

Leica DISTO™ transfer v6

Quick Start Guide

Leica DISTO™ transfer v6

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Leica DISTO™ Transfer



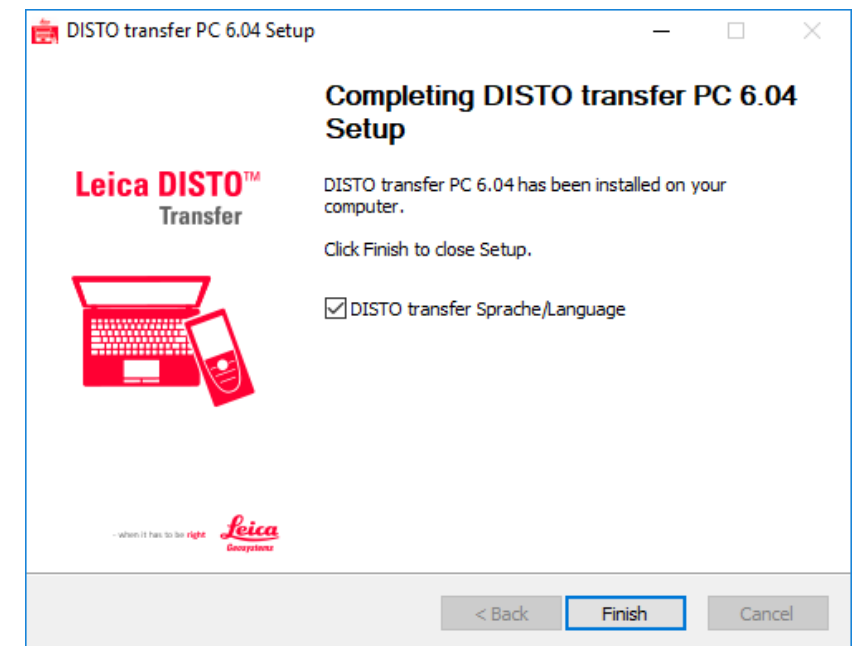
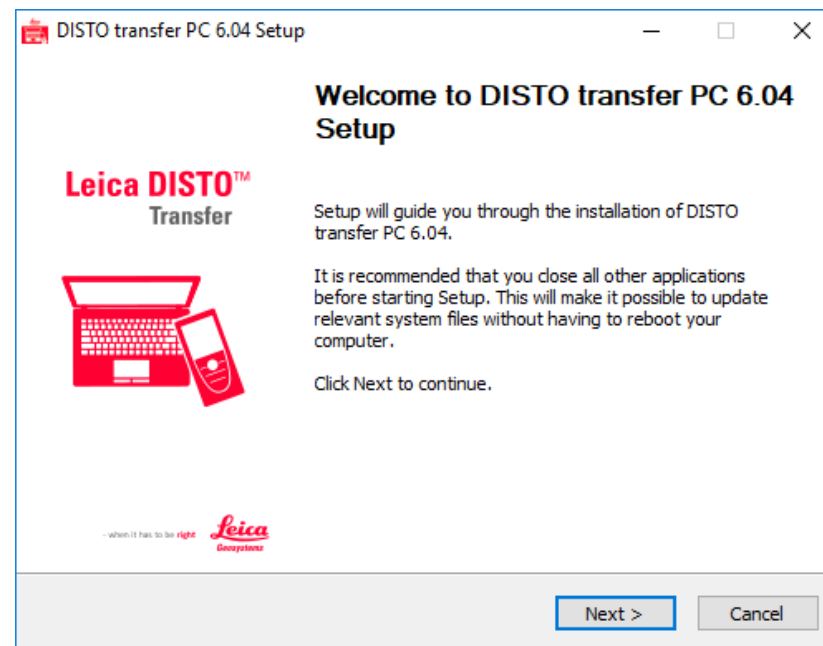
- when it has to be right

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Leica DISTO™ transfer v6 Installation



- An Installation Wizard is displayed on the screen to guide the user, through the whole process.



Leica DISTO™ transfer v6

Installation



- DISTO transfer Sprache/Language allows the user to select different languages, accordingly to the user's preference.
- This setting can be changed later by clicking on the icon DISTO transfer 6.0 Sprache Language.



- when it has to be **right**

Leica DISTO™ transfer v6

Connection with DISTO's



- The Leica DISTO™ transfer v6 is compatible with all Leica products which have Bluetooth® Smart and Wi-Fi technology.



D1



D110



D2



X3



X4



D510



D810



S910



S910



- when it has to be right

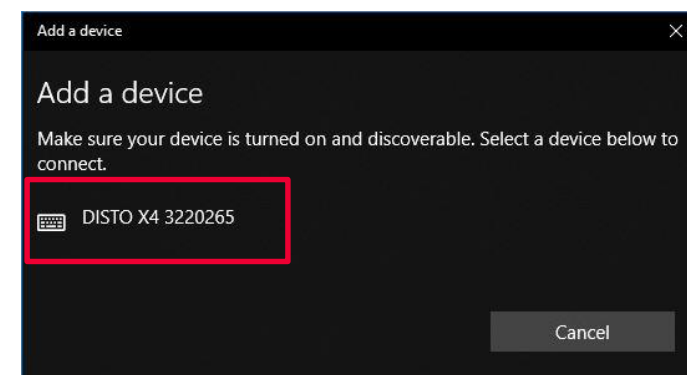
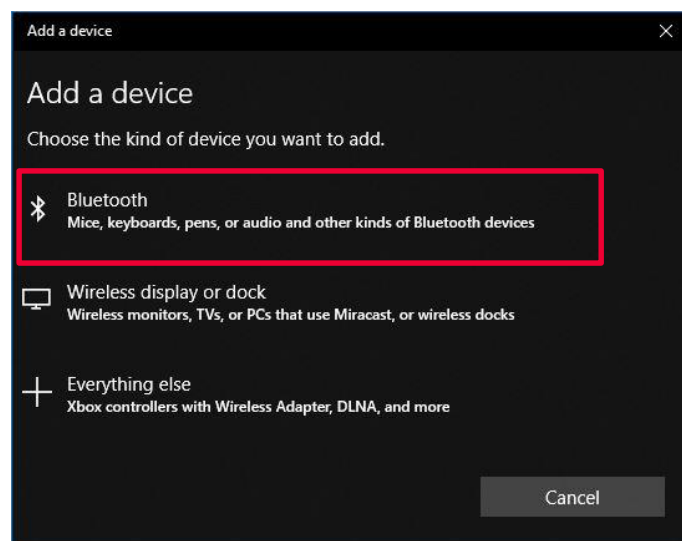
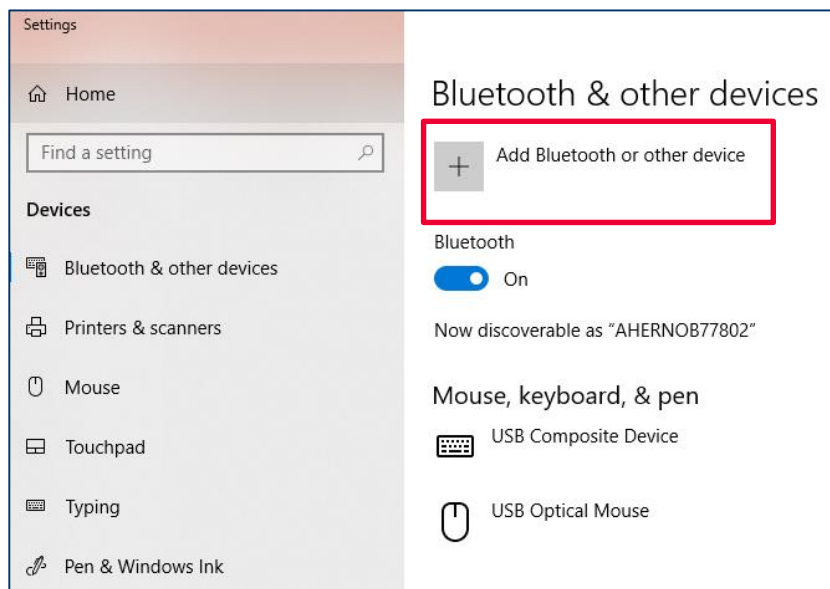
Leica
Geosystems

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Bluetooth Connection



- Establish a Bluetooth connection between your Leica DISTO™ device and your tablet/laptop, via Windows Operating System.

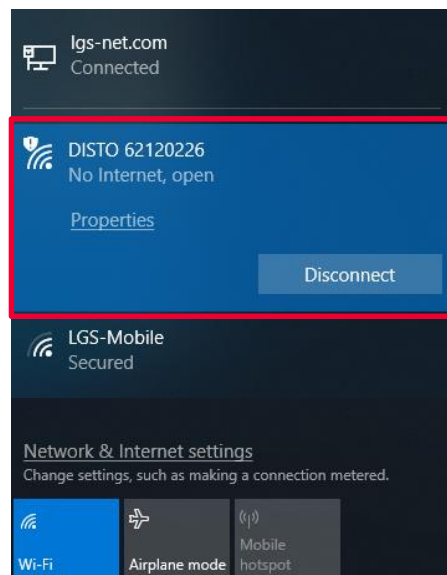
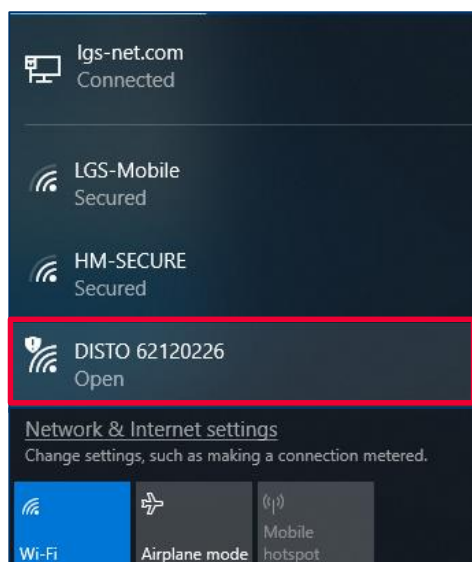


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Wi-Fi Connection



- Establish a Wi-Fi connection between your Leica DISTO™ device and your tablet/laptop, via Windows Operating System.



Simplified View

DISTO™ is connected

Please ensure that you have the latest firmware version installed (<https://lasers.leica-geosystems.com/global/firmware-update-s910>)

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Start screen – Connection Status



- When the software is started, the initial screen is displayed and starts immediately to look for a Leica DISTO™ device.



Looking for DISTO™



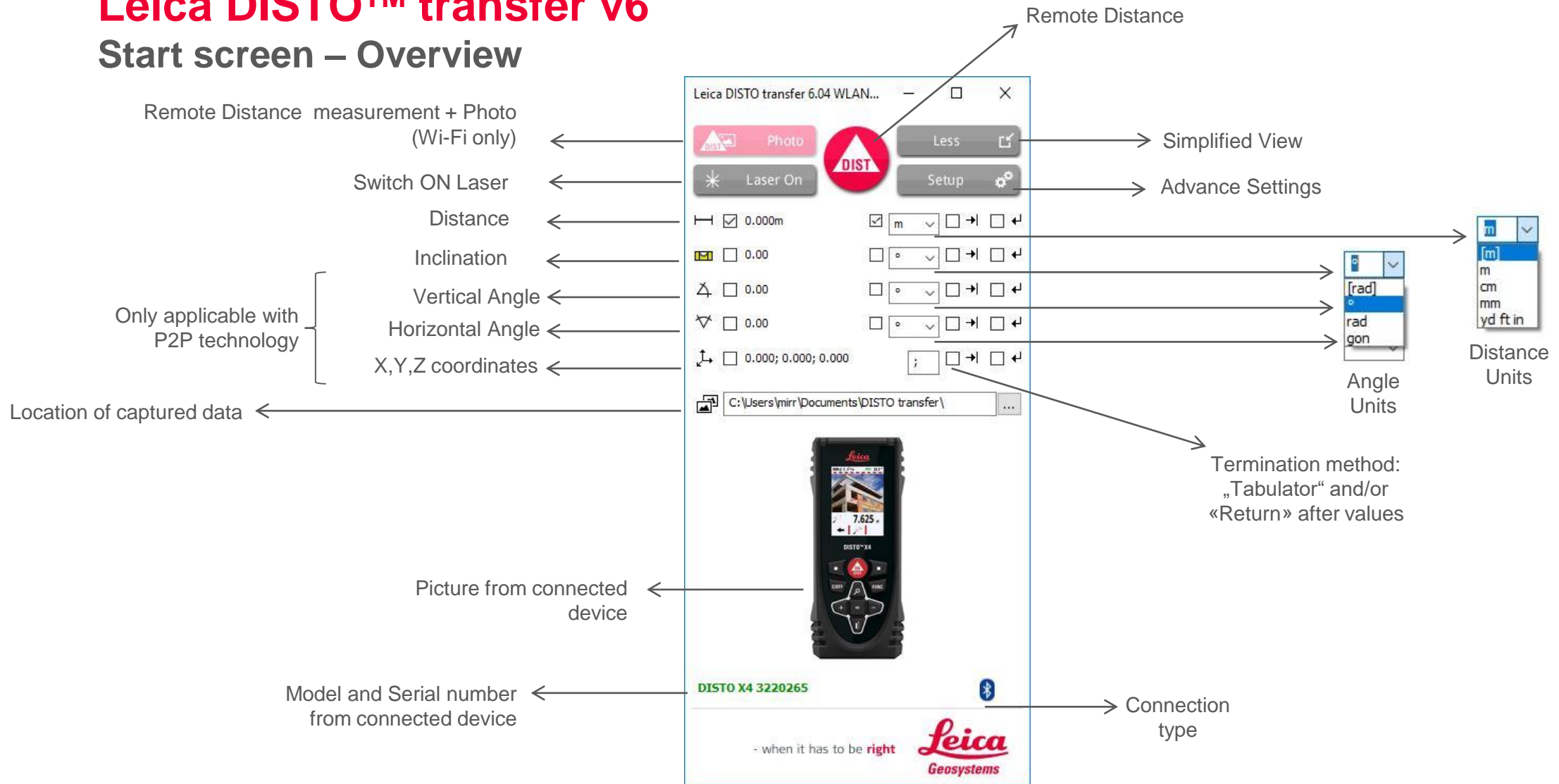
DISTO™ connected

- when it has to be right



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Start screen – Overview



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Start screen – Overview



- Please note that, when DISTO™ X3 / X4 are mounted on a DST360 adapter, the levelling process is automatically started and the levelling status is displayed on the Start screen.
- The same is applicable when the DISTO™ S910 has got the Smart Base folded down.
- These two modes, allow you to use P2P technology.



Connection
type

Levelling Status

- Levelled – horizontal and vertical information correct
- Move Alert – DISTO™ has been moved
- Not Levelled – no information about horizontal and vertical

- when it has to be right



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Start screen – Overview



- If you have connected previously, more than one Leica DISTO™ device to your tablet/laptop, the DISTO transfer software will display a multiple selection window.
- Inside this window, you will be offered the chance to select the desired DISTO™ and to switch between Wi-Fi and Bluetooth.



→ Devices which are paired with the Windows Operating System

← Displays the devices which support Wi-Fi

→ Confirm selection

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Basic Measurement Process



Measurements sent to Measurement Log only

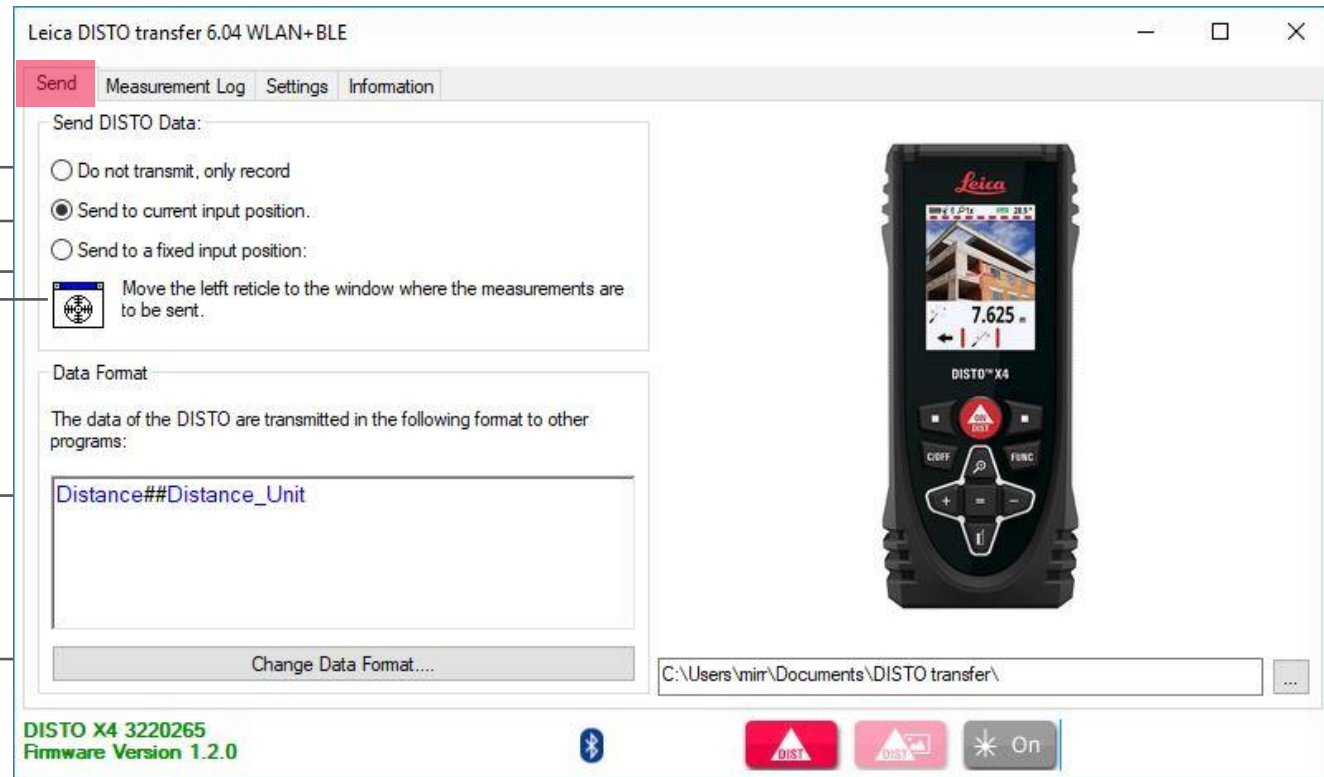
Measurements sent to active window

Measurements sent to a pre-selected window

Window selection

Characteristics sent to other programs

Customized Data Format
(see next page)



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Basic Measurement Process



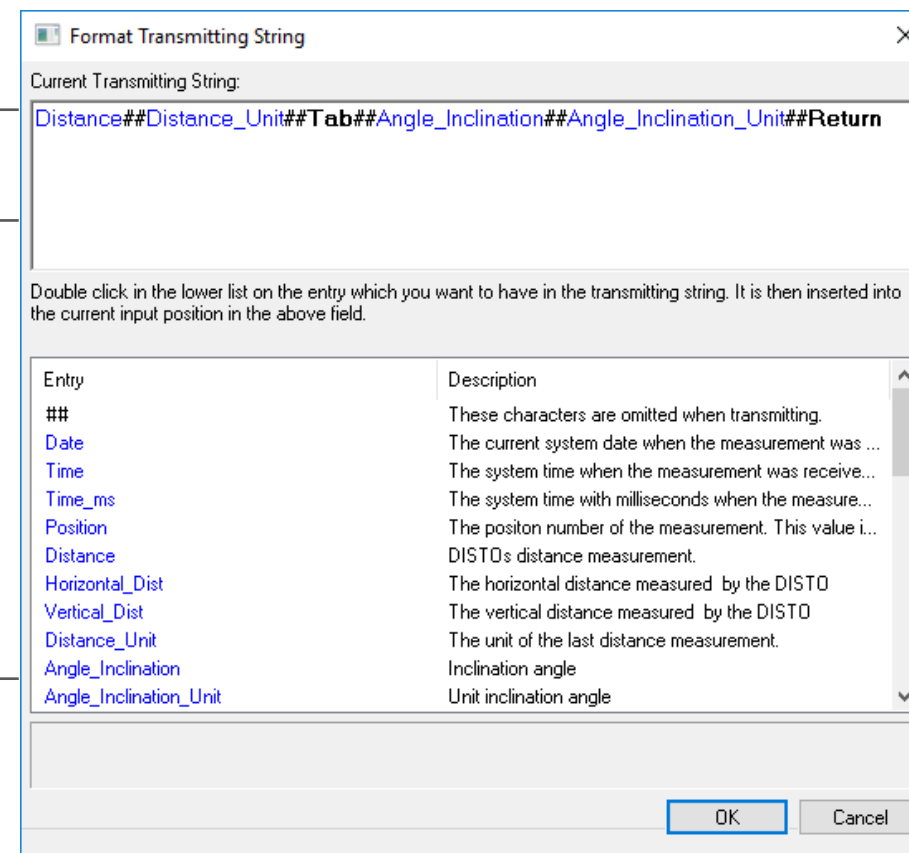
In this scenario the following characteristics will be sent:
Distance, Distance unit, Inclination, Inclination Unit

Active Configuration Window

Blue: Value format
Separators
Black Control Signs

Separators are mandatory between every item

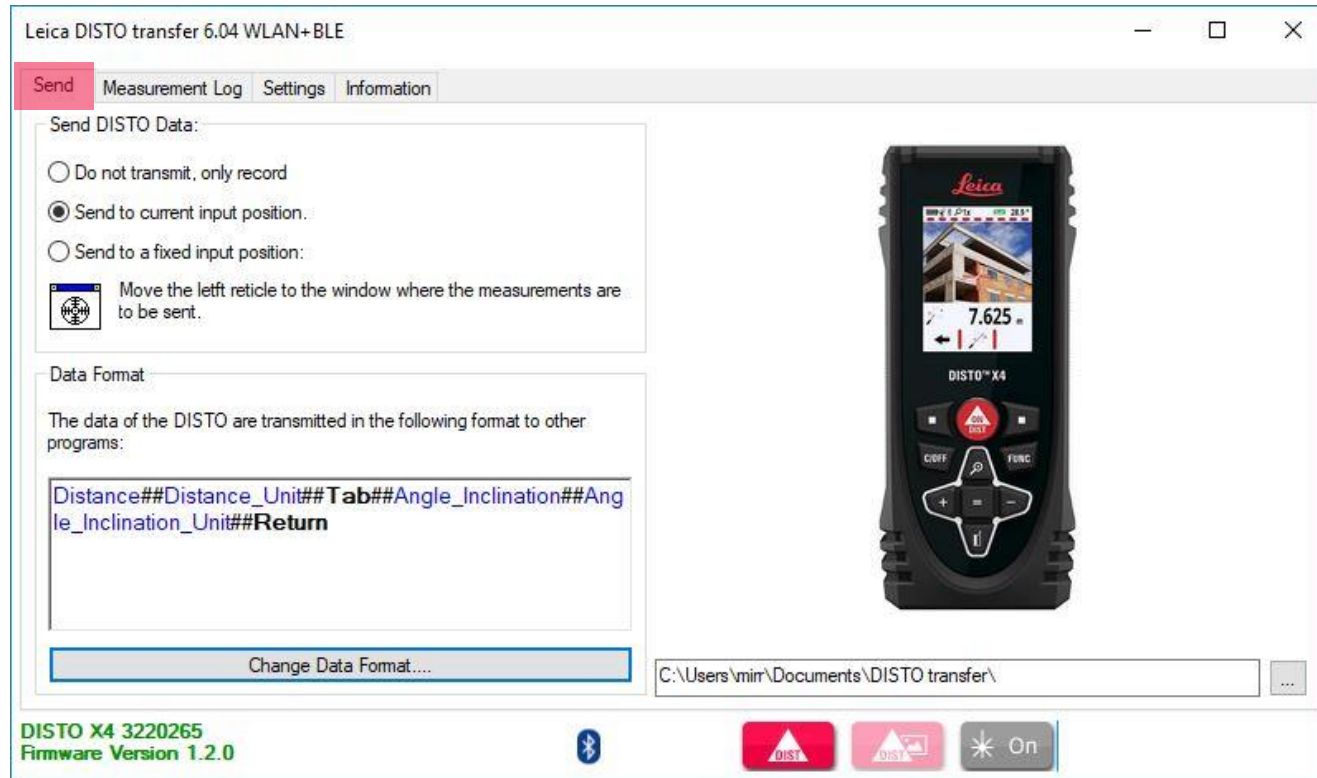
Double click on the item in this list to
move it into the active configuration



- when it has to be **right**

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Basic Measurement Process



	A	B	C	D
1				
2				
3		3.243m	40.36°	
4		2.863m	56.07°	
5		2.471m	70.57°	
6		2.387m	87.53°	
7				

Data format sent to an Excel spreadsheet

- when it has to be right

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Basic Measurement Process



Vertical & Horizontal Angle, X,Y,Z, coordinates
(see page 17)

Accuracy of measurement

Measurement record

Photo only available for
Wi-Fi connection

Open Microsoft Excel

Free station function
(see page 19)

3D Viewer & P2P Calculator
(see page 18)

Send Selected Items to other program
(e.g. Excel spreadsheet)

Leica DISTO transfer 6.04 WLAN+BLE

Send Measurement Log Settings Information

Nr.	Time	Photo	Distance [m]	Inclination [°]	V [°]	Hz [°]	X [m]	Y [m]	Z [m]	Accuracy [mm]
1	14:00:46		2.4073	89.2373						2.4
2	14:01:02		2.5224	70.4587						2.5
3	14:01:05		2.7587	59.5079						2.7
4	14:01:18		2.5946	55.8830						2.6
5	14:01:29		1.0954	4.3626						1.5

Excel... 3D... Point Distances... Send Selected Items Free station...

DISTO X4 3220265
Firmware Version 1.2.0

Bluetooth icon

DISTO On

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P2P Measurement Process

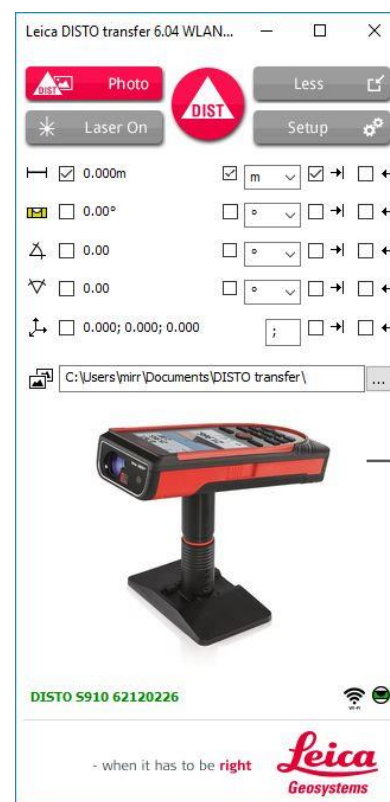


- To perform P2P Measurements, a DST360 adapter is required or the Smart Base from the DISTO™ S910 must be folded down.



DISTO™ X4 + DST360
or
DISTO™ X3 + DST360

Connection type
Levelling status



DISTO™ S910

Connection type
Levelling status

- when it has to be right



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P2P Measurement Process



Leica DISTO transfer 6.04 WLAN+BLE

Send Measurement Log Settings Information

Nr.	Time	Photo	Distance [m]	Inclination [°]	V [°]	Hz [°]	X [m]	Y [m]	Z [m]	Accuracy [mm]
1	16:49:15	<input type="checkbox"/>	3.1764	12.8476	75.786	324.503	100.0000	100.0000	10.0000	3.1
2	16:49:28	<input type="checkbox"/>	3.5112	17.5929	70.991	13.280	102.6508	99.9995	10.3637	3.3
3	16:49:41	<input type="checkbox"/>	2.3424	3.2959	85.374	76.146	103.3678	97.0160	9.4090	2.4
4	16:49:57	<input type="checkbox"/>	3.0277	20.7828	67.996	220.695	98.6916	95.5534	10.3544	2.9

Excel... 3D... Point Distances... Send Selected Items Free station...

DISTO X4 3220265
Firmware Version 1.2.0

Bluetooth On

V, Hz, X,Y,Z values are now displayed
(for detailed information, see page 42)

Send Selected Items to other program
(e.g. Excel spreadsheet)

File Home Insert Page Layout Formulas Data Review View Kutools™ Enterprise Help Nitro Pro Tell me what you want to do

Cut Copy Paste Format Painter Clipboard Font Alignment Number Conditional Formatting Table

E20

	A	B	C	D	E	F	G	H	I	J	K
1	Nr.	Time	Photo	Distance [m]	Inclination [°]	V [°]	Hz [°]	X [m]	Y [m]	Z [m]	Accuracy [mm]
2	1	16:49:15	0	3.1764	12.8476	75.786	324.503	100.0000	100.0000	10.0000	3.1
3	2	16:49:28	0	3.5112	17.5929	70.991	13.280	102.6508	99.9995	10.3637	3.3
4	3	16:49:41	0	2.3424	3.2959	85.374	76.146	103.3678	97.0160	9.4090	2.4
5	4	16:49:57	0	3.0277	20.7828	67.996	220.695	98.6916	95.5534	10.3544	2.9
6											
7											

3D Viewer & P2P Calculator
(see next page)

- when it has to be right

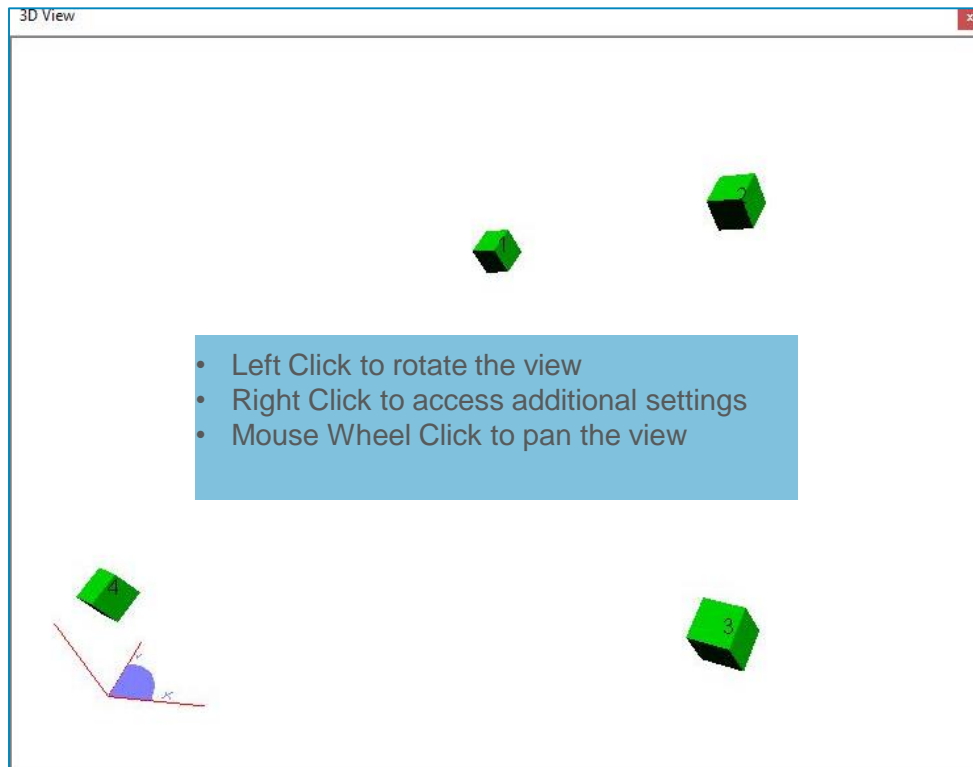
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P2P Measurement Process



3D Viewer



P2P Calculator

Calculate Point Distances

Points

Point 1 1 100.0000, 100.0000, 10.0000

Point 2 2 102.6508, 99.9995, 10.3637

Distances

Distance in X,Y,Z 2.6508, -0.0005, 0.3637

Distance 2.67567

X,Y,Z coord. from Point 1

X,Y,Z coord. from Point 2

Distance along X,Y,Z axis

P2P Distance

- when it has to be **right**

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Free Station

- Free Station function allows the user to relocate with a new set-up and add relevant information to the existing drawing.
- Useful method when is not possible to measure all the desired data, from one single set-up.
- Please ensure good visibility between Leica DISTO™ device and the points to measure.
- Requires a DST360 adapter or the Smart Base from the DISTO™ S910 must be folded down.

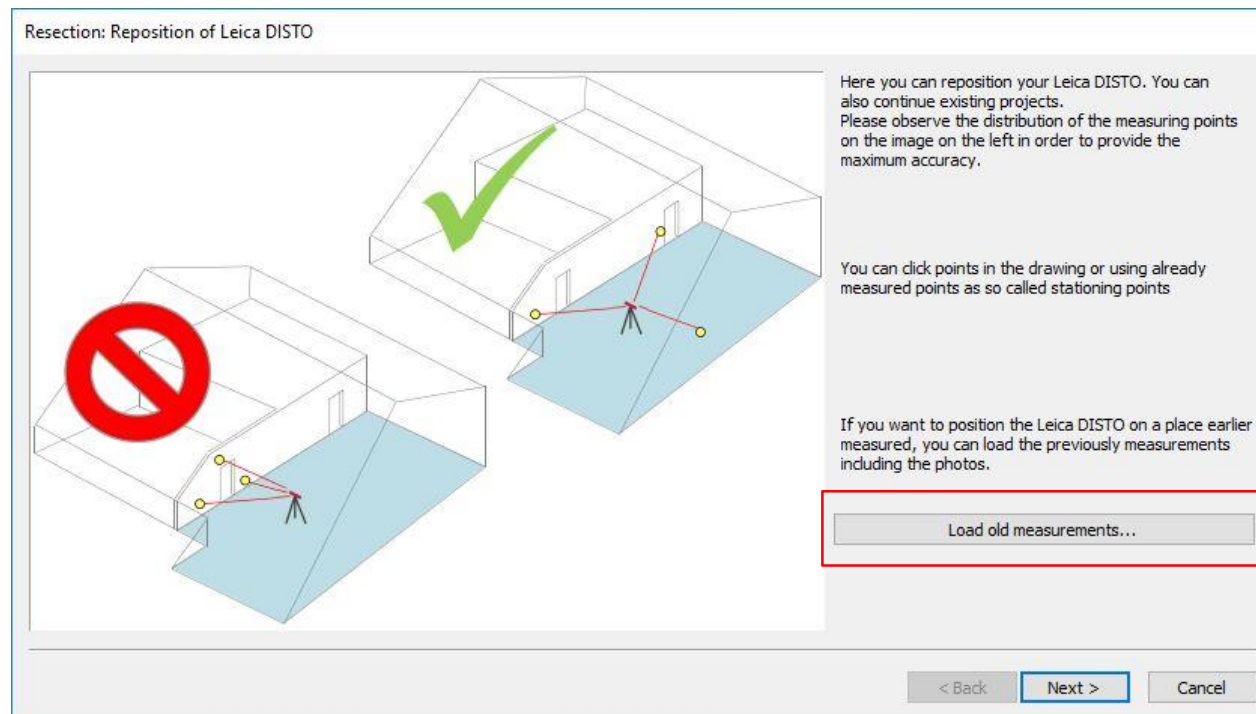


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Free Station



- When selecting Free Station function please read carefully the instructions on the screen.
- Select “Load old measurements” to load the reference points.



- when it has to be **right**

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Free Station



- Select at least 3 points which you would like to use for your relocation.

Resection: Activate points which are to be measured in the next step

Select at least 2 of the points in the list and / or pick points in the drawing. These points have to be measured in the next step, so watch out on the visibility of the points of the new position.

Nr.	Active	X [m]	Y [m]	Z [m]	Photo
1	<input checked="" type="checkbox"/>	100.0000	100.0000	10.0000	<input type="checkbox"/>
2	<input checked="" type="checkbox"/>	102.6453	100.0000	10.3676	<input type="checkbox"/>
3	<input checked="" type="checkbox"/>	103.3655	97.0163	9.4142	<input type="checkbox"/>
4	<input checked="" type="checkbox"/>	100.4930	93.7317	9.9274	<input type="checkbox"/>
5	<input checked="" type="checkbox"/>	98.6882	95.5519	10.3509	<input checked="" type="checkbox"/>

Zoom + +
Zoom alles Pos1
Zoom alles Pos1
Enlarge points
Shrink points
✓ Number Points
Invert point selection
Point Distances...
✓ Display bounding box

< Back Next > Cancel

3D Viewer

Active points

Point without photo associated

Point with photo associated

Right Click Menu

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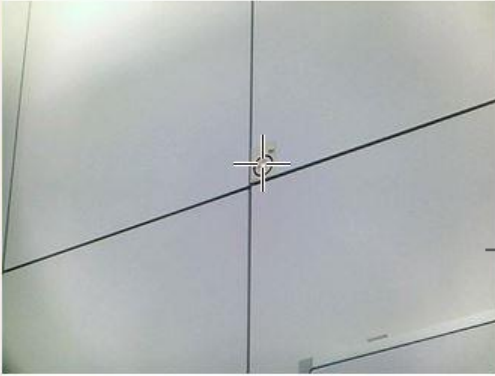
Free Station



- Select a line from the table and measure the matching point.


Resection: Measure points

Now measure the previously select points as diligently as possible



Nr.	X [m]	Y [m]	Z [m]	Distance [m]	V [°]	H _z [°]	Error [mm]
1	100.0...	100.0...	10.00...	3.38870	76.287	-33.230	2.44
2	102.6...	100.0...	10.36...	4.18550	73.762	-74.213	1.85
3	103.3...	97.01...	9.41418	3.06711	85.982	-123...	1.20
4	100.4...	93.73...	9.92737	3.08771	76.392	-215....	2.54
5	98.68...	95.55...	10.35...	2.31981	60.219	-273....	1.11

All measurements are done. Click on a line to improve if necessary



< Back Finish Cancel

→ Error associated to each point

→ A photo will be displayed if it's associated to a point

→ Accuracy of Relocation

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CAD Plugin



- Set-up your DISTO™ S910 – Smart Base folded down and Wi-Fi turned ON
- Alternatively you can use a DISTO™ X3/X4 mounted on a DST360 adapter
- Open AutoCAD/BricsCAD → Start a new drawing and ensure that your CAD drawing has got the correct Unit system
- Make sure the DISTO™ transfer has been installed after your CAD installation or manually start the DISTO™ transfer before using it as a Plugin

1) AutoCAD LT not supported

2) compatible with AutoCAD 2017 or higher

3) compatible with BricsCAD V17 or higher



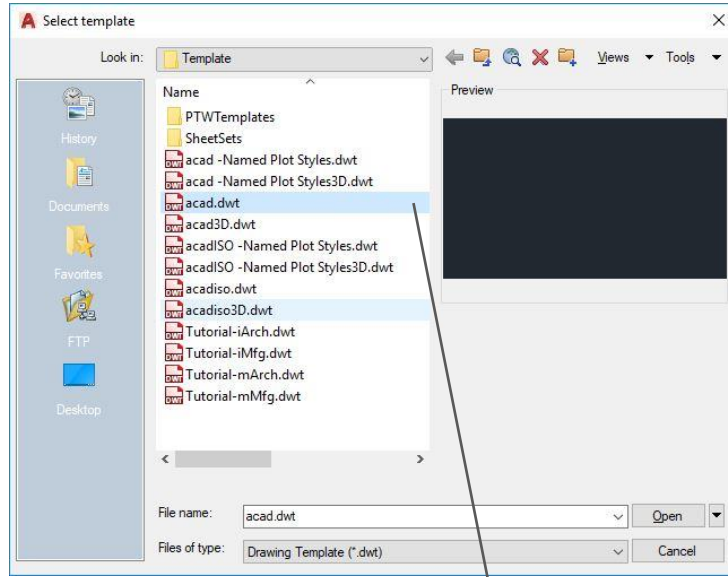
 **Bluetooth**
SMART



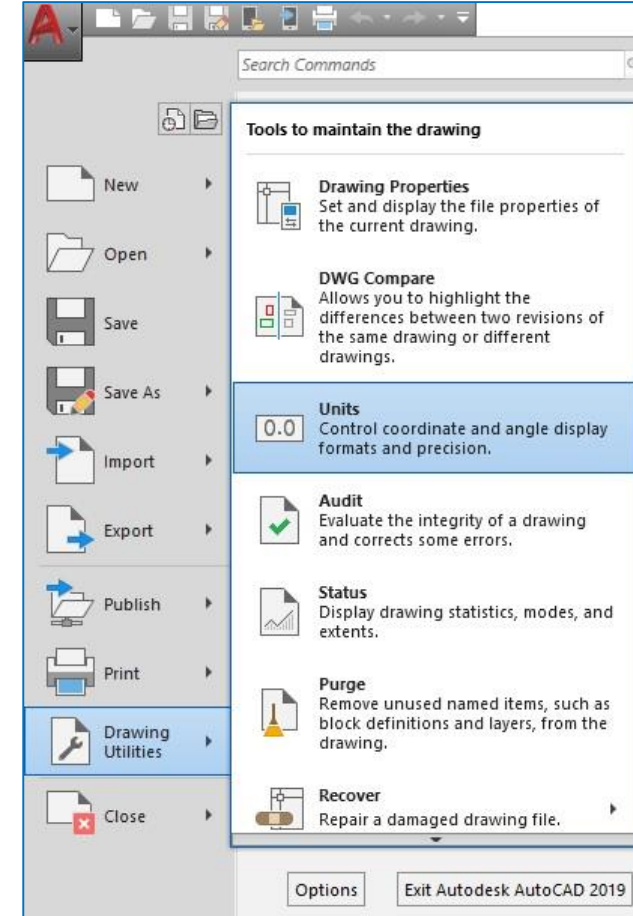
- when it has to be **right**

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Leica DISTO™ transfer v6 CAD Plugin



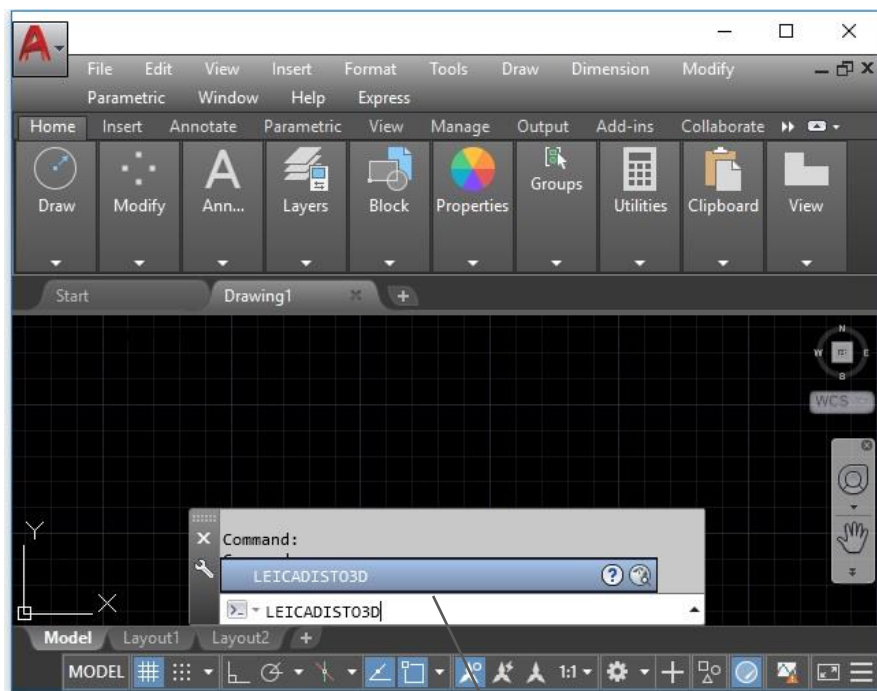
Star a new drawing by selecting an existing
CAD template



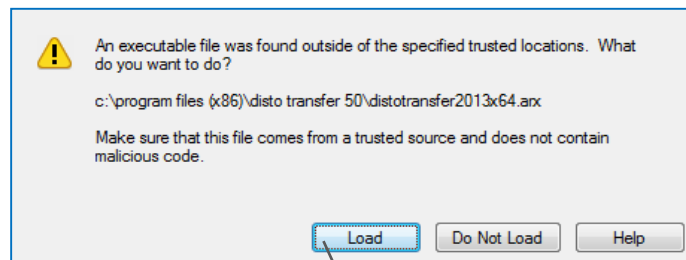
Adjust Unit system:

- 1) AutoCAD symbol
- 2) Drawing Utilities
- 3) Units
- 4) Set your preferred Unit System

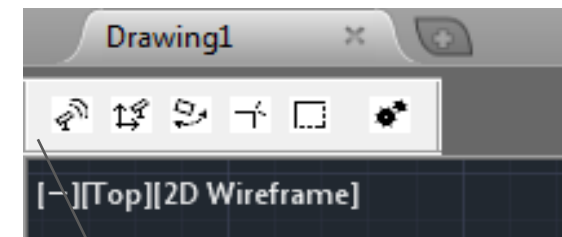
Leica DISTO™ transfer v6 CAD Plugin



To start the plugin please enter **LEICADISTO3D** into the command line



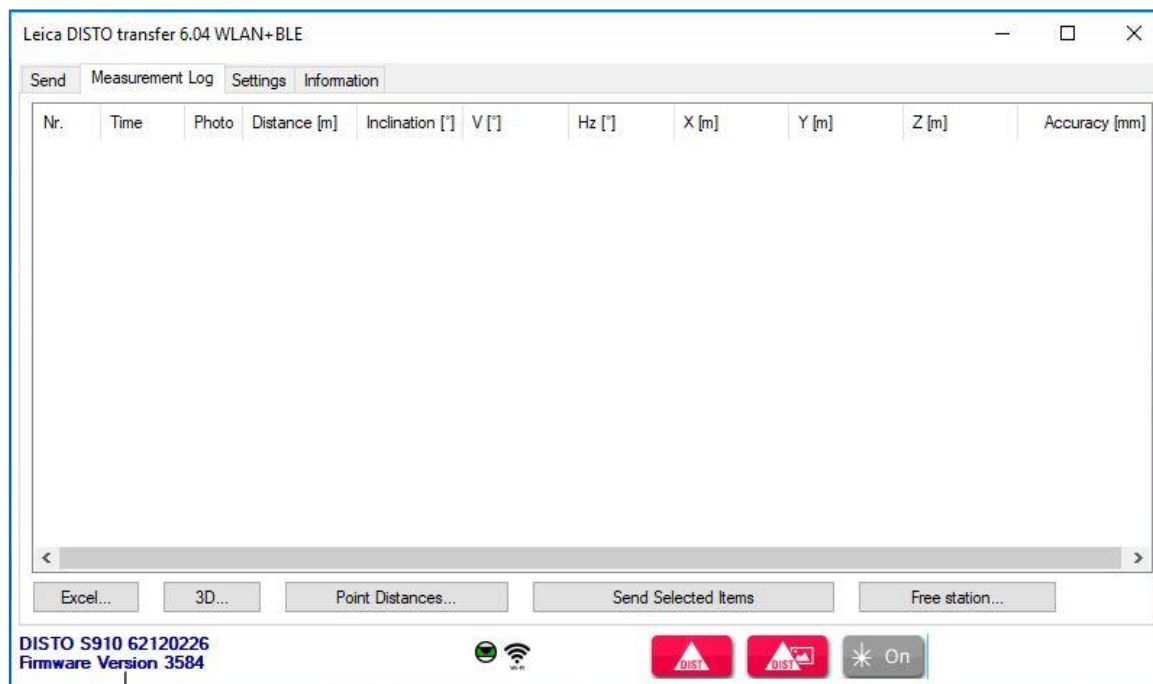
Press Load to execute the plugin



Plugin toolbar will appear and DISTO™ transfer will start

Leica DISTO™ transfer v6

CAD Plugin



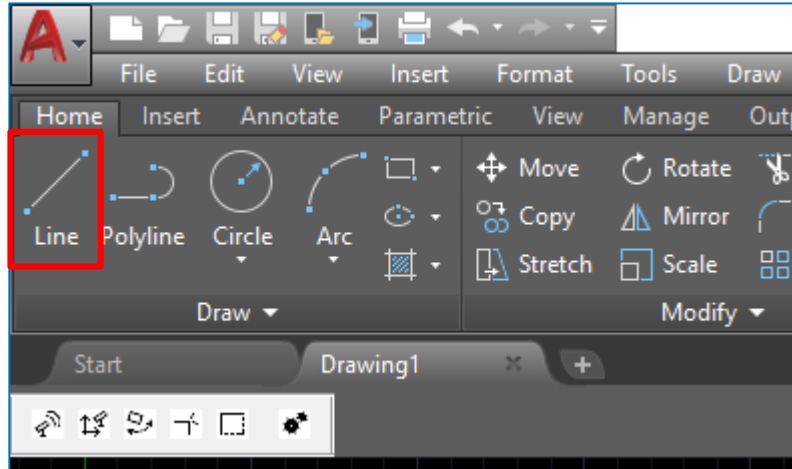
→ Highlighted in Blue → DISTO™ connected to CAD



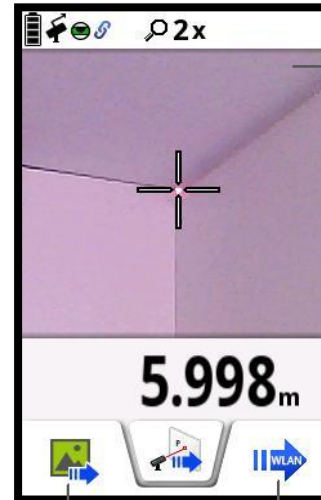
Execute the levelling process
on your DISTO™

- when it has to be **right**

Leica DISTO™ transfer v6 CAD Plugin



→ Select a drawing element (e.g. Line)



Now that the line has started, you can measure one point after another

NOTE: You need to have a drawing function active to get a value recognized by CAD

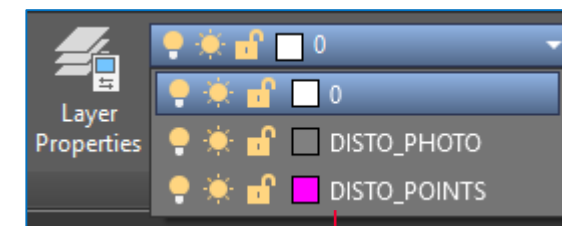
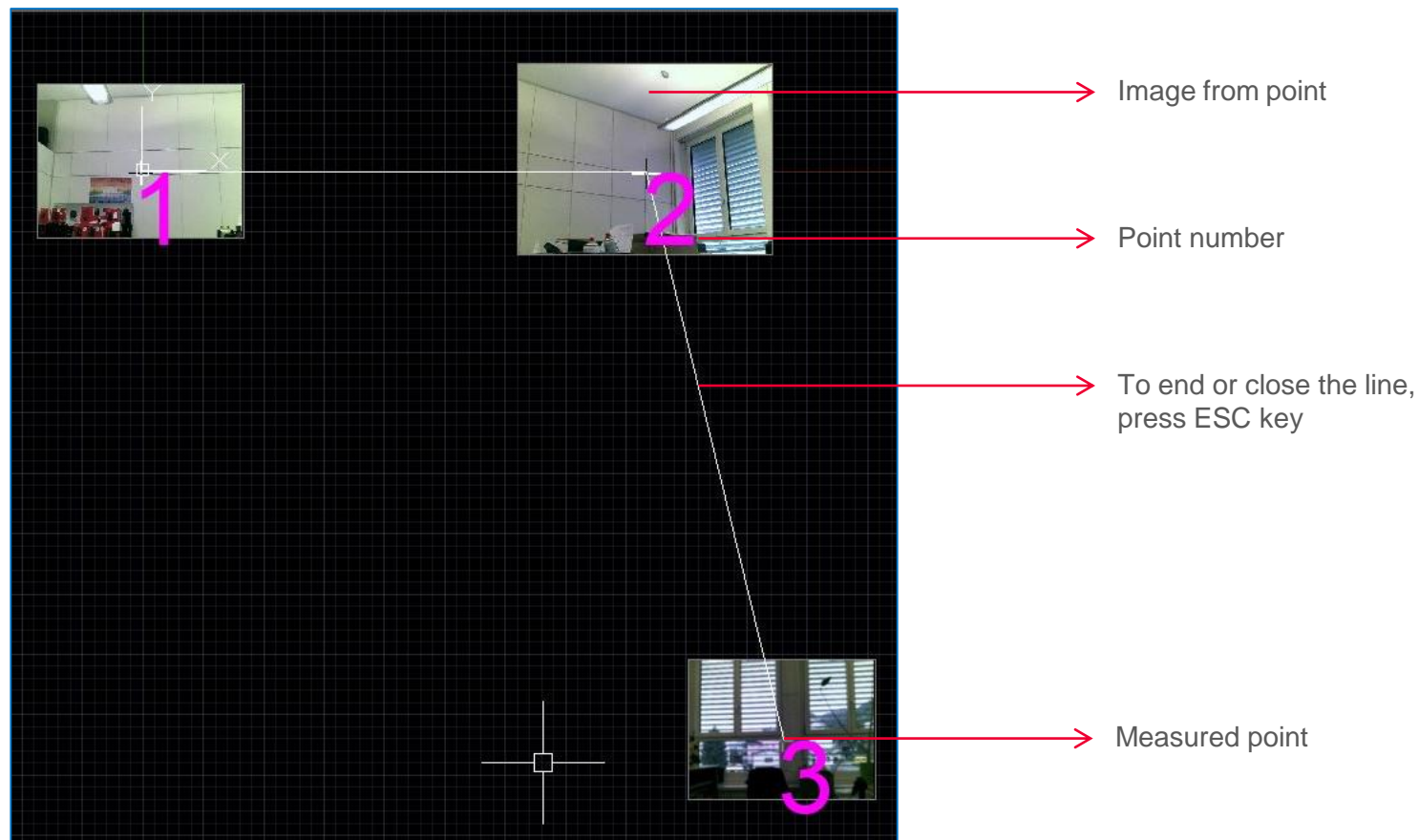
→ Transmit point without picture

→ Transmit point with picture

- when it has to be **right**

Leica DISTO™ transfer v6

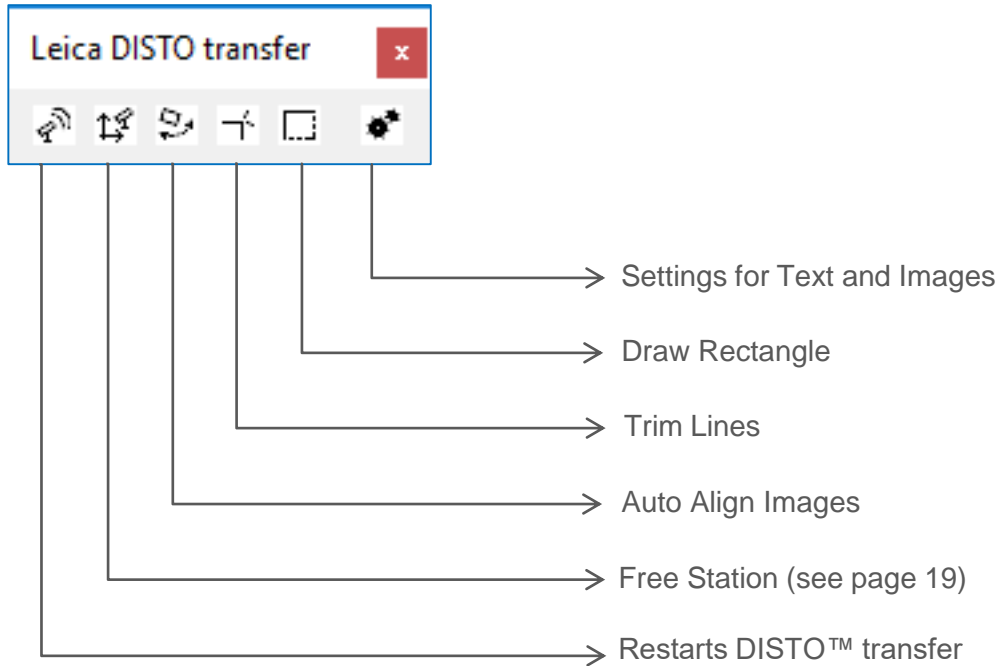
CAD Plugin



Collected data is organised by layers

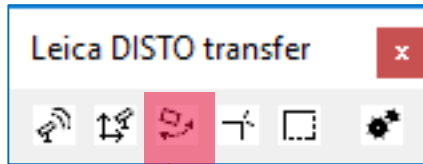
Leica DISTO™ transfer v6

CAD Plugin



Leica DISTO™ transfer v6

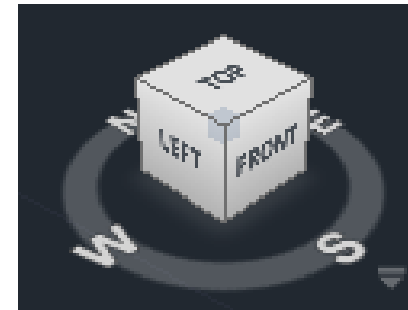
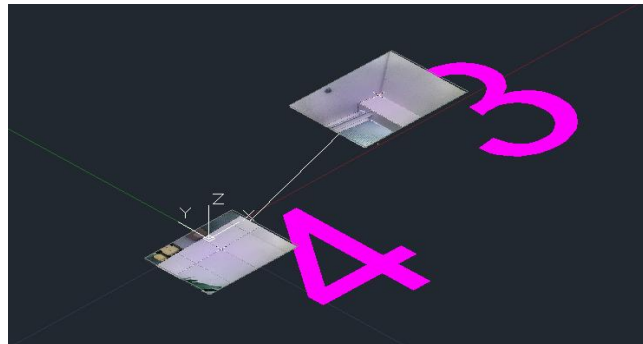
CAD Plugin



Auto Align Images



- Default view (Images are aligned)

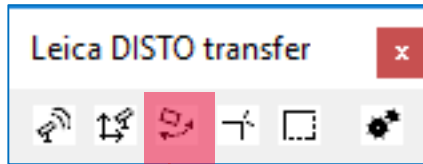


- When the view is changed, the Images are no longer aligned

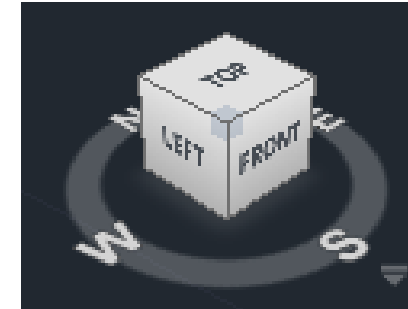
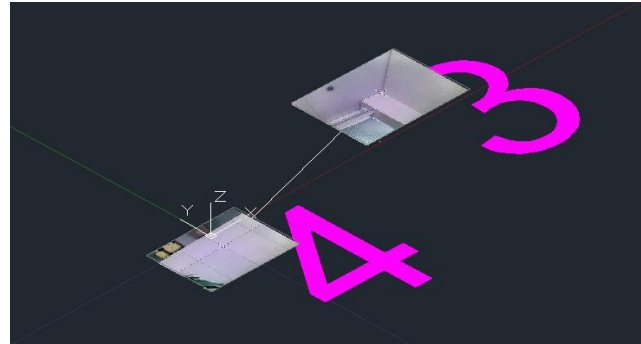
- when it has to be **right**

Leica DISTO™ transfer v6

CAD Plugin

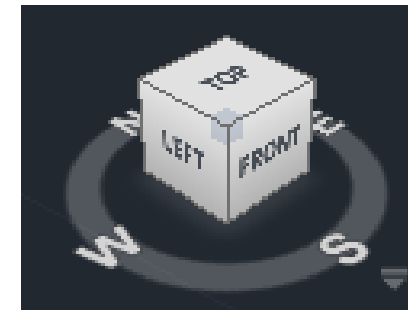
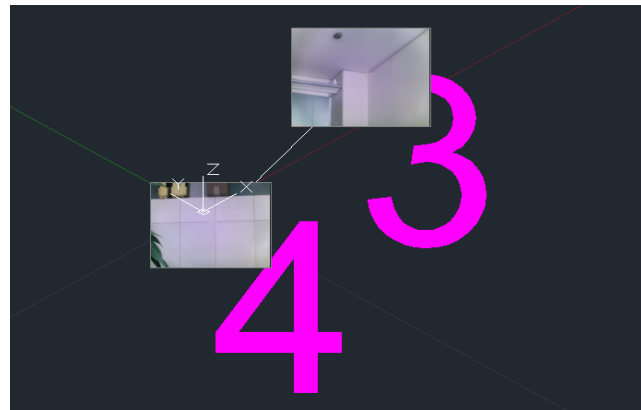


Auto Align Images



- Press Auto Align button and select one of the following options:

- 1) All
- 2) Individual Image

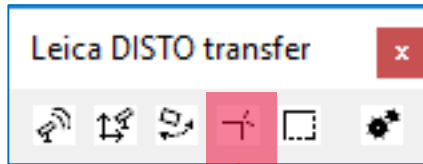


- Image and Text are now aligned with the current view

- when it has to be **right**

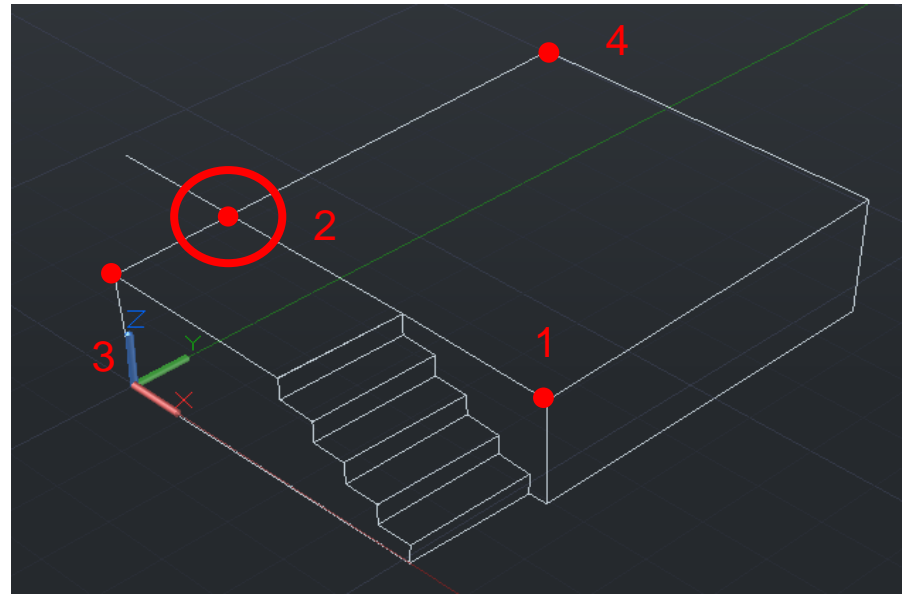
Leica DISTO™ transfer v6

CAD Plugin



Trim Lines

Start Trim function in the toolbar and measure two points from the first line and then two points from the second line

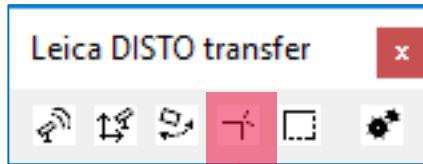


In 3D space two lines most likely won't meet

- when it has to be **right**

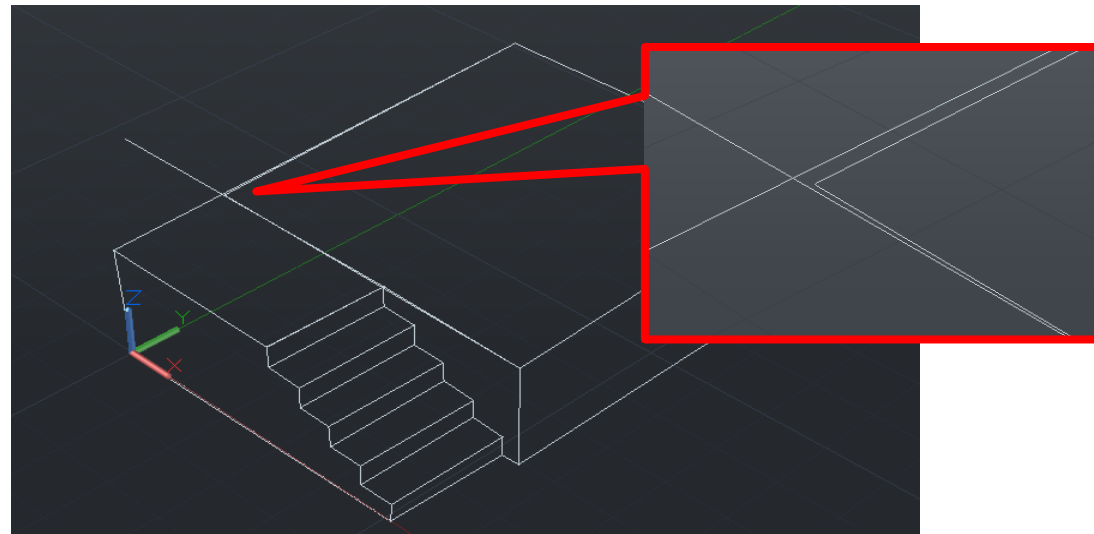
Leica DISTO™ transfer v6

CAD Plugin



Trim Lines

Press enter to quit function and type in "yes" to draw remaining element

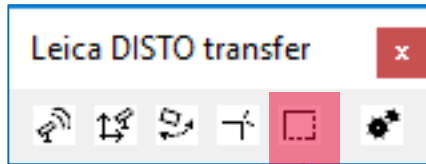


The line section was calculated and inserted within the drawing as TWO NEW lines at the closest point that they would meet

- when it has to be right

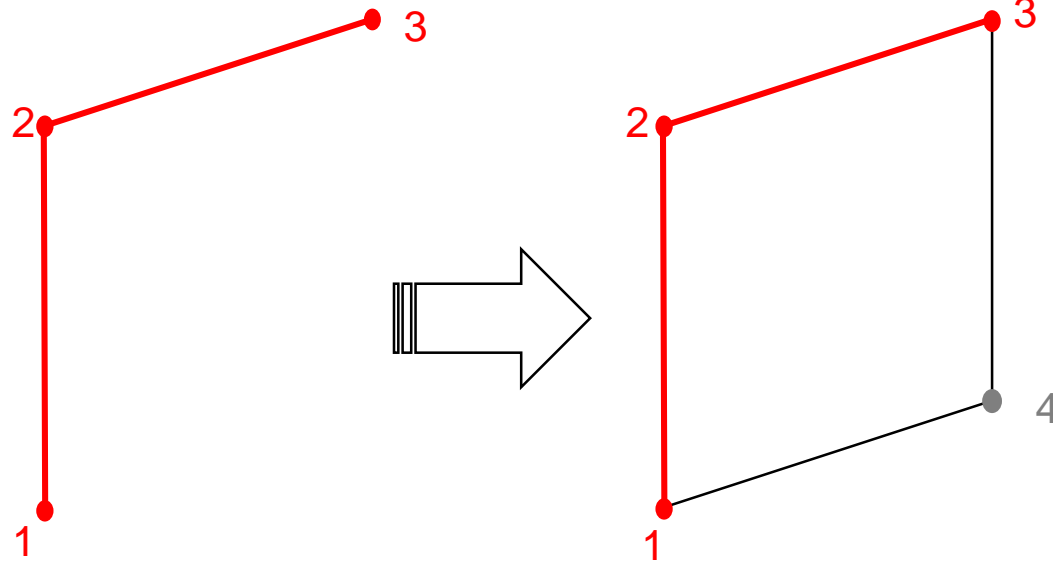
Leica DISTO™ transfer v6

CAD Plugin



Draw Rectangle

Measure three points with your DISTO™S910 to create a rectangle in 3D space

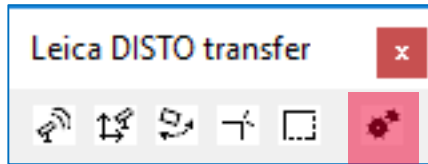


Automatically drawn lines and remaining point is added

- when it has to be **right**

Leica DISTO™ transfer v6

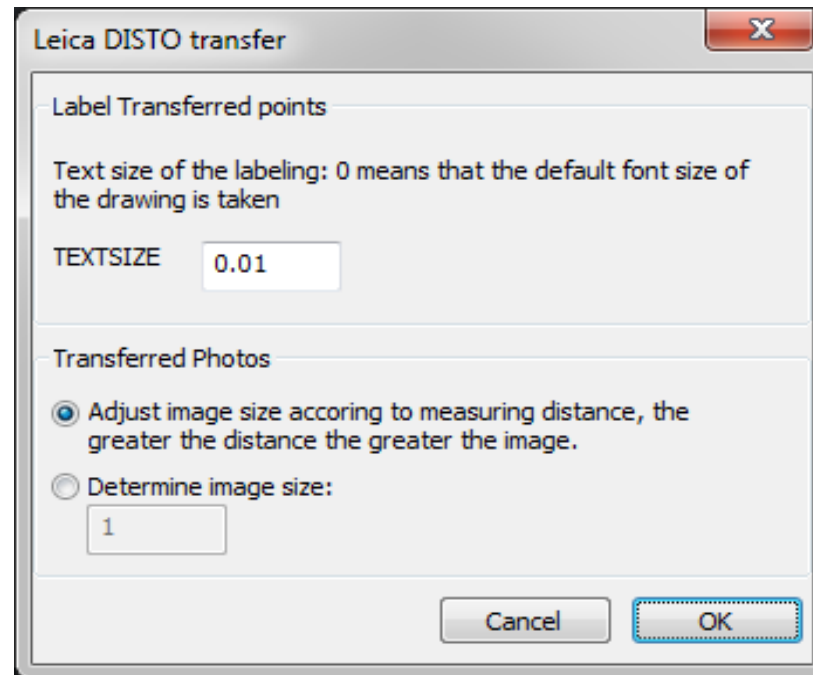
CAD Plugin



Settings

Adjust the text and image size

TEXTSIZE is a relative value, that matches your drawing settings



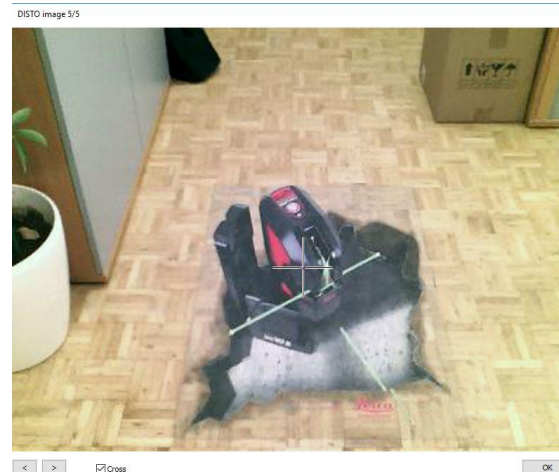
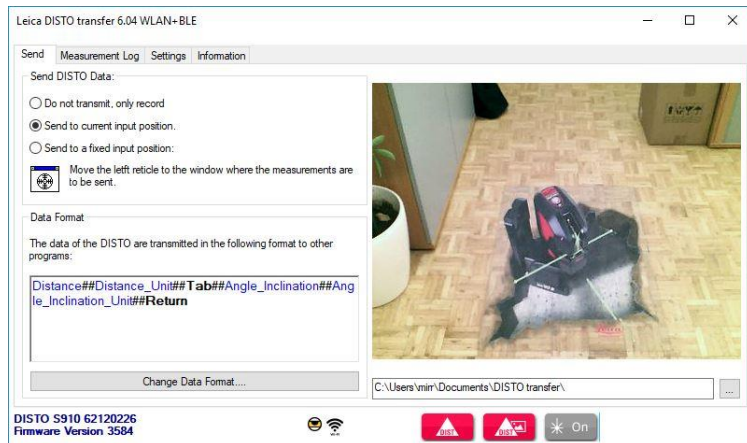
- when it has to be right

Leica DISTO™ transfer v6

CAD Plugin



- Images transferred from the DISTO™ S910 into the drawing will be stored within the same directory as the drawing
- Captured images are displayed on DISTO™ transfer as well and saved on the Data directory
- Line functions and trimming is only available if the correct layer is selected
- Explanations regarding a function, are always within the command line



- when it has to be **right**

Leica DISTO™ transfer v6 Settings



Orientation Configuration
(see page 39)

Start-up Configuration

Decimal Separator

Shortcuts

Automatic
Measurements

Imperial Data Format
Configuration (see next page)

Leica DISTO transfer 6.04 WLAN+BLE

Send Measurement Log Settings Information

Communication With Other Programs

☐ DISTO transfer always on top

☐ Start Microsoft Excel automatically when starting.

☐ Start the following program when starting:

Decimal point

Sample 3.1415 Change...

Remote Control - Start Measurements

Function	Ctrl	Shift	Alt	Key
Single measurement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	F8
Single measurement with image	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	F9
Laser on/off	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	F11

Orientation

☒ The first two measurements define the origin and direction of the X axis
The first measurement gets the following coordinates:

X 0 Y 0 Z 0

☒ Direction of X axis always from left to right, even when measured from right to left.

Periodic Measurements

☐ Trigger measurements in the following interval:

0 h 0 m 5 s

☒ Single measurement

☐ Single measurement with image

Imperial Format: yd, ft, in

ft in 1/8: 6' 11" 2/2

Acoustical Feedback

☐ Beep at 3D measurement

☒ Beep at stationing measurement

DISTO X4 3220265
Firmware Version 1.2.0

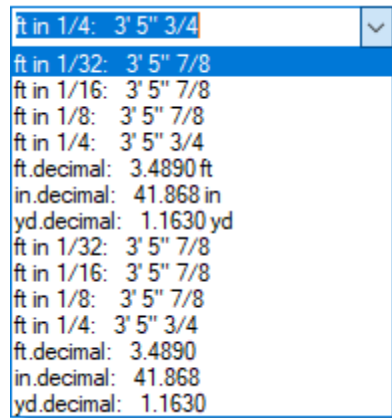
Bluetooth icon DISTO icon On

Leica DISTO™ transfer v6

Settings



- Imperial Data Format Configuration



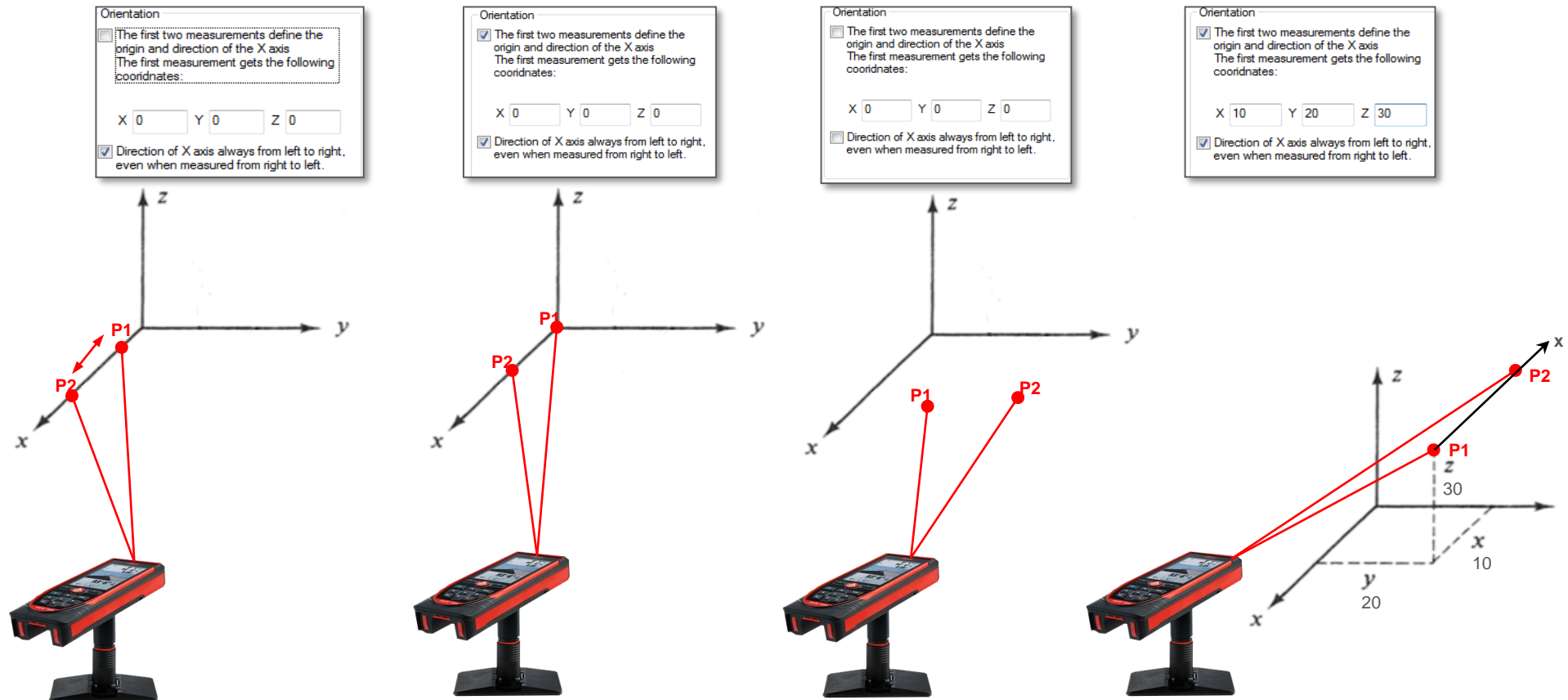
Distance Unit set on DISTO™ device	Imperial Format set on DISTO™ transfer	Transmitted result
0 1/8in	ft in 1/32: 3' 5" 7/8	3' 5" 7/8
	ft in 1/16: 3' 5" 7/8	3' 5" 7/8
	ft in 1/8: 3' 5" 7/8	3' 5" 7/8
	ft in 1/4: 3' 5" 3/4	3' 5" 3/4
	ft.decimal: 3.4890 ft	3.4890 ft
	in.decimal: 41.868 in	41.868 in
	yd.decimal: 1.1630 yd	1.1630 yd
	ft in 1/32: 3' 5" 7/8	3' 5" 7/8
	ft in 1/16: 3' 5" 7/8	3' 5" 7/8
	ft in 1/8: 3' 5" 7/8	3' 5" 7/8
	ft in 1/4: 3' 5" 3/4	3' 5" 3/4
	in.decimal: 41.868	3.489
	in.decimal: 41.868	41.868
	yd.decimal: 1.1630	1.163

Leica DISTO™ transfer v6

Settings



- Orientation Configuration



- when it has to be right

Leica DISTO™ transfer v6

Good to Know



See actual angle and inclination values

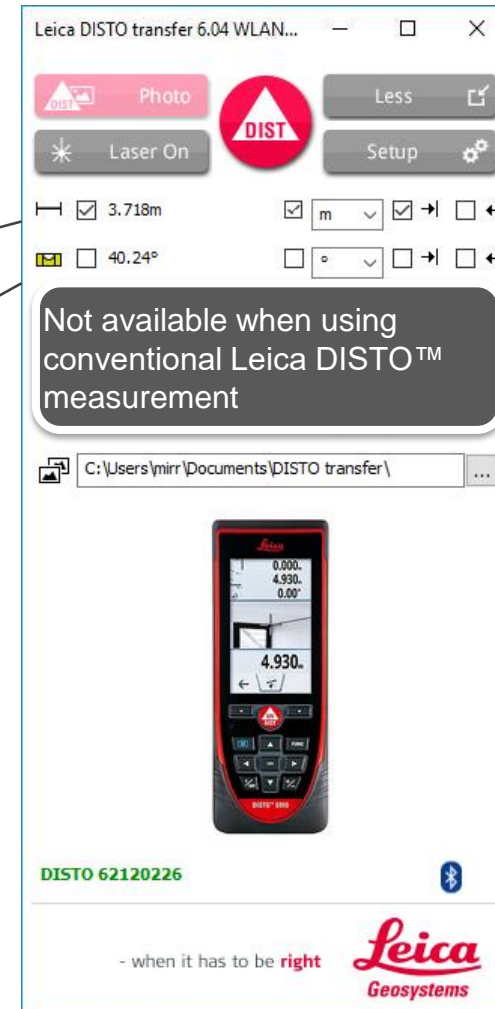
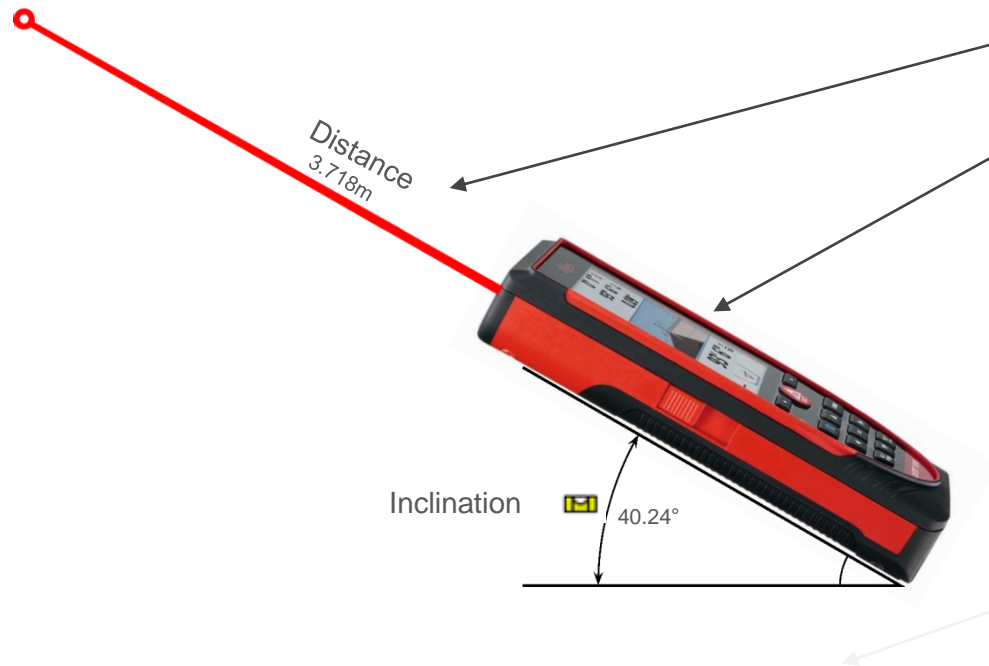


Battery Voltage

- when it has to be right

Leica DISTO™ transfer v6

Good to Know



- when it has to be right



Leica DISTO™ transfer v6

Good to Know

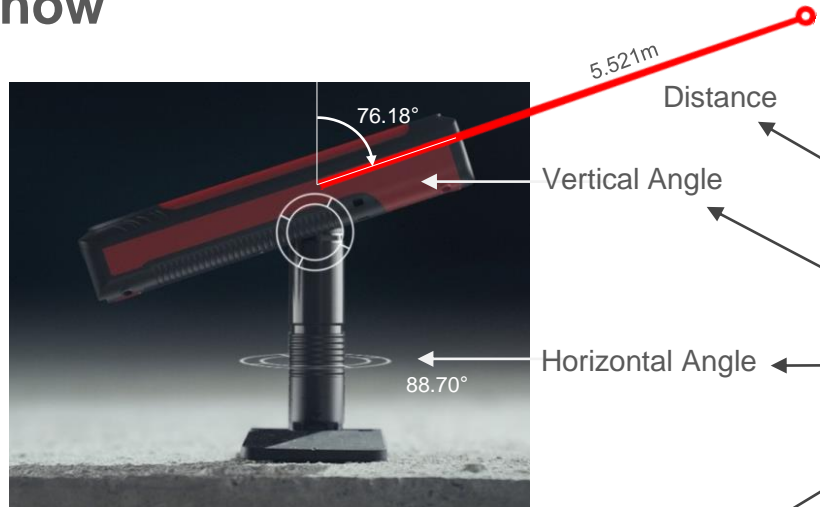


Diagram illustrating the Leica DISTO transfer v6 measurement setup. The device is shown measuring a distance of 5.521m at a vertical angle of 76.18° and a horizontal angle of 88.70°.

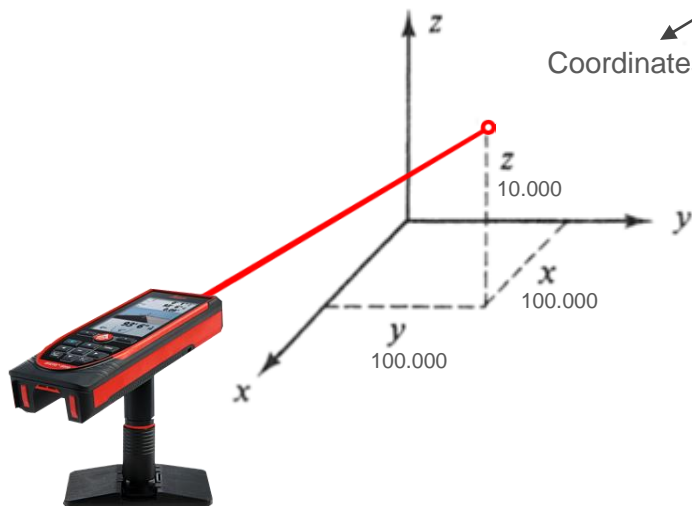
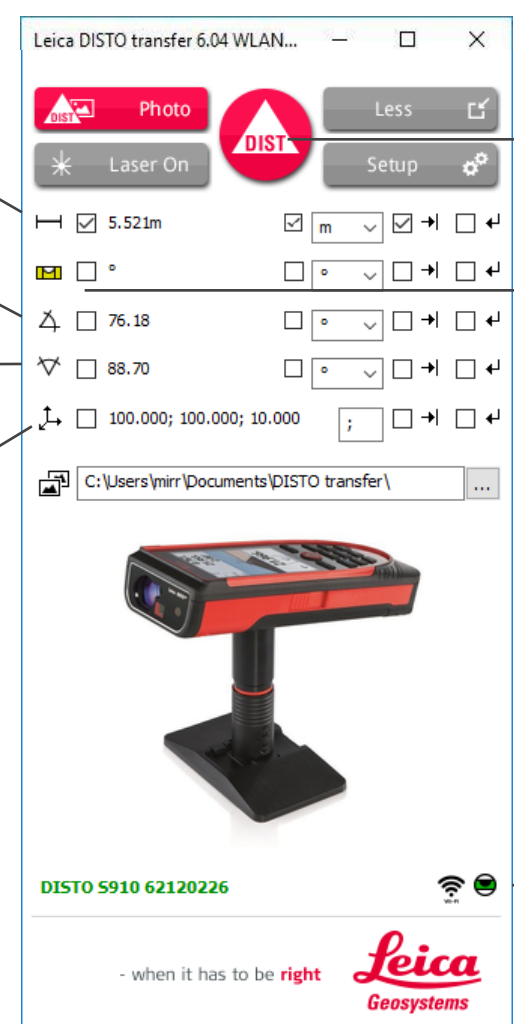


Diagram illustrating the coordinate system (x;y;z) used for the measurement. The x-axis is 100.000, the y-axis is 100.000, and the z-axis is 10.000.



Software interface (Leica DISTO transfer 6.04 WLAN...) showing measurement parameters and status:

- Photo (Triggers remote measurement)
- Laser On
- Distance: 5.521m
- Vertical Angle: 76.18°
- Horizontal Angle: 88.70°
- Coordinates: 100.000; 100.000; 10.000
- File path: C:\Users\mirr\Documents\DISTO transfer\
- Device ID: DISTO S910 62120226
- Status: Horizontal and Vertical information correct

- when it has to be right

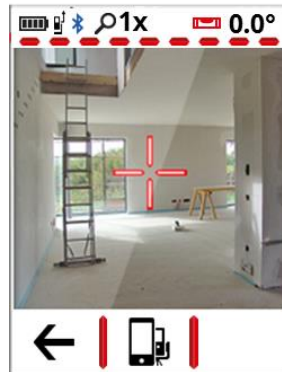
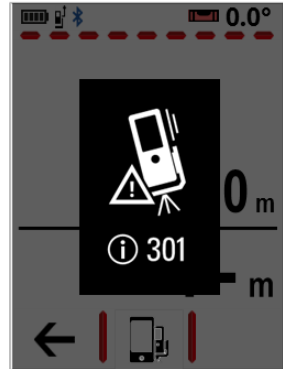
Leica
Geosystems

Leica DISTO™ transfer v6

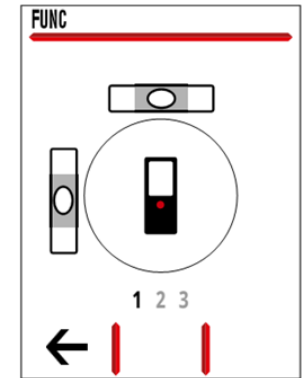
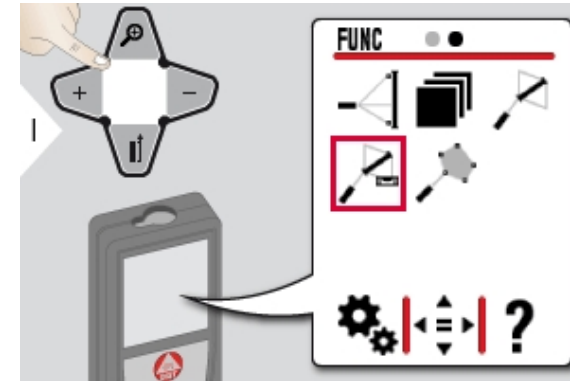
Good to Know



When using a DISTO™ X3 / X4 together with a DST360 adapter and a loss of level is detected



Access the Main Menu screen and select P2P with Levelling function. Proceed with the levelling steps



Once the levelling is completed, access Single Measurement function and aim to the desired location.



Complete the measurement action, by pressing DIST button on DISTO transfer



The DISTO™ is now back to the original mode



- when it has to be **right**