on the display. The previous measurement will be shown in the second line.

Volume Measurement

Press the **AREA/VOLUME** button twice to enter Area Measurement mode. The  icon will appear on the display to confirm you are in the correct mode. Press the **ON/MEASURE** button to take the first measurement (length), press the **ON/MEASURE** button again to take the second measurement (width), press the **ON/MEASURE** button again to take the third measurement (height). Then the volume is automatically calculated and displayed in the summary line on the display. The previous measurement will not be shown.

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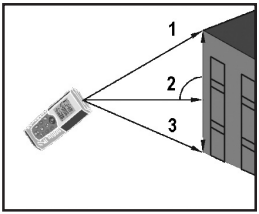
Indirect Measurement

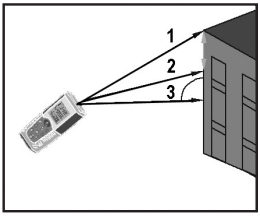


This is used to determine a distance using two auxiliary measurements. Press the **INDIRECT MEASUREMENT** button once, the ⊿ icon will appear on the display.

Aim at the highest point and press the **ON/MEASURE** button to take the measurement. Holding the instrument as horizontal as possible press and hold the **ON/MEASURE** button to trigger continuous measurement, the horizontal line is measured and shown in the summary and secondary lines.

Three Point Measurement





Press the **INDIRECT MEASUREMENT** button twice, the ◁ icon will appear on the display. Aim at the highest point (1) and press the **ON/MEASURE** button to trigger the measurement. Holding the instrument as horizontal as possible press and hold the **ON/MEASURE** button to trigger continuous measurement and sweep the laser up and down over the ideal target point (2), press the **ON/MEASURE** button again to confirm the value. Aim at the lower point (3) and press the **ON/MEASURE** button to trigger the measurement. The results are shown in the summary and secondary lines at the same time.

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Measurement Storage

Code	Cause	Corrective Measure
204	Calculation error	Repeat procedure
208	Received signal too weak/measurement time too long/Distance >50m	Use target plate
209	Received signal too strong	Target too reflective (use target plate)
252	Temperature too high	Cool down instrument
253	Temperature too low	Warm up instrument
255	Hardware error	Switch meter on/off several times*

Press the Storage button to view the previous 20 records (measurements or calculated results). Use the + and – buttons to navigate the records.

Troubleshooting

*If error persists contact REED Instruments at info@reedinstruments.com

Care

Do not immerse the instrument in water. Wipe off dirt with a damp, soft cloth. Do not use aggressive cleaning agents or solutions. Handle the instrument as you would a telescope or camera.

Battery Replacement

This instrument uses 2 "AAA" alkaline batteries. The batteries need to be replaced when the battery symbol flashes on the display. Remove the batteries before any long period of non-use to avoid the possibility of corrosion. Only use alkaline batteries.

1. Remove battery compartment cover.
2. Insert new batteries, respecting the correct polarity.
3. Close the battery compartment cover.

Notes