

Laser Technology, Inc.

TruPoint™ 300

User Manual



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Introduction

 The safety instructions and the user manual should be read through carefully before the product is used for the first time.

 The person responsible for the product must ensure that all users understand these directions and adhere to them.

The symbols used have the following meanings:

WARNING

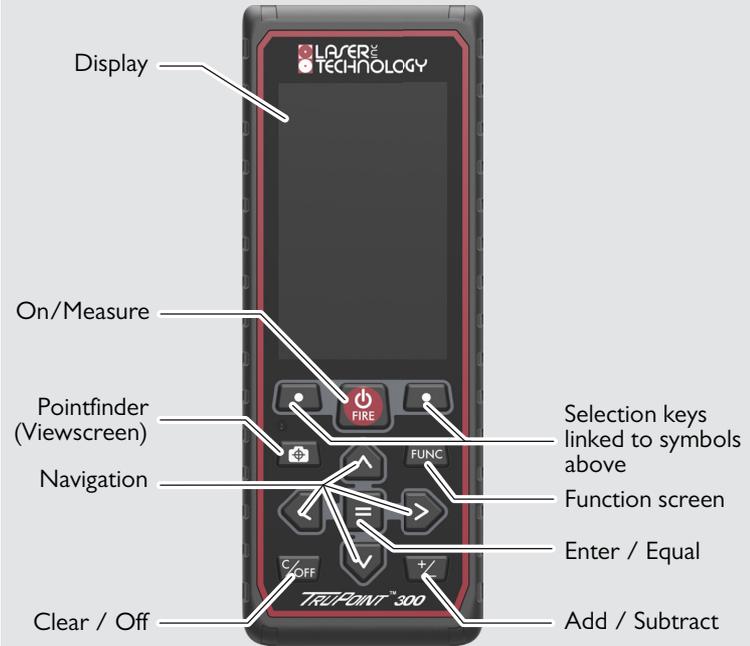
Indicates a potentially hazardous situation or an unintended use which, if not avoided, will result in death or serious injury.

CAUTION

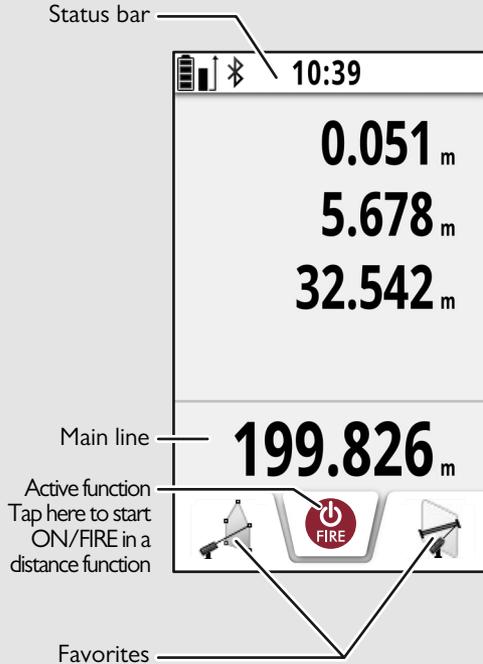
Indicates a potentially hazardous situation or an unintended use which, if not avoided, may result in minor injury and/or appreciable material, financial and environmental damage.

 Important paragraphs which must be adhered to in practice as they enable the product to be used in a technically correct and efficient manner.

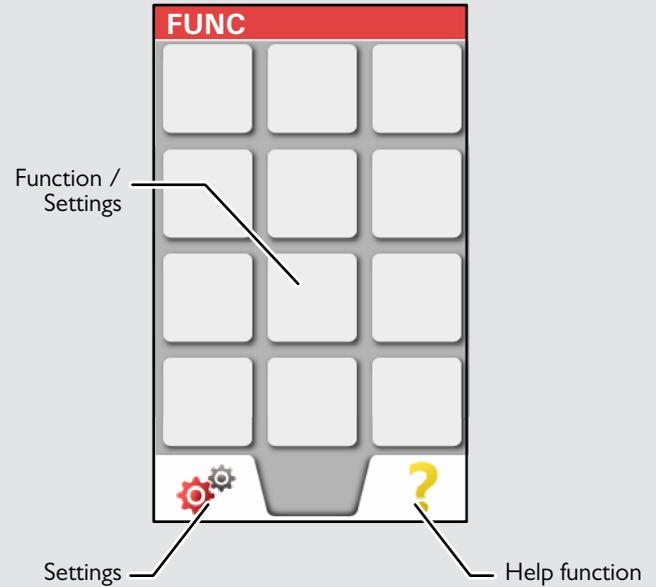
Overview



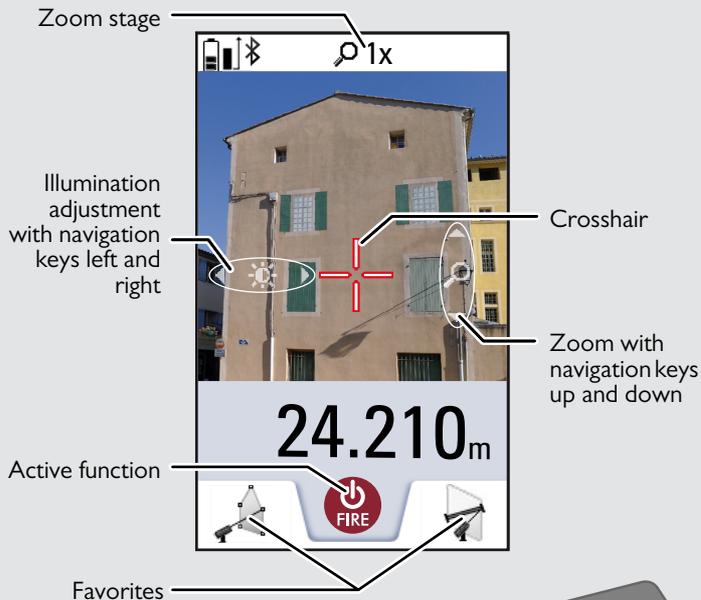
Basic measuring screen



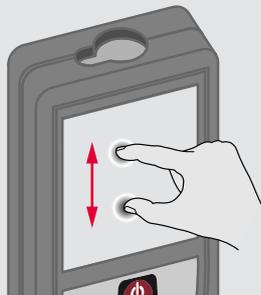
Selection screen



Pointfinder (Viewscreen)



Spread 2 fingers apart to zoom on the touch screen



Icons on Status bar

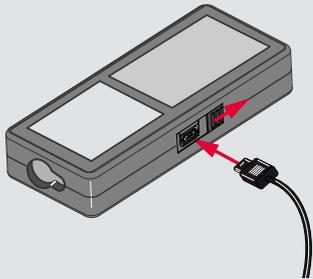
| | |
|--|--|
| | Scroll up and down for further results |
| | Battery power |
| | Bluetooth® is switched on |
| | Bluetooth® connection established |
| | Device is not leveled |
| | Device is leveled |
| | Device was moved after leveling - affects measuring accuracy |
| | Offset is activated and subtracts the defined value from measured distance |
| | Offset is activated and adds the defined value from measured distance |
| | Device is measuring |
| | TRUPOINT 300 WLAN hotspot activated |
| | Other device connected to TRUPOINT 300 WLAN hotspot |
| | WLAN client mode activated |
| | TRUPOINT 300 connected as client to WLAN |
| | Zoom |
| | Measuring reference |

Charging the Li-Ion battery via USB

Charge the battery before using it for the first time. Use the provided cable to charge the battery.

Plug the small end of the cable into the port of the device, and plug the end of the charger into an electrical socket. Select the appropriate connector for your country. The device cannot be used while it is charging.

The computer can also be used to charge the device, but this takes more time. If the device is connected to the computer via USB cable, you can download or delete the gallery. **It is not possible to upload any data.**



When you charge the battery, the following icons show the status:

Charging



Fully charged



4 h

i

Charge batteries when battery symbol is flashing. While charging, the device may heat up. This is normal and should not affect the device's lifespan or performance. If the battery gets hotter than 40°C / 104°F, the charger stops.

At a recommended storage temperature of -20°C to +30°C (-4°F to +86°F), batteries containing a 50% to 100% charge can be stored up to 1 year. After this storage period the batteries must be recharged.

To save energy, unplug the charger when not in use.

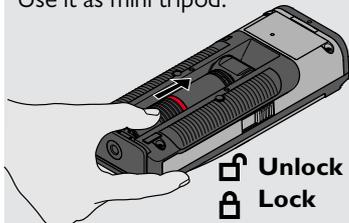
CAUTION

Connecting the charger improperly may cause serious damage to the device. Any damage caused by misuse is not covered by the warranty. Use only Laser Technology-approved chargers, batteries, and cables. Unapproved chargers or cables can cause the battery to explode or damage the device.

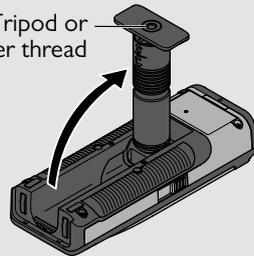
If the device is connected to the computer via USB cable, you can download or delete the gallery. It is not possible to upload any data.

Using the Smart Base

Fold out Smart Base.
Use it as mini tripod.



Tripod or
Adapter thread



Using the Smart Base Extension



The Smart Base Extension al-
lows for stable target-
ing without unintentionally tilting
the device.



Do not move or tilt the Smartbase during measuring.

i We recommend the use of a tripod with the LAA300 Laser Aiming Assist adapter.

Using the Touch Screen

Use only fingers to use the touch screen.

Do not allow the touch screen to come into contact with other electrical devices.

Electrostatic discharges can cause the touch screen to malfunction. Do not allow the touch screen to contact water. The touch screen may malfunction in humid conditions or when exposed to water.

To avoid damaging the touch screen, do not tap it with anything sharp or do not apply excessive pressure to it with your fingertips.

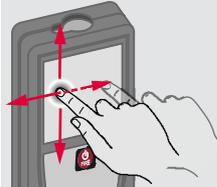
i

Tapping



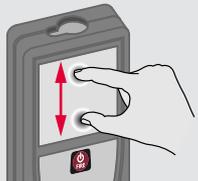
Tap on the display to open an on-screen button or to make a selection. Tapping on the icon in the middle of the bottom line activates the distance measurement or triggers the camera.

Dragging



Drag on the display to move to previous or to next screen in the galerie function.

Pinching

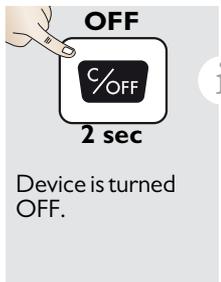


Spread 2 fingers apart to zoom if pointfinder is activated.

i

Instead of using the touch screen, the normal keypad buttons can be used also.

Switching ON/OFF



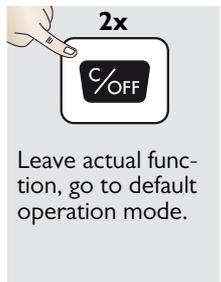
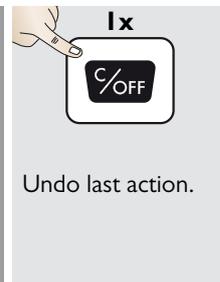
ON
2 sec

OFF
2 sec

Device is turned OFF.

i If no key is pressed for 180 sec, the device switches off automatically.

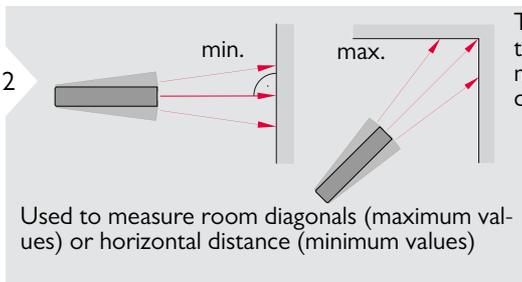
Clear



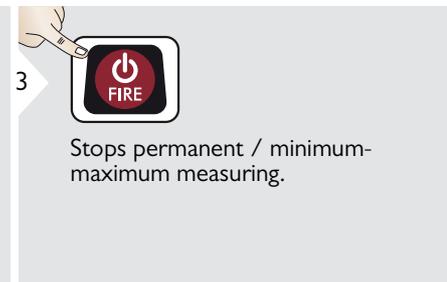
Message Codes

If the info icon appears with a number, observe the instructions in section "Message Codes".
Example:

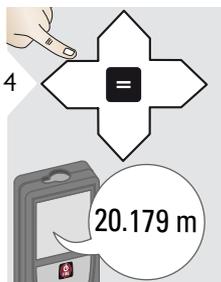
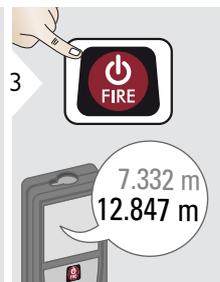
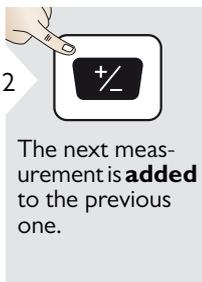
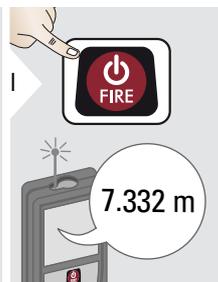
Permanent / Minimum-Maximum measuring



The minimum and maximum distance measured is displayed (min, max.). The last value measured is displayed in the main line.

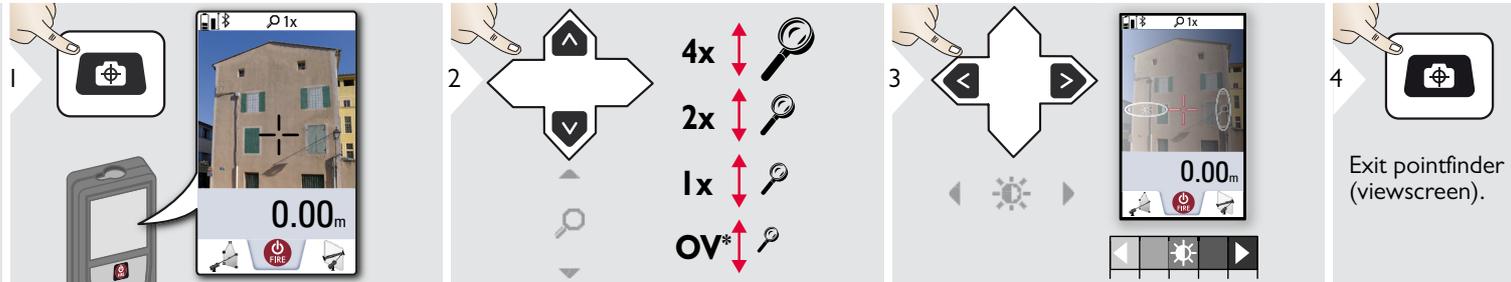


Add / Subtract



i This process can be repeated as required. The same process can be used for adding or subtracting areas or volumes.

Pointfinder (Viewscreen)

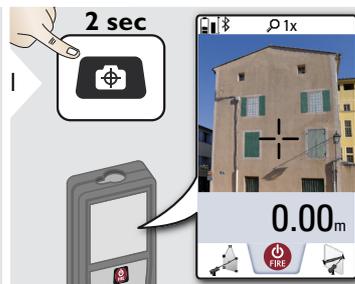


i

This is a great help for outdoor measuring. The integrated pointfinder (viewscreen) shows the target on the display. The device measures in the middle of the cross hair, even if the laser dot is not visible. Parallax errors occur when the pointfinder camera is used on close targets, with the effect that the laser appears displaced in the crosshair. In this case the error is automatically corrected with a shift of the crosshair.

* OV = Overview

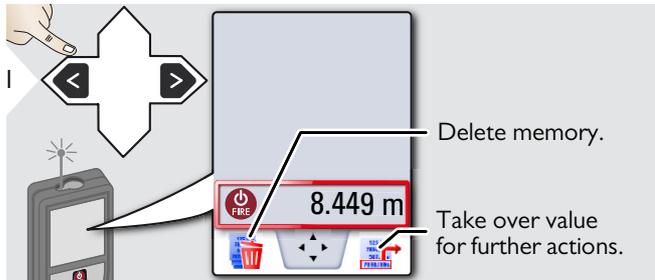
Screenshot



Screenshot photo is saved in gallery.

Memory

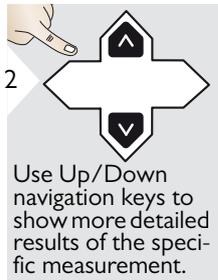
1



Delete memory.

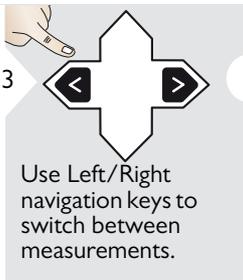
Take over value for further actions.

2



Use Up/Down navigation keys to show more detailed results of the specific measurement.

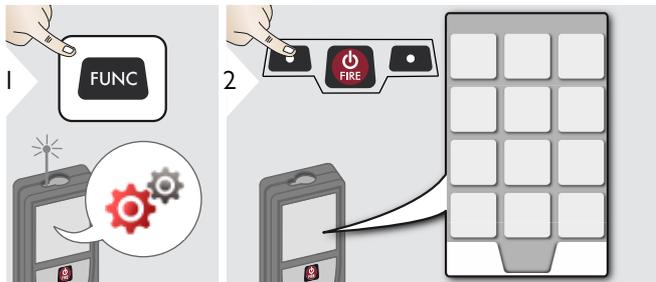
3



Use Left/Right navigation keys to switch between measurements.

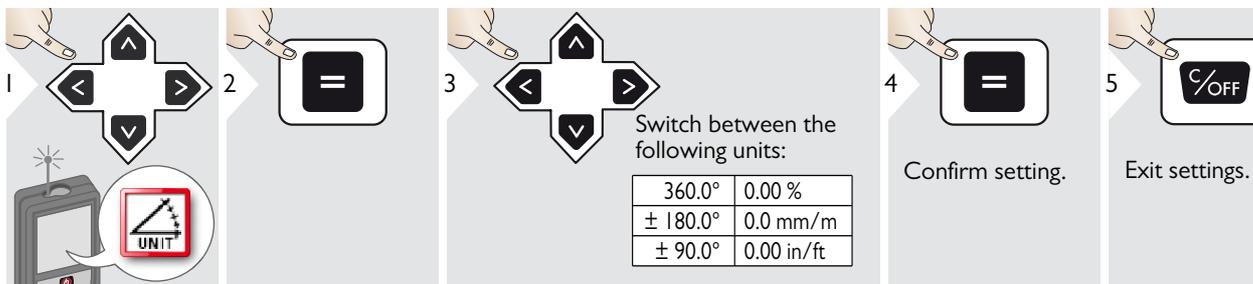
i Pointfinder needs to be switched off.

Overview



| | |
|--|-----------------------------|
| | Tilt units |
| | Move Alert |
| | WLAN / Bluetooth® |
| | Digital level |
| | Keypad lock |
| | Illumination |
| | Tilt calibration |
| | Favorites |
| | Compass adjustment |
| | Touch screen |
| | Date and Time |
| | Distance units |
| | Offset |
| | Reset |
| | Information/Software Update |
| | Beep |

Tilt units



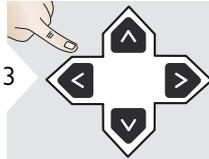
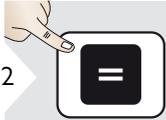
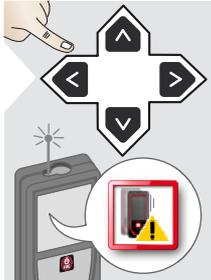
Switch between the following units:

| | |
|----------|------------|
| 360.0° | 0.00 % |
| ± 180.0° | 0.0 mm/m |
| ± 90.0° | 0.00 in/ft |

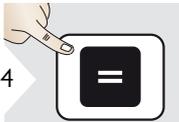
Confirm setting.

Exit settings.

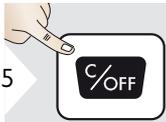
 **Move Alert of Levelling**



Choose the sensitivity of the levelling, which is needed for some measuring functions. FINE means, that the levelling of the device is sensitive to any small vibrations. Choose ROUGH when working in harsh construction environment with many shocks and vibrations. In this case the accuracy is decreased in correlation with the movements.

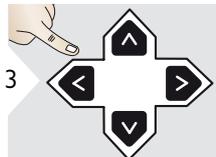
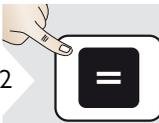
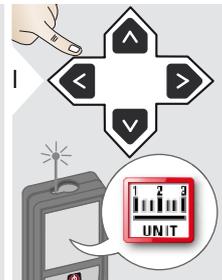


4 Confirm setting.



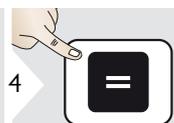
5 Exit settings.

 Distance units

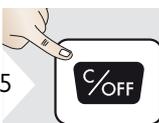


Switch between the following units:

| | |
|----------|------------|
| 0.00 m | 0.00 ft |
| 0.000 m | 0.00 in |
| 0.0000 m | 0 in 1/32 |
| 0.0 mm | 0'00" 1/32 |



Confirm setting.



Exit settings.

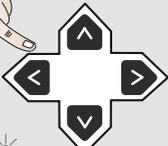
Beep ON/OFF

1  2  To switch ON, repeat procedure.

3  Exit settings.

Digital level ON/OFF

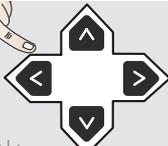
1  2  To switch ON, repeat procedure.

3  Exit settings.

 The digital level is displayed in the status bar.

De-/Activate keylock

1  2  To deactivate, repeat procedure. The keylock is active if device is switched off.

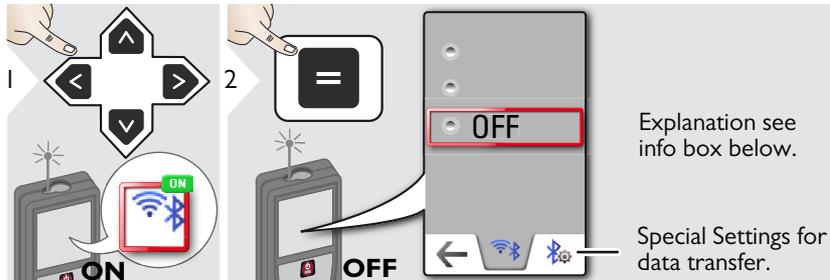
Switch on with keylock

1  Exit settings.

1  2  within 2 sec



Bluetooth® /WLAN



Exit settings.



Bluetooth®/WLAN is switched on and black Bluetooth®/WLAN icon is displayed in status bar. If connection is established the color of the icon changes to blue.



Special Bluetooth® Settings

Figure Mode: Use this mode if the data needs to be transferred in figures, e.g. working with spread sheets. Ft/in fractional is converted into ft/in decimal. An additional press on the Bluetooth® Settings Icon allows further adjustments for data transfer.

Device is connected. Favorites disappear and two softkeys appear:



Allows the arrow keys to move the cursor on your computer.



sends the value of the main line to the computer.



Text Mode: Use this mode if the data needs to be transferred as text, e.g. working with word processing programs.

Device is connected. Favorites disappear and two softkeys appear:



Allows the arrow keys to move the cursor on your computer.



sends the value of the main line to the computer.



App Mode: Use this mode to transfer the data using an App. Special properties: ENCRYPTED is the default setting. In case of trouble with data transfer, select mode UNENCRYPTED.



Special WLAN Settings



Available WLAN network can be chosen with the possibility to enter a password. Recommended for GIS applications.



WLAN: TRUPOINT 300 acts as hotspot. Data transfer unsecured or secured with serial number as password. Recommended for stand-ard use.

Bluetooth® data transfer

 Connect the device with your smart phone, tablet, laptop... The actual measurement is transferred automatically if Bluetooth® connection is established. To transfer a result from the main line, press =. Bluetooth® switches off as soon as the laser distance meter is switched off.

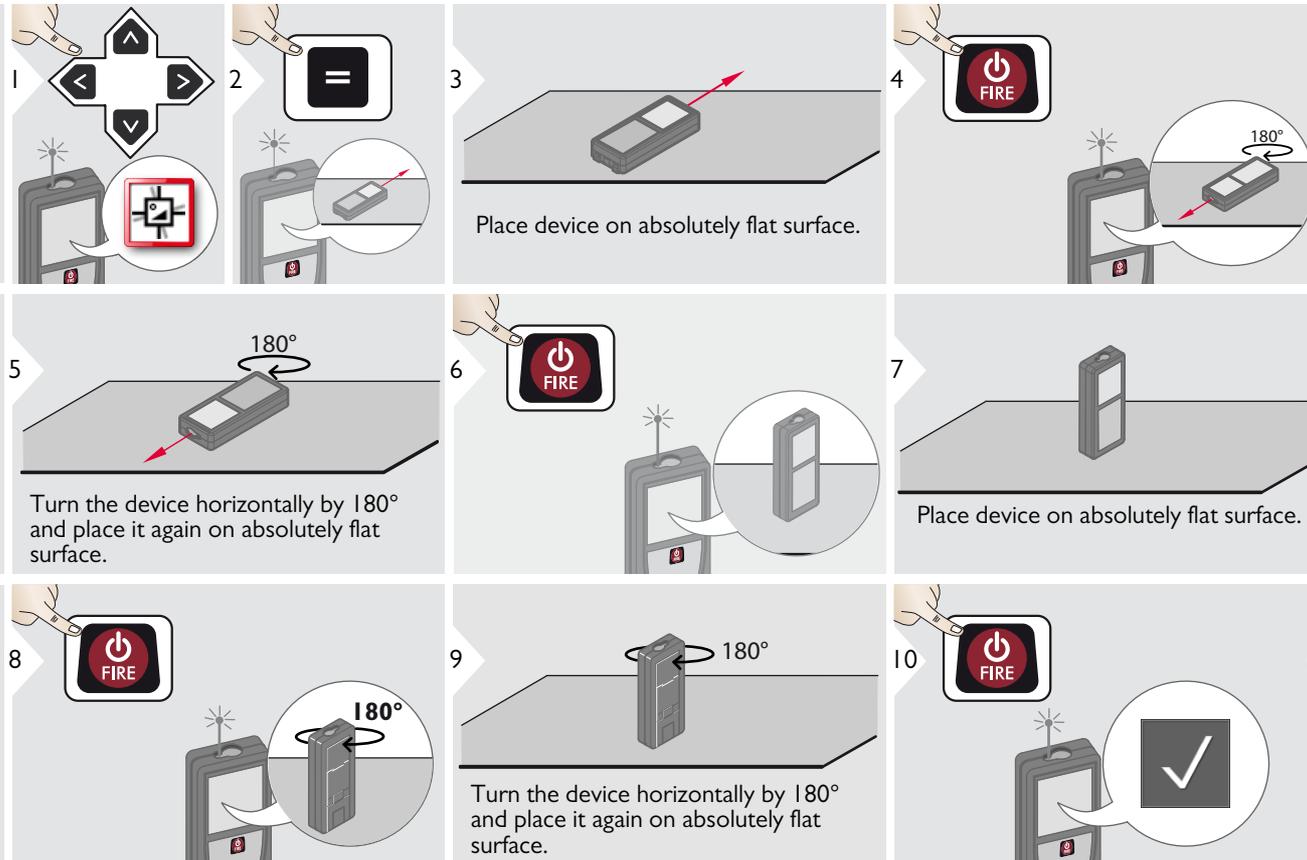
The efficient and innovative Bluetooth® Smart module (with the new Bluetooth® standard V4.0) works together with all Bluetooth® Smart Ready devices. All other Bluetooth® devices do not support the energy saving Bluetooth® Smart Module, which is integrated in the device.

We provide no warranty for free TRUPOINT™ 300 software and offer no support for it. We accept no liability whatsoever arising from the use of the free software and we are not obliged to provide corrections nor to develop upgrades.

WLAN data transfer

 Only data from the function Point Data transmission can be transferred with WLAN. A corresponding program is needed to receive the data.

Calibration of tilt sensor (Tilt Calibration)



After 2 sec the device goes back to the basic mode.

Personalized favorites

1

2

3

4

Select favorite function.

Press selection key left or right. Function is set as favorite above the corresponding selection key.

i Select your favorite functions for quick access.

Short cut:
Press 2 sec on a selection-key in the measuring mode. Select your favorite function and press again short on the corresponding selection key.

Illumination

1

2

3

4

5

Select brightness.

Confirm setting.

Exit settings.

i To save power reduce brightness if not necessary.

Touch Screen ON/OFF

1

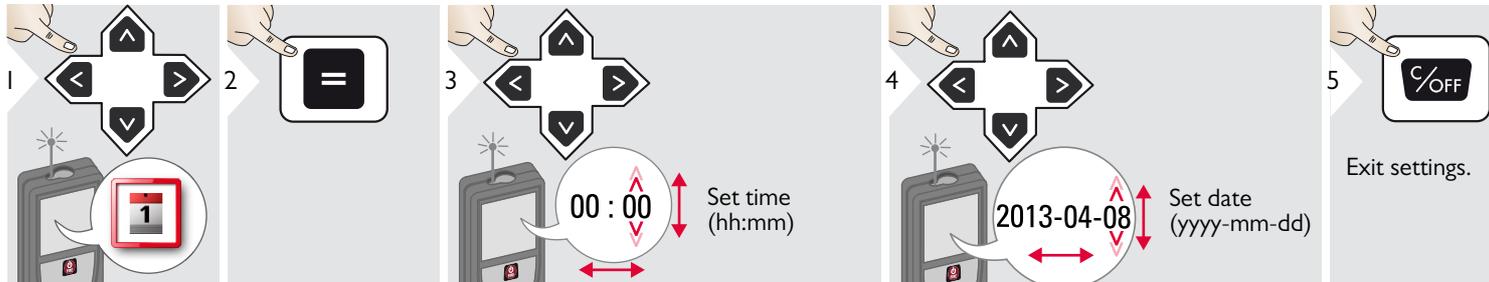
2

3

To deactivate, repeat procedure.

Exit settings.

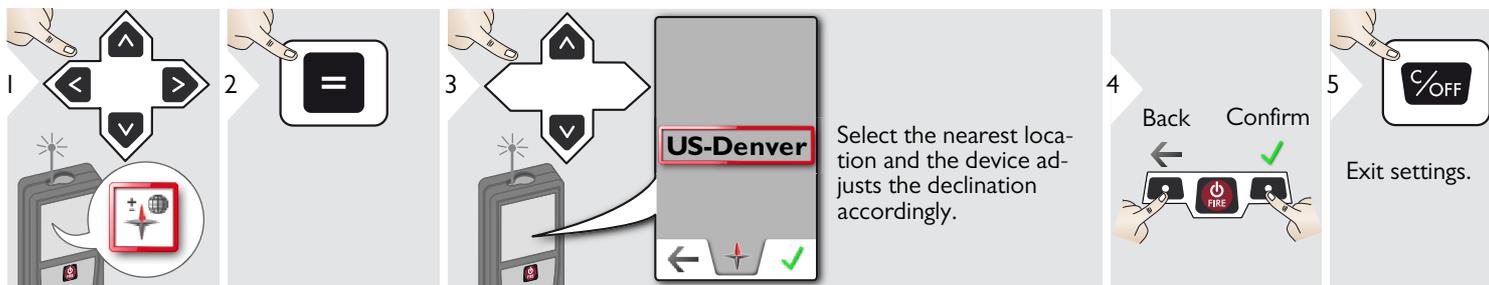
1 Date and Time



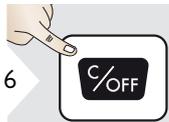
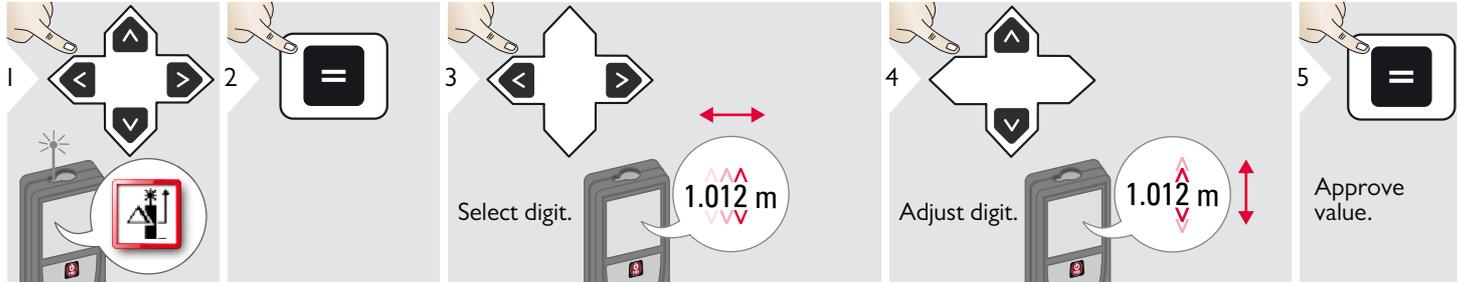
Compass Adjustment

Adjusting the magnetic declination

i Depending on your geographic location, the angle of declination may vary from other locations, as the geographic and magnetic poles are aligned. However, if the reference location is not selected, the difference in declination between the poles can differ greatly. For best results, select the nearest geographic reference point using the steps below.



Offset

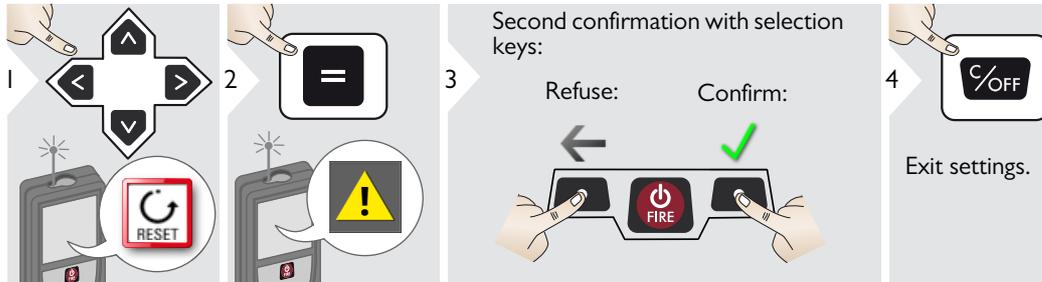


Exit settings.

i

An offset adds or subtracts a specified value automatically to or from all measurements. This function allows tolerances to be taken into account. The offset icon is displayed.

Reset

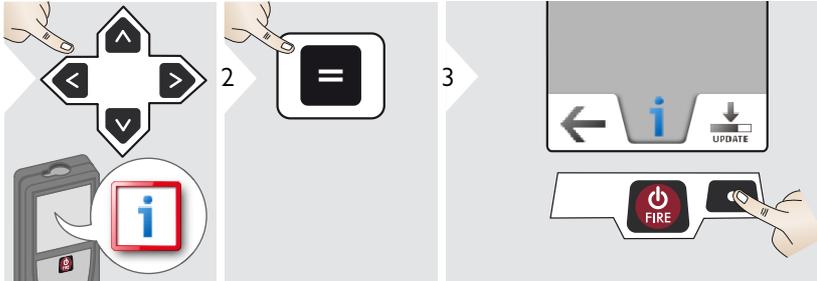


i

Reset returns the instrument to the factory settings. All customized settings and memories are lost.

A HARDWARE-RESET is done by pressing 15 sec on ON/FIRE key.

Information/Software Update



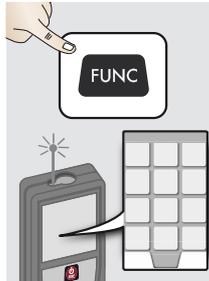
i

Make sure that you use always the newest software version.

i

Please contact your local authorized Laser Technology, Inc. dealer or visit www.lasertech.com for information regarding possible software updates.

Overview



| | |
|---|-----------------------------|
|  | Calculator |
|  | Smart Horizontal Mode |
|  | Smart Angle measurement |
|  | DXF Folder |
|  | Level |
|  | Single Distance measurement |
|  | Missing line measurements |
|  | DXF data capture |
|  | Photo |
|  | Volume |
|  | Smart Area measurement |
|  | WLAN data transmission |
|  | Gallery |
|  | Area |

| | |
|---|-------------------------------|
|  | Measuring on sloped objects |
|  | Width |
|  | Timer |
|  | Triangular area |
|  | Height-profile Measurement |
|  | Diameter |
|  | Adjusting measuring reference |
|  | Pythagoras (2-point) |
|  | Height Tracking |
|  | Area from Photo |
|  | Compass |
|  | Pythagoras (3-point) |
|  | Trapezium |
|  | Stake out |

Calculator

1. Press the calculator icon on the directional pad.

2. Press the equals key (=).

3. Use the calculator keypad. Select keys on display. Confirm every key. Use selection keys for clear or result.

i

The measurement result from the main line is taken over to the calculator and can be used for further calculations.
 Ft/in fractions are converted into ft/in decimal.
 To take over a result from the calculator in the basic mode press ON/FIRE before leaving the calculator function.

Smart Horizontal Mode

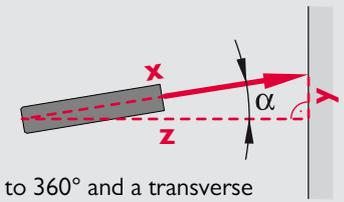
1. Press the Smart Horizontal Mode icon on the directional pad.

2. Press the equals key (=).

3. Aim laser at target. Press the FIRE key.

4. Press the FIRE key. The display shows the following measurements:

- 40.8° — α
- 5.204 m — x
- 0.032 m — y
- 4.827 m — z



(up to 360° and a transverse tilt of $\pm 10^\circ$)

Smart Angle measurement

1

2

3 Aim laser at point on first wall.

4

5 Aim laser at corner.

6

7 Aim laser at point on second wall.

8

1.246m
5.269m

89.56° α

Continues distance and angle measurement.

Level

1

2

3

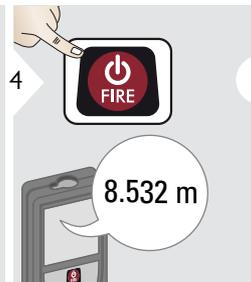
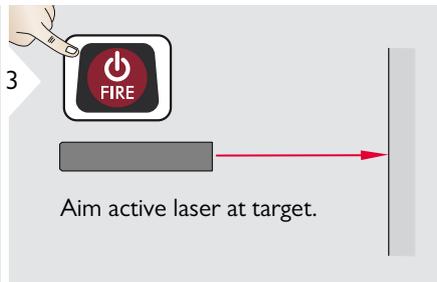
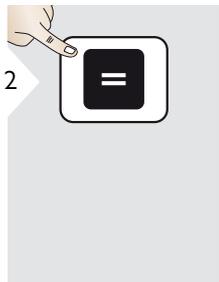
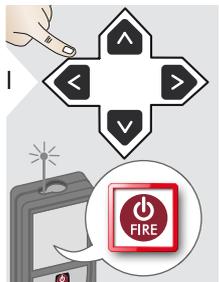
0.3°

90°

0°

i Displays inclinations of 360° with a transverse inclination of +/- 10°. Instrument beeps at 0° and 90°. Ideal for horizontal or vertical adjustments.

 Measuring single distance



i

Target surfaces:
 Measuring errors can occur when measuring to colourless liquids, glass, styrofoam or semi-permeable surfaces or when aiming at high gloss surfaces. Against dark surfaces the measuring time increases.

Missing line measurements

1 Initialize device for vertical and horizontal values. See "Leveling".

2 P1

3 Aim laser at first target.

4

5 Aim laser at second target.

6

7

13.207m

Level the device and further values are displayed!
Do not move Smart Base after levelling!

-1.697m
2.419m
35.06°

2.995m

Leveling

Level the device to get more measuring data.

Do not move device after levelling.

For levelling, Smart Base has to be folded out and device needs to be in an inclination range of $\pm 5^\circ$.

1 2 3 $\pm 5^\circ$

1 2 3 90°

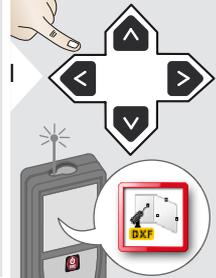
1 2 3 90°

Rotate the device two times clockwise 90°. Follow the instructions on the display. Levelling is finished when OK icon appears on the display.

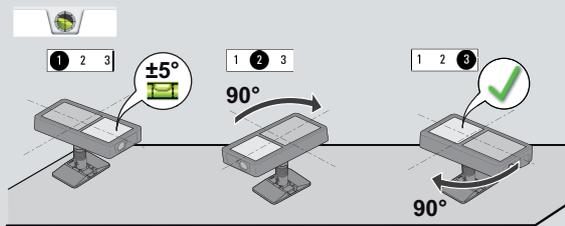
Check status line:

- indicates proper levelling
- indicates insufficient levelling
- indicates that smart base was tilted and can affect measuring accuracy

DXF data capture



1 Levelling is mandatory! For levelling, Smart Base has to be folded out and device needs to be in an inclination range of +/-5°.



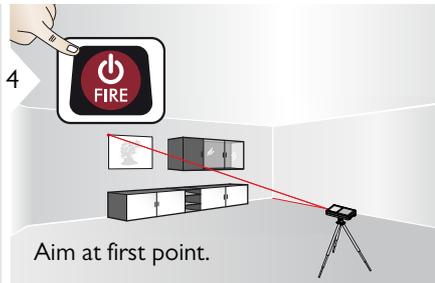
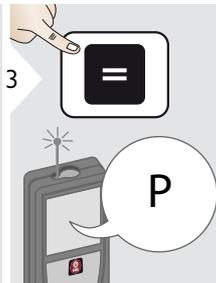
Rotate the device two times clockwise 90°. Follow the instructions on the display. Levelling is finished when OK icon appears on the display.

Do not move device after levelling!

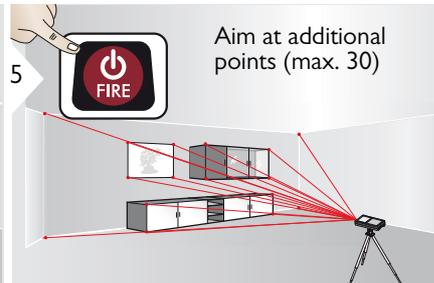


Check status line:

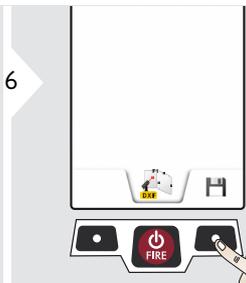
- indicates proper levelling
- indicates insufficient levelling
- indicates that smart base was tilted and can affect measuring accuracy



Aim at first point.



Aim at additional points (max. 30)



Stops DXF capture and saves data.



Leave actual function, go to default operation mode.

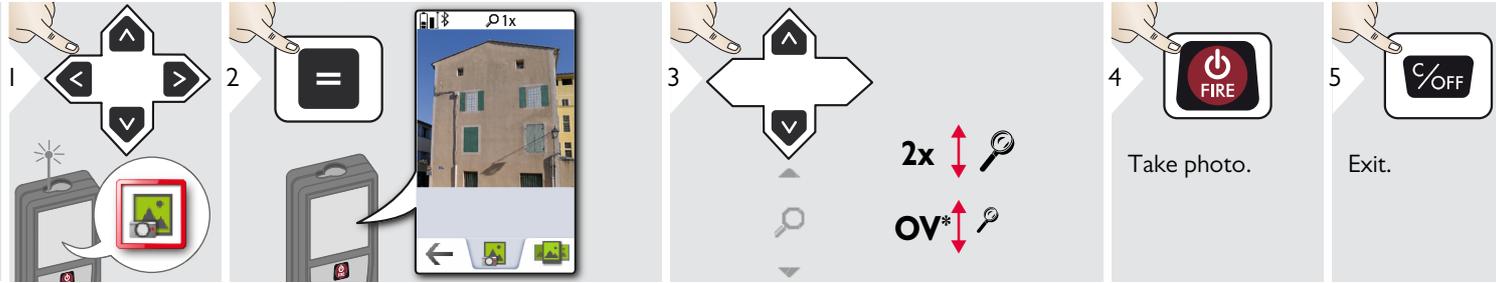


Max. 20 DXF files can be generated (with 30 measuring points/photos each).

If pointfinder is switched on, the corresponding photos are saved with a resolution of 300 x 400 dpi.

Do not forget to save your data!

Photo

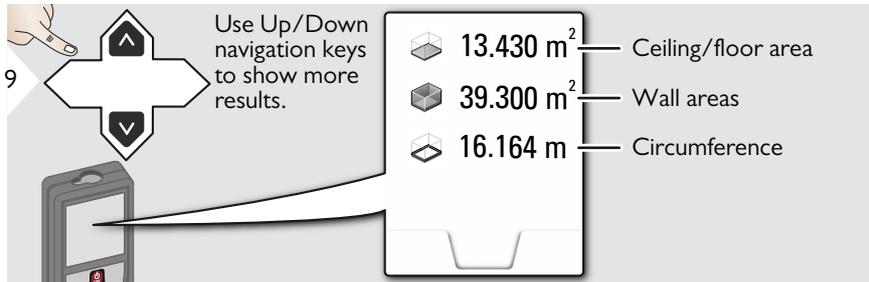
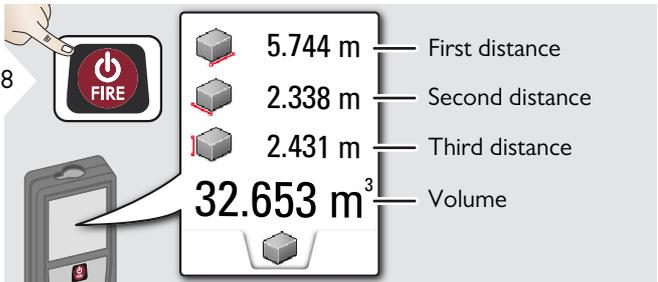
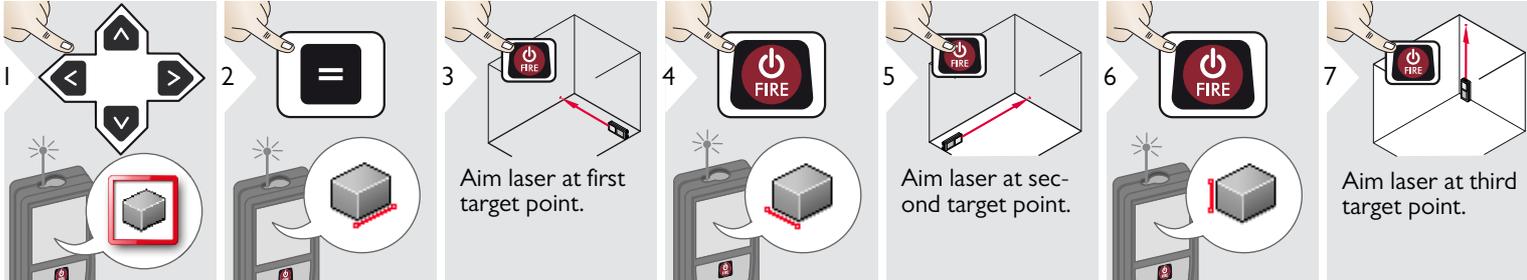


1

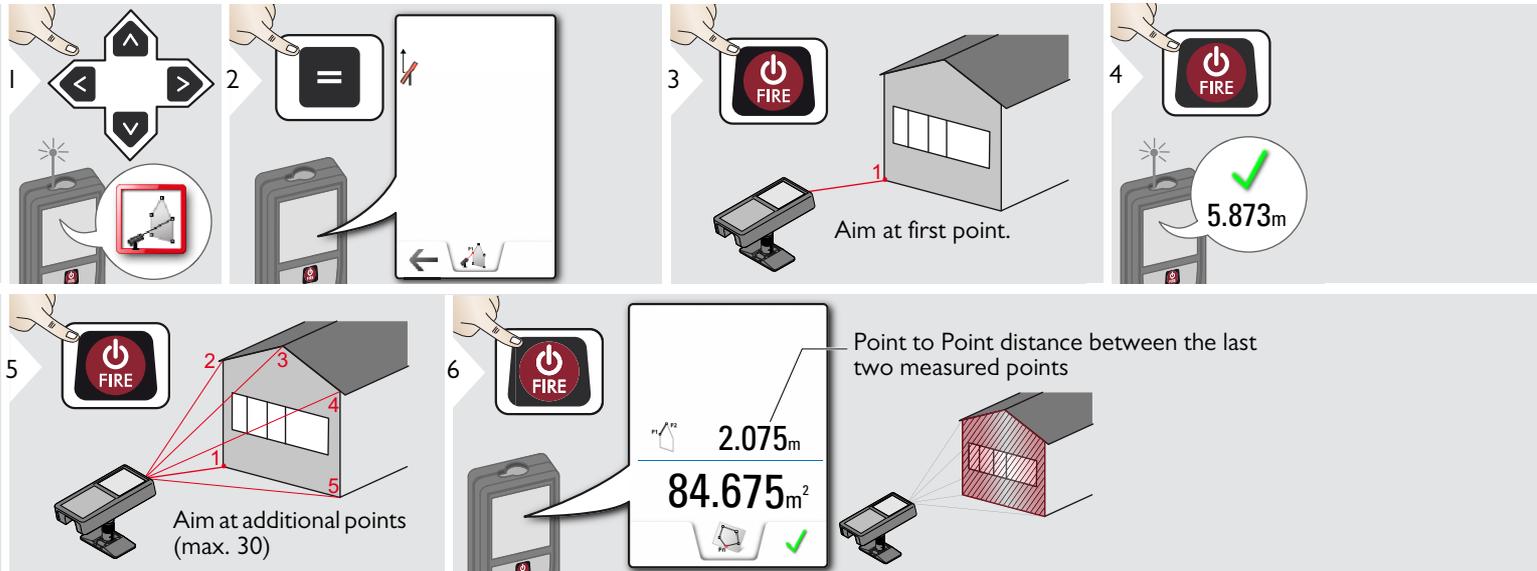
Tap on the camera icon in the middle of the bottom line to take a photo.
For screenshots, press camera key for 2 sec.

* OV = Overview

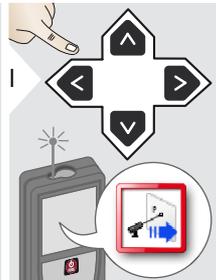
Volume



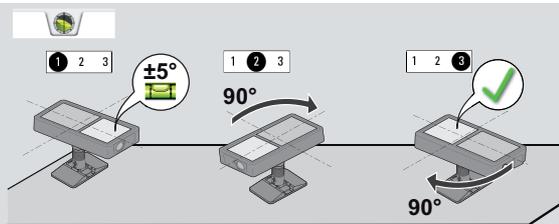
Smart Area measurement



WLAN data transmission



2 For levelling, Smart Base has to be folded out and device needs to be in an inclination range of $\pm 5^\circ$.



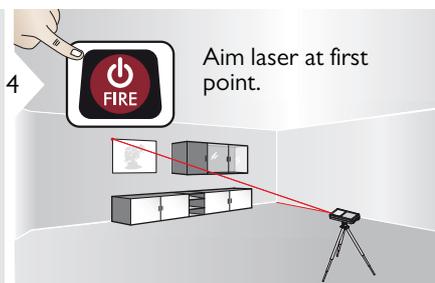
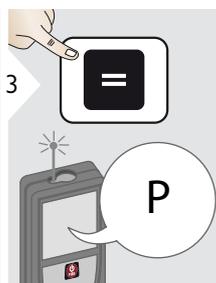
Do not move device after levelling!

Rotate the device two times clockwise 90°. Follow the instructions on the display. Levelling is finished when OK icon appears on the display.



Check status line:

- indicates proper levelling
- indicates insufficient levelling
- indicates that smart base was tilted and can affect measuring accuracy



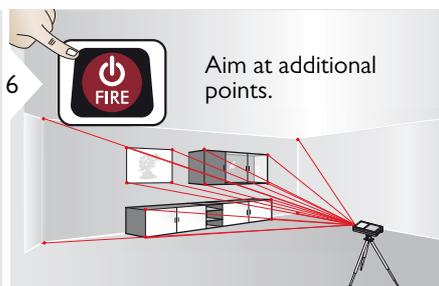
Aim laser at first point.



WLAN data transfer of point coordinates

13.207 m

- with pointfinder photo
- without pointfinder photo
- without pointfinder photo



Aim at additional points.



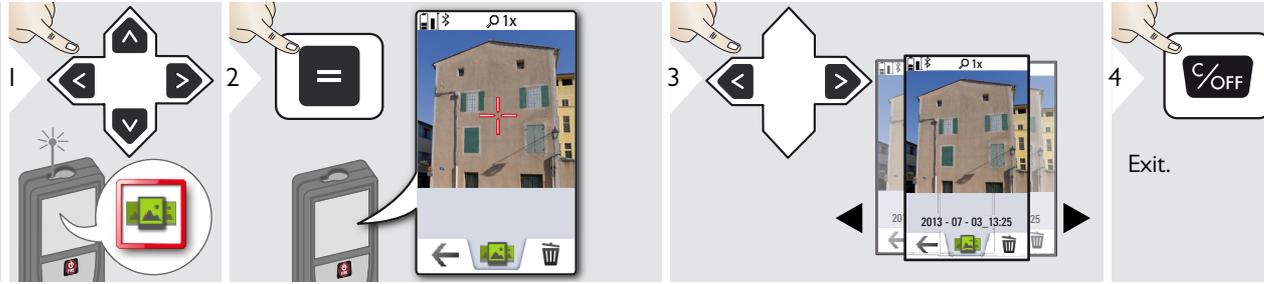
Leave actual function, go to default operation mode.



If smart base is folded out, device sends x,y,z coordinates of measured point. If smart base is not folded out, device sends only inclination and slope distance. If WLAN is switched off, the device requests to switch on WLAN.

Data transfer works only with WLAN.

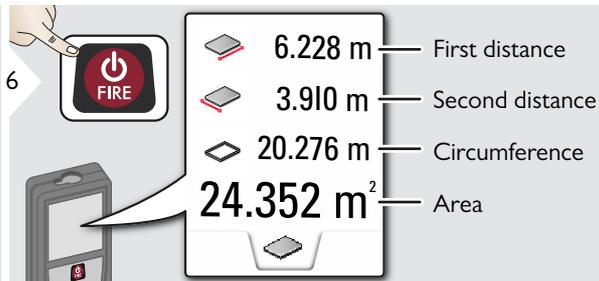
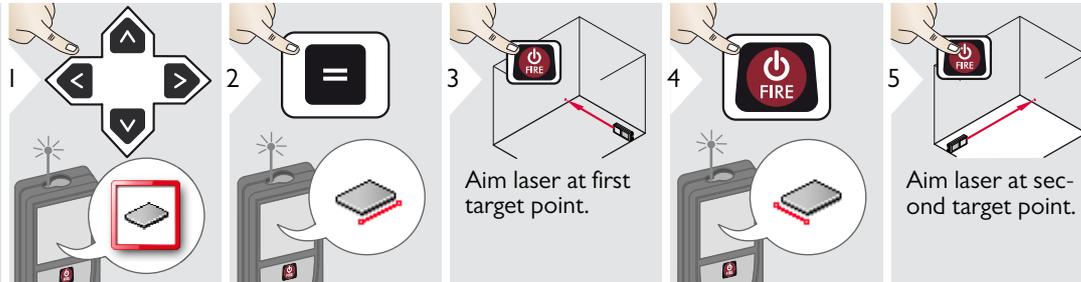
 Gallery



i

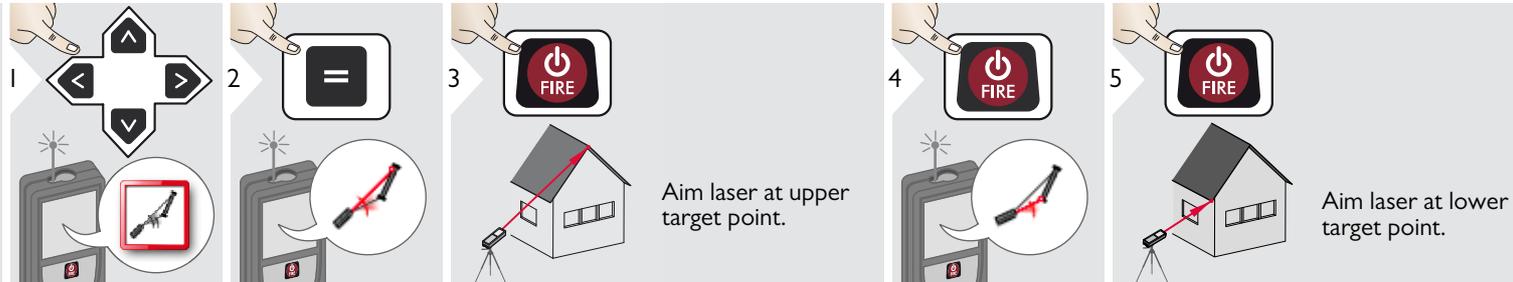
If the device is connected to the computer via USB cable, you can download or delete the gallery. It is not possible to upload any data.

◆ Area



i The result is shown in the main line and the measured value above.
 Partial Measurements / Painter function:
 Press + or - before starting the first measurement. Measure and add or subtract distances. Finish with =. Measure 2nd length.

 Sloped objects



1 

2 

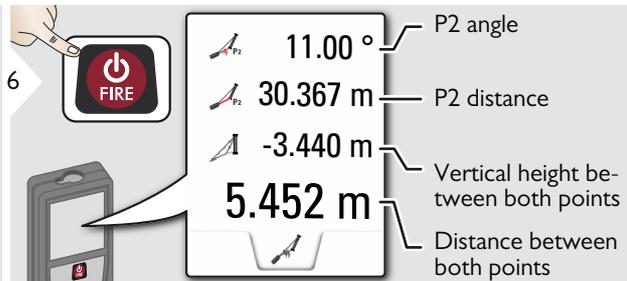
3 

4 

5 

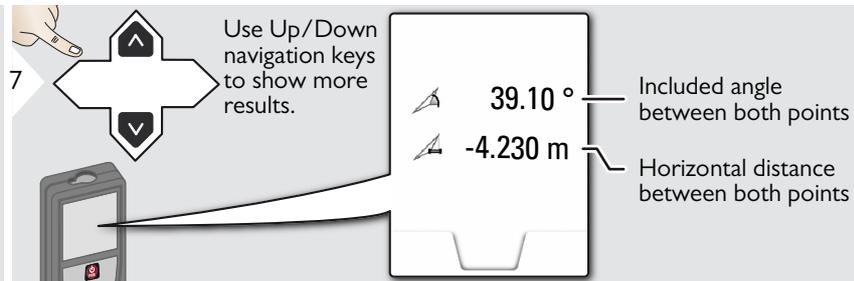
Aim laser at upper target point.

Aim laser at lower target point.



6 

| | | |
|---|----------|-------------------------------------|
|  | 11.00 ° | P2 angle |
|  | 30.367 m | P2 distance |
|  | -3.440 m | Vertical height between both points |
|  | 5.452 m | Distance between both points |



7 

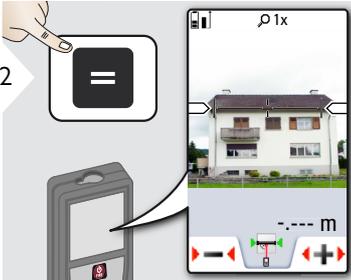
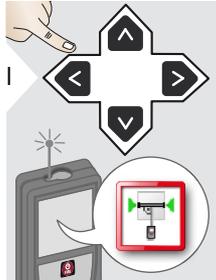
Use Up/Down navigation keys to show more results.

| | | |
|---|----------|---|
|  | 39.10 ° | Included angle between both points |
|  | -4.230 m | Horizontal distance between both points |

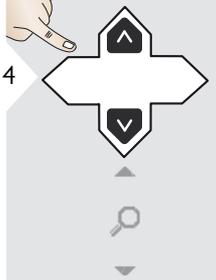
i Indirect distance measuring between 2 points with additional results. Ideal for applications such as length and slope of roof, height of chimneys,...

It is important, that the instrument is positioned in the same vertical plane as the 2 measured points. The plane is defined of the line between the 2 points. This means, that the device on the tripod is only moved vertically and not turned horizontally to reach both points.

 Width



It is absolutely necessary to aim with the laser perpendicular to the object.



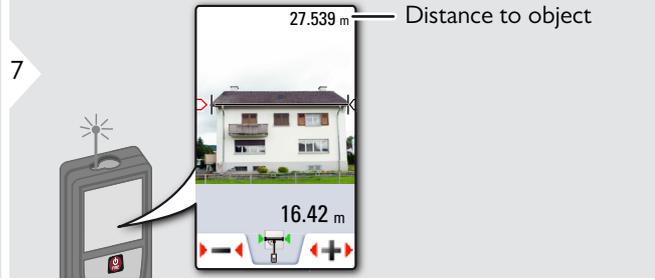
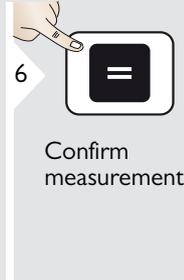
4x 
 2x 
 1x 
 OV* 

If necessary, use the Zoom for precise aiming.

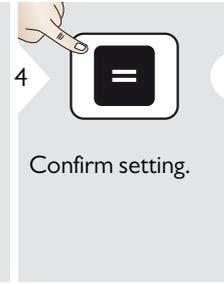
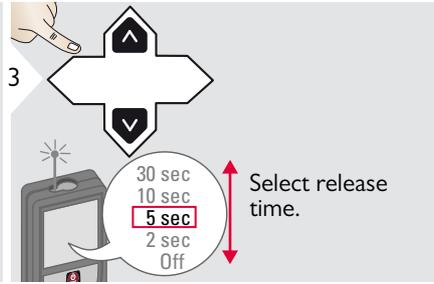
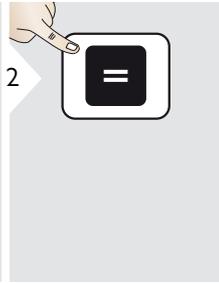
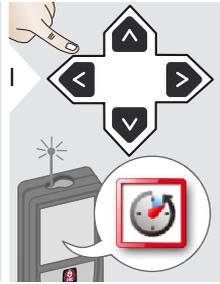
* OV = Overview



Select arrows with the cursor keys or by tapping on the display and adjust with softkeys. Corresponding width is calculated.



 Timer



i The self release starts if the ON/FIRE key is pressed.

▲ Triangular area

1

2

3 Aim laser at first target point.

4

5 Aim laser at second target point.

6

7 Aim laser at third target point.

8

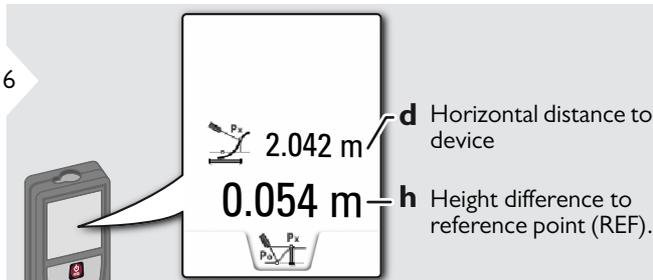
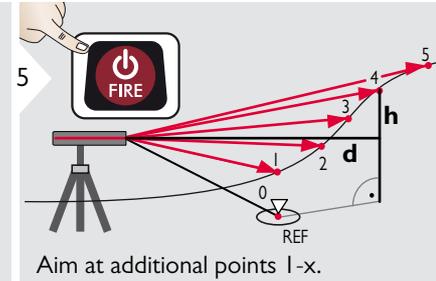
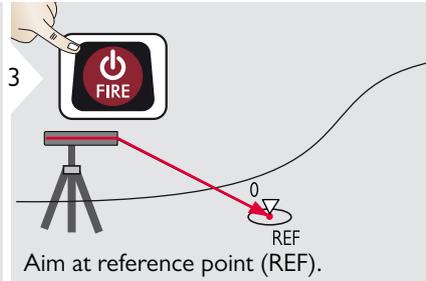
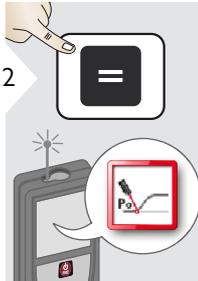
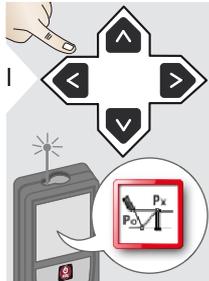
- 4.248 m — First distance
- 4.129 m — Second distance
- 2.425 m — Third distance
- 4.855 m² — Triangular area

9

Use Up/Down navigation keys to show more results.

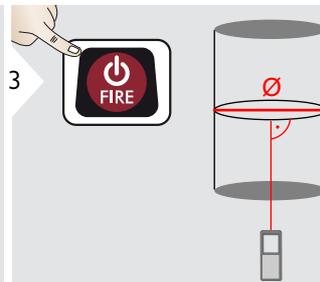
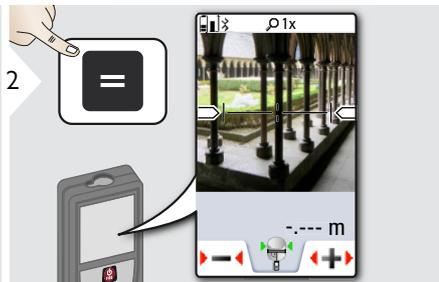
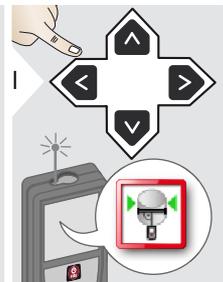
- 33.60° — Angle between first and second measurement
- 10.802 m — Circumference

 Height-profile measurement

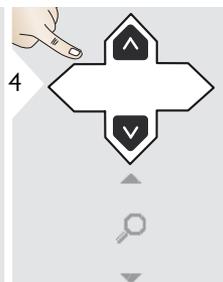


i Ideal for measuring of height differences to a reference point. Can be also used to measure profiles and terrain sections. After measuring the reference point, the horizontal distance and height is displayed for each following point.

 Diameter



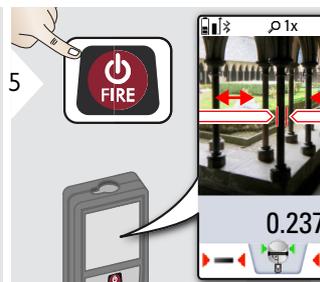
Aim laser perpendicular to the middle of the round object.



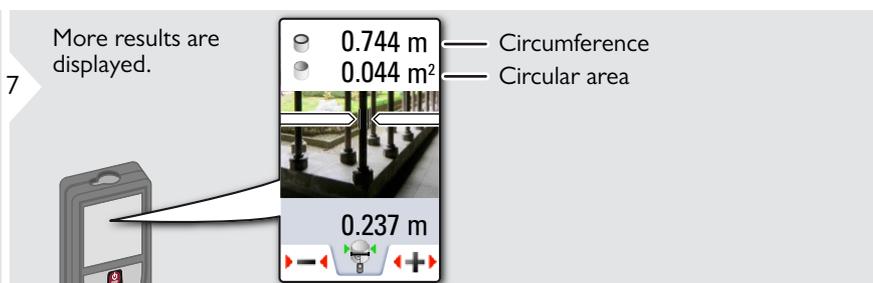
4x 
 2x 
 1x 
 OV* 

If necessary, use the Zoom for precise aiming.

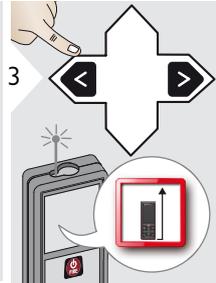
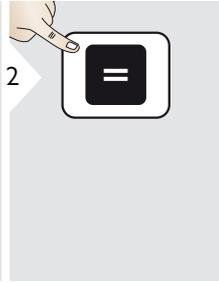
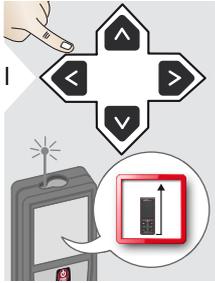
* OV = Overview



Select arrows with the cursor keys or by tapping on the display and adjust with softkeys. Corresponding diameter is calculated.



Adjusting measuring reference

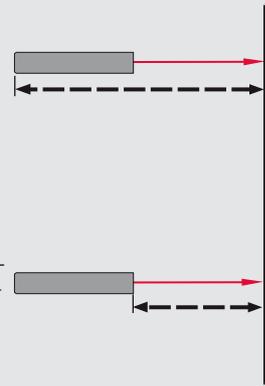


Confirm setting.

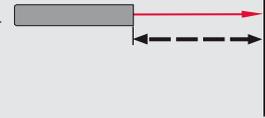
i If device is switched off, reference goes back to standard setting (rear of the device).



Distance is measured from the rear of the device (standard setting).



Distance is measured from the front of the device (lock symbol = permanently).



i

The orientation of the Smart Base is automatically detected and the zero point is accordingly adjusted.

Pythagoras (2-point)

1

2

3

4

5

6

Aim laser at first target.

Aim laser at second target.

25.133 m
21.383 m
13.207 m

i The result is shown in the main line. Pressing the measuring key for 2 sec in the function activates automatically Minimum or Maximum measurement.

We recommend to use the pythagoras only for indirect horizontal measuring. For height measuring (vertical) it is more precise to use a function with the inclination measuring.

Height tracking

1 2 3 4 5

Aim laser at lower point.

Aim laser at upper points and angle/height tracking starts automatically.

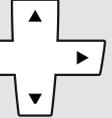
6 = Tracking angle if device is turned on tripod
= Tracking height if device is turned on tripod

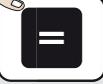
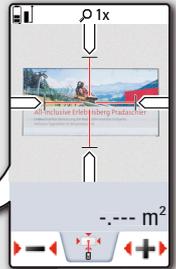
7 Stops height tracking.

8 Use Up/Down navigation keys to show more results.

i Heights of buildings or trees without suitable reflective points can be determined. At the bottom point, distance and tilt is measured - which needs a reflective laser target. The upper point can be targeted with the pointfinder / crosshair and does not need a reflective laser target as only the inclination is measured.

 Area from Photo

1 

2  

3  

Aim perpendicular to the horizontal center line of the area. This area must be perfectly flat on the vertical plane.

4 

4x 

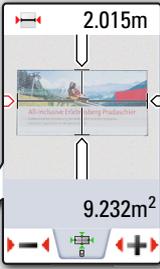
2x 

1x 

OV* 

If necessary, use the Zoom for precise aiming.

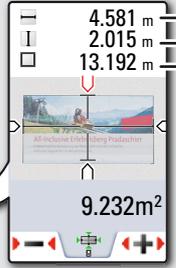
* OV = Overview

5  

Select arrows with the cursor keys or by tapping on the display and adjust with softkeys. Corresponding area is calculated.

6 

Confirm measurement.

7 

Width 4.581 m

Length 2.015 m

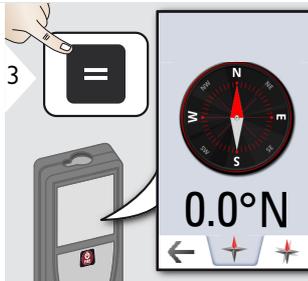
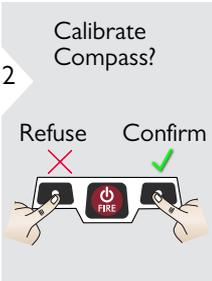
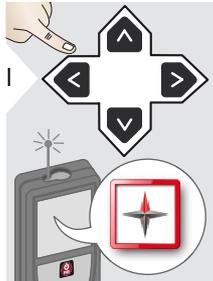
Circumference 13.192 m

9.232m²

8 

Exit.

✦ Compass



The arrow always points to true north.



Exit.

At the following places the compass probably does not work correctly:

- Inside of buildings
- Close to high voltage lines (e.g. on train platforms)
- Close to magnets, metal objects or electrical household appliances

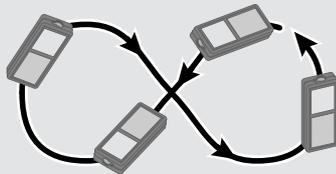
If an error message occurs, the device is tilted too much ($>20^\circ$ over the front / $>10^\circ$ sidewise).



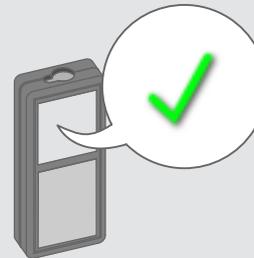
Keep the device away from any magnet!

✦ Calibration of Compass:

The compass has to be calibrated before every first measurement after switching on the device.



Rotate the device slowly in a figure 8 motion until OK icon appears on the display.



After 2 sec the device goes back to the compass mode.

Pythagoras (3-point)

1

2

3 Aim laser at first target.

4

5 Aim laser at second target.

6

7 Aim laser at third target.

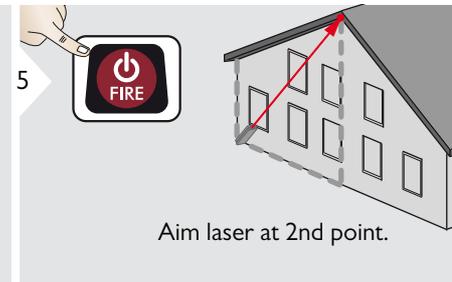
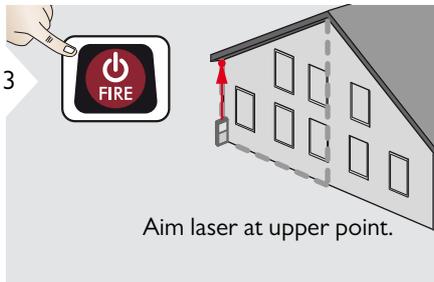
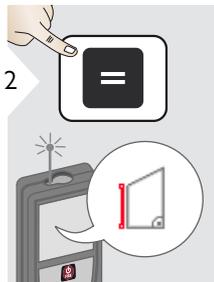
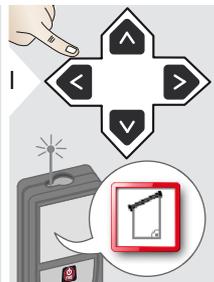
8

24.298 m
21.264 m
23.018 m
20.571 m

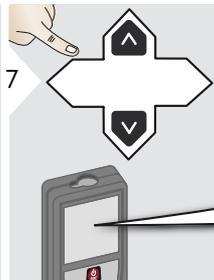
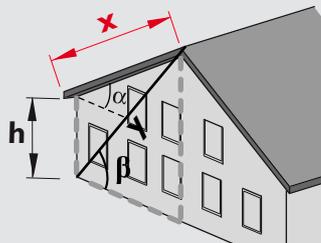
The result is shown in the main line.
Pressing the measuring key for 2 sec in the function activates automatically Minimum or Maximum measurement.

We recommend to use the pythagoras only for indirect horizontal measuring.
For height measuring (vertical) it is more precise to use a function with inclination measurement.

1 Trapezium



| | | |
|--|----------|-----|
| | 13.459 m | — h |
| | 16.440 m | — y |
| | 70.80° | — β |
| | 5.790 m | — x |



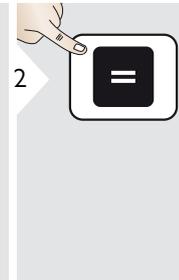
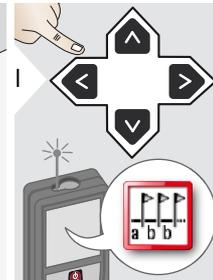
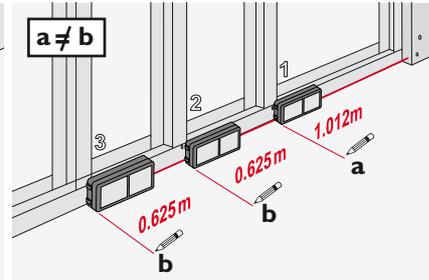
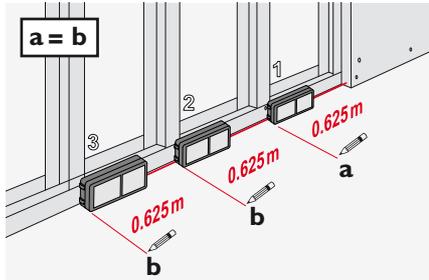
Use Up/Down navigation keys to show more results.

| | | |
|--|-----------------------|------------------|
| | 78.383 m ² | — Trapezium area |
| | 20.9° | — α |

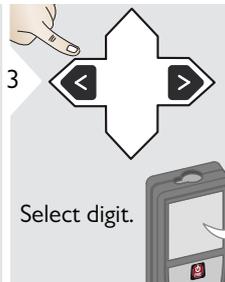
Stake out

1

Two different distances (a and b) can be entered to mark off defined measured lengths.



3



4

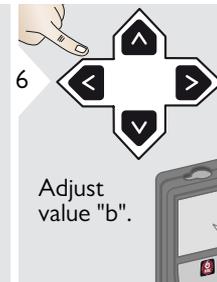


5



Approve value "a".

6

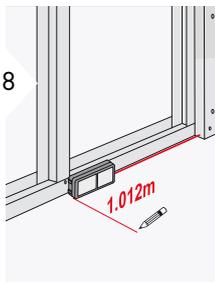


Adjust value "b".

7

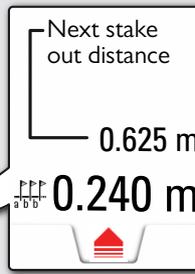


Approve value "b" and start measurement.



Move device slowly along the stake-out line. The distance to the next stake out point is displayed.

0.240 m is missing up to next 0.625 m distance.



1

When approaching a stake out point to less than 0.1 m the instrument starts to beep. The function can be stopped by pressing the CLEAR/OFF button.

| Distance measurement (ISO 16331-1) | |
|---|---------------------------------|
| Accuracy with favourable conditions * | ± 1.0 mm / 0.04 in *** |
| Accuracy with unfavourable conditions ** | ± 2.0 mm / 0.08 in *** |
| Range with favourable conditions * | 0.05m - 300 m / 0.16 - 1000 ft |
| Range with unfavourable condition ** | 0.05m - 150m (0.16 – 492 ft) |
| Smallest unit displayed | 0.1 mm / 1/32 in |
| Ø laser point at distances | 6 /30 / 60 mm (10 / 50 / 100 m) |

| Tilt measurement | |
|---|---------------|
| Measuring tolerance to laser beam **** | -0.1° / +0.2° |
| Measuring tolerance to housing **** | ± 0.1° |
| Range | 360° |

| Smart Base | |
|---|---|
| Working range vertical sensor | -40° to 80° |
| Accuracy vertical sensor | up to +/- 0.1° |
| Working range horizontal sensor | 360° |
| Accuracy horizontal sensor | up to +/- 0.1° |
| Tolerance Missing Line function at distances (combination of sensors and distance measuring) | approx. : +/- 2 mm / 2 m +/- 5 mm / 5 m +/- 10 mm / 10 m |

| Device levelling | |
|---------------------------|-----------|
| Levelling range | +/- 5° |
| Levelling accuracy | +/- 0.05° |

| General | |
|--------------------------------|---|
| Laser class | 2 |
| Laser type | 635 nm, < 1 mW |
| Protection class | IP54 (dust- and splash water protected) |
| Autom. laser switch off | after 90 s |
| Autom. power switch-off | after 180 s |
| Bluetooth® Smart | Bluetooth® v4.0 |
| Range of Bluetooth® | <10 m |
| WLAN | yes |
| Range of WLAN | 10 m |
| Dimension (H x D x W) | 61 x 32 x 164 mm 2.4 x 1.3 x 6.5 in |
| Weight | 291 g / 10.2 oz |
| Temperature range: | |
| - Storage | -25 to 60 °C -13 to 140 °F |
| - Operation | -10 to 50 °C 14 to 122 °F |
| - Charging | -10 to 40 °C 14 to 104 °F |

| Digital data | |
|-----------------------------------|---------------|
| Resolution for photos | 800 x 600 dpi |
| Resolution for screenshots | 240 x 400 dpi |
| File format | JPG, DXF |
| Download | USB |

| Battery (Li-Ion) | |
|--|--------------|
| Rated voltage | 3.7 V |
| Capacity | 2.6 Ah |
| Measurements per battery charge | Approx. 4000 |
| Charging time | Approx. 4 h |
| Output voltage | 5.0 V |
| Charging current | 1 A |

* favourable conditions are: white and diffuse reflecting target (white painted wall), low background illumination and moderate temperatures.

** unfavourable conditions are: targets with lower or higher reflectivity or high background illumination or temperatures at the upper or lower end of the specified temperature range.

*** Tolerances apply from 0.05 m to 10 m with a confidence level of 95%. With favourable conditions the tolerance may deteriorate by 0.05 mm/m for distances between 10 m to 30 m, by 0.10 mm/m between 30 m and 100 m and by 0.20 mm/m for distances above 100 m.

With unfavourable conditions the tolerance may deteriorate by 0.10 mm/m for distances between 10 m to 30 m, by 0.20 mm/m between 30 m and 100 m and by 0.30 mm/m for distances above 100 m.

**** after user calibration. Additional angle related deviation of +/- 0.01° per degree up to +/-45° in each quadrant. Applies at room temperature. For the whole operating temperature range the maximum deviation increases by +/-0.1°.

i At a recommended storage temperature of -20°C to +30°C (-4°F to +86°F), batteries containing a 50% to 100% charge can be stored up to 1 year. After this storage period the batteries must be recharged.

i For accurate indirect results, the use of a tripod is recommended. For accurate tilt measurements a transverse tilt should be avoided.

Message Codes

| Functions | |
|---|------------------|
| Distance measuring | yes |
| Min/Max measuring | yes |
| Permanent measuring | yes |
| Stake-out | yes |
| Addition/Subtraction | yes |
| Area | yes |
| Triangle area | yes |
| Volume | yes |
| Trapezium | yes |
| Painter function (area with partial measurement.) | yes |
| Pythagoras | 2-point, 3-point |
| Smart Horizontal Mode / Indirect height | yes |
| Height-profile measurement | yes |
| Level | yes |
| Sloped objects | yes |
| Height tracking | yes |
| Memory | yes |
| Beep | yes |
| Illuminated colour display | yes |
| Pointfinder (Viewscreen) | 4x zoom, OV |
| Bluetooth® Smart | yes |
| Personalized Favorites | yes |
| Timer | yes |
| Calculator | yes |
| Photo/Screenshot | yes |
| Compass | yes |
| Gallery with USB download | yes |
| Diameter | yes |
| Width | yes |
| Area from Photo | yes |
| Smart Base | yes |
| Pointdata transmission | yes |
| Missing Line function distance | yes |
| Smart Angle | yes |
| Smart Area | yes |
| DXF Data capture | yes |

If the message **Error** does not disappear after switching on the device repeatedly, contact the dealer.

If the message **InFo** appears with a number, press the Clear button and observe the following instructions:

| No. | Cause | Correction |
|-----|---|--|
| 156 | Transverse tilt greater than 10° | Hold the instrument without any transverse tilt. |
| 162 | Calibration mistake | Make sure, the device is placed on a absolutely horizontal and flat surface. Repeat the calibration procedure. If the mistake still occurs, contact your dealer. |
| 204 | Calculation error | Perform measurement again. |
| 240 | Data transfer error | Repeat procedure. |
| 252 | Temperature too high | Let device cool down. |
| 253 | Temperature too low | Warm device up. |
| 255 | Received signal too weak, measuring time too long | Change target surface (e.g. white paper). |
| 256 | Received signal too high | Change target surface (e.g. white paper). |

| No. | Cause | Correction |
|-----|--|---|
| 258 | Measurement outside of measuring range | Correct range. |
| 260 | Laser beam interrupted | Repeat measurement. |
| 300 | Smart Base not folded out | Fold out Smart Base. |
| 301 | Device was moved, levelling not valid any more | Perform levelling again. Measuring with invalid levelling is possible, but it affects the accuracy. |
| 302 | «Point data transmission» is selected, but WLAN is off | Switch on WLAN. |
| 340 | WLAN: Data transfer error | Repeat procedure. |
| 341 | Authentication Error | Use correct password. |

Care

- Clean the device with a damp, soft cloth.
- Never immerse the device in water.
- Never use aggressive cleaning agents or solvents.

Laser Technology, Inc. Limited Warranty

Activate your warranty within 30 days from purchase at www.lasertech.com/warranty. Laser Technology, Inc. ("LTI") warrants products it manufactures to be in good working order, free from defects in materials and workmanship, for a period of 24 months from the date of purchase from LTI or an authorized LTI dealer.

Warranty Exclusions

To the fullest extent allowed by law, LTI hereby disclaims all other express or implied warranties for the product, including, without limitation, any warranty as to merchantability or fitness for a particular purpose. This limited warranty does not include service or repair of damage to the product resulting from accident, disaster, misuse, abuse or non-LTI modification of the product. LTI has no obligation to modify or upgrade a product once sold.

Limitation of Liability

In no event will LTI be liable for damages including any lost profits, lost savings or other incidental or consequential damages arising from the use or inability to use such product. Furthermore, LTI shall not be held responsible if an LTI authorized dealer has been advised of the possibility of such damage, or for any claim by another party. Any responsibility and/or liability of LTI shall be limited to the maximum amount to the original purchase price.

Remedy

To obtain service during the two-year warranty period, call LTI's Service Center or visit www.lasertech.com/rma for a Return Merchandise Authorization number. Send the product to LTI or an Authorized Service Center with proof of purchase date.

If the product is delivered by mail, you agree to insure the product or assume the risk of loss or damage in transit, and to prepay shipping costs for door-to-door delivery. LTI will, at its option, repair or replace the product at no additional charge, except as set forth within this limited warranty. Replacement parts and products may be new or reconditioned. Replaced parts or products become the property of LTI.

Ask your LTI sales representative or authorized LTI dealer about extended warranties that may be available.

The person responsible for the instrument must ensure that all users understand these directions and adhere to them.

Areas of responsibility

Responsibilities of the manufacturer of the original equipment:

Laser Technology, Inc.

6912 Quentin ST.

Centennial, CO 80112-3921 USA

Phone: 1-303-649-1000

Phone: 1-877-696-2584 (USA and Canada)

Fax: 1-303-649-9710

Web Site: www.lasertech.com

Email: service@lasertech.com

The company above is responsible for supplying the product, including the User Manual in a completely safe condition.

The company above is not responsible for third party accessories.

Responsibilities of the person in charge of the instrument:

- To understand the safety instructions on the product and the instructions in the User Manual.
- To be familiar with local safety regulations relating to accident prevention.
- Always prevent access to the product by unauthorised personnel.

Permitted use

- Measuring distances
- Tilt measurement
- Data transfer with Bluetooth® / WLAN

Prohibited use

- Using the product 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.)
- Carrying out modification or conversion of the product
- Use of accessories from other manufacturers without express approval
- Deliberate dazzling of third parties; also in the dark
- Inadequate safeguards at the surveying site (e.g. when measuring on roads, construction sites, etc.)
- Deliberate or irresponsible behaviour on scaffolding, when using ladders, when measuring near machines which are running or near parts of machines or installations which are unprotected
- Aiming directly in the sun

WARNING

Watch out for erroneous measurements if the instrument is defective or if it has been dropped or has been misused or modified. Carry out periodic test measurements.

Particularly after the instrument has been subject to abnormal use, and before, during and after important measurements.

CAUTION

Never attempt to repair the product yourself. In case of damage, contact a local dealer.

WARNING

Changes or modifications not expressly approved could void the user's authority to operate the equipment.

Limits of use

 Refer to section "Technical data".

The device is designed for use in areas permanently habitable by humans. Do not use the product in explosion hazardous areas or in aggressive environments.

Disposal

CAUTION

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.

The product must not be disposed with household waste.

Dispose of the product appropriately in accordance with the national regulations in force in your country.



Adhere to the national and country specific regulations.

Please contact your local authorized Laser Technology, Inc. dealer for information regarding proper product disposal.

Electromagnetic Compatibility (EMC)

WARNING

The device conforms to the most stringent requirements of the relevant standards and regulations.

Yet, the possibility of causing interference in other devices cannot be totally excluded.

FCC statement (applicable in U.S.)

WARNING

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- this device must accept any interference received, including interference that may cause undesired operation.

ISED Statement (applicable in Canada)

WARNING

This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

- This device may not cause interference; and
- This device must accept any interference, including interference that may cause undesired operation of the device.

Use of the product with Bluetooth®

WARNING

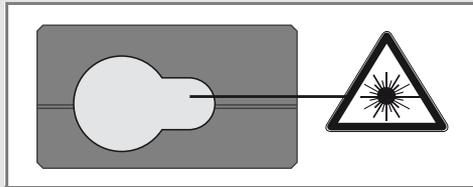
Electromagnetic radiation can cause disturbances in other equipment, in installations (e.g. medical ones such as pacemakers or hearing aids) and in aircraft. It can also affect humans and animals.

Precautions:

Although this product conforms to the most stringent standards and regulations, the possibility of harm to people and animals cannot totally be excluded.

- Do not use the product near petrol stations, chemical plants, in areas with a potentially explosive atmosphere and where blasting takes place.
- Do not use the product near medical equipment.
- Do not use the product in airplanes.
- Do not use the product near your body for extended periods.

Laser classification



The device produces visible laser beams, which are emitted from the instrument: It is a Class 2 laser product in accordance with:

- IEC60825-1 : 2014 „Radiation safety of laser products“

Laser Class 2 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

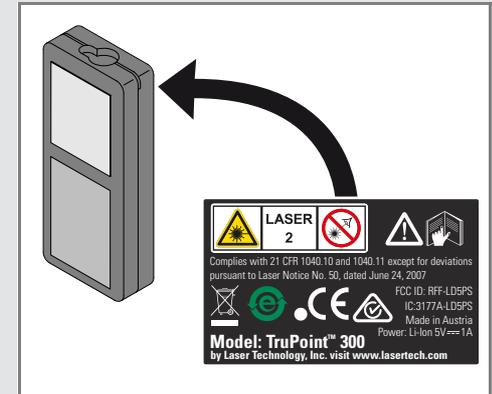
Looking directly into the beam with optical aids (e.g. binoculars, telescopes) can be hazardous.

CAUTION

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

| Description | Value |
|---|-----------------|
| Wavelength | 620 - 690 nm |
| Maximum radiant output power for classification | 0.95 mW |
| Pulse repetition frequency | 320 MHz |
| Pulse duration | > 400 ps |
| Beam divergence | 0.16 x 0.6 mrad |

Labelling



Subject to change (drawings, descriptions and technical data) without prior notice.