

Leica GS18 GNSS Receiver Configuration Guide Tilt Measurement

EVIDENCERECORDER CONFIGURATION FOR GS18 TILT MEASUREMENT MODE

This document will detail how to configure EvidenceRecorder 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 | Scene Manager 📄 🗃 😵 | |
|---|--|--|
| project or start a new | C:\Users\DEMO\Documents\Leica Geosystems\EvidenceRecorder\Scenes\ | |
| project in | Project Date | |
| | GS18 DEMO 1/2/2018 | |
| EvidenceRecorder | Image: DistoS910 11/30/2017 Image: DistoS910 11/30/2017 | |
| Select exiting project | Image: Mail way 11/30/2017 Image: Mail way 11/15/2017 | |
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| Select New Project- | Open Review New K | |
| configure save (orange) | a Open Scene | |
| | Reconnect 🚵 😂 | |
| | Salart Instrument | |
| | | |
| Select Instrument | Reconnect - GNSS Rover> GS18 | |
| Click the Select | | |
| | □ Always Auto-Reconnect | |
| Instrument button | | |
| | | |
| | Continue without Connecting | |
| | Instrument Selection | |
| | Instrument Type Instrument Profile | |
| Instrument Selection | ← Total Station GS18 | Lies the Add button to add a new profile for the CS19 if a profile is not alread |
| | GNSS Reference | ose the Add bullon to add a new prome for the GSTO if a prome is not alread |
| Select GNSS | GNSS Rover Add Delete Edit Delete | created. |
| Instrument type | C Simulator | Name the new Profile. |
| Select Instrument | © None | |
| Profile | | Select the Edit button. |
| | Always Auto-Reconnect | |
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| | Connect Close | |
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| | Model and Communication 🛁 😂 🥝 | |
|-------------------------|--------------------------------------|---|
| | Make Leica Model GS18 · | |
| Select GS18 | Status: Not Connected | Click the port drop down and choose Bluetooth |
| | Port Bluetooth | If the proper device (receiver serial number) is not listed select the Bluetooth |
| Make – Select Leica | Device (C\$3600220 | Device List button |
| Model – Select GS18 | | |
| | Bluetooth Device List | |
| | A) 🔽 | |
| | Connect Close | |
| | Bluetooth Device List | If the GS18 is not listed select the Search button. The GS18 must be powered on |
| o 1.4 oo4o | Name Bluetooth ID PIN | for the search to find the Bluetooth address |
| Search for GS18 | GS2810059 GS2810059 | |
| Bluetooth modem | S10A3561110023 S10A3561110023 1234 | |
| | GS3600220 GS3600220 | |
| Select Search button | | |
| | | |
| | Search Edit Delete | |
| | Close | |
| Select Bluetooth Device | | |
| | | |
| | | Select the bluetooth modem associated with the GS18. The modem will be listed |
| Select the Bluetooth | | as GS +serial # e g $GS36000220$ The serial number is found on the model tag on |
| modem | GS3600220 | the bettern of the CS19 |
| | (506563201E66) | |
| | | |
| | | |
| | | |
| | Rerresn List Cancel | |
| | | |
| | Name: GS3600220 | |
| | Bluetooth ID: GS3600220 | I here is no PIN code needed for the GS18. Leave this field blank and select the |
| Bluetooth PIN Code | PIN Code: | OK button. |
| | Louis DIN Code block if not required | |
| | Leave PIN Code Diank if not required | |
| | | |
| | | |
| | OK 🔀 Cancel | |

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| | Model and Communication 📄 😂 🚱 | |
|---|--|--|
| | Make Leica · Model GS18 · | |
| ConnectSelect the Connect button | Port B Device G Initializing GNSS | 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. |
| | Connect Close | |
| Link Configure Configure Link Select Connect IMU Initialization Move the GS18 to calibrate the IMU Select Instrument | 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. The IMU needs to be calibrated before the tilt measurement option will work. |
| Select Instrument settings icon Sensor Configure Select the sensor Configure button | 40m Standard Measure Next ID Next ID Next ID Next ID Next ID Next ID No Desc> Initialize MU Sensor Configure Sensor Configure Sensor Information Sensor Information Sensor Information Sensor Reset RTK Filters Link Configure Link Information Sensor | 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. |
| | | |



• Select the Electronic Bubble button

| GNSS Profile 📄 😂 🥝 | | | |
|--------------------|------------------------------------|-----------------------|-------------------|
| | Tolerance Setting: [Autonomous] | T I | Antenna Height |
| 2 | Tolerance Setting: [RTK Float] | A ¶ □-⊡-::: | Auto Recording |
| 11 | Tolerance Setting: [RTK Fixed] | ۲ | Electronic Bubble |
| | Active Tolerance: [Autonomous] | | |
| X | | Close | |

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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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 | ð | |
| 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.