

Laser distance meter

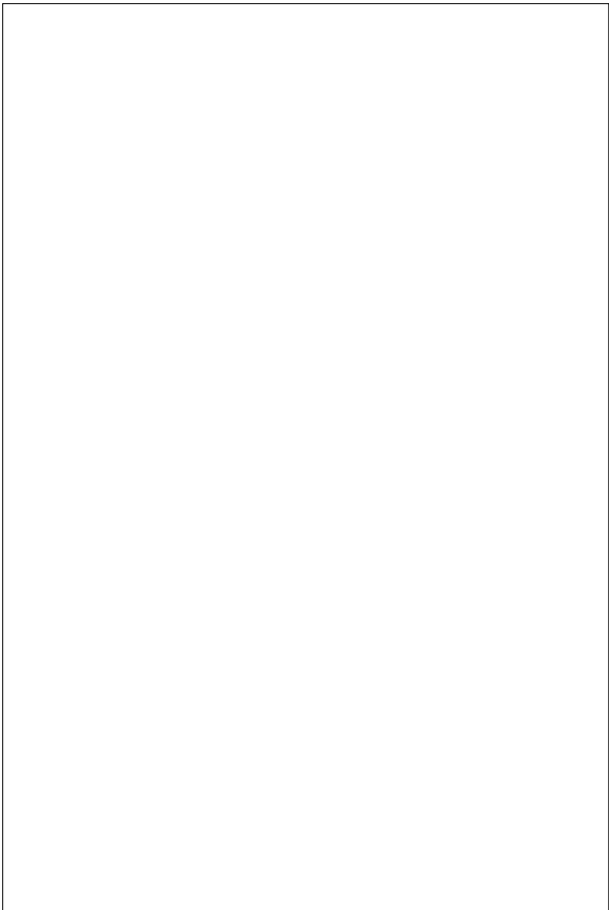
**HDM-5G**

**HDM-7G**

**HDM-9G**

Manual







## Safety Regulations

**Please read the safety regulations and operation guide carefully before operating.**

- ⚠ Please read all of the operational guide and safety regulations in this manual before operation. Improper operations without complying with this manual guided could cause damage to the device, influence on measurement result or bodily injury to the user.
- ⚠ The instrument is not allowed to disassemble or repair in any ways. It is forbidden to do any illegal modification or performance change for laser emitter. Please keep it out of reach of children and avoid using by any irrelevant personnel.
- ⚠ It is strictly prohibited to shoot eyes or other parts of body with the laser; it is not allowed take the laser to shoot any objects' surface with strong reflecting.
- ⚠ Due to electromagnetic radiation interference to other equipment and devices, please don't use the meter in the plane or around medical equipment, don't use it in inflammable, explosive environment.
- ⚠ Discarded batteries or meter device shall not be processed just like household garbage, please handle them in line with related law and regulations.
- ⚠ Any quality issues or any questions on the meter, please contact local distributors or manufacturer in time, we are ready to offer solutions for you.

***Professional casts quality and good quality gets reputation***

### ● Battery Installation and Replacement



- Discharge the battery door on the back of device, and place battery according to correct polarity, then cover the battery door.

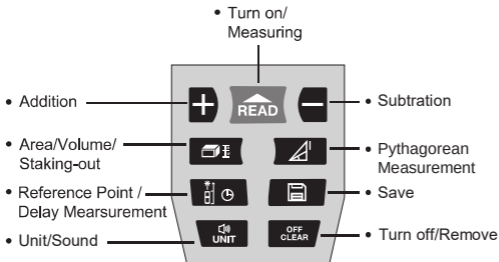
Only 1.5 V AAA alkaline battery is applied to the meter.

If not used for a long time, please take out the battery to avoid battery corrosion to meter body.

### ● Display


- Laser on
  - Reference Point
  - Maximum
  - Area, Volume and Pythagorean
  - Minimum
  - Major Display
  - Record
  - Staking-out
  - Power
  - Auxiliary Display
  - Unit
-


## ● Keyboard



### Start the Instrument & Menu Setting

## ● Turn on / off the Instrument


Under off status, press button  device and laser get starting simultaneously and stand by for measurement.

Under on status, long press butto  for 3 seconds to turn the device off. The device can also be shut off without any operation for 150 seconds.

## ● Sound on/off

Long press button  to turn on or off the buzzer.


## ● Unit setting

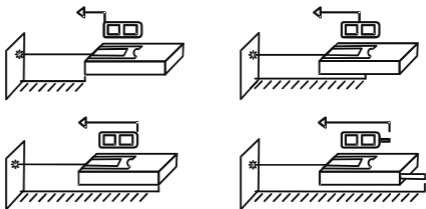
Short press button , reset current measurement unit, the default unit is: 0.000m

## There are 6 units for selection








	length	area	volume
1	0.000m	0.000m <sup>2</sup>	0.000m <sup>3</sup>
2	0.00m	0.00m <sup>2</sup>	0.00m <sup>3</sup>
3	0.0in	0.00ft <sup>2</sup>	0.00ft <sup>3</sup>
4	0.00ft	0.00ft <sup>2</sup>	0.00ft <sup>3</sup>
5	0 1/16 in	0.00ft <sup>2</sup>	0.00ft <sup>3</sup>
6	0'00"1/16	0.00ft <sup>2</sup>	0.00ft <sup>3</sup>

### ● Reference Point



Press  key to change the reference point. There are four reference points: top, screw, bottom and the end piece.




### Self-Calibration


This function can keep the precision of the device. Instruction: Power off, Long press button , and then press . Release the button  then release button  till "CAL" and a figure under it display on the screen. User can adjust the figure with button ,  according to the accuracy of the meter. Adjusting range: -9 to 9mm, then, long press button  to save the calibration result.

### ● Single Distance Measurement:



Turn on the laser beam by short press of the button  under measuring mode; Press the button  again for single measurement of length, then the measured results displayed in the major display area.


### ● Continuous Measurement:

Long press button  under measuring mode and enter into continuous measuring mode. Maximum and Minimum value show on the LCD.

Present result displays in major display area. Short press button  to exit continuous measuring mode.


### ● Area Measurement:

Press button  ,  shows on the screen. One of the side of rectangle blinking on the display, please follow the below instructions for area measuring:



Press  once for length

Press  again for width

The device calculates and shows the result in the major display area.

Press  , clear off the result and measuring again if necessary

## ● Volume Measurement


Press button  twice to enter volume measurement mode. A  will show on the top of screen. Please follow the below instruction for volume measuring:

Press  for Length

Press  again for Width



Press  thirdly for height

The device calculates and shows the result in the major display area.


Press , clear off the result and measuring again if necessary.


## ● Painter Function


When the meter is in area mode, you can use the add / subtract function to total up the area of several surfaces.

Press button  three times till  showing in the display.

Press  to measure the height of the wall first;


Press  to measure the bottom edge of the first wall, get the first area in the main display area;



Press  to measure the bottom edge of another wall, get the sum of these two walls.


Repeat these operations for more walls. Press button  to clear the previous measuring result and start new measurement.




## ● Pythagorean Measurement

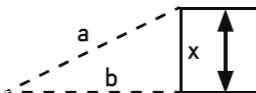
There are four Pythagoras modes in case that user gets difficulties to reach the target. Please press button  to select the mode.



1. Calculate the second leg by measuring the hypotenuse and another leg. Short press  to enter Pythagoras mode, the hypotenuse of  blinking.


Press  , measure the length of hypotenuse (a)

Press  , measure the length of one leg (b)

Device calculates the length of another leg (x)

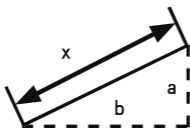




2. Calculate the hypotenuse by measuring the length of two legs. Short press  twice, when one leg of  blinking,

Press  , measure the length of one leg (a)


Press  , measure the length of another leg (b)


Device calculates the length of hypotenuse (x)



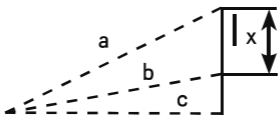
3. Press  three times till the one hypotenuse of  blinking on the screen.



Press , measure the length of one side (a)

Press , measure the length of the median line (b)


Press , measure the length of another side (c)

Device calculates the length of the leg in full line (x)



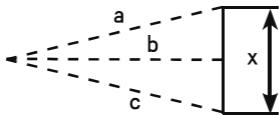
4. Press  four times till one hypotenuse of  blinking on the screen.

Press , measure the length of one hypotenuse (a)

Press , measure the length of another hypotenuse (b)

Press , measure the length of one leg (c)

Device calculates the length of the leg in full line (x)



Legs must short than hypotenuse, or there will be "err" shows on screen. In order to guarantee the accuracy, please make sure all measurements are start from the same point.

### ● Addition / subtraction

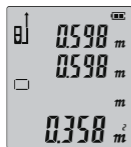
The device can be used for length addition and subtraction.

Press  $\oplus$ , "+" shows in the major display area, entering cumulation mode. Value of last measurement and the result of cumulation will be showed on the screen.

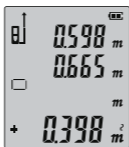
Press  $\ominus$ , "-" shows in the major display area, entering regressive mode. Value of last measurement and the result of difference will be showed on the screen.

Not only distance but also area and volume can be added or subtracted. For example:

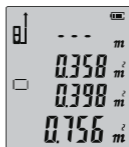
**Area Addition:** Measure the first area, get PIC 1, then press  $\oplus$ ; Measure the second area, get PIC 2, there is a "+" on the left corner of the screen; At last, press  $\text{READ}$  get the addition result as PIC 3.



PIC 1









PIC 2




PIC 3

**Area Sustraction:**The same steps as above.






## ● Staking-out Function

Long press  , the device switch to staking-out mode. As showed in the below picture, the user can set two difference value a and b; User can adjust these two value by pressing  or  Long press  or  will make you get a large gap of the value when adjust a or b. Press  after setting the values, the device enter staking-out mode. User can get instructions by sound and icon.

↓ means the device need to go back, ↑ means the device need to go forward. When the device get very near to the point, the device will show  .




## ● Delay Measurement






Press  , a second number shows in the screen as below picture. User can press  or  to adjust the time. The max is 60s, min is 3s. Press  to turn on the delay measuring function, after certain the delaying time. If press  while the laser is on, this function will be turned on at once.



## ● Record Function

Long press button  for 3s to record your measuring result under measuring mode. It can also record the result under Area, Volume and Pythagoras mode. All the calculating records can be saved by the device.

## ● Read / Delete the Record:

Short press button , read the records by press button  and . Short press  to delete recent record and long press  to clear up all the records.

### Tips

You may get some warning information as below:

Info message	Cause	Solution
Err	Out of distance measurement range	Use the device within the range
Err1	Received signal is too weak	Chose the surface with stronger reflectance. Use the reflecting plate.
Err2	Received signal is too strong	Chose the surface with weaker reflectance. Use the reflecting plate.
Err3	Low battery voltage	Change the power supply.
Err4	The working temperature is out of working range.	Use the device in the specified temperature.
Err5	Pythagoras measuring error.	Re-measure and ensure that Hypotenuse is bigger than Cathetus.
Err6	Record damaged	Please contact the distributor.

## TECHNICAL DATA

Item	Specification		
Working Range	50mHDM-5G	70mHDM-7G	90mHDM-9G
Smallest Unit Displayed	0.05 mm		
Measuring Accuracy	Typically $\pm 2$ mm **		
Continuous Distance Measuring (Tracking)	Yes		
Area / Volume	Yes		
Pythagoras Measuring	Yes		
Length/Area/Volume Addition/Subtraction	Yes		
MAX & MIN Value	Yes		
Skating-Out	Yes		
Delay Measurement	Yes		
Self-Calibration	Yes		
Back Piece	Yes		
Bubble	Yes		
Laser	class II		
Laser Type	535nm (green), < 1 mW		
Record	100 pcs		
Auto Laser Off	20 s		
Auto Switch Off	150 s		
Power Supply	AAA 2x1.5V		
Battery Life	Up to 8000 times		
Storage Temperature	-20 ... +60 °C		
Working Temperature	0 ... +40 °C		
Storage Humidity	20%-80%RH		
Dimensions	118x54x28 mm		

\*\* Use a target plate to increase the measurement range during daylight or if the target has poor reflection properties.

#### Instrument Maintenance:

- The meter should not be stored in high temperature and strong humidity environment for long time; it is not used very often, please take out the battery and place the meter in the allocated portable bag and store in cool and dry place.
- Please keep the device surface cleaning. Wet soft cloth is applied to clean dust, but erosion liquid is never allowed to use for the meter maintenance. Laser output window and its focus lens can be maintained according to maintenance procedures for optical device.


#### DELIVERY PACKAGE

Please check if the accessories are completed according to the below list.

NO.	Item	Unit	QTY	Note
1	Laser distance meter	pc	1	
2	Power supply AAA	pc	2	
3	User' s manual	pc	1	
4	Portable bag	pc	1	
5	Hand strap	pc	1	
6	Giftbox	pc	1	
7	Reflector	pc	1	Just available for 100/120/150m

## **Service, support**

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