









User Manual

Hand-held Laser Distance Meter



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 operation without complying with this manual could cause damage to the device, influence on measurement results or injury to the user.
-  Do not attempt to disassemble or repair the meter in any way. It is forbidden to do any illegal modification or performance change for laser emitter. Please keep it out of the reach of children and avoid use by any irrelevant personnel.
-  It is strictly prohibited to shoot eyes or other parts of body with the laser. Do not use the laser on highly reflective surfaces.
-  Due to electromagnetic radiation interference to other equipment and devices, please do not use the meter on a plane or around medical equipment. Do not use it in flammable or explosive environments.
-  The batteries and meter must be disposed of correctly and in accordance with any laws or regulations.
-  Any issues or questions on the meter, please contact ATP Instrumentation Ltd.

Installation for batteries, display screen and keypad

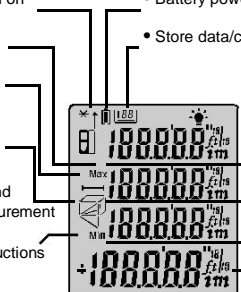
■ Installation and replacement of batteries



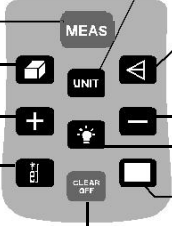
- Remove the battery cover on the back of the device; insert batteries according to correct polarity, then reattach the battery cover.
- Only 1.5V AAA alkaline batteries are compatible with this meter.
- Remove the batteries when not in use for a long time to avoid battery corrosion to meter body.

• Display Screen

- Laser emission on
- Measurement
- Maximum instructions
- Instructions of area, Volume, Pythagorean proposition and indirect measurement
- Minimum instructions
- The main measurement display
- Battery power indication
- Store data/check stored data
- Auxiliary display
- Measurement unit instructions



• Keypad

- 
- Laser emission on
 - Area/Volume Measuring key
 - + key
 - Measurement benchmark select key
 - Clear/Off key
 - Unit Conversion Button
 - Pythagorean proposition indirect measurement key
 - - key
 - Backlight On/Off Button
 - Storage/Stored date read key

Start the instrument/Menu Setting

• Start and shut off the meter

To turn the meter on, hold the **MEAS** key and the display and laser will turn on simultaneously, ready to begin measuring.

To turn the meter off, hold the **OFF** key for 3 seconds. The meter will automatically turn off after 150 seconds of no activity.

• Unit setting

Press the **UNIT** key to reset the current unit of measurement to the meters default of 0.000m
Optional units as below:

Length	Area	Volume
0.000m	0.000m ²	0.000m ³
0.00m	0.00m ²	0.00m ³
0.0in	0.00ft ²	0.00ft ³
0.00ft	0.00ft ²	0.00ft ³



- **Measurement benchmark setting**

Press the measurement benchmark key to switch between front and end benchmark.
System usually takes end benchmark as default.


**Measurement for distance, area, volume;
Pythagorean proposition indirect measurement,
adding & subtracting**

- **Single Measurement:**

Pressing the **MEAS** key whilst in measuring mode will emit the laser to the target measuring location.


Re-press the key for a single measurement of distance. The measured results will be displayed on the LCD screen.


- **Continuous Measurement:**




Hold down the **MEAS** key whilst in measuring mode to enter continuous measurement. Maximum and minimum measured values during continuous measurement will display on the screen. Press the key again to exit continuous measurement.


- **Area Measurement:**

Press  key and you will a rectangle with one edge flashing on the display. Complete the following operations according to screen tips:



Press  key to measure the first edge (length).


Press  key to measure the second edge (width) Area will be calculated automatically by the meter, and the results showed on main display screen.


Press **CLEAR** key to remove previous measured result and prepare for the next measurement.




- **Volumetric Measurement:**

Double press  key and you will see  on the screen (cube with one edge flashing). Complete the following operations according to screen tips:

Press  key to measure the 1st edge (length).


Press  key to measure the 2nd edge (width).



Press  key to measure the 3rd edge (height). Volume will be calculated automatically by the meter and the results shown on screen.


Press **CLEAR** key to remove previous measured result and prepare for the next measurement.


- **Pythagorean proposition indirect measurement:**

There are three modes to measure the unilateral distance of a triangle by ways of Pythagorean proposition. This is convenient for users to do indirect measuring in certain complex environments.

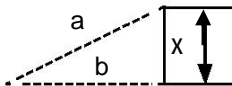
Press  key to select this mode:



- 1) Press  key and you will see  on the display screen (triangle with hypotenuse edge flashing).


Press  key to firstly measure the length of hypotenuse dotted line (a) according to screen prompt.


Press  key to measure the length of the bottom dotted line (b).

Length (x) of the solid line on the right side will be calculated automatically by the meter.

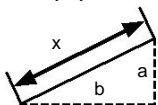




- 2) Double press  key and you will see  on the display screen (triangle with vertical edge flashing)


Press  key to measure the length of the dotted line on the right side (a) according to screen prompt


Press  key to measure the length of the bottom dotted line (b)


Length of the hypotenuse solid line (x) will be calculated automatically by the meter.



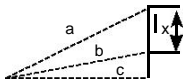
- 3) Press  key 3 times and you will see  on the display screen (triangle with hypotenuse edge flashing)


Press  to firstly measure the length of the hypotenuse dotted line (a) according to screen prompt.

Press  key to measure the length of dotted line (b)

Press  key to measure the length of dotted line (c)

Length of the right side solid line (x) will be calculated automatically by the meter.



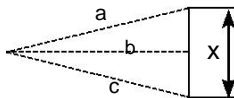
- 4) Press key 4 times and you will see on the display screen  (triangle with hypotenuse flashing)

Press **MEAS** key to firstly measure the length of the first dotted line (a) according to screen prompt.

Press **MEAS** key again to measure the length of the second dotted line (b)

Press **MEAS** key again to measure the length of the third dotted line (c)

Length of the solid line on the right side (x) will be calculated automatically by the meter



Under Pythagorean proposition measurement mode, length of right side must be shorter than hypotenuse length so that the instrument can make the calculation, otherwise an error signal will be displayed.

Under Pythagorean proposition mode, to ensure the accuracy of measurement, it must be measured from the same starting point, measuring in order of hypotenuse edges first, then the right edge.

- **Add And Subtract Measurement:**


Add and subtract measurement can be done through adding/subtracting single distance measurements to get accumulated results.

Press **+** key, "+" will appear on screen and the device will enter into accumulated adding mode. Accumulative value of previous measured value and the current measurement will be displayed.


Press **-** key, "-" will appear on screen and the device will enter into accumulated subtracting mode. Differences between previous measured values and the most recently measured & total values will be displayed on screen.



Storage and Browse

Store Measurements

Under measuring mode, press and hold the  key for 3 seconds and the last measured value will be automatically stored into the memory.

Browse Measurements

Press  key to browse stored measurement data.

Press  or  keys to browse forward or backward.
Press and hold **CLEAR** key to remove all stored data.

Tips:




During operation, tip information may appear on the main display screen as follows:

Info	Causes	Solutions
Err1	Signal too weak	Measure target locations that have a stronger reflective capability
Err2	Signal too strong	Measure target locations that have a weaker reflective capability
Err3	Battery voltage is too low	Replace batteries
Err4	Beyond working temperature	Carry out measurement with the meter in the specified scope
Err5	Improper measurement on Pythagorean proposition	Re-measure and ensure the length of hypotenuse is longer than that of right-side
Err6	Memory damage	Please contact ATP Instrumentation Ltd.

Technology specifications:

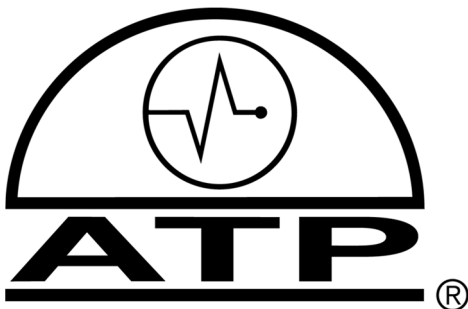
Item	Specifications
Distance measurement precision	±2mm
Measurement unit options	mm / in / ft
Continuous measurement function	Yes
Outdoor target reflection board	No
Area measurement function	Yes
Volume measurement function	Yes
Pythagorean proposition measurement function	Full Mode
Add and subtract measurement function	Yes
Min/Max value	Yes
Max storage	99 samples
Automatic backlight	Yes
Button/Key sounds	Yes
Laser level	Class II
Laser type	635nm, <1mW
Automatic laser cut-off	20 seconds
Automatic shutdown	150s
Storage temperature	-20°C to 60°C
Working temperature	0°C to 40°C
Storage humidity	85%RH
Batteries	3x 1.5V AAA
Weight (including batteries)	180g
Dimensions	118 x 54 x 28mm

Note: Using the meter in harsh environments may affect the measurement results, such as environments with strong sunlight, high temperatures, or environments with temperature fluctuations. Surfaces that are not reflective enough and low battery power can also affect measurement results.



Instrument maintenance:

- The meter should not be stored in environments with high temperature and humidity. If not being used for a long period, remove the batteries and place the meter in the supplied portable bag and store in a cool dry place.
- Please keep the device clean. Use a soft damp cloth to wipe off dust. Do not use any corrosive liquids during cleaning or maintenance of this meter. Laser output window and its focus lens can be maintained according to maintenance procedures.



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