Leica GS18 GNSS Receiver Configuration Guide
Tilt Measurement

FIELDGENIUS CONFIGURATION FOR GS18 TILT MEASUREMENT MODE

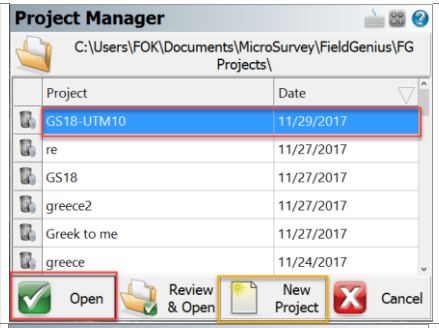
This document will detail how to configure FieldGenius to use the Leica GS18 tilt measurement option when taking measurements utilizing the tilt functionality option. This option allows a user to take measurement without having to have the survey rod and antenna level.

This document will cover the selection of and configuration of the GS18 GNSS receiver and the settings to turn on the tilt measure functionality.

MicroSurvey

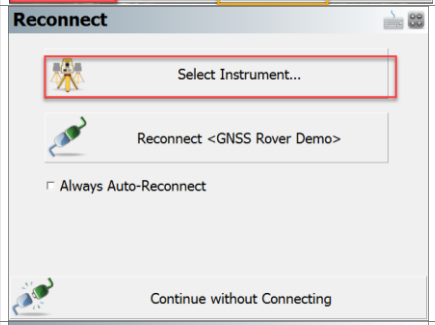
Select and existing project or start a new project in FieldGenius

- Select exiting project and Open (red)
- Select New Project- configure save (orange)



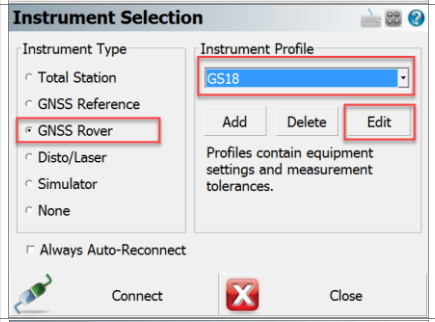
Select Instrument

- Click the Select Instrument button



Instrument Selection

- Select GNSS Instrument type
- Select Instrument Profile



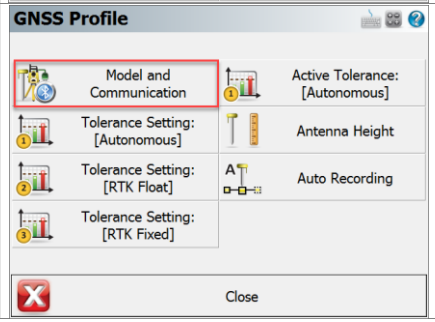
Use the Add button to add a new profile for the GS18 if a profile is not alread created.

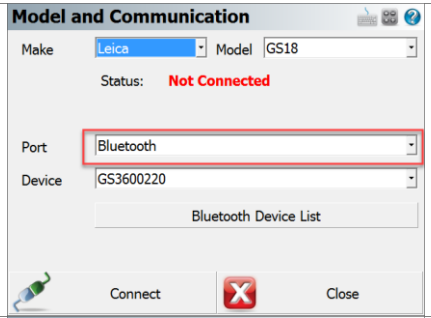
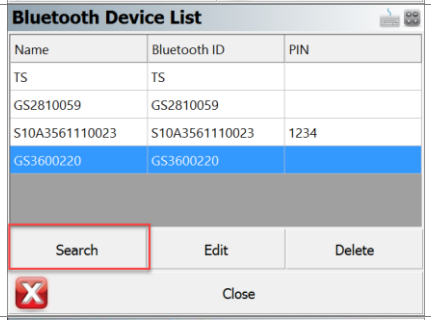
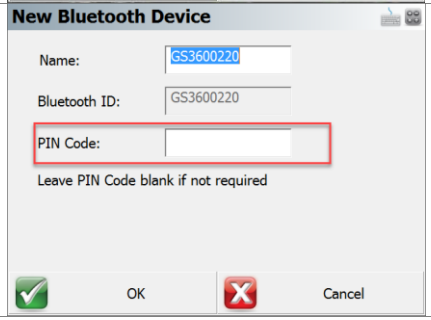
Name the new Profile.

Select the Edit button.

Model and Communication

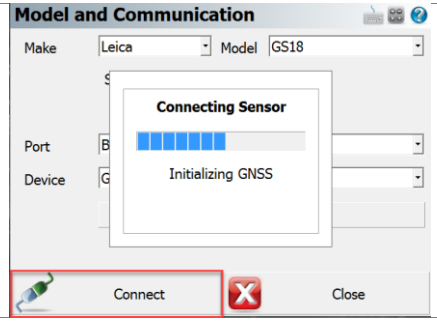
- Select Model and Communication button



Select GS18 • Make – Select Leica • Model – Select GS18		Click the port drop down and choose Bluetooth If the proper device (receiver serial number) is not listed select the Bluetooth Device List button.
Search for GS18 Bluetooth modem • Select Search button		If the GS18 is not listed select the Search button. The GS18 must be powered on for the search to find the Bluetooth address.
Select the Bluetooth modem		Select the bluetooth modem associated with the GS18. The modem will be listed as GS+serial # e.g GS36000220. The serial number is found on the model tag on the bottom of the GS18.
Bluetooth PIN Code		There is no PIN code needed for the GS18. Leave this field blank and select the OK button.

Connect

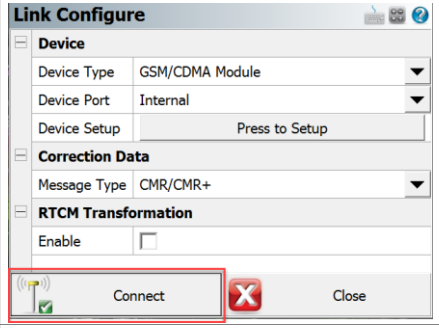
- Select the Connect button



The contoller will establish a bluetooth connection to the GS18. This can take a little while and the status of the connection is listed on the popup.

Link Configure

- Configure Link
- Select Connect



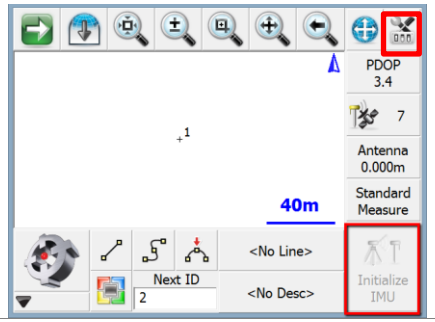
If no RTK correction is used select the Close button to go to the Map view screen.

If you are using RTK correction:

- Choose you device type.
- Set the device port to internal.
- Configure the link based on your correction service instructions.
- Select the Connect button.

IMU Initialization

- Move the GS18 to calibrate the IMU
- Select Instrument settings icon



When the Link configure is complete the Map view screen will be displayed.

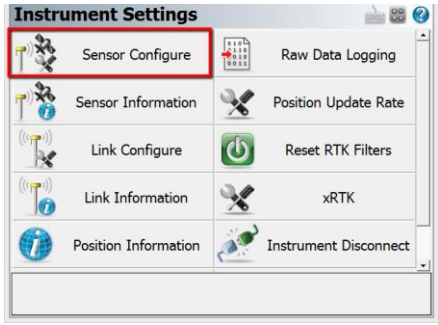
The IMU needs to be calibrated before the tilt measurement option will work.

Move the GS18 receiver in a circle until the Initialize IMU message goes away and the measure mode is displayed on the measure button.

Select the instrument setting icon to check the tilt sensor configuration.

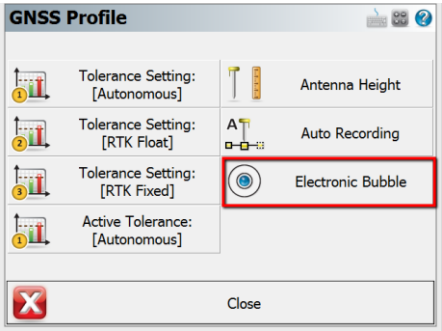
Sensor Configure

- Select the sensor Configure button



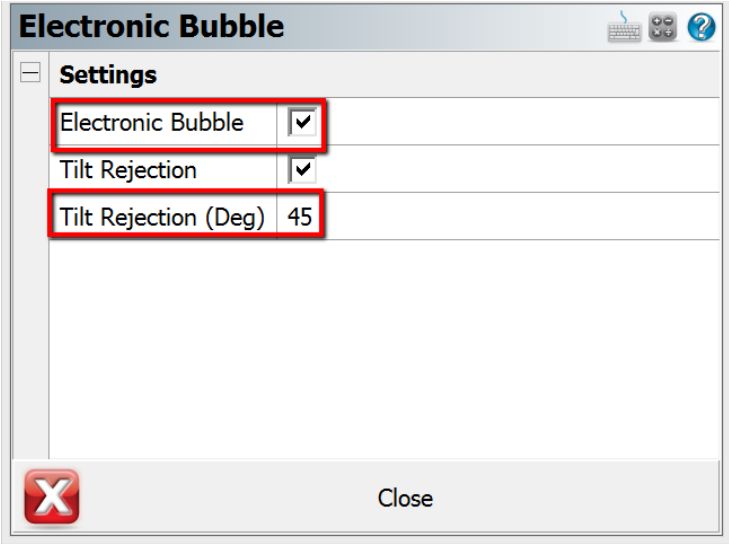
Electronic Bubble

- Select the Electronic Bubble button



Tilt Measurement Settings

- Check the Electronic Bubble option
- Set the Tilt Rejection angle
- Select Close and return to the Map View



For the tilt measurement option on the GS18 to work the Electronic Bubble option needs to be checked.

The tilt rejection option is optional and can be selected if you want to be notified when a measurement is beyond the selected tilt rejection angle.

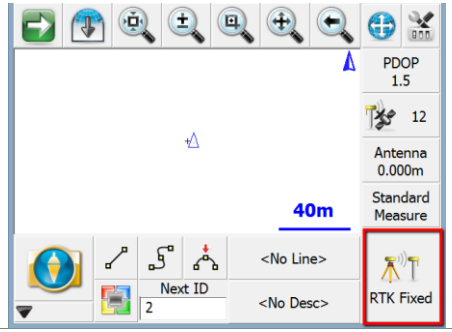
The tilt rejection angle can be set to a angle beyond which you want to be informed when taking a measurement.

In non GS18 devices with electorinc bubbles this option is used to monitor when a measurement is outside the tilt angle degree tolerance setting.

NOTE: To use the GS18 tilt measurement feature the electorinc bubble option must be enabled.

Measurement

- Select the measure button to measure a position



Place the tip of the survey rod at the point to be measured.

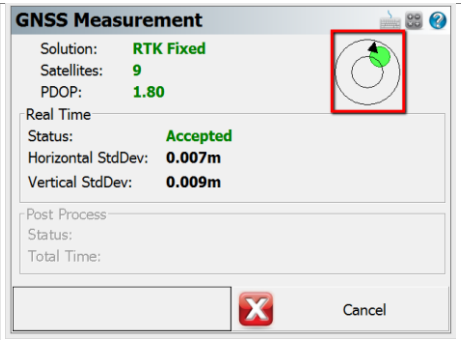
Tilt the rod

Select the measure button.

Note: If you tilt the rod beyond Tilt rejection angle you have setup you will get a warning when trying to store the measurment.

Measurement Save

- Review Measurement



After taking a measurement the GNSS Measurment screen is dispalyed.

If the Tilt option is enabled the GS18 will show the electornic bubble and the direction the rod is tilting when the measurement was taken.

Note: If the electronic bubble is not enabled the electornic bubble will not be displayed here and the measurement tilt functionality will not be used to determine the location of the tip of the rod.