



# User's guide



## 3600 Setup

### **Aplikace :**

- ☞ Program for the configuration of the 3600 vibro-diagnostic system
- ☞ Diagnostics of the status of individual system modules

### **Vlastnosti :**

- ☞ Minimum system requirements: Intel® Pentium® 200 MHz or compatible, CD ROM, 64 MB RAM, 2 MB hard disk space, SVGA or higher resolution monitor (min. 800x600, 256 color)
- ☞ Microsoft® Windows® 95, 98, NT, 2000, XP
- ☞ Communication via standard serial interface
- ☞ Possibility of configuring up to 16 systems 3600 on a single PC

*Verze 3.19*

## Program installation

### Installation from the CD - ROM.

Launch the **A3600Setup.exe** program, which is located in the A3600Setup directory on the installation CD-ROM. If autorun from the CD-ROM drive is enabled, you can launch the program by clicking **Installation A3600Setup** on the menu that will show after inserting the installation CD-ROM to the drive. Otherwise, the installation is identical with the installation from the floppy diskette.

## Program Uninstallation

You can uninstall the Adash 3600 Setup program in the following way:

- 1) If the Adash 3600 Setup application is launched, close it.
- 2) Double-click **Add or remove programs** in **Control Panels** (Control Panels are in folder **Settings**, menu **Start**)
- 3) In the opened window find and click the A3600 Setup application.
- 4) Click **Change or remove** – the uninstallation is launched.
- 5) After query whether to delete completely the selected application and all its components click **Yes** – the application will be uninstalled.
- 6) Close the **Add or remove programs** screen.

The above described procedure exactly corresponds to the way of uninstal in operating system Windows 2000. The procedure in operating systems Windows NT/98/95 is similar, however, it differs in the description of some buttons or screen names or in the information graphical display.

Another possible way of the A3600 Setup program uninstallation consists in the initialisation of the installation A3600Setup.exe program. The installation program recognises the already installed version and offers its uninstallation.

## Interconnection Via the COM Module

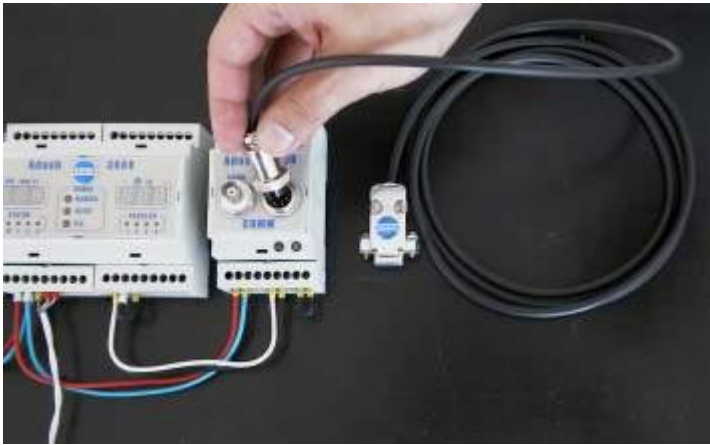
The Adash 3600 Setup program communicates with the Adash 3600 system via the standard RS 232 interface. This communication interface is part of all standard PCs; users usually know the interface under the names of ports COM1, COM2, for instance.

To carry out the interconnection, proceed as follows:

- 1) In the supply of the Adash 3600 system with the COM module there is a cable enabling the interconnection between the PC and the COM module.



- 2) Connect the round connector of the above cable to the COM module according to the figure.



- 3) Connect the other connector to the PC serial port.



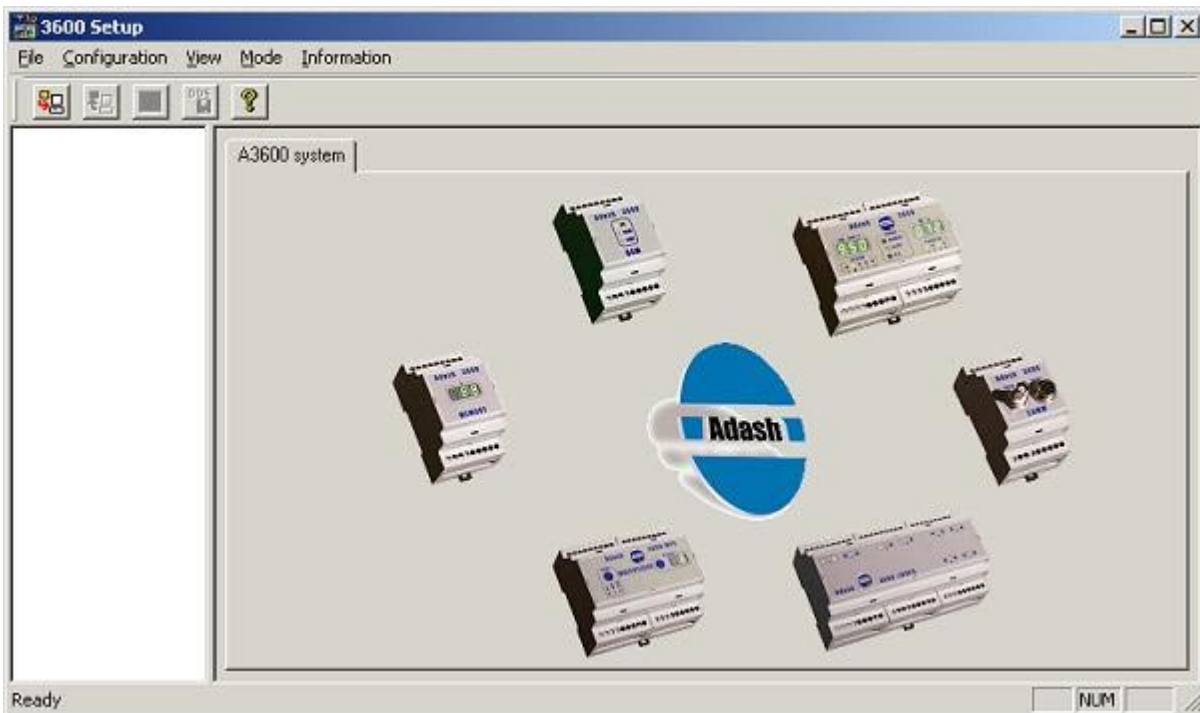
- 4) Now the PC is interconnected with the Adash 3600 system and you can start working with the Adash 3600 Setup program according to the following chapter „**Working with the Program**“

## ***Program Initialisation***

Launch the 3600Setup program by unpacking the **Start** menu and clicking **A3600Setup**. The default location of this item is **Start / Programs / Adash / A3600Setup**, otherwise you find it according to the specification that you selected when installing the program.


## ***Description of the User Interface***

After launching the program, the program user interface window appears on the display.

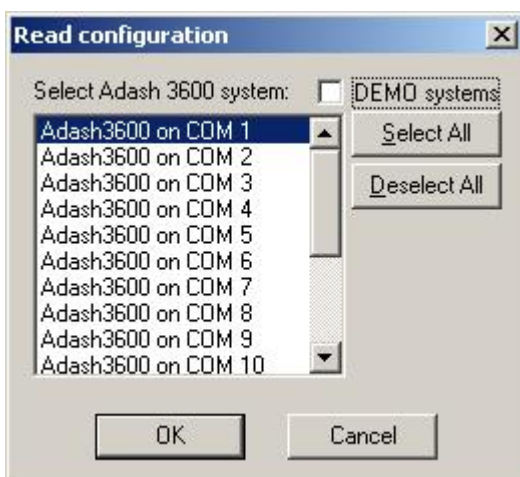


The user interface consists of menu, toolbar, left and right screen. The individual menu items serve to call program actions or to set the user interface appearance. The icons are included in the toolbar that represent the most frequently used program functions; the same functions can also be launched from the program menu. The left screen of the user interface is empty after launching, the right screen contains pictures of some Adash 3600 system modules and the company logo. The content of both the screens will be activated after recording the configuration from the 3600 system.

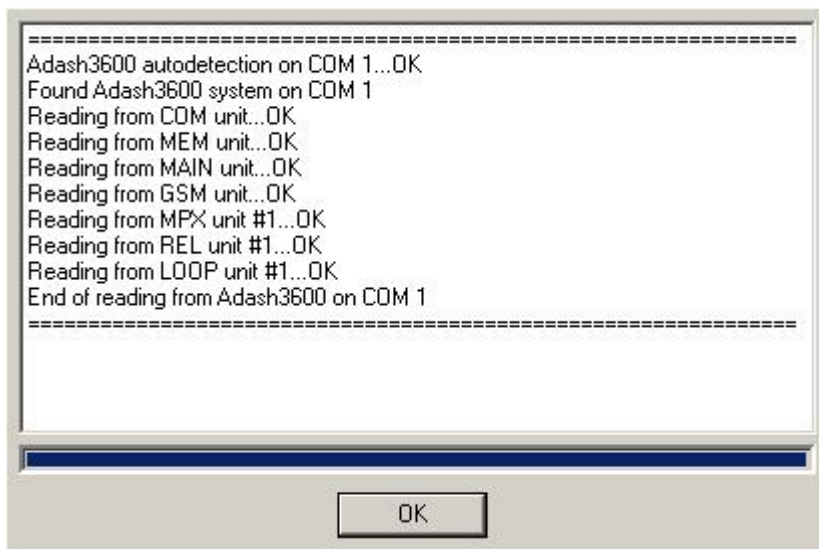
## ***Reading of Configuration from the 3600 System***

The primary condition for the work with the program is the acquisition of the current configuration from the 3600 system. The user does not need to enter any communication parameters to obtain configuration. The only thing the user has to provide for to be able to read the configuration is the physical PC - Adash 3600 interconnection (see chapter **Interconnection Via the COM or NET modules**); then the user has to select in the menu **Configuration / Read from A3600 system**, or to click on .

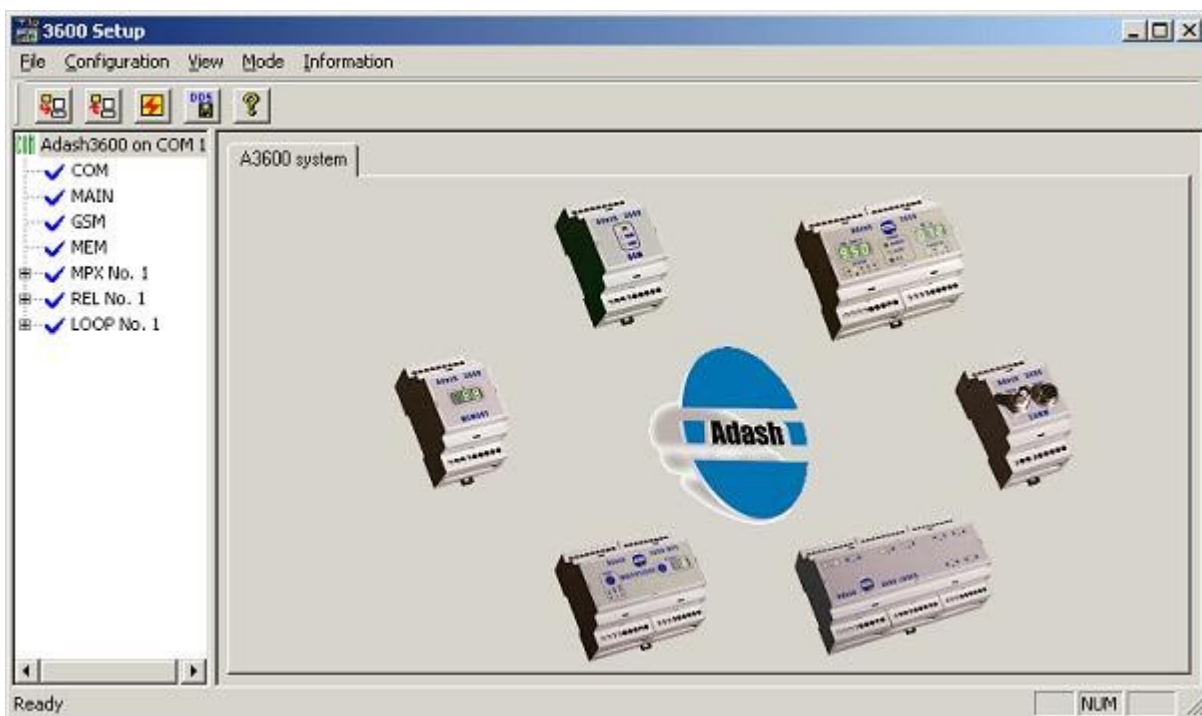
To accelerate the search of the 3600 system, it is suitable to specify the serial port on which the 3600 system is connected, in dialogue box **Read configuration** see below. If the user is not sure on which serial port the system is connected, more or all the serial ports can be selected and the program will detect automatically all the 3600 systems on the all the selected ports.



After selecting one or more serial ports, the program reads configurations of the connected Adash 3600 system sets. Information on the course and state of configuration reading from the connected Adash 3600 systems is displayed in the dialogue box. After terminating the reading, close this window by clicking **OK**.



Both the left and right screen of the user interface has already been activated. The left screen serves to show the current structure of the connected Adash 3600 systems, the right screen will show more detailed information and will also enable the editing of configuration parameters.



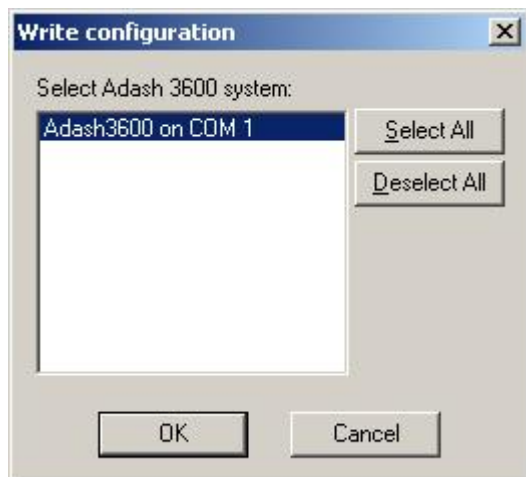
If the user wishes to find out information on a particular model or to configure its parameters, he simply clicks on the item representing the requested model in the left section of the screen. In the right section of the user window, the user finds out all available information or can edit the configuration of the requested model. With some models, configuration information is for lucidity divided into several parts. Such modules are represented by the item indicated „+“, which means that the item can be further unpacked; of course also the items of **Adash3600 on COMMxx** type can be unpacked.

## ***Writing the Configuration to the 3600 System***

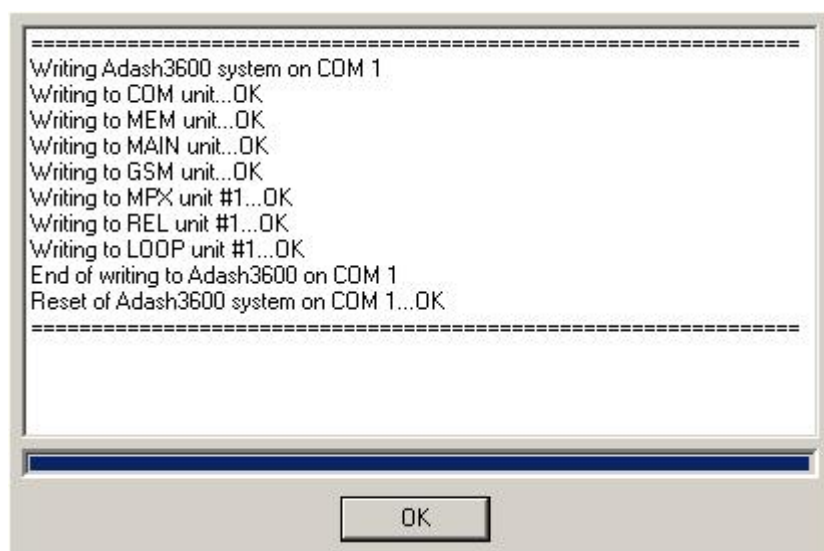
If the user made changes in the configuration of the 3600 system, such changes must be saved in the relative

system modules memories. This is done via **Configuration / Write to A3600 system**, or via icon .


Since the parallel connection of more Adash 3600 systems to one PC is presumed (generally up to 16), the following dialogue box will show before the configuration is read from the PC and written to the system.

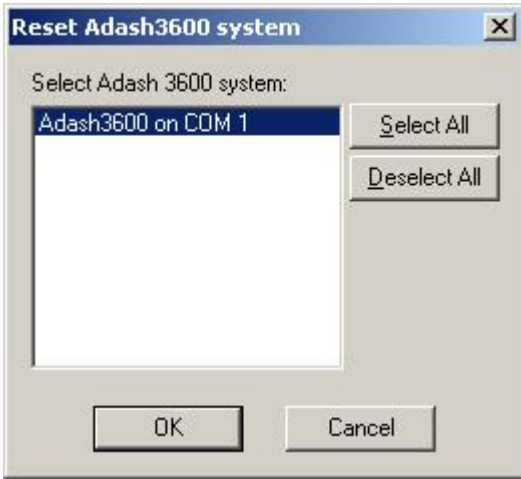


In this dialogue box all the connected 3600 systems and the relative serial ports are displayed. For the selected items the configuration will be read from the PC and written to the Adash 3600 system. The information on the course and state of write is showed in the dialogue box. Completed the write, close this box by clicking **OK**.

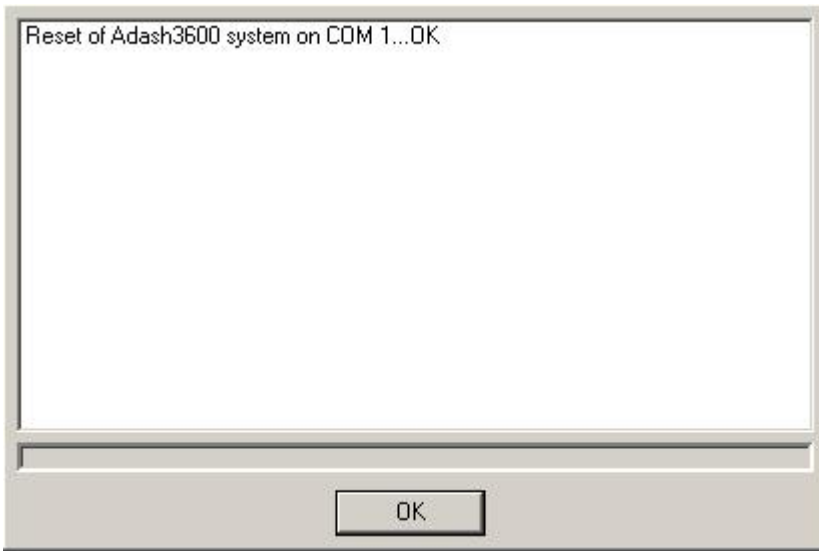


## ***Reset of the 3600 System***


By clicking **Configuration / Reset A3600 system** (or ) we will reset modules of the Adash 3600 system, which corresponds to the physical disconnection and consequential connection of the system supply voltage. Before the system reset, a dialogue box appears in which the user specifies which systems on which ports will be reset.



Information on successfulness of the action is clearly showed in the dialogue box.



## ***Creation of a Configuration File for DDS2000***

The 3600 system was designed to co-operate with the visual and diagnostic program DDS2000 by Adash. The link between the 3600 system and the DDS2000 program is ensured via a configuration file in which information on the structure of the particular 3600 system set is saved. This file can also be created via function **File / Make DDS import file** or by clicking .

## **A3600 modules and their configuration**



[Configuration of module  
COM](#)



[Configuration of module  
MAIN](#)

[Configuration of module](#)

[Configuration of module](#)



[MPX](#)



[REL](#)



[Configuration of module  
GSM](#)



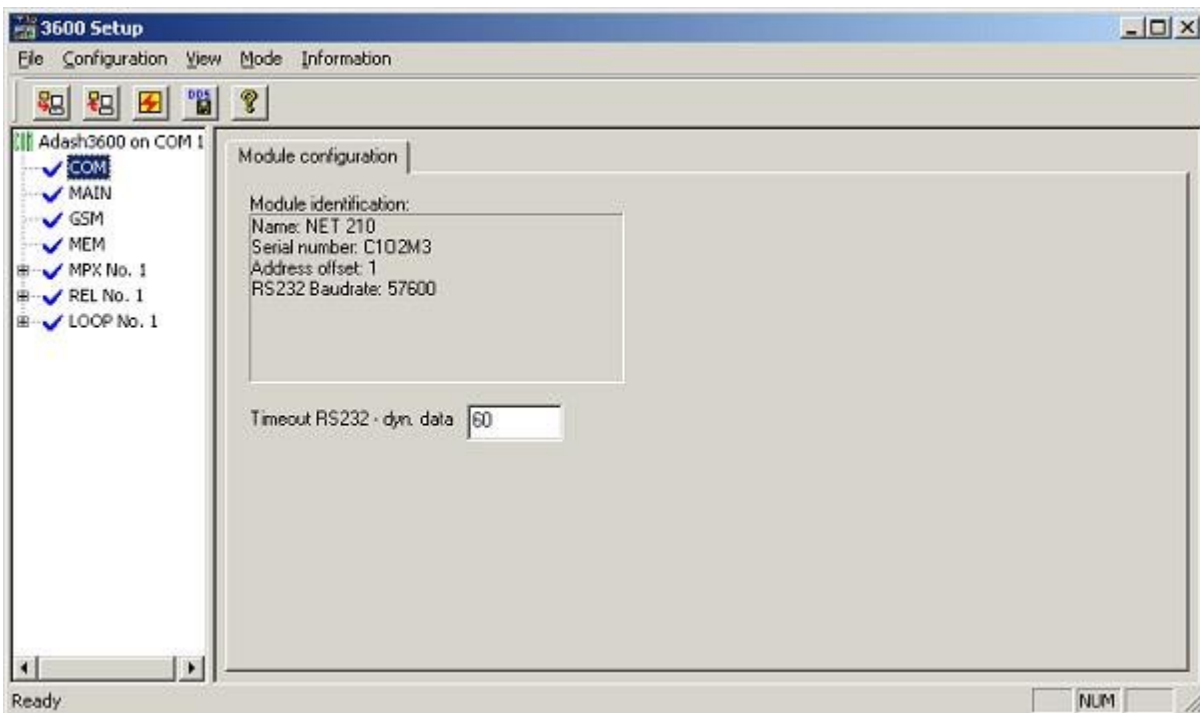
[Configuration of module  
MEM](#)



[Configuration of module  
LOOP](#)

## Module COM

The COM module is intended in particular for the connection of the 3600 system to the PC via standard interface RS 232. This connection enables to diagnose, configure or transfer data from the system. The 3600 Setup program enables to find out the following information on the COM module:



For the COM module it is not necessary to set any configuration parameters, most parameters have been optimally set by the manufacturer, the other parameters are set by autodetection.

## Module MAIN

The MAIN module is the main control unit of the entire 3600 system. One of its main tasks is the measurement and evaluation of vibration signals and temperature. For its complexity information and configuration parameters are divided into three groups.

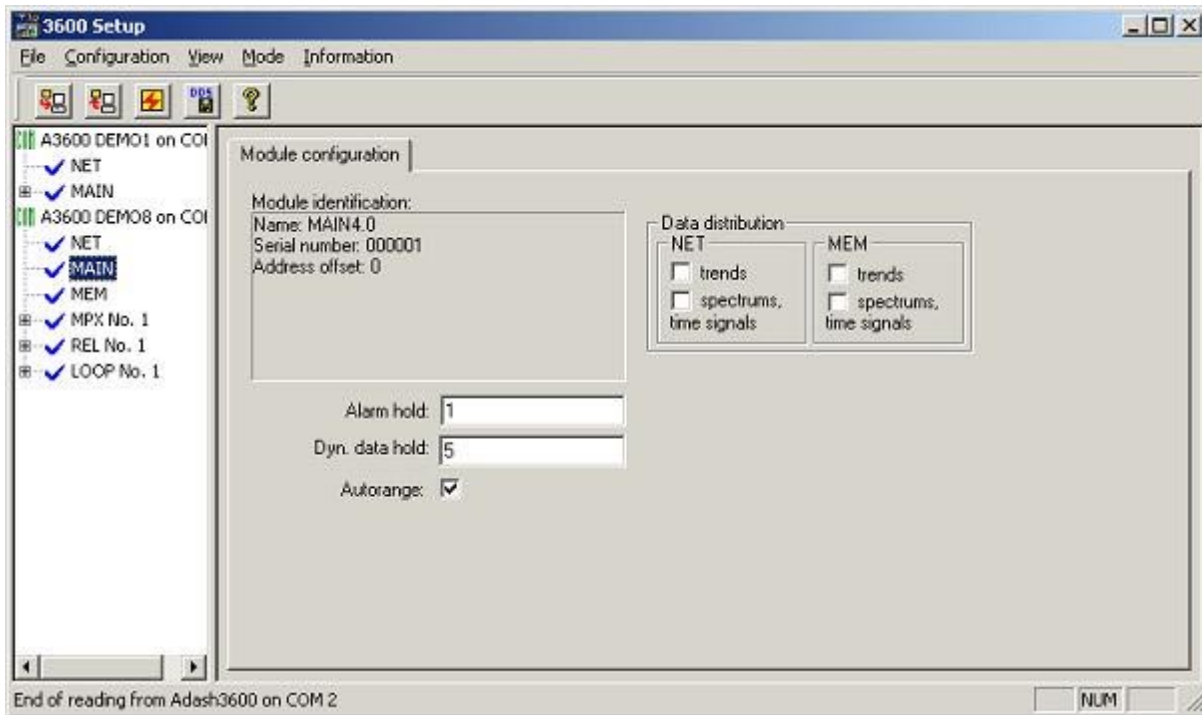
The first group is made of general information on the module and parameters **Alarm hold**, **Dynamic data hold** and **Autorange**. The value of this parameter indicates the number of measurement cycles during which the set alarm remains active even though the signal does not meet the alarm conditions any more.

The value of the **Dynamic Data Storage** parameter indicates the number of measuring cycles for which dynamic data remain in the module memory.

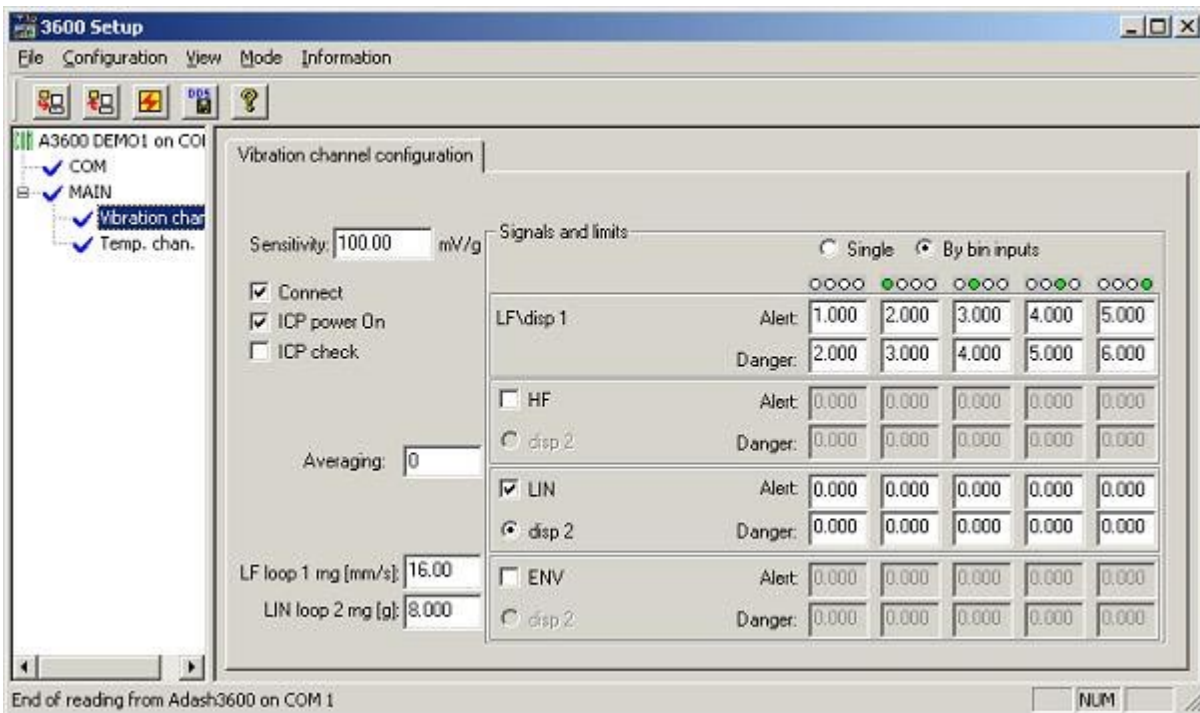
**Autorange** checkbox:

If autorange is selected, then the system run autorange function before each individual measurement. This choice is recommended in case of non-stationary signals (modulated, various process conditions,...). When autorange is not selected, then system run autorange function only after switching on and when the input is over.

Where will be the measured data send, is set down by parameters **Data distribution**.



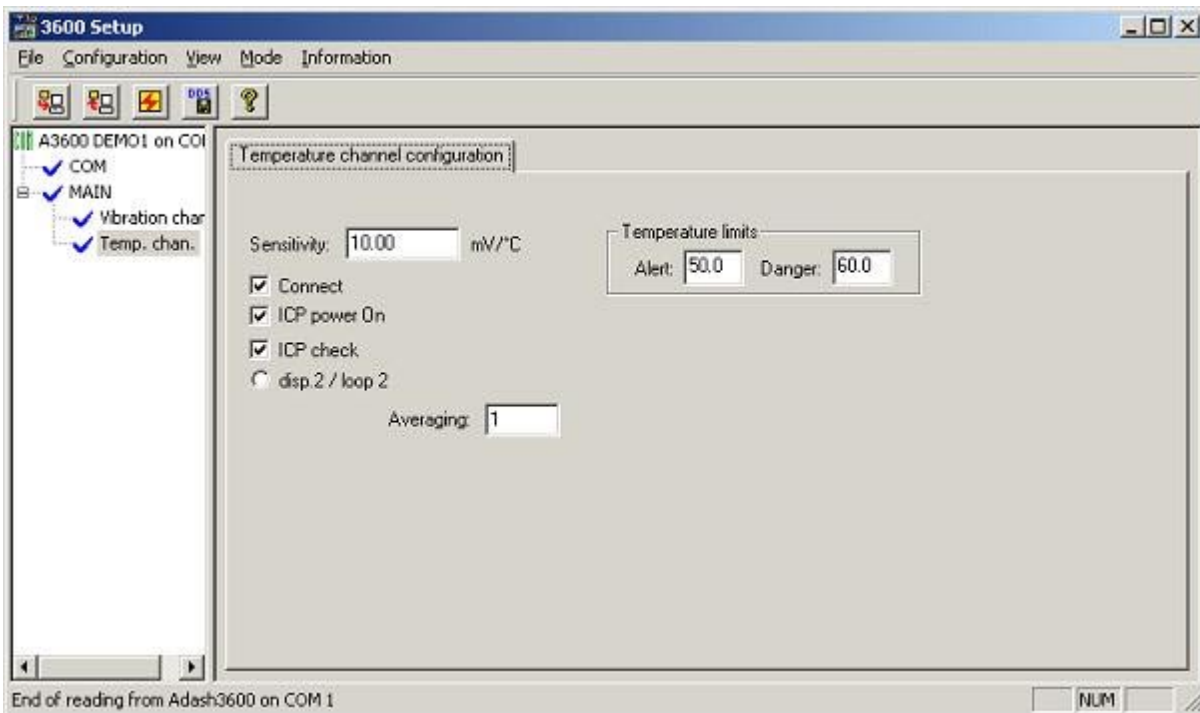
The second group is made of vibration measurement channel parameters.



Representation of individual parameters:

- Sensitivity** - determines sensor sensitivity in mV/g (range 1-1,000)
- Connect** - sensor connection
- ICP power ON** - sensor ICP power ON
- ICP check** - sensor check
- Averaging** - number of measurement for averaging and consequential evaluation (1 - 16)
- 1.sm** - range of current loop No.1 (range 0.01 - 9,999)
- 2.sm** - range of current loop No. 2 (range 0.01 - 9,999)
- Single** - common limits of Alert and Danger for all binary inputs (machine states)
- By bin inputs** - it is possible to set different limits for individual binary inputs (machine states)
- HF** - HF signal measurement
- LIN** - LIN signal measurement
- ENV** - ENV signal measurement
- disp. 2** - signal identification for the display in the right section of the display on MAIN and assignment of the signal to current loop No. 2
- Alert** - alert value setting for the relative signal and binary input (range 0-9,999)
- Danger** - critical value setting for the relative signal and binary input (0-9,999)

The third group is made of temperature measurement channel parameters.



Representation of individual parameters:

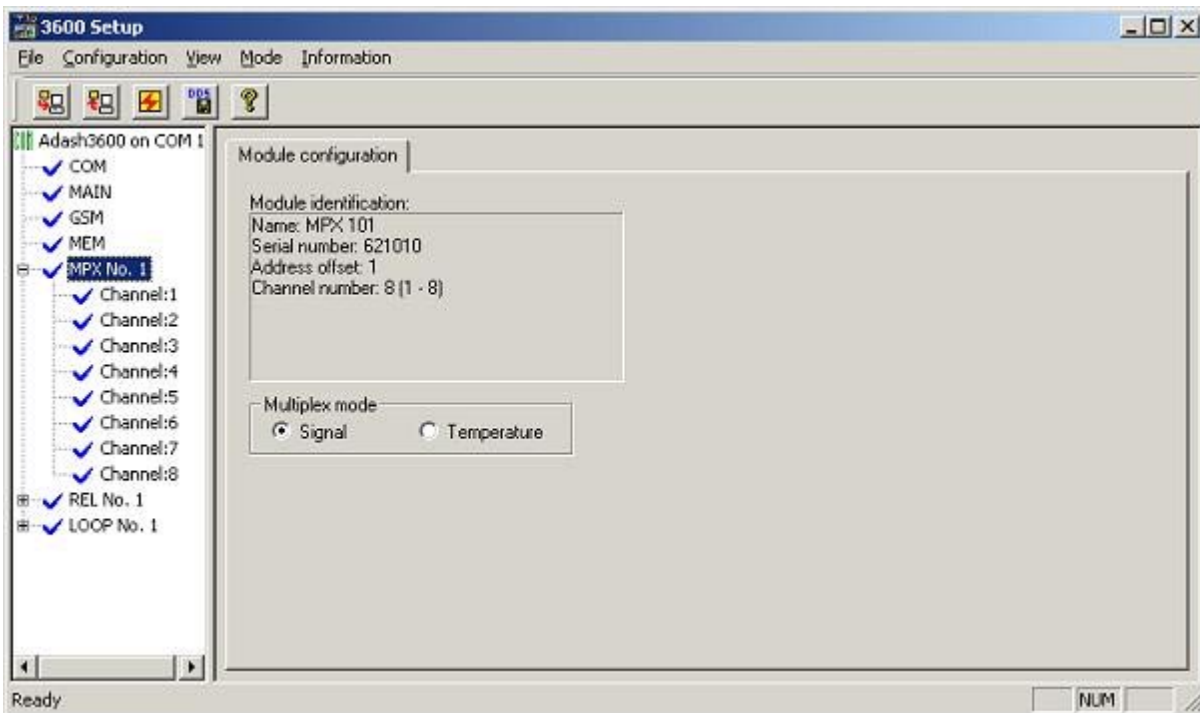
- Sensitivity** - determines sensor sensitivity in mV/°C (range 1-1,000)
- Connect** - sensor connection
- ICP power ON** - sensor ICP power ON
- ICP check** - sensor check
- Averaging** - number of measurements for averaging and consequential evaluation (1 - 16)
- Alert** - alert value setting (range 0-9,999)
- Danger** - critical value setting (0-9999)
- disp. 2** - signal identification for the display in the right section of the display on MAIN and assignment of the signal to current loop No. 2

**Warning:** If the MPX module is connected to the 3600 system, the parameters of the second and third groups cannot be set up on the MAIN module (i.e. vibration measurement channel and temperature measurement channel parameters). Both the measurement channels are used for measurement on the MPX module.

## Module MPX

The MPX module enables measurement on more measurement channels (the 3600 system non containing the MPX module can measure only on one vibration and one temperature measurement channels). Each MPX module enables to measure on 8 measurement channels and up to 12 MPX modules can be connected to the 3600 system.

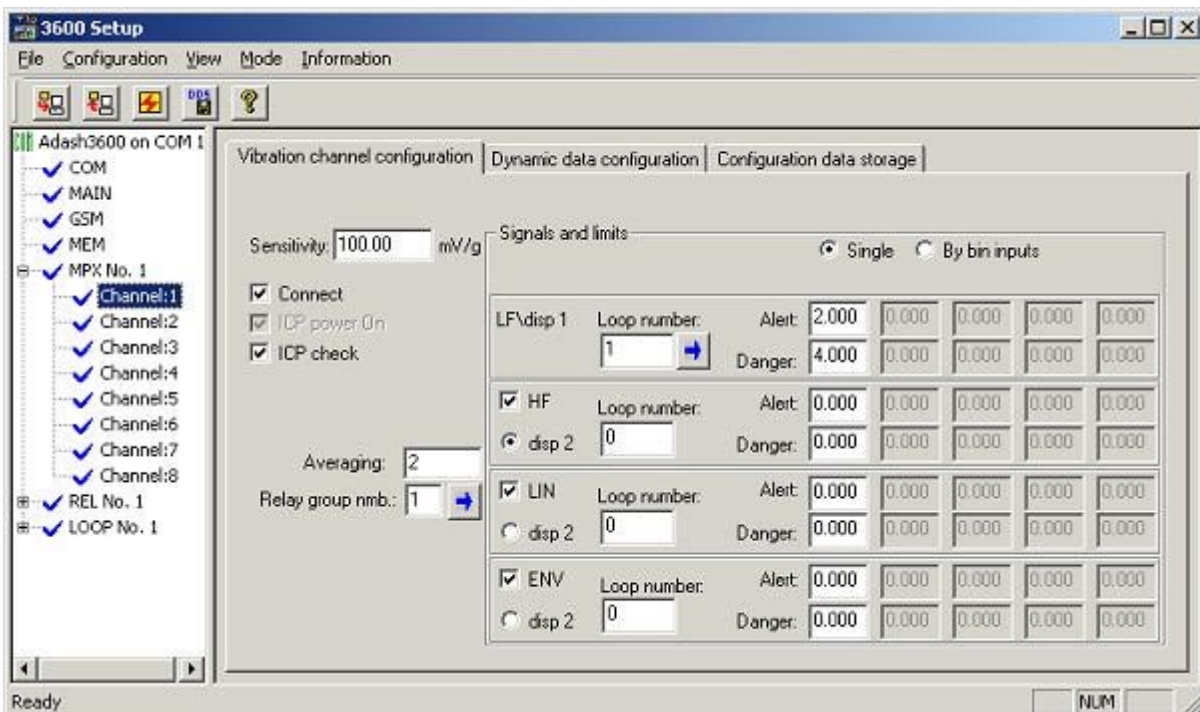
The basic parameters of the MPX module include the setting whether it is a module with 8 vibration measurement channels or a module with 8 temperature measurement channels. This is done by selecting **MPX No. xx** in the left screen, where **xx** indicates the number of the MPX module from 1 to 12.







There are two possible configurations of independent measurement channels, depending on the above selection:

### **Configuration of the Vibration Measurement Channel**

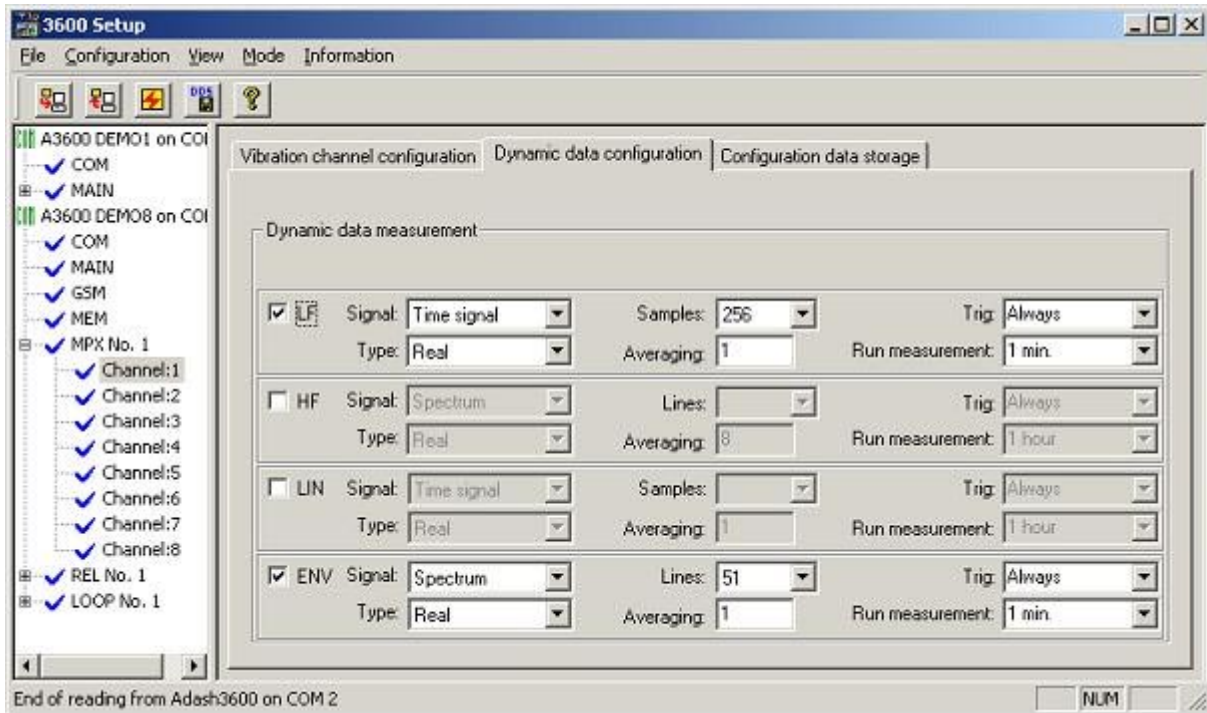
If the user selects any item named **Channel: xx** in the left screen, where **xx** indicates the number of the channel from 1 to 64, all the configuration parameters for the particular channel will show on the right. For vibration measurement channel the parameters are as follows.



The meaning of most parameters is described in chapter **Module MAIN**. In addition, the right screen includes items named **Loop No.** and icon  (if the 3600 system set involves the LOOP module). The number of the current loop that is supposed to be assigned to a particular channel is entered to item **Loop No.** By clicking  , the setting of the current loop will show (more in detail in chapter Module LOOP).

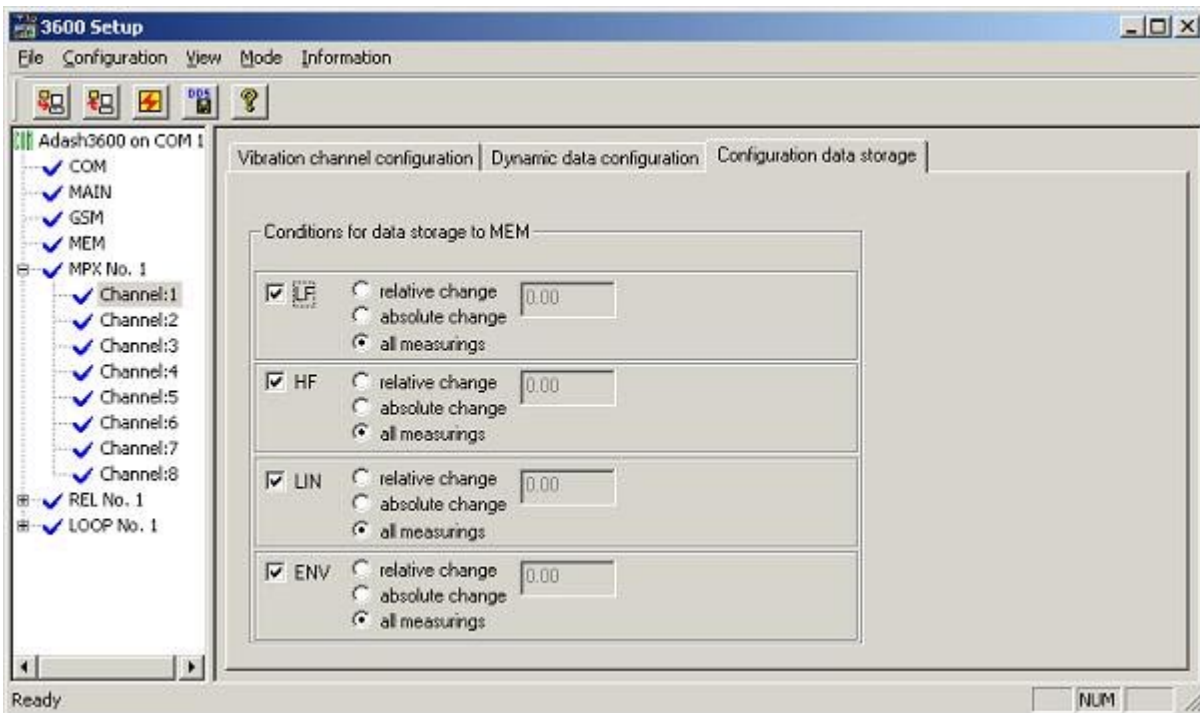
In addition, the right desktop includes an item entitled **Relay Group Number** and also another button  (if the 3600 system set includes the REL module). Enter the number of a group relay to the **Relay Group Number** that is to be assigned to the channel. By clicking , the relative relay group setting will appear (for details see the REL Module chapter).

If the currently connected A3600 system supports dynamic data measuring, a bookmark entitled **Dynamic Data Configuration** will appear at the right of the desktop.



In this bookmark dynamic data measurement parameters may be set up: for instance, signal (time signal or spectrum), signal type (real or complex), number of samples (for time signal) or number of lines (for spectrum), averaging, particular measurement start-up and its frequency interval.

If the MEM module is connected to the 3600 system, the right section of the screen will also contain bookmark **Configuration data storage**. By clicking **Configuration data storage**, the following configuration parameters will show.



Here we configure conditions for storage of the measured records on the FLASH card of the MEM module (more in chapter Module MEM). If any of parameters LF, HF, LIN, ENV is selected, it means the request to store the measured data of such signal. There are two conditions for the storage itself.

- 1) the relative change of the current measuring value compared to the last measuring exceeded the set percentage – item **relative change**
- 2) the absolute change of the current measuring value compared to the last measuring exceeded the set value – item **absolute change**.

If the user requests to store all measurements, item **all measurements** must be selected.

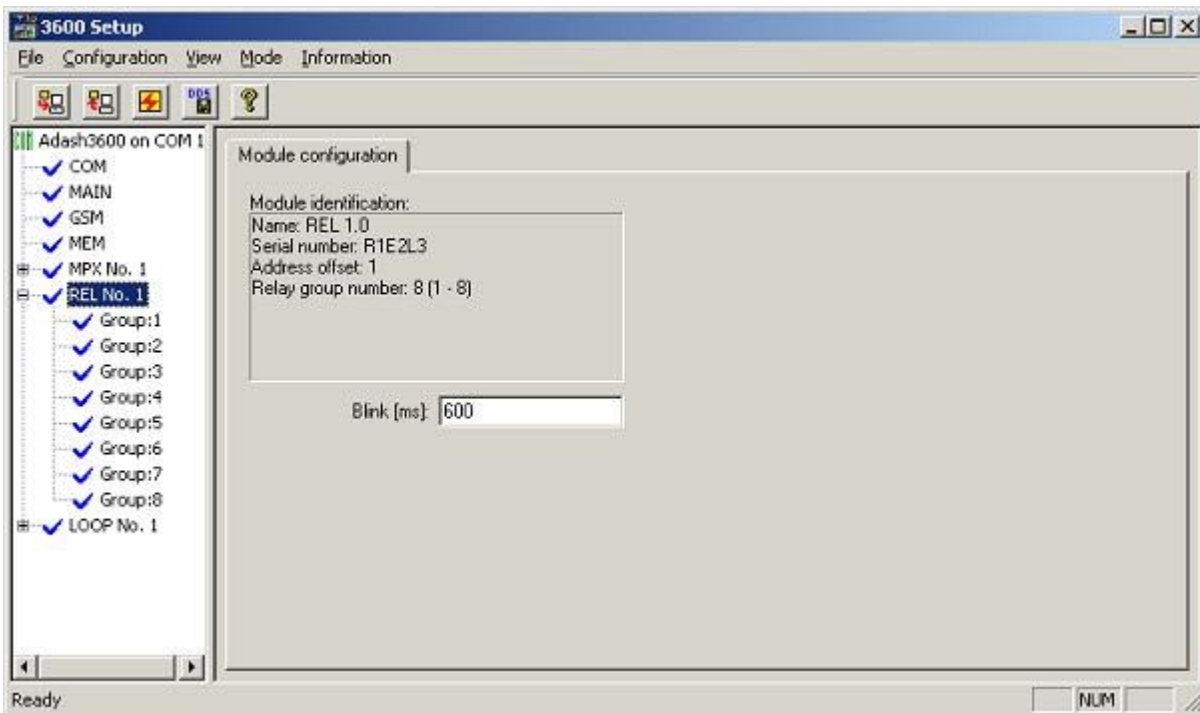
### Configuration of the Temperature Measurement Channel

If the user selects any item named **Channel: xx** in the left screen, where **xx** indicates the number of the channel on the particular MPX module from 1 to 64, all configuration parameters for the particular channel appear in the right section. For the temperature measurement channel the parameters are included in the above mentioned chapter **Module MAIN**, section Temperature channel configuration.

## Module REL

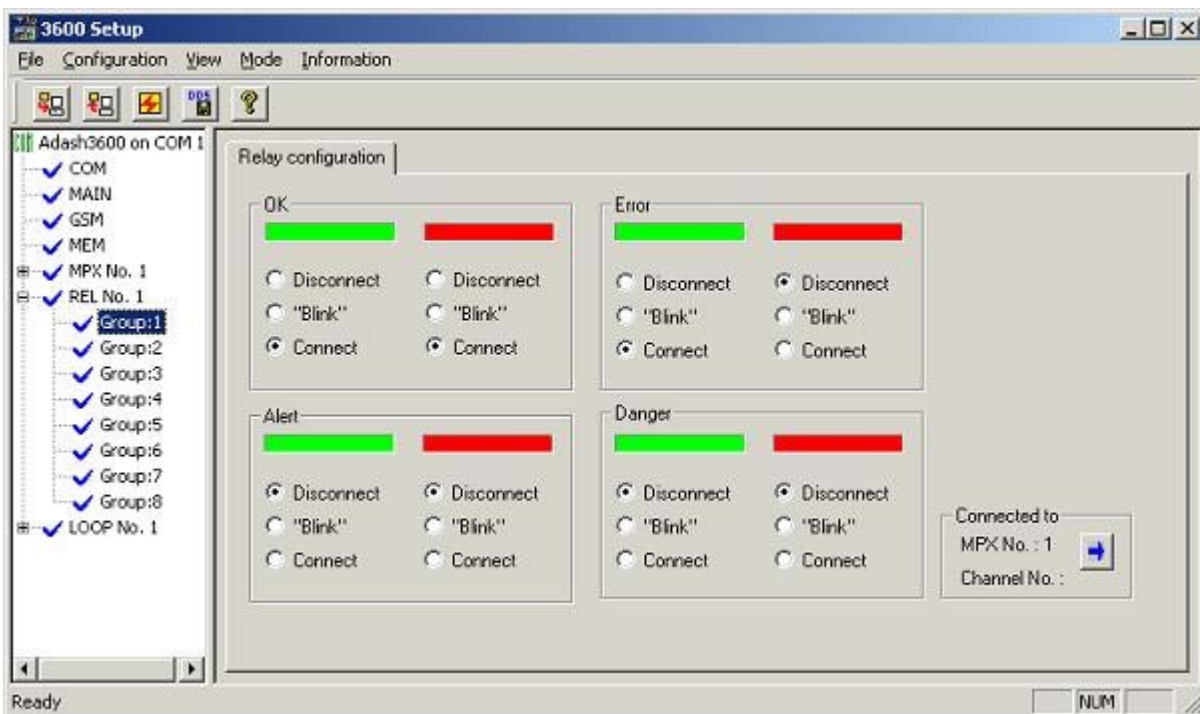
The A3600-REL module serves to signal the state of individual measurement channels of the 3600 system. Generally speaking, each REL module contains 8 relay groups and up to 12 REL modules can be connected to the 3600 system set. Each relay group is made of two relays.

The configuration of individual relay groups is possible only after their assignment to a particular measurement channel on the MPX module – more in detail in chapter **Module MPX**. To obtain information on the REL module, item **REL No. xx** must be selected in the left section of the screen, where **xx** indicates the number of the REL module from 1 to 12.



In the right section of the screen parameter **Blink** can be set for the REL module. The value of this parameter indicates time-out in ms between the change in the relay states on a particular module (how fast the relay will switch on and off).

For the configuration of individual groups parameters, any item entitled **Group: xx** must be selected at the left of the desktop, where **xx** indicates the group relay number from 1 to 64. Then all the configuration parameters for the particular group appear at the right of the desktop.

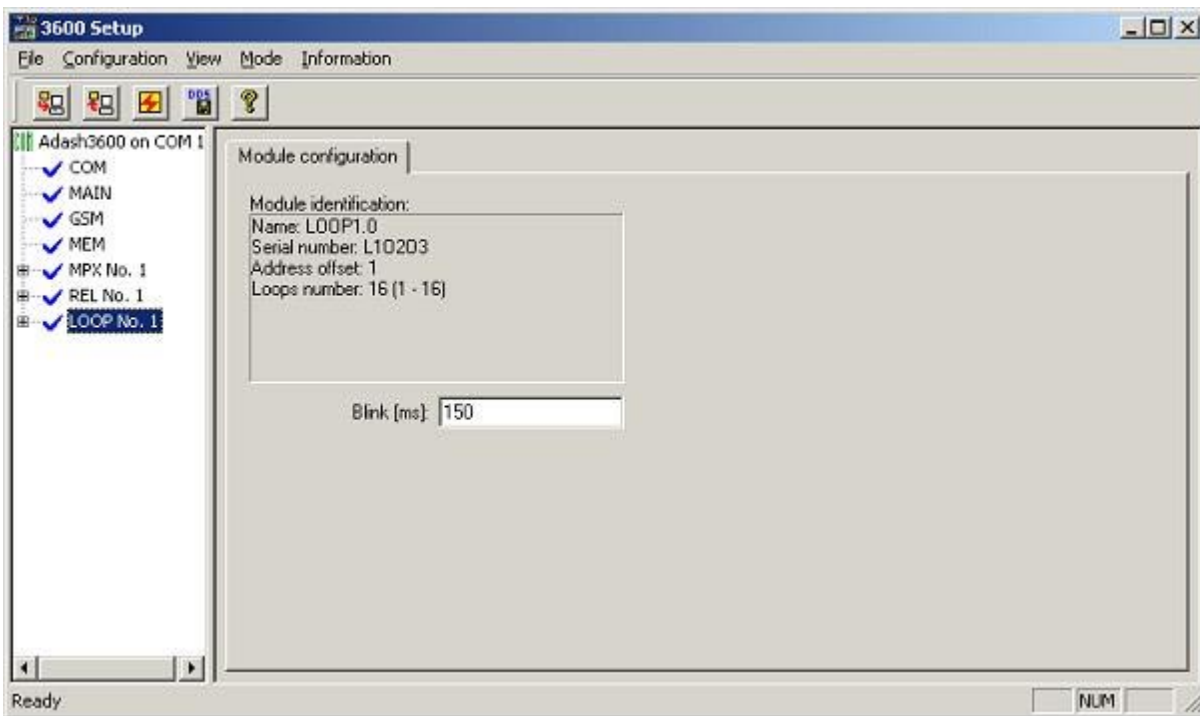


The configuration parameters are divided according to the state at a particular measurement channel. Therefore, the activity of individual relays can be set depending on the state of the measured signal. We distinguish four states of the measured signal – **OK**, **Error**, **Alert** and **Danger**. Each relay can perform four activities in the particular state **Open**, **Blinks** and **Close**. The bookmark also contains an information window displaying the module and the channel to which the relay group is assigned.

## Modul LOOP

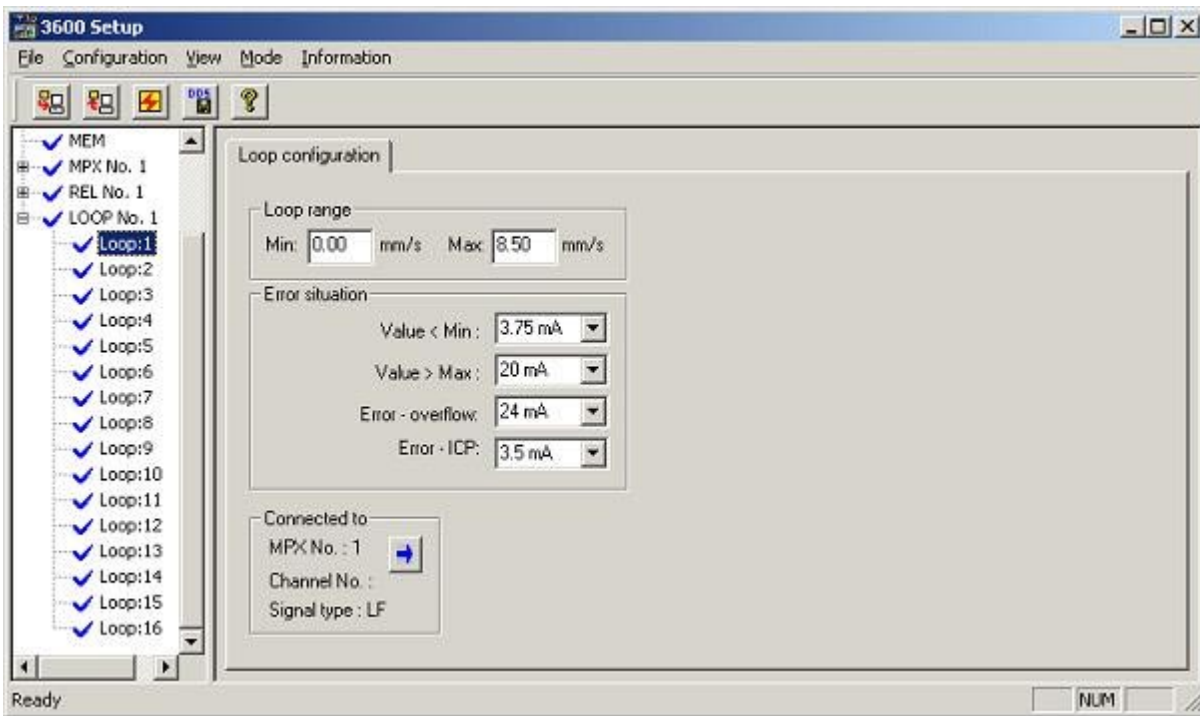
The A3600-LOOP modules is intended for the output of static data measurement results to the fully programmable current loops 4mA to 20mA. The module is mounted with 8 or 16 current loops. The current loop can be assigned to the selected static data measurement and further processed or measurement results or error condition can be displayed.

To obtain information on the LOOP module, item **LOOP No. xx** must be selected in the left section of the screen, where **xx** indicates the LOOP module number from 1 to 12.

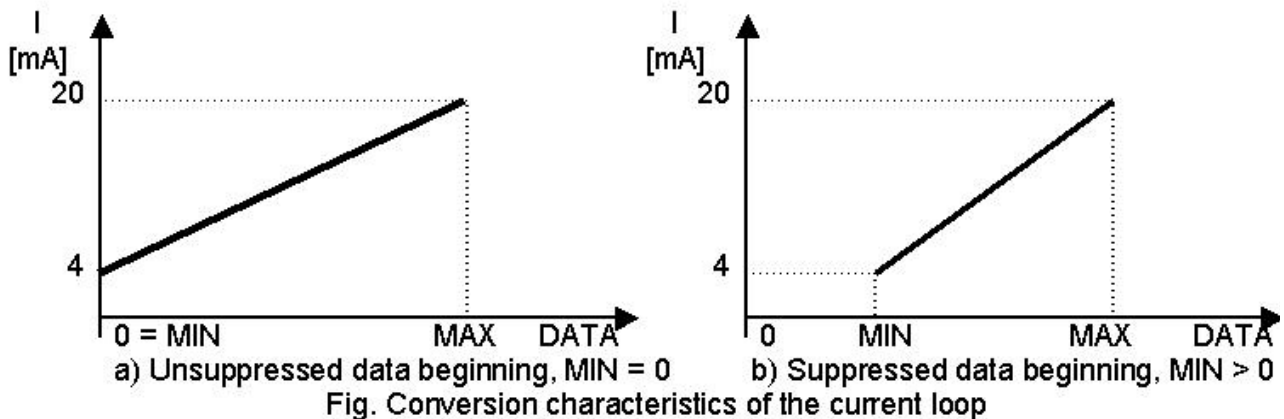


In the right section of the screen parameter **Blink** can be set up for the LOOP module. The value of this parameter indicates time-out in ms for LED blinking of the module current loop. The signalling LED of the particular loop is blinking if it is powered but not assigned to any channel or, on the contrary, if it is not powered but it is assigned to a channel. The LED blinking therefore indicates a non-standard state on the relative loop.

To configure individual loops parameters, any item named **Loop:xx** must be selected in the left section of the screen, where **xx** indicates the channel number from 1 to 192 (up to 12 modules, 16 channels each); configuration parameters for the particular loop appear in the right section.



**Loop range** - min. and max. values can be configured at the current loop. The min. and max. values can be set in the range from 0 to 9999. The output current size is then linearly dependant , see the following graph:



**Error state configuration** of the current loop: it consists in the assignment of the output current value to a particular error state. The assignable output currents are 3.5mA, 3.75mA, 4mA, 20mA, 22mA, 24mA.


**Value < Min** - the measurement result is lower than the min. value selected by the user corresponding to 4 mA. The assignable output currents are 3.75mA or 4mA.

**Value > Max** - the measurement result is higher than the max. value selected by the user corresponding to 20 mA. The assignable output currents are 20mA or 22mA.

**Error - sensor overflow** - high signal level, unprocessable by the 3600-MAIN unit, no measurement performed. The assignable output currents are 3.5mA, 3.75mA, 22mA, 24mA.

**Error - sensor ICP** - sensor power error, no measurement performed.

The assignable output currents are 3.5mA, 3.75mA, 22mA, 24mA.

Information associated under **Connected to MPX** describes the channel assigned to the particular current loop. By clicking , the setting of the assigned measurement channel will show.

## Module GSM

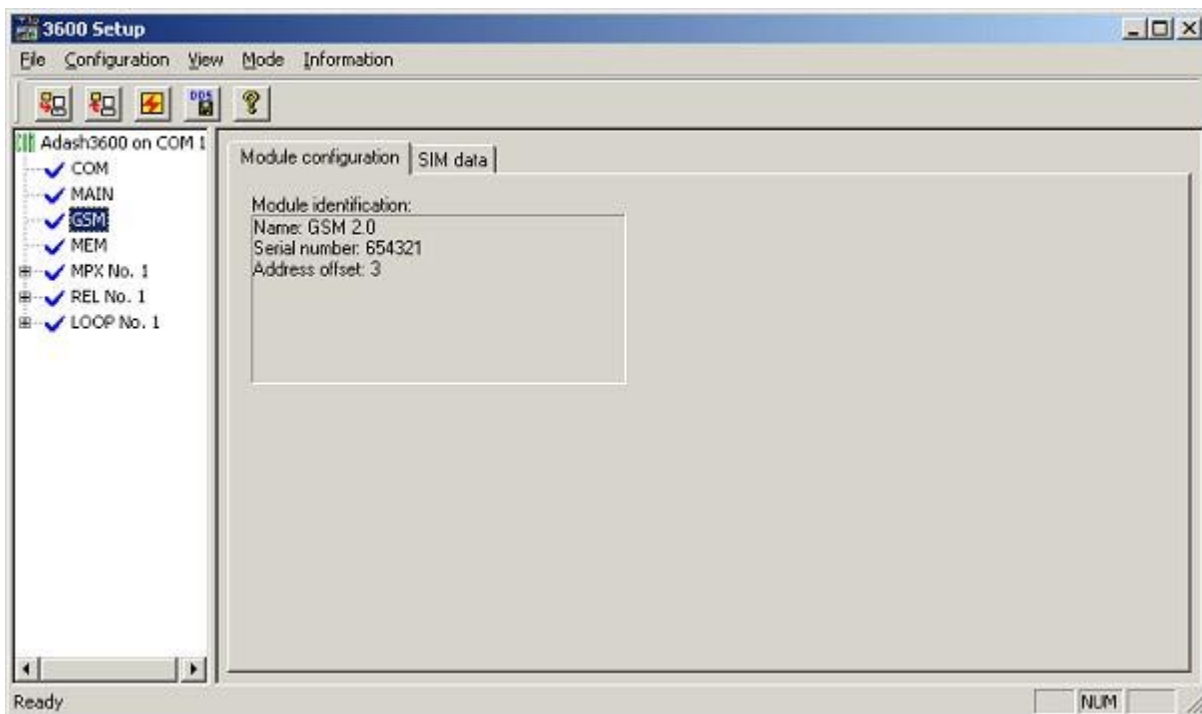
The Adash 3600-GSM module is intended for communication between the ADASH 3600 system and a GSM modem. This modem then enables to send short text messages (SMS) or voice messages concerning the system condition. At the same time, it enables to transmit measured data if communication is established between two modems.

The GSM model processes orders from the ADASH 3600 unit and, based on such orders, transmits SMS messages to pre-defined phone numbers via the GSM modem. The following message types are supported:

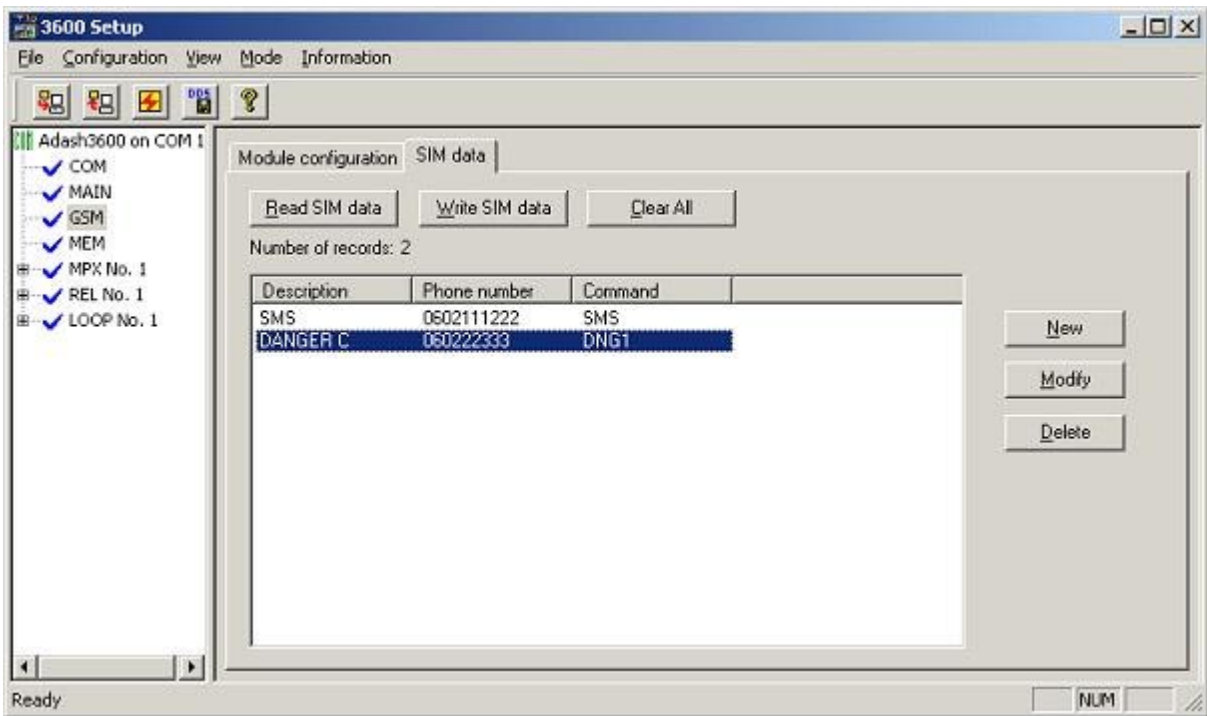
- OK system,
- ALERT limit exceeded,
- DANGER limit exceeded,
- sensor connection error,
- system error,
- received SMS message delivery.

The message always includes: unit identification, analogue signal channel to which the condition applies and condition information.

Program 3600 Setup enables to obtain the following information on the GSM module:



In the right section of the screen, besides **Module configuration** there is also **SIM data**. After clicking **SIM data**, a window will appear enabling the editing and management of records for the SIM card.



- activates the reading of all the data saved in the SIM card to the window
- activates the saving of all the data from the window to the SIM card
- deletes all the data from the window

To edit the individual records, the following buttons are used provided that a record is selected.

- enables to edit a new record and add it to the window
- enables to edit the existing record in the window
- deletes the record from the window

To add or edit a record, the following dialogue box is used:



The meaning of individual configuration parameters:

**Description** - 8 characters can be entered to identify the record

**Phone number** - phone number to which message will be sent

**SMS system information** – when selecting this item, all SMS messages will be forwarded to the above phone number that will arrive to the GSM modem (for instance, they can be SMS messages from the phone operator etc.).

**Report** - this group of items indicates the channel condition in which a message will be sent (items OK, Alert, Danger, Error, All) and determines also the relative measurement channels (items All channels or Channel number).

A detailed description of the individual items in group **Report** follows:

**OK**

The message will be sent if the signal at the selected channel drops under the **Alert** or **Danger** limits.

**Alert**

Message sending after exceeding the **Alert** limit at the selected channel.

**Danger**

Message sending after exceeding the **Danger** limits at the selected channel.

**Error**

System error message sending. The message is sent if malfunction of any module of the ADASH 3600 system is detected.

**All**

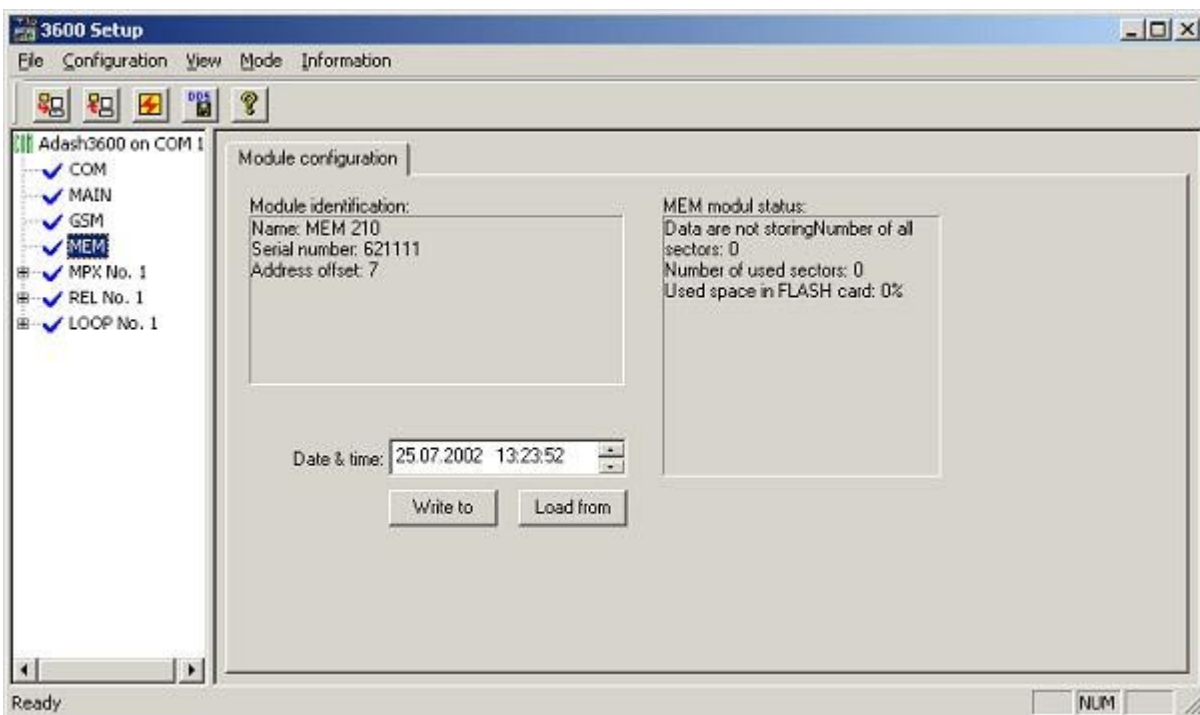
All messages are sent to such record. It means that neither message type nor channel number are distinguished.

## Module MEM

The Adash 3600-MEM module serves to archive measured data. **The module is able to archive data to the Compact Flash Card with a capacity of 16MB to 128MB.** The flash card can be removed from the module any time and via a user PC the archived data can be imported to the DDS database or A3600 Download can be used.

The module is equipped with a real time circuit and each archived record is dated and timed.

The 3600 Setup enables to find out or set up the following parameters in respect of the MEM module:



In item **Module identification** general information on the module is displayed. In item **MEM module status** information on used space in flash card and possible data writing error to the flash card are showed.

In respect of the MEM module, **Date & time:** can be set up. The current date and time can be obtained from the module by clicking  . Date and time can be set up by clicking  .