

How to use **Leica DISTO™ D510**

Switch On and Off



1x → ON



2 sec → OFF

- The key switches and activates the laser in a single press.
- Press once quickly to shoot a distance **or...**
- Press and hold for 2 seconds to activate continuous laser measurement (Tracking).
- Press once quickly to switch off tracking.
- Press and hold the button for 2 seconds to switch off the E7100i. The E7100i automatically switches off after 3 minutes of inactivity.

Display Overview of the Settings Page page

1st Page	
	Tilt units
	Distance units
	Beep
	Digital level
	Keypad lock
	Favorites
	Illumination
	Bluetooth®
	Tilt calibration
2nd Page	
	Reset
	Offset

Display Overview of the Functions Page










	Timer	1st Page		Inclination Tracking		Measuring on sloped objects	
	Calculator			Area		Height Tracking	
	Adjusting measuring reference			Volume		Trapezium	
	Memory			Triangle area	2nd Page		Stake out
	Single Distance Measurement			Long Range Mode			Pythagoras 1
	Smart Horizontal Mode			Height-profile Measurement			Pythagoras 2

Basic Operations

Beep On/Off

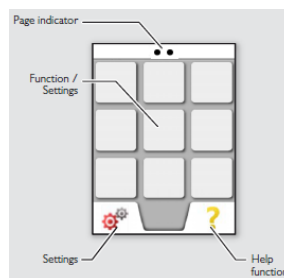
Turn the beep on/off as per your convenience.



- Press the **FUNC** key once to reach the application screen.
- Select the settings option from this screen by pressing the soft key  underneath the icon .
- On this screen, ****Beep on/off** icon  /  is located at the *top right* of the display.
- Navigate to the icon using   keys to select for Beep on/off. Select the  icon using = key.
- Also toggle between  &  with = key.

* Press  **OFF** to exit settings.










*(**selection screen example for reference)*



Digital level On/Off

Use the inbuilt digital level as and when required.









- Press the **FUNC** key once to reach the application screen.
- Select the settings option from this screen by pressing the soft key  underneath the icon .
- On this screen, Digital level icon  /  is located on the *middle left* of the display.
- Navigate to the icon using   keys to select for Digital level on/off. Select the  icon using = key.
- Toggle between  &  with = key.

* Press  **OFF** to exit settings.

Display light/screen brightness

Adjust the screen brightness as required.



- Press the **FUNC** key once to reach the application screen.
- Select the settings option from this screen by pressing the soft key  underneath the icon .
- On this screen, (brightness adjustment) illumination icon  is located at the the *bottom right* of the display.
- Navigate to the icon using   keys to select for brightness adjustment.
- Select the  icon using = key.










- Once selected, use the arrow keys to increase or decrease the brightness from the provided 6 levels.

1/6
2/6
3/6
4/6
5/6
6/6

* Press  OFF to exit settings.

Activate/de-activate keypad lock




- Press the **FUNC** key once to reach the application screen.
- Select the settings option from this screen by pressing the soft key  underneath the icon .
- On this screen, the lock icon  /  is located at the centre of the display.
- Navigate to the icon using   keys to select for keypad lock on/off. Select the  icon by pressing = key.
- Toggle between  /  with = key.

* Press  OFF to exit settings.










How to unlock keypad

Once the keypad lock system is activated, the device when switched on needs to be unlocked within 2 seconds after switching it on, or it will automatically switch off.

- Press the  key within 2 seconds of switching on the device to unlock the key pad (*as it will indicate on the display*).








Memory

The device stores last 30 results by default.

- To view the results stored in the memory, press the **FUNC** key once.
- Navigate to the memory  icon with   keys, which is located on the *centre left* of the display.
- Select this icon  using = key.
- Use navigation keys   to view multiple stored results.
- Press the soft keys  underneath icons  &  for deleting memory and using the displayed value for further actions respectively.

Timer (Self trigger) or Auto release



Timer is used for self triggering the measurement once the laser is activated. The delayed release is recommended for precise aiming, e.g. for long distances, as it avoids shaking of the device while pressing the measurement key.

- To set the Timer, press the **FUNC** key once.
- Navigate to the Timer icon  with   keys, which is located at the *top left* of the display.
- On Timer selection, you reach the screen displayed as 
- Select the time from the provided options with the help of navigation   keys.
- To confirm setting press = key.
- Press  key once to aim the laser.

- Press  key again to start the timer.








Calculator



- Press the **FUNC** key once to reach the application screen.
- On this screen the Calculator icon is located at the *top centre* of the display.
- Navigate to the  icon using ◀▶ keys for Calculator. Select the  icon using = key.









Reset

Reset setting returns the device to its factory settings. All customization and stored memory is lost.

- Press the **FUNC** key once to reach the application screen.
- Select the settings option from this screen by pressing the soft key  underneath the icon .
- Move to the 2nd page of the settings with the help of ◀▶ keys.
- On this screen, reset setting icon  is located at the *top centre* of the display.
- Navigate to the icon using ◀▶ keys to select for reset setting. Select the  icon using = key.
- Use soft keys under  or  to confirm reset or cancel respectively. 

Offset






Offset setting allows you to add or subtract a set value automatically to or from all measurements.

- Press the **FUNC** key once to reach the application screen.
- Select the settings option from this screen by pressing the soft key  underneath the icon .
- Move to the 2nd page of the settings with the help of ◀▶ keys.
- On this screen, Offset setting icon  is located at the *top left* of the display.
- Navigate to  icon using ◀▶ keys to select for offset setting. Select the  icon using = key.
- Use ◀▶ &  keys to adjust the value.
- Use soft key  under  icon to confirm **or...**
- Reset the value to **0.00**

Advance operations

Personalized favourites










- Press the **FUNC** key once to reach the application screen.
- Select the Settings option from this screen by pressing the soft key  underneath the icon .
- On this screen, *Personalized favourites* (a star shaped icon)  is located at the bottom centre of the display.
- Navigate to the  icon using ◀▶ keys, to select for *Personalized favourite*. Select the  icon using = keys.
- Select your favourite functions and add them to your personal list.


Activate/de-activate Bluetooth

DISTO™ D510 includes **Bluetooth® Smart (V4.0)** capability that will allow it to *automatically* send measurements to your tablet or phone. Check out the [Leica DISTO™ App Directory](#) to see results on your *Android, iOS or Windows* devices.



- Press the **FUNC** key once to reach the application screen.
- Select the Settings option from this screen by pressing the soft key  underneath the icon .
- On this screen, *Bluetooth icon*  /  is located at the *centre right* of the display.
- Navigate to the icon using ◀▶ keys to select for Bluetooth. Select the  icon using = key.
- Toggle between  &  using = key.

*Also Bluetooth switches off as soon as the laser distance meter is switched off.

Leica DISTO™ sketch app.  is an ideal interface between the Leica DISTO™ with Bluetooth® and a smart phone, tablet or Windows computer. This allows sketches, photographs and Excel lists with dimensions to be created quickly. The data is subsequently able to be sent directly to the office by e-mail.

Download the *Leica DISTO™ sketch app.*  from:



iOS - <https://itunes.apple.com/in/app/disto-sketch/id580422524?mt=8>





Android - <https://play.google.com/store/apps/details?id=de.ffuf.leica.sketch&hl=en>

Changing distance Units

Leica Disto X510 is provided with the stock of units that you can change as per your requirement. Change from meter to feet to inches, per your convenience.

0.0000 m	0.00 ft
0.000 m	0'00" 1/32
0.00 m	0.00 in
0 mm	0 in 1/32
	0.000 yd

- Press the **FUNC** key once and you reach the application screen.
- Select the Settings option  from this screen by pressing the soft key underneath the icon .







- On this screen, *Distance Units* icon  is located at the *top center* of the display.
- Navigate to the  icon using ◀▶ keys to select for *Distance Units*.
- Select the  icon using = key.
- Choose from the below listed units  keys.

<u>0.00 m</u>	<u>0.00 ft</u>
<u>0.000 m</u>	<u>0.00 in</u>
<u>0.0000 m</u>	<u>01/32 in</u>
<u>0.0 mm 0'</u>	<u>00" 1/32</u>

Changing Tilt Units

You can also change the Tilt unit setting as well to measure your triangle angles.



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

- Press the **FUNC** key once to reach the application screen.
- Select the Settings option  from this screen by pressing the soft key underneath the icon .
- On this screen, *Tilt Units* icon  is located at the *top left* of the display.
- Navigate to the  icon using ◀▶ keys, to select for *Tilt Units*.
- Select the  icon using = key.
- Choose from the below listed units  keys.

<u>360.0 °</u>	<u>0.00 %</u>
<u>+ 180.0°</u>	<u>0.0 mm/m</u>
<u>+ 90.0 °</u>	<u>0.00 in/ft</u>


Adjusting measuring reference/tripod

Custom your D510 to measure the distance from its *front, rear, middle or the tripod thread of the device*.

1. Each time the device is switched on, the display shows the *default* or the *standard mode as*  which means that the distance is being measured from the *back of the device* .



You can further change the settings by pressing  under the **FUNC** screen to adjust the mode to either

2.  - Measurement from the front of the device,

 - Lock icon = permanently

3.  - Measurement from the tripod thread of the device.

How to adjust the measuring reference








- Press the **FUNC** key once to reach the application screen.
- Select the *Adjust measurement application* from the *top right* section by pressing .
- Select the  icon using = key.
- Choose from provided:

*from the front,
back,
middle or
tripod thread of the device.*

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



Adjusting/Standardising/Calibration of tilt sensor (Tilt Calibration)







- Press the **FUNC** key once to reach the application screen.
- Select the Settings option from this screen by pressing the soft key  underneath the icon .
- On this screen, Tilt calibration icon  is located at the *bottom left* of the display.
- Navigate to the  icon using   keys to select for Tilt calibration. Select the  icon using = key.

** Press  to exit settings.*

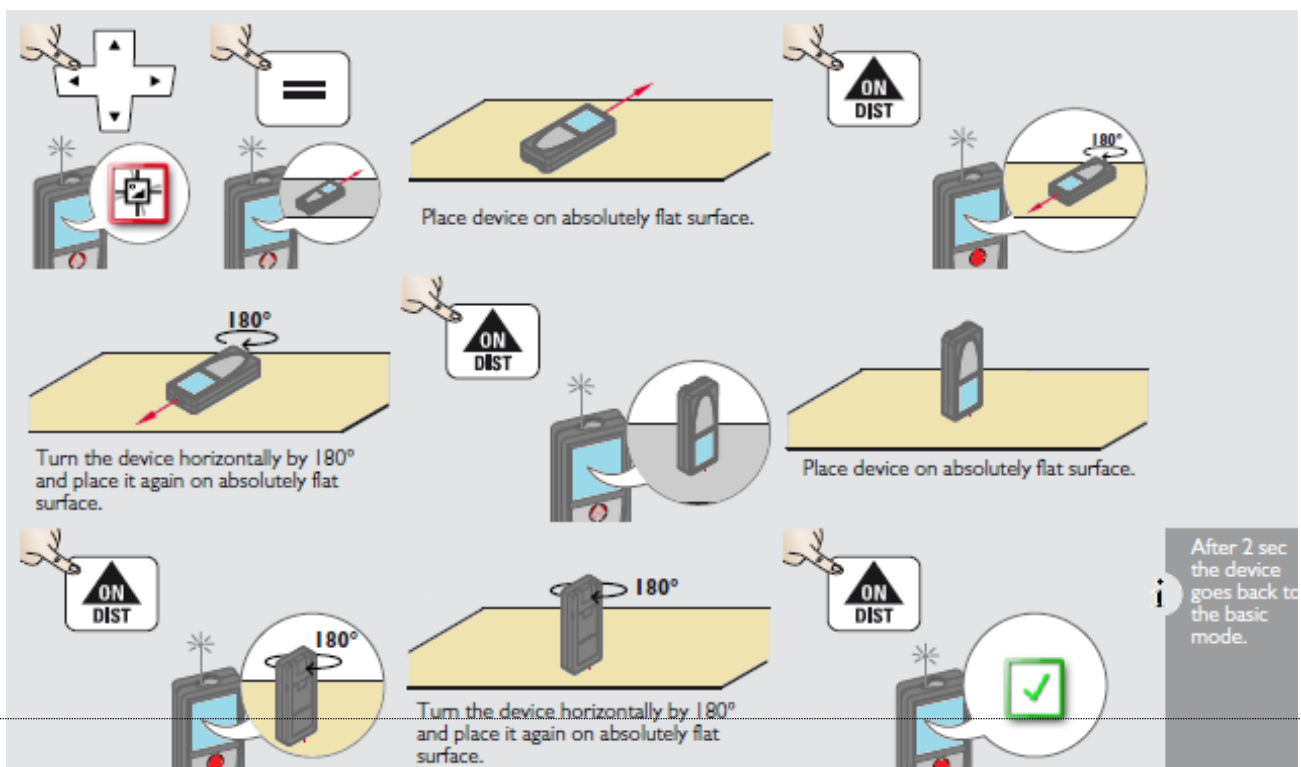
(Also)

Follow these quick 6 steps to adjust or calibrate your device in case of an unlikely discrepancy.

As indicated on the device display:

- *Place the device on an absolute flat surface with its display up and press .*
- *Next rotate it by 180° and place the device on the surface as it was and press  again.*
- *Next stand the device up on a horizontal surface and press .*
- *As indicated rotate the device 180° in its vertical position and press  again.*
- *Next place the device upside down as shown in the picture on the left and press .*
- *Rotate the device again by 180° and place it on the surface and press .*

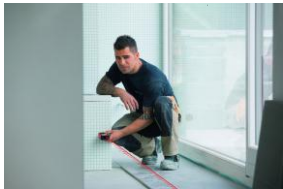
**The device calibration is complete.*





Basic device Applications

Straight line single distance measurement

Basic usage is quite simple.

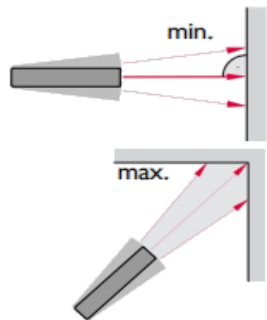




- To begin, press the  key once to switch the laser on and aim at your target.
- Pressing  again records the measurement and shows the result on the device display.

* For measurements, where there is nothing obvious at the other end for the laser to reflect back, it is recommended that you use Leica branded Target plate for maximum measurement range.

Permanent / Minimum-Maximum measurement



This function determines the minimum or maximum distance from a specific measuring point, e.g. the determination of room diagonals (maximum value) or horizontal distance (minimum value).



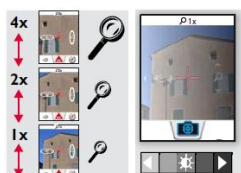
- To activate permanent measuring, press and hold the  key for 2 seconds. This will activate the continuous laser.
- Aim the laser at wall corners (maximum value) or horizontal distance (minimum value). The display would show the max. & min. values on the screen.
- To stop permanent/minimum-maximum measuring press  key once.



Add/ Subtract function



- Add / Subtract are two basic functions in D510. The keys are displayed on the device for this application.
- Press  once to add the next measurement to previous one.
- Press  twice to subtract the next measurement to previous one.

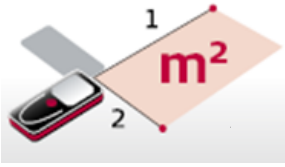
Point finder/View screen







- Press the  key on the device to activate the camera mode.
- With the help of navigation keys  zoom the pointfinder to **2x** & **4x** zoom.

Area Measurement

Area measurement is a basic function provided in all Leica Disto devices. This helps you calculate the area of wall or surface just by measuring its sides from the same reference point.



- For measuring the area of a surface, press the Function key **FUNC** once.
- On this screen, the area application  is located at the *center* of the display.
**In D510, you can also find the area application at the bottom left of the device as you switch it on.*
- Navigate to the  icon using **◀▶** keys to select for Area application. Select the  icon using **=** key.
- To begin, press the  key once to switch the laser on and aim at your target to take the 1st reading.
- Then focusing from the same reference point take the 2nd reading by measuring the adjacent wall length. (*as the area icon will indicate on display*)
- Once this process is completed the device automatically calculates the area for you.

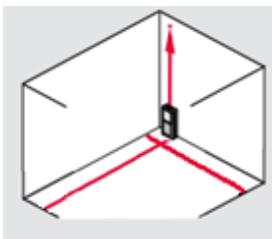
* Adding and subtracting areas





You can measure two separate areas and add or subtract them from each other with the help of **+** or **-** keys.

**The device also calculates




-  The total linear distance or the circumference.

Volume Measurement

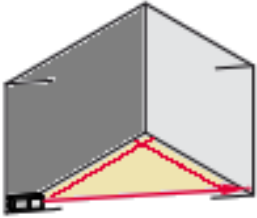









- For measuring the volume of an object press the Function key **FUNC** once.
- On this screen, volume application  is located at the *bottom right* of the display.
- Navigate to the  icon using **◀▶** keys to select for Volume application. Select the  icon using **=** key.
- Measure the three adjacent lengths ($l \times b \times h$) using . (*as the volume icon will indicate on display*)
**All measurement needs to be taken from the same reference point.*
- Once this process is completed the device automatically calculates the volume on the display.

*The device also calculates:



-  Ceiling/floor area
-  Wall areas
-  Total linear distance (circumference)

Triangular Area Measurement



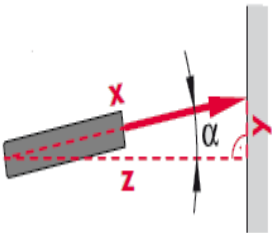
- For measuring the area of a triangular surface, press the Function key **FUNC** once.
- Move to the second page of application screen using ◀▶ keys.
- On this screen, Triangle Area Measurement icon  is located at the top left of the display.
- Navigate to the  icon using ◀▶ keys to select for Triangle Area Measurement application. Select the  icon using = key.
- Measure all three sides of a triangle aiming lasers at 1st, 2nd and 3rd target points using  as indicated , , .
- Once this process is completed the device automatically calculates the area for you.




***The device also calculates**

-  The total linear distance or the circumference and
-  Angle between the 1st and 2nd measurement




Smart Horizontal Mode™

A wonderful application to measure the horizontal distance even with an obstruction in the way.




- For measuring the distance from an object through Smart Horizontal Mode™, press the Function key **FUNC** once.
- On this screen, Smart Horizontal application  icon is located at the middle right of the display.
- Navigate to the icon using ◀▶ keys to select for Smart Horizontal application. Select the  icon using = key.
- Aim the laser at an angle of a certain tilt and record the measurement by pressing .
- The device automatically calculates the horizontal distance from the target.




***Along with the horizontal distance this application also records:**

-  angle of the tilt
-  length of the tilt and
-  the vertical height from the device.

Long range Mode

The long range mode allows measuring of difficult targets in unfavourable conditions such as bright light or extremely reflective objects.



- To activate the long range mode press the Function key **FUNC** once.
- Move to the second page of application screen using ◀▶ keys.
- On this screen, Long range mode  icon is located at the Top middle of the display.

- Navigate to the icon using ◀▶ keys to select for *long range mode*. Select the  icon using = key.
- Toggle between  &  using = key.



Inclination Tracking

Inclination tracking helps you achieve the absolute 0° or 90° apart from finding the actual inclination of an object such as staircase railings; sloped floors etc. Ideal for horizontal and vertical adjustments.

- To activate the *Inclination Tracking* press the Function key **FUNC** once.
- On this screen, *Inclination Tracking* icon  is located at the *bottom left* of the display.
- Navigate to the icon using ◀▶ keys to select *Inclination Tracking*. Select the  icon using = key.
- The device automatically starts tracking the angle. The device beeps at absolute 0° and 90°.



Advance device Applications





Sloped Objects

This function is used to measure the angle and length of a sloped object.



- For measuring the length of a sloped object, press the Function key **FUNC** once.
- Move to the second page of application screen using ◀▶ keys.
- On this screen, *Sloped object measurement application*  icon is located at the *middle left* of the display.
- Navigate to the icon using ◀▶ keys to select for *Sloped object application*. Select the  icon using = key.
- To measure the slope, measure points *a.* & *b.* from the same reference point.

➤ **How to measure a. & b.**

- Aim the laser with the  key to the top or the upper point of the slope and press the  key again to record that measurement.
- Same way aim the laser at the lower target of the slope and measure that point.

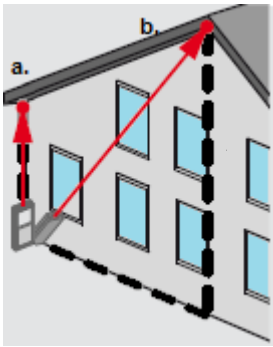
The device automatically calculates, distance between both points along with:






- *Horizontal distance between the 2 points*
- *Vertical height between both points and*
- *The angle included between both the points*

**This application requires tripod.*

Trapezium

This function helps you measure the detailed measurements of a Trapezium (*an object whose 2 lengths are of 2 different sizes*).



- Press the Function key **FUNC** once.
- Move to the second page of the application screen using ◀▶ keys.
- On this screen, Trapezium application icon  is located at the *middle right* of the display.
- Navigate to the icon using ◀▶ keys to select for Sloped object application. Select the  icon using = key.
- To measure the slope, measure points a. & b. from the same reference point.
 - **How to measure a. & b.**
 - a. Measure the height of the shorter side of the Trapezium shaped building or object with the help of  key.
 - b. Press the  key again and from the same reference point aim the laser diagonally at the 2nd point of the Trapezium as shown in the figure. Press  key again to record that measurement.

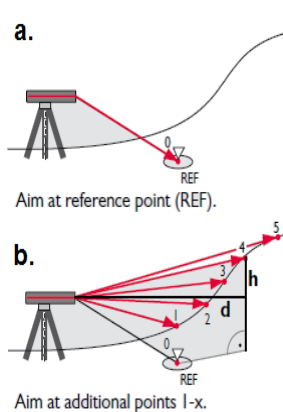
The device automatically calculates, distance between both points along with:





- *Slope length between the points a. & b.*
- *The area of Trapezium*
- *The angle included between a. & b.*

**This application requires tripod.*

Height Profile measurement

This function helps you measure the height differences between 2 or more reference points.



- a.
 - Press the Function key **FUNC** once.
 - Move to the second page of the application screen using ◀▶ keys.
 - On this screen, height profile measurement application icon  is located at the *Top right* of the display.
 - Navigate to the icon using ◀▶ keys to select for Height profile application. Select the  icon using = key.
 - To measure the height difference between 2 or more reference points aim at a certain reference point and record that measurement by pressing .
 - Next aim the device at the second reference point as shown in the figure on the left and record that measurement by pressing .

**You can repeat this process to measure the difference between more than 2 points.*

With each measurement the device automatically calculates:

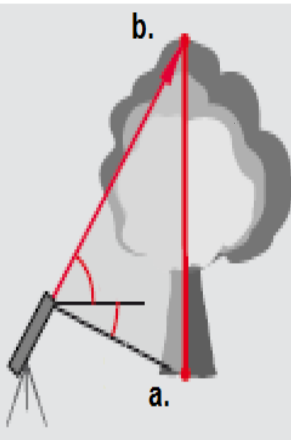
- *Horizontal distance from the device.*
- *Height difference from the previous reference point.*







***This application requires tripod.*



Height Tracking

Use this function to measure the height of an object from a distance. This especially works when you are measuring the height of buildings or trees, objects without suitable reflective points.



- For tracking the height of an object, press the Function key **FUNC** once.
- Move to the second page of application screen using ◀▶ keys.
- On this screen, *Height Tracking application* icon  is located at the *centre* of the display.
- Navigate to the icon using ◀▶ keys to select for *Height Tracking*. Select the  icon using = key.
- To track the height, measure points a. & b. from the same reference point.
 - **How to measure a. & b.**
 - a. Aim the laser using  key at the lower point of the object and record that measurement by pressing  key again.
 - b. Press the  key 3rd time to start Height tracking. Now keep aiming the laser upwards until you have reached your desired point. Press  key 4th and the final time to record that last measurement.

The device automatically calculates the height, between points a. & b. along with:

- *Inclination angle at point a.*
- *Length from the device to point a.*
- *Inclination angle at point b.*
- *Vertical height between both points a. & b. and*
- *Horizontal distance between the device and the object*

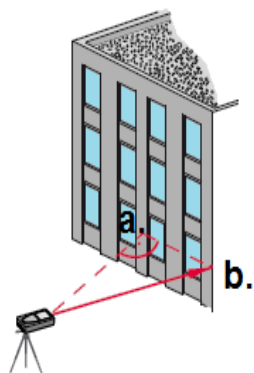
**The upper point can be targeted with the digital point finder and does not need a reflective laser target as the device only measures the inclination.*





***This application requires tripod.*



2 point indirect horizontal length measurement

This function helps you measure the length of an object indirectly just by focusing on 2 points.



- Press the Function key **FUNC** once.
- Move to the second page of the application screen using ◀▶ keys.
- On this screen, *2 point indirect length measurement application* icon  is located at the *bottom centre* of the display.
- Navigate to the icon using ◀▶ keys to select the option for *2 point indirect measurement*. Select the  icon using = key.
- To measure the horizontal length through this application, measure points a. & b. from the same reference point.
 - **How to measure a. & b.**
 - Aim the laser at point a. and record that measurement by pressing .
 - Next aim the laser at point b. as shown in the figure on the left and record that measurement by pressing  again
 - The device automatically calculates the distance from a. to b.

- The device also calculates the distance from the device to points a. & b.

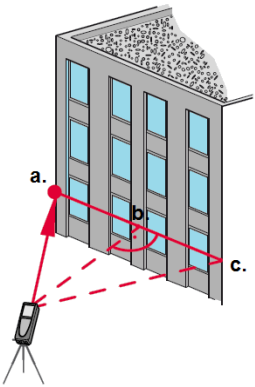
**This application requires tripod.*





*** This application is applicable only to measure the horizontal length. To measure the vertical height please use the Height Tracking function.*



3 point indirect horizontal length measurement

This function helps you in measuring the length of an object by focusing on 2 points.



- Press the Function key **FUNC** once.
- Move to the second page of the application screen using ◀▶ keys.
- On this screen *3 point indirect length measurement application* icon  is located at the *bottom right* of the display.
- Navigate to the icon using ◀▶ keys to select for *3 point indirect measurement*. Select the  icon using = key.
- To measure the horizontal length through this application, measure points a., b. & c. from the same reference point.
 - **How to measure a., b & c.**
- Aim the laser at point a. and record that measurement by pressing .
- Similarly measure points b. & c. as shown in the figure on the left and record those measurements using .
- The device automatically calculates the distance including these three points.
- The device also calculates the distance from the device to points a., b. & c.

**This application requires tripod.*

*** This application is applicable only to measure the horizontal length. To measure the vertical height please use the Height Tracking function.*