

Leica DISTO™ transfer v6

Quick Start Guide

Leica DISTO™ transfer v6

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Leica DISTO™ Transfer



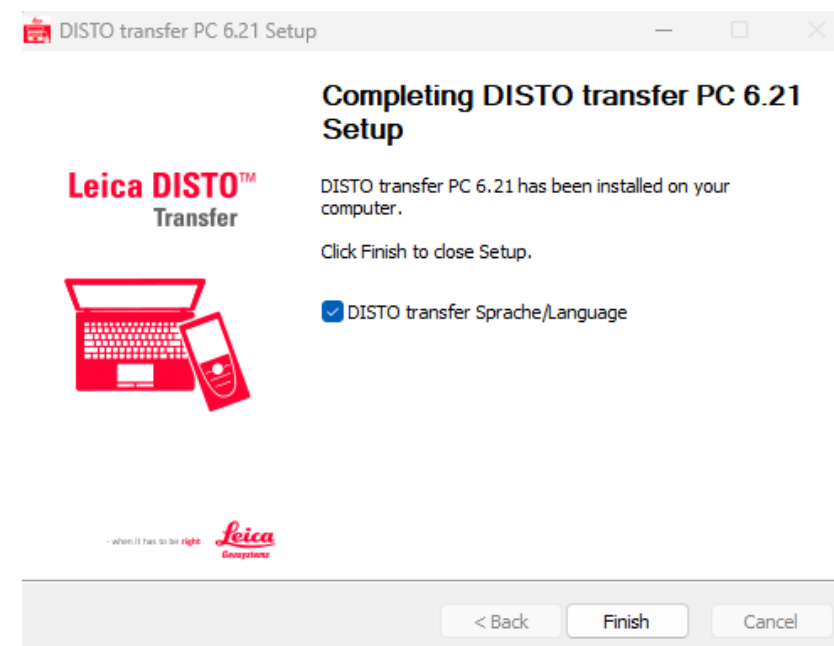
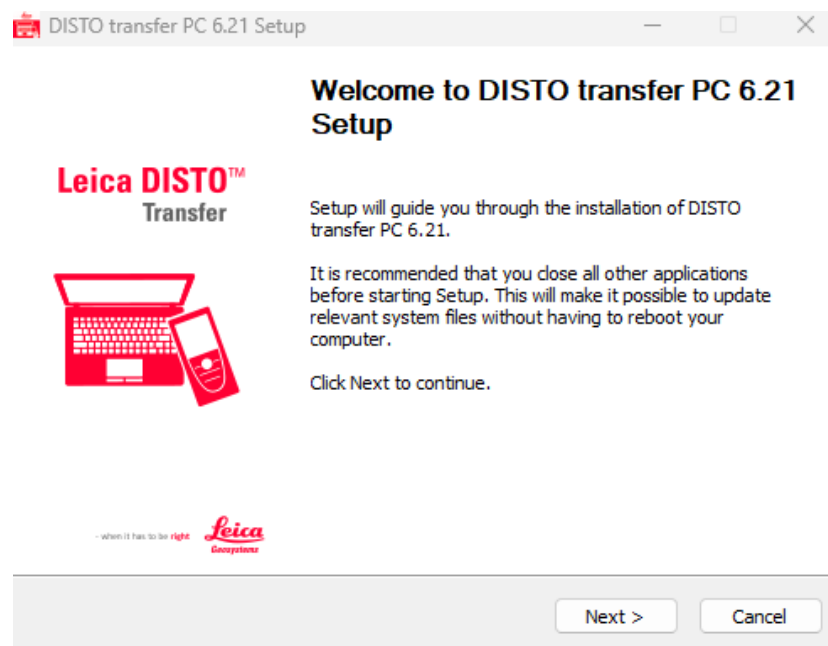
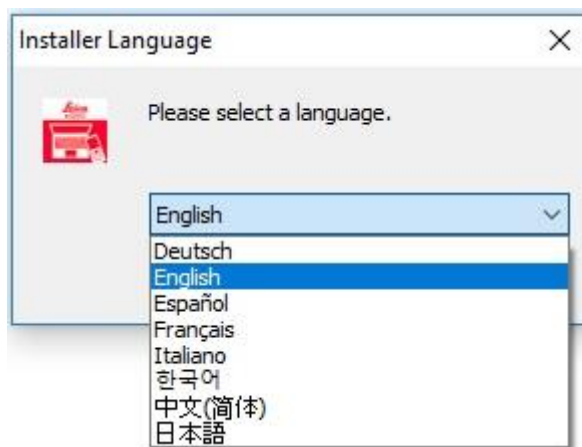
- when it has to be right

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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

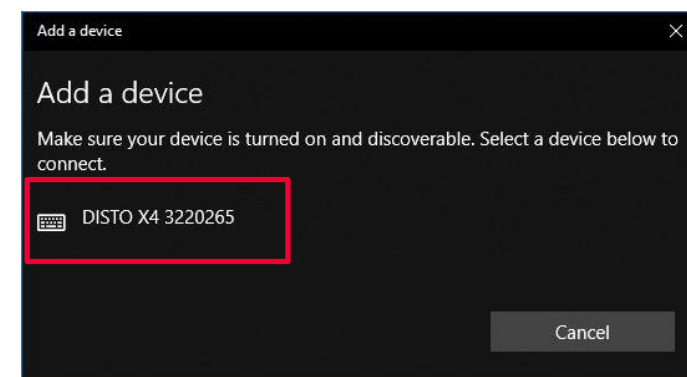
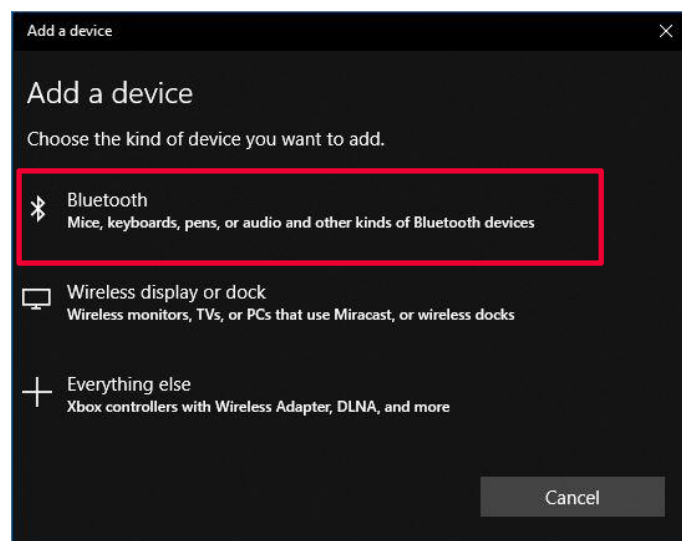
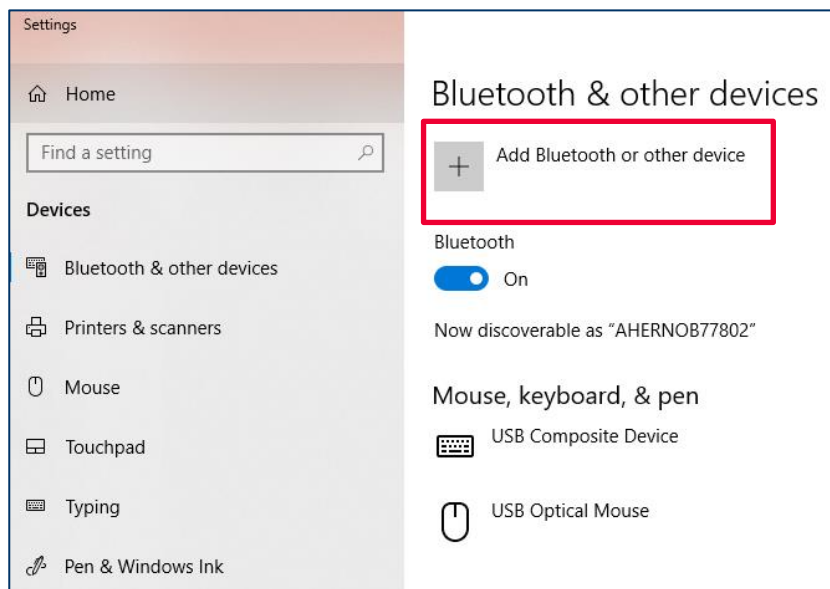
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Bluetooth Connection



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

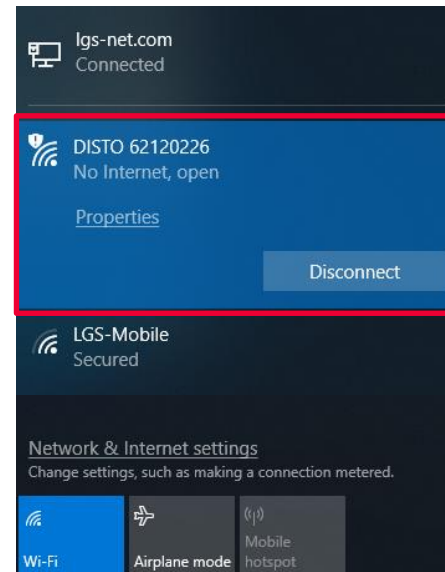
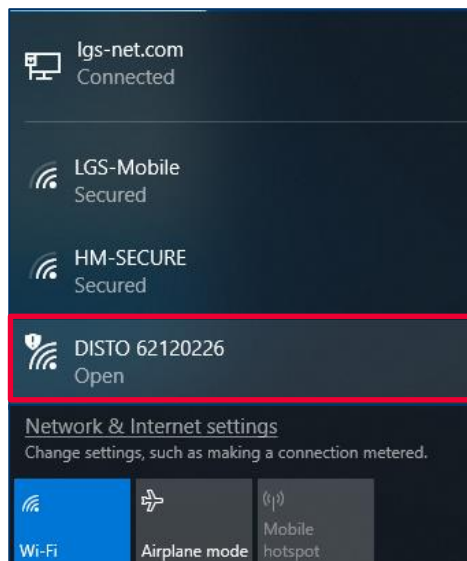


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Wi-Fi Connection



- 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>)

- when it has to be **right**

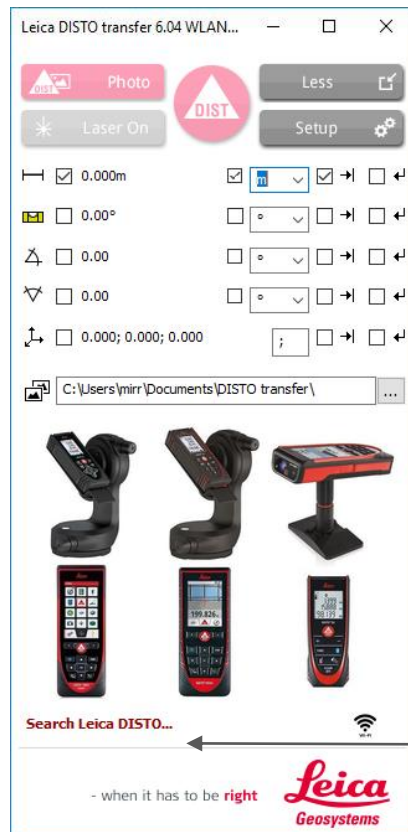
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Start screen – Connection Status



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



Looking for DISTO™



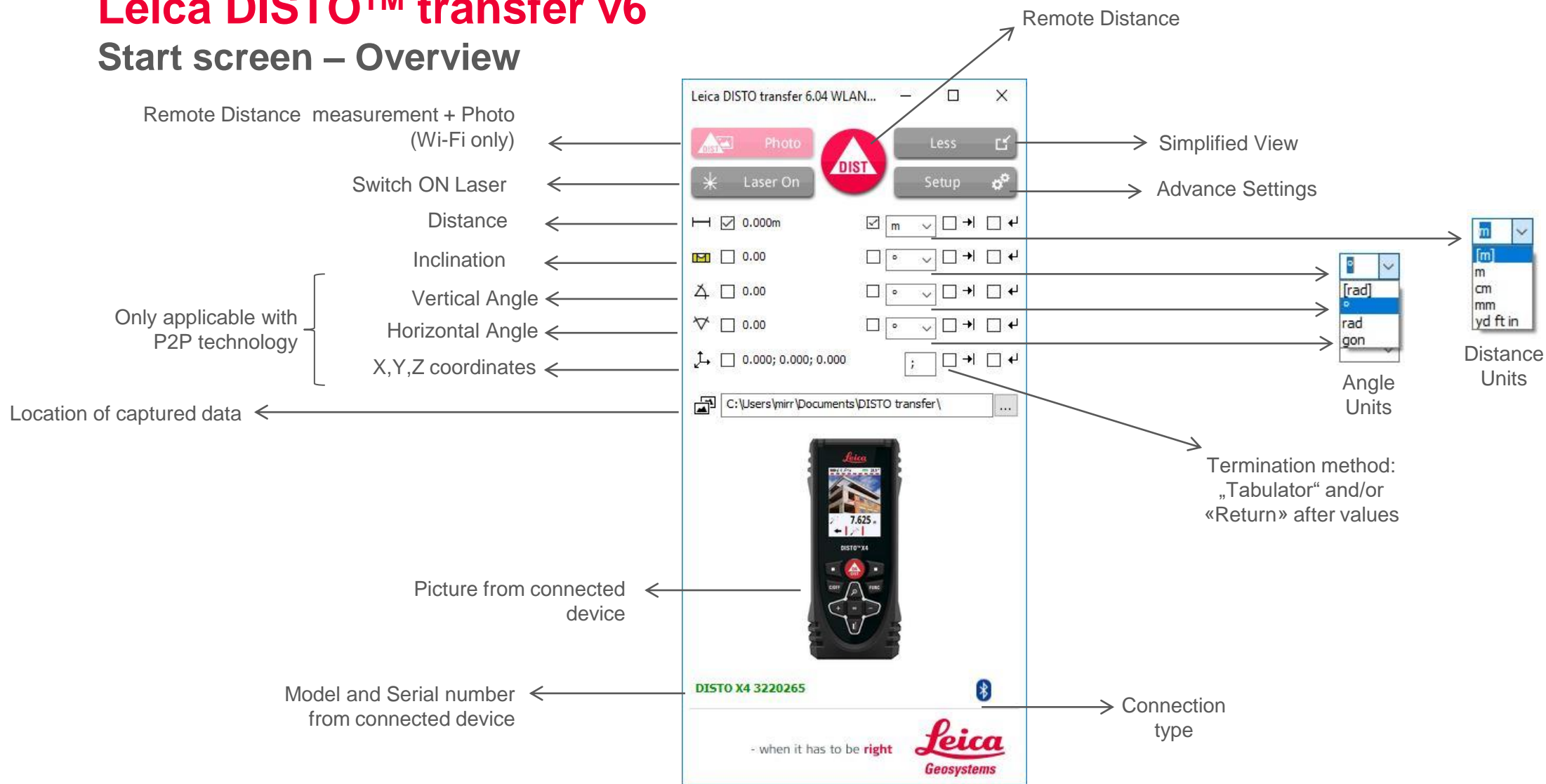
DISTO™ connected

- 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

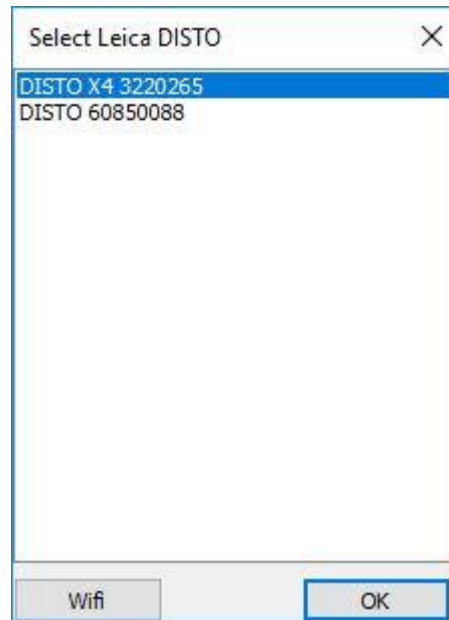


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Start screen – Overview



- 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

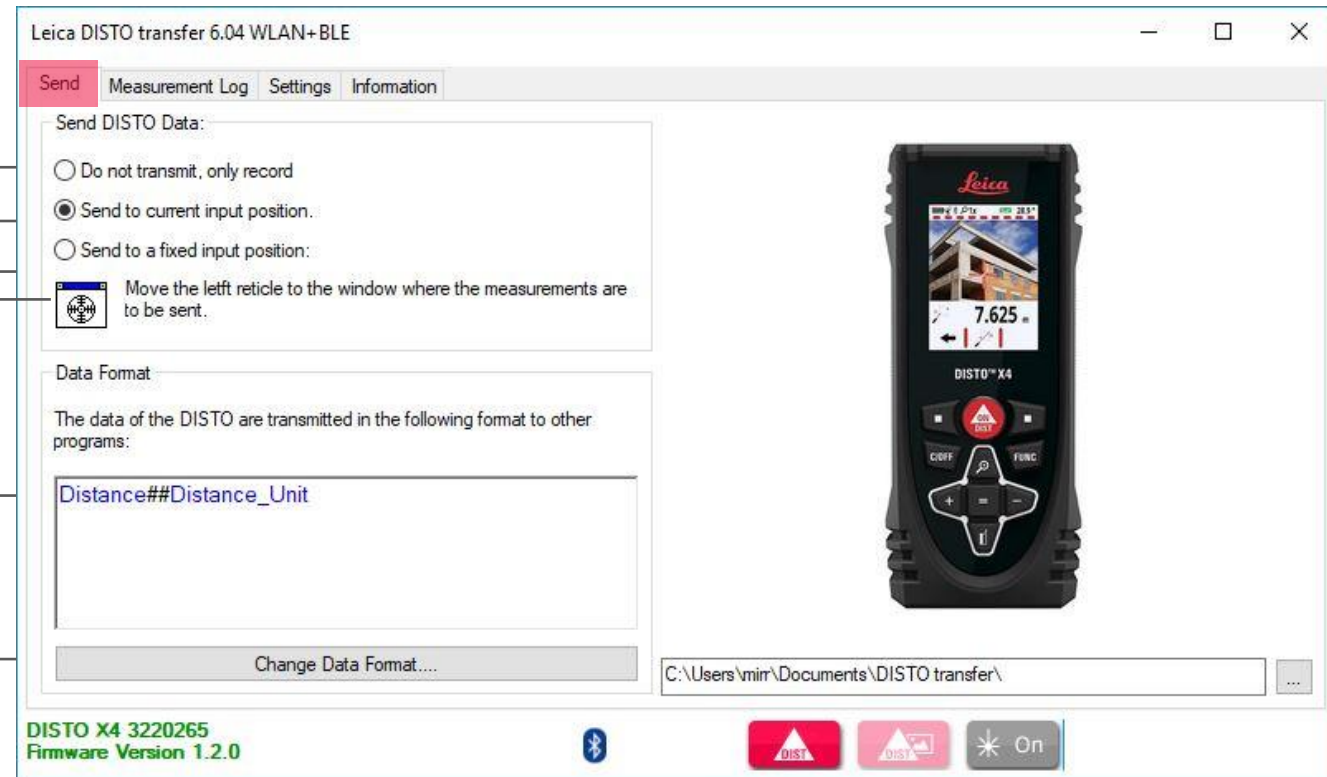
Measurements sent to active window

Measurements sent to a pre-selected window

Window selection

Characteristics sent to other programs

Customized Data Format
(see next page)



- when it has to be right

Leica DISTO™ transfer v6

Basic Measurement Process



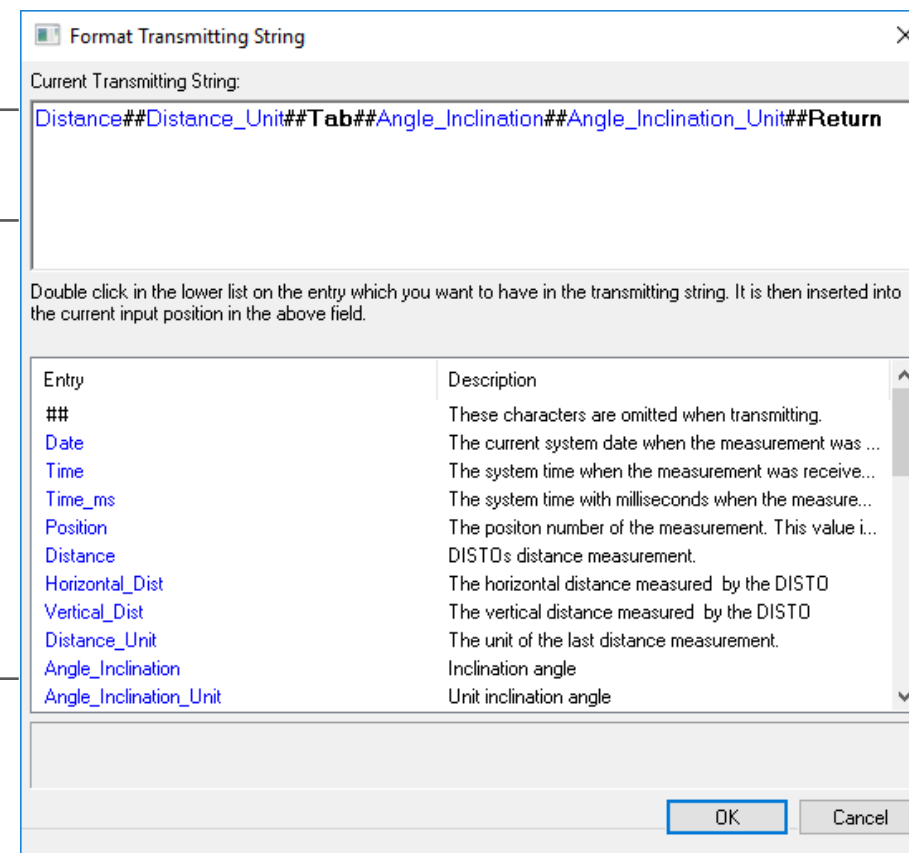
In this scenario the following characteristics will be sent:
Distance, Distance unit, Inclination, Inclination Unit

Active Configuration Window

Blue: Value format
Separators
Black Control Signs

Separators are mandatory between every item

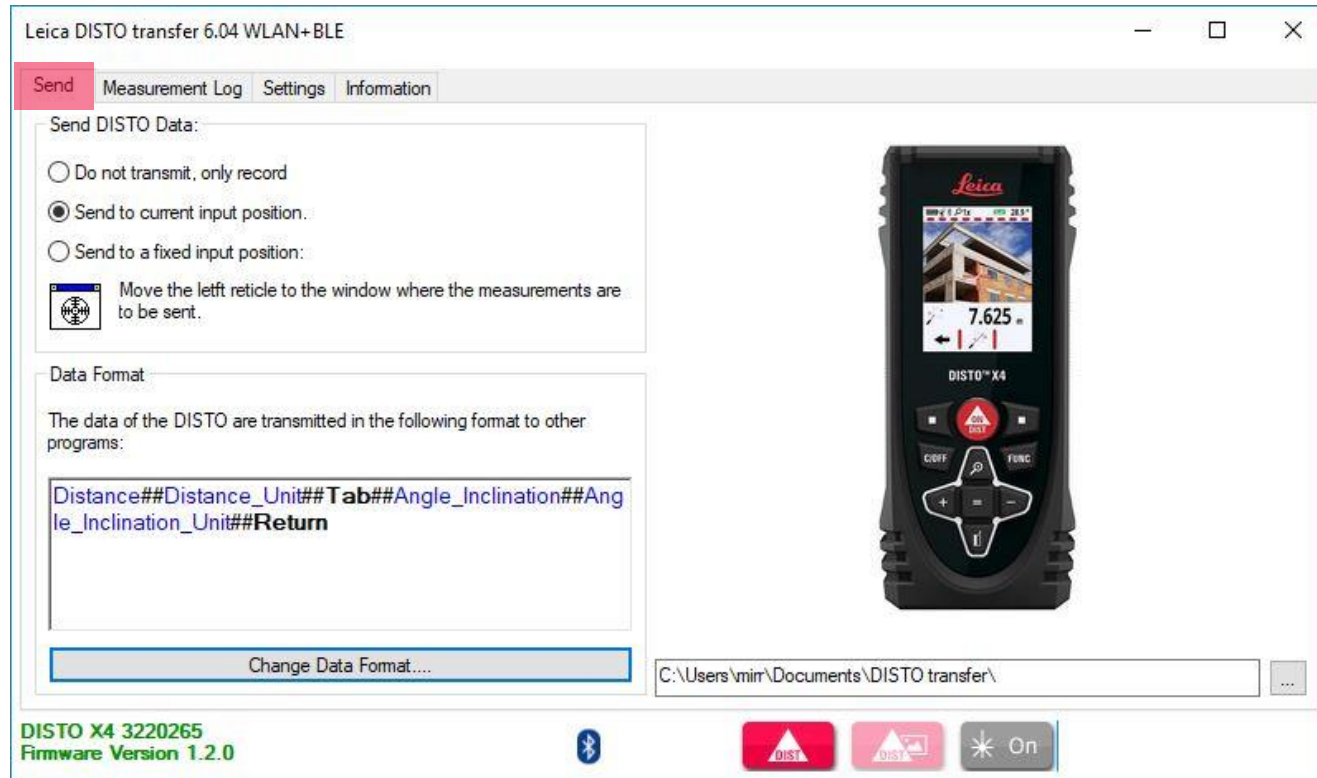
Double click on the item in this list to
move it into the active configuration



- 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
(with P2P measurements)

Accuracy of measurement



Measurement record ←

Photo only available for Wi-Fi connection ←

Open Microsoft Excel ←

3D Viewer & P2P Calculator ←

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

Free station function →

New Set Up function →

Nr.	Time	Photo	Distance [m]	Area [m²]	Volume [m³]	Inclination [°]	V [°]	Hz [°]	X [m]	Y [m]	Z [m]	Accuracy [mm]
1	12:24:29	<input type="checkbox"/>	4.4798				63.985	206.718	-0.0364	0.0406	0.0037	4.2
2	12:24:39	<input type="checkbox"/>	4.5160				64.098	274.018	0.0193	-4.4382	0.0116	4.2
3	12:24:50	<input type="checkbox"/>	3.5216				55.996	353.231	-4.4906	-4.9011	0.0079	3.4
4	12:25:01	<input checked="" type="checkbox"/>	3.1475				52.218	121.866	-4.5705	-0.0316	-0.0334	3.0

DISTO S910 21430051
Firmware Version 3596

Excel... 3D... Point Distances... Send Selected Items Free station... New Set Up

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Nr.	Time	Photo	Distance [m]	Area [m²]	Volume [m³]	Inclination [°]	V [°]	Hz [°]	X [m]	Y [m]	Z [m]	Accuracy [mm]	
2	1	12:24:29	0	4.4798				63.985	206.718	-0.0364	0.0406	0.0037	4.2	
3	2	12:24:39	0	4.516				64.098	274.018	0.0193	-4.4382	0.0116	4.2	
4	3	12:24:50	0	3.5216				55.996	353.231	-4.4906	-4.9011	0.0079	3.4	
5	4	12:25:01	1	3.1475				52.218	121.866	-4.5705	-0.0316	-0.0334	3	

- when it has to be right

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P2P Measurement Process

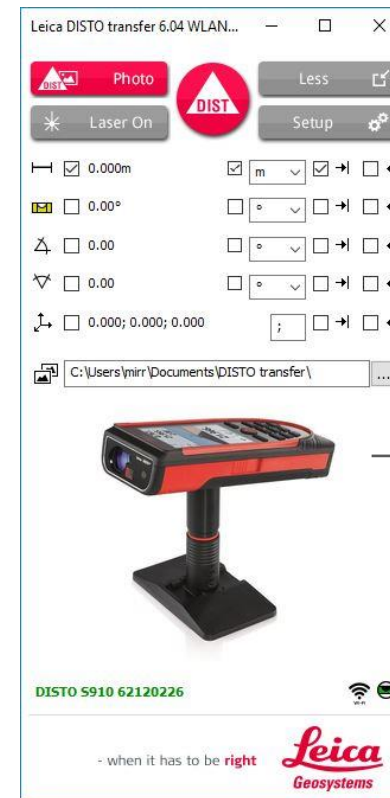


- To perform P2P Measurements, a DST360 adapter is required or the Smart Base from the DISTO™ S910 must be folded down.



→ DISTO™ X4 + DST360
or
DISTO™ X3 + DST360

→ Connection type
Levelling status



→ DISTO™ S910

→ Connection type
Levelling status

- when it has to be right

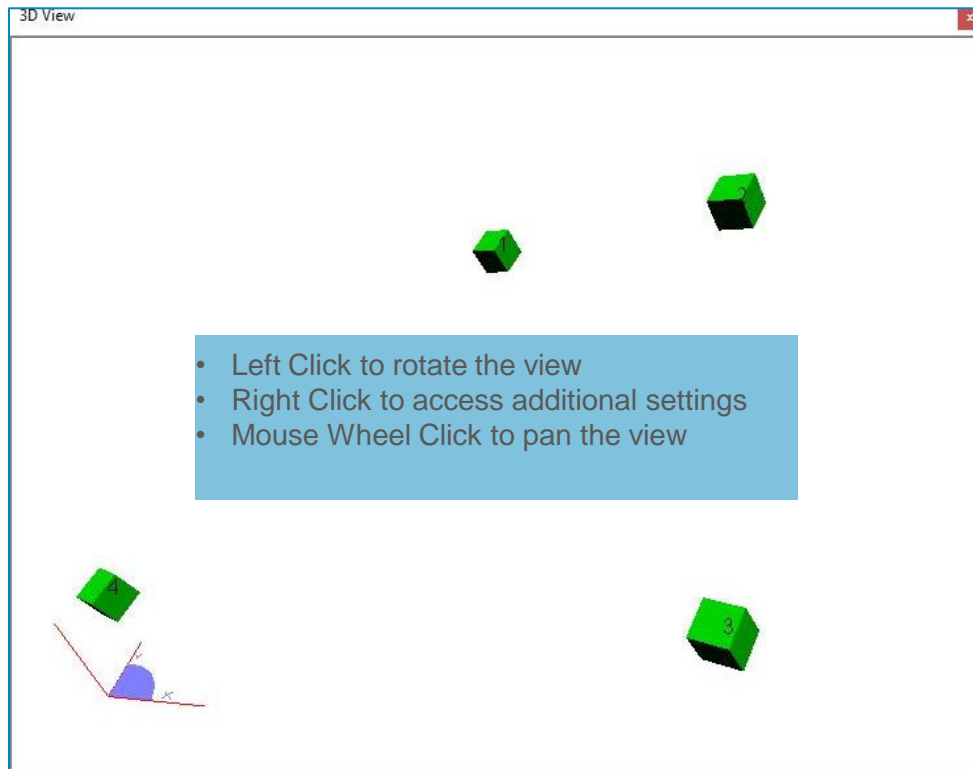


Leica DISTO™ transfer v6

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**

Leica DISTO™ transfer v6

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.

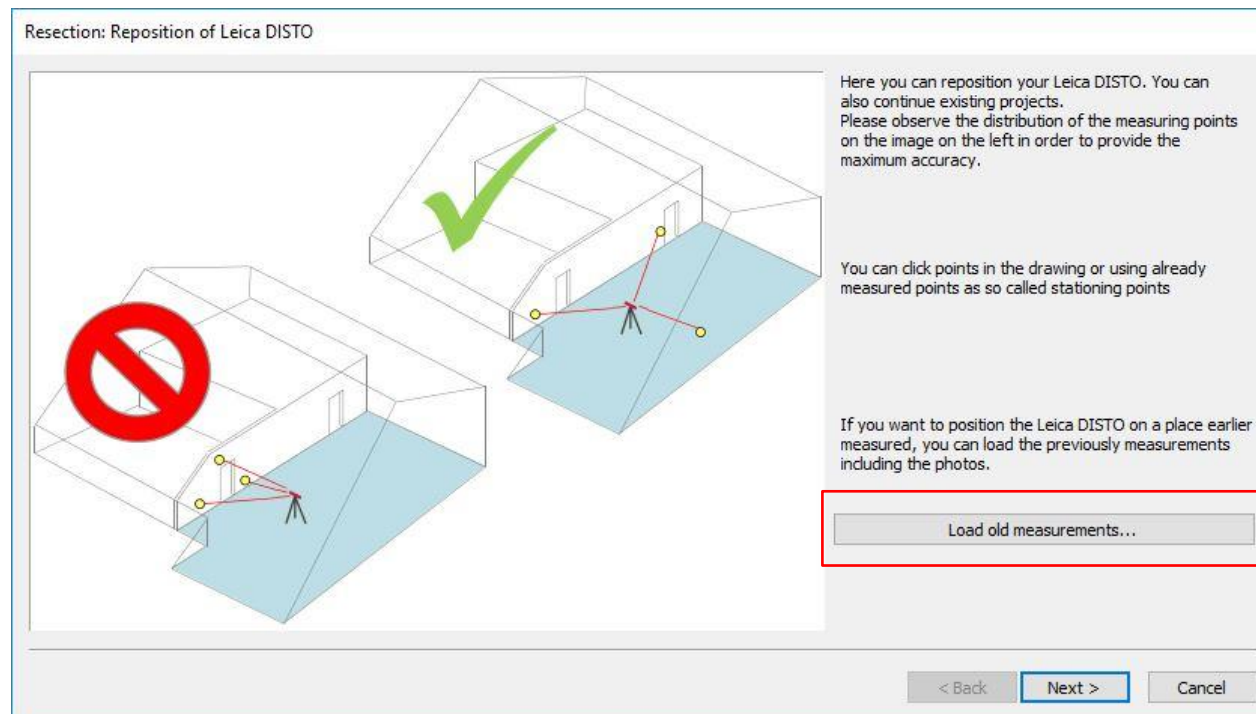


Leica DISTO™ transfer v6

Free Station



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

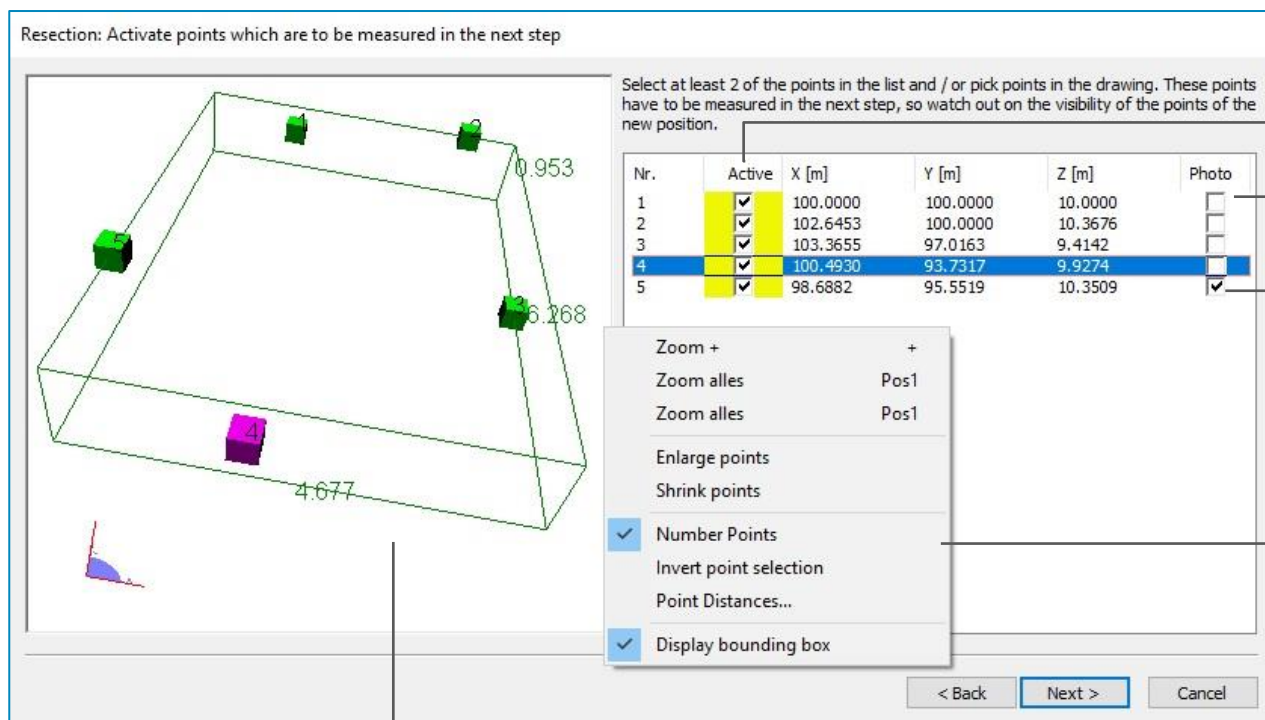


Leica DISTO™ transfer v6

Free Station



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



→ Active points

→ Point without photo associated

→ Point with photo associated

3D Viewer

- when it has to be right

Leica DISTO™ transfer v6

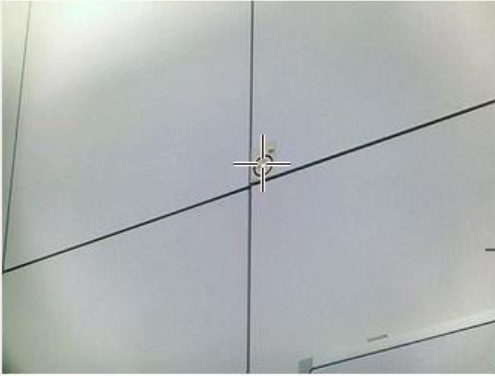
Free Station



- 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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New Set Up

- New Set Up function allows the user to define a new set-up (for example to measure another room) and continue with the measurements without a need to restart the DISTO™ transfer
- Current measurements and coordinate system will be deleted
- Requires a DST360 adapter or the Smart Base from the DISTO™ S910 must be folded down.



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New Set Up



- When selecting New Set Up function a new coordinate system will be created.
- The next 2 measurements define a new X axis.

Leica DISTO transfer 6.21 WLAN+BLE

Send Measurement Log Settings Information

Nr.	Time	Photo	Distance [m]	Area [m²]	Volume [m³]	Inclination [°]	V [°]	Hz [°]	X [m]	Y [m]	Z [m]	Accuracy [mm]
1	12:24:29	<input type="checkbox"/>	4.4798				63.985	206.718	-0.0364	0.0406	0.0037	4.2
2	12:24:39	<input type="checkbox"/>	4.5160				64.098	274.018	0.0193	-4.4382	0.0116	4.2
3	12:24:50	<input type="checkbox"/>	3.5216				55.996	353.231	-4.4906	-4.9011	0.0079	3.4
4	12:25:01	<input checked="" type="checkbox"/>	3.1475						-0.0316	-0.0334		3.0

Distotransfer

Start new position.

Attention: The existing orientation of the DISTO is lost and a new coordinate system is created.
A new X axis is defined with the next two measurements.

OK Cancel

Excel... 3D... Point Distances... Send Selected Items Free station... New Set Up

DISTO S910 21430051
Firmware Version 3596

Leica DISTO™ transfer v6

New Set Up



- Continue with the measurements in the new set-up






Leica DISTO transfer 6.21 WLAN+BLE

Send Measurement Log Settings Information

Nr.	Time	Photo	Distance [m]	Area [m²]	∠	Volume [m³]	Inclination [°]	V [°]	Hz [°]	X [m]	Y [m]	Z [m]	Accuracy [mm]
1	12:50:43	<input checked="" type="checkbox"/>	2.8550					89.109	188.647	0.0000	0.0000	0.0000	2.8
2	12:50:58	<input checked="" type="checkbox"/>	3.4271					91.595	239.000	2.7213	-0.0000	-0.1398	3.3
3	12:51:11	<input checked="" type="checkbox"/>	4.9872					79.161	340.150	4.0236	-6.3649	0.8934	4.6
4	12:51:29	<input checked="" type="checkbox"/>	2.7026					88.200	123.949	-1.9494	-2.2480	0.0405	2.7

Excel... 3D... Point Distances... Send Selected Items Free station... New Set Up

DISTO S910 21430051
Firmware Version 3596

Leica DISTO™ transfer v6

CAD Plugin



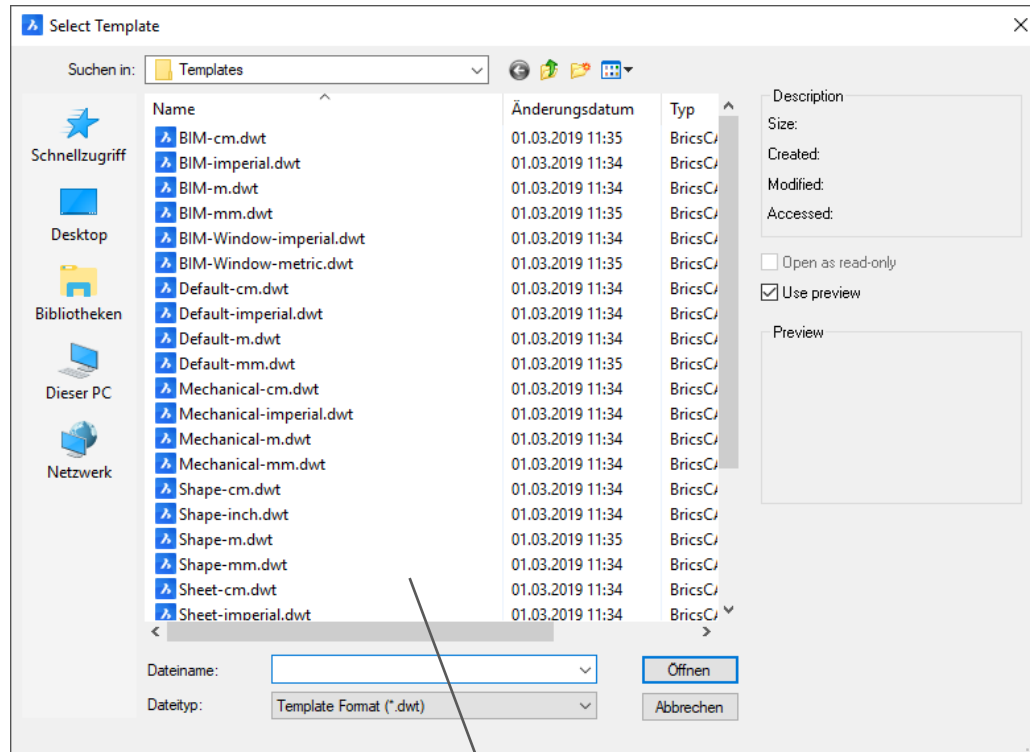
- Set-up your DISTO™ S910 – Smart Base folded down and Wi-Fi turned ON
- Alternatively you can use a DISTO™ X3/X4 mounted on a DST360 adapter
- Open AutoCAD/BricsCAD → Start a new drawing and ensure that your CAD drawing has got the correct Unit system
- Make sure the DISTO™ transfer has been installed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

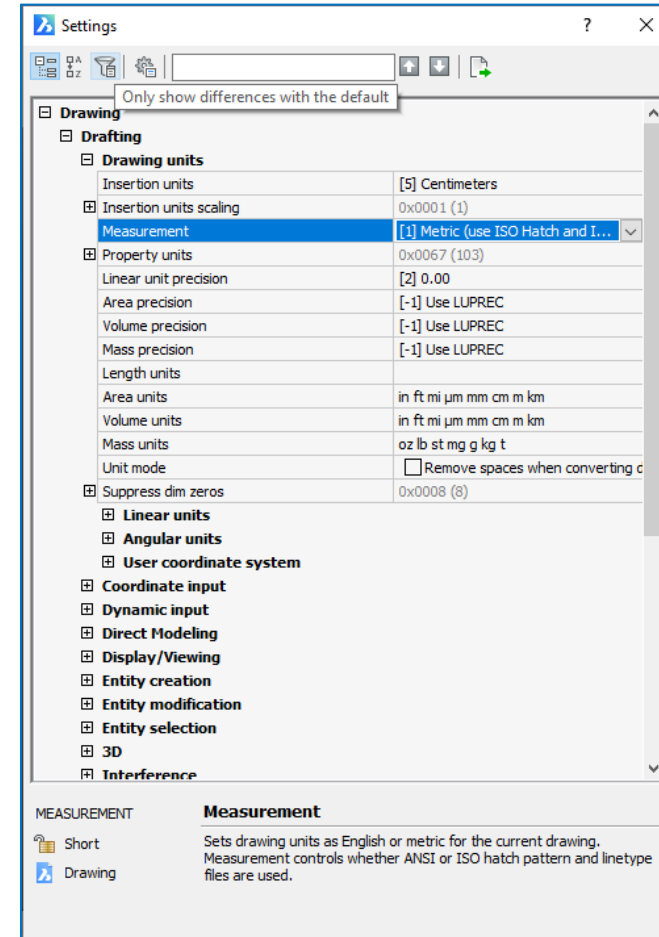


- when it has to be **right**

Leica DISTO™ transfer v6 CAD Plugin



Star a new drawing by selecting an existing CAD template

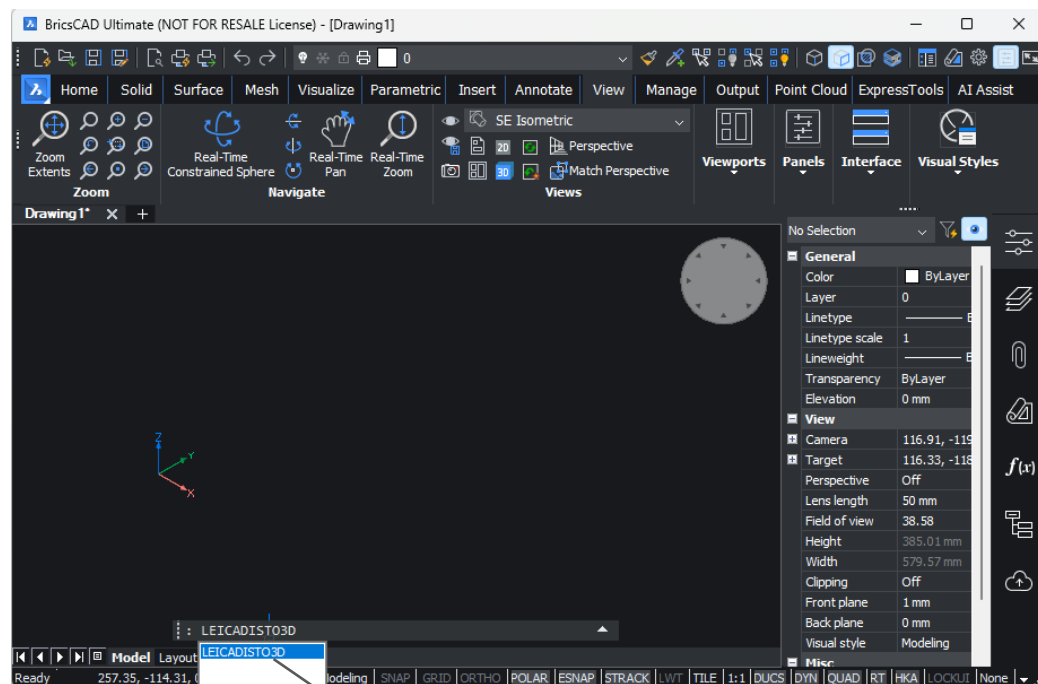


Adjust Unit system:

- 1) Toolbar
- 2) Settings
- 3) Drawing / Drafting / Drawing units
- 4) Set your preferred Unit System

- when it has to be right

Leica DISTO™ transfer v6 CAD Plugin

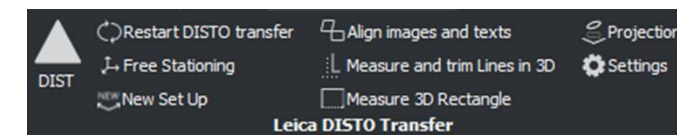


To start the plugin please enter **LEICADISTO3D** into the command line

Leica DISTO™ Transfer



The plugin starts automatically

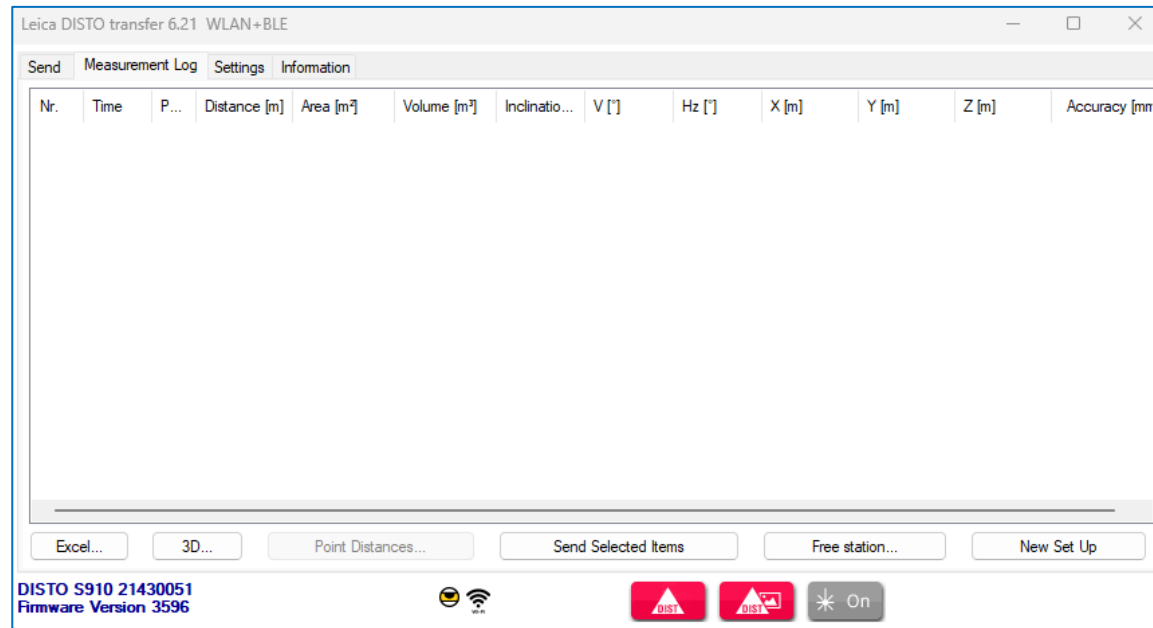


Plugin toolbar will appear and DISTO™ transfer will start

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Leica DISTO™ transfer v6 CAD Plugin

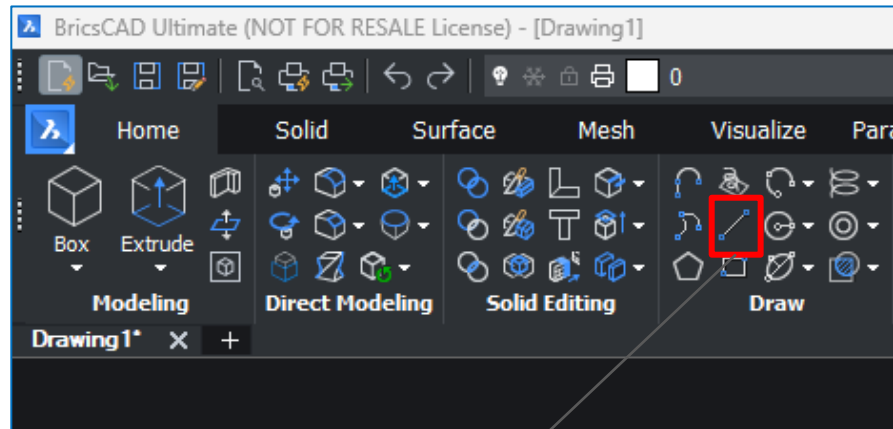


Execute the levelling process
on your DISTO™

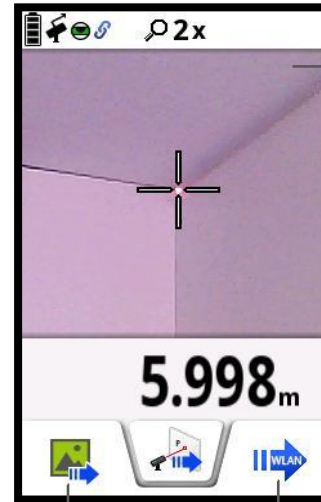
- when it has to be right

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



	C...	Layer Name	Descript...	On/Off	Fre...	Loc...	Color
1		0					RGB:223,223,223
2		Defpoints					White
3		DISTO_PHOTO					8
4		DISTO_POINTS					Magenta
5		people					White

Collected data is organised by layers

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CAD Plugin



Restart DISTO transfer

Free Stationing

New Set Up

Align images and texts

Measure and trim Lines in 3D

Measure 3D Rectangle

Projection

Settings

Leica DISTO Transfer

Restarts DISTO™ transfer

Align images and texts

Projection

Free Station

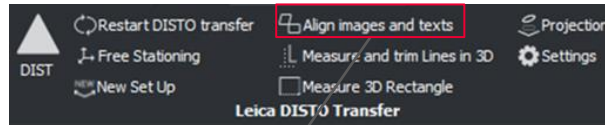
Measure and trim Lines

Settings for Text and Images

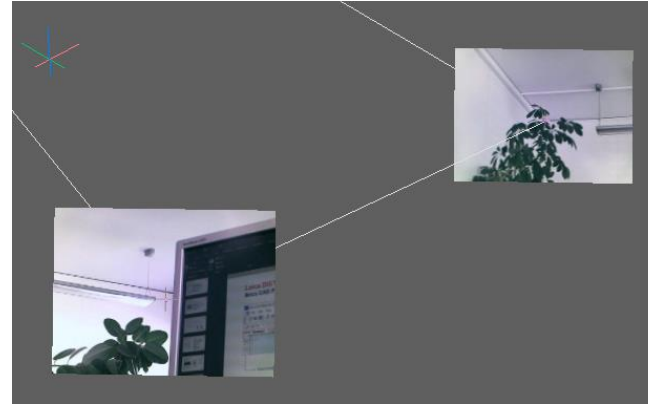
New Set Up

Measure 3D Rectangle

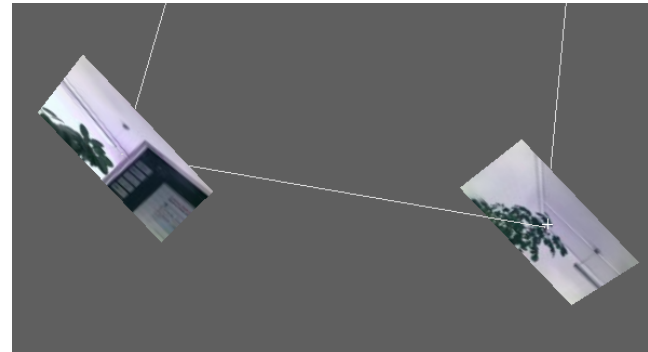
Leica DISTO™ transfer v6 CAD Plugin



Auto Align Images and Texts



- Default view (Images are aligned)

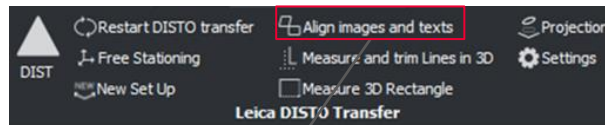


- When the view is changed, the Images are no longer aligned

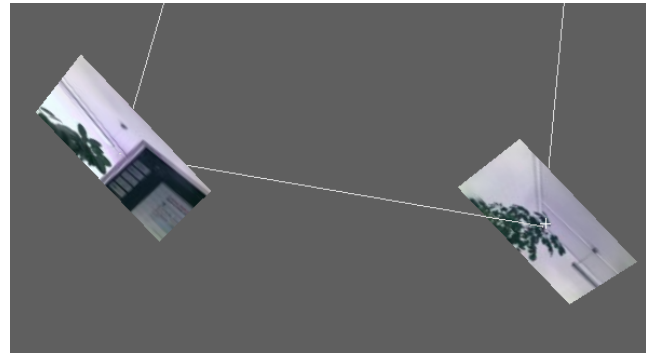
- when it has to be **right**

Leica DISTO™ transfer v6

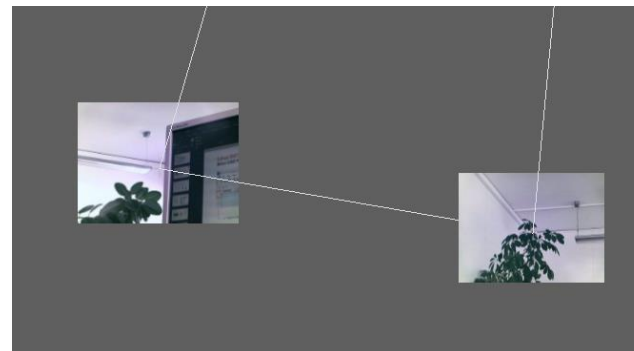
CAD Plugin



Auto Align Images and Texts



- Press Align images and texts button and select one of the following options:
 - 1) All
 - 2) Individual Image

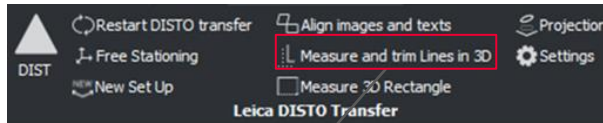


- Image and Text are now aligned with the current view

- when it has to be **right**

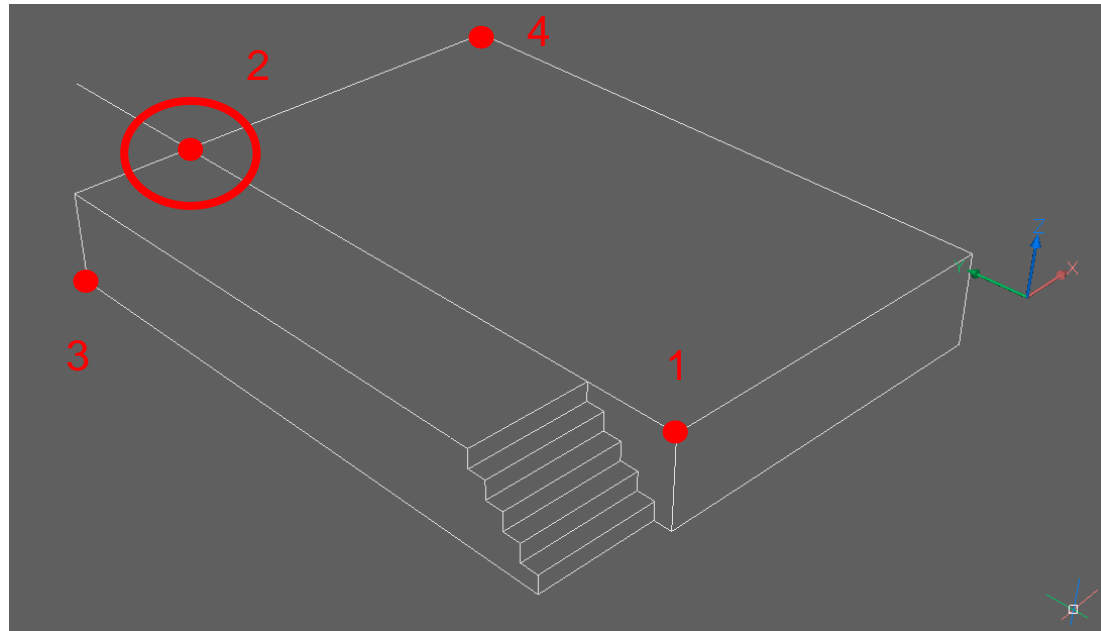
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CAD Plugin



Measure and trim Lines in 3D

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

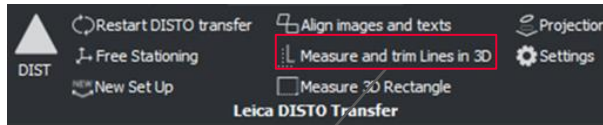


In 3D space two lines most likely won't meet

- when it has to be **right**

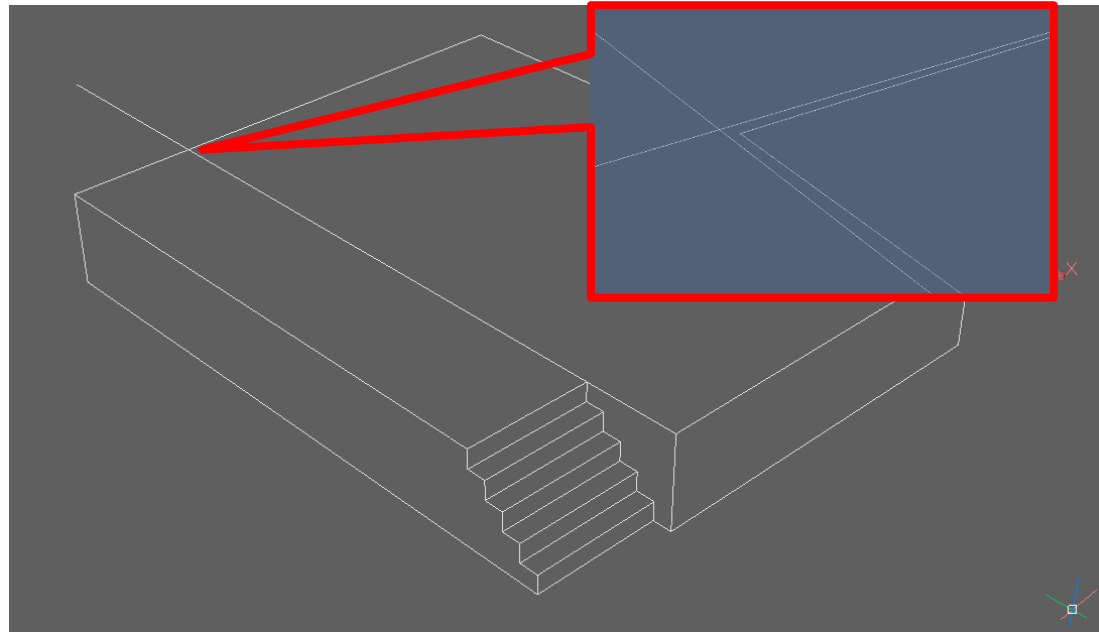
Leica DISTO™ transfer v6

CAD Plugin



Measure and trim Lines in 3D

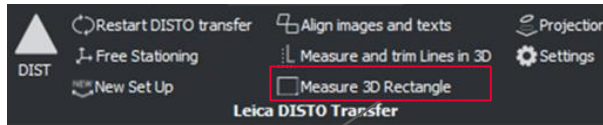
Press Enter to quit function and type in “yes” to draw the remaining element



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

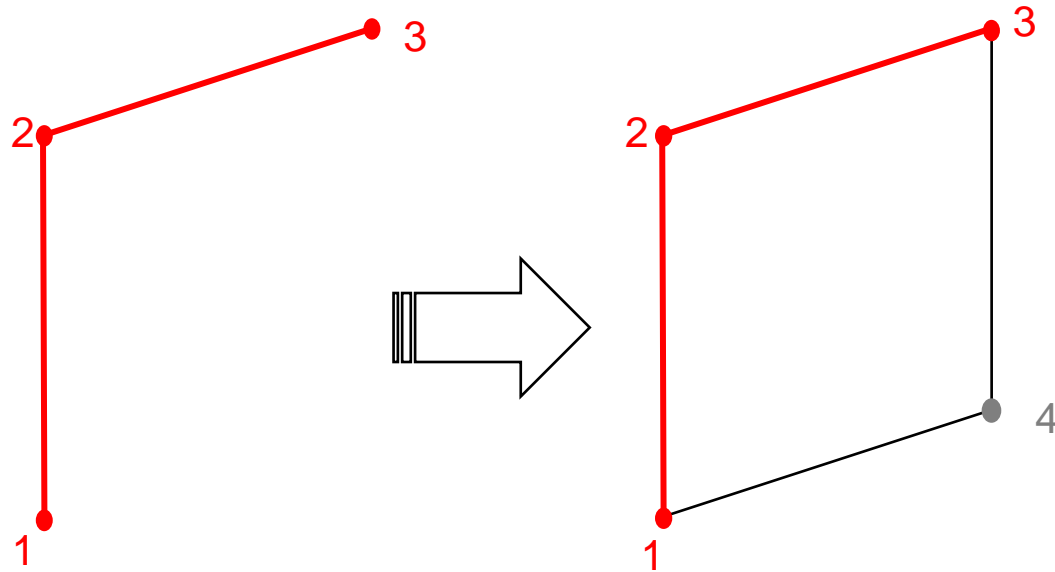
- when it has to be right

Leica DISTO™ transfer v6 CAD Plugin



Measure 3D Rectangle

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

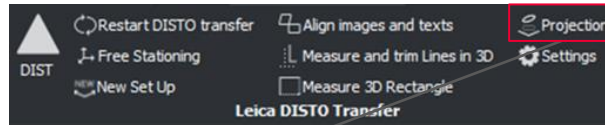


Automatically drawn lines and remaining point is added

- when it has to be **right**

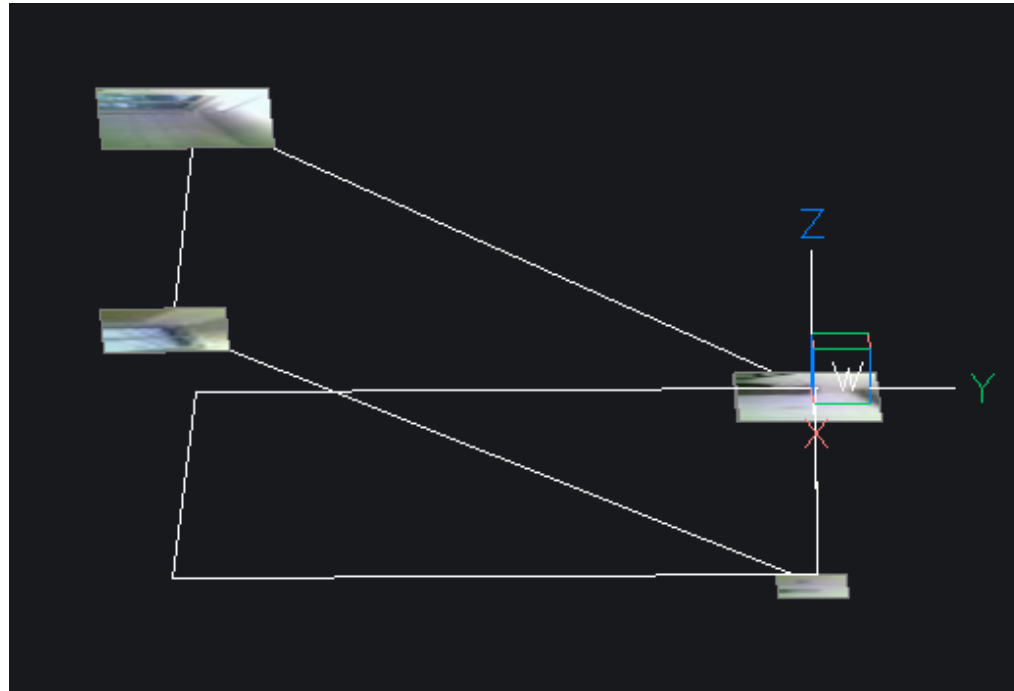
Leica DISTO™ transfer v6

CAD Plugin



Projection

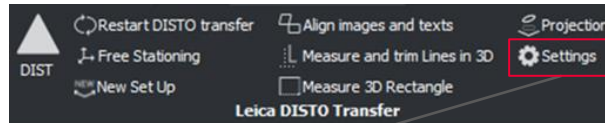
Start the Projection function in the toolbar and select points that should be projected. Points from various measured heights will be projected onto a common horizontal plane.



- when it has to be **right**

Leica DISTO™ transfer v6

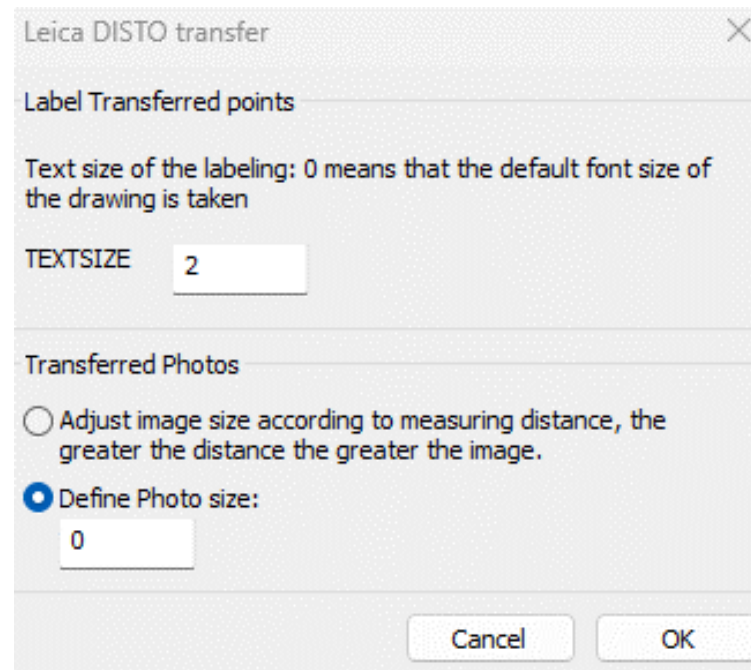
CAD Plugin



Settings

Adjust the text and image size

TEXTSIZE is a relative value, that matches your drawing settings

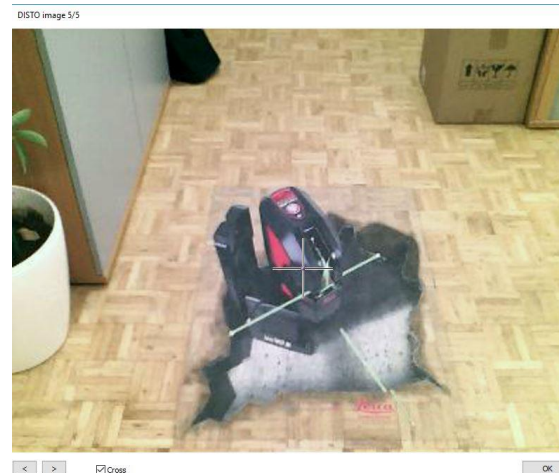
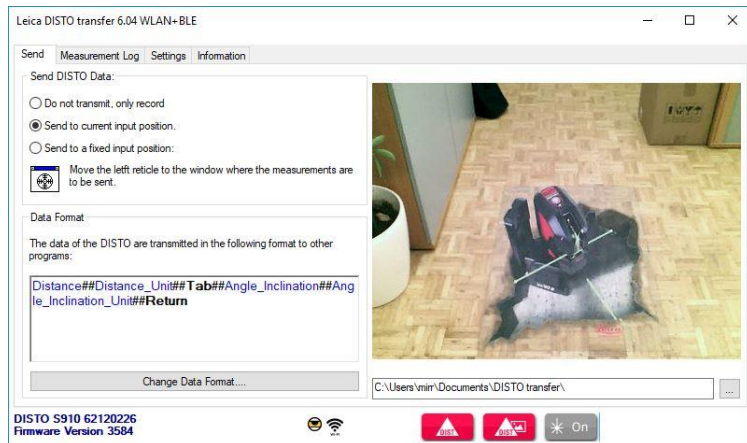


Leica DISTO™ transfer v6

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 43)

Start-up Configuration ←

Decimal Separator ←

Shortcuts ←

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 DIST On

→ Automatic Measurements

→ Imperial Data Format Configuration (see next page)

Leica DISTO™ transfer v6

Settings



- Imperial Data Format Configuration

ft in 1/4: 3' 5" 3/4
ft in 1/32: 3' 5" 7/8
ft in 1/16: 3' 5" 7/8
ft in 1/8: 3' 5" 7/8
ft in 1/4: 3' 5" 3/4
ft.decimal: 3.4890 ft
in.decimal: 41.868 in
yd.decimal: 1.1630 yd
ft in 1/32: 3' 5" 7/8
ft in 1/16: 3' 5" 7/8
ft in 1/8: 3' 5" 7/8
ft in 1/4: 3' 5" 3/4
ft.decimal: 3.4890
in.decimal: 41.868
yd.decimal: 1.1630

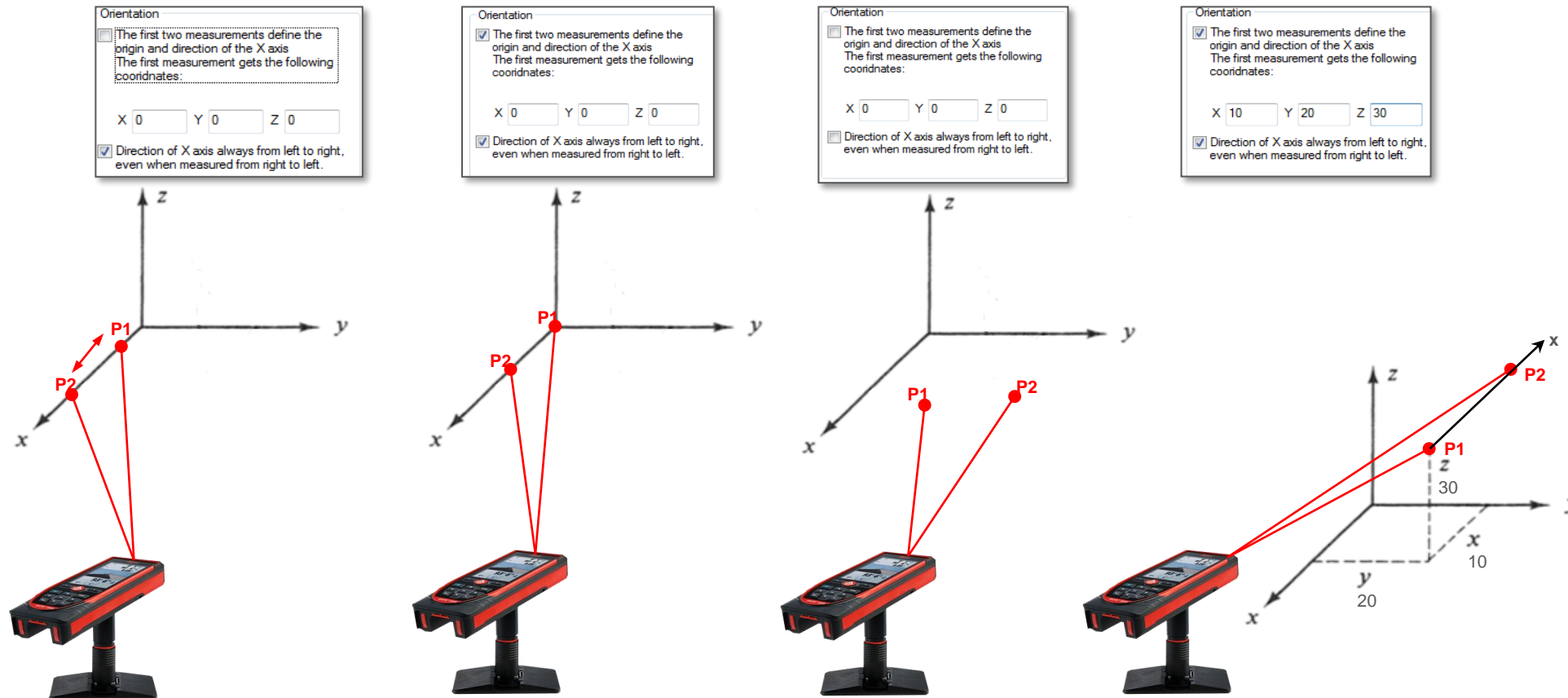
Distance Unit set on DISTO™ device	Imperial Format set on DISTO™ transfer	Transmitted result
0 1/8in	ft in 1/32: 3' 5" 7/8	3' 5" 7/8
	ft in 1/16: 3' 5" 7/8	3' 5" 7/8
	ft in 1/8: 3' 5" 7/8	3' 5" 7/8
	ft in 1/4: 3' 5" 3/4	3' 5" 3/4
	ft.decimal: 3.4890 ft	3.4890 ft
	in.decimal: 41.868 in	41.868 in
	yd.decimal: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

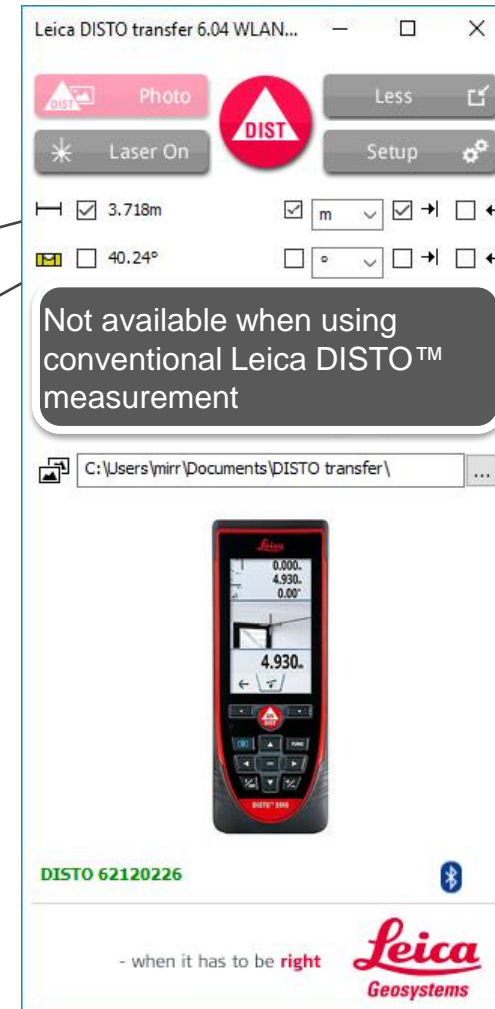
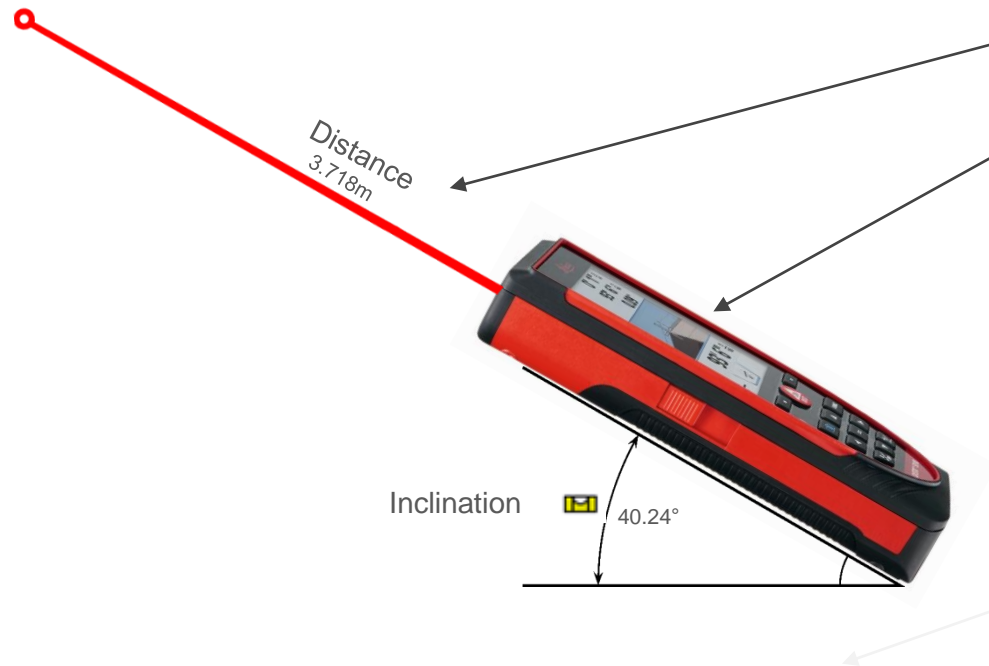


Battery Voltage

- when it has to be right

Leica DISTO™ transfer v6

Good to Know



- when it has to be right

Leica
Geosystems

Leica DISTO™ transfer v6

Good to Know


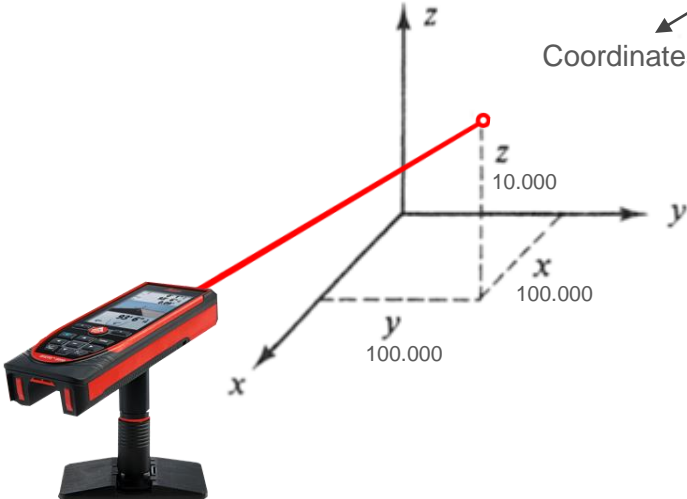
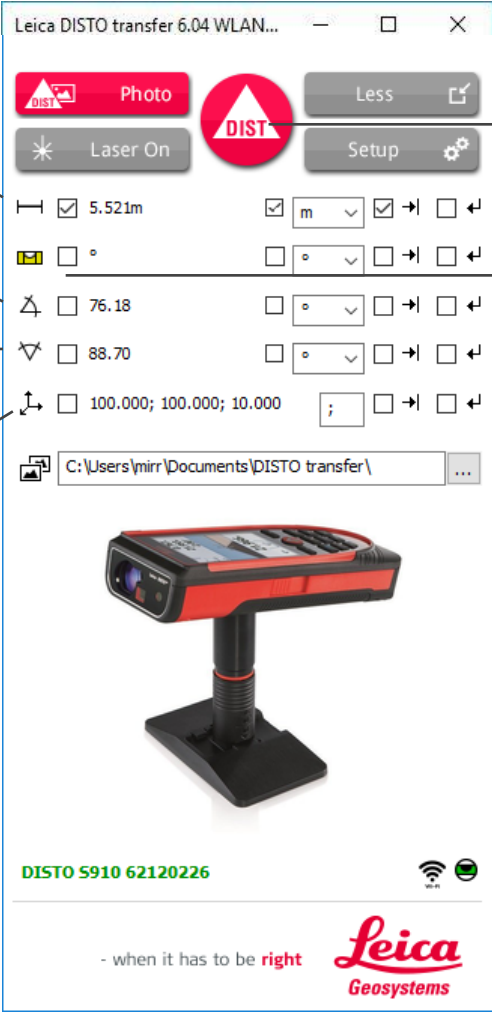


Diagram illustrating the Leica DISTO transfer v6 device mounted on a tripod, showing measurement parameters:

- Distance: 5.521m
- Vertical Angle: 76.18°
- Horizontal Angle: 88.70°



Coordinates (x;y;z): 100.000, 100.000, 10.000



Leica DISTO transfer 6.04 WLAN... interface showing measurement settings and status:

- Buttons: Photo, Laser On, DIST, Less, Setup
- Measurement Data:
 - 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: - when it has to be right
- Leica Geosystems logo

Triggers remote measurement

When using P2P, the inclination value is ONLY transmitted when a remote measurement is made.

Horizontal and Vertical information correct

No horizontal and vertical correction

- when it has to be right

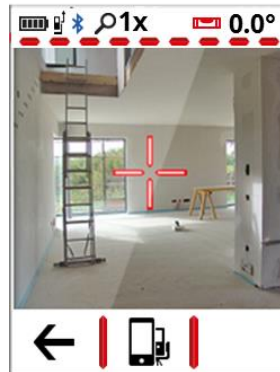
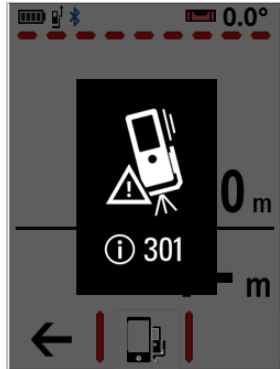
Leica
Geosystems

Leica DISTO™ transfer v6

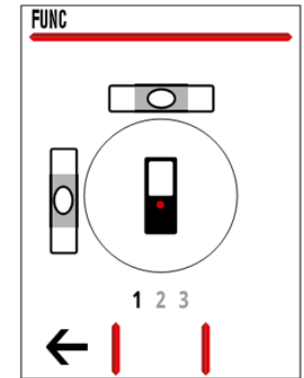
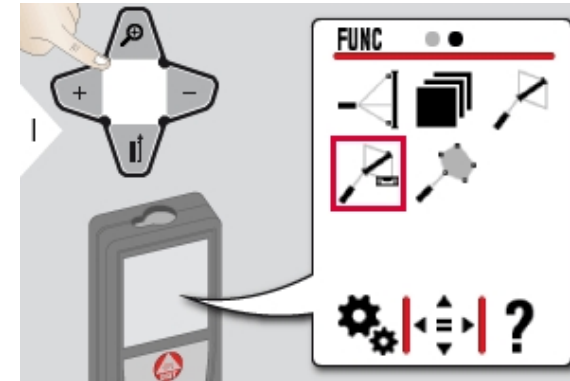
Good to Know



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**