

# TOLSEN

## 35071

# LASER DISTANCE METER

**TOLSEN TOOLS  
CO., LIMITED**

www.tolsentools.com  
MADE IN CHINA

### Technical Parameters:

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|---|------------------------------|
| Measuring Range                         | 0.05~80m                     |
| Measuring Accuracy (Standard Deviation) | ±1.5mm                       |
| Measuring Unit                          | m, ft, in, ' "               |
| Laser Type                              | 620~690nm                    |
| Laser Class                             | II, < 1mW                    |
| Laser Spot @ Distance                   | 6mm@10m, 30mm@50m, 60mm@100m |
| Single Measurement Time                 | 0.25~4s                      |
| IP Protection                           | IP54                         |
| Operating Temperature                   | -10~+50 °C                   |
| Storage Temperature                     | -20~+65 °C                   |
| Batteries                               | AAA(Alkaline), 2x1.5V        |
| Measurements Per Battery Set            | > 5000                       |
| Weight (Without Batteries)              | Approx. 175g                 |
| Dimensions (L× W ×H)                    | 126×54×28mm                  |
| Implementation of Standards             | GB/T 14267-2009              |

### \* REMARKS:

- Maximum measuring distance of the product meter on 80m
- Measuring distance may be reduced on conditions of sunlight and poor reflection target
- Measurement on transparent target may result in wrong readings
- Measurement on strong reflection target may result in wrong readings
- Measurement time may increase when measuring poor reflection targets and angular surfaces
- When measuring within 30 m, measurement accuracy is ±1.5mm; more than 30m, measurement accuracy is calculated as follows:  $\pm 1.5\text{mm} \pm 0.05\%$  (D-30) (D: Measuring Distance, Unit: m)

### Prohibited Use

- Opening of the equipment by using tools (screwdrivers, etc.), as far as not specifically permitted for certain cases
- Aiming directly into the sun
- Using outside the stated limits
- Immersing the equipment in water
- Cleaning the lens using alcohol or any other organic solvent
- Wiping the lens directly with fingers or other rough surfaces
- Powering the equipment beyond the rated DC voltage

| LCD icon indication                         | keypad functions                 |
|---|----------------------------------|
| 1 LASER "ON"                                | 12 POWER ON/ MEASURING - KEY     |
| 2 REFERENCE (FRONT/REAR/END PIECE)          | 13 AREA/AREA SUMMATION FUNCTION/ |
| 3 LEVEL INDICATION *                        | VOLUME/PYTHAGORAS - KEY          |
| 4 HISTORICAL READINGS                       | 14 PLUS[+] - KEY                 |
| 5 AREA/AREA SUMMATION /VOLUME/PYTHAGORAS    | 15 BACK LIGHT/ UNIT - KEY        |
| 6 SIGNAL POWER INDICATION                   | 16 REFERENCE - KEY               |
| 7 BATTERY STATUS                            | 17 MINUS[-] - KEY                |
| 8 HARDWARE ERROR                            | 18 CLEAR / OFF - KEY             |
| 9 CONTINUOUS MEASUREMENT/STAKE OUT FUNCTION |                                  |
| 10 CURRENT READING                          |                                  |
| 11 UNIT                                     |                                  |

\*Temporary unavailable

First of all, thank you for your choice on

handheld laser distance meter.

Please carefully read the safety instructions and the user manual before using this product, otherwise it may result in hazardous laser radiation and electric shock. The person responsible for the equipment must ensure that all users understand these directions and adhere to them.

### Safety Instructions

- HLHandheld laser distance meter is a class II laser product. Please DO NOT stare into beam at any time when operating this product!
- Please DO NOT use this product cooperate with other optical products,Least cause serious laser radiation.
- Please DO NOT remove any safety labels on the product!

### Equipment Performance

- Measuring range is from 0.05 to 80m ;
- Calculation function:
  - Area
  - Volume
  - Height (Pythagorean theorem)
  - Addition and subtraction
  - Stake out function
- Storage and recall of measurement results
- Metric and British unit system
- LCD with background light
- Automatically switch off

### Basic Functions

|  |           |
|--|-----------|
| Single Measurement                                       | ✓         |
| Max. / Min. Measurement                                  | ✓         |
| Continuous Measurement                                   | ✓         |
| Unit Setting   | ✓         |
| Reference Setting  | ✓         |
| Display Illumination                                     | ✓         |
| Operation Icon Indicator                                 | ✓         |
| Plus / Minus   | ✓         |
| Multi-line Display                                       | ✓         |
| Area / Area Addition / Volume                            | ✓         |
| Pythagorean Calculation                                  | ✓         |
| Auto. Scale Technology                                   | ✓         |
| Technology of Intelligent Alterable Frequency Conversion | ✓         |
| Multifunction Endpiece                                   | ✓         |
| Tripod Thread (Type:1/4-20)                              | ✓         |
| Buzzer Indicator   | ✓         |
| Historical Data Records                                  | 50 Groups |
| Data Cleanup   | ✓         |
| Error Message Code                                       | ✓         |
| Battery Indicator  | ✓         |
| Display Illumination Auto. Switch off                    | 15s       |
| Laser Auto. Switch off                                   | 30s       |
| Instrument Auto. Switch off                              | 180s      |

### LCD and keypad description

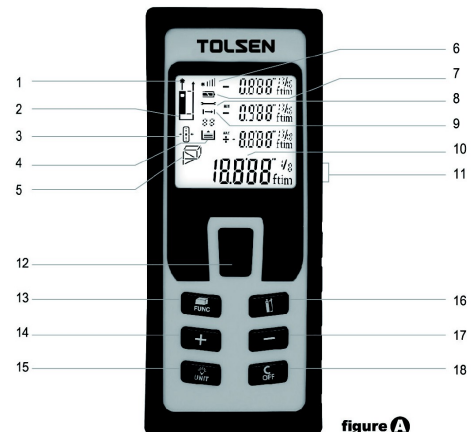


figure A

### Start-up

#### 1. Battery Installation

- According to figures, remove battery compartment lid with specified battery key;
- Insert batteries with correct polarity according to battery lid indications;
- Close the battery compartment lid and skew tight with the battery compartment key;

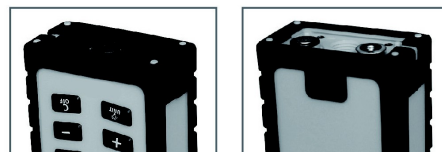




figure B

#### \*Caution:

- Please do not mix new and old batteries, Use alkaline batteries or rechargeable batteries only.
- Please replace batteries when the symbol flashes permanently in the display
- Please remove the batteries before any long period of non-use
- Flat batteries must not be disposed of with household waste. Care for the environment and take them to the collection points provided in accordance with national or local regulations

## Equipment operation

### Switch on and off

Long-time press  button to switch on the equipment with default reference setting of single measurement mode, rear reference and metric unit system; At the same time battery state and laser reflection signal intensity indication as shown as figure C;  
Long-time press  button to switch off the equipment; the laser will be switched off automatically after 30 seconds and the equipment will be switched off after 3 minutes of inactivity;

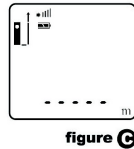




figure C

### Clear Button

Pressing  button to clear the last command or displayed data by lines; During measurement of area and volume, each single-mode measurement can be clear for measurement again; In different modes, the equipment will be reset to single-mode when pressing C button with none measurement data.

### Change Measurement Reference

 Default setting of measurement is rear edge when switching on. Pressing this button will change the measurement reference from the front, the rear and the pin corner with different beep indication and the beep tone differs at different reference;

## Measurement

### Signal-mode Measurement



When equipment is switched on, pressing  button to activate the laser and aiming the laser onto target and pressing  button gain to trigger single-mode measurement, the result is displayed immediately as shown in figure E.



figure E

### Continuous-mode Measurement





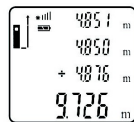
When equipment is switched on, long-time pressing  button trigger continuous-mode measurement with  symbol flashing  
MIN: MINIMUM VALUE  
MAX: MAXIMUM VALUE  
Current measurement value is displayed in LCD bottom line as shown in figure F.





figure F

### Addition and Subtraction Functions

 The next measurement is added to the previous one  
 The next measurement is subtracted from the previous one, as shown in figure H



### Storage and recall of measurement results

The equipment will automatically store the last 50 measurement results at reverse time. On standby state, shown in figure I, pressing  or  buttons will recall historical measurement results with the first reading as record No.1 and so on. When 50 records are full, the equipment will directly delete the first reading and store the current reading

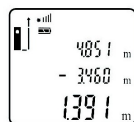


figure I




figure J

## Appendix

### TOLSEN Handheld Laser Distance Meter Message Code.

| 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 80m |
| 155          | Received signal too weak                            | Use target plant                                     |
| 156          | Received signal too strong                          | Use target plant                                     |
| 157          | Wrong measurement or background brightness too high | Darken target or change target                       |
| 160          | Shake too much                                      | Stabilize equipment and repeat measurement           |
| 194          | Value too big                                       | Reducing measuring distance or manual calculation    |

### Display Background Light

 Default setting of LCD background light is switching off. Pressing this button will switch on or off LCD background light.

### Unit Conversion

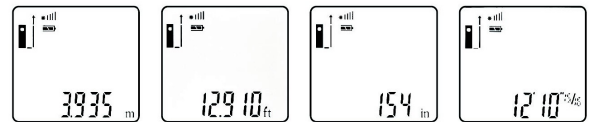



figure D

Default setting of measurement unit is metric unit. Long-time pressing  button will convert metric unit to British unit from ft, in to ' " and so on as shown in figure D.

## Functions

### Area, Volume, Indirect Measurement (Pythagorean Theorem)

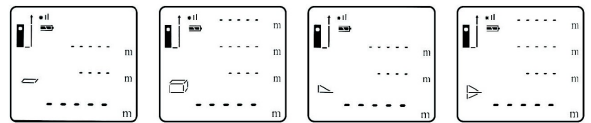




















figure G

Press  button to change measurement functions, respectively, as shown in figure G; Select corresponding function and begin the measurement;

| Measurement Functions        | Icons   | Measurement Sequence  |
|------------------------------|---|---|
| Single-mode Measurement      |    |   |
| Area Measurement             |    |    |
| Area Summation Function      |    |    |
| Volume Measurement           |   |   |
| Height (Pythagorean Theorem) |  |  |
| Measurement 1                |   |  |
| Height (Pythagorean Theorem) |  |  |
| Measurement 2                |   |  |

### Stake Out Function

A distance can be entered into the instrument and can then be used to make off defined measured lengths, e.g. if the setting distance is 1.5m, when the measurement result is an integer multiple of 1.5m, the buzzer will be alarm. Press the  , until 0.000 display and the cursor flashes as figure J. Press  to adjust the cursor position, and press  to adjust the value to suit the desired stake out distance, until the desired value has been reached. Press  to start measurement.  
The display shows required stake out distance in the summary line between the stake out point and the instrument. The instrument is moved slowly along the stake out line, the instrument starts to beep at a distance of 0.1m from the next stake out point. When the reading reaches the defined distance, the buzzer beeps quickly.  
The function can be stopped pressing .

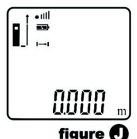







figure J

### Important Icons

| Icons   | Content                         | Description  |
|---|---------------------------------|--|
|  | Flashing                        | Continuous measurement   |
|  | Received signal power indicator | More signal power bar indicates stronger reflection signal with faster measurement speed and higher accuracy                                       |
|  | Batter indicator                | More battery bar indicates more battery energy; Flash of this icon means batteries run out   |
|  | Data storage                    | Measurement results are stored at reverse time   |
|  | Hardware error                  | Switch on/off the equipment several times. If the symbol still appears, then your instrument is defective. Please call your dealer for assistance. |

### Warranty

**TOLSEN** guarantees TWO-year warranty for the product. More information can be found at [www.laitz.com](http://www.laitz.com) or local dealer. All illustrations, descriptions and technical specifications may be subject to change without prior notice.

Technical parameters of the product abide by the (GB/T 14267-2009) of the P.R.C. National Standard.