

All About TruPoint™ 300

Have a closer look at our Laser Technology TruPoint 300

How many zoom levels does the TruPoint 300 have?

The integrated digital Pointfinder in the device has an overview camera with additional 1x, 2x and 4x zoom. You can see in the middle of the status bar of the screen, which zoom level you have selected. To change from one zoom level to the next one you must press the “up/down arrow keys” or you zoom in on the touchscreen as you do on mobile phones.

Can I take photos with the TruPoint 300 and what is the resolution?

Yes, it is possible to take photos and screenshots. The photos taken have a resolution of 800 x 600 pixels and screenshots have a resolution of 240 x 400 pixels. The photos and screenshots are saved in jpg format.

How can I download my photos from the TruPoint 300 to a computer?

Photos and screenshots can be downloaded to a computer via USB interface. The TRUPOINT 300 will be automatically connected (plug and play). It is now possible to download data from the TRUPOINT 300 by using a file manager like the Windows Explorer.

Please note: It is not possible to upload data to the TRUPOINT 300 and it is not possible to delete files from the computer. Deleting files must be done directly in the TRUPOINT 300 Gallery function.

Can the brightness in the digital Pointfinder be adjusted?

Yes, when turning the digital Pointfinder on it is indicated in the display that you can change the brightness with the left and right arrow keys on the keypad.

Why is the laser dot on short distances not centered to the cross hair but then quickly jumps to the middle of the screen?

Since the laser exit is not in the same axis as the camera there will be the so-called parallax error. This means that on short distances the laser deviates from the crosshair on the display. The TRUPOINT 300 uses a software which detects the laser dot and corrects the crosshair on the display accordingly. This also works in conditions with strong ambient light where the laser dot is not visible to the naked eye and ensures the user is measuring to the laser dot independent of any parallax error.

How accurate is the tilt sensor in the TruPoint 300?

The accuracy of the tilt sensor in the device is $\pm 0.1^\circ$ to the housing of the device. To the laser beam the maximum deviation can be up to -0.1° and $+0.2^\circ$. This applies at room temperature ($20^\circ\text{C} - 30^\circ\text{C}$). At any other temperatures the maximum deviation increases by $\pm 0.1^\circ$.

What units of tilts are integrated into the TruPoint 300?

You can set the TruPoint 300 to use different tilt units. Select in the settings "Units inclination" and choose between $^\circ$, %, in/ft and mm/m.

-> The level function in the right hand top corner of the display can also be switched on/off in the Settings "level". It is always set to 0.0° and can not be changed into a different unit for tilt.

What is the angular range of the tilt sensor in the TruPoint 300?

The integrated tilt sensor in the TruPoint 300 functions in the range 360° and at a transverse tilt of $< \pm 10^\circ$.

If the device is held at $> \pm 10^\circ$ transversely, the info code "i156" appears in the display and indicates that the device is tilted too much.

Can the tilt sensor of a TruPoint 300 be calibrated by the user?

You can recalibrate the zero level of the integrated tilt sensor. In the settings choose the icon for calibration. When you select calibration, you will be guided through the process.

Please follow this procedure to recalibrate:

- 1) Lay the unit down on a flat surface. The side with the warning label should be down on the table.
- 2) Carry out the first measurement by pressing "ON/DIST" key on a level surface. The device confirms the measurement.
- 3) Turn the device horizontally by 180° and place it again on an absolutely flat surface with the warning label side down.
- 4) Carry out the second measurement by pressing "ON/DIST" key on a level surface. The device confirms the measurement.
- 5) Pick the unit up and then place it with the laser facing up on an absolutely flat surface.
- 6) Carry out the third measurement by pressing "ON/DIST" key on a level surface. The device confirms the measurement.
- 7) Keeping the laser up on the flat surface, rotate the device horizontally by 180° while keeping it in the same location on the flat surface.
- 8) Carry out the fourth measurement by pressing "ON/DIST" key on a level surface. The device confirms the measurement.

9) After 2 Sec. the device goes back to the basic mode and you have completed the calibration procedure.

Please note: The calibration process can be performed by placing the unit with the lens up or down on the surface. A better accuracy in the calibration procedure is achieved by having the back of the unit down on the surface and the lens up.

How can I fold out the smart base on the TruPoint 300?

If you can see a red ring on the smart base it is a sign that the smart base is locked. This makes sure that the smart base does not come out and activate during normal measurements. To unlock the smart base push the socket in the back towards the front of the instrument. The red ring disappears and you can now easily fold out the base. For locking just push the socket towards the back to display the red ring again.

What is the plate in the carrying pouch good for?

For accurate measurements it is essential to work from a stable ground and the instrument is not moved between measurements. The plate (smart base extension) can be easily slid onto the smart base and will act as a larger area of support.

Why must I do levelling of the TRUPOINT 300 for some of the functions?

If measurement results should refer to a horizontal plane (e.g. absolute measurements or measurements to use in CAD systems) the instrument must be calibrated right before measuring. By doing this, errors from slightly inclined measuring bases are automatically compensated. The range for this levelling is +/- 5°.

What is the measuring accuracy using the smart base?

The smart base itself has a tolerance of up to +/-0.1°. In practical applications (typical accuracy) the deviation on 10m measuring distance is about 10mm, on 5m it is 5mm and on 3m it is 3mm. Depending on the measuring situation higher accuracies on shorter distances are possible.

How can I increase the measuring accuracy using the TRUPOINT 300?

Make sure you are using a stable supporting area like a tripod together with the Aim Assist adapter. For additional stability, make your trigger measurements from the Touchscreen (tap on the function symbol above the DIST key).

Which views do I get when using the DXF data capturing function?

Depending on the measurements you will receive 2 or 3 different DXF files:

- 2DG --> this is the floor plan (view from the top)
- 2DW --> this is the front view. This file will only be created if between first and second measurement the horizontal movement was at least 10cm. Otherwise no horizontal axis can be defined for presentation.
- 3D --> this is the 3D drawing

What is the criteria for defining the axes in the DXF files?

The first measured point is the reference for the drawing. The second point defines the x-axis. The y-axis and z-axis are rectangular to it and referenced to the horizontal plane (levelling).

An exception to this would be if the horizontal distance between the first and second measured point is less than 10cm. In such case the TRUPOINT 300 will be the reference in the drawing and the direction to the first measured point will be the x-axis.

When doing DXF data capturing no photo is saved, why is this the case?

Generally, only when the pointfinder is switched on will photos will be transferred or saved!

How can I download DXF files and then delete them on the device?

The three dxf files with photos (if pointfinder is switched on) will be saved on the TRUPOINT 300 in one folder each. These files or the folder can be easily loaded from the TRUPOINT 300 to a computer using a USB cable. To delete files and folder on the TRUPOINT 300 you must use the corresponding function on the TRUPOINT 300 itself.

When measuring an angle in the room it is not 90°. How can this be?

This function is measuring the angle given by three points in their positions. This means to measure that the room angle, all three measurements must be in a horizontal plane!

Which area is measured when using the Smart Area Function?

The area given by the measured points will be calculated. So, if the area is inclined as it is on a roof of a building the real area will be measured.

Can I measure the area of a rounded room?

The area of a rounded room cannot be measured exactly. Since the TRUPOINT 300 allows to measure areas with up to 30 corners a good result can be achieved by measuring several points along the arc.

Is it possible to obtain detailed information about the measurements taken?

Yes, it is possible to obtain detailed information in the TruPoint 300. If detail information is available this will be indicated with two small arrows in the center of the status bar in the display. You can now navigate with the arrow keys up and arrow key down between the available measurements.

The TruPoint 300 includes functions for measuring with the picture. What is the accuracy of such measurements?

The accuracy highly depends on how the function is used. Best results can be achieved when the measured object is displayed at maximum size in the TRUPOINT 300. In such case the accuracy is below 1% of the measured object. This applies for width, area and diameter measurements.

What is the measuring accuracy when using the direct horizontal measuring function?

For example, if a distance of 10m is measured at an angle of 10°, the error on uncertainty on measurement on the direct horizontal distance (fd) is 3mm.

-> in order to have best results with the direct horizontal distance measurements, considering the deviation of the tilt sensor, use the TruPoint 300 as flat as possible.

The horizontal distance error (fd) and the height error (fh) can be calculated as follows:

fd = horizontal distance error

fh = error in height

d = measured distance

a = angle at which the distance is measured

fa = possible angular error

$$fd = d * \cos (a) - d * \cos (a + fa)$$

$$fh = d * \sin (a) - d * \sin (a + fa)$$

Further information and a table of measuring accuracies you can find online in the FAQ under "Measuring Accuracy".

Can the historical storage memory of 30 values in the device be erased?

Yes, the memory in the device can be erased by pressing the delete button when in the Memory function. All memory values will be deleted.

Can I enter a value that is constantly added / subtracted to my measured value? (Offset)

Yes, in the "Settings" you can go to the "Offset Icon" and enter a value that will constantly be added / subtracted from your measured distance value. If an offset value is entered you will see the appropriate symbol - a triangle with plus or minus next to the laser symbol.

-> If you want to set the offset value back to zero, enter the setting "Offset" and reset it.

How do I know if the device is still measuring in the digital Pointfinder mode?

When using the digital Pointfinder in any function, especially in the Long Range (LR) Mode, you will see a clock icon on the top of the display. The clock stays in the display until the measurement is finished. Please do not move the device before!

What does it mean when I attempt a measurement but the unit shows a number on the display versus my measured value?

This is a message code. The numbers are displayed if a successful measurement could not be performed. The user itself can correct the measuring situation to achieve a measurement. Below you can find the spread sheet from the manual with the corrections:

How can I activate the keypad lock?

To activate the keypad lock, choose in the Settings the lock icon and turn the keypad lock ON. To deactivate the keypad lock, press ON/DIST key and within 2 sec the plus/minus key.

How can I deactivate the keypad lock?

To deactivate the keypad lock, press the ON/DIST key and afterwards (within 2 Sec.) the plus/minus key. Now the keypad lock is de-activated and the device is switched on.

What does it mean when I attempt a measurement but the unit shows a number on the display versus my measured value?

This is a message code. The numbers are displayed if a successful measurement could not be performed. The user itself can correct the measuring situation to achieve a measurement. Below you can find the table from the manual with the corrections:

No.	Cause	Correction
156	Transverse tilt greater than 10°	Hold the instrument without any transverse tilt
162	Calibration mistake	Make sure the device is placed on an <u>absolutely horizontal</u> and flat surface. Repeat the calibration procedure. If the mistake still occurs, contact your dealer.
204	Calculation error	Perform measurement again.
240	Data transfer error	Repeat procedure
252	Temperature too high	Let device cool down.
253	Temperature too low	Warm device up.
255	Received signal too weak, measuring time too long	Change target surface (e.g. white paper).
256	Received signal too high	Change target surface (e.g. white paper).
257	Too much background light	Shadow target area.
258	Measurement outside of measuring range	Correct range.
260	Laser beam interrupted	Repeat measurement.
300	Smart base not folded out	Fold out smart base
301	Device was moved, levelling not valid any more	Perform levelling again. Measuring with invalid levelling is possible, but it affects the accuracy
302	Point data transmission is selected but WLAN is off	Switch on WLAN
340	WLAN data transfer error	Repeat procedure
341	Authentication error	Use correct password

Measuring with tripod – is there anything to consider?

The measuring reference must be adjusted to the tripod thread. In the Function Screen choose the reference icon and change the measuring reference to tripod. After switching off the device goes back to the standard setting (rear of device).

What is measured with the height tracking?

The height tracking displays an indirect height. The combination of inclination and distance measuring to the wall opens the possibility for such an indirect calculation. It is a useful function if the height cannot be measured directly or if several height points on the same vertical line need to be measured.

How can I program my favorite (mostly used functions) on the self-programmable keys?

Press the left or right top key for about 2 sec.. An overview ("Favorites") with all functions appears on the display. Choose the preferred function and press then the left or right top key where you want to have the favorite behind. The Favorite is now saved.

What Bluetooth technology is integrated in the TruPoint 300?

The TruPoint 300 has Bluetooth® SMART (also called low energy) integrated. The device works with Smartphones or tablets that have Bluetooth® 4.0 integrated or are Smart Ready. Also, it is required that its operating system is supporting this Bluetooth® standard which is the case for iOS, Android 4.3 or newer, Windows 8.

Can I send measurement data from a TruPoint 300 to Apple mobile devices?

Yes with the TruPoint 300 it is possible to communicate with Apple mobile devices. Send measurement data to iPhone (iPhone 4S, iPhone 5, iPhone 5s, iPhone 5c), iPad3, iPad 4, iPad mini, iPod touch (Gen. 5). (--> Bluetooth® 4.0)

It is possible to use TRUPOINT 300 supporting apps from the app store (use App mode in TRUPOINT 300 device) or to connect the TRUPOINT 300 in the Bluetooth manager as a keyboard device where you can send the measurement data to the cursor position in any app (use text or spreadsheet mode in TRUPOINT 300 device).

The corresponding modes in the TRUPOINT 300 device needs to be set in the Setting menu of the TRUPOINT 300.

On my iOS device the keyboard is not showing up in the display once I transferred data from a TRUPOINT 300 in keyboard mode.

Press the left favorite key, the center of the icon turns green. Press now the +/- key on the TRUPOINT 300. The keyboard in the display of your iOS device will appear.

Can I send measurement data from a TruPoint 300 to Android devices?

Yes, with the TruPoint 300 it is now possible to communicate with Android devices. Its operating system must be 4.3 or higher. Send measurement data to Android devices that include Bluetooth 4.0. Used Apps should support the corresponding Bluetooth® standard.

Can I send measurement data from a TruPoint 300 Windows computers?

Yes, with the TruPoint 300 it is possible to transfer data to Windows computers. The TruPoint 300 is “treated” as a keyboard. For this add the TRUPOINT 300 in the device manager as a keyboard device. You can then send the measurement data from the TRUPOINT 300 to the cursor position in any program (use text or spreadsheet mode in TRUPOINT 300 device).

The corresponding modes in the TRUPOINT 300 device needs to be set in the Setting menu of the TRUPOINT 300.

The Windows computer must have the operating system Windows 8.1 or higher and Bluetooth 4.0.

Can I send measurement data from a TruPoint 300 to Windows mobile, Windows RT or Blackberrys?

No this is not possible.

My software only supports comma as a decimal marker and not a dot. Can I change this on the TruPoint 300?

Yes, this can be changed. In the settings menu for Bluetooth® press the right selection key to enter a submenu for Bluetooth setting. Here you can change the setting for this.

Please note: This setting can only be changed in the text or spreadsheet mode.

I need to fill out a form in the Internet or a spreadsheet and it is required to jump to the next input box with a Tab or with Enter after each measurement. Can I change this on the TruPoint 300?

Yes, this can be changed. In the settings menu for Bluetooth® press the right selection key to enter a submenu for Bluetooth setting. Here you can change the setting for this.

Please note: This setting can only be changed in the text or spreadsheet mode.

I need to use navigation keys to move in my spreadsheet to the required input box. Can I do this remotely from my TRUPOINT 300?

Yes, this is possible. When you have connected your TRUPOINT 300 device with a smartphone or tablet or computer the content of the selection keys change for supporting the Bluetooth communication. With the left selection key, you can switch on and off the navigation function where you can use the arrow keys of the TRUPOINT 300 for navigation.

Please note: This function is available in the text or spreadsheet mode. In the app mode it depends on the support of the app used.

What is the difference between text or spreadsheet mode?

In the text mode the measurement result will be transferred as shown in the TRUPOINT 300 display. This includes units or fractions for feet and inch. In the spreadsheet mode, only numbers are transferred without any unit information. Units with fractions will be converted to the corresponding unit with decimal. This makes further calculations like e.g. in Excel much easier.

Is it possible to transfer point data (coordinates) and pictures using the Bluetooth® connection?

No, via Bluetooth® it is only possible to transfer distances, areas, volume and inclinations. For all other data a WLAN connection is required.

Which WLAN connections are possible between a TRUPOINT 300 and a computer?

Hotspot Mode: The TRUPOINT 300 can act as a hotspot. By doing this it is very easy to establish a connection from a computer, smartphone or tablet. Please note that with this connection it is not possible for the computer to be connected to another WLAN network in parallel.

Client Mode: This way it is possible to connect the TRUPOINT 300 to an existing network. We recommend this mode to be used only for specific applications. It will be required to enter the password of the Network by the TRUPOINT 300.

What kind of data can be transferred via WLAN connection?

The use of WLAN is only supported in the corresponding data transfer function (Point Data Transmission). If the smart base is not folded out only distances can be measured and transferred. If the smart base is folded out distances, inclination, horizontal and vertical angle of the sensors are transferred. For each case it is possible to transfer the measurement data only (right favorite key) or the data and picture (left favorite key, pointfinder must be activated).

Do I need a special software for the TRUPOINT 300 data transfer?

If the TRUPOINT 300 is used in keyboard mode no special software is required. For all other cases of data transfer a specific software is needed, such as LTI's CORE, QuickMap 3D and MapSmart products.

How long does it take to charge the Li-Ion battery of the TruPoint 300?

This depends on the charger used. Using the charger supplied with the unit it takes approx. 4 hours to charge the Li-ion battery.

Is it possible to replace the Li-Ion battery of the TruPoint 300?

The Li-ion battery can be replaced in service cases only. Please contact your dealer for a replacement set of the Li-ion battery.