

Qoltec[®]



USER MANUAL

Portable laser distance measurer

Model: 50687

Introduction

Thank you for purchasing our Laser Distance Meter. Before using the device, please read the safety instructions and user manual carefully; incorrect use may result in hazardous laser radiation and electric shock.

Safety Instructions

The laser distance meter is classified as a Class 2 laser product

Warning:

1. Please DO NOT look directly into the laser beam whilst operating the device, as this may cause damage to your eyesight.
2. Please DO NOT use the device in conjunction with other optical products to avoid intense laser radiation!
3. Please DO NOT remove any safety warning labels from the device!

Warning:

1. Do not use the device if you have problems with your balance.
2. Keep the device out of the reach of children and do not allow them to use it.
3. Do not attempt to dismantle or modify the device, as this may increase the laser output power and pose a health hazard.
4. Keep this user manual for future reference.
5. Do not dismantle or repair the device yourself.
6. Do not point the device's laser directly at the sun.
7. Do not use the device outside its specified range of applications.
8. Do not immerse the device in water.
9. Do not clean the lens with alcohol or other organic solvents.
10. Do not wipe the lens with your hands or other rough objects.
11. Do not use a power supply with a voltage other than the rated voltage to power the device.
12. Do not stare at the laser beam.

Device construction

Figure 1 in the appendix to the manual

1. Reference point switch

2. Continuous measurement
3. Area and volume measurement, Pythagorean measurement
4. Area and volume measurement, Pythagorean measurement
5. Battery status indicator
6. Main display line, final measurement result and calculation results
7. Third display line
8. Second display line, minimum
9. First display line, maximum
10. Unit switching
11. Electronic angle display
12. Data storage
13. Laser on/off

Description of device functions

Figure 2 in the appendix to the manual

Function	Icon
1. Turn on/Take measurement	
2. Add, data transfer button	
3. Data storage/Unit switching (long press)	
4. Clear/Off	
5. Reference point switch	
6. Subtract / Mute (long press)	
7. Function selection button	

Battery installation

- a. Open the battery cover as shown in the illustration;
- b. Insert or replace 2 NO.7 AAA alkaline batteries, paying attention to the polarity markings on the end of the casing;

c. Close the battery cover.

Note:

1. Please do not mix new and old batteries.
2. Replace the battery when the device displays a low battery warning.
3. Please remove the battery if the device is not going to be used for a long period of time.
4. Please recycle the used battery in accordance with national or local regulations.

Powering on and settings

Switching the device on/off



Press the ' **MEAS** ' button to switch on the device – the backlight will illuminate and the device will automatically switch to single measurement mode.

Figure 3 in the appendix to the manual



Press and hold the OFF button for **CLEAR** seconds to switch the device off. If the device is not used for 30 seconds, the laser will switch off automatically. The device will switch off automatically after 3 minutes of inactivity.

Changing the reference point



Briefly press the '  ' button to change the reference point. The default reference point for the device is the rear point.

Figure 4 in the appendix to the manual

Features

FEATURE	VALUE
Single distance measurement	Yes
Maximum and minimum measurement	Yes
Continuous measurement	Yes
Area/volume measurement and	Yes

Pythagorean measurement	
Adding/subtracting measurements	Yes
Switching units	Yes
Switching measurement reference point	Yes
Sound	Yes
Data clearing	Yes
Error codes	Yes
Battery status	Yes

Technical specifications

Data storage	99 groups
Automatic laser switch-off	After 30 seconds
Automatic device shutdown	After 180 seconds
Measurement range	0.05 m to 50/70/100/120 m
Measurement accuracy	±2 mm
Unit of measurement	m, ft, in
Area unit	m ² , ft ² , in ²
Laser wavelength	620–690 nm
Laser class	Class II, <1 mW
Single measurement time	0.25s–3s
Operating temperature	0°C – +40°C
Storage temperature	-10°C to +50°C
Battery type	2 x AAA 1.5V
Number of measurements per set of batteries	5,000
Weight	85g
Dimensions	110x50x26mm

Note: For different measurement purposes and test conditions, the measurement range may be reduced, and results may be subject to significant errors due to excessive light intensity, too high or too low a temperature, and too weak or too strong a light reflection from the measured object.

Clear button



Briefly press the ' **CLEAR** ' button to clear the last command or to clear the data on the screen sequentially.

Unit setting

Press and hold the  button to reset the current unit of measurement.

Measurements

Single distance measurement

Briefly press the  'MEAS' button to activate the laser beam in measurement mode.

Press the  'MEAS' button again to take a single length measurement; the measurement results will be displayed in the main display area.

Figure 5 in the appendix to the manual

Continuous measurement

Press and hold the  button to enter continuous measurement mode. As the meter is moved, the main display line will show the measurement results in real time. At the same time, the auxiliary display area will show the maximum and minimum measurement values during the measurement. In continuous

measurement mode, briefly pressing the  'MEAS' button will pause the

continuous measurement, and pressing  'MEAS' again will exit this mode.

Figure 6 in the appendix to the manual

Area measurement

Press the  button once to put the device into area measurement mode;

 will appear on the display, indicating that area measurement mode has been activated. Follow the instructions to perform the following steps:

When the symbol for the long side of the rectangle starts flashing, press the



button to measure the long side of the rectangle. When the symbol for the

short side of the rectangle starts flashing, press the  button to measure the width.

The device will then automatically calculate the area, and the result will be displayed in the main display area. The measured length and width results will be shown in the auxiliary display area.

Figure 7 in the appendix to the manual

Volume measurement



Press the '  ' button twice to put the device into volume measurement mode;  , will appear on the display, indicating that volume measurement mode has been activated. Follow the instructions to perform the following steps:

When the cube length symbol starts flashing, press the '  ' button to measure the length of the cube.

When the cube width symbol starts flashing, press the  button to measure the width of the cube.

When the cube height symbol starts flashing, press the  button to measure the height of the cube.

The device will then automatically calculate the volume, and the result will be displayed in the main display area. The results of the measured length, width and height will be visible in the auxiliary display area.

Figure 8 in the appendix to the manual

Pythagorean Measurement 1



Press the '  ' button 3 times, and the '  ' icon will appear on the screen. Take the first measurement in line with the flashing side, and the measured distance will be displayed on the display line. Hold the device horizontally. The



device defaults to horizontal measurement; take the second measurement in line with the flashing side. Hold the meter as level as possible and take the second measurement by pressing the button. Once the measurement result (side b) is displayed on the second line of the display, the distance of the third side (side c) will be calculated automatically and the result will appear on the main line of the display.

Figure 9 in the appendix to the manual

Pythagorean measurement 2



Press the '  ' button 4 times, and the '  ' icon will appear on the screen.

Follow the instructions for the flashing side of the '  ' icon:



Press the  button once to measure the hypotenuse of the first triangle (the flashing side pointing upwards). The new value will be displayed on the display line.



Press the  button again to measure the common right-angled side of the two triangles (the flashing side). Hold the device as level as possible. The measurement result will appear on the display line.



Press the '  ' button a third time to measure the hypotenuse of the second triangle (the flashing side pointing downwards). The measured value will be displayed on the display line.

If the measurement results satisfy the Pythagorean theorem, the height x (see diagram below) will be calculated automatically and the result will appear on the screen in a larger font.

Figure 10 in the appendix to the manual

Pythagorean measurement 3

Press the '  ' button 5 times, and the '  ' icon will appear on the screen. The procedure is similar to that for Pythagorean Measurement 2. Please refer to the instructions for Pythagorean Measurement 2.

Figure 11 in the appendix to the manual

Measurement functions

Function	Icon
Area measurement	
Volume measurement	
Pythagorean measurement 1	
Pythagorean measurement 2	
Pythagorean measurement 3	

Functions

 The value of the next measurement plus the value of the previous measurement

 Subtract the value of the next measurement from the value of the previous measurement

 Press **CLEAR** to clear the data one by one, and then you can return to the main interface.

Figure 12 in the appendix to the manual

Data saving and query function

The user can save measurement data as required.

1. Saving measurement data: Press the measurement button to take a reading, and the data will be saved automatically.
2. Querying saved data: In the initial state, a long press of the  'FUNC', button will enter the data query mode.
3. The higher the value (up to 99), the more recent the measured value.
4. Use the + and - buttons to scroll through the stored measurement values.

Figure 13 in the appendix to the manual

Evaluation

Error code	Cause	Solution
Err08	Pythagoras measurement error	Measure according to the corresponding side length
Err10	Low battery	Replace the battery
Err14	Calculation error	Take the measurement again
Err15	Out of range	Please measure within range
Err16	Weak signal or measurement time too long	Use a highly reflective reflector
Err26	Outside the numerical display range	Measurement within range

Service and repair

Please note that incorrect repairs may cause serious damage to the device and even pose a risk to the user. If you experience problems with the device and do not have the experience or knowledge to repair it yourself, it is advisable to seek assistance from a specialist or technical support. You may be eligible for warranty repair if the fault is due to a manufacturing defect. Warranty repair may involve repairing the damaged component, replacing parts with new ones, or replacing the entire product if repair is not possible.

Maintenance and cleaning

- 1) Switch off the power before cleaning.

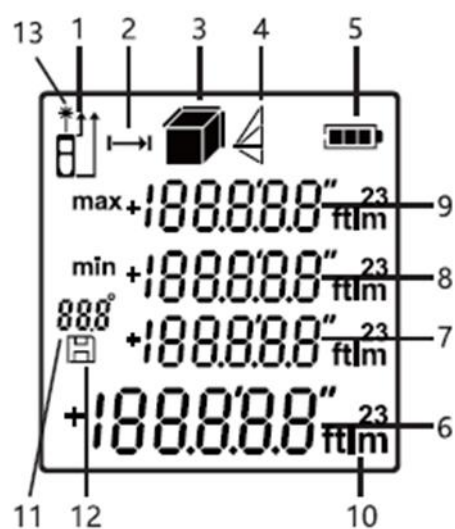
2) Wipe the appliance with a dry cloth. Do not use chemicals or water.

Disposal

In accordance with applicable regulations, avoid disposing of used electronic equipment and batteries in ordinary rubbish bins to prevent environmental pollution. Return the device to appropriate electronic waste collection points or to shops specialising in the recycling of electronic equipment.

Attachement 1

1



2

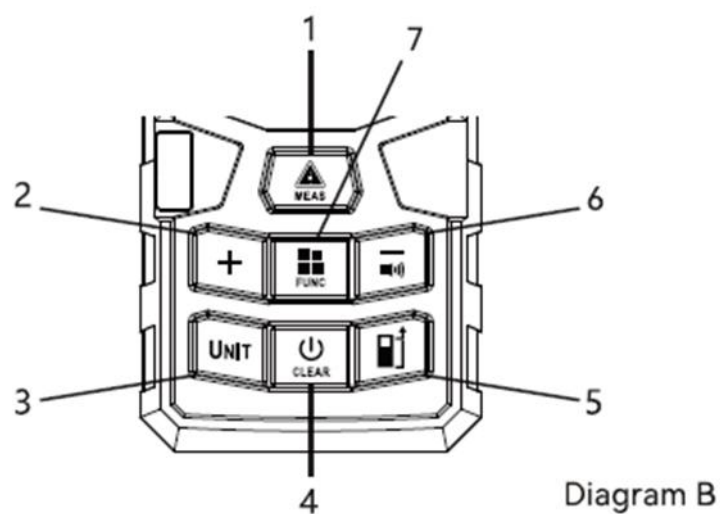
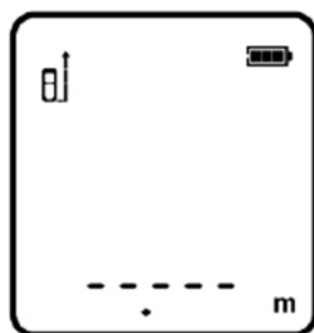
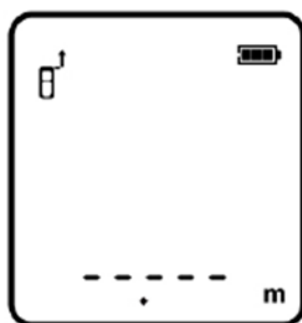
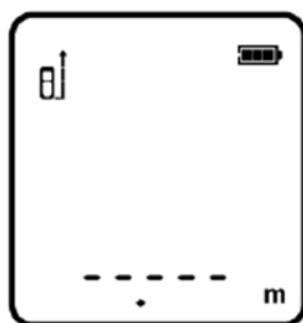


Diagram B

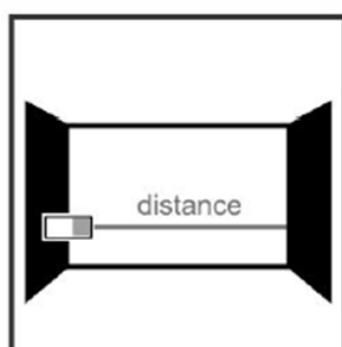
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4



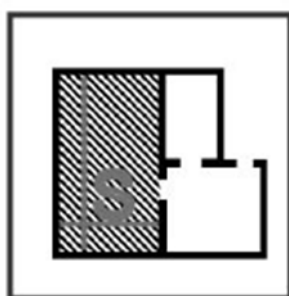
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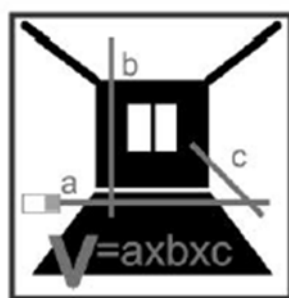
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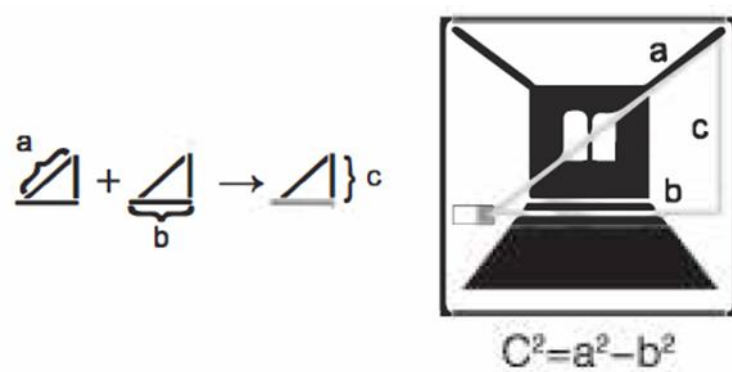
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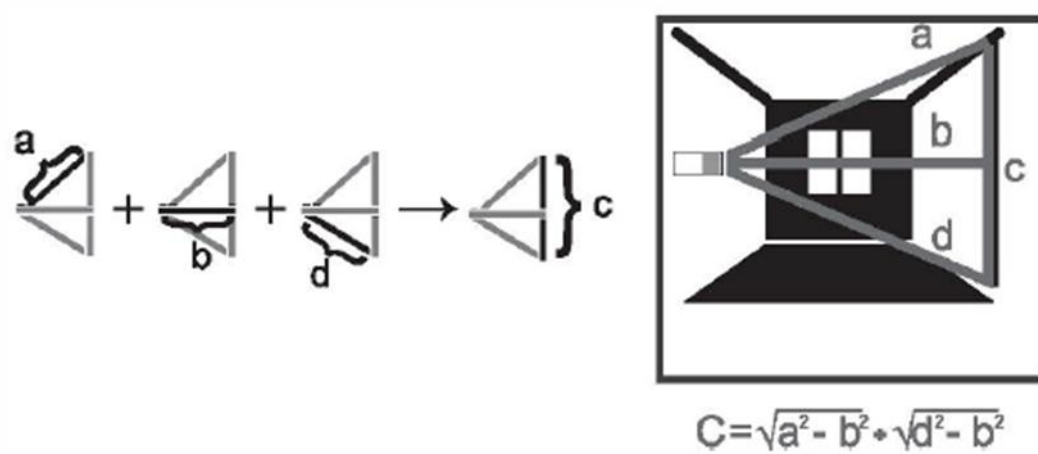
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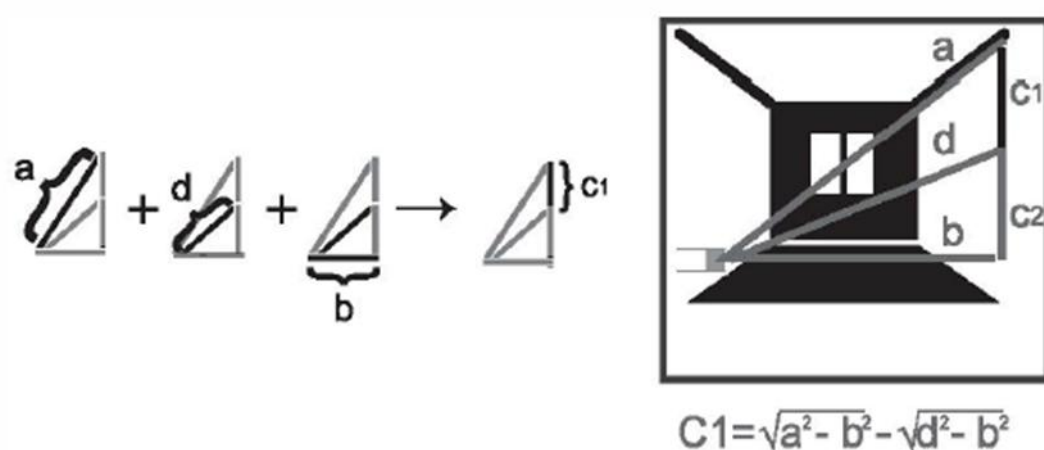
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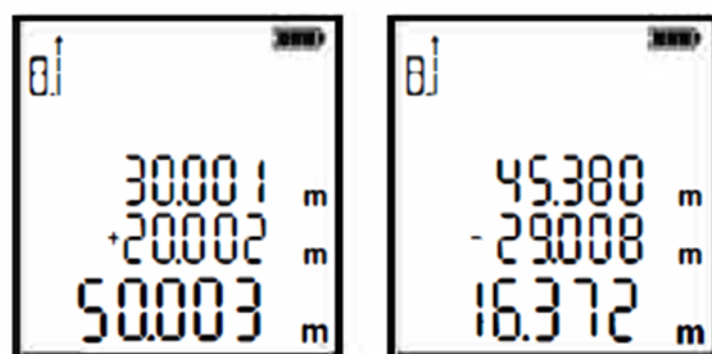
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11



12



13

