

Calgary Office  
 #2, 21 Highfield Circle SE  
 Calgary, AB T2G 5N6  
 (403)259-3992

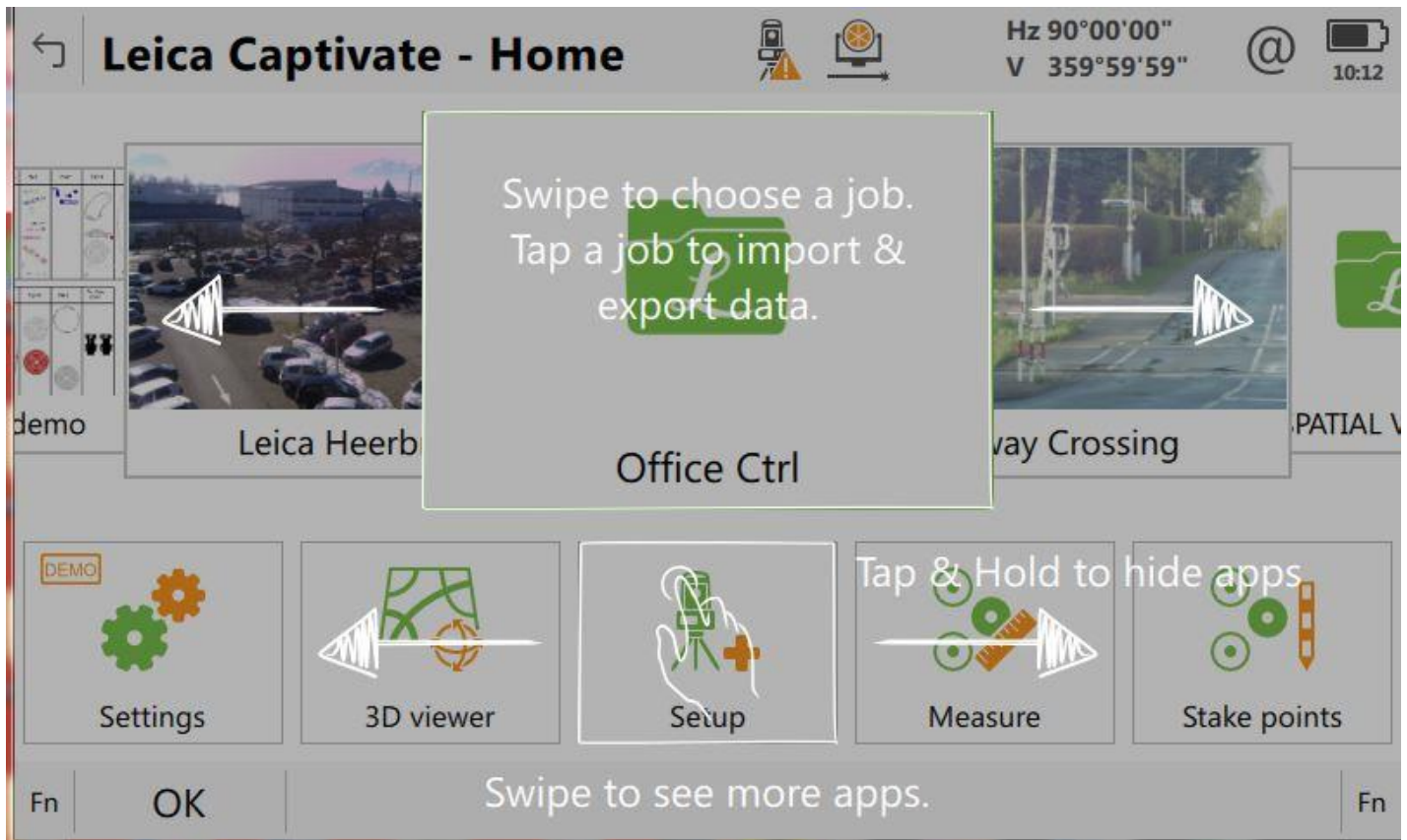
Edmonton Office  
 16304 111 Avenue  
 Edmonton, AB T5M 4G3  
 (780)486-2155

Vancouver Office  
 #10, 3671 Viking Way  
 Richmond, BC V6V 2J5  
 (604)214-9453

## Robotic Surveying Using Leica Captivate Software

The following is an example of how to setup and begin a Robotic Total Station Survey using Leica Captivate software.

Begin by starting a new job. Captivate's home screen features two carousel style menus. The top allows the user to scroll through and access the available projects, and view and edit job properties and data. The lower carousel gives the user access to the various applications available.

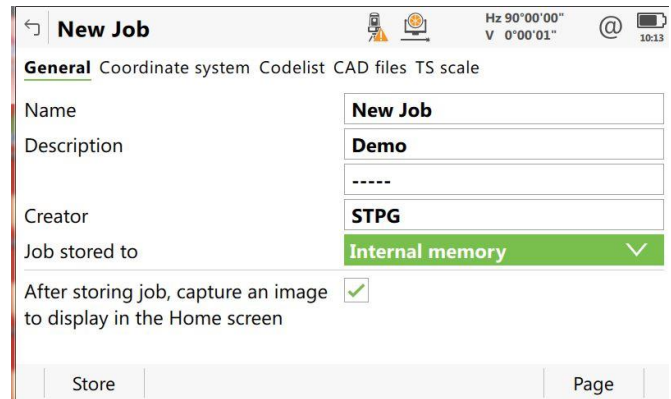
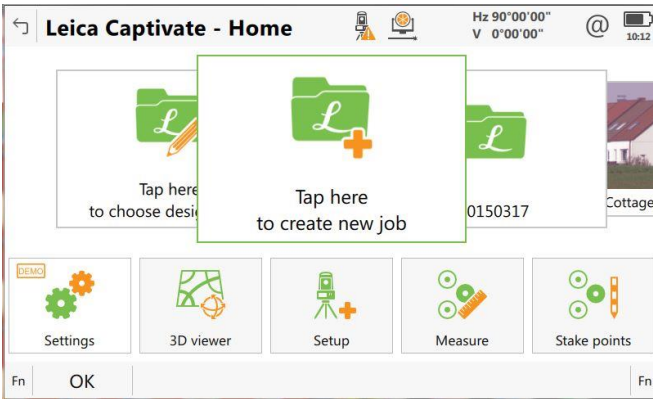


Calgary Office  
 #2, 21 Highfield Circle SE  
 Calgary, AB T2G 5N6  
 (403)259-3992

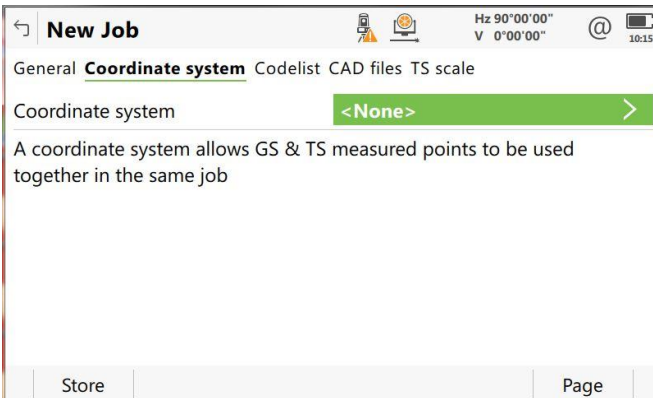
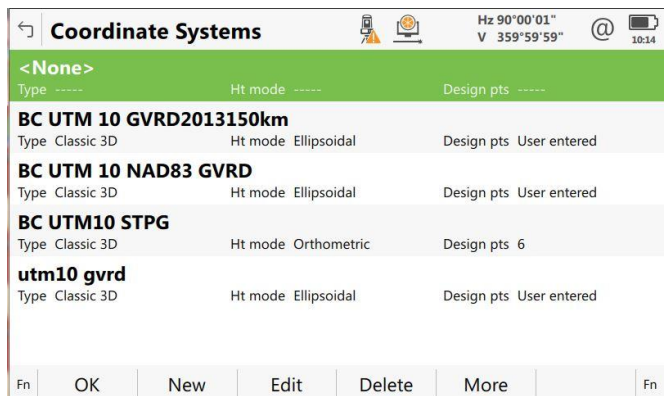
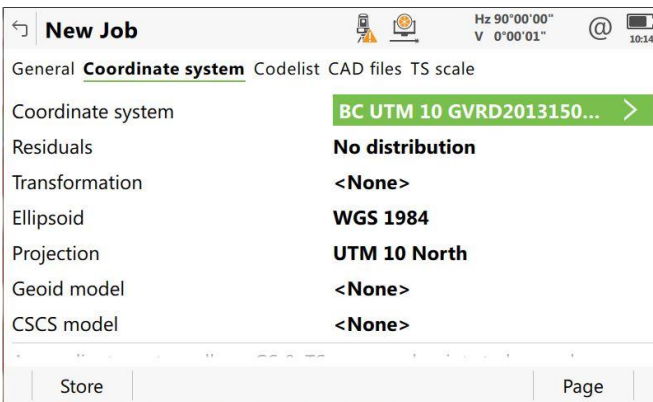
Edmonton Office  
 16304 111 Avenue  
 Edmonton, AB T5M 4G3  
 (780)486-2155

Vancouver Office  
 #10, 3671 Viking Way  
 Richmond, BC V6V 2J5  
 (604)214-9453

To begin a new project, scroll the job carousel to the left to find the Create a New Job icon. Tap the icon, and enter a job name and description. The user has the option to store the job to internal memory or a removal card or drive. The user can also take an image to use as the job icon in the carousel.



Set the COORDINATE SYSTEM for the project. Or, if only ground measurements in a local coordinate system are needed, set the coordinate system to <NONE>.

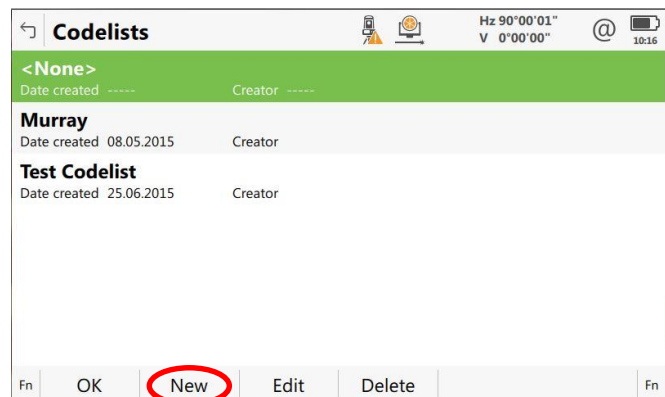
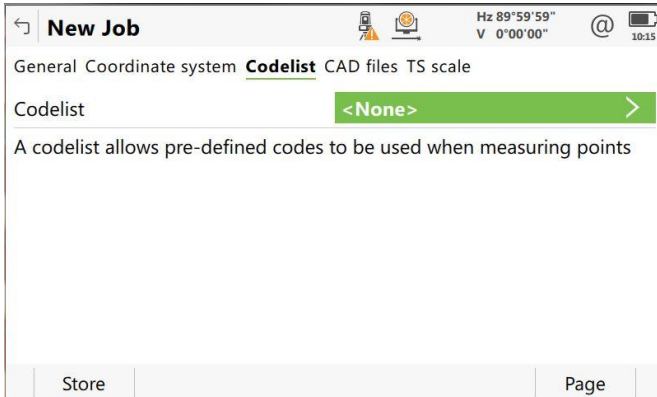


Calgary Office  
 #2, 21 Highfield Circle SE  
 Calgary, AB T2G 5N6  
 (403)259-3992

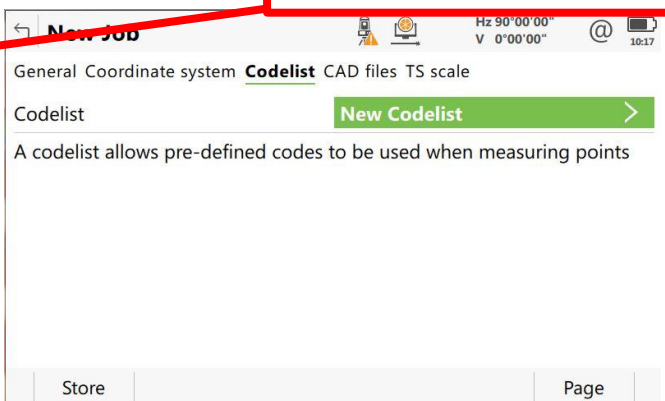
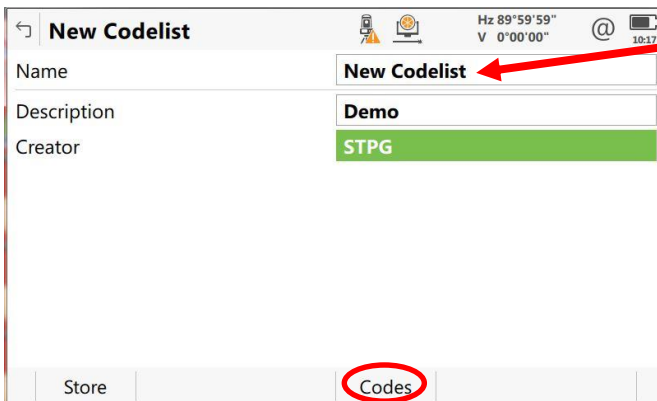
Edmonton Office  
 16304 111 Avenue  
 Edmonton, AB T5M 4G3  
 (780)486-2155

Vancouver Office  
 #10, 3671 Viking Way  
 Richmond, BC V6V 2J5  
 (604)214-9453

Next, assign a Codelist to the project or if you have already uploaded a codelist, select it from the list. If you leave it set to <NONE> you can still add codes to your measurements, but you will start with an empty list on your next job.



Tap NEW to create a new codelist



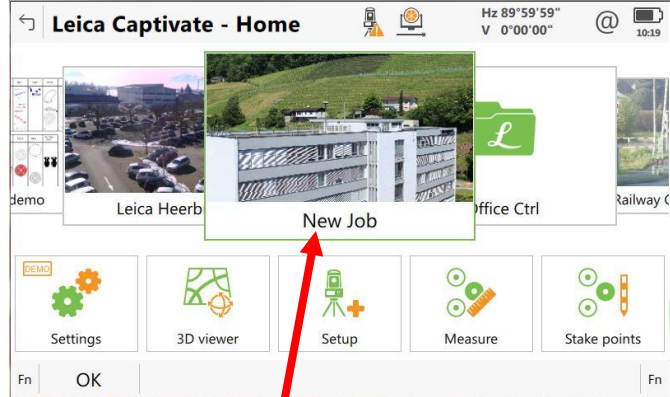
Tap CODES to add new codes to the list

Calgary Office  
 #2, 21 Highfield Circle SE  
 Calgary, AB T2G 5N6  
 (403)259-3992

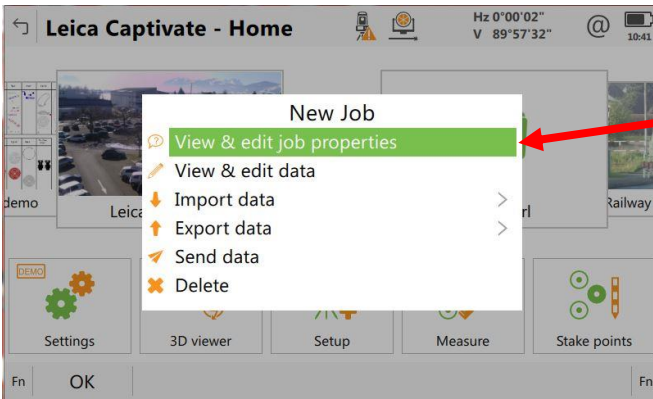
Edmonton Office  
 16304 111 Avenue  
 Edmonton, AB T5M 4G3  
 (780)486-2155

Vancouver Office  
 #10, 3671 Viking Way  
 Richmond, BC V6V 2J5  
 (604)214-9453

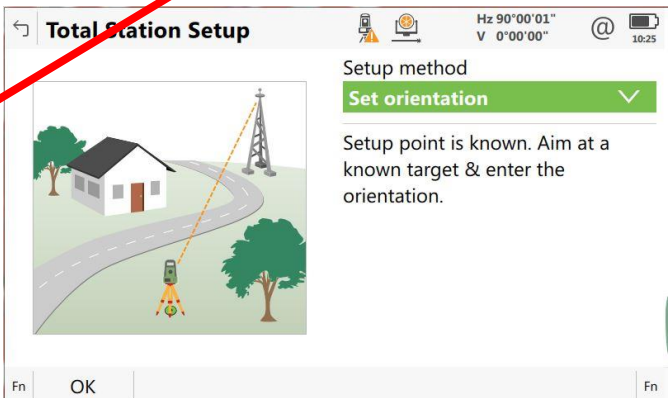
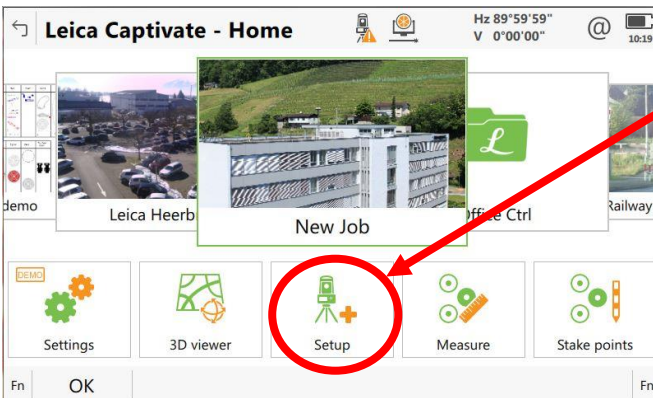
Finally, capture an image (or skip this step) for the project and your project is ready to begin.



Tap the project to view and edit job properties and data, and to import or export data



Our job is now setup, next, set up and orient the instrument. Select the SETUP app from the lower carousel.

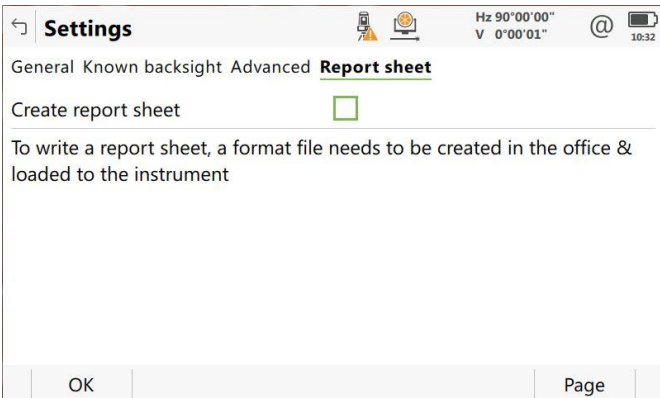
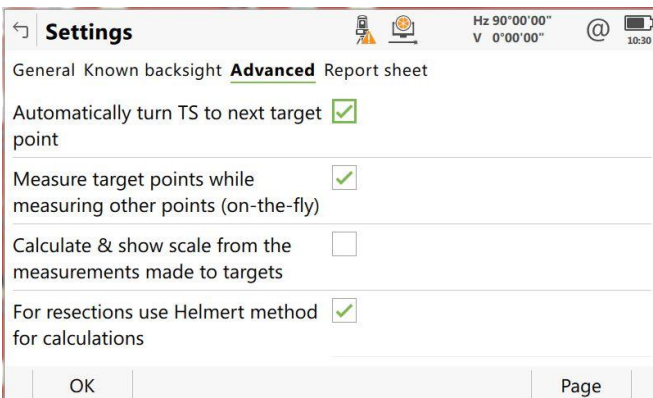
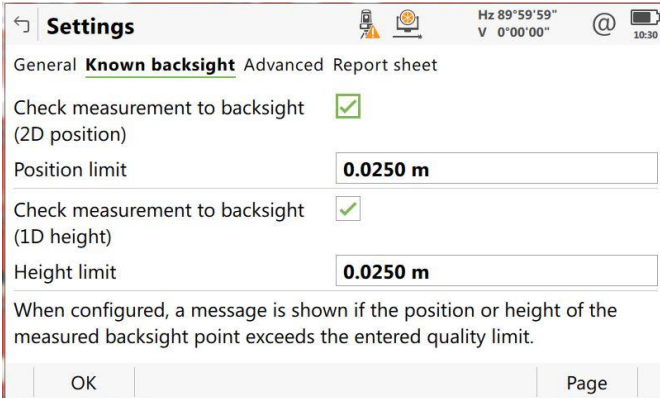
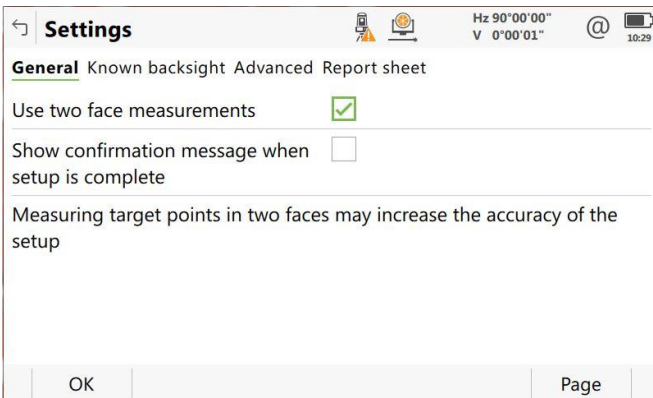
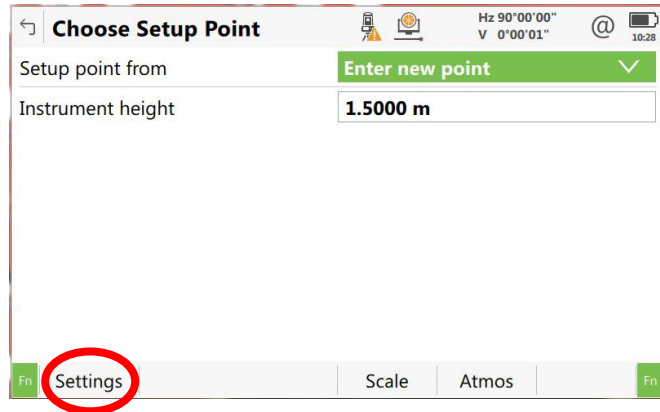
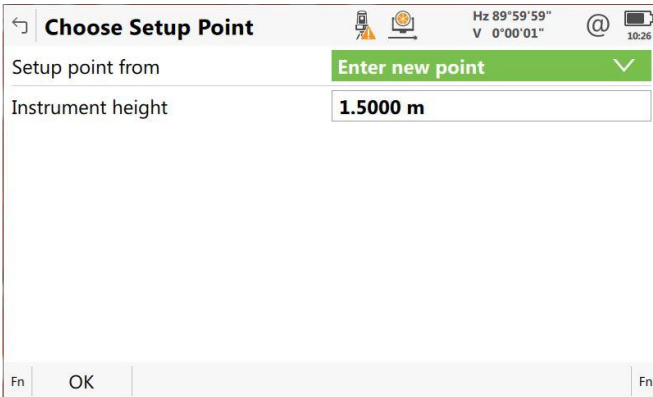


Calgary Office  
 #2, 21 Highfield Circle SE  
 Calgary, AB T2G 5N6  
 (403)259-3992

Edmonton Office  
 16304 111 Avenue  
 Edmonton, AB T5M 4G3  
 (780)486-2155

Vancouver Office  
 #10, 3671 Viking Way  
 Richmond, BC V6V 2J5  
 (604)214-9453

Select the Station Setup method. For this example, we are using a known orientation to establish an arbitrary coordinate system. To access the settings for the Setup application, press the FN key on the keyboard and tap **SETTINGS**.



Once the settings for the application are defined, begin entering the station information Station Coordinates and Code

Calgary Office  
 #2, 21 Highfield Circle SE  
 Calgary, AB T2G 5N6  
 (403)259-3992

Edmonton Office  
 16304 111 Avenue  
 Edmonton, AB T5M 4G3  
 (780)486-2155

Vancouver Office  
 #10, 3671 Viking Way  
 Richmond, BC V6V 2J5  
 (604)214-9453

**New Point** Hz 90°00'00" V 359°59'59" @ 10:33

Coordinates Code Images

Point ID **TS0001**

Easting **1000.0000 m**

Northing **1000.0000 m**

Height **10.0000 m**

Fn Store Page Fn

**New Point** Hz 90°00'00" V 0°00'00" @ 10:33

Coordinates Code Images

Point code **<None>**

Code description -----

Store New attrb Last Default Page

**New Point** Hz 90°00'00" V 0°00'00" @ 10:36

Coordinates Code Images

Point code **Set up**

Code description -----

Store New attrb Last Default Page

Enter Station Coordinates, Point Code and an Image.  
 Tap STORE to continue.

Next, enter the backsight information: Point ID and instrument height.

**Set Orientation** Hz 89°59'59" V 0°00'00" @ 10:36

Orientation Backsight point code Setup 3D viewer

Backsight ID -----

Target height **0.0000 m**

Direction **0°00'00"**

Horizontal distance -----

Difference in height -----

Fn Set Distance Store More Page Fn

**Set Orientation** Hz 89°59'59" V 0°00'01" @ 10:37

Orientation Backsight point code Setup 3D viewer

Backsight ID **BS01**

Target height **1.6250 m**

Direction **0°00'00"**

Horizontal distance -----

Difference in height -----

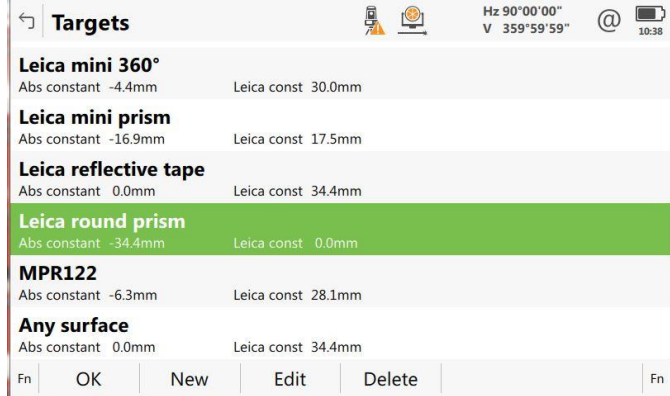
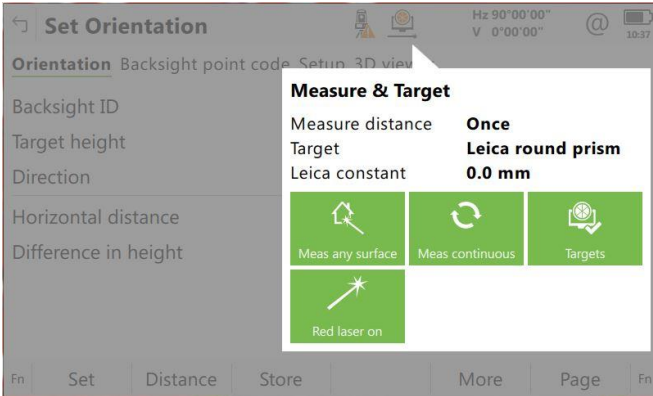
Fn Set Distance Store More Page Fn

To select the backsight reflector type and EDM measurement mode (continuous for robotic tracking, or single shot), tap the reflector

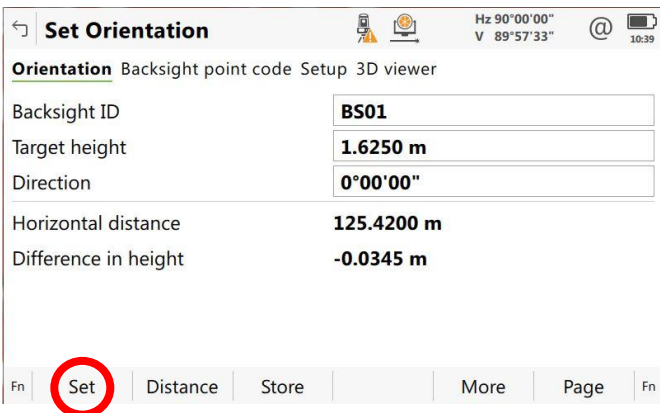
Calgary Office  
 #2, 21 Highfield Circle SE  
 Calgary, AB T2G 5N6  
 (403)259-3992

Edmonton Office  
 16304 111 Avenue  
 Edmonton, AB T5M 4G3  
 (780)486-2155

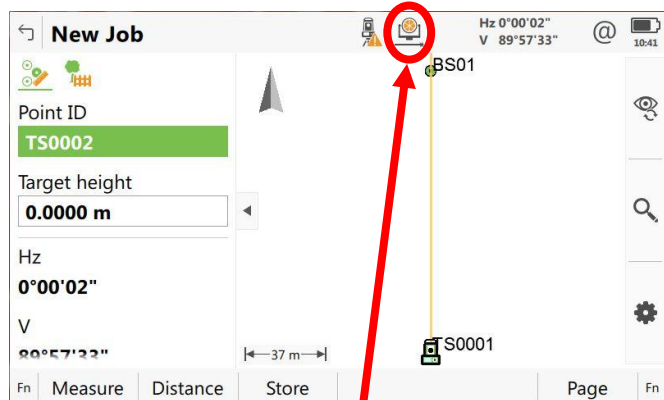
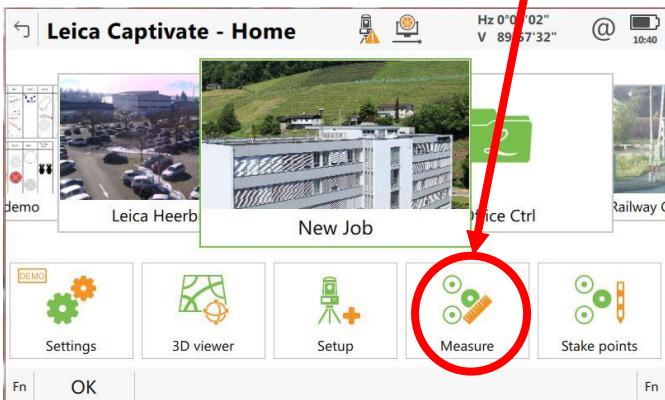
Vancouver Office  
 #10, 3671 Viking Way  
 Richmond, BC V6V 2J5  
 (604)214-9453



With the backsight information and reflector type set, aim the instrument and tap SET to record the backsight.



To begin collecting survey data, tap the MEASURE app from the lower carousel.

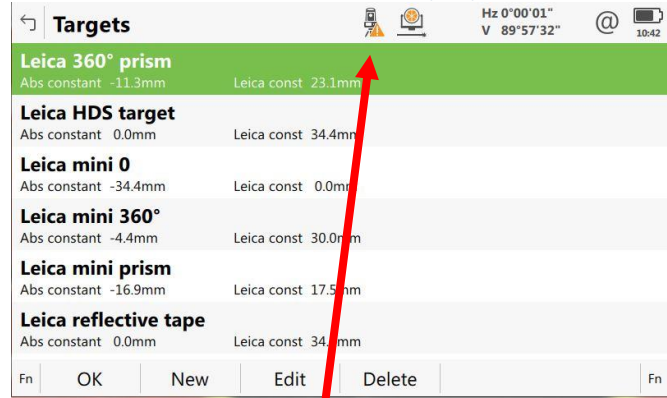
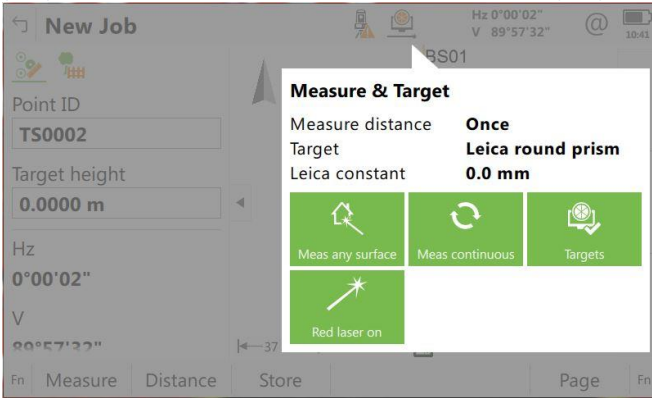


Tap the reflector icon, set the Measurement Mode to **CONTINUOUS** and change to the appropriate target type.

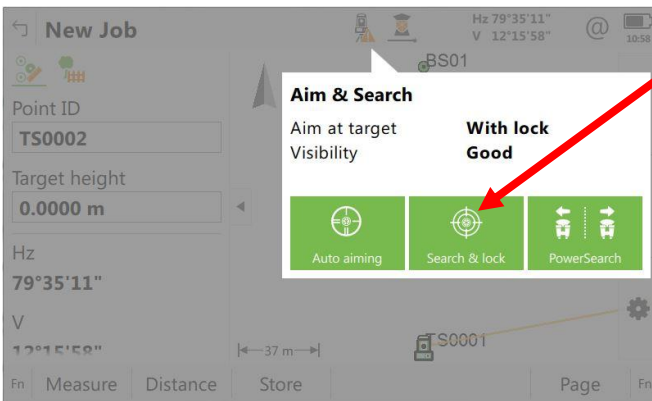
Calgary Office  
 #2, 21 Highfield Circle SE  
 Calgary, AB T2G 5N6  
 (403)259-3992

Edmonton Office  
 16304 111 Avenue  
 Edmonton, AB T5M 4G3  
 (780)486-2155

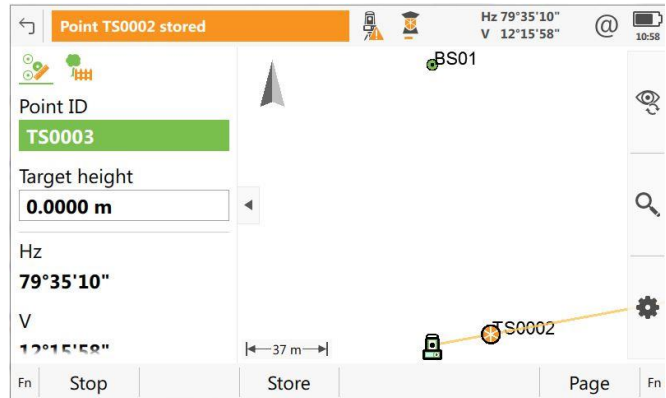
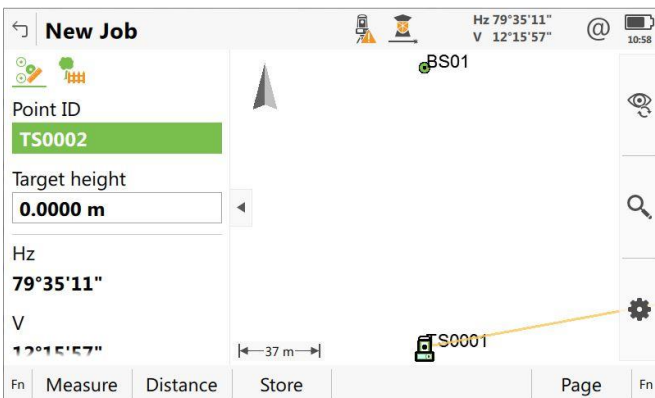
Vancouver Office  
 #10, 3671 Viking Way  
 Richmond, BC V6V 2J5  
 (604)214-9453



Tap the instrument icon to search for the reflector and begin tracking the target.



With the instrument locked and tracking the target, begin collecting survey data. Tap Measure to record the measurement. Tap STOP to stop the EDM measurement.



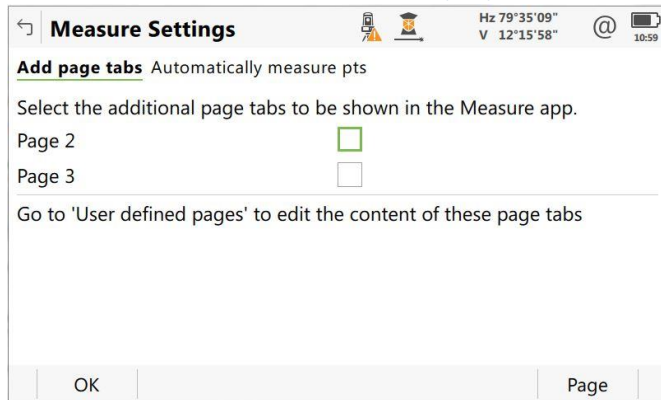
To access the measurement settings, tap the FN key on the keyboard and tap SETTINGS.



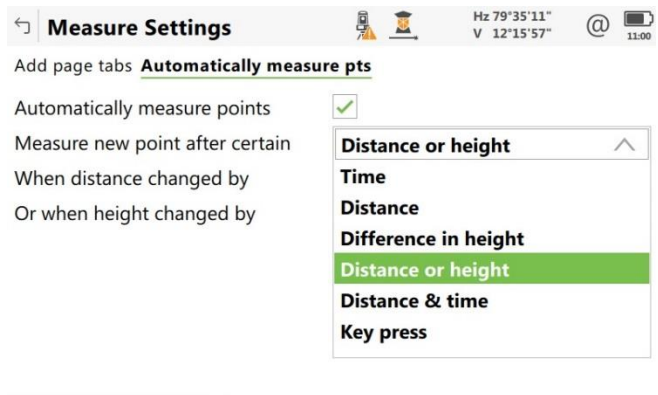
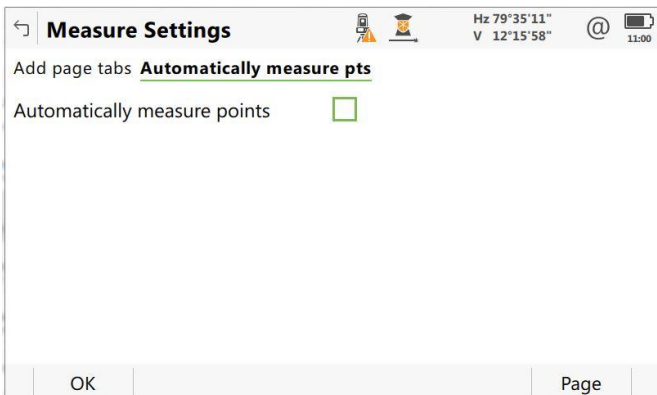
Calgary Office  
 #2, 21 Highfield Circle SE  
 Calgary, AB T2G 5N6  
 (403)259-3992

Edmonton Office  
 16304 111 Avenue  
 Edmonton, AB T5M 4G3  
 (780)486-2155

Vancouver Office  
 #10, 3671 Viking Way  
 Richmond, BC V6V 2J5  
 (604)214-9453



Users can add additions tabs to the Measure screen. The user can also set the instrument to Auto Record points based on a variety of parameters.



To export your job as a text file, tap on the job and select Export. Press Fn then Settings to confirm the order is P,N,E,Z,D.

To transfer the entire job in raw format, put in you USB stick, select Settings, Tools, Transfer.