Quick guide

VBR Series

www.microdetectors.com

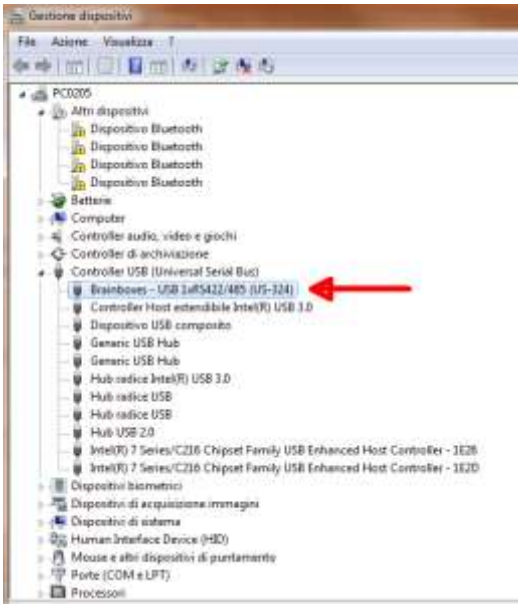
MD Interface download area:

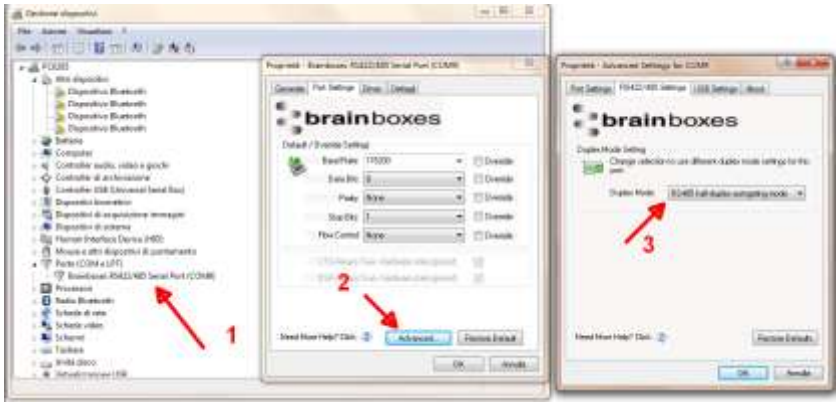
Host:	**82.85.138.194**
User:	**MDuserVBR**
Password:	**MDvibrations**
Port:	**21**

USB – Serial RS485 Adapter

To connect VBR sensor to a computer, it is possible to use any USB to Series converter, as for example **US-324 Brainboxes.**

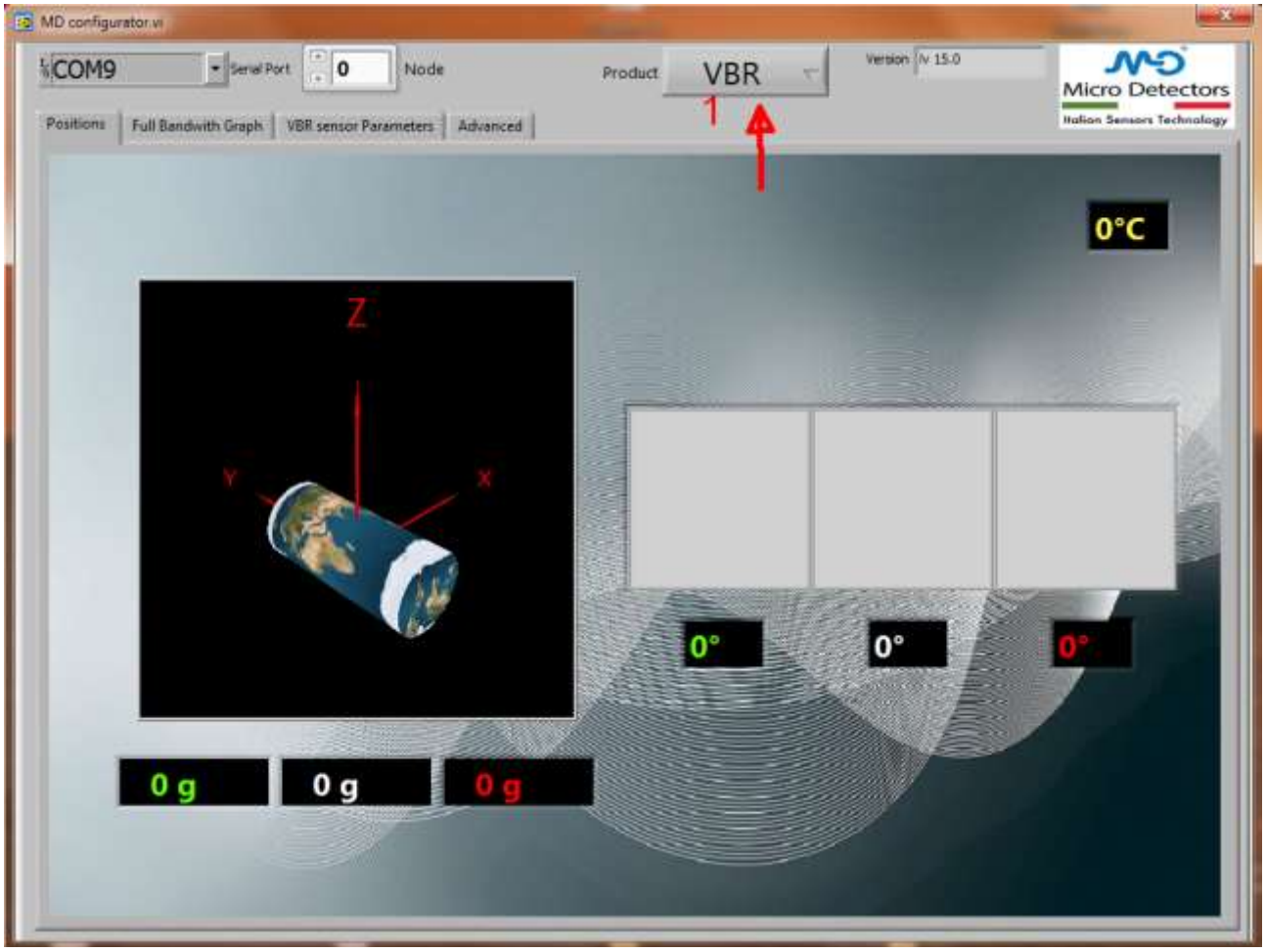
- Install the driver US-324
- Check if the device is correcly installed





(1) Select PORT (COM e LPT) /Brainboxes. With the mouse right button select Property
(2) Advanced
(3) RS-485

Device choice



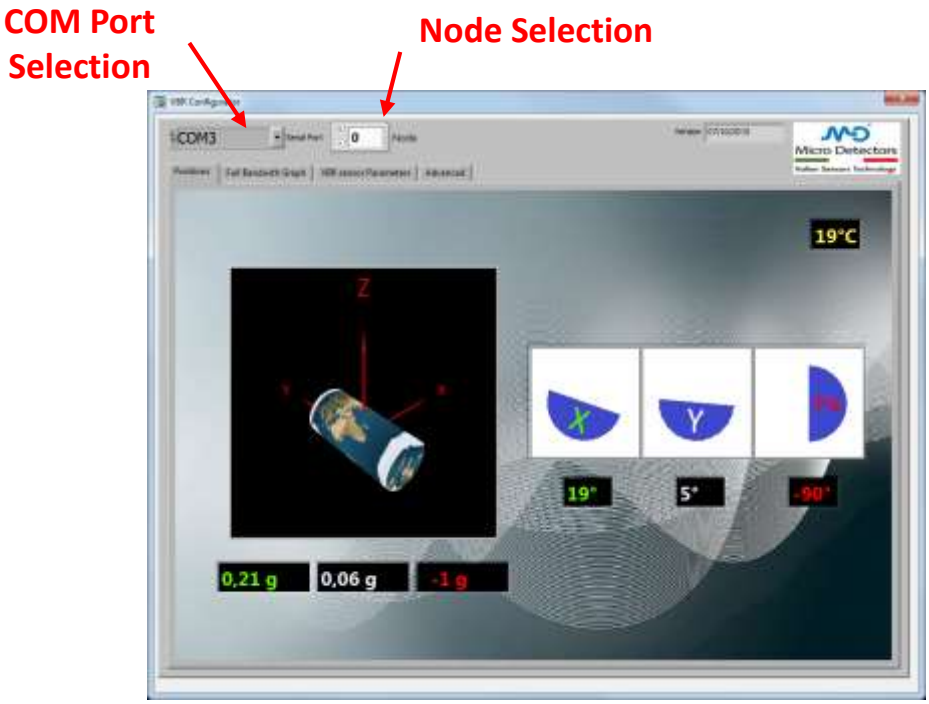
Select the device (Tab. 1) :

- **VBR** → VBR series

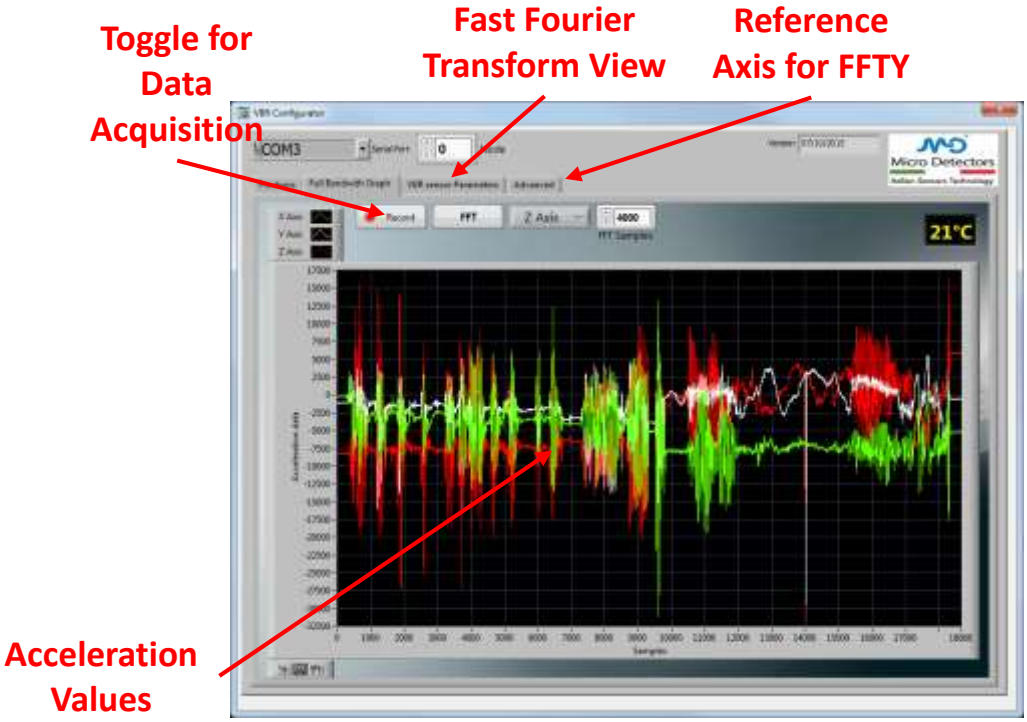
- **INC** → INC Series (not included in this guide)

Description:

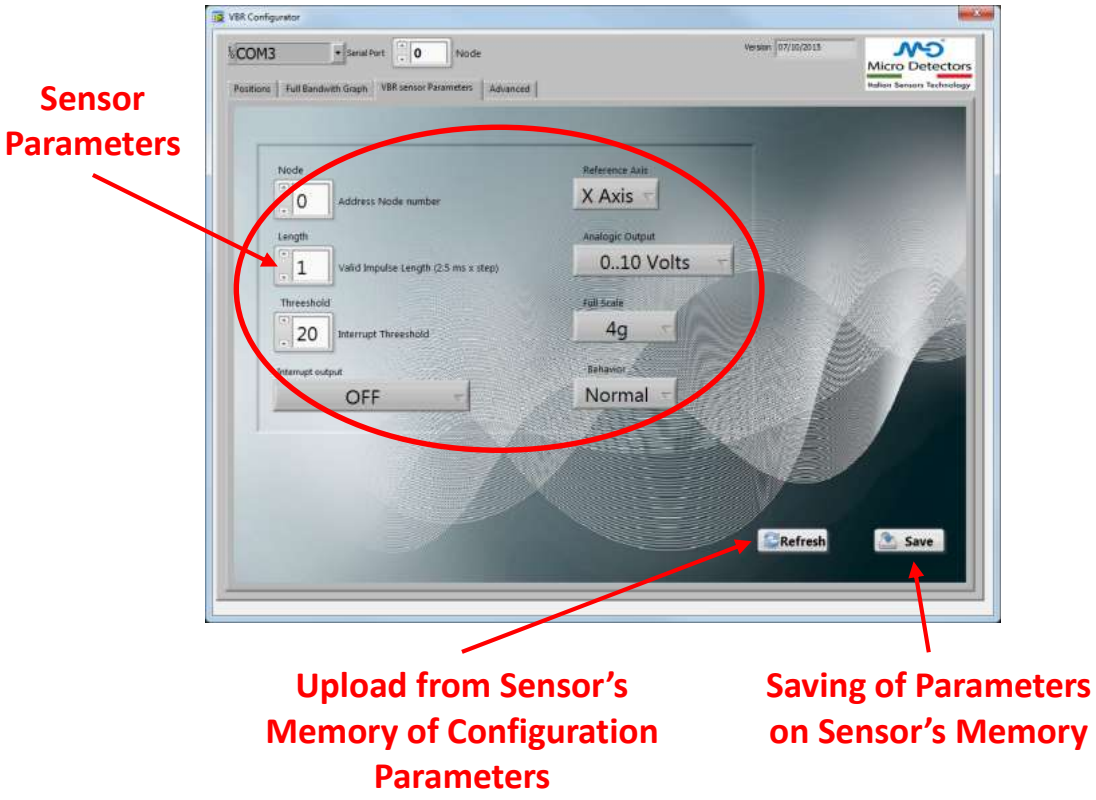
TAB 1: Information regarding inclination and 3D position.



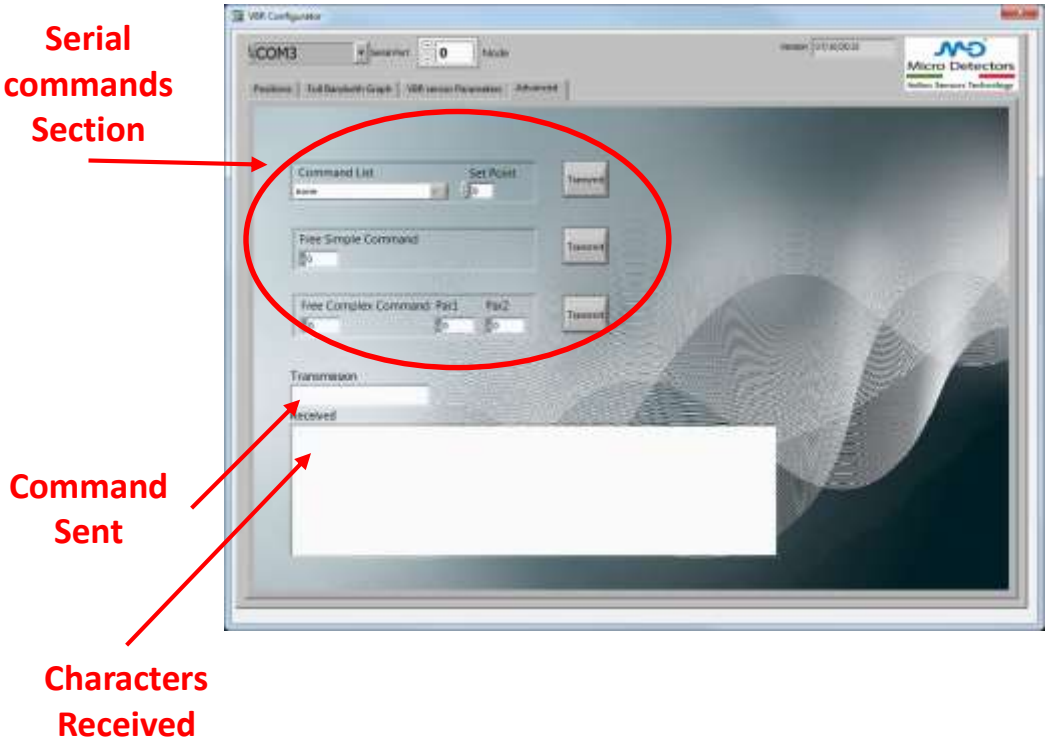
TAB 2: Information regarding the 3-axis acceleration and data post processing.



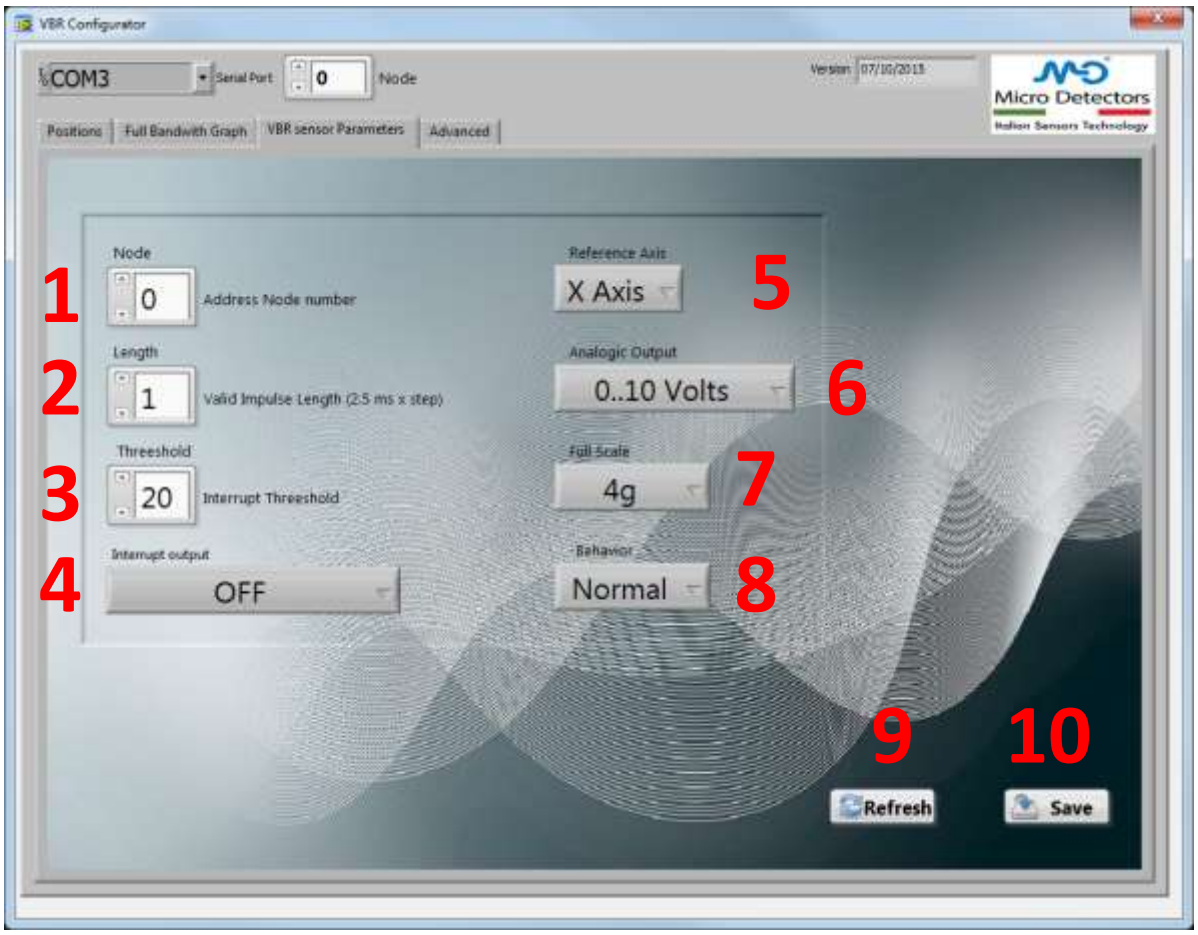
TAB 3: Configuration.



TAB 4: Direct command serial configuration.



Parameters configuration



1) Sensor node number assignment (default = 0). In case of more sensors on the same bus, each sensor must have a different node number.
2) Minimum duration (in ms) of the acceleration that generate an alarm signal. 128 different levels can be selected with a step of 2,5ms.

Es.: for an alarm activated only if its duration is ≥ 30 msec it is necessary to set the threshold level to 12:

30 msec / 2,5 msec = **12**

3) Minimum threshold (in mg) of the acceleration that generate an alarm signal. Since 4 different levels of full scale can be programmed (2g, 4g, 8g e 16g) and 128 levels can be selected , the resolution step is defined in the following way:
   - *2g* → 2000mg / 128 = **15,625** mg
   - *4g* → 4000mg / 128 = **31,25** mg
   - *8g* → 8000mg / 128 = **62,5** mg
   - *16g* → 16000mg / 128 = **125** mg

Es for an alarm activated only if the threshold is ≥ 2g with a full scale of 4g:

2000 mg / (resolution @ 4g) = livello → 2000 mg / 31,25mg = **64** *(decimal)*

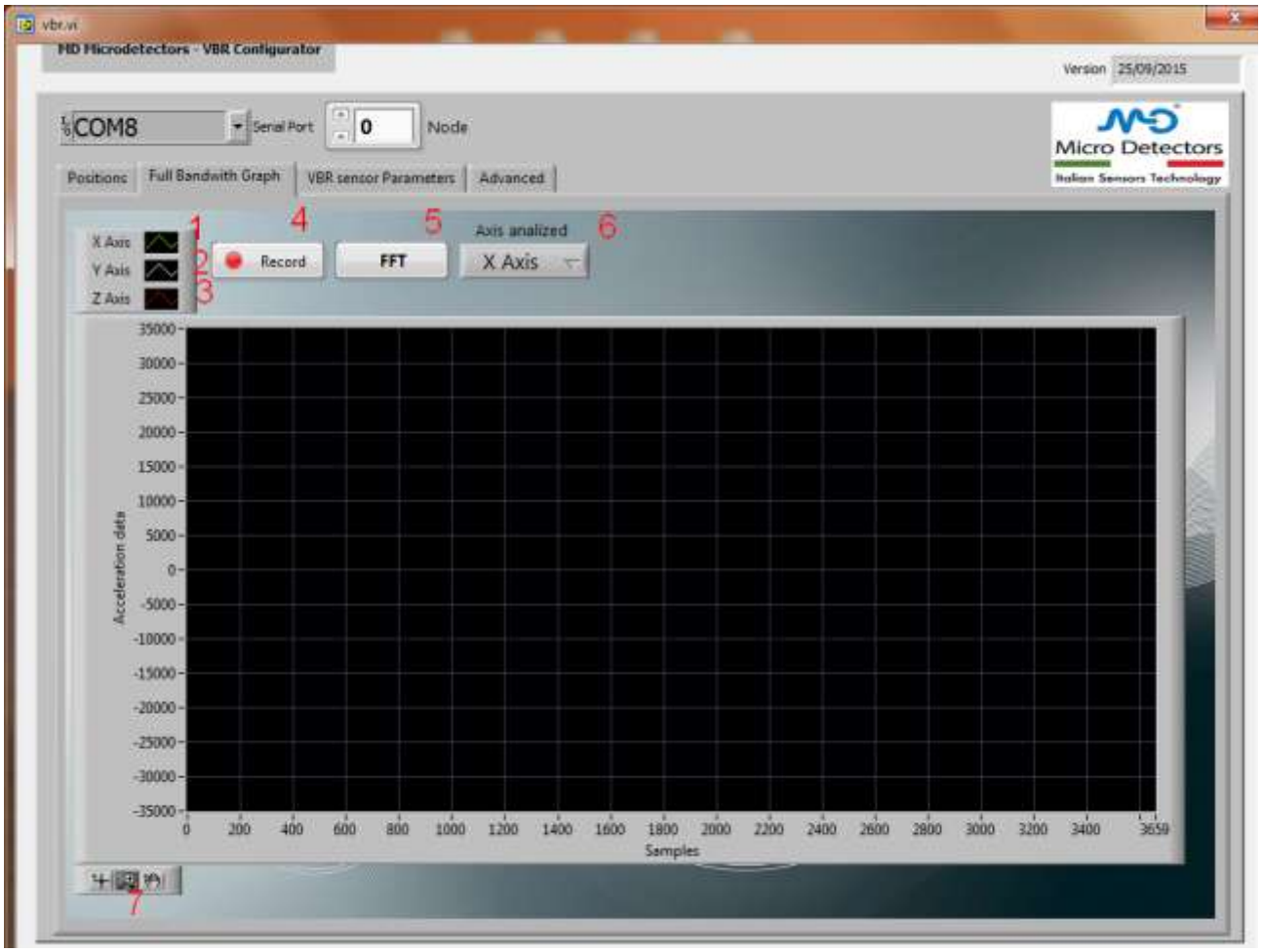
NOTE: RED led is activated when an alarm is detected.

4) Define the alarm transmission mode:

- OFF → no output alarm. RED led is no but no alarm signal is transmitted on analogue output or BUSRS485
- ON485 → alarm signal only on RS485
- ON ANALOG → alarm signal only on analogue output
- ON485 + ANALOG → alarm signal only on RS485 and on analogue output

5) Reference axes for the alarm
6) Analogue output configuration:
    - High impedance
    - Voltage analogue (0 … 5V or 0 … 10V)
    - Current analogue (4 …20mA, 0 … 20mA or 4 … 24m)
7) Full scale and resolution:
    - ±2g → 15,625 mg
    - ±4g → 31,25 mg
    - ±8g → 62,5 mg
    - ±16g → 125 mg
8) Analogue output mode:
    - NORMAL → independently from the value of alarm transmission mode (point 4) the analogue output doesn't transmit an alarm signal, but just the values of the analogue output.
    - TOGGLING → every alarm switch the analogue output from the minimum/maximum level to the maximum/minimum level.
    - IMPULSE → every alarm switch the analogue output from minimum level to the maximum for at least 2,5ms.
9) Memory refresh
10) Configuration and parameterization saving.

Curves



1) X axis selection
2) Y axis selection
3) Z axis selection

NOTE: click with the mouse on the symbol to select: color, visibility, …

4) Record of the data transmitted on BUS RS485
5) FFT mode (WARNING: only for indication, not to be used for analysis)
6) FFT curve axis
7) Curves management: window, …

To clear the curve, click on the curve with mouse right button and press "*Clear chart*" .

In this menu, it is possible also to select the download of the data in an EXCEL file: "*Export*" → "*Export Data to Excel*"