LPMS-IG1 Series
Quick Start Guide ver. 1.0

LPMS-IG1-CAN

LPMS-IG1P-CAN

LPMS-IG1-RS232

LPMS-IG1P-RS232

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http://www.lp-research.com

Version History

Date	Version	Details
2019-08-01	ver. 1.0	- Initial release - Compatible with firmware version IG1-3.1.1-20190723 or above - Compatible with Windows GUI software version IG1Control-0.2.0 or above

Table of Contents

1. Introduction

Welcome to the introduction of LPMS-IG1 series sensors' quick start guides. This document is going to show you how to use our Windows-based GUI software IG1Control to quickly manipulate the LPMS-IG1 sensors. Specifically, the whole illustration will be focused on the LPMS-IG1P-RS232 module, however it could principally be extended to all other modules like LPMS-IG1-RS232、LPMS-IG1P-CAN and LPMS-IG1-CAN.

More sensor information could be referred to the product hardware and user manuals on our webpage: www.lp-research.com
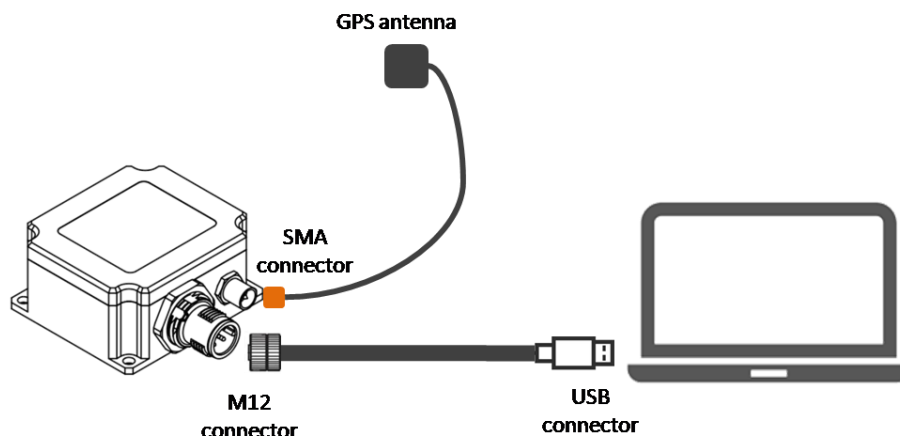
2. Operation

2.1 Connection

Fig. 1. Cable connection between LPMS-IG1P-RS232 and PC

As showed above, the packaged M12 cable could be used to connect the LPMS-IG1P-RS232 sensor with a PC host system via USB port, and the SMA connector is used for the installation of GPS antenna.

2.2 Software Drivers

In order to connect LPMS-IG1P-RS232 sensor to your Windows system via USB interface, a proper hardware driver must be installed. The sensor is embedded with a CP210X-series USB chip from Silicon Labs. In default, this chip is working at the virtual COM mode. Therefore, the host Windows system needs to install the VCP drivers which could be downloaded from:

- our webpage: https://lp-research.com/support/
- to search "CP210x_Windows_Drivers" on webpage of Silicon Labs

The following section introduces the process of the USB driver installation, as illustrated from Fig. 2 to Fig. 4 as well.

1) After plugging the sensor, Windows will pop out a message of "New hardware discovered", and the hardware will be listed up on the device manager window as showed in Fig. 2.
2) Right-clicking on the device to choose the menu of driver installation, and on the pop out window please select the folder where the driver is placed, for

example the folder of " CP210x_Windows_Drivers " as showed in Fig. 3.

3) After installation is completed, the sensor USB connection will be recognized as COM port as showed in Fig. 4.

NOTE: Windows might automatically install a wrong USB driver for the SUB interface while the sensor is connected for the first time. In this case, user has to manually confirm the driver version and reinstall the correct one as introduced from step 1 to 3 above.
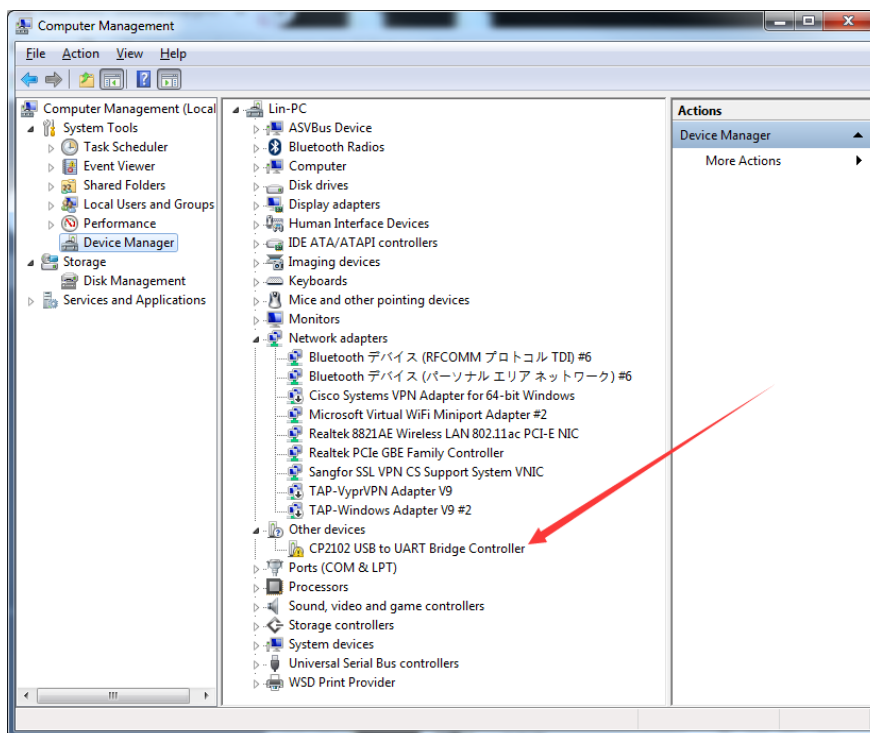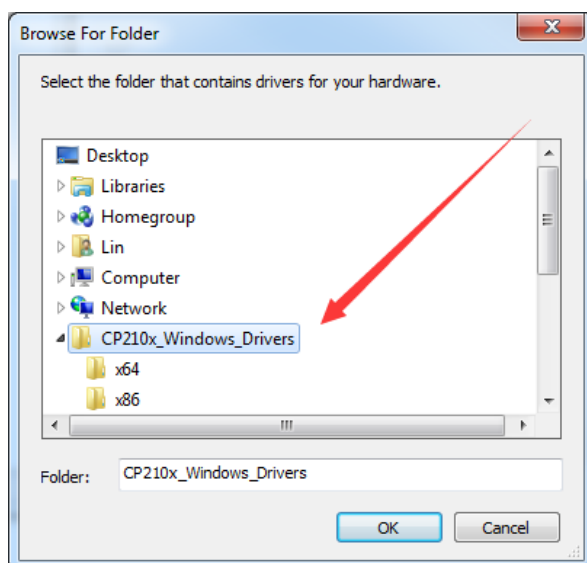

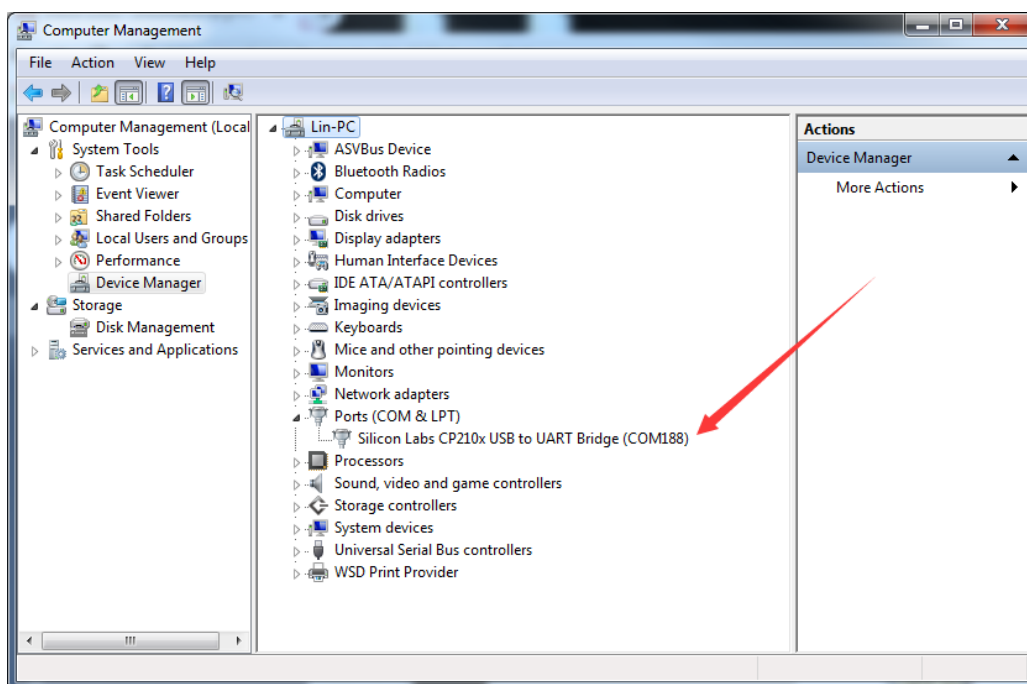Fig.2 . USB driver installation-1

Fig.3 . USB driver installation-2

Fig.4 . USB driver installation-3

2.3 IG1Control GUI Software

1) to extract the IG1Control.exe from package file like "IG1Control-0.2.0 (Build201907231300).zip". The main GUI of IG1Control is showed as following:
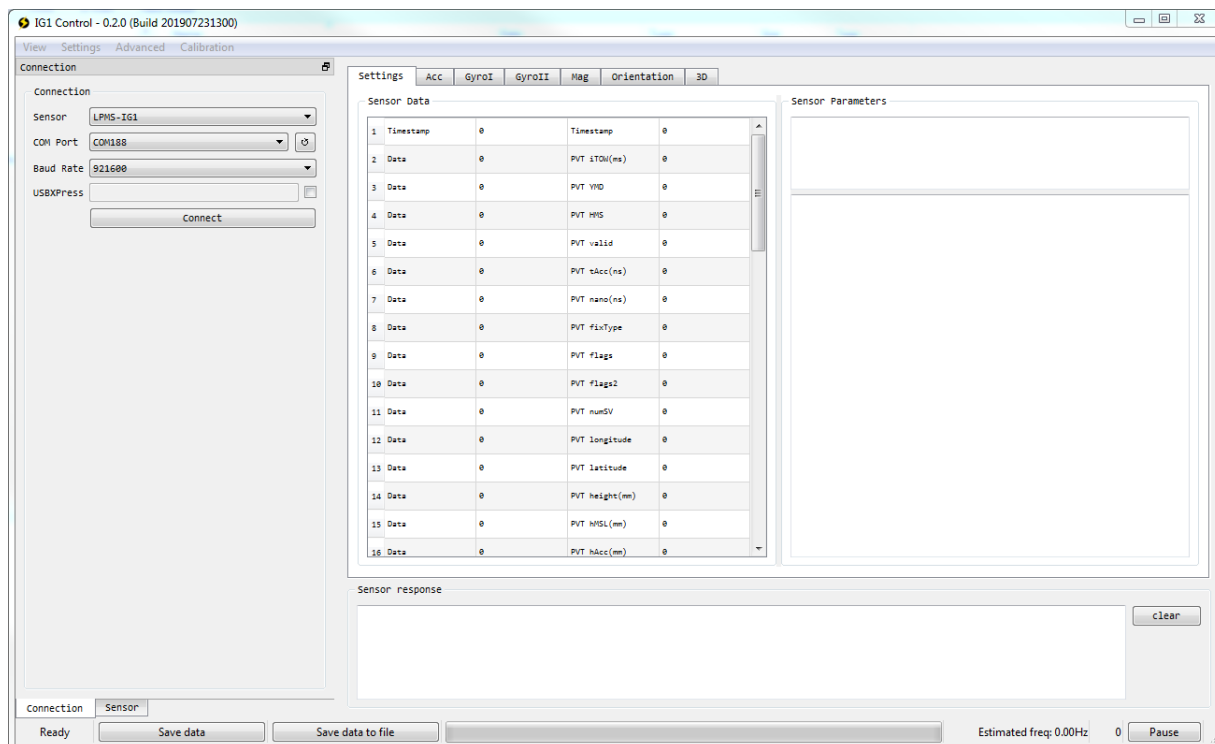

Fig. 5. Main GUI of IG1Control

2) On the left hand side of the GUI, user can choose the corresponding COM number for instance "COM188" showed on Fig. 4 and the baudrate (921600bps in default) to create a sensor connection. After clicking the "Connect" button, the sensor information and data will be showed as following.
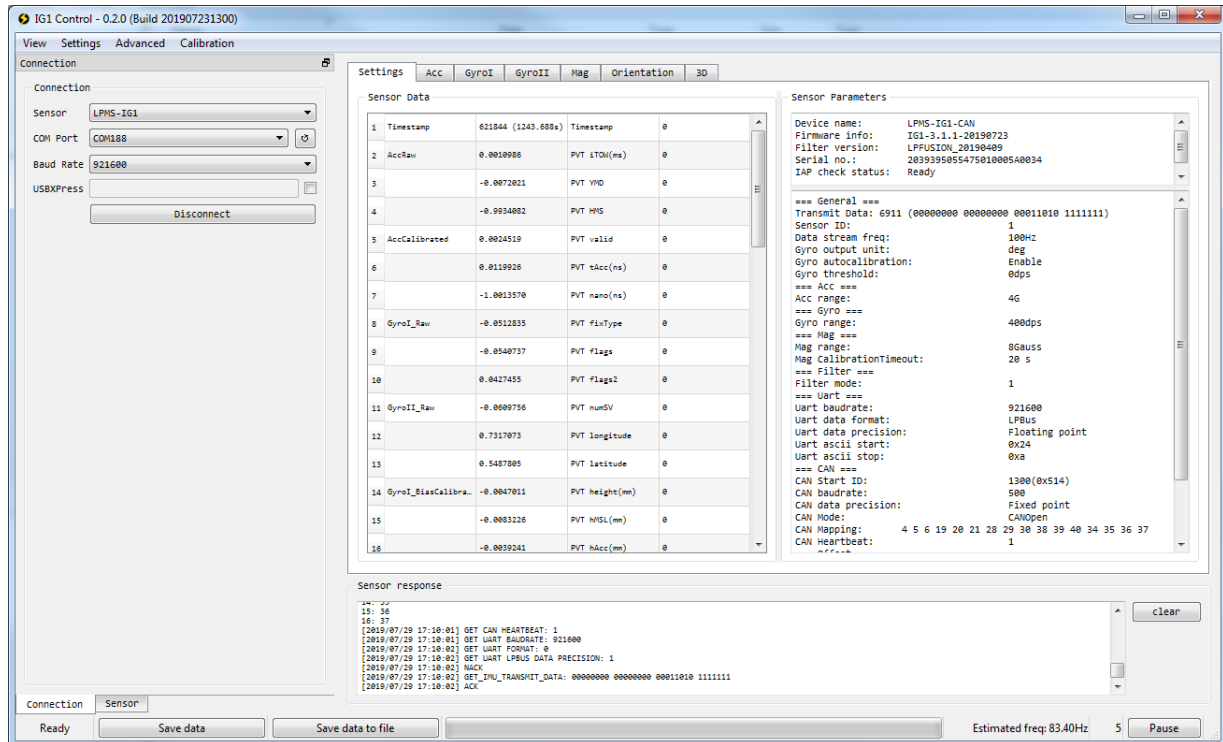

Fig. 6. Information on GUI after the senor is connected successfully

Sensor data can be visualized in different forms, such as number, curve or 3D model. User can switch among those forms by clicking the taps of "Settings"/"Acc"/"GyroI"/"GyroII"/"Mag"/"Orientation"/"3D".

NOTE: It might take a few seconds for the visualized data refreshed after tap changes.

More sensor operations can be achieved by using "Connection"/"Sensor" taps, such as sensor connection / parameter modification etc. Please refer to the software manual or user manual for detailed information.

2.4 Data Logging

IG1Control software provides data logging functionality for users to quickly execute some experiments for offline data analysis. The process is showed as following.

1) to start data logging by clicking on the "Save data" button, and the name of the

button will be changed to "Stop Saving", as showed in Fig. 7. The process bar shows the number of data that has been acquired, and the maximum number of data that could be acquired (in default max. 720000 data packets). Therefore, if the sampling rate is 100Hz, the maximum data logging time will be: 720000/100/3600 = 2 hours.

    2) to stop data logging by clicking on the "Stop Saving" button. A window will be popped out for asking the path to save the sensor IMU data, as showed in Fig. 8.

    3) after the IMU data is saved, another window will be popped out for asking the path to save the GPS data, as showed in Fig. 9.
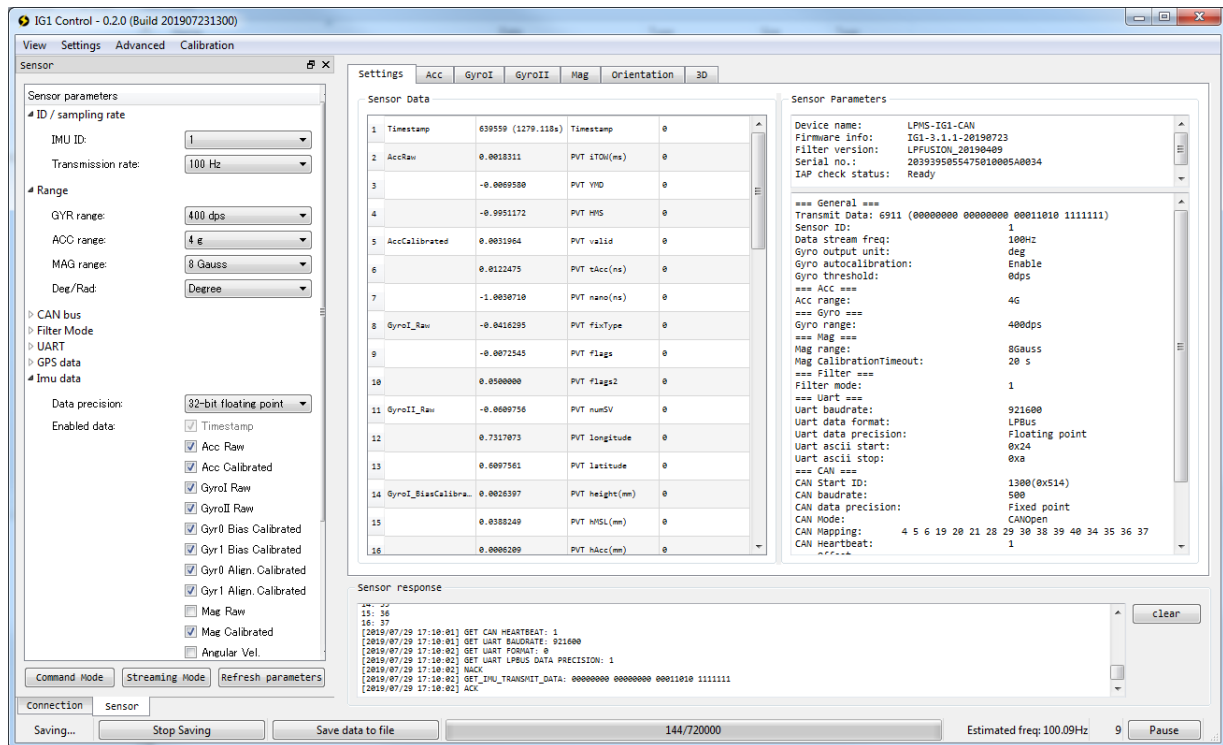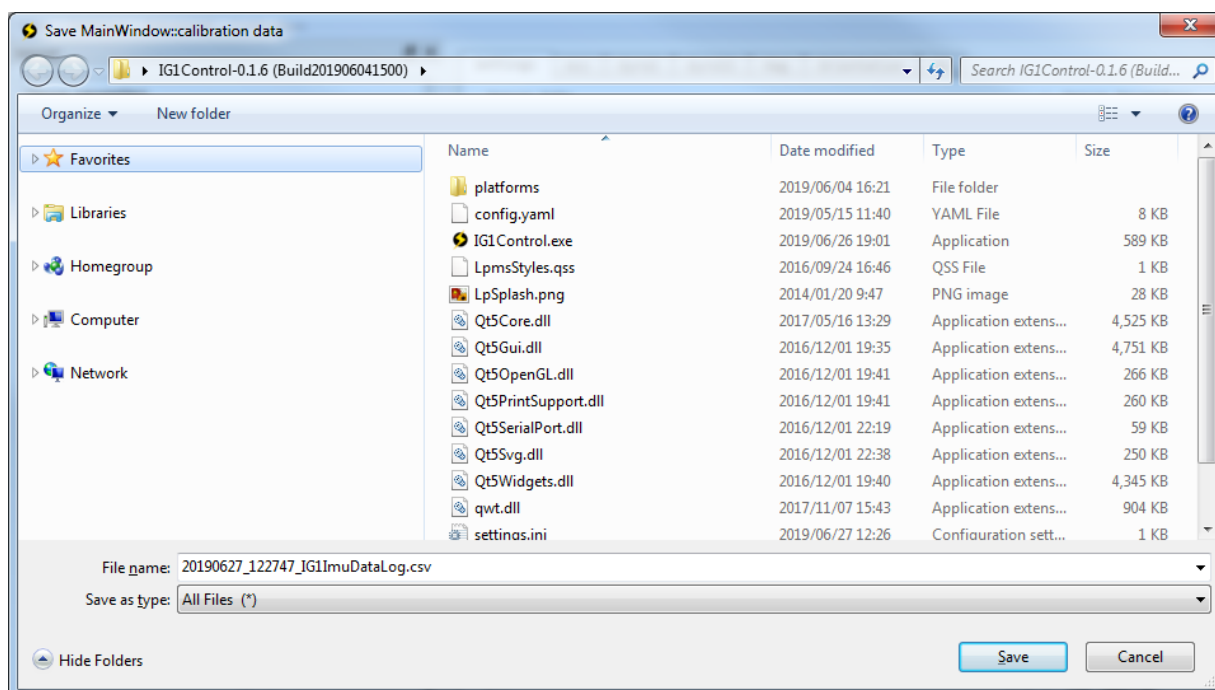

Fig. 7. Data logging starting
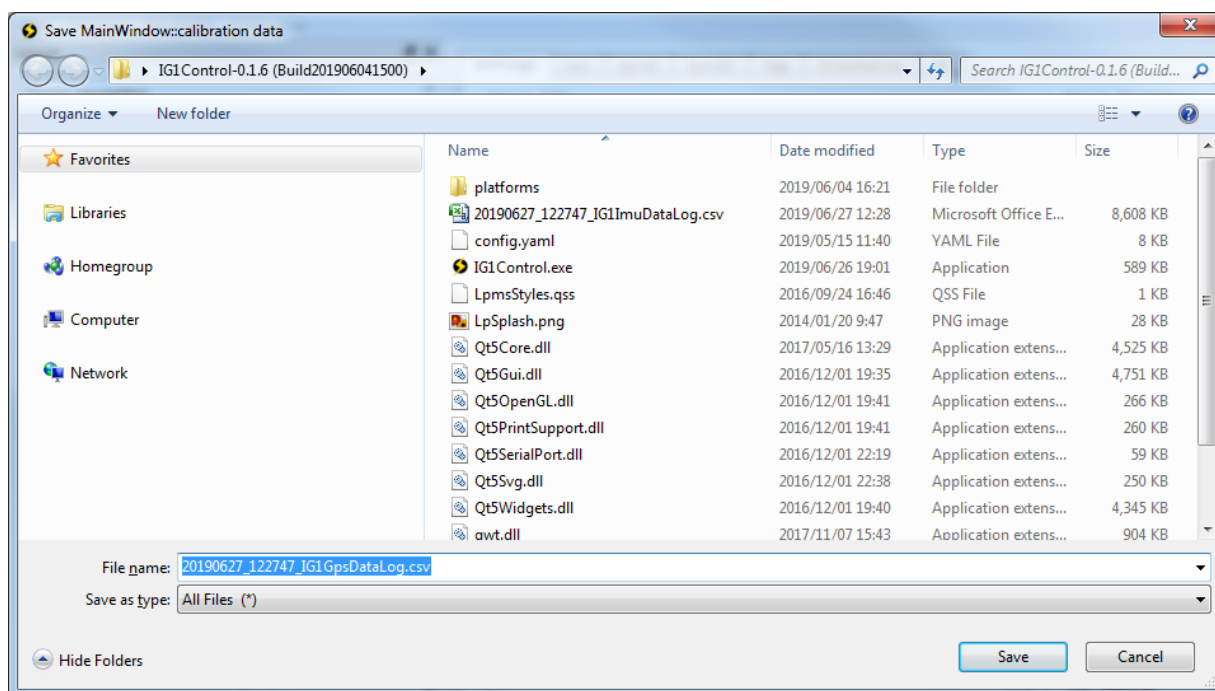
Fig. 8. IMU data saving

Fig. 9. GPS data saving

In addition, a "Save data to file" button is available for users to save the whole acquired data set again.

3. Factory Reset

If the sensor is not working in an expected way after some setting modifications, user could reset the sensor parameters to factory default setting by the function of "Reset factory settings" under menu "Setting" as showed in Fig. 10.
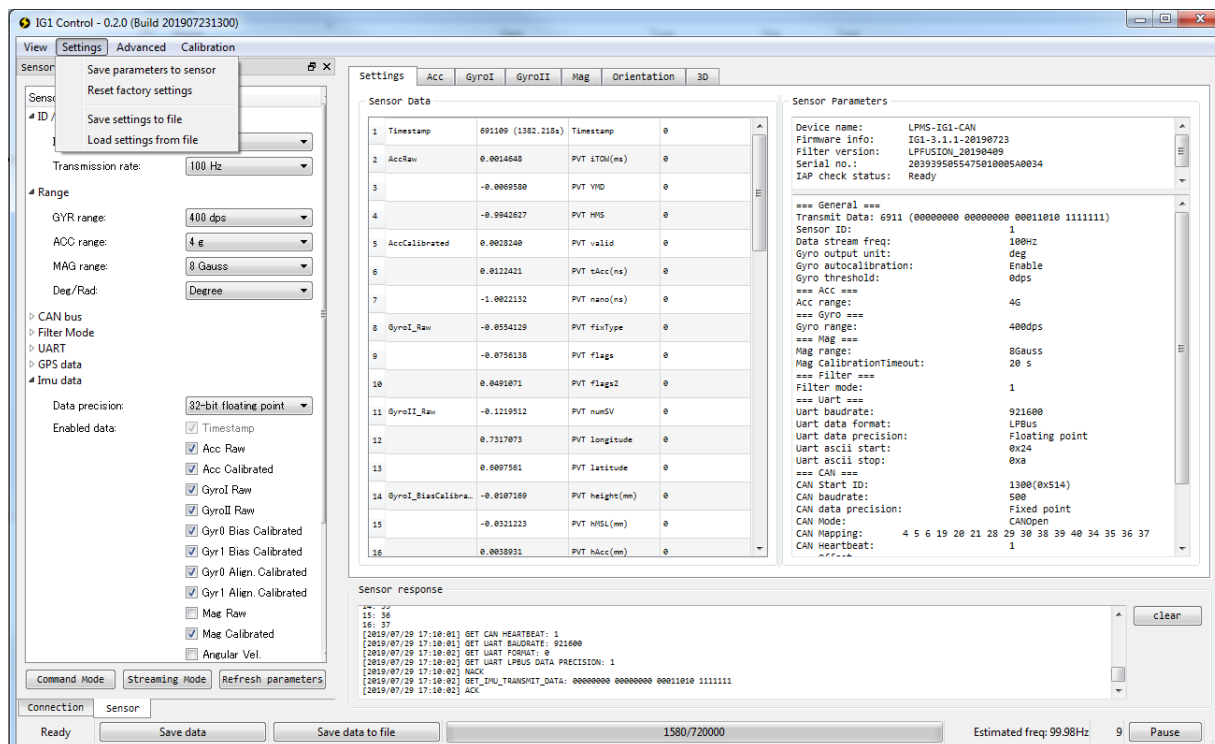

Fig. 10. Menu for resetting all sensor parameters

For more software information, please refer to our software manual or user manual.

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