

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.



| Select and existing project or start a new project in FieldGenius Select exiting project and Open (red) Select New Project- configure save (orange) | Project Manager Image: C:\Users\FOK\Documents\MicroSurvey\FieldGenius\FG Project Date Image: Comparison of the state of the | |
|---|---|--|
| Select Instrument Click the Select Instrument button | Reconnect Image: Select Instrument Image: Select Instrument Image: Select Se | |
| Instrument Selection Select GNSS Instrument type Select Instrument Profile | Instrument Selection Instrument Type Cotal Station GNSS Reference GNSS Rover Disto/Laser Simulator None Connect Connect Connect Close Cose | 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 | GNSS Profile | |



| Select GS18 Make – Select Leica Model – Select GS18 | Model and Communication Image: Communication Make Image: Communication Make Image: Communication Status: Model GS3600220 - Bluetooth - Device GS3600220 Bluetooth - Device Connect Connect Close | 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 | Bluetooth Device List Name Bluetooth ID PIN TS TS GS2810059 GS2810059 GS2810059 GS2810059 GS3600220 GS3600220 GS3600220 GS3600220 GS3600220 Search Edit Delete Image: Close Close | 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 Bluetooth Device | 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 | New Bluetooth Device Image: S53600220 Name: S53600220 Bluetooth ID: G53600220 PIN Code: Image: S53600220 Leave PIN Code blank if not required Image: OK Cancel | There is no PIN code needed for the GS18. Leave this field blank and select the OK button. |

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| ConnectSelect the Connect button | Model and Communication | 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 IMU Initialization | Link Configure | 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. When the Link configure is complete the Map view screen will be displayed. |
| Move the GS18 to calibrate the IMU Select Instrument settings icon | +1 Antenna 0.000m Standard Measure ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ | 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 | Sensor Information Position Update Rate Image: Configure Image: Configure Image: Configure< | |



| Electronic Bubble | | [Autonomous] | | Antenna Height |
|---|---|-----------------------------------|-------------|-------------------|
| | | Tolerance Setting: [RTK Float] | A¶ □-⊡-∷ | Auto Recording |
| Select the Electronic Bubble button | 3 | Tolerance Setting: [RTK Fixed] | ۲ | Electronic Bubble |
| | | Active Tolerance: [Autonomous] | | |
| | | | | |

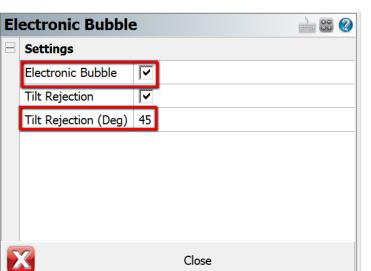
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GNSS Profile

Tilt Measurement Settings

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



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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



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Close

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.



| | GNSS Measurement 🔡 🙆 |
|--------------------|--|
| | Solution: RTK Fixed Satellites: 9 PDOP: 1.80 |
| Measurement Save | Real Time Status: Accepted |
| Review Measurement | Horizontal StdDev: 0.007m Vertical StdDev: 0.009m |
| | Post Process |
| | Status: |
| | Total Time: |
| | Cancel |

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.