Installation Calibration

LGS31-5 LGP33-2

Summary

1 Context

This document is intended to persons that are able to comprehend the constraint of cabling of a measurement system of very low voltage or an electric or electrotechnical technician (or an engineer).

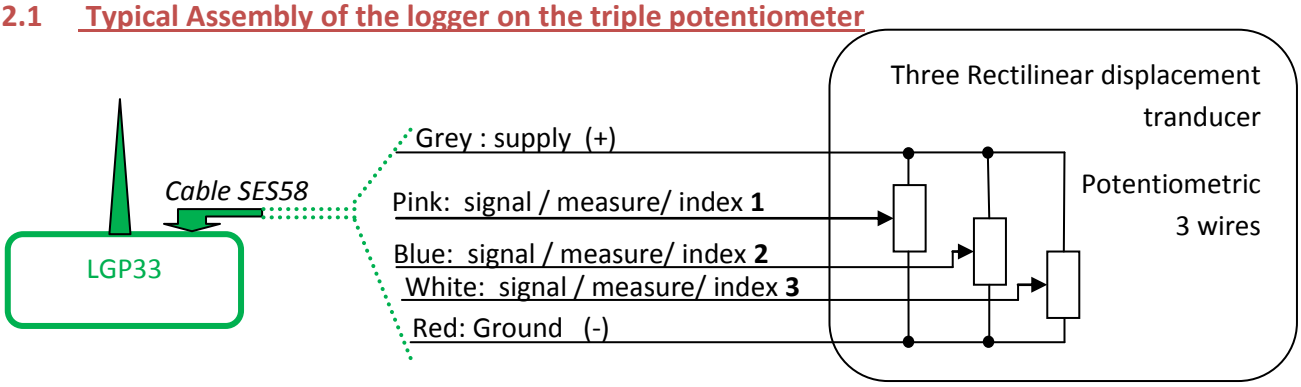
This document concerns the Logger Newsteo LGS31 and LGP33, dedicated to the measurement of the position of the indexes of a simple rectilinear displacement transducer potentiometric for an industrial installation or a laboratory.

This document indicates the procedure of assembly and the process of calibration specific to this product.

In case of doubt on the assembly, read again the present document, and if you do not find the information which answers your question, call your retailer or contact the Technical support of Newsteo.

2 Principle of the measure

2.1 Typical Assembly of the logger on the triple potentiometer



Remark: For a LGS31, The blue and the white wires are not connected.

The unused wires must be electrically isolated from each other (Resin, adhesive tape, case of diversion, or other). Take a particular care to separate the green and the brown.

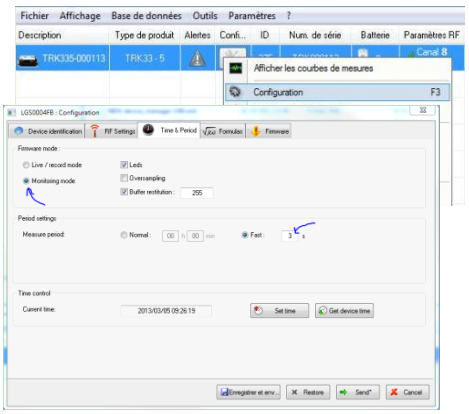
2.2 Measures to be made before cabling

- Please note the maximal theoretical displacement of every sensor, named respectively **Course1, Course2** and **Course3**

Remark: For a LGS31, the maximal theoretical displacement of the sensor corresponds to **Course1**

For example: for the GEFRAN sensor Model: PY-2-F-025-S01M-XL0323, Course = 25mm

2.3 Adjustment of the parameters in the logger via RF Monitor

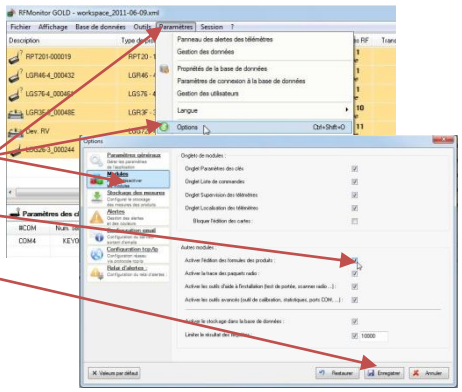


2.3.1 Prerequisites

Install the software according to the instructions of the documentation "Quick Start ", and take in hand the software.

- Start the RFMonitor software from the shortcut on your desktop, insert the USB key (by default on the channel 1), then pass the magnet briefly on the hood of the logger.

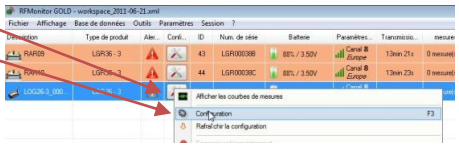
- We recommend to configure the product in **« Monitoring »** mode with a **period of 3 seconds** (**Right click on the line of your logger/Configuration/Time & Period – click on Monitoring, period 3 s - Send)**, thus the command will be sent every 3 seconds.



- In order to operate a calibration, the option **«Devices formulas edition»** must have been activated :
  - Click on **Settings/Options/Modules**
  - Mark the option **« Enable devices formulas edition »**
  - Click on **Save**

2.3.2 Adjustment for every logger to install

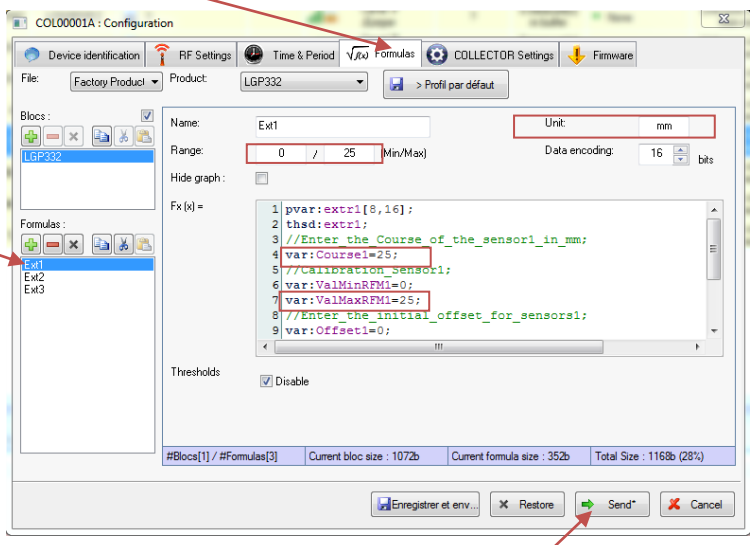
- Click on the **Icon Tools on the line of the logger**
- Click on **Configuration**



(**or** right click on the line of the logger **or** select the line of the logger then press on the shortcut key [F3])
Click on **Formulas**

2.3.2.1 Way 1

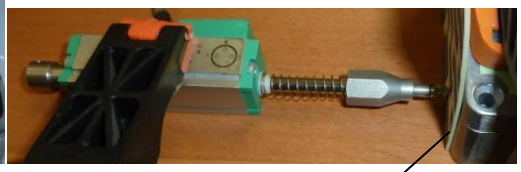
In the **formula Ext1**, enter the values **Course1 as indicated in paragraph 2.2.** Give also the value of the **Courses to the parameters ValMaxRFM1**



- In this example the maximal displacement of the probe (the same on the 3 ways) is 25 mm (So Course1=25)
- And ValMaxRFM1 =25

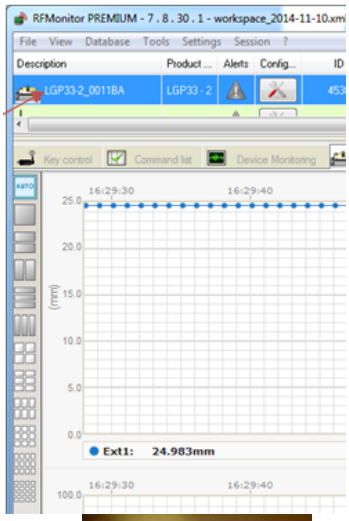
- **Configure the scale** depending on the maximal displacement of your sensor and **indicate the unit** of your measure.
- Click on **Send**

- Double click on the line of the logger to be calibrated in order to get the graph of the logger



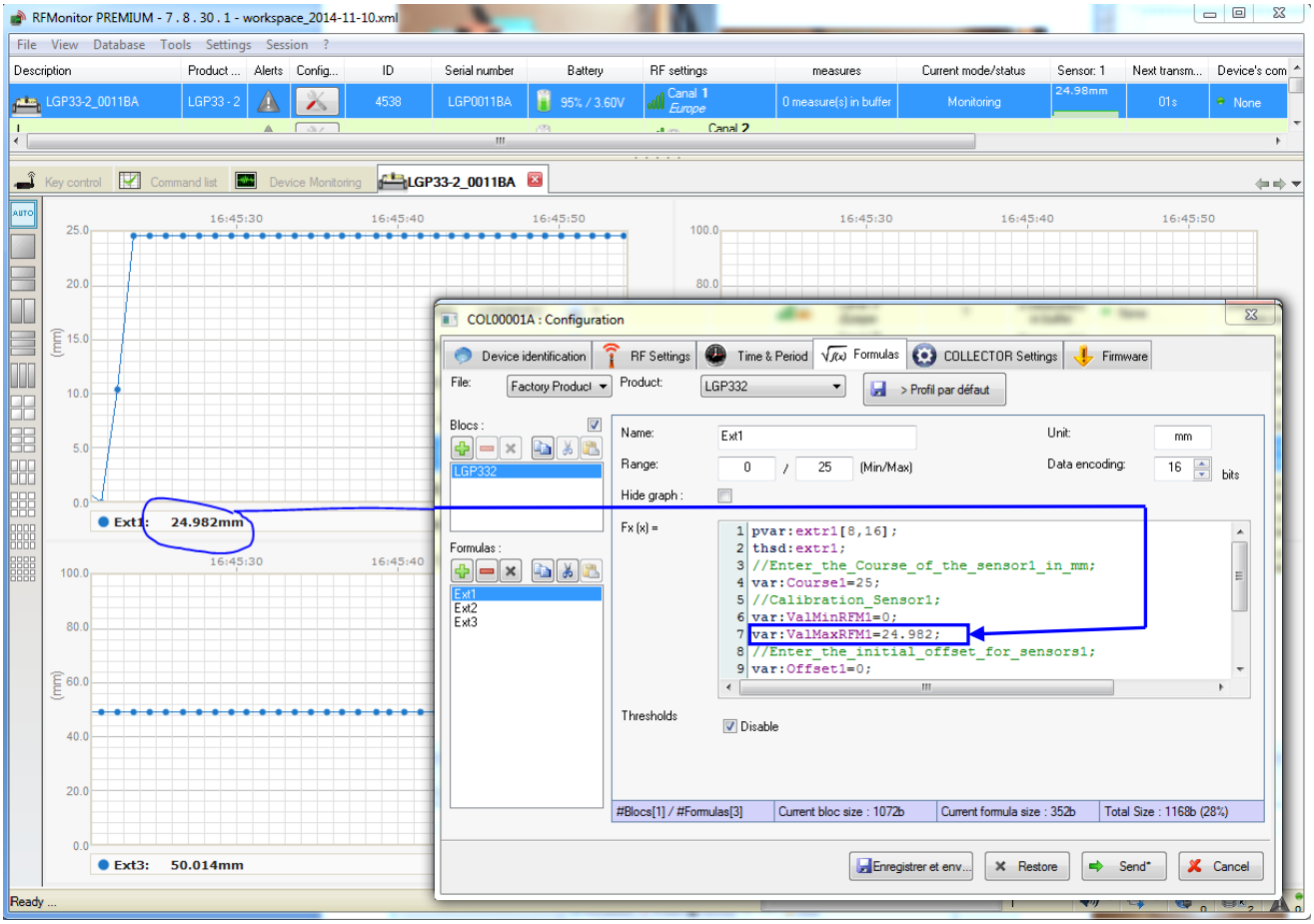
Just in contact

chock

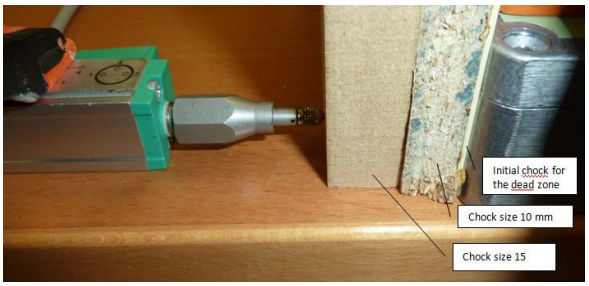


❖ Calibration on the way 1

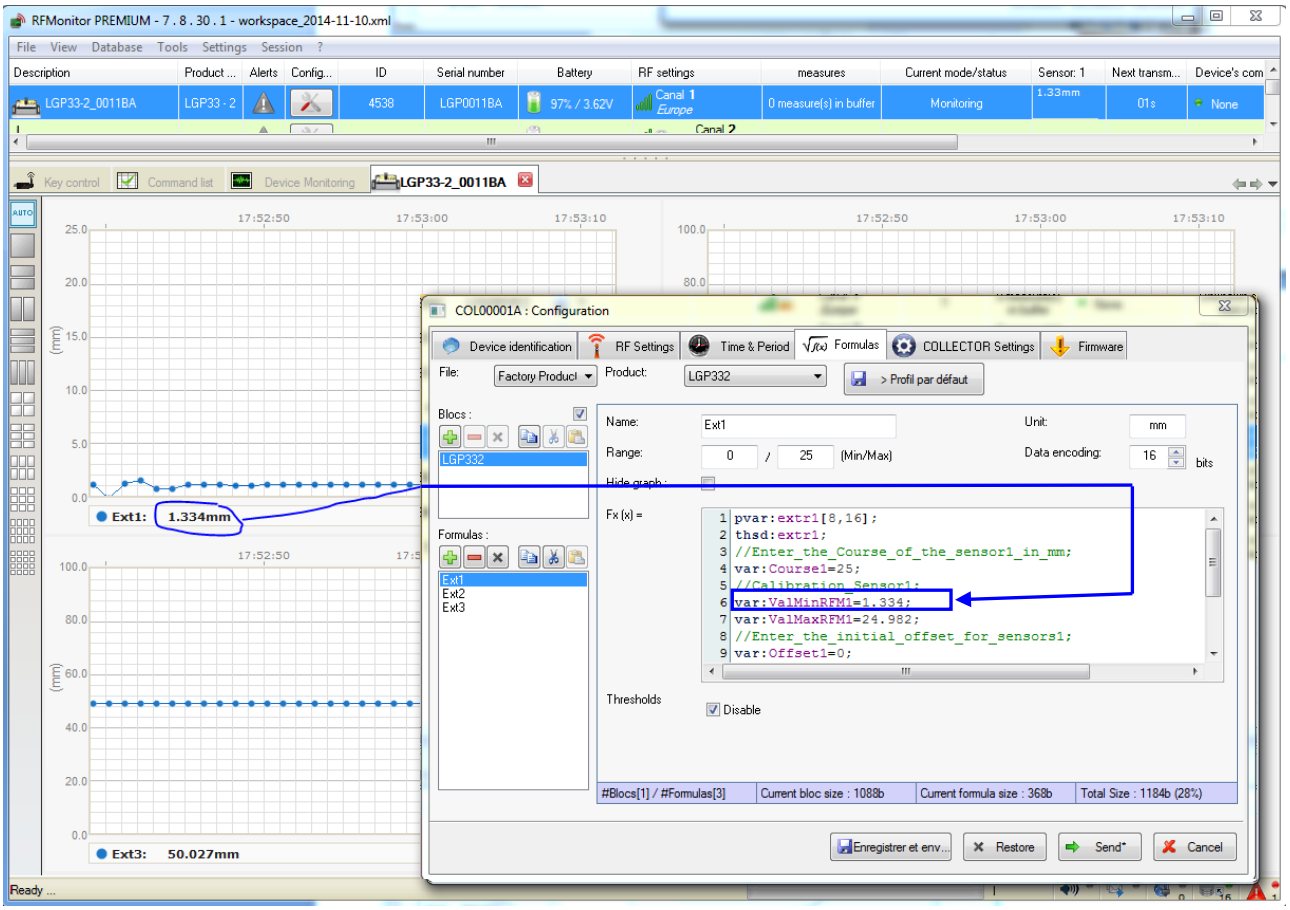
- Open again: **Right click/Configuration/Formulas**
- **Attach your sensor**
- **Attach a stop at the end of your sensor (just in contact) so that the sensor is in its minimal displacement**
- Because there is a dead zone on the beginning of the displacement of the sensor**, put a chock which the size depends on the dead zone of your sensor**
- Measure the value **Ext1** in RF Monitor.
- In the formula **Ext1**, complete the line of **ValMaxRFM1** with the measured value **ext1**



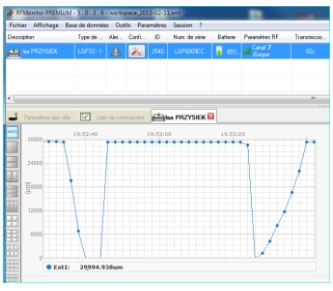
- Position your sensor in its **maximal theoretical displacement** by using a corresponding chock in order to measure the value in RF Monitor (for our exemple we use a chock of 15mm and another one of 10 mm



- In the formula **Ext1**, complete the line of **ValMinRFM1** with the measured value **Ext1**



- Click on **Send**
- The way 1 is now calibrated



2.3.2.1 Only for LGS31

If you calibrate a LGS31, the calibration is now ended.
For a LGP33 please continue with the next paragraph Way2 and 3

2.3.2.2 Only LGP33 - Way 2 and 3

Repeat the paragraph: 2.3.2.1 Way 1 for the formula Ext2 and the formula Ext3 – Read the value on the graphics Ext2 and Ext3 of RF Monitor.

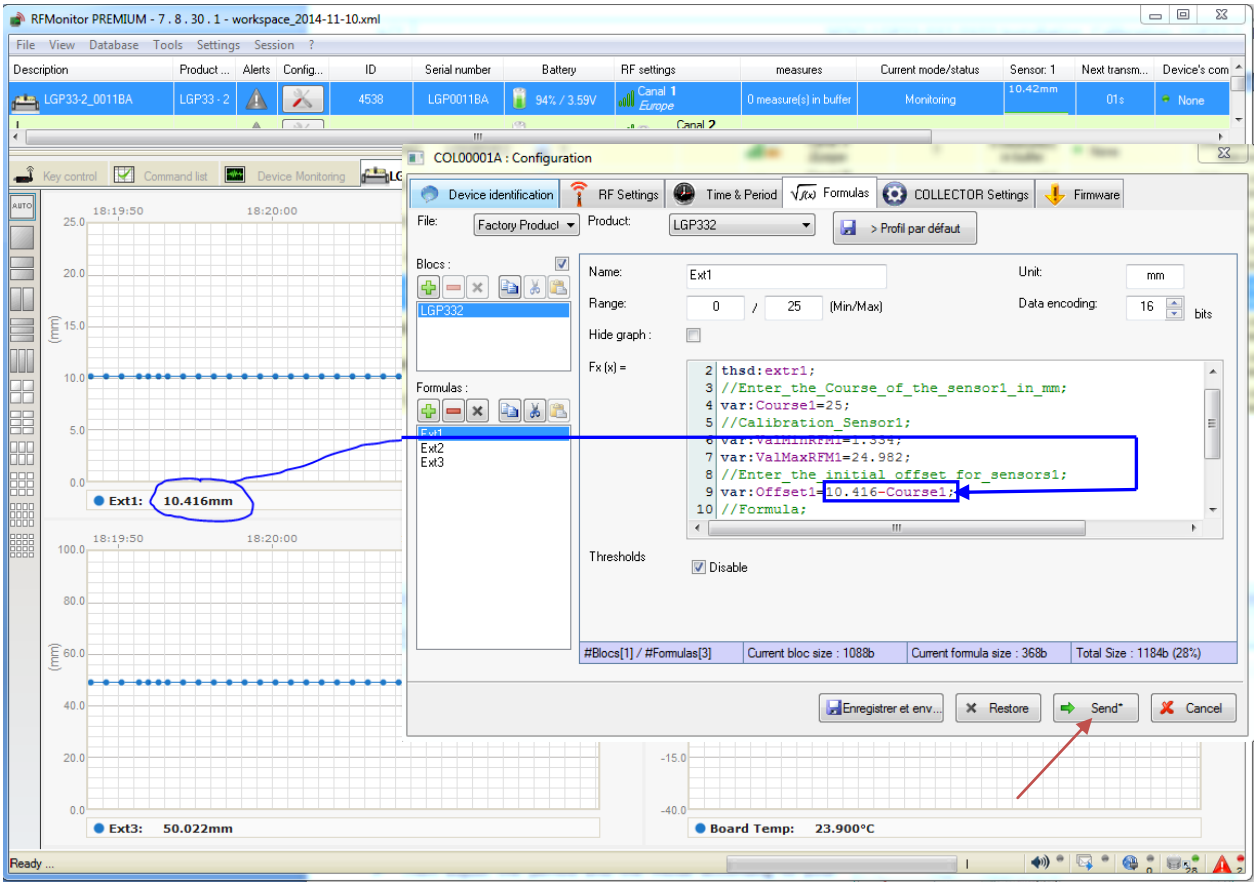
2.3.3 Option Offset: resetting to zero of the measure at the starting of the campaign

For LGS31, only take in account Ext1

Once the logger is installed, you can read the measure in the starting position and apply an offset.

- For that purpose, in "Monitoring" mode, read (in RF Monitor) the value of the Offset to apply, then in the formulas editor modify the values of **Offset1 in Ext1**, **Offset2 in Ext2** and **Offset3 in Ext3** by using those values in the **formula Calibration.**

In this example:
Use a chock of 15 mm and define this position as the new maximum value (25 mm)



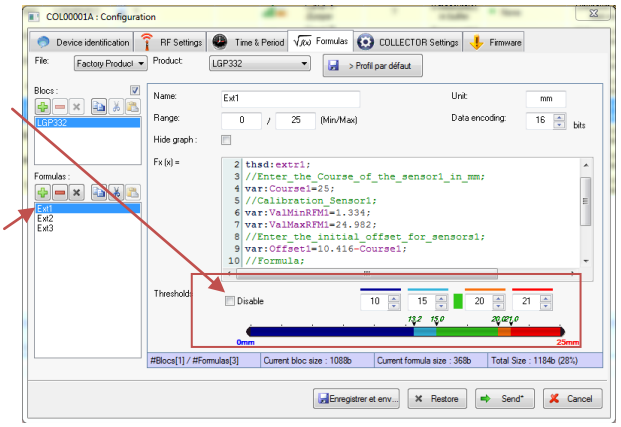
Do the same for the offset2, read le graph Ext2 and for the offset3, read the graph Ext3

- Click on **Send**

2.3.4 End of adjustment – Use of the logger

For LGS31, only take in account Ext1

- Verify on the curves that the values are displayed correctly
- Test or deactivate the thresholds of the formulas Ext1, Ext2 and Ext3
- Then adjust the period and the mode according to your needs and the indications of the Quick Start.



- Click on **Send**

Address of the manufacturer :

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