

multicomp^{PRO}

MP780997 Laser Distance Meter User Manual

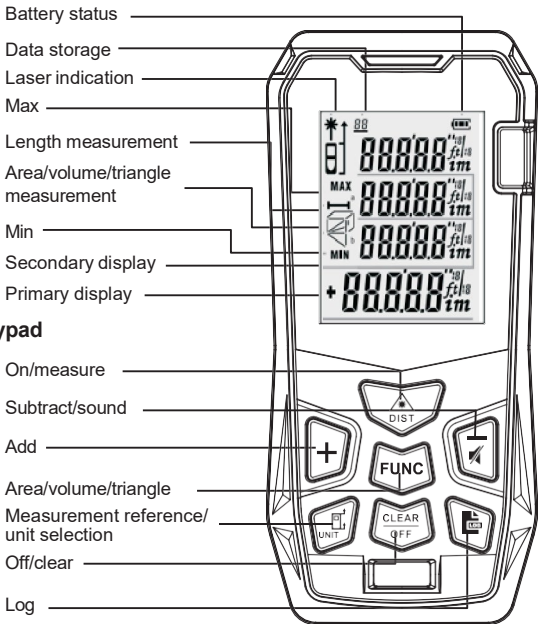
Safety Information

Before using the meter for the first time, please read the safety information and operating instructions carefully.

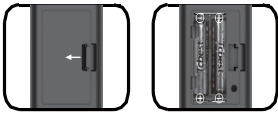
- Use the meter only as specified in this manual otherwise it may cause damage to the meter, affect measurement accuracy and result in personal injury.
- There are no user serviceable parts inside. Do not attempt to repair or disassemble the meter.
- Please keep out of the reach of children.
- Do not look directly at the laser as it can damage your eyesight.
- The electromagnetic radiation of the meter may cause interference to other equipment. Please do not use the meter near aircraft, medical equipment or in flammable and explosive environments.
- When the low battery symbol appears change the batteries immediately to avoid inaccuracies in the meters operation.
- Never use the meter with the battery cover removed or if any part of the meter appears damaged or broken.

Product Introduction

Display



Batteries



1. Open the battery door on the back of the meter, install the batteries according to the polarity instructions, and replace the battery door.
2. Use only 1.5V AAA alkaline batteries.
3. Always remove batteries if the meter is not used for long periods.

Power On and Function Settings

1. Power On/Off

In the shutdown state, press Δ (DIST), the meter and the laser will be started at the same time.

In the power-on state, press and hold $\square$ (CLEAR OFF) for 3 seconds to turn off the meter. If no operation is performed within 150 seconds, the meter will automatically shut down.

2. Unit Settings

Long press $\square$ (UNIT) to enter the unit setting state and the current unit can be reset. The default unit of the meter is 0.000m. There are 6 optional units.

Measurement units:

	Length	Area	Volume
1	0.000 m	0.000 m ²	0.000 m ³
2	0.00 m	0.00 m ²	0.00 m ³
3	0.0 in	0.00 ft ²	0.00 ft ³
4	0 1/16 in	0.00 ft ²	0.00 ft ³
5	0'00" 1/16	0.00 ft ²	0.00 ft ³
6	0.00 ft	0.00 ft ²	0.00 ft ³

3. Measurement Reference Settings

Short press $\square$ (UNIT) to measure from front or end. The default setting is end measurement.

4. Backlight

The backlight is automatically turned on and off. It will turn on for 15 seconds when any button is pressed. The backlight will automatically turn off if there is no operation after 15 seconds to save power.

5. Sound

Long press $\square$ (OFF) to turn on or off the sound of the beeper.

6. Self-Calibration

Self-calibration function can ensure the measurement accuracy. Calibration method: In the shutdown state, press and hold $\square$ (CLEAR OFF), and then short press Δ (DIST) to turn on the meter. When the screen shows 'CAL' with a flashing number at the bottom, the meter enters the self-calibration mode. At this time, users can press $+$ to calibrate values according to the error of the meter. Calibration range: -9~9mm

Examples: The actual distance is 3.780m.
If the measured value is 3.778m, which is 2mm smaller than the actual value, press $+$ to increase the calibration value by 2mm.
If the measured value is 3.783m, which is 3mm larger than the actual value, press $-$ to lower the calibration value by 3mm.
After adjustment, press Δ (DIST) to save the calibration results.

Measurement Modes

1. Single Measurement

While the meter is on, press Δ (DIST) to transmit the laser. Press Δ (DIST) again to make the distance measurement. The measurement results will show on the primary display.

2. Continuous Measurement

While the meter is on, long press Δ (DIST) enter the continuous measurement state. The maximum and minimum values during the measurement will show on the secondary display. The measurement results will show on the primary display. Short press $\square$ (CLEAR OFF) to exit the continuous measurement.

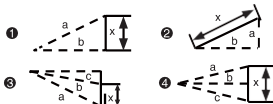
3. Area Measurement

Press **FUNC** 1x. The $\square$ symbol will appear on the display and one side of the rectangle will flash.
Press Δ (DIST) to make the first measurement (length).
Press Δ (DIST) again to make the second measurement (width).
The meter will automatically calculate the area, and the result will show on the primary display. The length and width will show on the secondary display. During the measurement process, press $\square$ (CLEAR OFF) to clear the measurement result and re-measure.
Press $\square$ (CLEAR OFF) to exit the area measurement and enter the length measurement mode.

4. Volume Measurement

Press **FUNC** 2x. The $\square$ symbol will appear on the display.
Press Δ (DIST) to make the first measurement (length).
Press Δ (DIST) again to make the second measurement (width).
Press Δ (DIST) again to make the third measurement (height).
The meter will automatically calculate the volume, and the result will show on the primary display. The length, width and height will show on the secondary display. During the measurement process, press $\square$ (CLEAR OFF) to clear the measurement result and re-measure.
Press $\square$ (CLEAR OFF) to exit the volume measurement and enter the length measurement mode.

5. Indirect Measurement



The meter has four modes that use the Pythagorean theorem to measure the distance of one side of a triangle, which is convenient for users to perform indirect measurement in a complex environment.

(1) Measure the hypotenuse and base-side, indirectly measure the height

Press **FUNC** 3x.
Press  to measure the length of the hypotenuse (a).
Press  to measure the length of the base-side (b).
The meter will automatically calculate the length of the leg (x).

(2) Measure the leg and base-side, indirectly measure the hypotenuse

Press **FUNC** 4x. 
Press  to measure the length of the leg (a).
Press  to measure the length of the base-side (b).
The meter will automatically calculate the length of the hypotenuse (x).

(3) Press **FUNC** 5x, the hypotenuse flashes

Press  to measure the length of the hypotenuse (a).
Press  to measure the length of another hypotenuse (b).
Press  to measure the length of the base-side (c).
The meter will automatically calculate the length of the leg (x).

(4) Press **FUNC** 6x, the hypotenuse flashes

Press  to measure the length of the hypotenuse (a).
Press  to measure the length of the base-side (b).
Press  to measure the length of another hypotenuse (c).
The meter will automatically calculate the length of the leg (x).

In the Pythagorean measurement mode, the length of the leg must be less than the length of the hypotenuse; otherwise the meter will display an error signal prompt. In order to ensure the measurement accuracy, users should make sure to measure from the same starting point and in the order of hypotenuse and leg.

6. Addition/Subtraction

The single distance measurement values can be added or subtracted. After getting the result when taking a single distance measurement, press  to enter the addition/subtraction mode.

Short press , the "+" symbol will show on the primary display, and then it will enter the addition mode. The addition value of the last and the current measurement values will show on the display.

Short press , the "-" symbol will show on the primary display, and then it will enter the subtraction mode. The subtraction value of the last and the current measurement values will show on the display.

Not only the distance can be added and subtracted, but also the area and the volume.

Area addition: Measure the first area and get the result, as shown in Figure 1 below. Then press  to measure the second area and get the result, as shown in Figure 2 below, and a plus sign will be displayed in the lower left corner. Finally, press  to get the result of adding these two areas, as shown in Figure 3. The addition and subtraction of volume is similar to it.



Figure 1

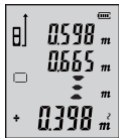


Figure 2

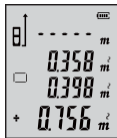


Figure 3

7. Data Storage

If the current data is valid when measuring, press and hold  for 3 seconds, and the data will be automatically stored in the meter memory. In the area, volume and indirect measurement modes, the data can also be stored after all the tests are over. At this time, the meter will store the complete measurement record under this mode.

8. View/Delete Data

Short press  to query the stored data. Press  to scroll forward and press  to scroll backwards. When viewing data, short press  to delete the current record, and long press  to delete all records. Press  or  to exit.

Error Codes

Code	Cause	Resolution
Err	Out of distance measurement range	Use the meter in designated environments.
Err1	Signal too weak	Measure the target point with strong reflection ability.
Err2	Signal too strong	Measure the target point with weak reflection ability.
Err3	Battery power too low	Replace batteries.
Err4	Out of operating temperature range	Use the meter within the range.
Err5	Pythagorean measurement error	Re-measure to ensure that the hypotenuse is longer than the leg.

Specifications

Range	50m
Measurement accuracy	±(2mm+5*10 ⁻⁵ D)
Continuous measurement	✓
Area/volume measurement	✓
Pythagorean measurement	✓
Addition/subtraction	✓
Area/volume addition/subtraction	✓
Max/min	✓
Self-calibration	✓
Laser class	Class II
Laser type	Class 2 630-670nm, 1mW
Data storage	99 groups
Auto laser off	20s (single measurement)
Auto power off	About 150s
Battery life	Up to 8000 measurements
Sound prompt	✓
Storage temperature	-20°C~60°C
Operating temperature	0°C~40°C
Storage humidity	20%~80%RH
Batteries	1.5V 2xAAA
Product size	112x50x25mm

* "d" means actual distance.

** Under harsh environments, such as excessive sunlight and ambient temperature fluctuations, weak reflection on reflective surfaces, and insufficient battery power, the measurement results will have errors. At this time, using the target reflector can improve the measurement accuracy.

Maintenance

Do not place the meter in a high temperature and humidity environment for a long time. When not using the meter for a long time, please take out the battery and put the meter in the carrying bag and store it in a cool and dry place.

Remove dirt with a moist, soft cloth. Do not use aggressive detergents or solutions. The laser window and focusing lens can be wiped according to the method of wiping the optical device.

Packing List

All accessories are shown in the table below.

Items	Accessories	Quantity
1	Meter	1
2	Carrying bag	1
3	AAA batteries	2
4	User manual	1
5	Gift box	1



INFORMATION ON WASTE DISPOSAL FOR CONSUMERS OF ELECTRICAL & ELECTRONIC EQUIPMENT.

When this product has reached the end of its life it must be treated as Waste Electrical & Electronic Equipment (WEEE). Any WEEE marked products must not be mixed with general household waste, but kept separate for the treatment, recovery and recycling of the materials used. Contact your local authority for details of recycling schemes in your area.

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