

WinWIMOD Manual

Version 1.3

WinWIMOD is the AEP transducers environment for the real-time monitoring on PC of WIMOD load cells. It allows you to create a network of up to 32 load cells, create test charts , print reports, export data in Microsoft Excel etc.

For each load cell can be assigned, by the operator, a name that describes its function within the system and a test color , making easy and immediate the recognition of the module within the network.

For each module you can select the transmission rate (10Hz max), perform the zero load, define the unit load (between Newton, kgf, MN, kN, klbf, lbf) and view the status of the battery.

The report can be configured with the customer's logo and explanatory notes to the test performed

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WinWIMOD LICENSE AGREEMENT

1. We grant the customer a non-exclusive and non transferrable right to use the AEP WinWIMOD software on a single computer and at only one place.
 - 2 The license holder is not permitted:
 - a) to pass on or otherwise make the software or associated material accessible to third parties without prior written agreement from AEP
 - b) to modify the software without prior written consent from AEP
 - c) to create works derived from software or to duplicate the written material
 - d) to translate or modify it to create works derived from the written material
 - 3 the right of use is dependent on the customer observance of these general conditions of supply
- Acceptance of this license agreement is formally required during the installation of the software.

1.0 Configuration

The first step in the WinWIMOD configuration is to set the number of modules in the network, their Serial Number and their sequential position in the network.

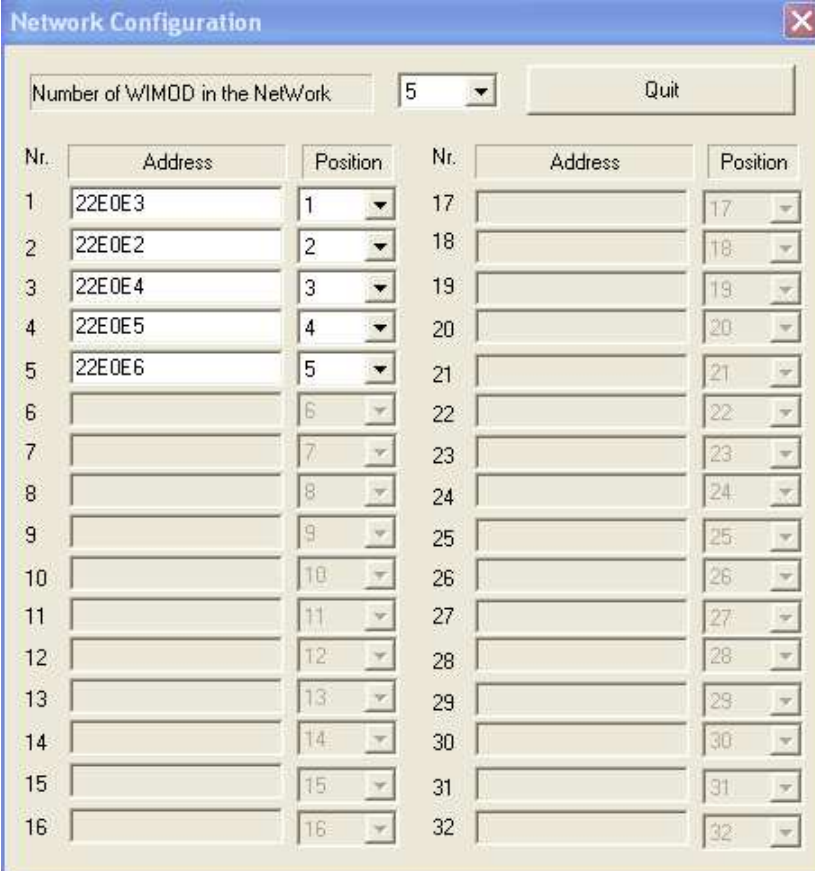
You can do that by pressing the **Network Configuration** button. This step must be done Off Line. So any time you want to access to this page please remove the USB cable before to start WinWIMOD.

In this page for each module present in the network you have to assign the sequential position in the network.

The Address of each module can be read on the WIMOD label.

If you change just the positions in the network, each module will conserve its setup, the name and the calibration factor.

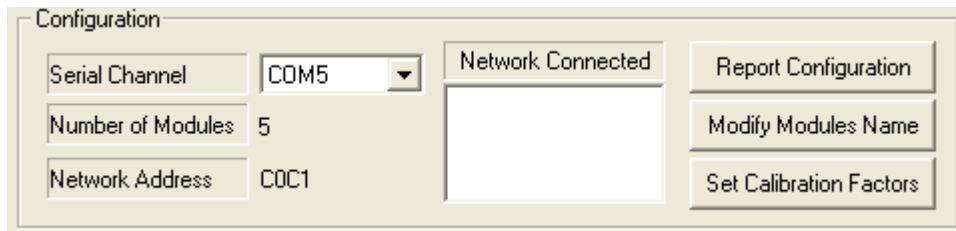
Pay attention to set for each module a different position and different address.



The screenshot shows a window titled "Network Configuration" with a close button in the top right corner. At the top, there is a label "Number of WIMOD in the NetWork" with a dropdown menu set to "5" and a "Quit" button. Below this is a table with two columns of data. The first column lists module numbers 1 through 16, and the second column lists module numbers 17 through 32. Each row contains an "Address" field and a "Position" dropdown menu. The addresses for modules 1-5 are 22E0E3, 22E0E2, 22E0E4, 22E0E5, and 22E0E6 respectively. The positions for these modules are 1, 2, 3, 4, and 5. Modules 6-16 have empty address fields and positions 6-16. Modules 17-32 have empty address fields and positions 17-32.

Nr.	Address	Position	Nr.	Address	Position
1	22E0E3	1	17		17
2	22E0E2	2	18		18
3	22E0E4	3	19		19
4	22E0E5	4	20		20
5	22E0E6	5	21		21
6		6	22		22
7		7	23		23
8		8	24		24
9		9	25		25
10		10	26		26
11		11	27		27
12		12	28		28
13		13	29		29
14		14	30		30
15		15	31		31
16		16	32		32

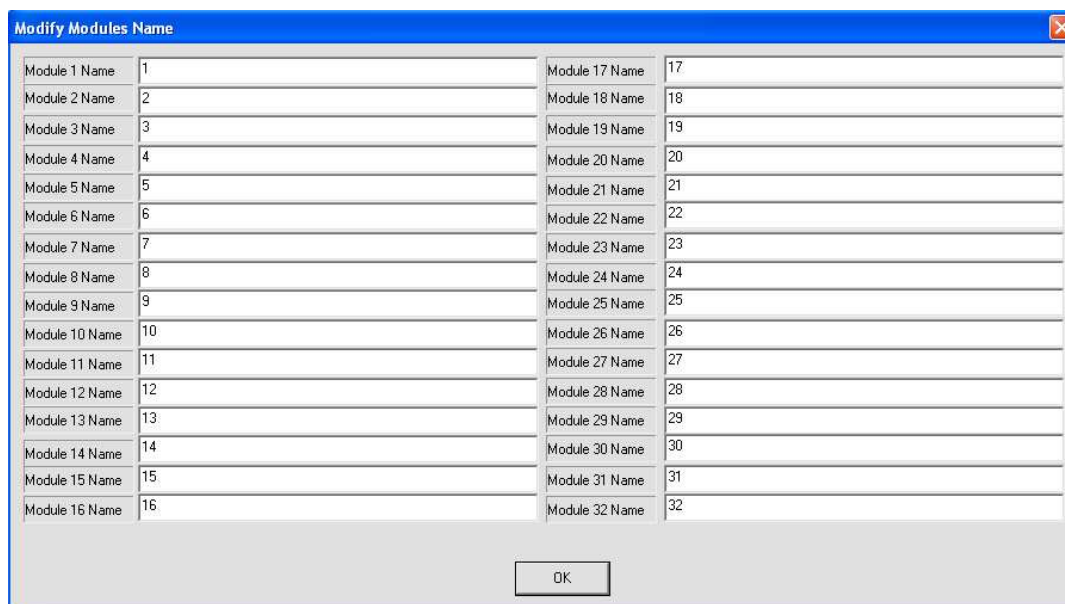
After this step there are just a few other fields to configure the **WinWIMOD** software



- **Serial Channel** : The Serial Channel is the virtual RS232 COM port assigned to Windows to the USB port. It is automatically selected from the Network Connected List shown on the right on the base of the **Network Address** assigned to your WinWIMOD software.
- **Number of Modules** : Verify the number of module in your Network.
- **Modify Modules Name** : You can assign a name to each module. In this way you can describe the module function inside your system and so you can recognize it easily
- **Set Calibration Factors**: Allows you to correct the load cell calibration
- **Report Configuration**: you can customize your test report with company logo , notes , operator name etc.

Modify Modules Name

By pressing **Modify Modules Name** you can assign a description to each module. This allows you to easily recognize each module in your network.



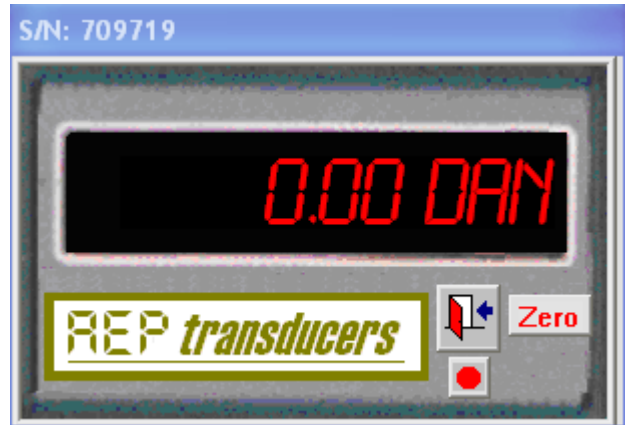
Module 1 Name	1	Module 17 Name	17
Module 2 Name	2	Module 18 Name	18
Module 3 Name	3	Module 19 Name	19
Module 4 Name	4	Module 20 Name	20
Module 5 Name	5	Module 21 Name	21
Module 6 Name	6	Module 22 Name	22
Module 7 Name	7	Module 23 Name	23
Module 8 Name	8	Module 24 Name	24
Module 9 Name	9	Module 25 Name	25
Module 10 Name	10	Module 26 Name	26
Module 11 Name	11	Module 27 Name	27
Module 12 Name	12	Module 28 Name	28
Module 13 Name	13	Module 29 Name	29
Module 14 Name	14	Module 30 Name	30
Module 15 Name	15	Module 31 Name	31
Module 16 Name	16	Module 32 Name	32

Run Indicators

This function allow to show each WIMOD load cella as an digital indicator.

The main window will be hided and for each WIMOD load cell a dedicated window will be opened.

To return to the standard main page just click on the Quit button



View All Modules

By pressing **View All Modules** it will be open an analytical page with the Actual Values of each Modules and . The Max and Min values are registered. It is present a button to reset the Max/Min values and Zero On / Zero Off buttons to performs the tare on/off all modules. One not connected module is shown with a red window. It is possible to compute an total value among all enabled load cell. To include a Load Cell in the total value please select the relevant check.

Near the Load indication a (Z) message means that the relevant load cell has been zeroed

	Actual Load (N)	Max Value (N)	Min Value (N)
<input checked="" type="checkbox"/> Add 1- 1	187.45	188.18	123.89
<input checked="" type="checkbox"/> Add 2- 2	101.94	102.00	3.05
<input type="checkbox"/> Add 3- 3			
<input type="checkbox"/> Add 4- 4			
<input type="checkbox"/> Add 5- 5			
<input type="checkbox"/> Add 6- 6			
<input type="checkbox"/> Add 7- 7			
<input type="checkbox"/> Add 8- 8			
<input type="checkbox"/> Add 9- 9			
<input type="checkbox"/> Add 10- 10			
<input type="checkbox"/> Add 11- 11			
<input type="checkbox"/> Add 12- 12			
<input type="checkbox"/> Add 13- 13			
<input type="checkbox"/> Add 14- 14			
<input type="checkbox"/> Add 15- 15			
<input type="checkbox"/> Add 16- 16			

	Actual Load (N)	Max Value (N)	Min Value (N)
<input type="checkbox"/> Add 17- 17			
<input type="checkbox"/> Add 18- 18			
<input type="checkbox"/> Add 19- 19			
<input type="checkbox"/> Add 20- 20			
<input type="checkbox"/> Add 21- 21			
<input type="checkbox"/> Add 22- 22			
<input type="checkbox"/> Add 23- 23			
<input type="checkbox"/> Add 24- 24			
<input type="checkbox"/> Add 25- 25			
<input type="checkbox"/> Add 26- 26			
<input type="checkbox"/> Add 27- 27			
<input type="checkbox"/> Add 28- 28			
<input type="checkbox"/> Add 29- 29			
<input type="checkbox"/> Add 30- 30			
<input type="checkbox"/> Add 31- 31			
<input type="checkbox"/> Add 32- 32			

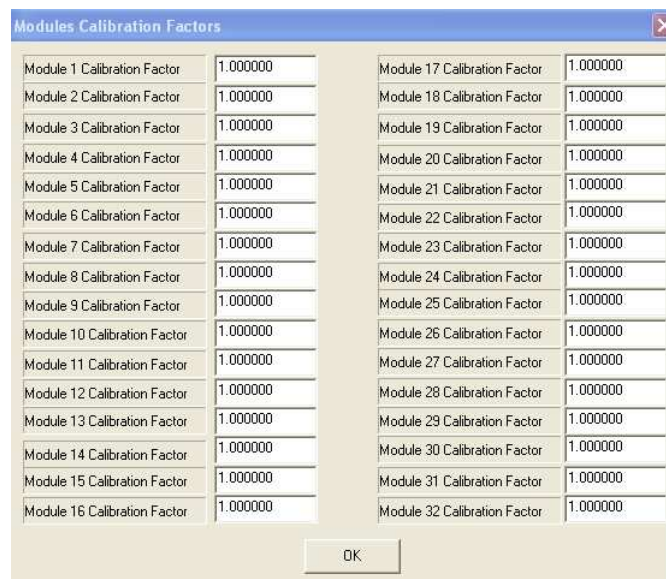
Total (N) **289.39**

Modules Calibration Factors

The **Modules Calibration Factors** allows you to correct the load cell calibration. You can set a Calibration factor that is a multiplier gain value. The default factory setting is 1.0000. If, for some reason, the load cell output deviates from desired value you can correct it modifying the calibration factor. The calibration factor operates according to the following formula:

$$\text{Load Cell Output} = \text{Factory Load Cell Output} * \text{Calibration factor.}$$

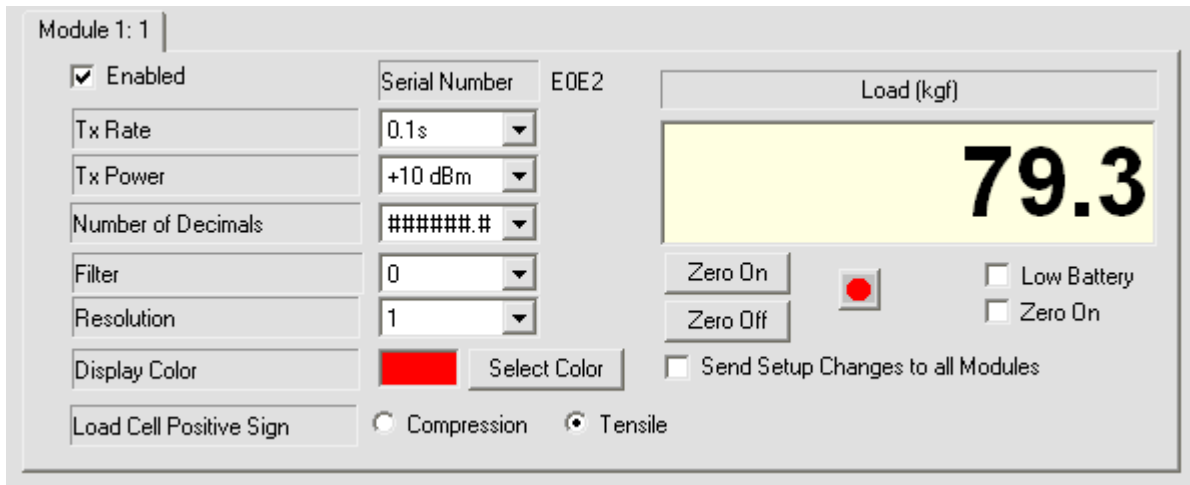
If you want to decrease the load cell value insert a value less than 1.0000. If you want to increase the load cell value insert a value greater than 1.0000. To restore the factory calibration set 1.0000



Module	Calibration Factor
Module 1	1.000000
Module 2	1.000000
Module 3	1.000000
Module 4	1.000000
Module 5	1.000000
Module 6	1.000000
Module 7	1.000000
Module 8	1.000000
Module 9	1.000000
Module 10	1.000000
Module 11	1.000000
Module 12	1.000000
Module 13	1.000000
Module 14	1.000000
Module 15	1.000000
Module 16	1.000000
Module 17	1.000000
Module 18	1.000000
Module 19	1.000000
Module 20	1.000000
Module 21	1.000000
Module 22	1.000000
Module 23	1.000000
Module 24	1.000000
Module 25	1.000000
Module 26	1.000000
Module 27	1.000000
Module 28	1.000000
Module 29	1.000000
Module 30	1.000000
Module 31	1.000000
Module 32	1.000000

OK

2.0 Module Setup



Each module in the network must be configured to get data properly from it.

- **Enable** :

If a WIMOD load cell is disabled will be not take in account during a test

- **Serial Number** :

is the serial number of the module. You can read it from the label attached. It is the module address in the network

- **Tx Rate** :

is the transmission rate of the load value from the load cell . It can be set from 0.1s to 5s in step of 0.1s.

- **Tx Power** :

is the RF power level . You can choose 4 RF power level : -10dbm,-2dbm,+6dbm,+10dbm.

Choosing higher RF power level you can transmit data to longer distance but you will have a greater battery consumption

- **Number of Decimals** :

It defines the format of the load value to be displayed

- **Resolution** :

The resolution allows to mask last digit of the load data in order to hide some unwanted oscillations of the load.

You can choose among 1,2,5,10 resolution

- **Filter**

You can choose the Load Cell Filter from 0..31 level. 0 Means no filter. The load cell value will be noiser but faster. On the other hand a greater valuer of the filter will be more stable but slower to reach the final value of the load cell.

- **Display Color** :

this setting define the color of the module in the graph

- **Load Cell Positive Sign**

Here you have to define if your load cell has positive values in tensile mode or in compression.

- **Zero On / ZeroOff Button**

allow to get the Gross/Net Value of the load while the actual selection is shown in the indicated window

When you change one of this setting automatically it becomes active

The **Low Battery** indication advice you it is time to recharge the battery of the module.

A virtual LED blinks at each Rx data packet.

The **Load Unit** can be select from the most popular: Newton, kg, kN, MN, daN, lbf, klbf etc.

The **Send Setup to All Modules** selection allow you to send any changes in the setup to all modules at the same time.

3.0 Make a Test

Pressing the “**Start Test**” button **WinWIMOD** begins to store data and to show the relevant graph.

You can define the **Acquisition Time** (always in seconds) that defines the interval time to acquire a point and the **Test Time** that defines how long the test should last.

All curves are shown in the same measurement unit defined in the Load Unit window.

The Time Axis and the Test Time unit can be select from the following units : seconds, minutes and hour for long acquisition time.

The test can be performed in **Compression** (positive values) , **Tensile** (negative values in the graph will be shown as positive loads) and **Bidirectional** for tests in both direction.

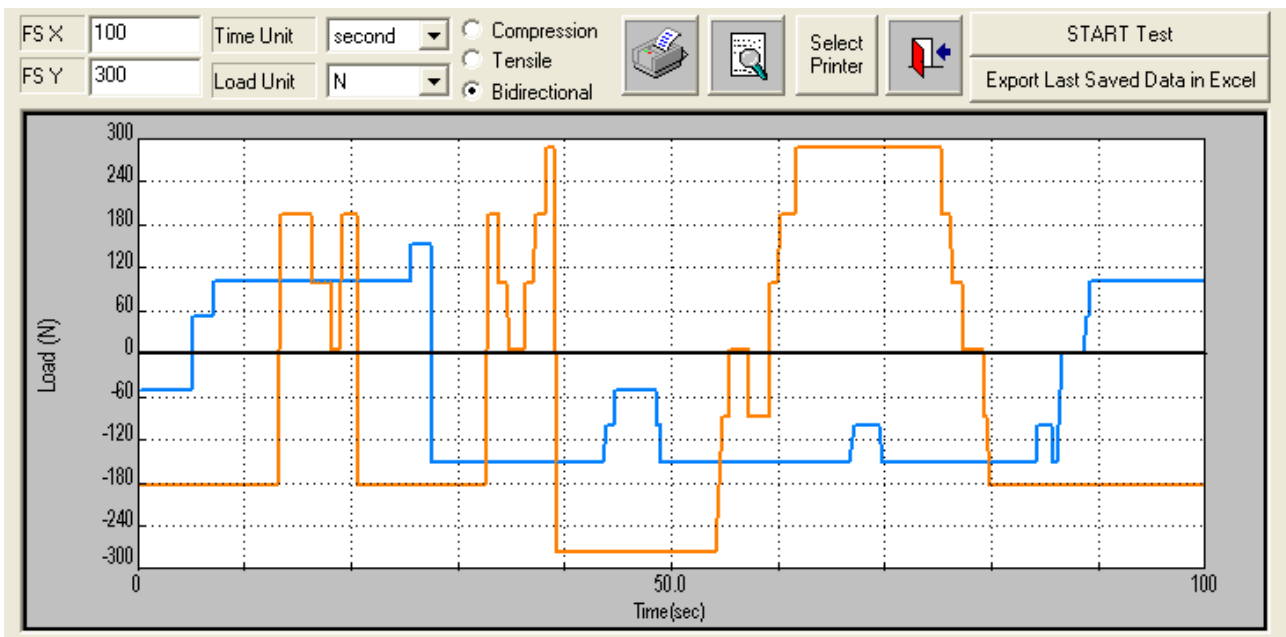
To stop the test you can also press the Button “**STOP Test**” in any moment.

If the field **Test Name** is filled with a valid filename a new test file is automatically saved in the Folder **DATI** inside the installation folder.

Any way you can assign later a test name and save it manually by pressing the **Save Test As** button.



At the end of the test all the acquired data can be saved in an **Microsoft Excel** file by pressing “**Export Last Saved Data in Excel**”. This function requires that Microsoft Excel must be installed on your computer.



You can **Print** a report or just have a preview by pressing the relevant buttons. The test image printed is always the one shown on the screen.

The **Zoom** button allows an analysis of extreme detail of a portion of a curve.

To activate this feature click on the icon. Acceptance of the function will appear as the mouse cursor becomes a cross instead of an arrow. With your mouse, click on the graph the starting point of the area of interest and, keeping the mouse pressed, drop it in the end point. The area of interest is highlighted by a dashed rectangle. After enabling the zoom function the relevant icon becomes as shown aside.

Clicking once with the mouse on the chart, you can define more and more restricted areas. To return to the original click again on the button zoom



Anyway , by changing the parameters FSX FSY ORY and XUnit, the graph will be resized according to the new selections.

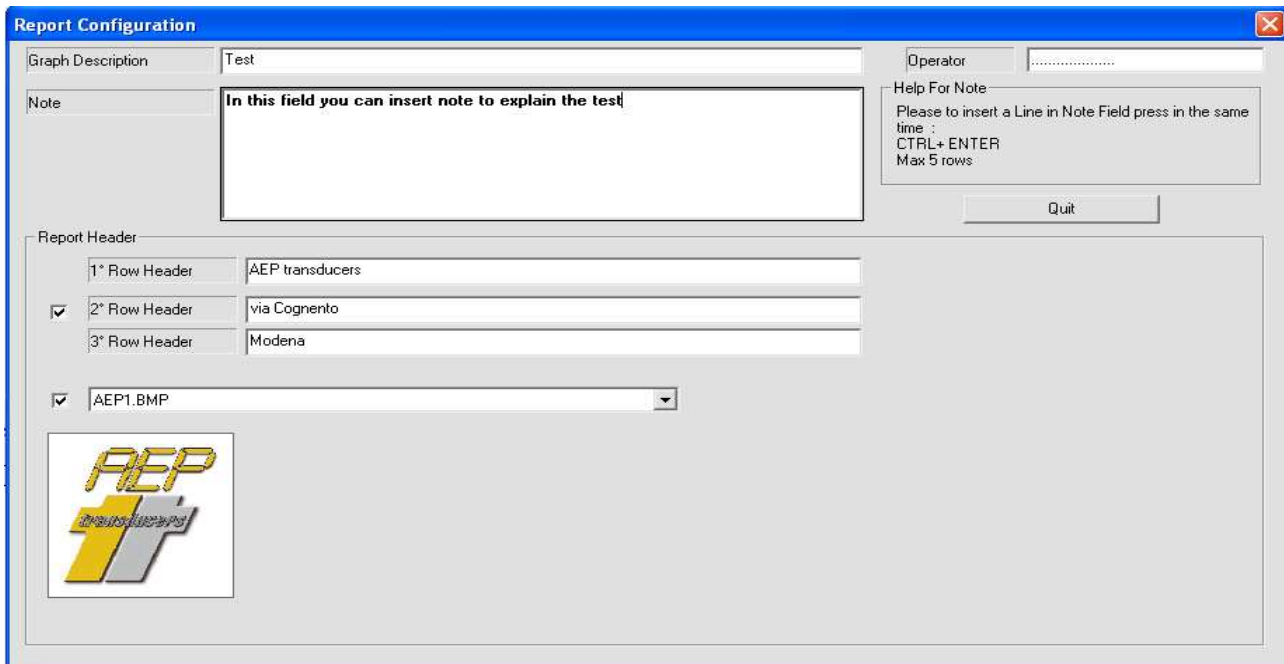
By pressing the **Open Test** button it is possible to review test in the archive.

4.0 Report Configuration

This page allows to configure your report.

The Report Header can be filled with your logo or with up to 3 rows of text or both.

Make your choose by using the selection shown.



You can have more than a logo image. You can select the desired one selecting it from the list.

To add a logo image it is very simple.

1. Create a logo image as a bitmap file
2. Copy the file in the folder "Loghi" you can find in the WinWIMOD installation folder

To better describe your test in the report you can add :

- Notes : Free text (Up to 5 row of rows). Be carefully :To create a new line in this windows press CTRL+ENTER
- A Test Description
- The Operator Name