

# Leica Flexline (TS-02) FieldGenius Setup Guide

This Guide is updated for FieldGenius Version 5.0.0.9 or EVR 8.0.0.9 (July 11, 2011)

## Firmware Check

To check Firmware version do the following:

1. From the Main Menu, press 6 (Tools)
2. From the Tools Menu, press 3 (SysInfo)
3. From the System Information 1/2 page, press F1 (Softw.)
4. From the Software Information 1/4 page, you will see the firmware versions.

During the writing of this document our instrument had the following firmware:

Instrument Firmware	V 0.99
Build Number	428
Active Language	English (V 1804.4113)
EDM Firmware	V 4.17

## Communication Parameters

The Flexline series of instrument support serial communication via Bluetooth or Serial cable.

### Check Baud Rate

It is important to check the communication parameters before connecting your data collector. The default baud rate for the Flexline series of instruments is 115200.

1. From the Main Menu, press 5 (Settings)
2. From the Settings Menu, press 3 (Communication)
3. Make a note of the baud rate displayed on the Communication Parameters Page.

### Check Bluetooth PIN Code

The default pin code for the Bluetooth connection is 0000. It is recommended that you confirm the PIN code before connecting your data collector for the first time.

1. From the Main Menu, press 5 (Settings)
2. From the Settings Menu, press 3 (Communication)
3. From the Communication Parameters page, press F1 (BT-PIN) and make a note of the pin number for the Bluetooth connection.

## Port Settings

It is recommended that you leave the Port setting set to Automatic for ease of use.

1. From the Main Menu, press 5 (Settings)
2. From the Settings Menu, press 3 (Comms)
3. From the Communication Parameters page, ensure that you have the following settings:

Port	Automatically
Bluetooth	Active
Baudrate	115200 (Can be changed by user)
Databits	8
Parity	None
Endmark	CR/LF
Stopbits	1

## Connect Data Collector and FieldGenius with Bluetooth or Cable

You must use FieldGenius 2008 Version 4.0.6 or greater.

### Instrument Selection

Instrument Type

Total Station       GPS Rover  
 Total Station Demo       GPS Reference  
 None       GPS Demo

Instrument Profile

Flexline

Add    Delete    Edit

Profiles contain equipment settings and measurement tolerances.

Connect the data collector to the instrument and switch the power on prior to pressing the 'Connect' button.

 **Connect**     **Close**

Start FieldGenius and open or create a new project.

On the Instrument Selection screen create a new Total Station Profile. In our example we created one named Flexline.

Pick Add, enter a name, pick Save and then Edit.

Pick **Model and Communication** and follow the steps for either Cable or Bluetooth Connection below:

## Connecting with a Cable:

<p><b>Model and Communicati...</b>   </p> <p>Make: <input type="text" value="Leica"/></p> <p>Model: <input type="text" value="FlexLine (GeoCOM)"/></p> <p>Status: <b>Not Connected</b></p> <p>Port: <input type="text" value="COM1"/></p> <p>Baud: <input type="text" value="115200"/> Stop Bits: <input type="text" value="1"/></p> <p>Data Bits: <input type="text" value="8"/> Parity: <input type="text" value="None"/></p> <p>  </p>	<p>On the Model and Communication screen, Select Leica Flexline (GeoCom) and press Use Default Communication Settings.</p> <p><b>Cable:</b></p> <p>If you are using a cable use COM 1 and set the parameters to match your instrument.</p> <p>Press <b>Close</b> and then select <b>EDM Settings</b></p>
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## Connecting with Bluetooth:

<p><b>Model and Communicati...</b>   </p> <p>Make: <input type="text" value="Leica"/></p> <p>Model: <input type="text" value="FlexLine (GeoCOM)"/></p> <p>Status: <b>Not Connected</b></p> <p>Port: <input type="text" value="Bluetooth"/></p> <p><input type="text" value="Bluetooth Search"/></p> <p>Device: No  ted</p> <p>  </p>	<p><b>Bluetooth:</b></p> <p>If you are using Bluetooth, first ensure Bluetooth is active on the instrument and then pick on "Bluetooth Search." Pick "Refresh List" if you need to repeat the search. When you see your instrument pick on it:</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"><p><b>SET530R3 144445 (000E6DFA835A)</b></p></div> <p>And enter the Bluetooth PIN or select OK if you don't need one.</p> <p>Press <b>Close</b> and then select <b>EDM Settings</b>.</p>
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**EDM Settings**

EDM Settings

Mode: IR Standard GL: High

Time Out: 10  Use default time

Minimum: 0m Maximum: 10000m

Prism Offsets (mm)

FS: 4.4 BS: 4.4 RL: 34.4

Set instrument to zero

Reflectorless Settings

Standard Deviation:

 **Close**

Specify the EDM Settings and Prism Offsets you wish to use on the EDM Settings screen.

We suggest you always use the “Set instrument to zero” option and specify your prism offsets in FieldGenius.

We have a comprehensive article on Leica prism offsets and how they affect FieldGenius.

Please refer to the “Leica RX1250 & TPS 1200 Prism Offsets” topic in the MicroSurvey Helpdesk. [www.microsurvey.com/helpdesk](http://www.microsurvey.com/helpdesk)

In our example we are using a non Leica prism and must define a prism offset of 4.4 mm to get correct measurements.

For reflectorless mode you will want to match the Leica offset and set it to 34.4 mm.



Once you connect to the instrument always take some manual measurements and compare them to the distance reported by FieldGenius. Test both the non prism and prism modes.

Press **Close** then press **Tolerance Settings**.

**Measurement Tolerance**

Horizontal Angle Tolerance (sec)

Vertical Angle Tolerance (sec)

Distance Tolerance

**Close**

Specify the Multiset Tolerances you wish to use on the Tolerance Settings screen.

Press **Close**.

**Note:** There are no Search or Radio settings to define so you can skip those screens.

**Instrument Selection**

Instrument Type

Total Station       GPS Rover  
 Total Station Demo       GPS Reference  
 None       GPS Demo

Instrument Profile

Profiles contain equipment settings and measurement tolerances.

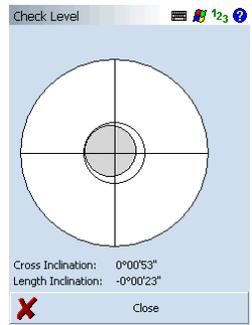
Connect the data collector to the instrument and switch the power on prior to pressing the 'Connect' button.

**Connect** **Close**

Go back to the Model and Communication screen. You are now ready to connect to the instrument.

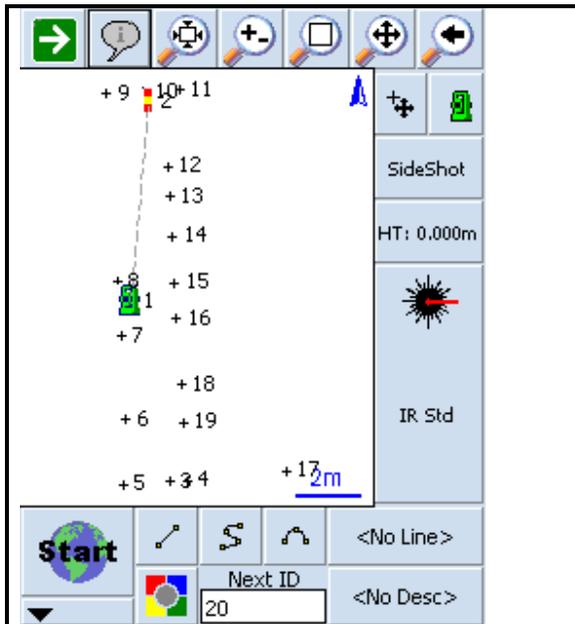
Make sure the instrument is powered on and leveled.

Press the **Connect** button. If you successfully connect, you will see the Check Level screen.



Press **Close** to continue.

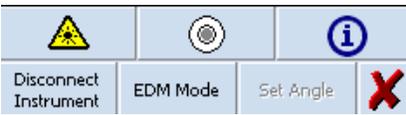
## Instrument Control



The screenshot displays the Instrument Control interface. At the top, a toolbar contains navigation icons: a green arrow, a speech bubble, a magnifying glass with a plus sign, a magnifying glass with a minus sign, a magnifying glass with a square, a magnifying glass with a crosshair, and a magnifying glass with a left arrow. Below the toolbar is a map view showing a vertical line of points labeled +5 through +19. Point +8 is highlighted with a green instrument icon. A distance of +17.2m is shown at the bottom right of the map. To the right of the map is a settings panel with a green instrument icon, a magnifying glass with a plus sign, and a magnifying glass with a left arrow. Below these icons are labels: SideShot, HT: 0.000m, a sun icon, and IR Std. At the bottom of the interface is a 'Start' button with a globe icon, a magnifying glass with a plus sign, a magnifying glass with a minus sign, a magnifying glass with a square, and a magnifying glass with a left arrow. Below these are fields for 'Next ID' (containing '20') and '<No Desc>'. A red 'X' icon is visible in the bottom right corner of the interface.

From the Map screen you can access the instrument settings by pressing the instrument icon.

Doing so will open the **Instrument Settings** toolbar.



The Instrument Settings toolbar contains four buttons: 'Disconnect Instrument' with a yellow warning triangle icon, 'EDM Mode' with a target icon, 'Set Angle' with an information icon, and a red 'X' icon.

From this toolbar you can change EDM modes, turn the laser pointer on and off, connect to the instrument, check level and view instrument stats.