Leica 3D Disto

Tutorial
Installation with «Projector»

PART OF HEXAGON

- when it has to be **right**

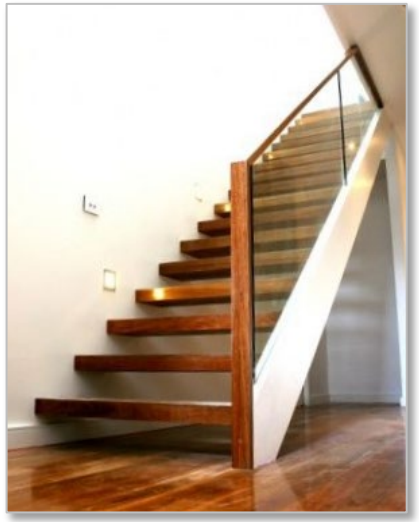
Leica Geosystems

Installation with «Projector»

Projector for components

This is a guide how to position construction components, using the exemple of a stair.

It is a special case, but the Leica 3D Disto's Projector application handles it well.



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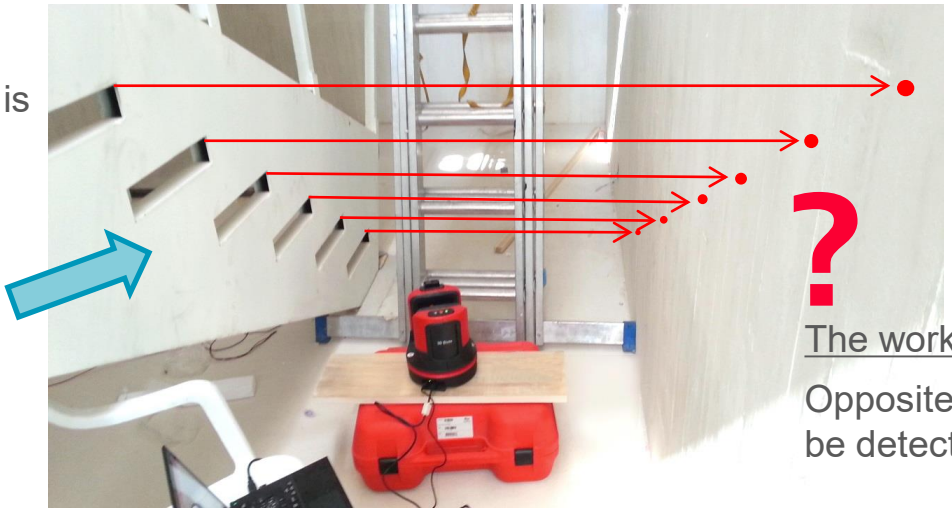
Task and setup

The reference:

A stair string which is mounted at a fix position.



The working area:

Opposite positions on the wall must be detected for fixation.

Step 1:

Find a good position, not too close to the surfaces (≥ 50 cm); the laser should hit the surfaces frontal. A tripod or a chair can help.

The setup must not necessarily be between string and wall.

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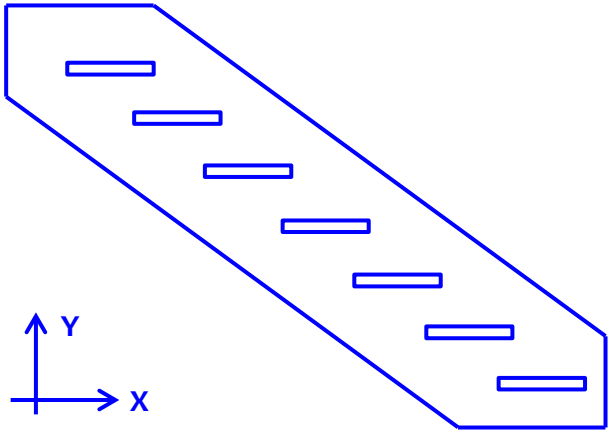
Prepare component data

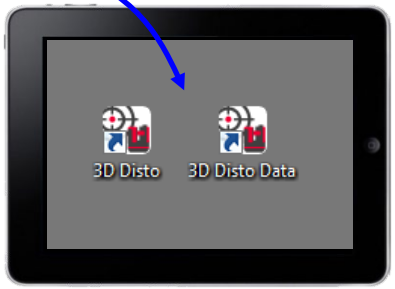


Step 2:

First of all you need the data of the stair string.

This can be CAD design data or a 3D Disto's as-built measurement.

DXF



- Generate a DXF or CSV file: X/Y only, no Z, no 3D-data
- copy to the 3D Disto Data/import folder on the desktop

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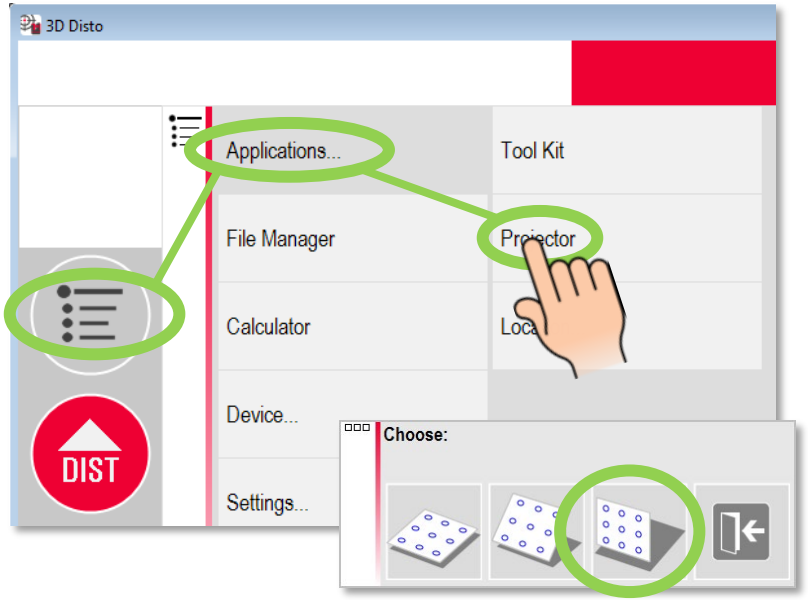
Start Projector application



Select option “vertical”.

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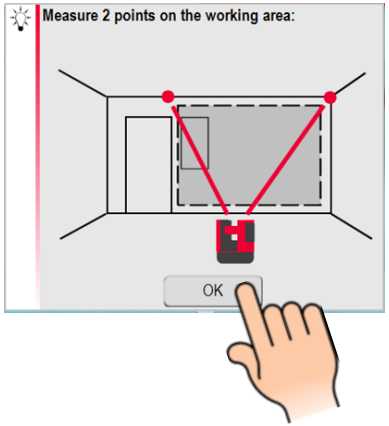
Measure the reference

An assistant popup prompts to measure two points on the working area.

You have selected the “vertical surface” option. Now the 3D Disto needs to know where this surface is.



In our special case the reference (stair string) and projection surface (wall) are not identical but the projection will work anyway.

Press OK to close the popup.

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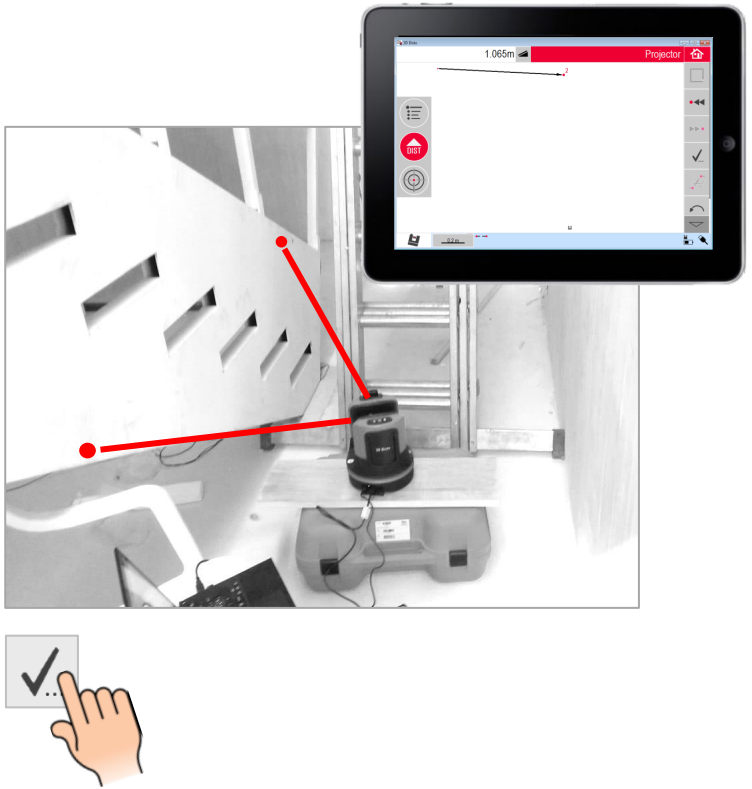
Measure the reference

Step 3:

Measure two approximately horizontal points on the component - far apart from each other for good accuracy.

Now the 3D Disto knows the reference's position and in what direction the projection will go.

Press the checkmark to continue.



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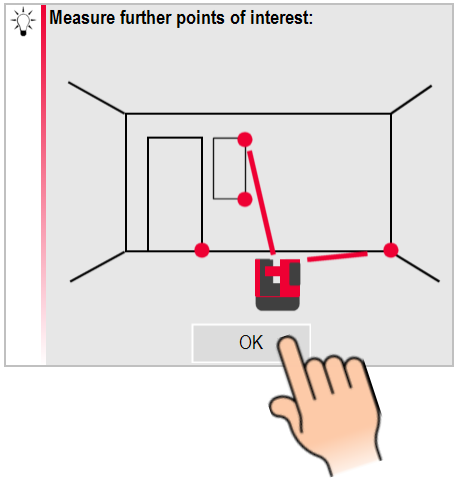
Measure corresponding as-built and design points

An assistant prompts to measure further points of interest.

These will be used to place the DXF data to the correct position before projection.

Press OK to close the popup.



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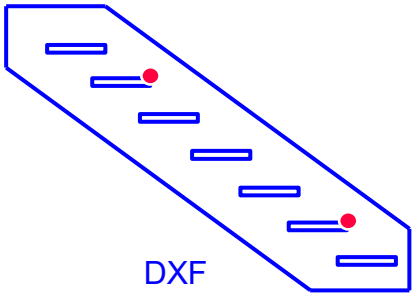
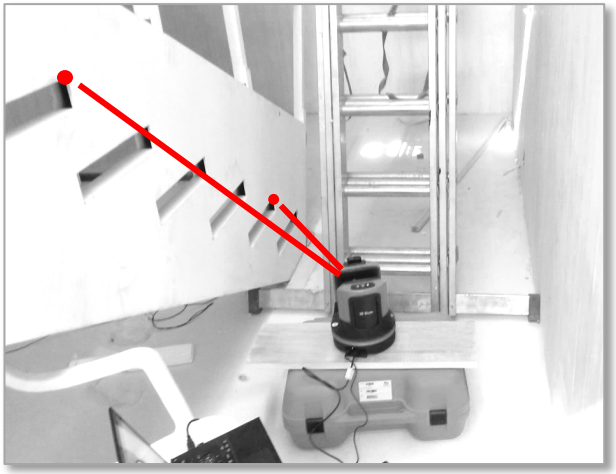
Measure corresponding as-built and design points





Step 4:

Measure at least two points on the object. These points must be in the DXF file. Measure more if you intend to check some expected irregularities before projection.

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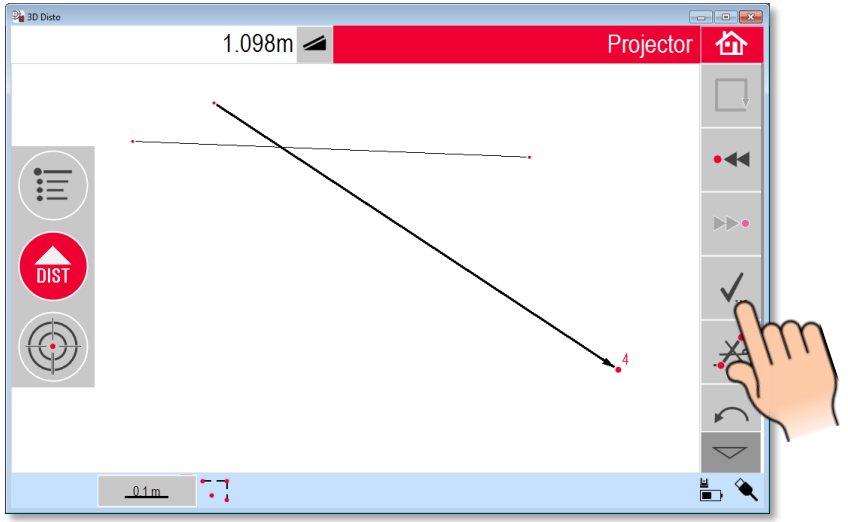
Measure corresponding as-built and design points

On the screen you have the horizontal line which indicates the position of the reference; the diagonal line connects two characteristical object points.

Optional (not necessary): Use the Cut Line tool to keep the points and delete lines. Draw or delete in the sketch like usual.



Press checkmark if all relevant object points of interest are measured.

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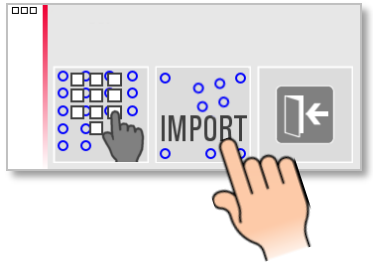
Import the design data

Step 5: Data import

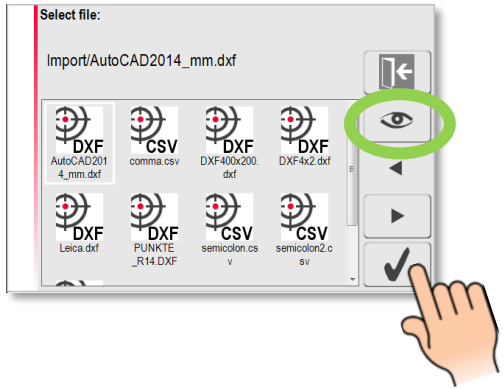
A popup offers options to define a grid or to import a file.

Press IMPORT key.



Select the DXF file from the list. Use VIEWER to check content and dimensions (on top of the viewer. If dimensions are wrong, adapt the unit settings in the menu to the DXF file's units)

Press checkmark.



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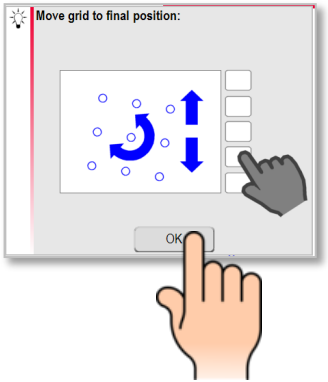
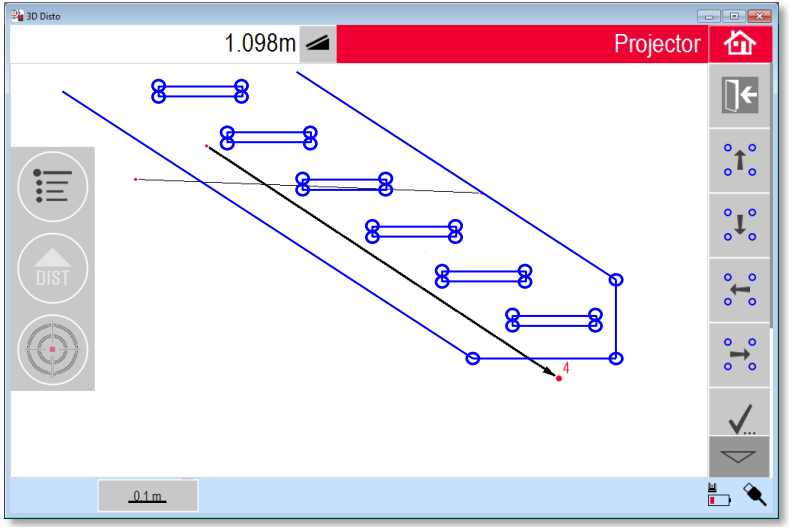
Match design data and as-built data

Step 6: Match data

A popup prompts to move the import data to the final position.

Press OK





The DXF data was imported.
Now it must be moved to the right position.

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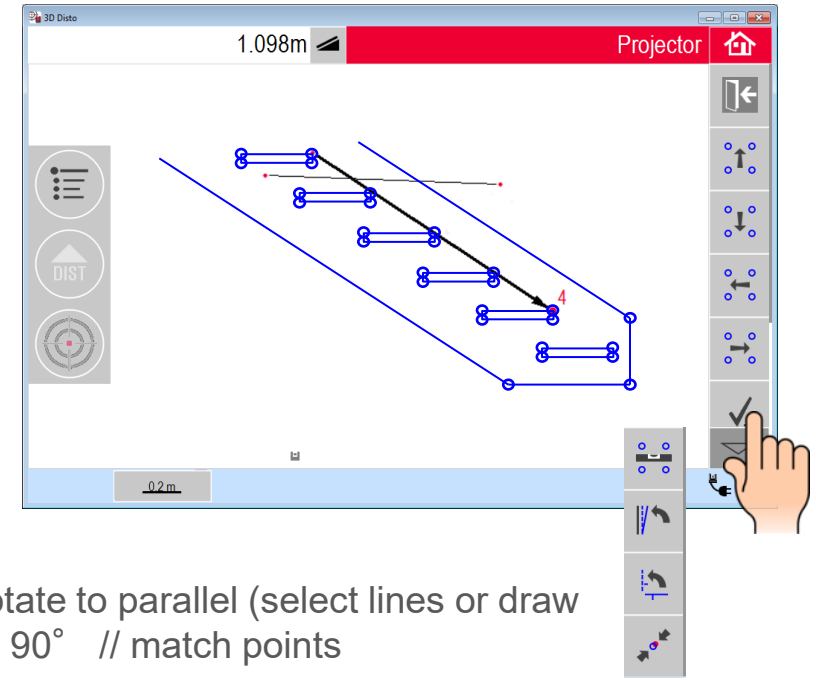
Match design data and as-built data



Move the DXF data until they fit to the measurement:

Exit = redo import

Arrow keys move the data in small steps

Press checkmark to continue

Further tools are:

reset rotation // rotate to parallel (select lines or draw help line) // rotate 90° // match points

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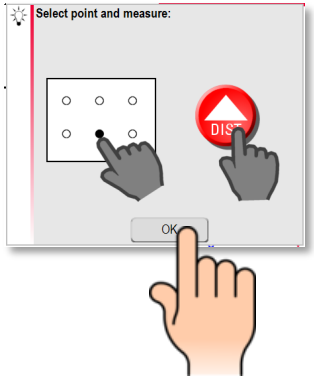
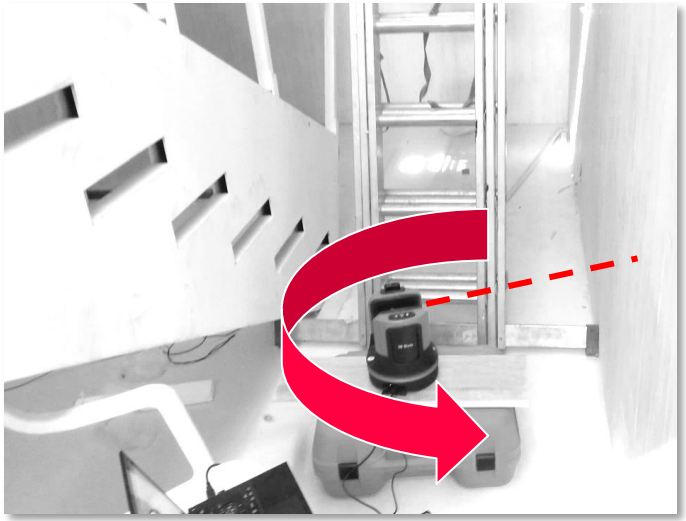
Projection

Step 7: Mark the fixing points

A popup explains the simple workflow. Press OK





Turn the 3D Disto towards the wall

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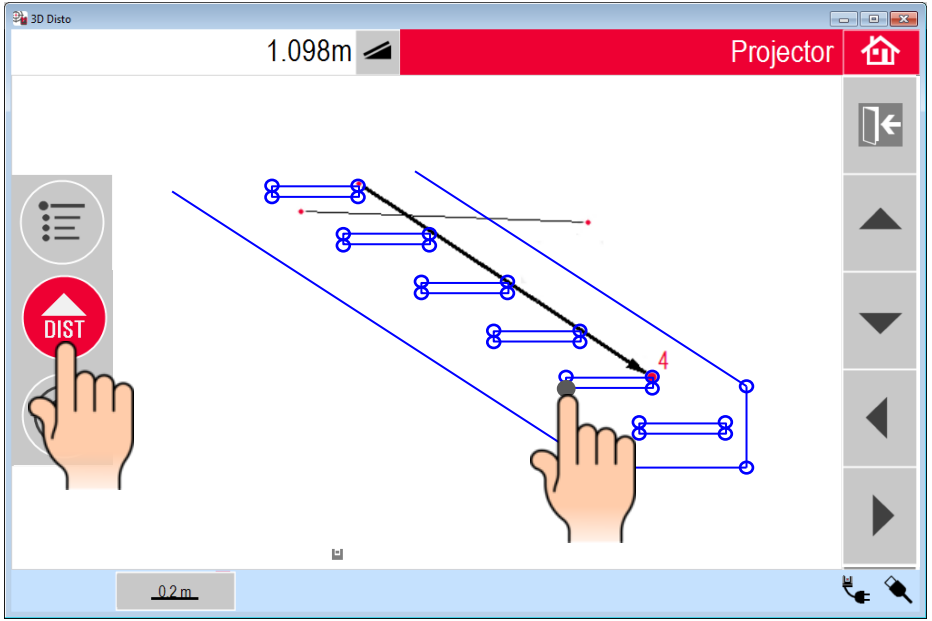
Projection

Tip on a design point and press DIST key



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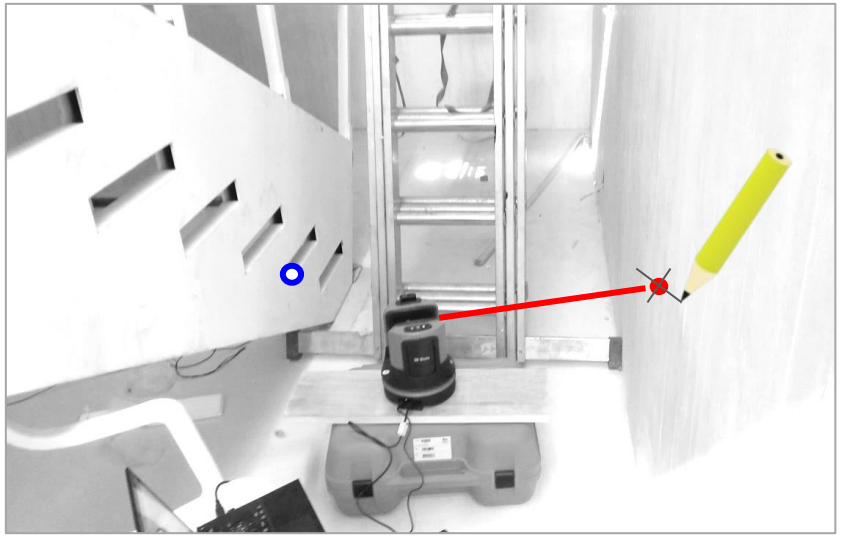
Projection

The 3D Disto now measures and the laser moves.

If the laser is blinking the exact position is found.



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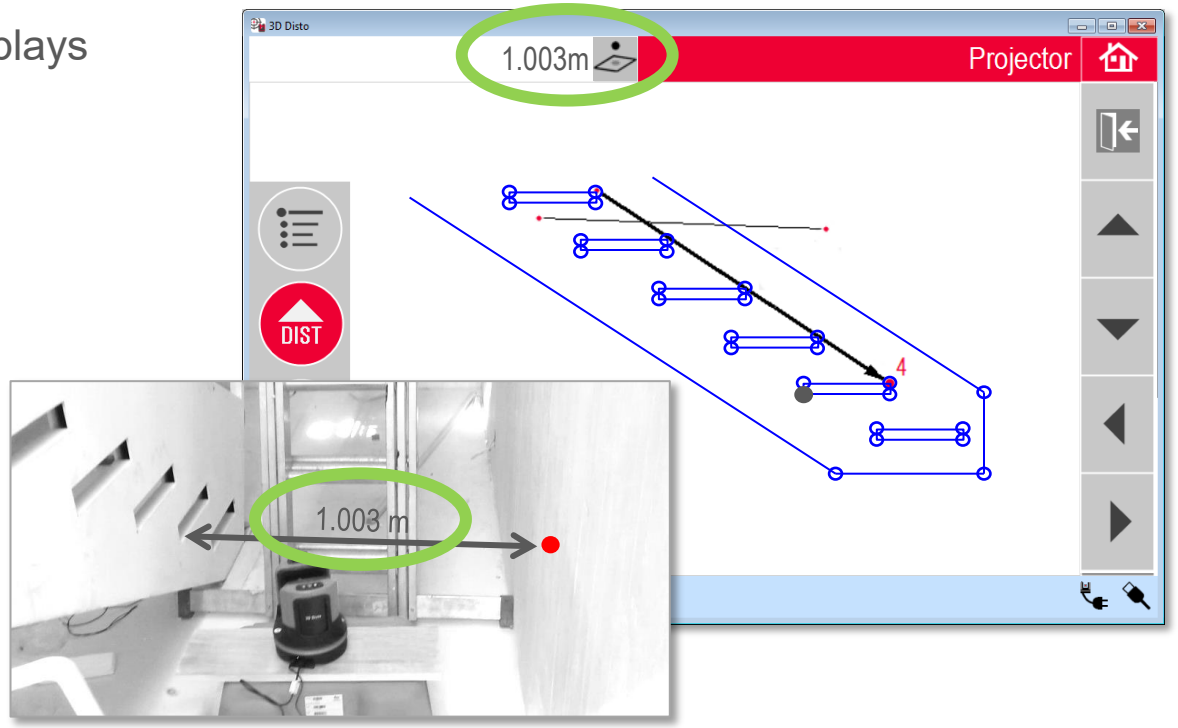
Projection

The 3D Disto displays the distance from projected point to reference.



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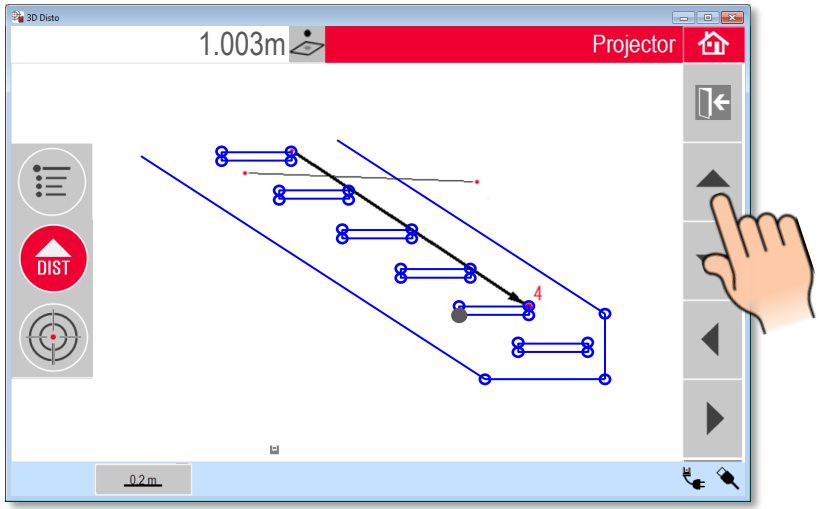
Projection

Tip on the next point or use the arrow keys.

Then press DIST.

etc.



From now on you do not necessarily need the PC any more; use the remote to skip from point to point.

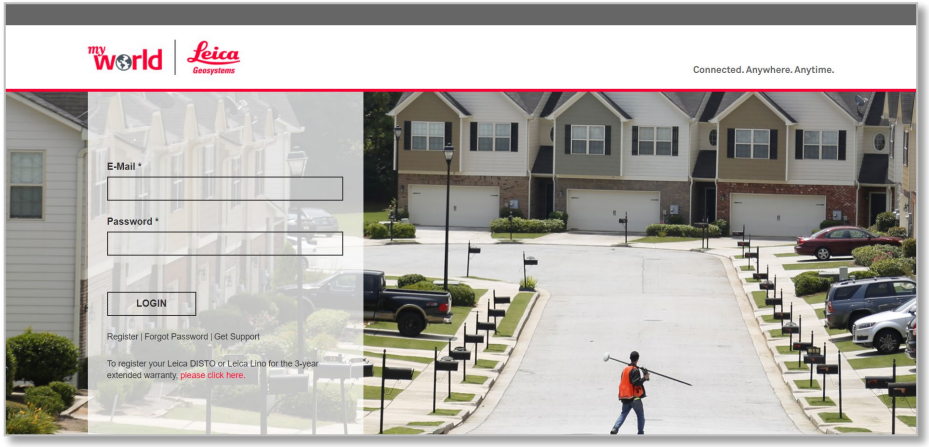
Leica 3D Disto

Registration at myWorld

Register your 3D Disto on myWorld for:

- warranty extension
- license keys
- more tutorials
- free software updates
- support
- manuals

www.myworld.leica-geosystems.com



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