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 \rightarrow 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 4: Direct command serial configuration.

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Received		

Parameters configuration

		CONTRACTOR OF STREET, S		
Node		Reference Anis		
0	Address Node number	X Axis		
Length		Analogic Output		
1	Valid Impulse Length (2.5 ms x step)	010 Volts	6	
Threesho	e de la companya de la	Full Scale		
20	Interrupt Threeshold	4g -		
Interrupt of	dput	Bahavor	20	
	OFF -	Normal - 8		
1				
			979	10

- 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 \geq 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 <u>128 levels</u> 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 $\geq 2g$ with a full scale of 4g:

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

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

4) Define the alarm transmission mode:

- OFF \rightarrow 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 \rightarrow alarm signal only on analogue output
- ON485 + ANALOG \rightarrow 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 \rightarrow every alarm switch the analogue output from the minimum/maximum level to the maximum/minimum level.
 - IMPULSE \rightarrow 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

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- 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" \rightarrow "Export Data to Excel"