

UNI-T® 优利德®



UT390B 使用手册

Operating Manual



Laser distance meter

激光测距仪



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I UT390B Product Introduction

UT390B Handheld Laser Distance Meter, is specially designed for users. It is a meter with high-precision and multi-function distance measurement. UT390B can measure distance, area and volume, Pythagorean Calculation can also be used in

UT390B to measure indirectly. UT390B which is light, easy to use and reliable to measure, can make sure your measurement more accuracy, easier and faster.

UT390B can widely apply to Construction, Upholster, Property, Traffic, Fire-Fighting, Gardens, Urban Planning, Water Mornitoring, Electric Power Overhaul, etc. As the replacer of traditional measuring instrument(for example, measuring tape), UT390B is your best choice.

II Unpacking Inspection

Unpack and check, if there is any damage or loss, contact with the nearest local sales service agency.

1.Mainframe	one unit
2.User manual	one copy
3.AAA battery(2x1.5V)	two pieces
4.Warranty card	one copy

III Safety Instruction

Permitted use

- Measuring distances
- Computing functions, e.g. Areas and Volumes
- Indirect distance measuring with Pythagorean calculation

Prohibited use

- Using the instrument without instruction
- Using outside the stated limits
- Deactivation of safety systems and removal of explanatory and hazard labels.
- Opening of the equipment by using tools (screwdrivers,etc.), as far as not specifically permitted for certain cases.
- Carrying out modification or conversion of the product
- Use of accessories from other manufacturers without the express approval of UNI-T.
- Deliberate or irresponsible behavior on scaffolding, when using ladders, when measuring near machines which are running, or near parts of machines or installations which are unprotected
- Aiming directly into the sun or glare.

- Deliberate dazzling of third parties; also in the dark Inadequate safeguards at the surveying site (e.g. when measuring on roads,) construction sites, etc.)

Laser classification

The UT390B produced a visible laser beam which emerges from the front of the instrument.

Laser Class II products:

Do not stare into the laser beam or direct it towards other people unnecessarily. Eye protection is normally afforded by aversion responses including the blink reflex.



WARNING

Looking directly into the beam with optical aids (e.g. binoculars, telescopes) can be hazardous.

Precautions:

Do not look directly into the beam with optical aids.



CAUTION

Looking into the laser beam may be hazardous to the eyes.

Precautions:

Do not look into the laser beam. make sure the laser is aimed above or below eye level.

IV Meter Structure Keypad

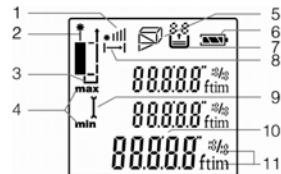
1. Power on/Measuring button
2. Area/volume/Historical Data Records button
3. Display Illumination/Unit setting button
4. Reference setting button
5. Clear/Power off button



LCD Display

- 1 SIGNAL POWER INDICATION
- 2 LASER "ON"
- 3 REFERENCE LEVEL
- 4 MAXIMIM VALUE AND MINIMUM VALUE
- 5 AREA / VOLUME / PYTHAGOREAN CALCULATION / HISTORICAL DATA RECORDS

- 6 BATTERY STATUS
- 7 HISTORICAL DATA RECORDS
- 8 CONTINUOUS MEASUREMENT
- 9 HARDWARE ERROR
- 10 CURRENT READING
- 11 UNIT



V Setting and Operation of Meter

Switching on and off

Press \triangle ON to switch on the instrument and laser.

Press OFF longer to switch off the instrument.


The instrument switches off automatically after three minutes of inactivity.


CLEAR button

OFF The last actions is cancelled or the data display is cleared.


Reference level setting



The default reference setting is from the rear of the instrument. Short press the  key, switch instrument measurement reference among front, rear, endpiece.

In a word, to select the appropriate reference, repeated press the  key, until get the reference you wanted. After each restart, the reference setting automatically defaults back. (rear reference)

Display illumination

Press  , illumination of the display can be switched on or off, User can trigger the function when he / she is in darkness situation. The value is clear viable on the LCD.

Distance unit setting for instrument



Press  longer to change the next type of unit, m, ft. in, ' ", then to continue press the button for the next unit selection.

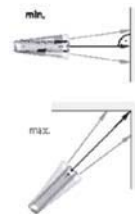
Measuring

Single distance measurement

Press  to activate the laser. Press again to trigger the distance measurement. The measured value is displayed immediately.

Continuous Measurement / Max and Min Measurement

Long press  , the instrument begins to continuous measurement. By measuring, maximum and minimum value will be displayed on the screen for the first and second rows. After measuring 100 times in a row, the continuous measurement stops automatically. This function allows customers to get the maximum value and the minimum value. Press  , can stop continuous measurement.



Area



Press  until  symbol appears in the display.

Press  button to take the first length measurement (e.g. length).

Press  again to take the second length measurement (e.g. width).

After taking the second measurement, the area/surface is automatically calculated and displayed in the summary line.

Volume

For volume measurements, press button  until the  indicator for volume measurement appears in the display.

Afterwards, Press  to measure the length.

Press  for the width.

Press  to take the height.


After taking the third measurement, the volume is automatically calculated and displayed.



Indirect measurement

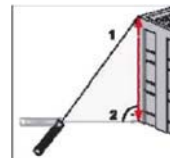
To measure heights that require the measurement of two or three measurements as following step:

using 2 measurements


Press the  until  appears on display.

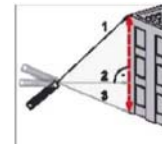
Aim at the above point (1) and then press  to take the necessary measurement. After the first measurement, the measurement result will be collected and appear on the LCD. Keep the instrument horizontally and take the next measurement.

Aim at the point (2) and then press  to take the necessary measurement. The second measurement will be the minimum value measurement automatically, the instrument will automatically collect the minimum value, press  to collect the result. At the same time, the height of (1) and (2) appears LCD.

**using 3 measurements**

Press  until  appears on the display.

Aim at the upper point (1) and press  to take the measurement. After the first measurement, the result will be collected. Keep the instrument horizontally and take the next measurement.



Aim at the point (2) and then press \triangle_{ON} to take the necessary measurement. The second measurement will be the minimum value measurement automatically, the instrument will automatically collect the minimum value, press \triangle_{ON} to collect the result.

Aim at the lower point (3) and press \triangle_{ON} to trigger the measurement. Meanwhile, the height of (1)(2)(3) will be shown in summary line. Press the button \square_{OFF} , the instrument will return to single measurement status.

HISTORICAL DATA RECORDS

Long press \square_{OFF} , until \square_{OFF} appears in the display, the previous 10 results are shown in reverse order. Press \square_{OFF} , scrolling value display, shown in figure.

Press \triangle_{ON} or \square_{OFF} , automatically returns single measuring status.



VI Technical specifications Technical Parameters:

Measuring Range	0.05~45m
Measuring Accuracy (Standard Deviation)	±2.0mm
Measuring Unit	m, ft, in, ' "
Laser Type	620~690nm
Laser Class	II, < 1mW
Laser Spot @ Distance	6mm@10m, 30mm@50m
Single Measurement Time	0.25~4s
IP Protection	IP40
Operating Temperature	0~+40°C
Storage Temperature	-20~+65°C
Batteries	AAA (Alkaline), 2×1.5V
Measurements Per Battery Set	> 8000
Weight Without Batteries	Approx.92g
Dimensions (L×W×H)	112×48×25mm
Implementation of national Standards	GB/T 14267-2009

Basic Functions


Single Measurement	✓	Multifunction Endpiece	✓
Max./ Min. Measurement	✓	Buzzer Indicator	✓
Continuous Measurement	✓	Historical Data Records	10 Groups
Unit Setting	✓	Data Cleanup	✓
Reference Setting	✓	Error Message Code	✓
Display Illumination	✓	Battery Indicator	✓
Operation Icon Indicator	✓	Display Illumination Auto. Switch off	15s
Multi-line Display	✓		
Area/Volume/Pythagorean Calculation	✓	Laser Auto. Switch off	30s
Technology of Intelligent Alterable Frequency Conversion	✓	Instrument Auto. Switch off	180s

* Maximum deviation error or Shorter range occurs under unfavourable conditions such as bright sunlight or when measuring too poorly reflecting or very rough surfaces, the environment temperature is too high or too low.

* When measuring within 10m, measurement accuracy is $\pm 2\text{mm}$; more than 10m, measurement accuracy is calculated as follows: $\pm 2\text{mm} \pm 0.05 * (D - 10)$ (D: Measuring

Distance, Unit; m)

VII Maintenance

 Warning: during replacing battery, keep the sensitive mirror from scratch or dirt to avoid damaging the mirror or influencing the measuring precision; and do not charge the replaced battery to avoid explosion and safety accident !

Battery installation and replacement

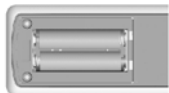
 When the symbol  flashes permanently in the display, replace the battery immediately.

Use alkaline batteries only.

Remove the batteries before any long period of non-use to avoid the danger of corrosion.

1. Battery Installation

- a. According to figures, remove battery compartment lid.
- b. Insert batteries with correct polarity according to battery lid indications
- c. Close the battery compartment lid



General maintenance

When the surface of meter is dirty, clean with wet cloth and neutral detergent, grinding miller and solvent are forbidden.

When the meter is damaged and needs to be repaired, please send it to the designated maintenance center of our company for repair by professional service man, do not repair it without authorization.

Especially in the process of using, keep the sensitive mirror of meter away from scratch or dirt to avoid damaging the mirror or influencing the measuring precision.

Remove the battery if it won't be used for a long time.

Store the meter in a place free of moist, high temperature and strong magnetic field.

Troubleshooting- Causes and Corrective Measures

All message are displayed with either Message Codes or "Error". The following errors can be corrected:

Message Code	Cause	Remedy
101	Battery too low	Change batteries
104	Calculation error	Repeat procedure
152	Temperature too high	Cool down equipment
153	Temperature too low	Warm up equipment
154	Out of range	Please measure target within distance of 0.05 to 45m
155	Received signal too weak	Use target plant
156	Received signal too strong	Use target plant
157	Measure error or background brightness too high	Darken target or change target
160	Shake too much	Stabilize equipment and repeat measurement

I Hardware error. Switch on/off device several times, if the symbol still appears, then please call your dealer for assistance.

* The instruction is subject to change without further notice.

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