MeasureXL User Manual

Revision 0.1.2

Description
This manual provides you with the resources to get you started on 3D measuring with MeasureXL.

Downloading MeasureXL Software
MeasureXL is a Unity Engine based AR measuring software. You can download the software from the Polyga Accounts Page (https://www.polyga.com/my-account/downloads/) or by contacting your distributor. To create a download account, please contact us at:
https://www.polyga.com/contact/

Customer Support
For access to support resources and troubleshooting guides, visit
https://www.polyga.com/hdi-support-center/

If you have any issues, please contact:

Email: support@polyga.com

Web: https://www.polyga.com/contact/

Table of Contents

Controls

1. Tracker Usage

On the Tracker Pad, there are three buttons to help you generate measurements.

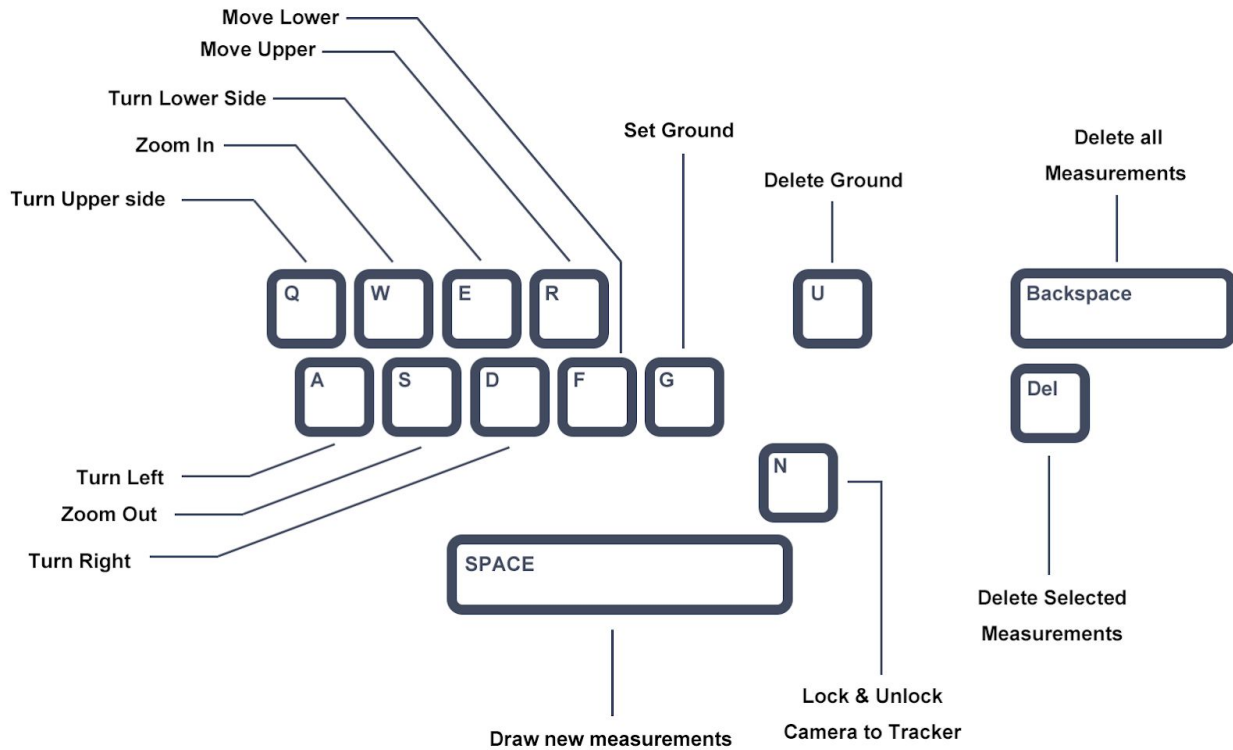| Control	Function
Left (L) Button	Delete the last drawn measurement.
Center (C) Button	Place a measurement at the trackers current position. Pressing Spacebar on your keyboard has the same function.
Right (R) Button	You can change the Measurement Mode by pressing this button.

2. Mouse Control

2. Camera Zoom In & Out
3. Move Camera
1. Click Buttons
4. Select Measurements

MeasureXL allows you to move and rotate the camera view in 3-Dimensions.

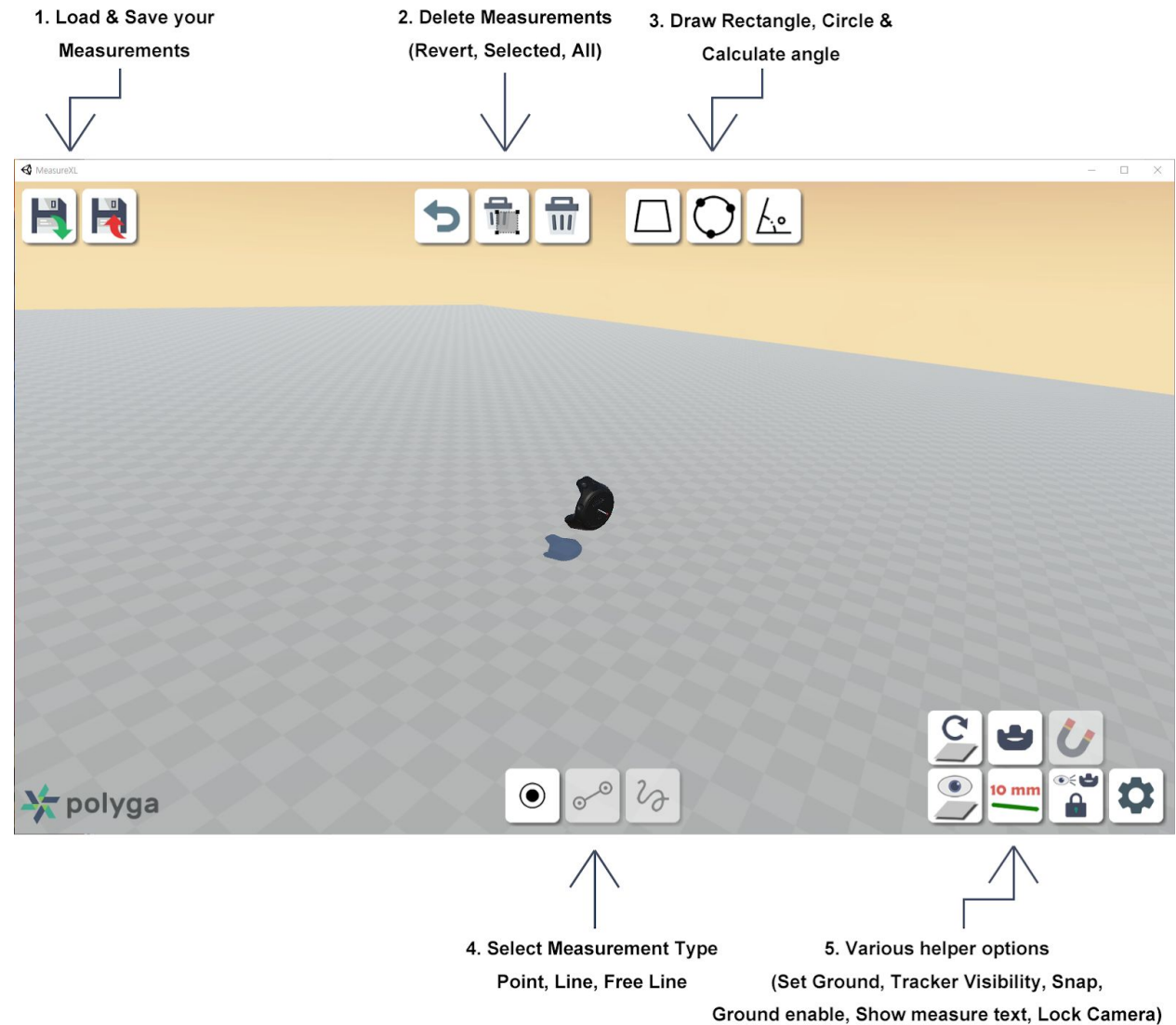| #	Function	Description
1	**Select UI Buttons**	The left mouse button is used to select UI buttons
2	**Camera Zoom In & Out**	Rolling the mouse wheel allows you to zoom the Camera in or out.
3	**Move Camera**	Click and drag with the middle mouse button to rotate the camera view.
4	**Select Measurements**	Click and drag with the right mouse button to select multiple measurements.

3. Keyboard Commands

Measurement

Keys	Function
'Spacebar'	Draw new measurements.
'Del'	Deletes the measurements that are currently selected
'Backspace'	Deletes all measurements

Camera Movement
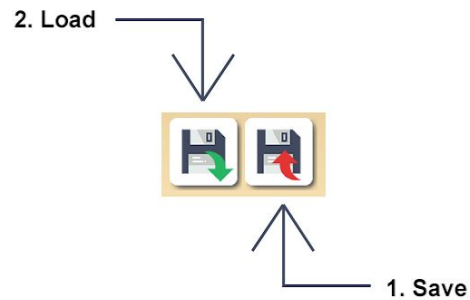
Keys	Function
'W' and 'S'	Zoom the camera view in or out. Same functionality as rolling the mouse scrolling wheel.
'A' and 'D'	Camera will rotate to left or right.
'Q' and 'E'	You can rotate Camera above or below to the target.
'R' and 'F'	You can move the Camera position up or down.
'G' and 'U'	You can use 'G' to set the ground plane and 'U' to unset the ground plane.
'N'	You can set the Camera view to follow the position of the Tracker or detach it to navigate the Camera manually.

Program Interface

1. Load & Save your
   Measurements

2. Delete Measurements
   (Revert, Selected, All)

3. Draw Rectangle, Circle &
   Calculate angle

4. Select Measurement Type
   Point, Line, Free Line

5. Various helper options
   (Set Ground, Tracker Visibility, Snap,
   Ground enable, Show measure text, Lock Camera)

MeasureXL consists of various tools for facilitating the measurement process. The MeasureXL interface presents features and controls to speed up the workflow.
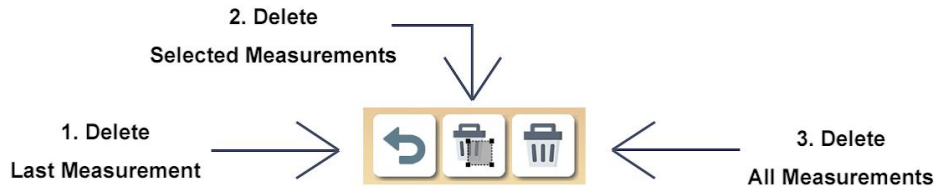
1. Import/Export

1.1 Save Button

You can export your measurements as JSON, CSV or IGES. It will save the position of all your measurements and specific entities (Area for Rectangular Plane, Radius for Circular Plane, etc.)

1.2 Load Button

You can load your previous measurements which are saved in JSON format.

2. Delete Measurements

2.1 Delete Last Measurement

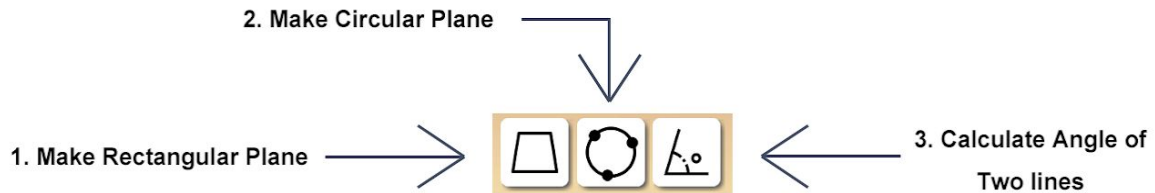This button will delete last measurement you drew.

2.2 Delete Selected Measurements

With Mouse control, you can select measurements. If you want to delete them, click this button.

2.3 Delete All Measurements
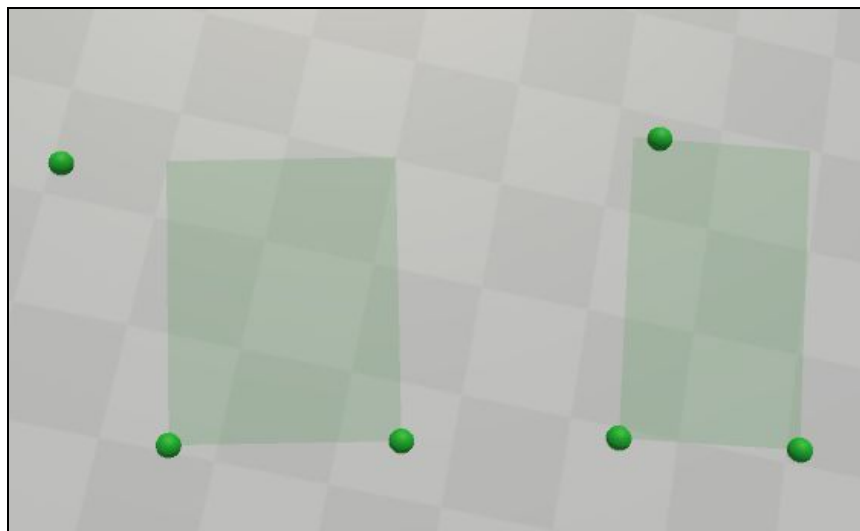
Any measurements you drew will be gone.

3. Generate Entities

2. Make Circular Plane

1. Make Rectangular Plane

3. Calculate Angle of Two lines
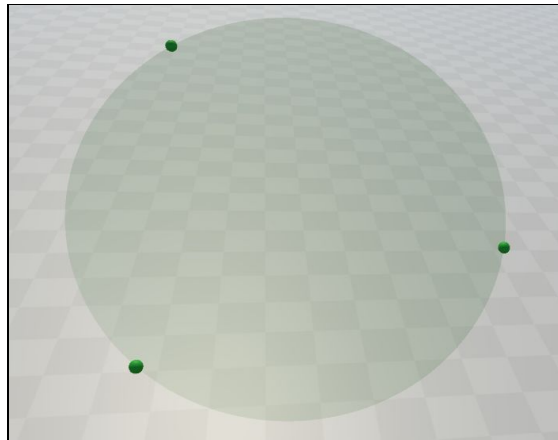
3.1 Rectangular Plane

To generate a Rectangular plane:

1) Draw two points. They are going to be the **baseline** of the rectangle

2) Draw third point which representing **height** of rectangle

3) Select all three points

3) Click the Rectangular Plane button to generate

3.2 Circular Plane
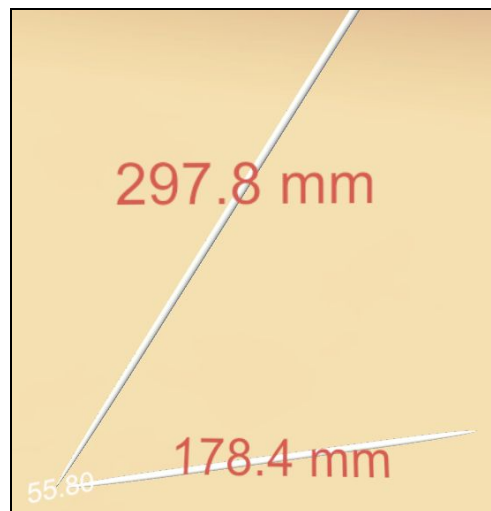
To generate a Circular plane:

    1) Draw three points which are at the edge of the circle

    2) Select all three points.

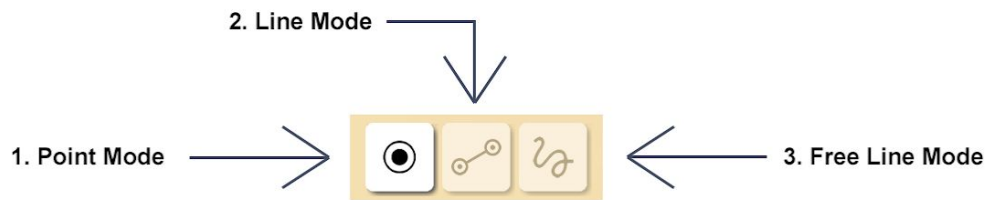   3) Click the Circular Plane button to generate.

3.3 Calculate Angles

To determine the angle of two lines:

    1) Draw two lines.

    2) Select both lines

    3) Click the Calculate Angle button to calculate.
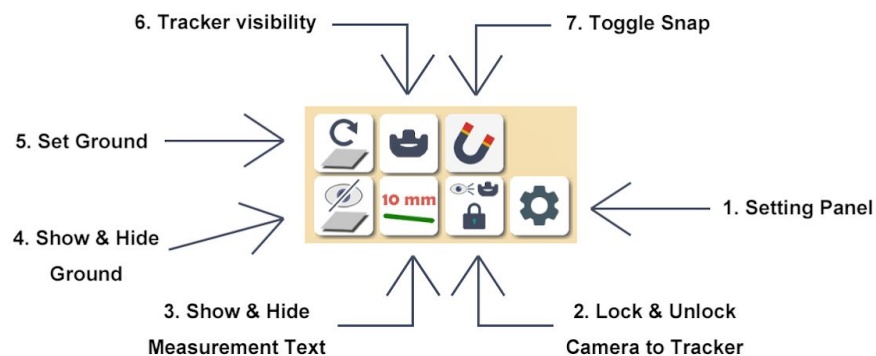

297.8 mm

178.4 mm

55.80

4. Measurement Modes

We support three types of measurement modes: Point, Line and Free Line. You can switch modes by pressing the **'Right(R) button'** of your Tracker. You can draw measurements by pressing the **'Spacebar'** on your Keyboard or 'Center(C) button' of Tracker.

5. Interface Tools

5.1 Setting Panel

Opens the Settings Menu. See Section ['Settings'](#)

5.2 Lock & Unlock Camera to Tracker

You can set the Camera view so that it follows the position of the Tracker or you can choose to have it detached so that you control it manually.

5.3 Show & Hide Measurement Text

Whenever a measurement is selected, its properties will be displayed. Toggling this button makes it so that the properties of each measurement are always displayed.

5.4 Show & Hide Ground

You can choose to show or hide the Ground plane. This button has the same functionality as the one in the Setting Panel.
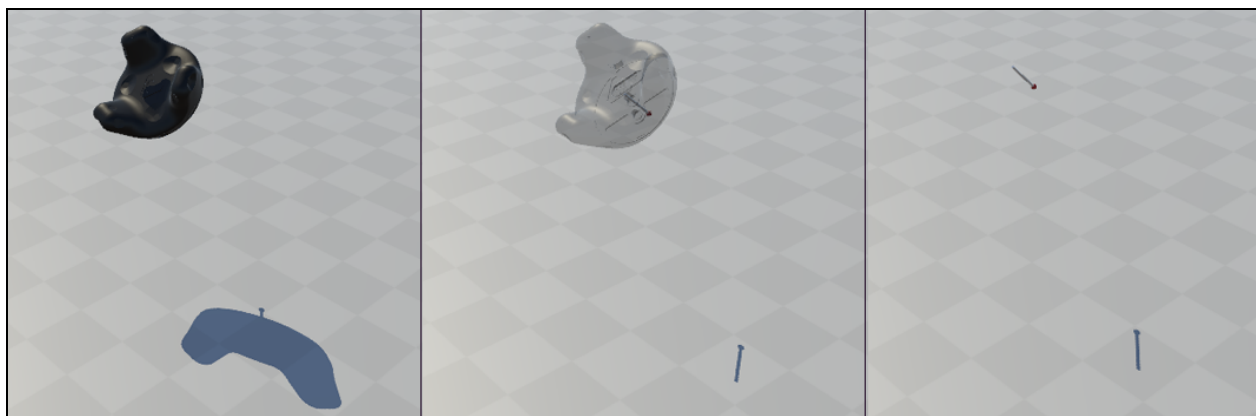
5.5 Set Ground

Sets the position of the Ground plane to the current position of the Probe tip. Your tracker must first be paired in order to set the Ground Plane.
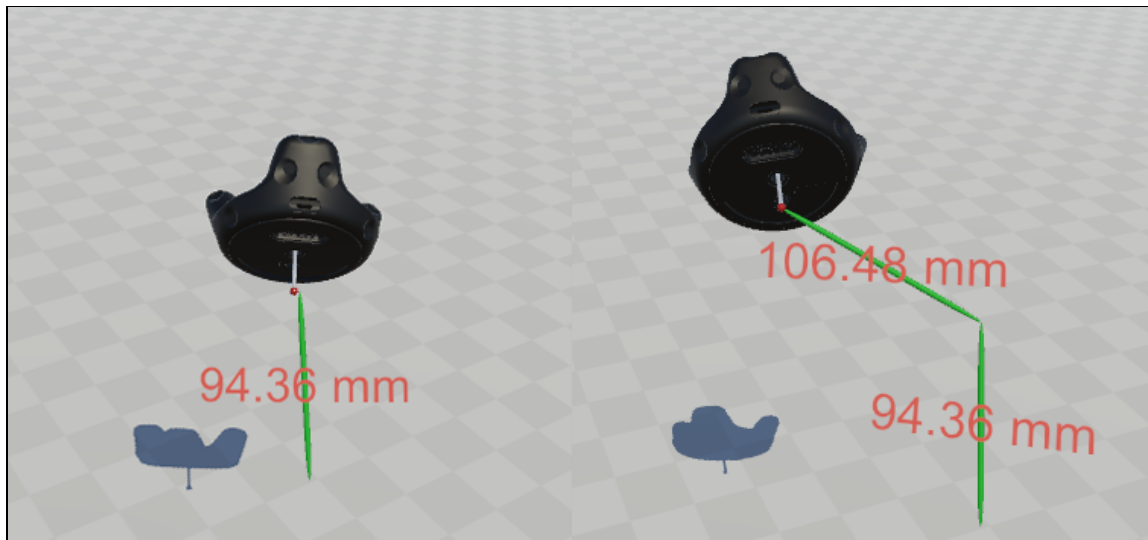
5.6 Tracker visibility

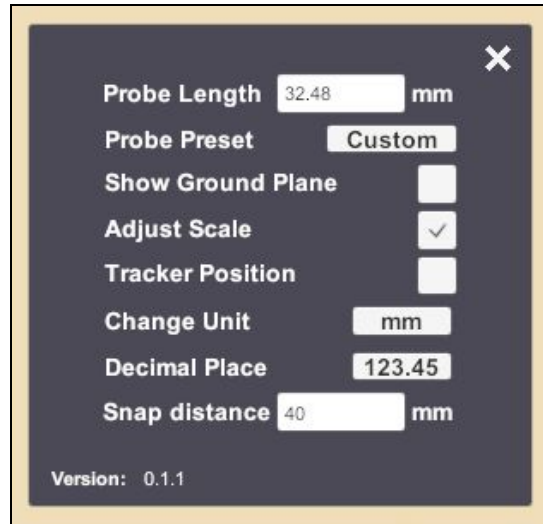You can adjust the transparency of the tracker if the tracker is ever blocking your measurements.

5.7 Toggle Snap

With the Snap button enabled, you can create connected lines.

The snap distance can be adjusted in Snap Distance Settings.

Settings

The Settings button in the bottom right corner of MeasureXL will pop-up the Settings dialog.

1. Probe Length

The probe length is the measurement of the metal probe that connects to the tracker. You can see the current Probe length and also modify needed.

2. Probe Preset

We have Default length presets saved for various Probes. You can select Default 1 ~ 4 or Custom, which allows you to set Probe your own probe length.
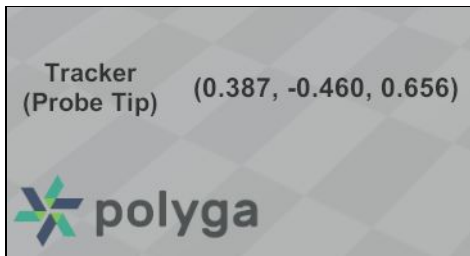
3. Show Ground Plane

You can choose to show or hide the Ground plane.

4. Adjust Scale

Enable scaling of MeasureXL. If enabled, MeasureXL will try to adjust the scale value to make measured values more accurate.
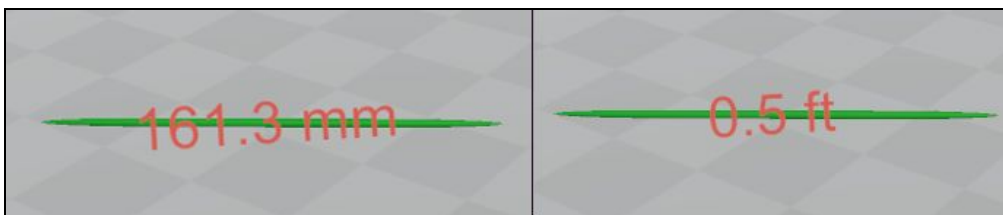
5. Show Tracker Position

Enable Tracker Position Message to show Probe tip's location in real-time.

6. Change Unit

You can display units as Millimeters, Centimeters, Feet, or Inches. If you change the units, it will automatically update every measurement.

7. Change Decimal Place

You can select how many Decimal places you want to see: Zero, One or Two decimal places.

8. Modify Snap Distance

You can change snap distance.