Loggisoft
Service Manual

MIKSTER
Sp. z o.o.
41-250 Czeladź ul. Wojkowicka 21
Tel.+48 (0-32) 265 70 97, +48 32 265 76 41, +48 32 763-77-77
Fax:+48 32 763-75-94
www.mikster.com

v.1.0 07.03.2005

Contents

Basic information

System description

LOGGISOFT software is an element the measurement data collection LOGGINET system produced by MIKSTER. LOGGISOFT software is applied for reading and analising the data from the LOGGINET system.

Functional properties:

- Monitoring of current measurement values
- Reviewing of the collected data either as tables or on a graph
- Collected data printouts (tables and graphs)

System requirements

Loggisoft works under the Windows operating system, on PC type computers.
The required version of an operating system:

Windows 98
Windows NT 4.0 SP3
Windows ME
Windows 2000
Windows XP

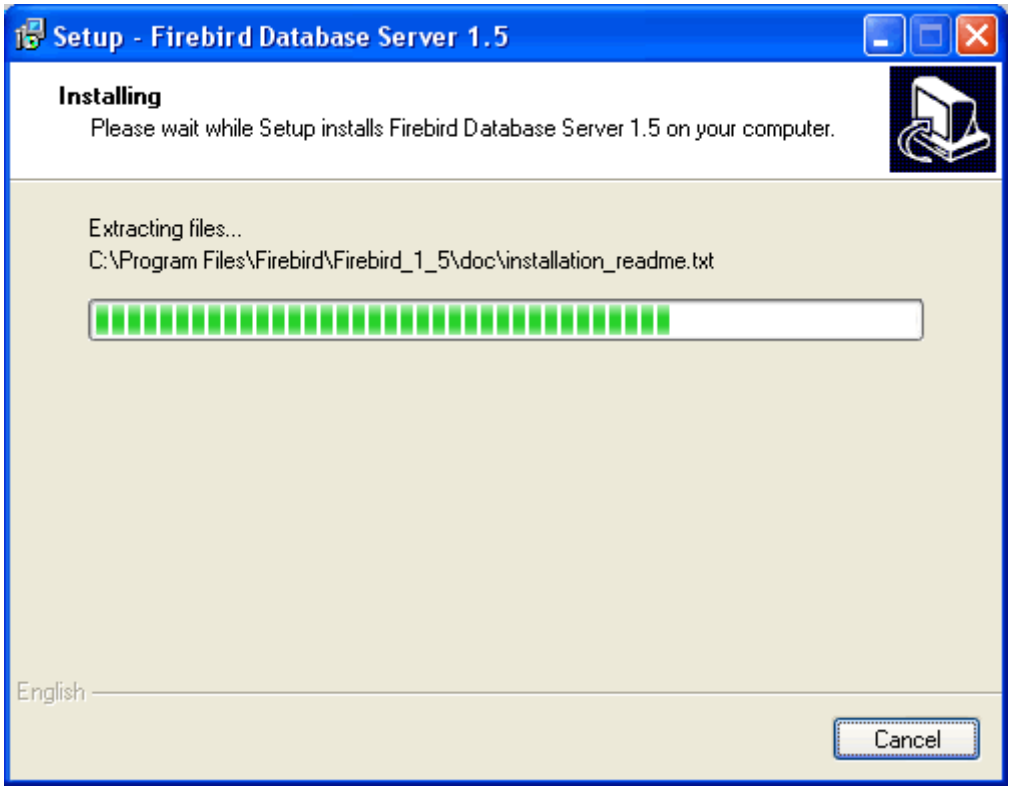
Minimum hardware requirements: Computer with Pentium processor, 32MB RAM,
1 port RS232 free, disc space for the installation: approximately 30MB. Recommended minimum 100MB of disc space for working.
TCPIP data transfer protocol is also required.
In case when the computer is connected to the network (network card) this protocol has already been installed, otherwise it should be installed.
For WindowsNT/2000/XP systems an installation of *Microsoft diagnostic loopback* card is enough, while for Windows 9x the connection must be defined in Dial-Up networking and the discretionary IP (Internet Protocol) number assigned to the computer.
The screen setting in the Loggisoft program should be as follows:

DPI settings: normal size (96 DPI)

Program Installation

ATTENTION! In order to install the program on computers with Windows NT, Windows 2000 lub Windows XP system one must login as a user with administrative rights.
Loggisoft is prepared for work in Windows environment. It is delivered on a CD plate. To install the program the SETUP.EXE located on CD plate in the main directory should be activated.
When the program has been installed the installation program will activate the database Firebird automatic setup.

Database Setup



If the following information is seen:

it means that theFirebird server has already been installed. In such case press OK and when the screen appears select „Cancel" and in the next dialog box: „Exit setup".

When the installation is completed the program will automatically activate itself. In addition an icon of starting will be placed in the desktop (name Loggisoft) and program menu (**Start->Programs->Loggisoft->Loggisoft**).

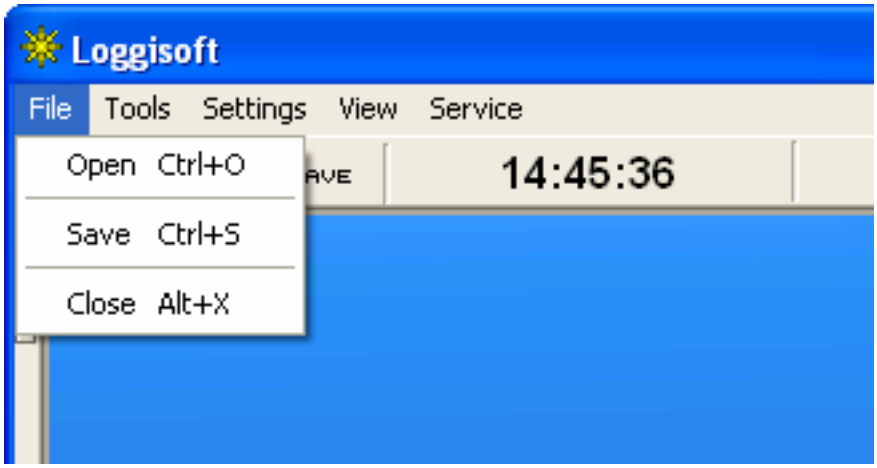
Getting Started

The system requires the user's verification. After the installation the only user is Adm (without a password). This user has all the rights (including the right to create other users of the system).

Main screen

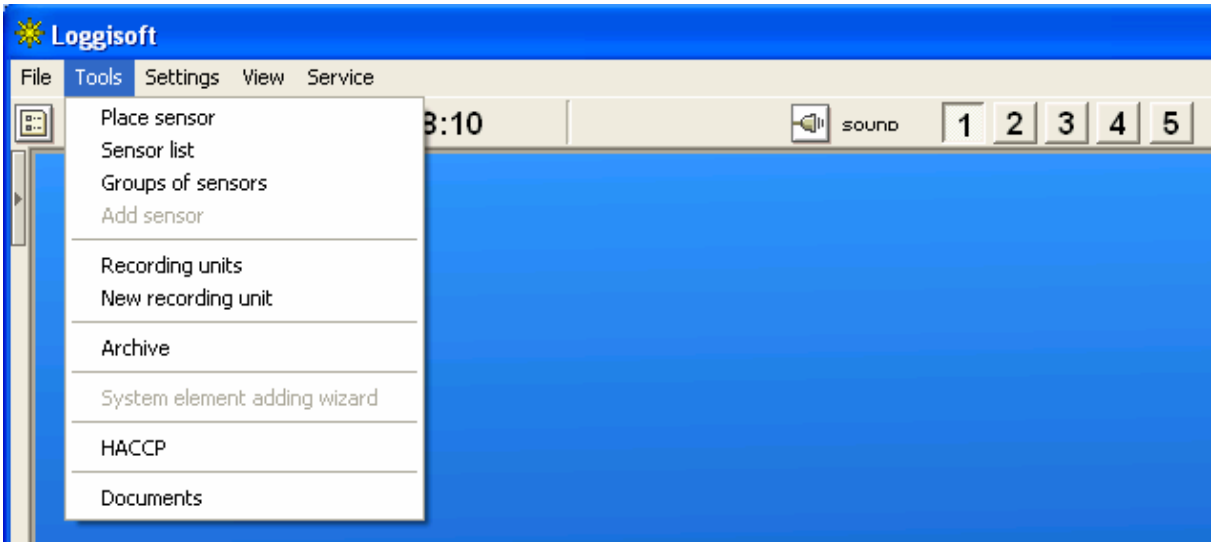
Main menu

1 File



- Open – input of previously written settings (background, sensor settings etc.)
- Save – writes current settings into a file
- Close – logout from the program

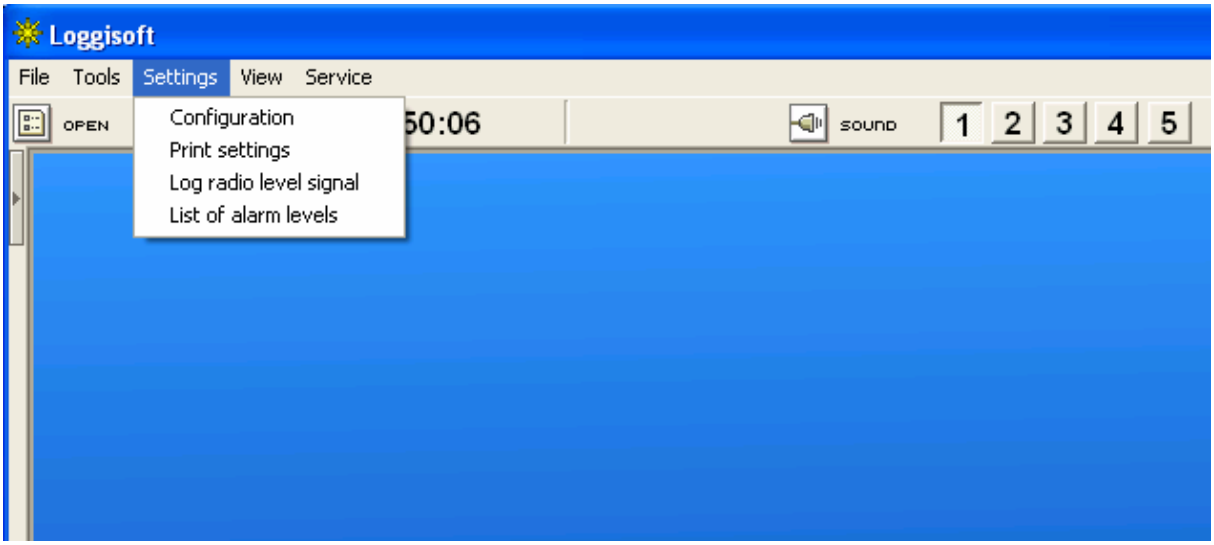
2 Tools



- Place sensor (the function is also accessible from the Actions panel on the Main Screen when you click on the right-hand button of the two-button mouse in the working area) – addition of the selected sensor to the visual working area (from the list of active sensors). In the commercial version the added sensors can be dragged to any selected place in the working area by the mouse with the left-hand button pressed.
- Sensors list (the function also accessible from the Actions panel of the Main Screen) – the display of all sensors logged in the system.
- Add sensors (the function also accessible from the Actions panel of the Main Screen) – this option is only accessible to the *Adm* user. It activates the creator of sensors adding to the system.

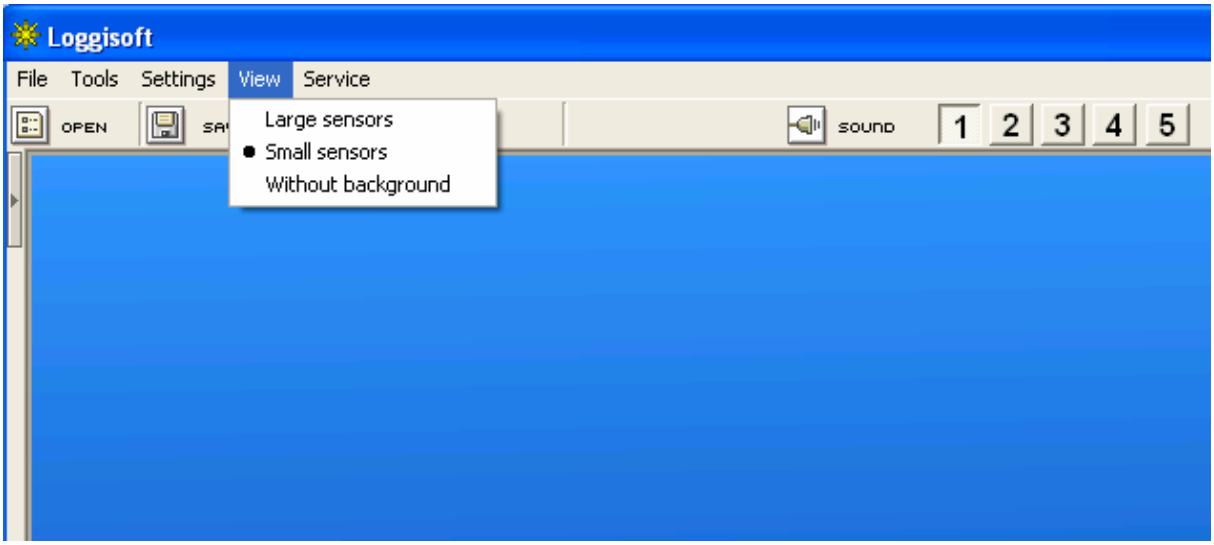
- Processing units list (the function also accessible from the Actions panel of the Main Screen) – the list of all processing units in the system.
- New processing unit (the function also accessible from the Action panel of the Main Screen) – this option is only accessible to the *Adm* user. Addition of the recording processing unit to the system.
- Archive – data archive management.
- System element adding wizard – this option is only accessible to the *Adm* user. Addition of a system element (Logginet-RADIO, cable processing unit or sensors without a processing unit). The creator is activated automatically at the first start-up of the system.
- HACCP – save data to HACCP book
- Documents – Loggisoft documentation mechanizm.

3 Settings



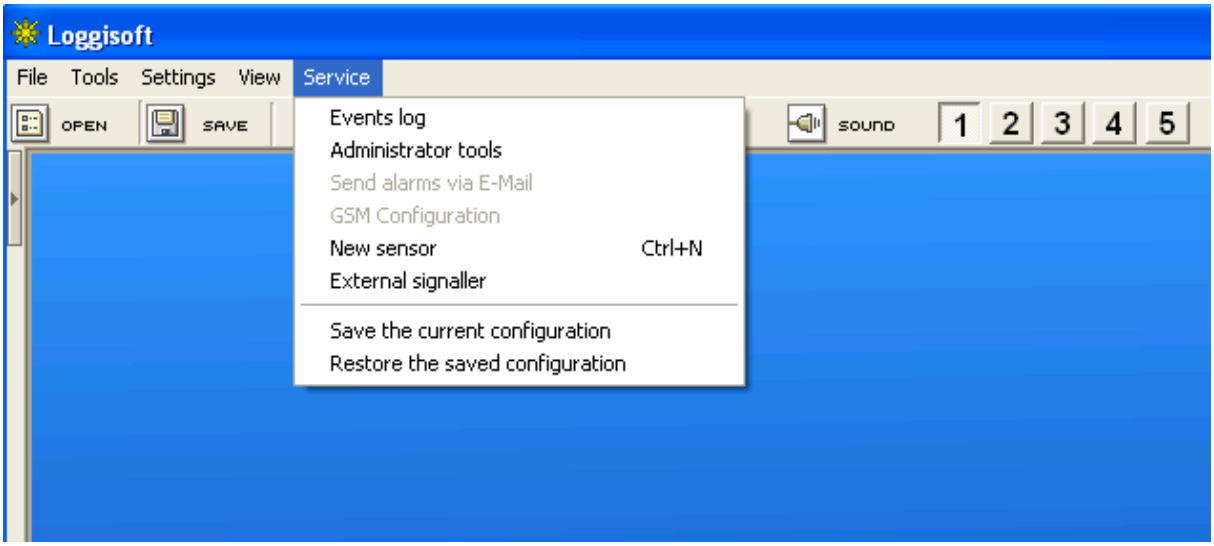
- Program configuration – option accessible to the *Adm* user only. Configuration of program settings (background, colors, readout time, working mode).
- Printout settings – option accessible to the *Adm* user only. Configuration of printout headers and footers.
- Log radio level signal – makes possible saving signal levels of radio sensors (ATTENTION – after each start-up this function is switched off!)
- List of alarm levels - The system allows to notify about alarm occurrence by sending an electronic mail to selected addresses.

4 View – the PRO version only



- Large sensors – measurement values on the background of large sensors
- Small sensors - measurement values on the background of small sensors
- Without the background - measurement values shown without the background (numbers only).

5 Options – advanced administrator only



- Review of an events log – preview of changes introduced in the system configuration. The date and the name of the user, who introduced important changes into the system, is recorded.
- Administrator of rights – creation and edition of users (see paragraph „Administrator of rights".
- Send alarms via e-mail – (the PRO version only) setting of the server of the outgoing mail and addresses at which alarm information should be sent.
- Gsm Configuration – mobile phones configuration
- New sensor – place new sensor
- External signaller – abbility to connect external signaller
- Save the current configuration – save the current configuration
- Restore the saved configuration

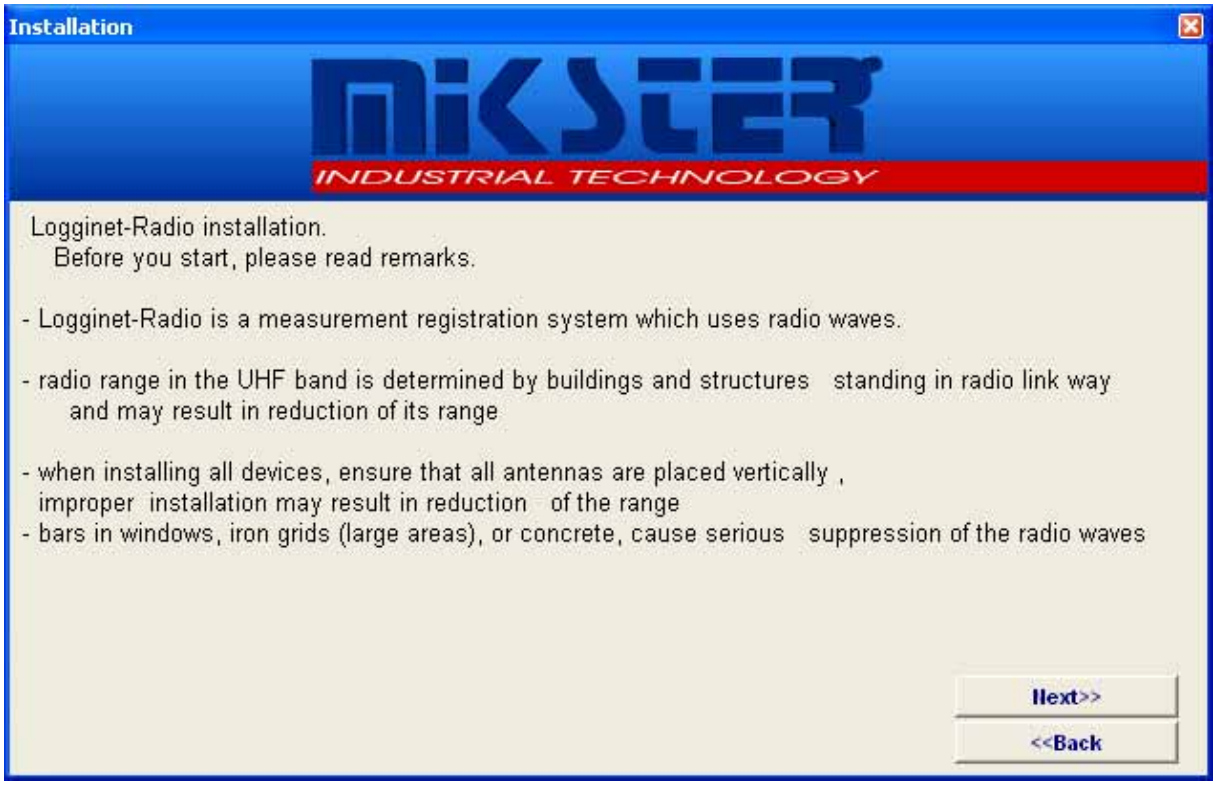
Creator of adding system elements

At the first start-up „The creator of adding system elements" will be activated. Proceeding according to the information given on the consecutive screens one can install the radio system, cable processing unit, and sensors connected directly to PC.

After selecting „*Start installation of Logginet elements*" a list of available choices of elements appears.

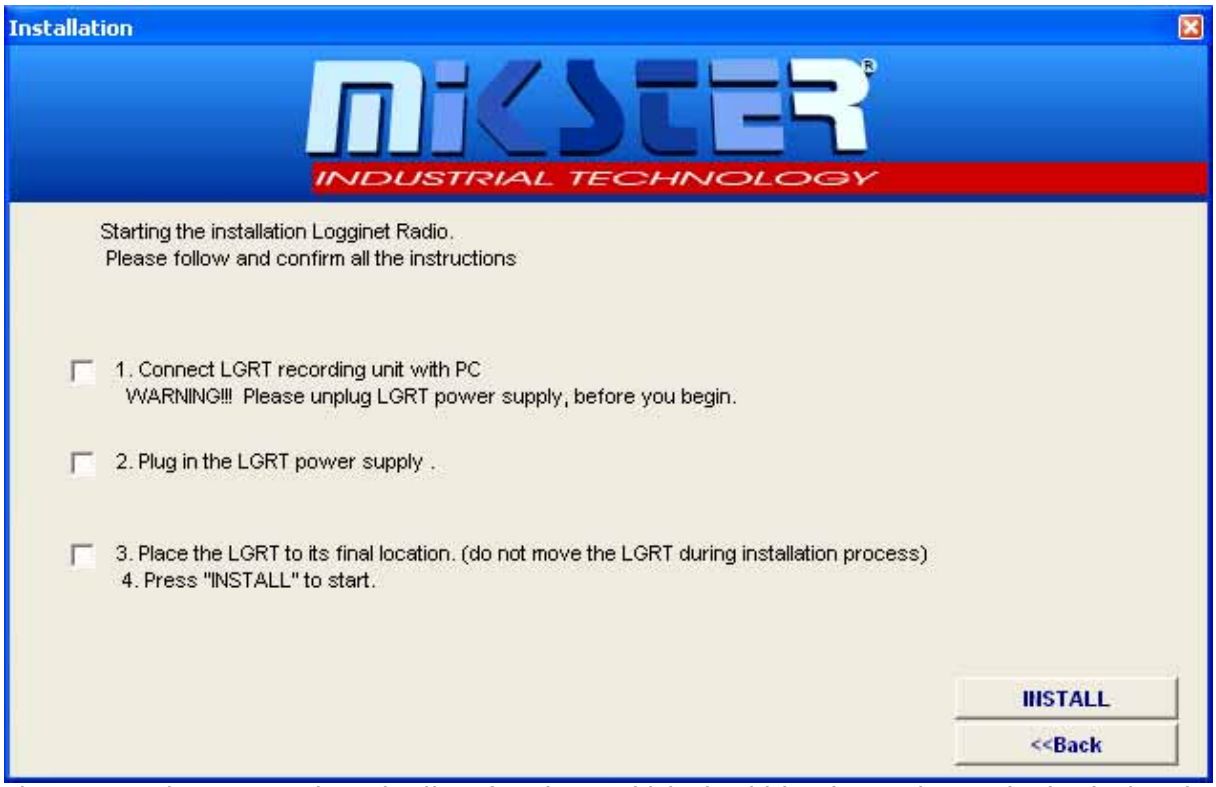
Any number of options can be selected simultaneously (ATTENTION! If the Logginet-Radio option is not accessible it means that the radio system has been already installed. To make changes in that system one must use function *Add Sensors* - either from *Tools* menu or from the Actions panel.
The process of a radio system installation will be presented below as an example of the whole process of installation.
After marking the *Logginet-Radio* check box, press *Next* >>

Step 1



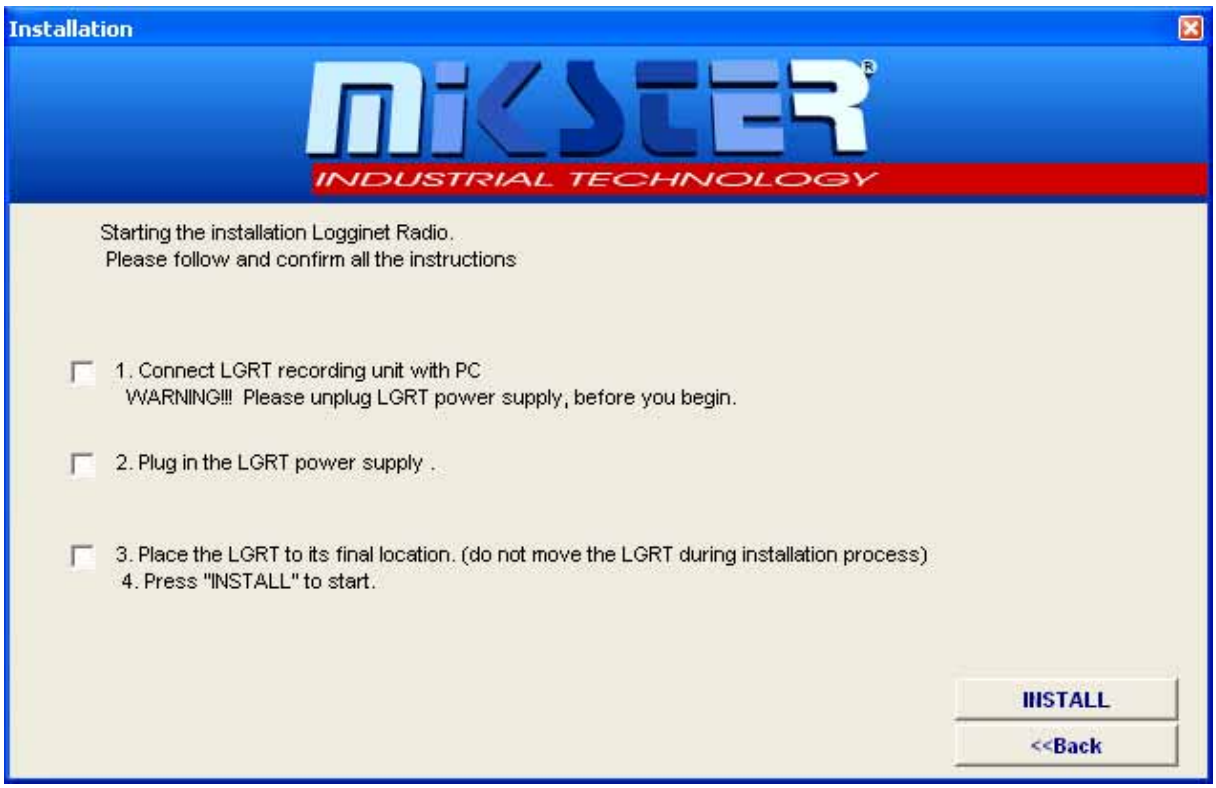
The information screen will describe the main features of the selected system. After familiarizing with all the information press *Next*.

Step 2



The consecutive screen gives the list of actions, which should be done prior to the beginning the installation procedure. Each performed step should be marked in the check box and when all 3 are completed the *INSTALL* button should be pressed.

Step 3



The next screen shows the progress of the procedure:

- Search for the proper RS port - search for the port, to which the processing unit is connected,

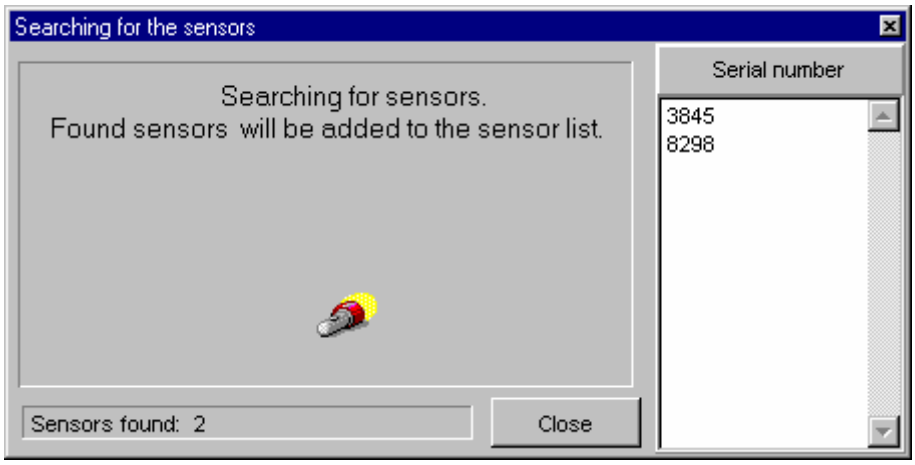
- Reset the bufor of the processing unit – resetting the settings of the processing unit,
- Checking the system date – current date and time are displayed. Their correctness should be checked – if they are not correct we can achieve the adjustment by pressing the key *Change of date*. **ATTENTION! The time compatibility is a very important element of the system since all the collected data will be referred to the date on the PC computer.**

When all steps have been successfully completed the *Next*>> key should be pressed.

Step 4

After writing the name of the processing unit press *Next* >>

Step 5

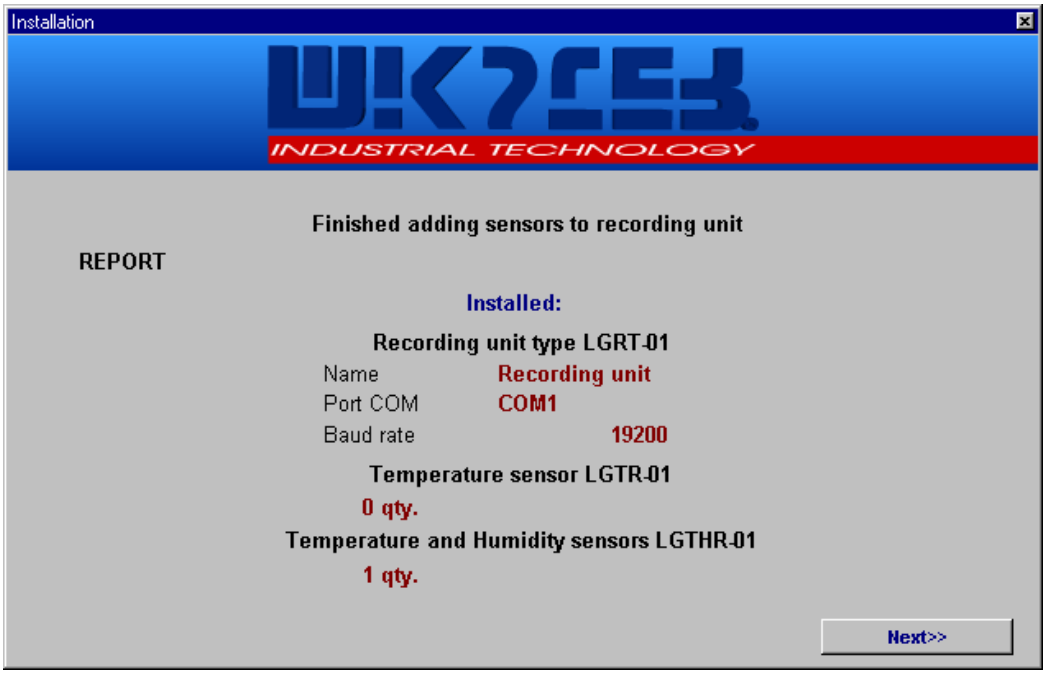


The consecutive screen describes the process of adding radio sensors (described also in this Manual in the paragraph *Installation of radio sensors*). The process of searching for sensors will be activated.

When all devices have been successfully installed exit the search mode (*Close)*

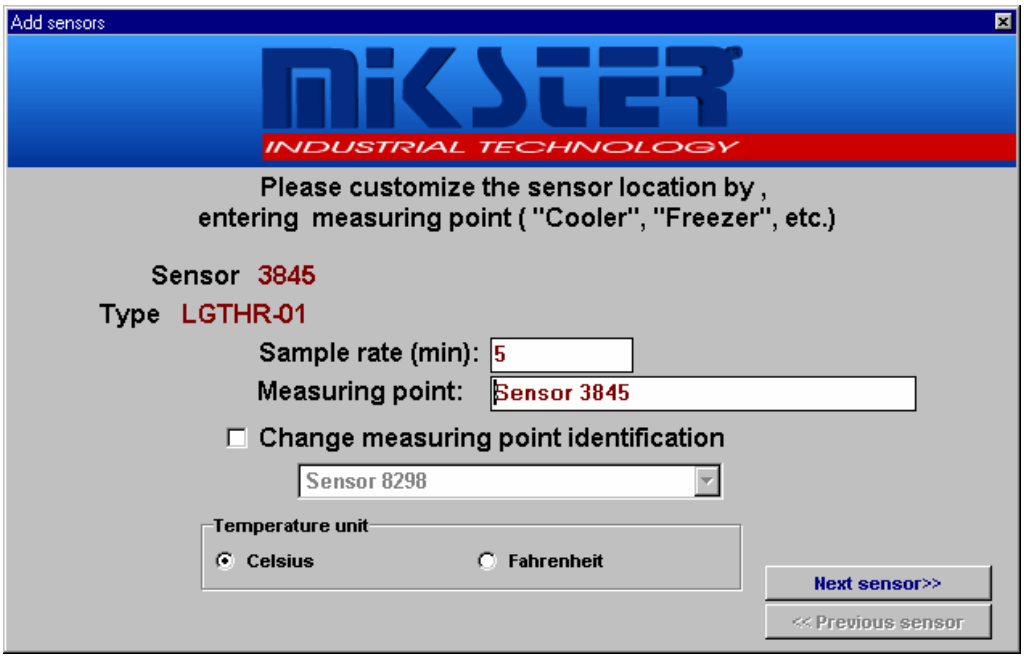
Step 6

The creator will display the final report of the installation:



When the *Next* >> key is pressed the screen of changing data for sensors will appear.

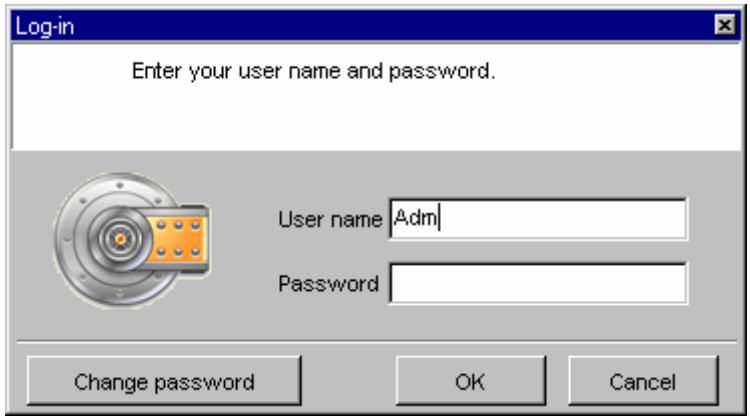
Step 7



When the recording frequency and the location of all found elements is set the installation process is completed.

Logging-in

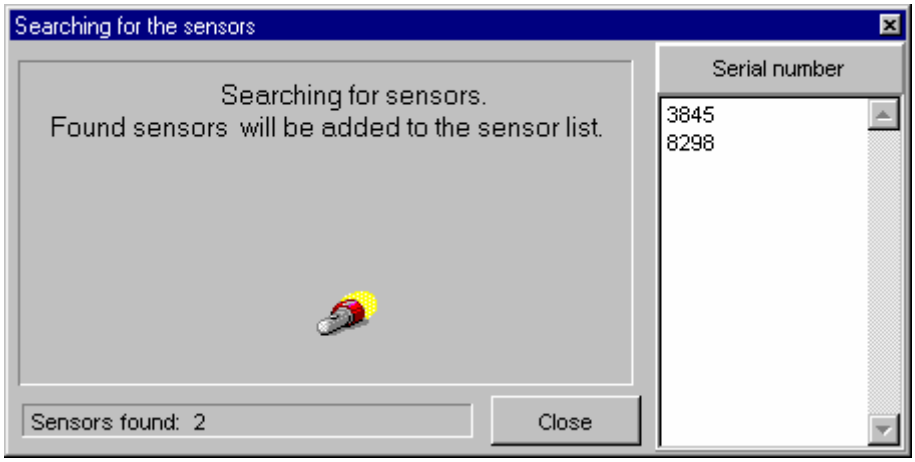
There are four levels of authority in the system. The change of user causes gaining access to appropriate functions of the system.
In order to achieve that change, the „Login" button should be pressed (left corner at the bottom of the main screen)
The dialog box „Access control" will appear:



Radio sensors Installation

According to the recommendations of the „Creator of adding system elements" (selecting Logginet-RADIO) after the detection and configuration of the processing unit the procedure of adding radio sensors is approached.

Installation of those sensors begins by introducing the processing unit in the configuration state (function  - *Adding sensors*. When this icon is selected the process of adding radio sensors begins:



Radio processing unit confirms being in the configuration state by periodic blinking (every second) of a control lamp  . When the particular sensor is added to the system, its serial number appears in the list "*Sensors found"* and the counter *Number of sensors found* is increased.

Radio Sensor Installation Procedure

1. Place the radio recording unit in the place of its final destination.

   If the radio recording unit is to be finally installed on the wall it should be placed there. The place for its location should be selected as far as possible from devices which might cause radio interference (computers, inverters, electronic devices). The distance from the recording unit to the radio sensors should be as short as possible. Large concrete or metal surfaces on the path of radio signals can considerably attenuate them.

2. During the installation procedure create - in the room - the same conditions, which are expected to be during the normal mode of the recording unit.

   If, e.g. during the normal operation the door to the room will be kept closed, then during the installation procedure the door should be closed too. The same recommendation concerns large concrete and metal surfaces such as gates, window grids, louvers, large metal screens etc.

   All devices, which might interfere with the operation of the radio recording unit should be switched on:

   a) computers,
   b) telephone switchboards,
   c) devices of internal computer network,
   d) microprocessor electronic equipment,

e) inverters at the final load,
f) all electric equipment used during the production process.

Failure to adhere to those recommendations can cause periodic or temporary fading of the radio signal, due to changes in the propagation parameters of radio waves or due to electric noises.

3. Set the radio recording unit, LGRT, into the configuration mode.

   The configuration mode can be set from the Loggisoft program (see the "Loggisoft" Instruction Manual) and it will be signalled by the recording unit by blinking of a  with the period of 1 s.

4. Take the sensor to the place, in which it will finally be located.

5. Create – in this place - the same conditions as during the normal work.

   Follow the recommendations given in paragraph 2.

   Failure to adhere to those recommendations can cause periodic or temporary fading of the radio signal, due to changes of the propagation parameters of radio waves and due to electrical noises.

6. Set the radio sensor into the mode of checking the radio signal level.

   In order to set the radio sensor into that mode the following actions are needed:

   a) press and hold the button on the sensor until both control lamps are lighting,*
   b) introduce the sequence of 3 presses and then release the button,
   c) the sensor indicates being in the mode by blinking the upper control lamp  4 times per second.

   The sensor in the mode of checking the radio signal level tries to synchronise itself with the radio system. The synchronisation process is signalled by frequent blinking of the upper control lamp (4 times per second). The synchronisation process is finished when the sensor establishes the communication with the radio system (recording unit).

   When the radio signal level allows for the communication with the system the sensor will change into the mode of indicating the signal level.

   When the radio signal level is too low to establish the communication the sensor will be in the synchronisation mode for more than 30 s. After that, it will change to the mode of showing the signal level.

   The mode of checking the radio signal level is indicated by periodic blinking of the upper control lamp  (1 per second). The lower control lamp  will indicate the radio signal level by sending series of light impulses – from 1 to 8. The lack of any impulses means that there is no communication with the system and the lack of the radio range.

   NOTE: the period of repeating of the impulse series varies and depends on the number of relay stations already installed in the system. In case of 1 to 3 stations the period is 4 seconds. For more relay stations this period equals: 1 + number of stations [seconds].

* signalling indicators only have sensors without built-in LCD displays (doesn't concern LGTHD-R-01 and LGTD-R-01 sensors)

7. Find the suitable place for the sensor installation.

   Holding the radio sensor by hand, from the side of the sensor output, keep it on the wall exactly at the height and in the place selected for the installation. Then wait for at least two repetitions of the sequence of signal level indications.

   If – in the place selected for the final installation - for the two consecutive periods of the signal level indication, the sensor shows at least 3 light impulses, proceed to the installation of the radio sensor (paragraph 8).

   If – in the place selected for the final installation - for the two consecutive periods of the signal level indication, the sensor shows less than 3 light impulses, the location should be changed and the whole procedure of finding the proper place for the installation started from the very beginning.

   If such place, where the signal level is at least of 3 light impulses, can not be found in the whole room, then the new relay station should be added to the system (paragraph 9).

   NOTE: in exceptional cases an installation of the radio sensor at the level of 1 or 2 light impulses is allowed, but one must consider frequent fading of the sensor communication with the system. The final criterion, if the selection of the place for an installation was the proper one, is the fact that we managed to add the sensor to the system.

8. Set the sensor into the mode of adding to the radio system.

   In order to achieve that setting one has to:

   a) press and hold the button on the sensor until both control lamps light,
   b) introduce the sequence of 5 presses and then release the button,
   c) the sensor indicates its transition into the mode by blinking the upper  and lower  control lamp with the frequencies of four times and one time per second – respectively.

   The sensor in the mode of adding to the system tries to synchronise itself with the radio system.

   The synchronisation process is indicated by frequent blinking of the upper control lamp  (4 times per second). The synchronisation process is finished when the sensor establishes the communication with the radio system (recording unit).

   When the radio signal level allows for the communication with the system, the sensor will change into the mode of adding to the system.

   When the radio signal level is too low to establish the communication with the system, the sensor will be in the synchronisation mode for more than 30 seconds. After that, it will change into the mode of adding to the system.

   The mode of adding to the system is indicated by periodic blinking of both control lamps (1 per second) and stays like that until an automatic configuration of the sensor in the system is reached. An approximate time of the configuration procedure is proportional to the number of all relay stations installed in the system and equals:

   a) approximately 4 to 10 seconds - for the radio system without relay stations,
   b) approximately 4 x (1+ number of stations installed in the system) seconds - for the radio system with relay stations.

   The very fact that the sensor has been added to the system is indicated by a series of 20 impulses sent by the lower control lamp  – with the frequency of 4 times per second. The upper control lamp does not light during that time.

When the sensor has been added to the system it changes to the normal mode (the upper control lamp  blinks every 15 second).

NOTE: when the sensor was properly added to the radio system it is ready for the installation on the very place, from which is was being added to the system. The installation performed in different place can cause fading of the radio communication with the sensor.

When the sensor is not added to the system in the time relevant to the procedure described, it might mean that the signal level is too low. Thus the change into the better location of the sensor is required.

If, regardless of several attempts of the sensor installation in places where the signal level is at least 3 impulses, problems with adding will often repeat it might indicate that there are some radio noises near the radio recording unit. Thus, the location of the radio recording unit should be changed (see paragraph 2) - to check if this eliminates the problem. In case when the improvement is not significant the following solution can be applied:

a) Changing the location of the radio recording unit for the place being outside of the alleged zone of radio noises (e.g. removal of the recording unit and its connections from the room with computers and inverters),
b) Addition of the relay station near the radio recording unit, however also outside the alleged zone of radio noises,
c) Installation of radio sensors at the higher signal level of the system (e.g. 5 impulses).

9. Adding the relay station to the radio system.

The new relay station should be added to the radio system only in case when too low radio signal makes it impossible to locate the radio sensor in the selected place of the installation.
The place for the relay station should be selected in such a way as to meet the following requirements:

a) During the installation procedure the relay station should indicate the signal level not lower than 3 impulses,
b) The relay station should be placed as close as possible to the place selected for the sensor installation,
c) In case when the problem of too low radio signal concerns several sensors the location of the relay station should be close to the centre of the area where those sensors are positioned.

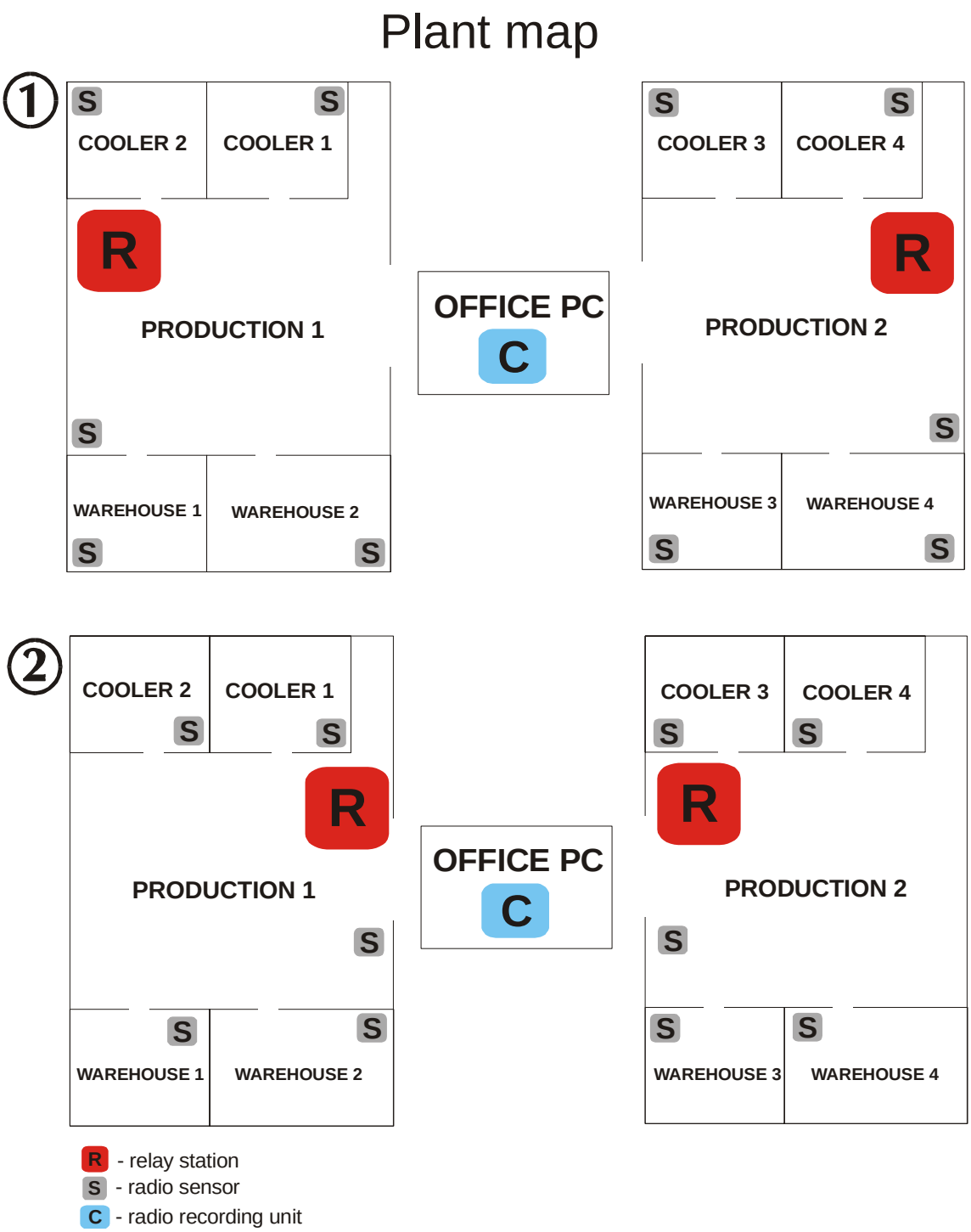
The procedure of adding the relay station is the same as for adding the radio sensor.
The relay station should have the power supply of 230V/AC.
When the new relay station has been added to the radio system the process of adding radio sensors, in the direct vicinity of that station, should be repeated. Addition of the relay station increases the radio signal level in the range area of that station.

10. Final recommendations:

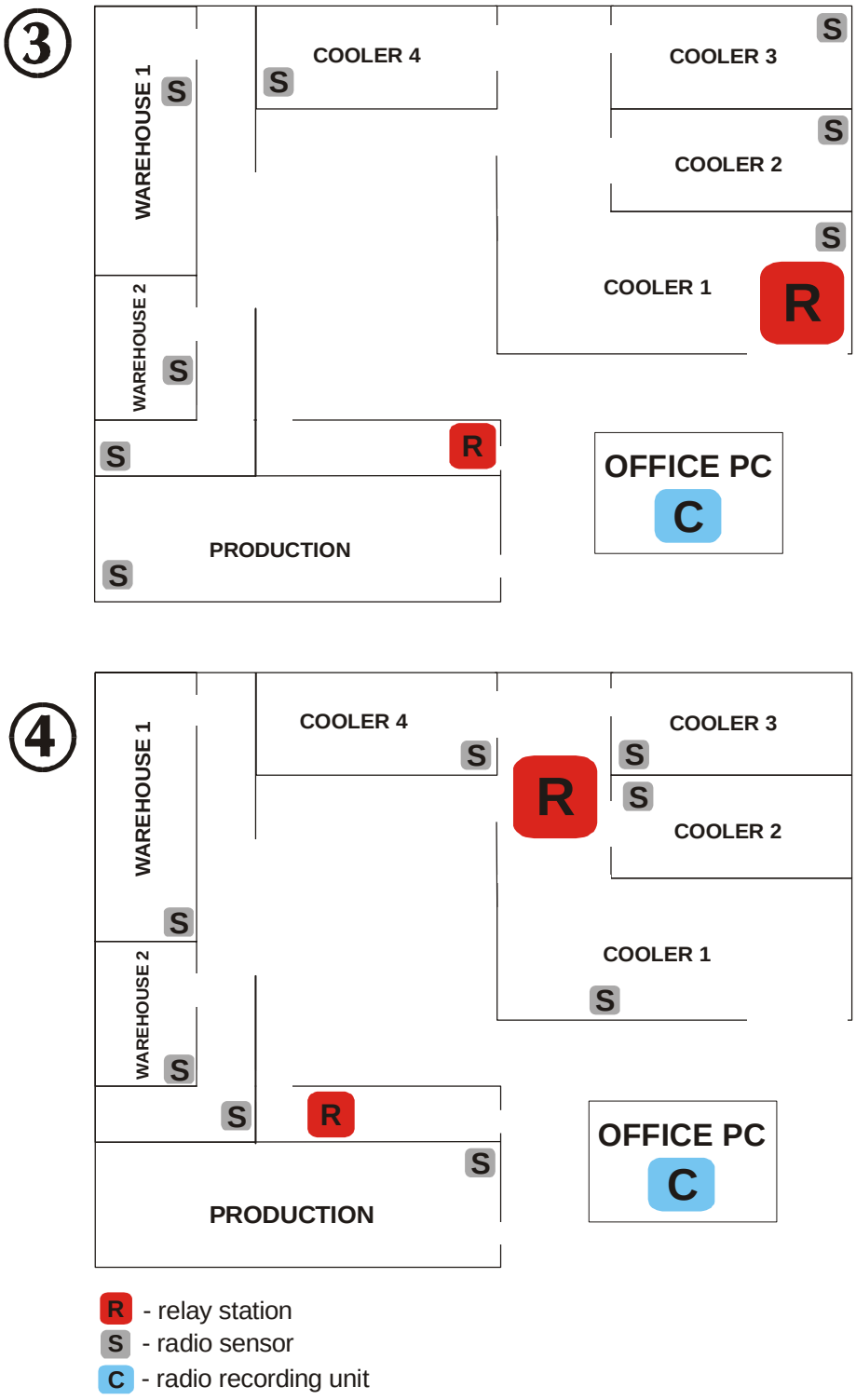
- Placing the radio recording unit and sensors near the electric network conductors or water conduits can significantly lower the number of relay stations needed in the system.
- The general rule of the radio range area is: “you hear me - as you see me” – thus, if possible, the radio recording unit and the sensors should be in the vicinity of windows and open spaces (e.g. in the attic), and above large concrete and metal objects being in the path of the radio waves propagation.
- If possible radio devices should be installed with the antenna being far a way from walls and ceilings. Optimal case is - when the antenna stands out above the ceiling or metal construction, slightly worse - when the antenna is parallel to the wall.
- All devices should be assembled in such a way that antennas are perpendicular towards the ground. The other installation can diminish the radio range.

- Certain objects such as: window grids, louvers, cast iron nets (large areas), concrete etc. are causing intensive damping of radio waves, so when looking for the suitable place for sensor installation such objects should be avoided.
- Plastics, glass and wood do not damp significantly radio waves.

Examples of correct and incorrect radio sensors and relay stations placing.



Plant map

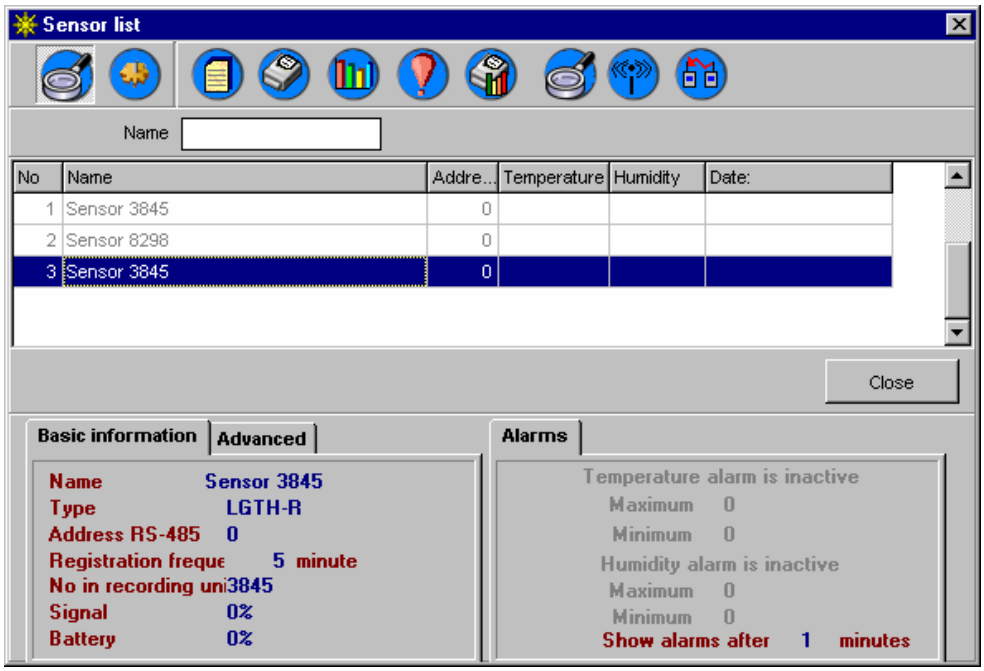


When sensors and relay stations are incorrectly arranged (Fig. 1 and 3), there is a high probability of the lack of communication between radio sensors and the whole radio system – due to large distances on the path: sensor – relay station – radio recording unit. Figures 2 and 4 illustrate the correct arrangement of sensors and relay stations. Special attention should be drawn to the location of relay stations near the center of radio sensors area, when planning the work places for those devices.

MAIN FUNCTIONS OF THE SYSTEM

List of sensors

Function *Tools->List of sensors* or the *List of sensors* button from the Actions panel.

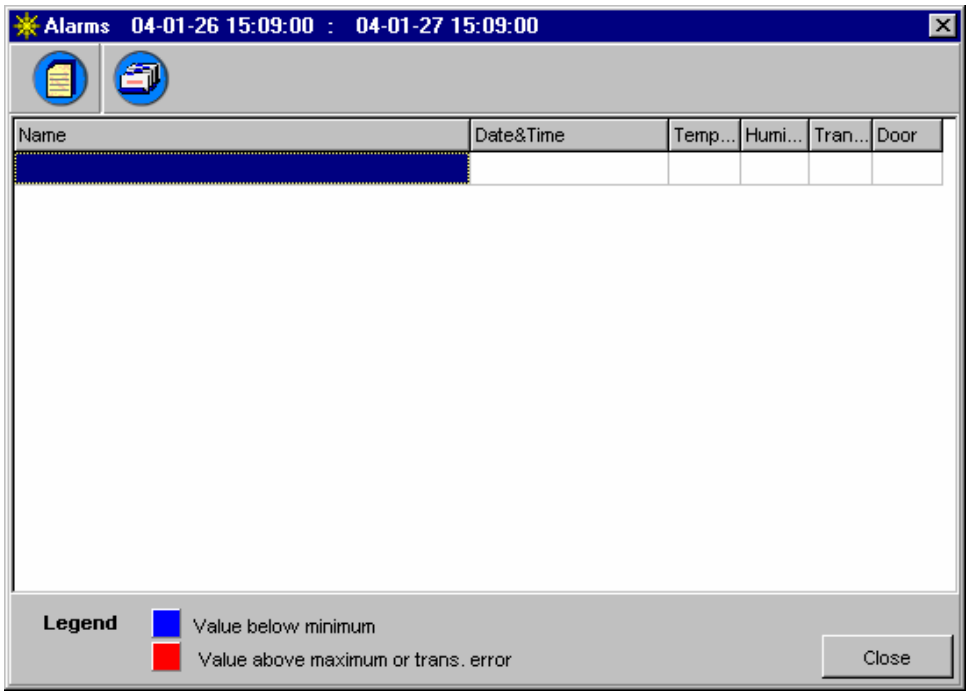


The function causes the display of the list of sensors in the system. Sensors of *Inactive* status are displayed in gray. Icons of accessible functions are on the upper panel. The sequence of sensor setting can be established by dragging the sensor to the selected position by the left-hand button of the mouse.

Accessible options:

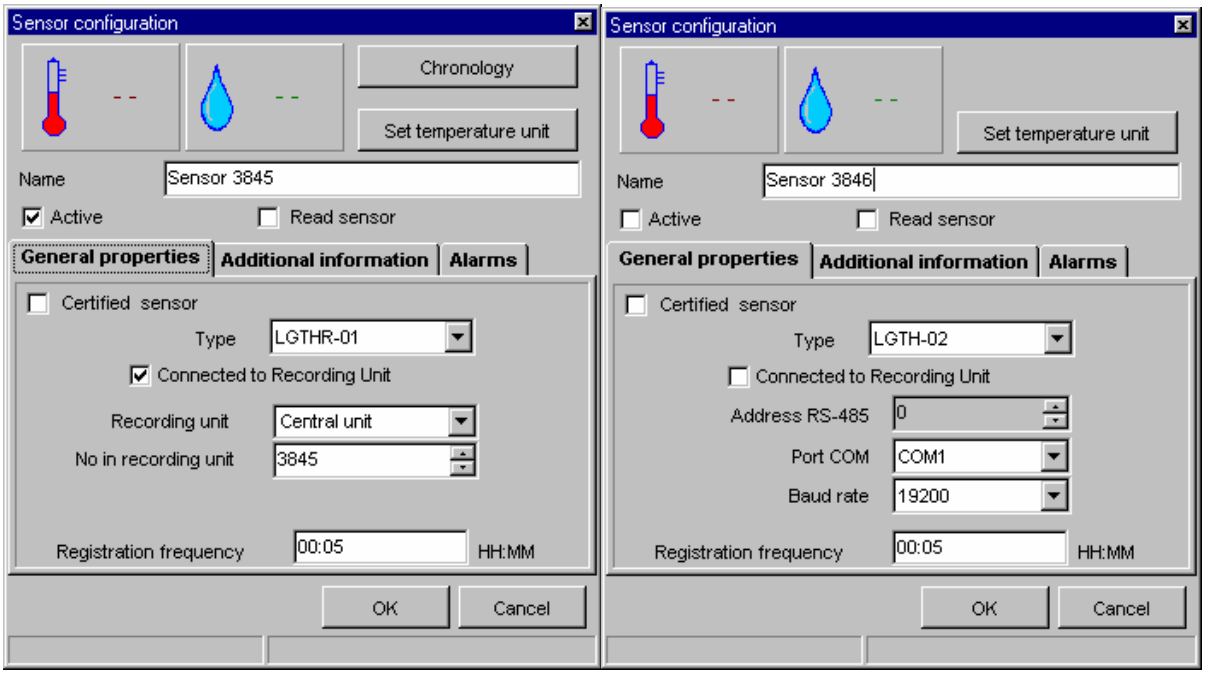
 **- Details –** shows or hides the lower panel with the details

- List of alarms – list of alarms for the selected sensor in the chosen time period



- Sensor Configuration – the option accessible to the Adm user only, enables the change of settings for the selected sensor (type, transmission parameters, alarms).

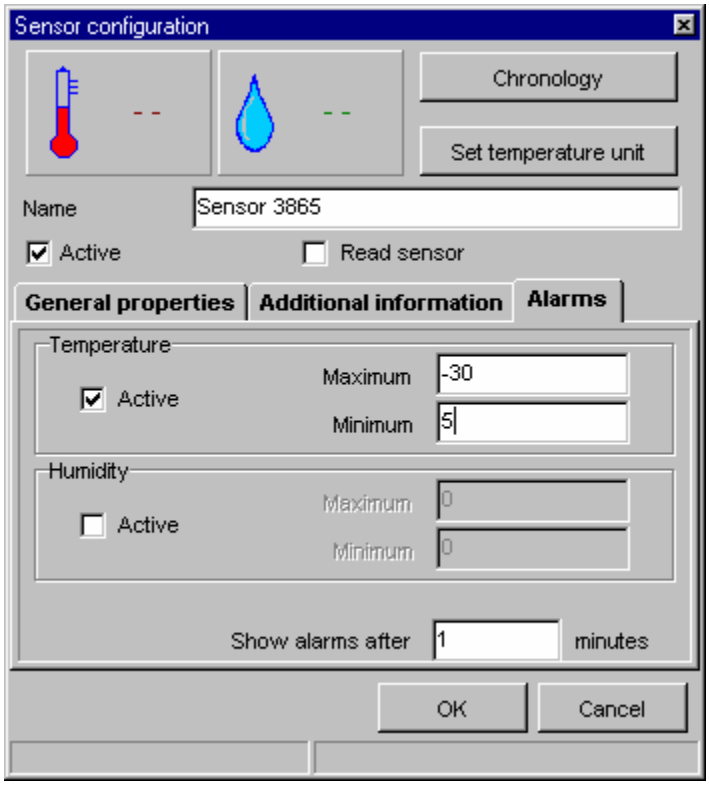
Sensor Configuration



Field definition:

Sensor name – name enabling an identification of a sensor,
Active sensor - sensor status,
Read automatically – choosing of this option causes immediate cyclic readouts of the selected sensor. The results will be displayed in the upper part of the screen *Configuration of the sensor* instead of: ---. This option is used for checking the correctness of selected settings.
Sensor type – the type of the selected sensor (according to the producer's marking),
Linked to the processing unit – means of communication with the sensor (direct or via the processing unit),
RS-485 address – for sensors without the processing unit only – the address in the MODBUS network,
Port Comm – for sensors without the processing unit only – communication port,
Transmission velocity – for sensors without processing unit only,
Recording every: - sampling time setting (frequency of recording),
Processing unit - for sensors connected to the processing unit only – name of the processing unit, to which the sensor is connected,
No in the processing unit - for sensors connected to the processing unit only – identification number of the devices in the processing unit (for radio sensors this is a serial number),
Recording update – for radio sensors only – after selecting this function one must state the date, from which onward, the system will actuate the collected data lists saved in the processing unit. These data will be updated in the background during the work of the program.

Alarms



Field definition:

Temperature alarm – settings of the temperature alarm,

- On – Off – indication if the alarm is to be active or not,
- Lower limit – minimum allovable temperature. When the temperature reaches this value, or lower, the alarm will be activated automatically,
- Upper limit – maximum allovable temperature. When the temperature reaches this value, or higher, the alarm will be activated automatically,

Humidity alarm (for TH sensors only) – settings of the humidity alarm,

- On – Off – indication if the alarm is to be active or not,
- Lower limit – minimum allovable humidity,
- Upper limit – maximum allovable humidity,

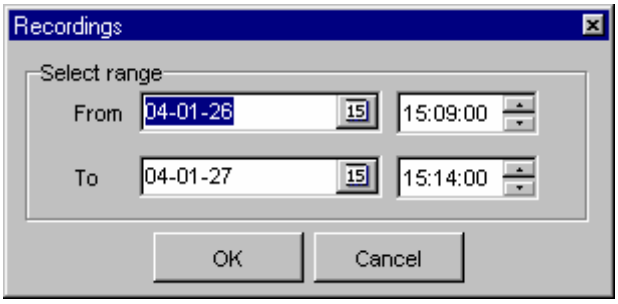
Show alarm after minuts – informs how many minutes after the occurrance of the alarm state the alarm should be visually signaled (0 - means immediate signalisation).

Ways of alarm presentation

The program presents alarm states by changing the way of displaying the measured values in the diagram.
Temperature alarm – temperature values flashing (red – yellow color),
Humidity alarm – humidity values flashing (red-yellow color),
Lack of communication with the sensor – temperature and humidity values displayed as flashing.
Lack of current readings – flashing sensor name. When the sensor is indicated by the cursor, the date and time of the last proper reading will be shown as a hint.
In addition the alarm is signaled by sound (the standard PC loudspeaker). This signal can be switched by the *On/Off alarm sound signal* button.

 **- Collected data list –** displays dialog box with the collected data list for the selected time period

Date selection



Before the display of the collected data the period of time, for which the data are required, must be given.

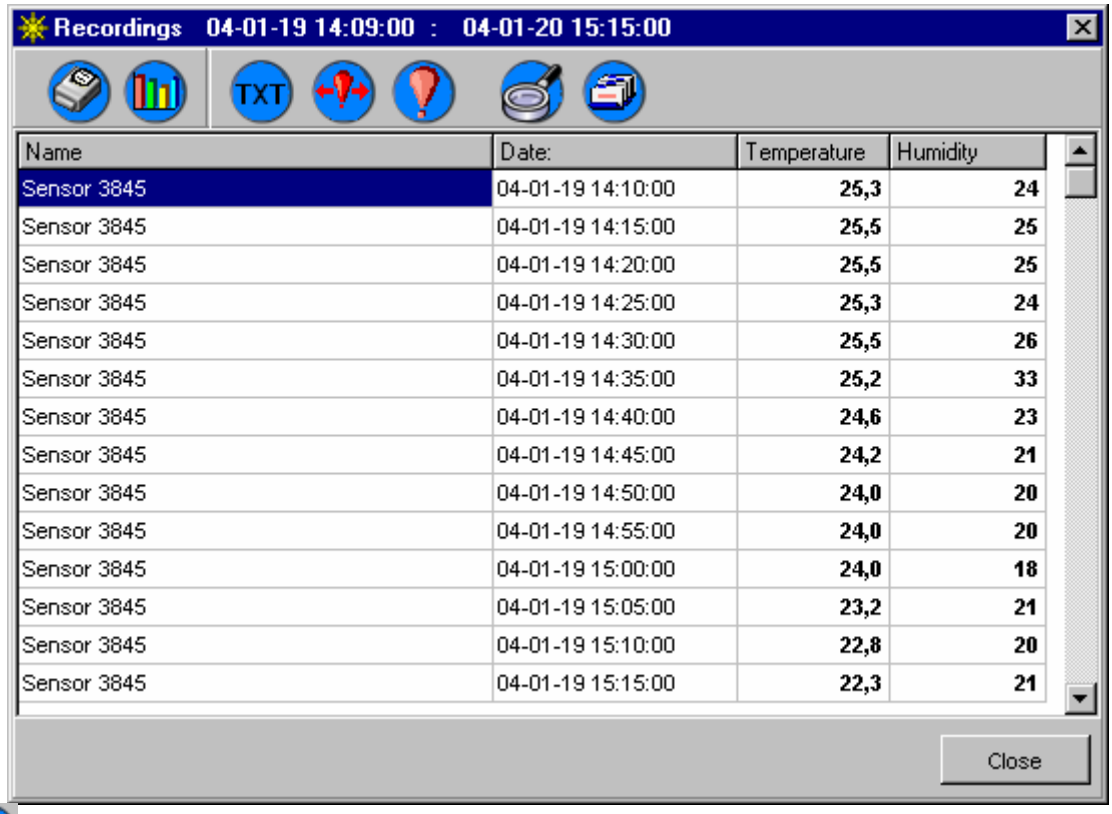
Field *From:* denotes the beginning of the period (day and hour, from which the data should be displayed).
Field *To:* informs about the end of the period.

The change of dates can be done in two ways:

- Write year, month and day directly in the date field,
- Select the certain day from the calendar, which is displayed after pressing 

To confirm the selected period the OK key must be pressed. The list of the collected data for the selected time period will then be displayed.

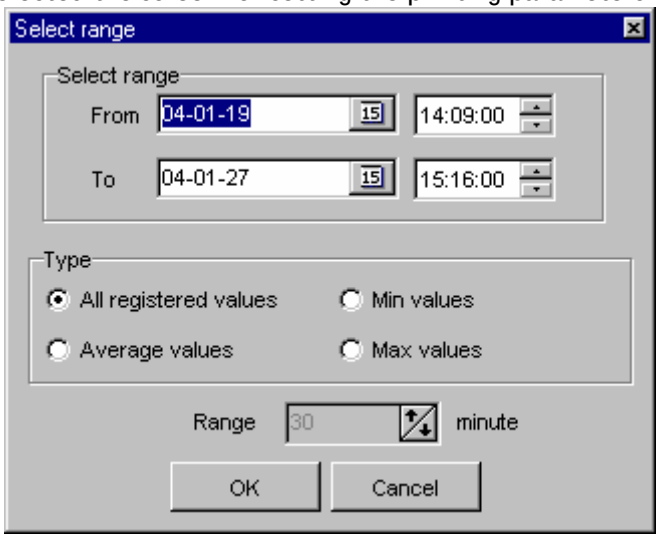
Collected data list



Name	Date:	Temperature	Humidity
Sensor 3845	04-01-19 14:10:00	25,3	24
Sensor 3845	04-01-19 14:15:00	25,5	25
Sensor 3845	04-01-19 14:20:00	25,5	25
Sensor 3845	04-01-19 14:25:00	25,3	24
Sensor 3845	04-01-19 14:30:00	25,5	26
Sensor 3845	04-01-19 14:35:00	25,2	33
Sensor 3845	04-01-19 14:40:00	24,6	23
Sensor 3845	04-01-19 14:45:00	24,2	21
Sensor 3845	04-01-19 14:50:00	24,0	20
Sensor 3845	04-01-19 14:55:00	24,0	20
Sensor 3845	04-01-19 15:00:00	24,0	18
Sensor 3845	04-01-19 15:05:00	23,2	21
Sensor 3845	04-01-19 15:10:00	22,8	20
Sensor 3845	04-01-19 15:15:00	22,3	21

 **- Print –** collected data printout for the sensor.

When this function is selected the screen for setting the printing parameters will appear:



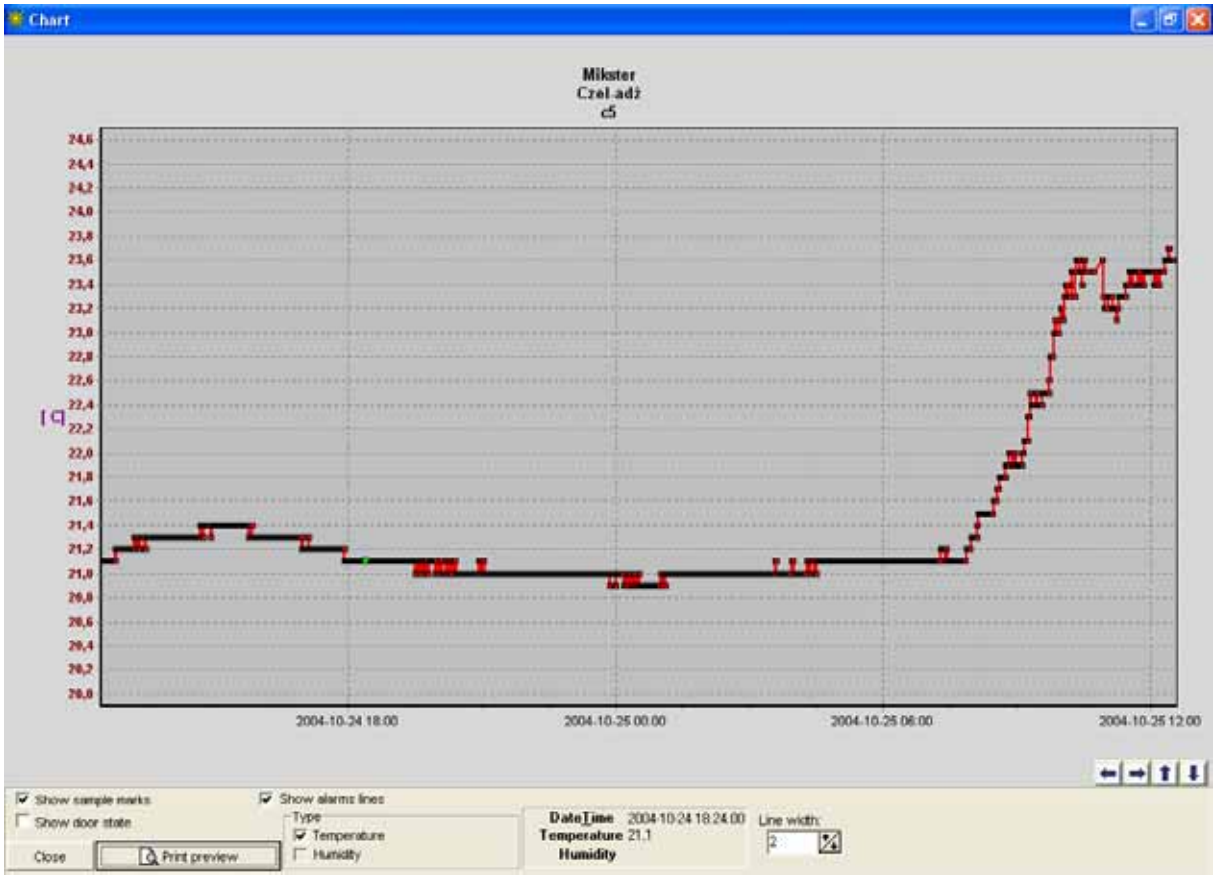
Range of dates for analysis – selection of time period to be covered by the printout

Report type:

- All *samples* – all collected data from the selected time period are displayed.

- *Average value* – average values for the selected period, calculated for the chosen time intervals are displayed (an interval is given in the field: *Information every minutes*).
- *Minimum value* – minimum values for the selected period, calculated for the chosen time intervals are displayed (an interval is given in the field: *Information every minutes*).
- *Maximum values* – maximum values for the selected period, calculated for the chosen time intervals are displayed (an interval is given in the field: *Information every minutes).*

- **Graph –** Graph of the collected data for the given sensor in the selected time period.



- **Show measurement points –** On/Off drawing of measurement points on the graph,

- **Show alarm lines** – drawing lines of alarm levels (red and blue dashed lines show alarm levels for the temperature and humidity – respectively),

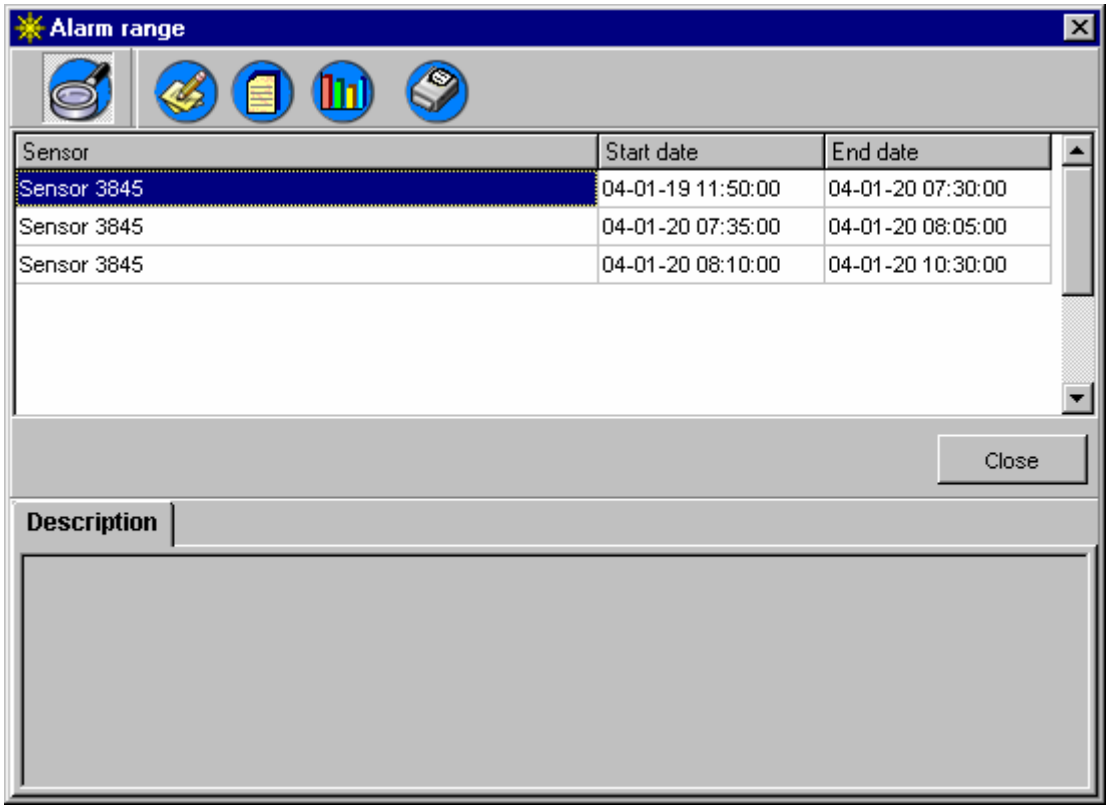
- **Graph type –** selection of parameters to be included in the graph (temperature – left scale, humidity – right scale).

Perpendicular green dashed line indicates the nearest measurement point – in relation to the mouse cursor. Particular values from this point are displayed inside the frame:*Time, Temperature, Humidity.*

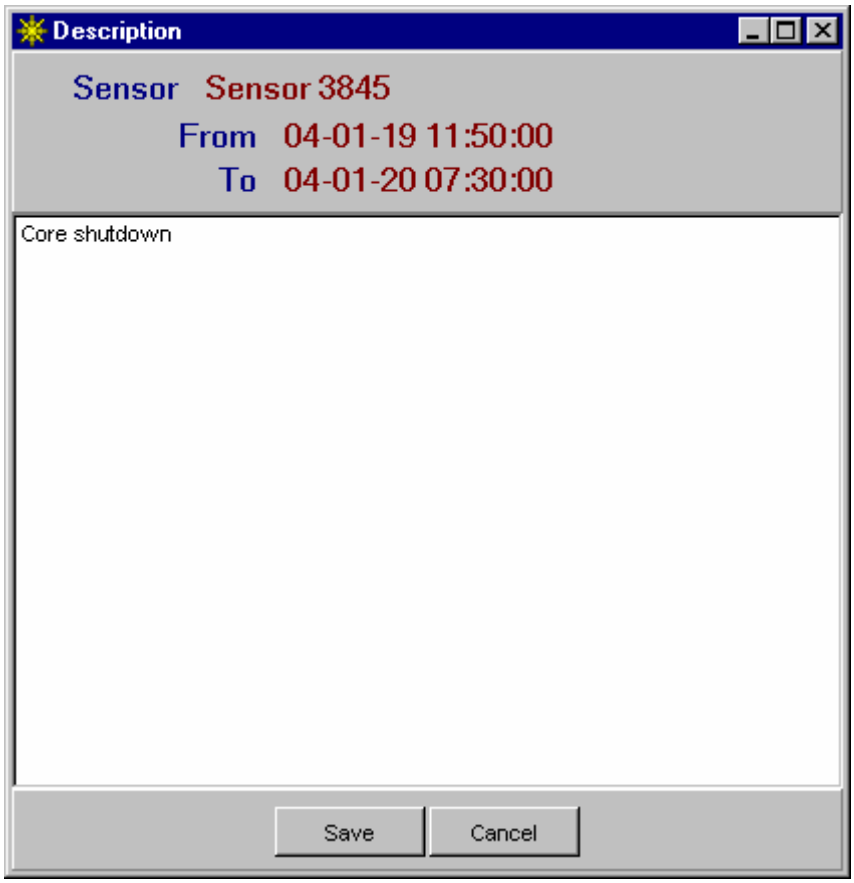
Additional option is the description of alarm zones. If the current sample (green line) exceeds the alarm levels then by the right-hand side button of the mouse the menu with option *Alarm zone description* is called, which allows adding comments for the alarm state occurance.

- **Export to the textfile** – export of data to the textfile in a format suitable for the readout of collected data to a certain program. E.g. for Excell the data are separated by semicolons.

- **Alarm zones for the selected range -** this function allows description of the alarm zones. The system will compile the list of alarm zones (time intervals, in which temperature or humidity values were outside the alarm levels).

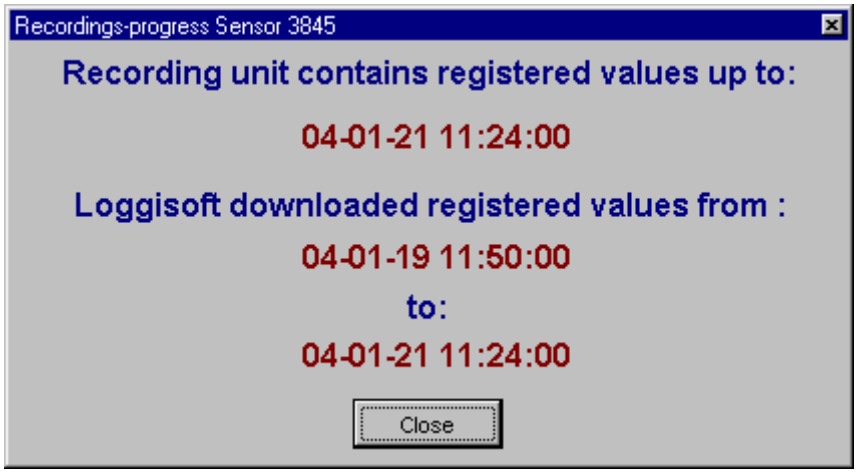


To change the description of alarm zones either icon should be selected or the left-hand button on the mouse should be pressed on the selected zone. It is also possible to see collected data from the given zone and to construct the graph of measurement points.



 **- Only alarm values –** limitation of displayed records to alarm samples only

 **- Recording progress (radio sensors and CLIPS only) –** (accessible also by pressing the right-hand mouse button on the sensor on screen) the function displays information concerning the progress of suplementing collection of data by a radio sensor.



The first date (*Recording by the processing unit has been done up to:)* supplies information concerning the collected data in the radio processing unit. If that date differs from the current time it means that not all the data from the sensor have been suplemented in the processing unit.

Loggisoft suplemented the collected data from: to: . The range of dates indicates to which moment the program supplemented data in the processing unit.

 - **List of signal level –** (radio sensors only) preview of signal levels in the form of tables and graphs (ATTENTION! Signal levels will be saved only when the option *Save signal levels* is chosen from the Main Menu).

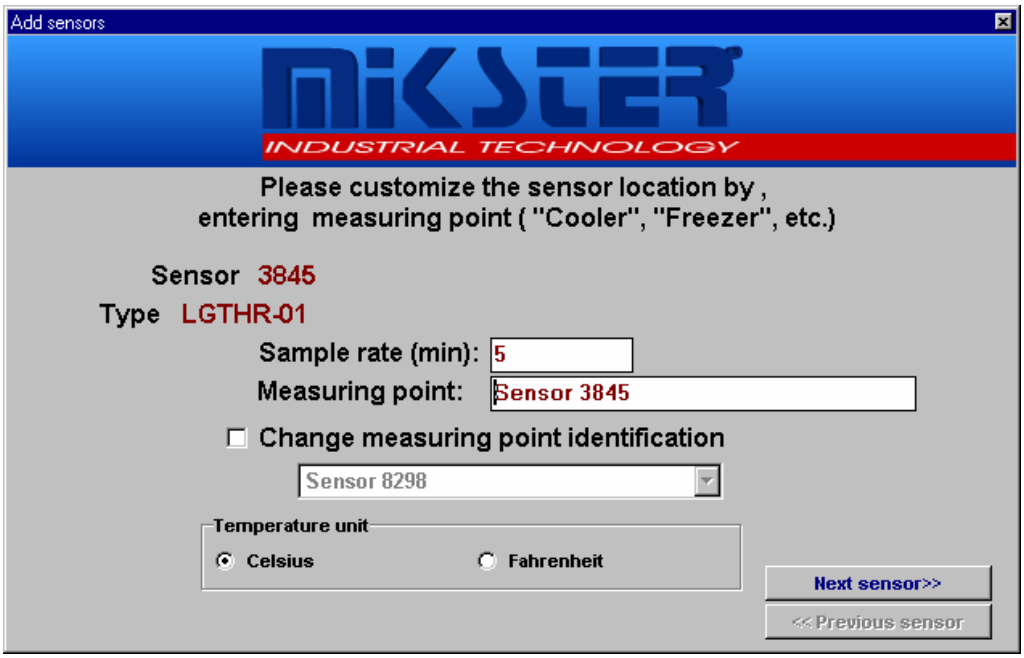
 **- Sensor connection (list of repeaters) –** (radio sensors only) the function enables checking how the radio sensor is linked to the processing unit – the list of repeaters, via which the sensor communicates with the processing unit, is displayed.

Add sensors

Function *Tools->Add sensors* is also accessible from the Actions panel.
The creator of sensors adding is activated.

The creator enables adding new elements to the already existing ones. If a particular option is not accessible it means that the relevant component of the system was not installed (e.g. when the radio system is not installed the function of adding sensors to the radio system is not accessible). In such case the creator should be closed and the required component installed by the option: „*Tools->Creator of adding system elements”*.

If the relevant function is accessible then by proceeding according to the creator recommendations we approach the search for sensors. When new sensors are found the creator will display data of those sensors enabling their modification.

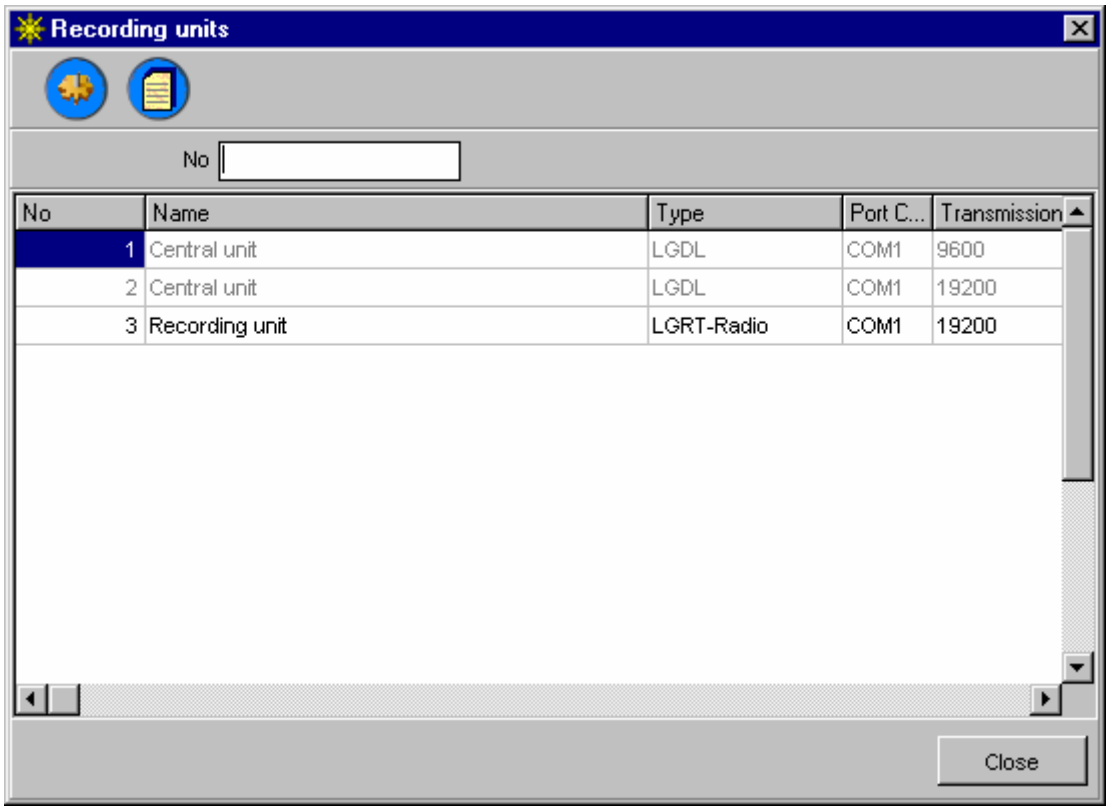


Two modes of adding sensors are possible:

1. Adding of sensor at the new location – the check box *Substitute at the present location* should be left marked and the name of the new location written in the field *Supply the location (if new).* (ATTENTION! If there are no sensors in the system the check box might be invisible – and in such case no change of the location is possible).
2. The change of sensor in the particular place (location) – this option can be applied when substituting sensors (due to faults or defects etc). Then the check box: *Substitute on the current location* should be marked and the name of the location, on which the change was made, selected from the list box. The new sensor will substitute the previous one (it will inherit recording and setting in the working area, but will change the type and serial number). **ATTENTION! The previous sensor from the given location will be removed from the system.**

List of processing units

Function: *Tools->List of processing units* or the *List of processing units* button from the Actions panel.

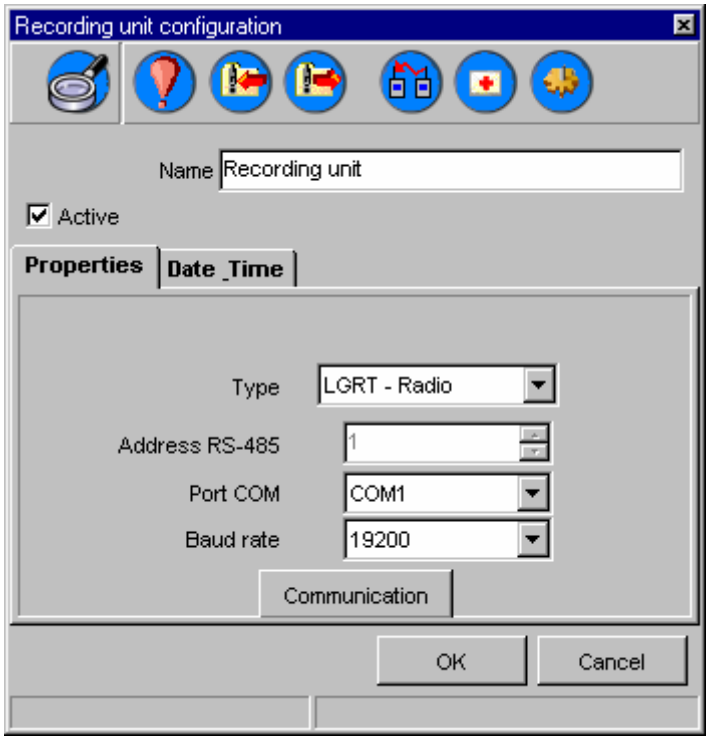


It displays the list of processing units in the system. Processing units of an *Inactive* status are displayed in gray. Radio processing units, which time differs by more than 5 minutes from the PC computer time, are displayed in red. Icons of the accessible functions are on the upper panel.

Accessible options:

 **- Processing unit configuration –** this option, accessible to the Adm user only, enables changes in settings of the selected processing units.

Processing unit configuration



Field definition:
Processing unit name: any name allowing to identify the processing unit in the system,
Processing unit active: the status of the processing unit,
Processing unit type: kind of a processing unit (radio or cable),
RS 485 address: the number of the device in the network (for radio processing unit default 1),
Comm Port: the port, to which the processing unit is connected,
Transmission rate: transmission rate (for the radio processing unit the transmission rate is 19200 as a standard).

Accessible functions:

 **-** Adding of sensors – introduction of the processing unit into the configuration state.

 **-** Processing unit reset – zeroing of settings (cancels sensors from the processing unit memory). Introduces the device into the mode of the researching for sensors.

 **-** Loading the settings from the processing unit (radio processing unit only) – saving current settings of the processing unit (including the logged-in sensors).

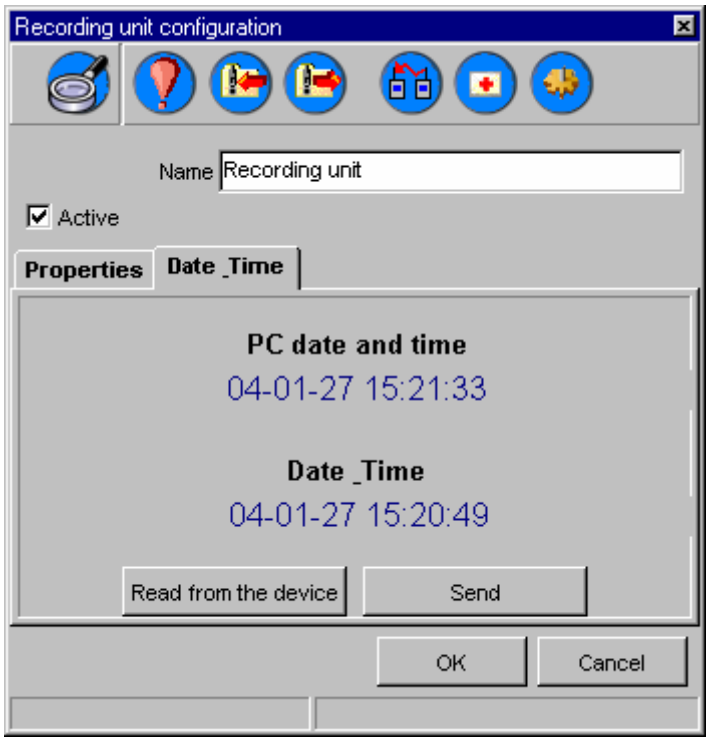
 **-** Restoring the processing unit settings (radio processing unit only) – restoring previous settings of the processing unit.

 - Schematic presentation of sensors and repeaters connections (radio processing unit only) – displays the radio system diagram. The list of sensors together with the track of linking with the processing unit and the list of repeaters is given.

 - Creation of the diagnostic data – (radio processing units only). Formation of the diagnostic data needed in case of problems with the radio system. This procedure can take several minutes. As a result the file *diagn.zip*, is created, which enables the full diagnosis of the system.

- List of sensors in the processing unit – displays dialog box with the list of sensors connected to the selected processing unit (functionality is the same as described in *List of sensors*).

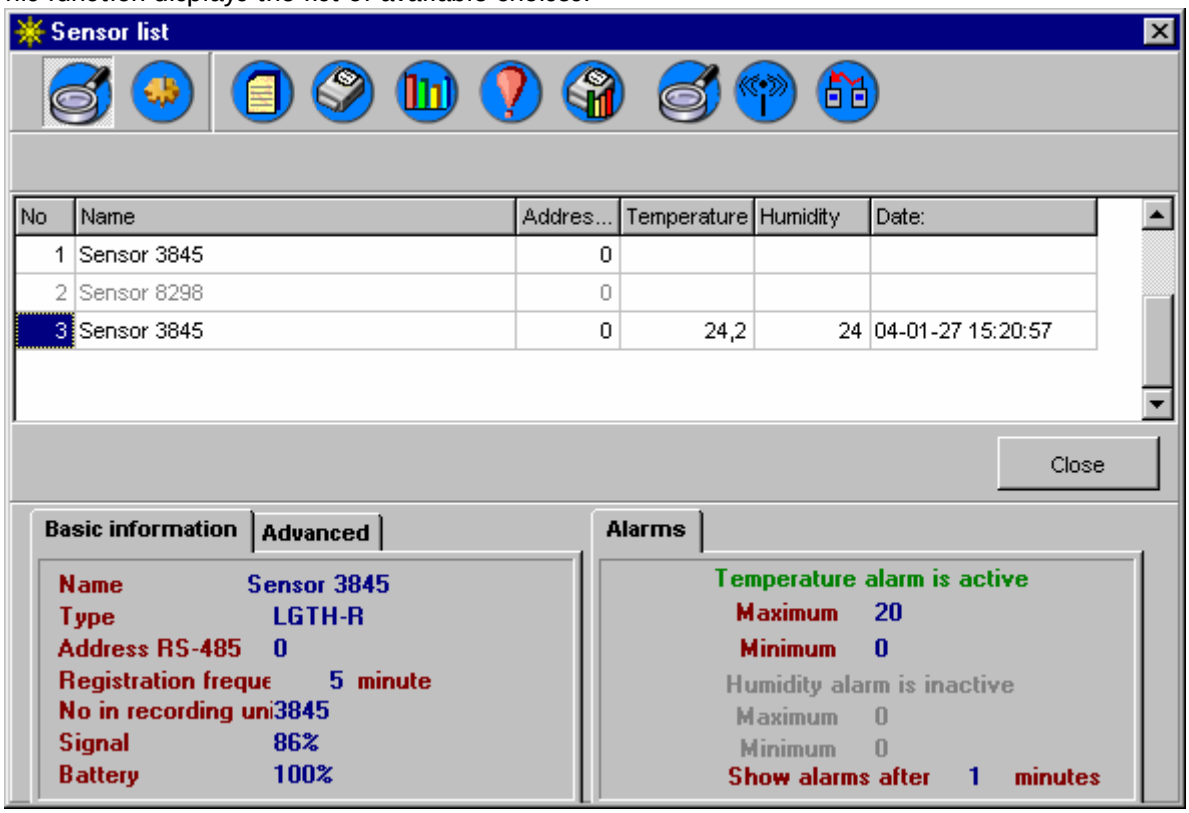
When the communication test is successfully completed one has to enter the overlap *Processing unit time* in order to set the proper time in the radio processing unit.



The current PC computer time (*Computer time)* as well as the processing unit time (at the entry) are displayed in the dialog box. In order to set the current processing unit time the button *Processing unit record* should be pressed. When this is done the same time as seen at *Computer time* should be displayed at *Processing unit time.*
The *Processing unit readout* button reads the current processing unit time and writes it in the field *Processing unit time.*

Place the sensor

This function is used for the visual presentation of sensors' measurements in the working area. It is accessible either from the main menu (*Tools->Place the sensor)*, or from the *Place the sensor* button from the Actions panel or after pressing the right-hand mouse key within the working area (in this case the added sensor will be put in the place indicated by the mouse cursor).
This function displays the list of available choises.

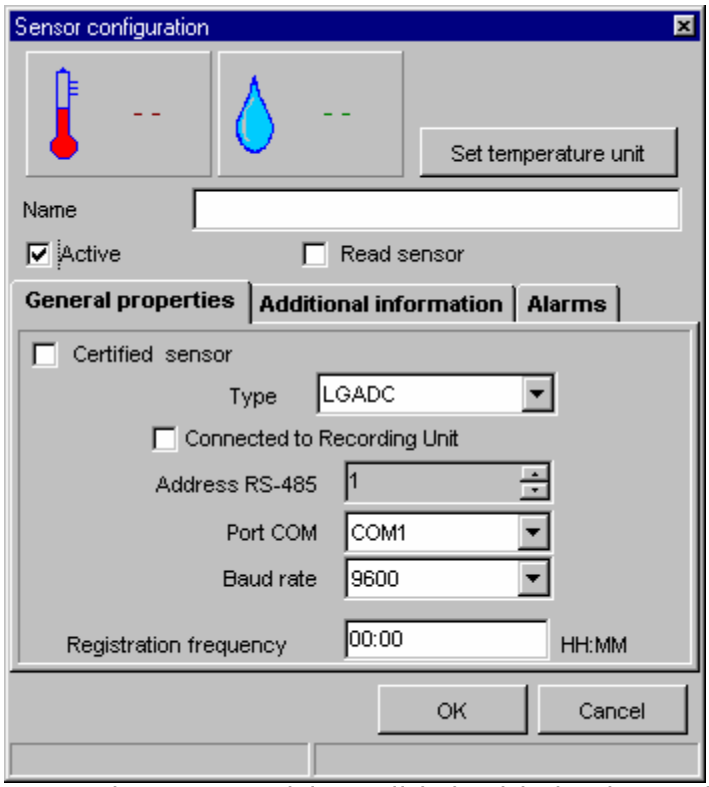


To select the sensor one must:
- either mark it on the list and press the *Select* key,
- or press twice the left-hand key on the mouse on the selected sensor.

The selected sensor will be added to the working area (if this sensor is already on the diagram the relevant information will be displayed together with the question whether the setting of this sensor should be changed into the currently selected – only in case when the selection was done by the right-hand key of the mouse). The sensor position can be stabilised by dragging by the mouse – with its left-hand key being pressed.

In order to add the INDU controller into the Loggisoft program either the „**Service Options"** – *new sensor* button or the keyboard shortcut **Ctrl+N** should be selected.

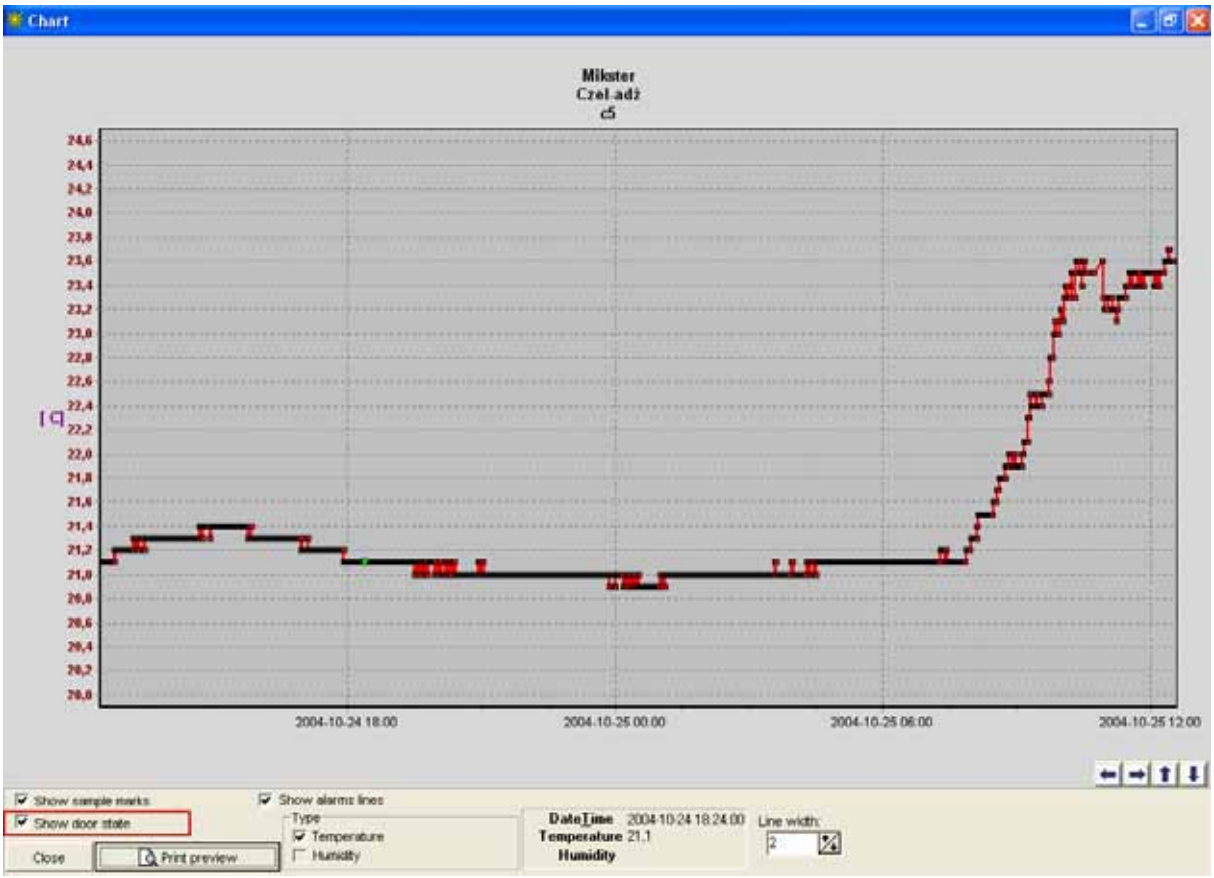
Then the „Sensor type" LGADC followed by the RS-485 address, Comm Port, and the Transmission rate 9600 should be selected.
The frequency of recording we might set e.g. every 1 second. After assigning the name to the new sensor we can start working.



In order to put the sensor on the program pulpit we click the right-hand mouse button on „Place sensor"

To see the collected data and the process cycle one has to click the right-hand mouse button on the sensor and select „**Graph**".

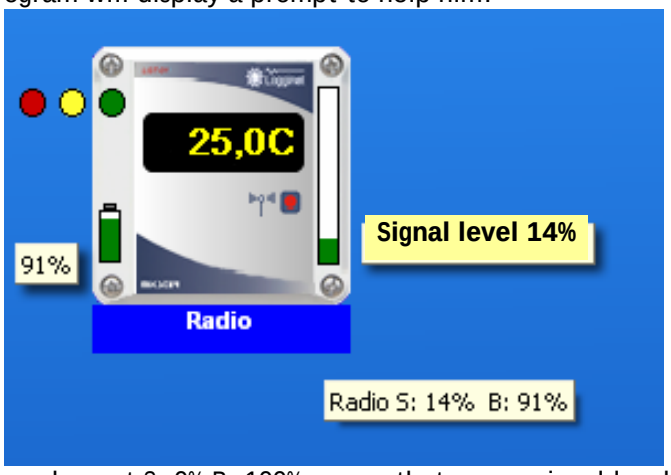
To see „**state of doors**" the option „**Show the state of doors**" should be marked.



The state of the doors shows the process.

Visualization

Besides alarm signaling described in Chapter "Alarms", also in case of radio sensors the sensors located on working screen provide extra information. When user moves cursor with mouse to selected sensor, the program will display a prompt to help him.



In the text visible above, element S: 0% B: 100% means that sensor signal level is 0 %, and battery level 100%.

Additionally, signal level (Range) is visible in form of bar graph (green fill indicates range level). In our case the bar is filled in 14%. In addition, the bar graph possesses prompt that gives signal level in percent.

On the left side there is a lamp icon – it indicates recording progress.

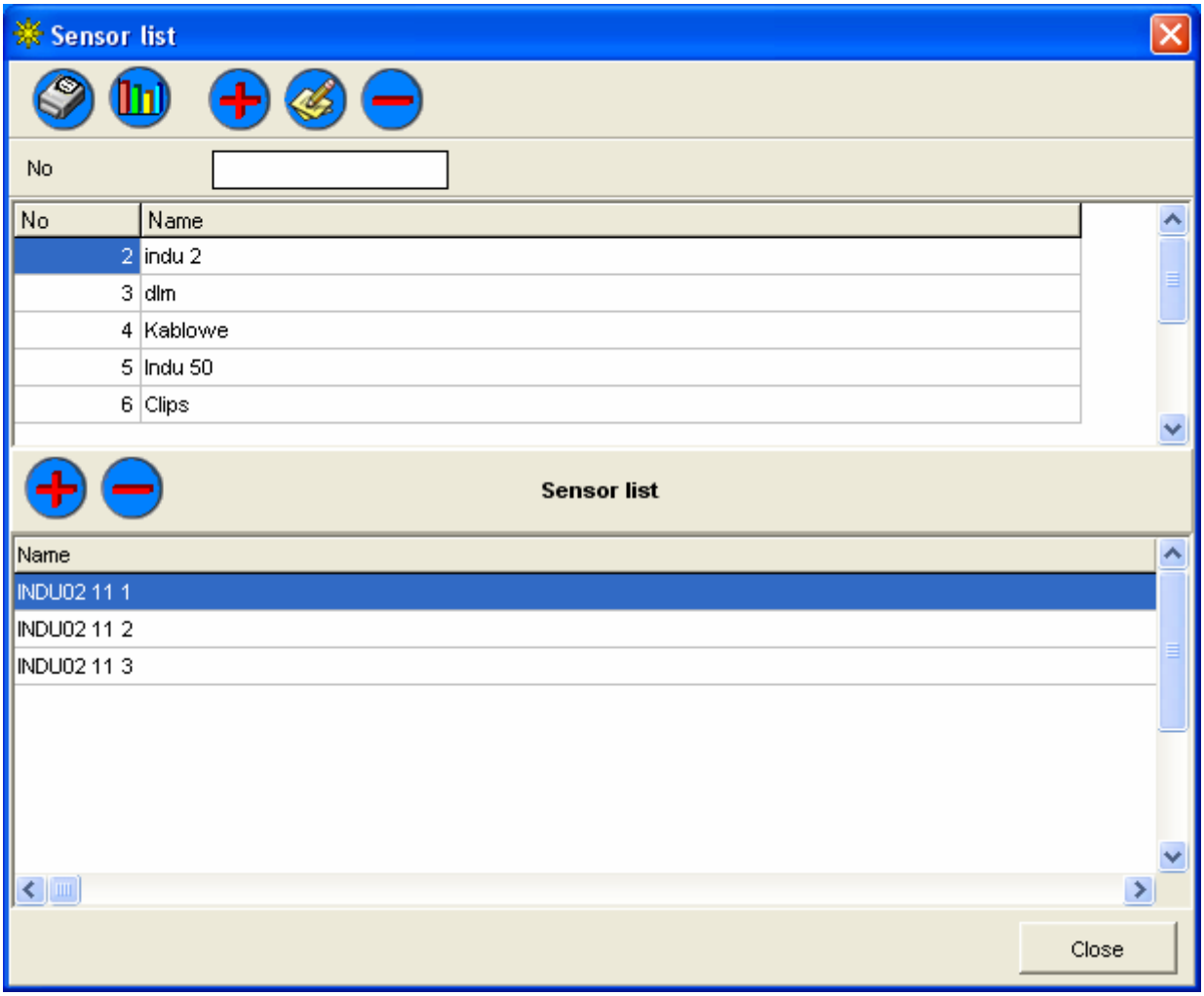
Green color shows that all data has been downloaded from the central recording unit (Clips and Radio)

Yellow indicates that not all recordings have been downloaded. Attention! Downloading of recordings from the Clips or Radio Central Units is in progress.

Red indicates occurrence of an error - the program does not record data (In case of LGDL LGSA INDU it means that automatic readout has been halted because of too high number of samples collected in the unit, manual readout is required).

Sensor Groups

The Loggisoft program from version 2.10 up offers new facilities, that is to say sensor groups. This function allows to group sensors in order to ensure easier data visualization in form of printout, e.g. for DLM-080 we may print recording for all 8 channels.

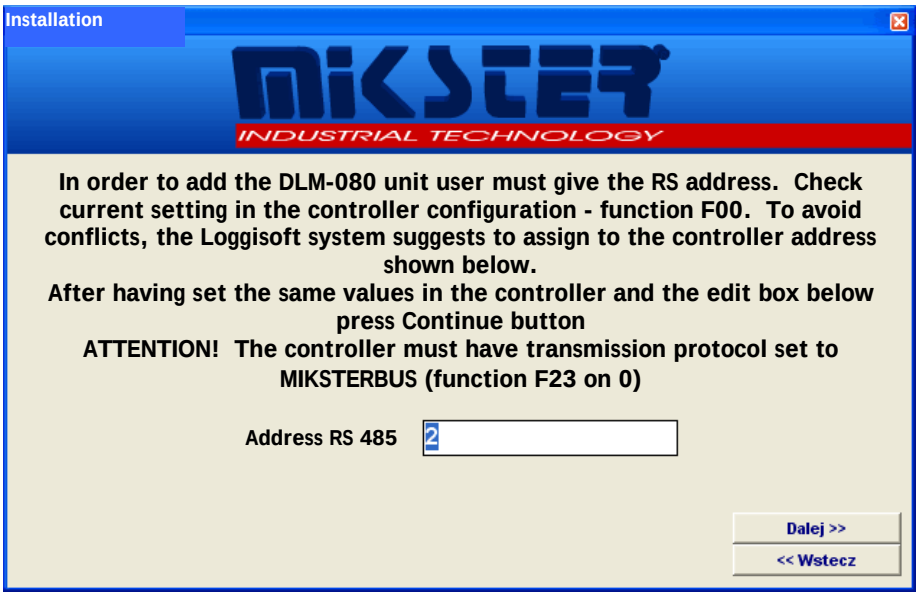


New Installation Wizard Options

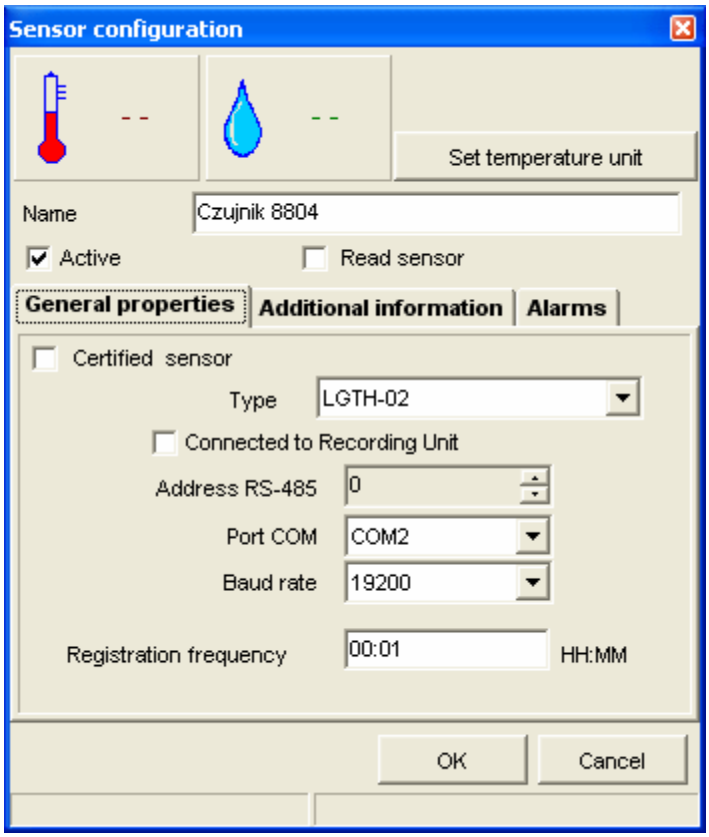
From version 2.10 up, the Installation Wizard allows to add to the system the following :

- Refrigerating unit LGSA
- Controller DLM-080
- Controller INDU-02

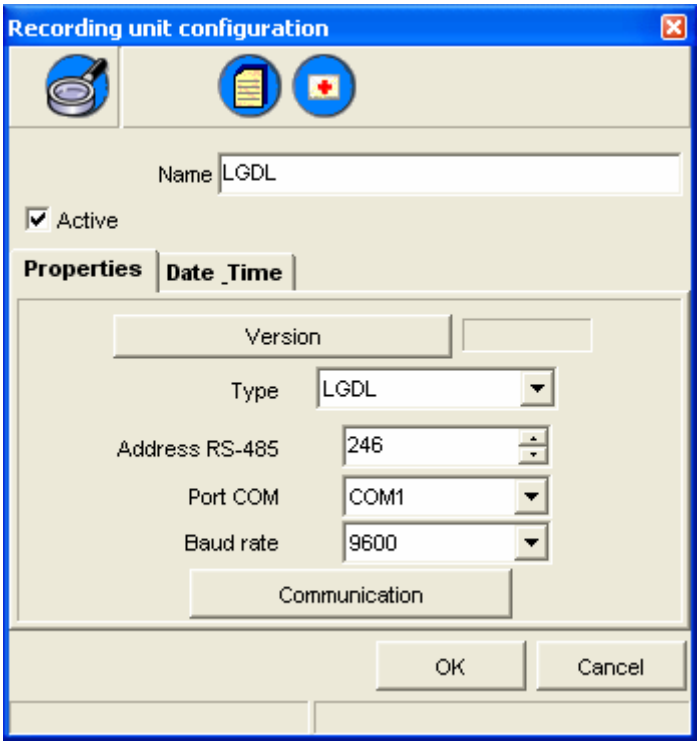
In case if the DLM-080 controller is added, the system will suggest an address for RS485 port, user should note that controller **must** have transmission protocol set to **MIKSTERBUS.**



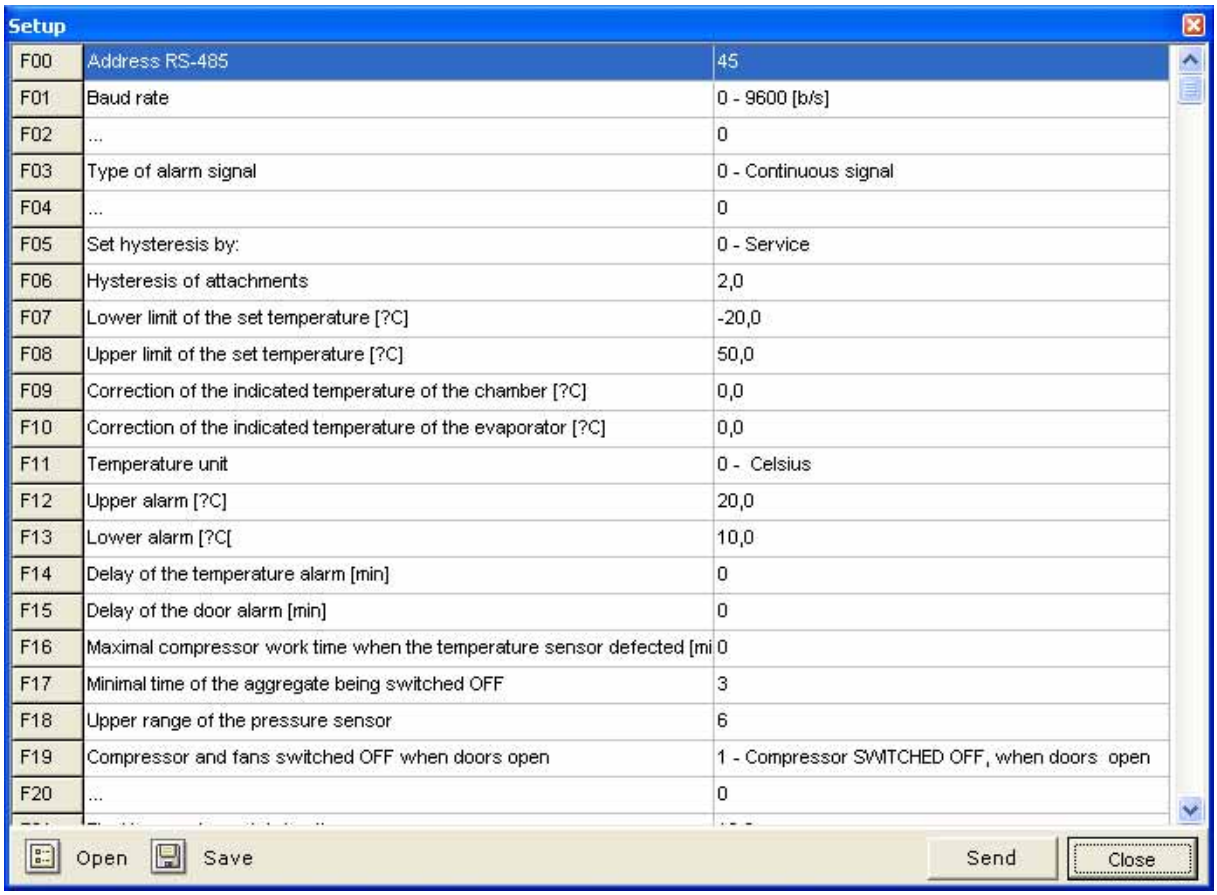
In case of refrigerating unit controller, we may choose temperature display unit - either degrees Celsius, or degrees Fahrenheit.



Use button **Read program version>** in order to check the central unit software version.



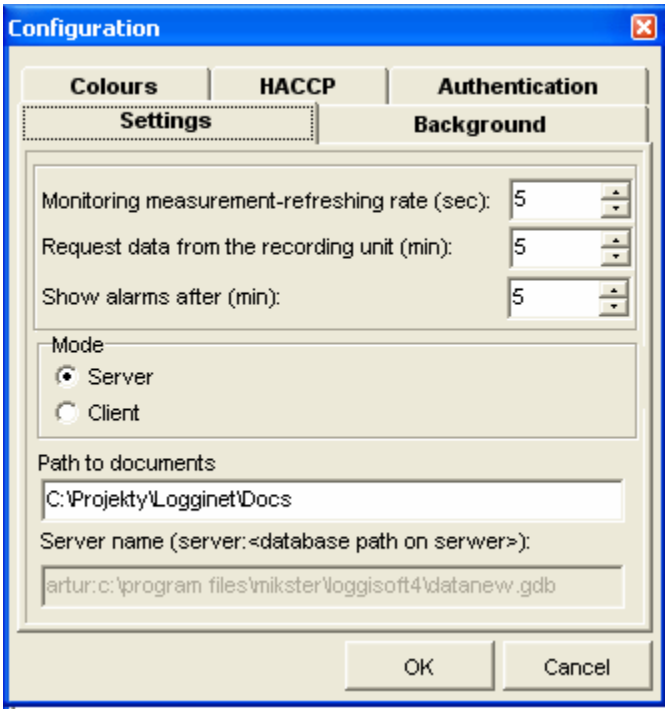
For DLM and LGSA-type units there is possibility of free setup configuration, which is shown on the illustration.


Setup
F00 Address RS-485 45
F01 Baud rate 0 - 9600 [b/s]
F02 ... 0
F03 Type of alarm signal 0 - Continuous signal
F04 ... 0
F05 Set hysteresis by: 0 - Service
F06 Hysteresis of attachments 2,0
F07 Lower limit of the set temperature [?C] -20,0
F08 Upper limit of the set temperature [?C] 50,0
F09 Correction of the indicated temperature of the chamber [?C] 0,0
F10 Correction of the indicated temperature of the evaporator [?C] 0,0
F11 Temperature unit 0 - Celsius
F12 Upper alarm [?C] 20,0
F13 Lower alarm [?C[10,0
F14 Delay of the temperature alarm [min] 0
F15 Delay of the door alarm [min] 0
F16 Maximal compressor work time when the temperature sensor defected [mi 0
F17 Minimal time of the aggregate being switched OFF 3
F18 Upper range of the pressure sensor 6
F19 Compressor and fans switched OFF when doors open 1 - Compressor SWITCHED OFF, when doors open
F20 ... 0
Open
Save
Send
Close

Configuration

Program option *Settings->Configuration* is available only for the Adm user.

Basic settings



General parameters:

- Every how many seconds should there be successive equipment readouts? – setting time of cyclic sensor polling
- Every how many minutes should there be automatic LGDL readout? – setting time of reading out recording from the LGDL central unit in the background (it is valid after marking option automatic recording readout from the Actions panel)

Operation type (only commercial version)

- Direct – application cooperates directly with equipment connected to the PC computer port
- Network – application downloads data through access to the network computer database. Computer name should be entered in field *Server name*. Format to

<server computer name>:<path to base in server>
e.g.

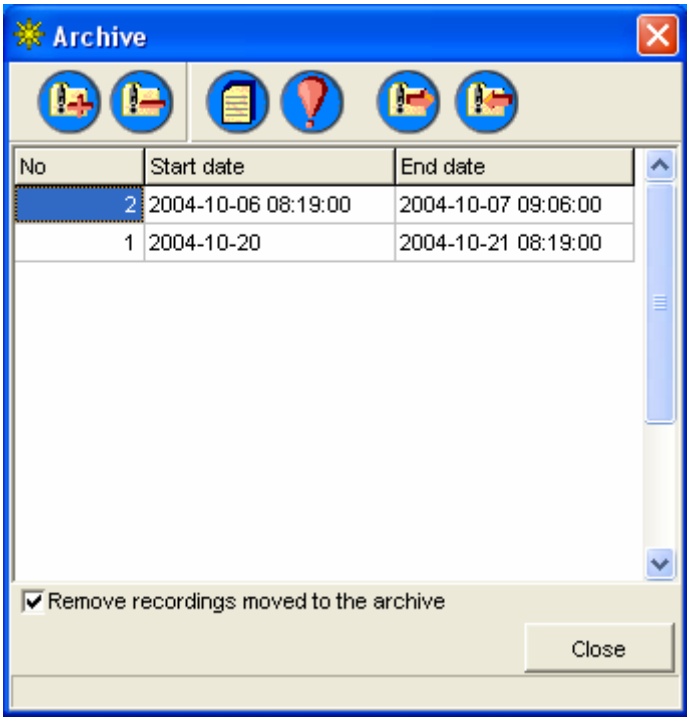
SERVER: C:\PROGRAM FILES\MIKSTER\LOGGISOFT2\DATAnew.GDB

Standard path to base is as follows:
C:\PROGRAM FILES\MIKSTER\LOGGISOFT2\DATAnew.gdb (installation path may be altered, but the data.gdb file is a constant element).

Archive

Archivisation of data increases the efficiency of the system by „sliming down" the database and exporting the collected data to the file, which can be recorded e.g. on a CD plate. Such data can be imported later to the archive for the review of the collected data.

Archive options are accessible from the main menu (*Tools->Archive*).



Available archives are listed (dates present the time period, from which the collected data are in the archive).

Accessible functions:

 -**Creation of a new archive** – we are selecting the period of time for an archive. Data are transfered from the current bases to the archive ones (ATTENTION, the archive data will no longer be accessible from the sensor level but only from the archive level). The system hints that as the beginning of the new archive period the end of the last one should be taken.

 - **Remove archive –** removes the selected archive from the archive database (ATTENTION! If the selected archive was not previously exported, its data will be completely lost).

 **- Collected data list from an archive –** displays collected data contained in the selected archive.

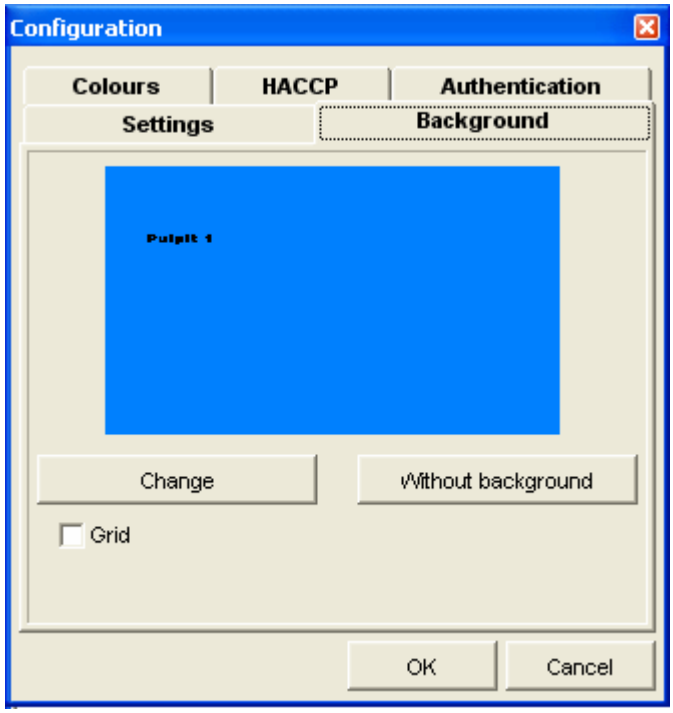
 **- Alarm list from an archive –** displays recorded alarm events from the time period of the selected archive.

 **- Export to a file –** export of the selected archive to the file (files) of the given – by an operator – name. (ATTENTION, each archive consists of 5 files of the given name extended by lga, lgc, lgw, lgo, lgb).

 - **Import from a file** – imports archive from a file.

Background (only the PRO version)

Allows to set application background (e.g. plant layout).

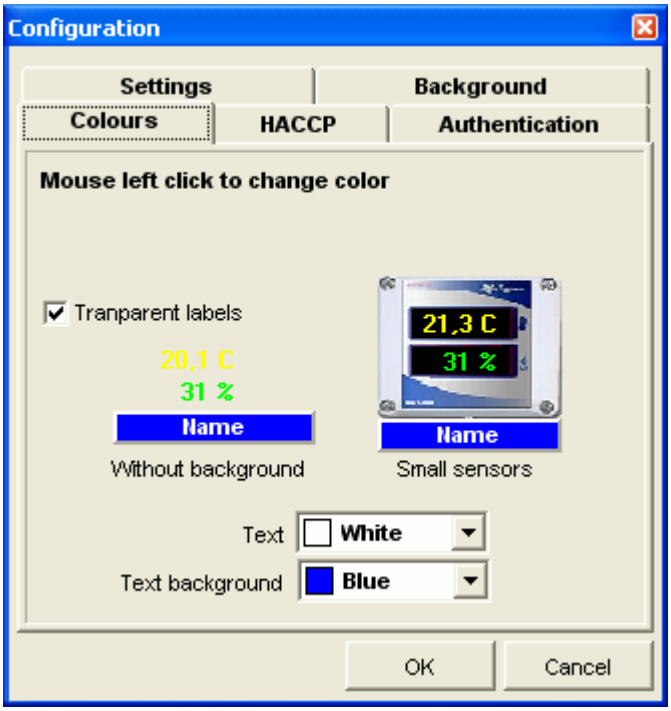


Grid – When this option is marked, sensors being set on the layout will be arranged in a grid (which makes it easier to set sensors in even rows and columns). If the option is not marked, sensor may be located in any place with accuracy of one screen point

Modify – selection of graphic file (bmp) as work area base
No background – work area background does not contain a bitmap

Colors (only the PRO version)

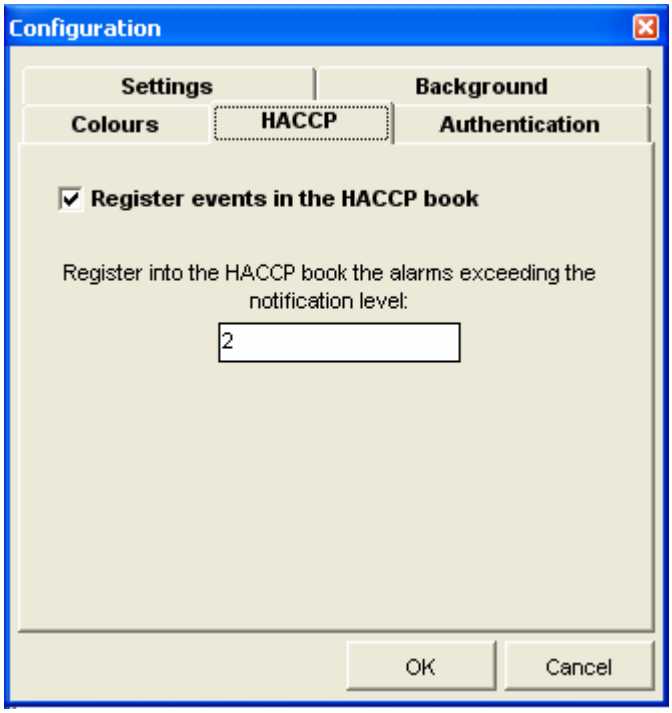
Appearance settings for sensors being put in work area.



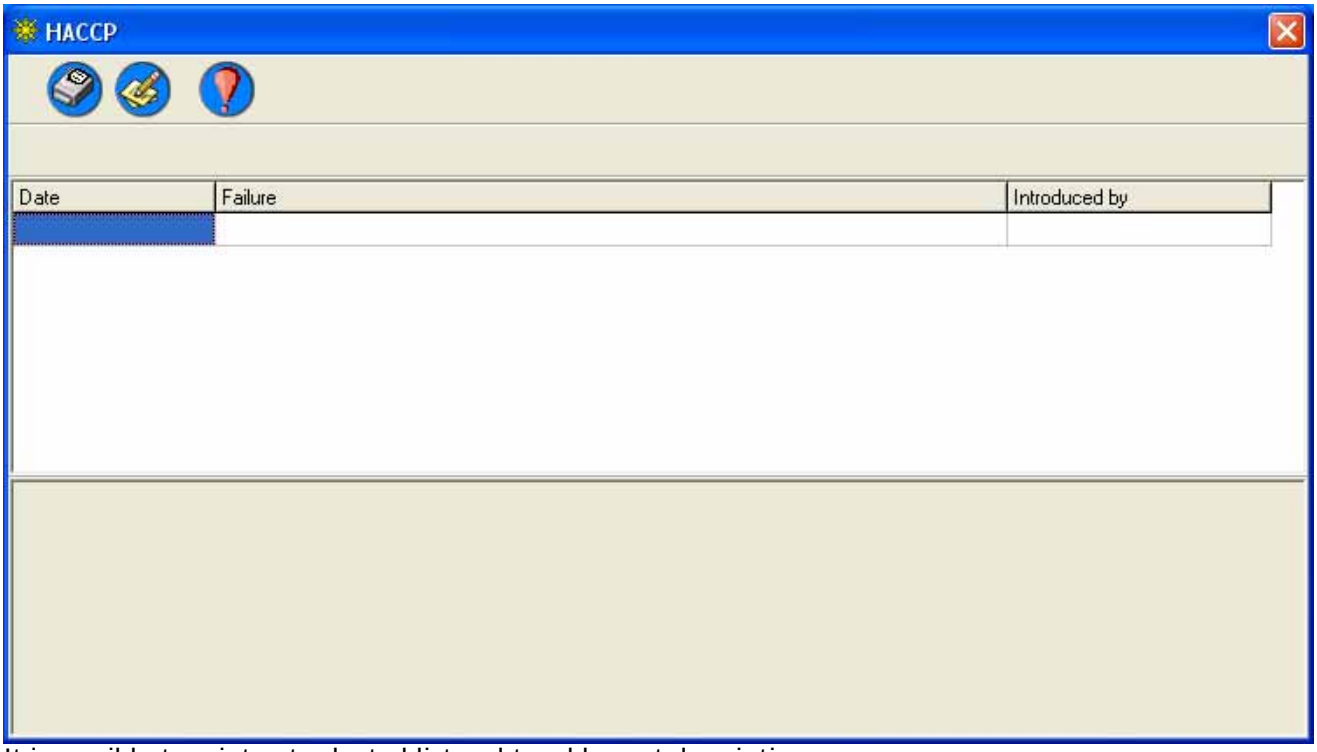
Click left mouse key on measurement values in order to change colors of these elements.
Transparent text background – applies only to sensors without background. When this option is marked, measurement values are displayed directly against background of main window work area. Unmarked option displays measurement values in black frame.
Signature - color of text with sensor name.
Signature background - color of background under text with sensor name.

HACCP (only the PRO version)

Loggisoft application has been provided with the HACCP book keeping option with possibility to print out list of events recorded in it. Planned shut-downs and alarms from alarm level set in configuration are entered here.



Write events in the HACCP book – mark this option to have alarm events recorded in the book.
Write alarms from level in the book: - enter the level, and when it is reached, alarms will be registered in the HACCP book.
Book review is available from menu Tools -> HACCP

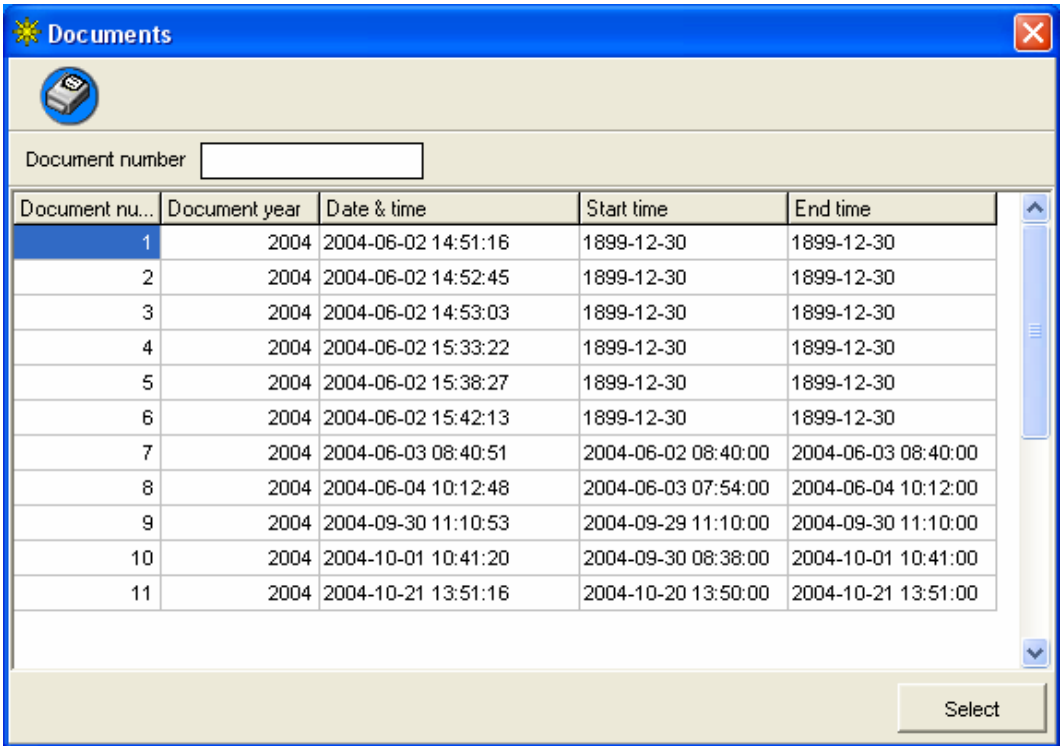


It is possible to print out selected list and to add event description.

Documentation (only the PRO version)

A mechanism for documentation has been introduced in the PRO Loggisoft version. Each printout receives successive number (annual numeration). Document number (e.g. 1/2004) appears on printout. As soon as print preview window is closed, the system inquires whether printout should be saved as a document.

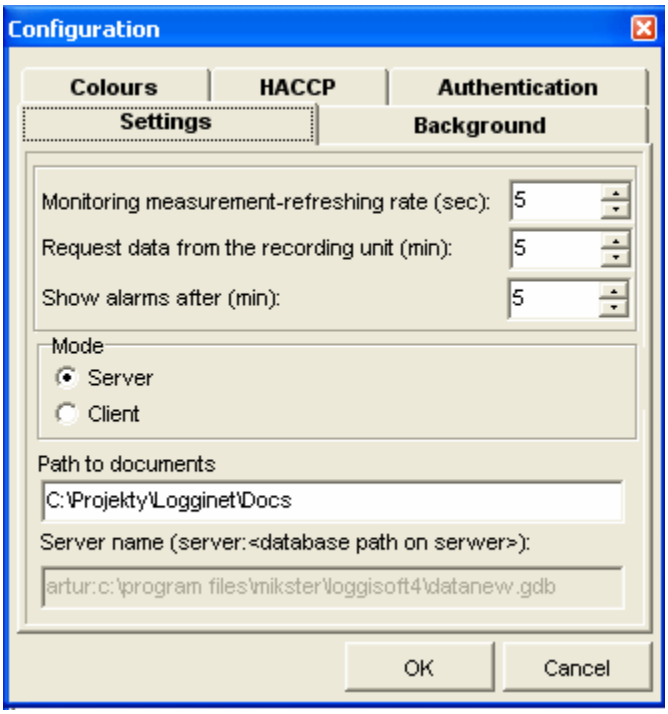
If a printout is added, it will be always possible to find in the program a document assigned with selected number, and to print its copy. Document list is available from menu Tools -> Document list



Document nu...	Document year	Date & time	Start time	End time
1	2004	2004-06-02 14:51:16	1899-12-30	1899-12-30
2	2004	2004-06-02 14:52:45	1899-12-30	1899-12-30
3	2004	2004-06-02 14:53:03	1899-12-30	1899-12-30
4	2004	2004-06-02 15:33:22	1899-12-30	1899-12-30
5	2004	2004-06-02 15:38:27	1899-12-30	1899-12-30
6	2004	2004-06-02 15:42:13	1899-12-30	1899-12-30
7	2004	2004-06-03 08:40:51	2004-06-02 08:40:00	2004-06-03 08:40:00
8	2004	2004-06-04 10:12:48	2004-06-03 07:54:00	2004-06-04 10:12:00
9	2004	2004-09-30 11:10:53	2004-09-29 11:10:00	2004-09-30 11:10:00
10	2004	2004-10-01 10:41:20	2004-09-30 08:38:00	2004-10-01 10:41:00
11	2004	2004-10-21 13:51:16	2004-10-20 13:50:00	2004-10-21 13:51:00

The list displays document number, year, making date, and range of dates covered by the printout.

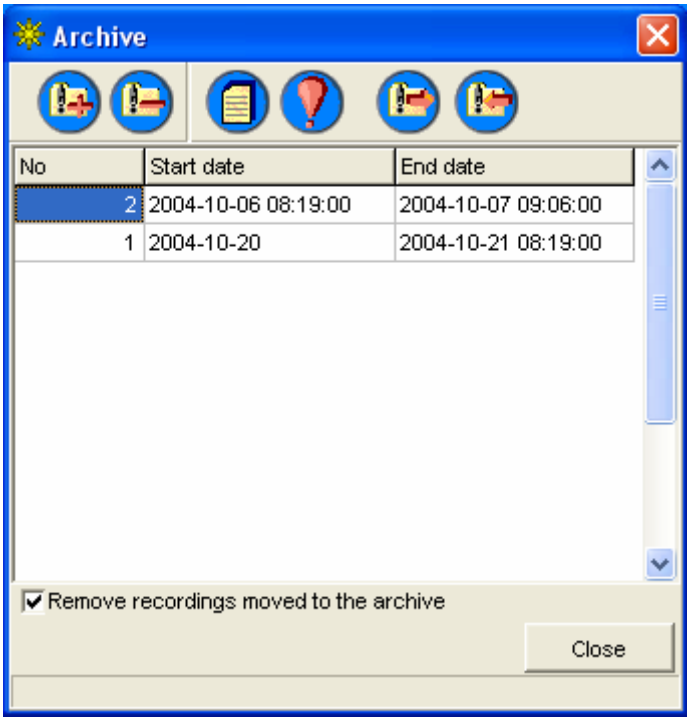
Printouts are written on the disk as files. The directory, in which documents will be saved, must be entered in program configuration (menu Settings -> Program configuration), in parameter Path to files with documents (by default in subdirectory Docs, in directory containing installed Loggisoft application).


Configuration
Colours
HACCP
Authentication
Settings
Background
Monitoring measurement-refreshing rate (sec):
5
Request data from the recording unit (min):
5
Show alarms after (min):
5
Mode
Server
Client
Path to documents
C:\Projekty\Logginet\Docs
Server name (server:<database path on serwer>):
artur:c:\program files\mikster\loggisoft4\datanew.gdb
OK
Cancel

Archive

Data archiving mechanism increases the system efficiency through reducing databases, and allows to export recording to file, which may be saved e.g. on a CD-ROM. Thus saved data may be re-imported to the archive in order to review recordings.

Archive options are available from the main menu (*Tools->Archive*).



We have available archives on the list (dates determine the time period, from which recordings are stored in selected archive).
Available functions:

 - **Making of a new archive** – we select archive period. Data is transferred from current databases to archival databases (ATTENTION; archived data will not be available any more from the sensor level, but only from the archive level). The system prompts end of previous archive as the beginning of a new archive period.

 - **Delete archive –** removes selected archive from archival databases (ATTENTION! If selected archive has not been previously exported, data contained in it will be irretrievably lost).

 **- Recordings list from archive –** displays recordings contained in a selected archive

 **- Alarms list from archive –** displays alarm events recorded during the period covered by a selected archive

 **- Export to file –** exports selected archive to file (files) with name entered by operator. (ATTENTION; the whole of archive consists of 5 files with a given name and following extensions: lga, lgc, lgw, lgo, lgb)

 - **Import from file –** reads in archive from file.

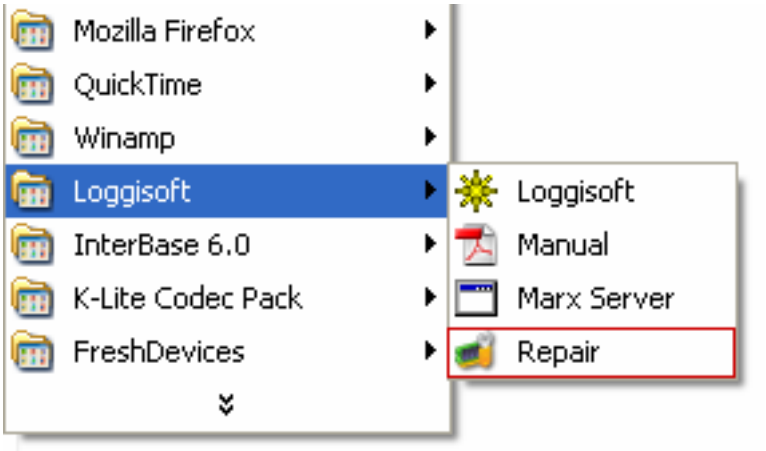
Backup copies – data safety

The program is based on the database server Interbase. In order to guarantee maximum data security, we should ensure stable work of operating system used by the database server.

Database failures may occur as a result of unexpected server closing during program operation, which may take place e.g. during power failure in case if there is no UPS.

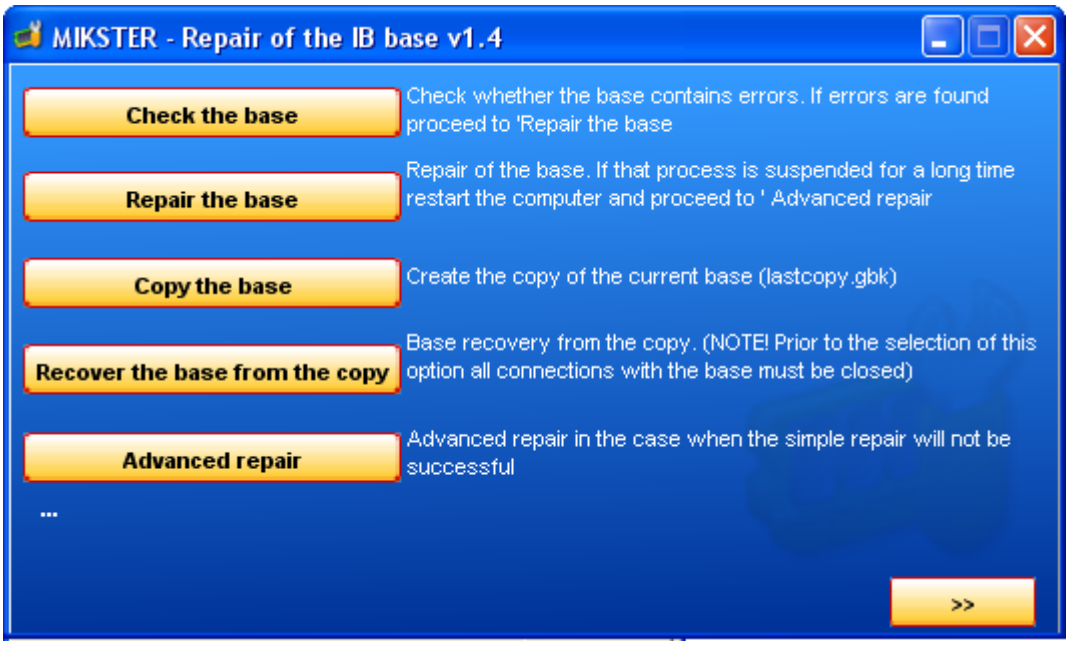
Once per day Loggisoft makes a security backup in order to ensure possibility to restore the whole system in case of database damage.

The Database Repair program available from the system menu has been added to The Loggisoft program.



This program is activated once per day in order to make a security backup (ATTENTION; also in case if Loggisoft works 24 hours a day, a security backup will be made after midnight (0:00 hours).

Activate the repair program in case of database failure.



The first step is to verify database correctness. In order to do that use the Check Database pushbutton (ATTENTION. In order to allow the program to make the check, close all programs using that database (loggisoft)).

After the verification is complete, a message informing whether the database is correct or not will be displayed. If there is an error found, select option Repair Database.

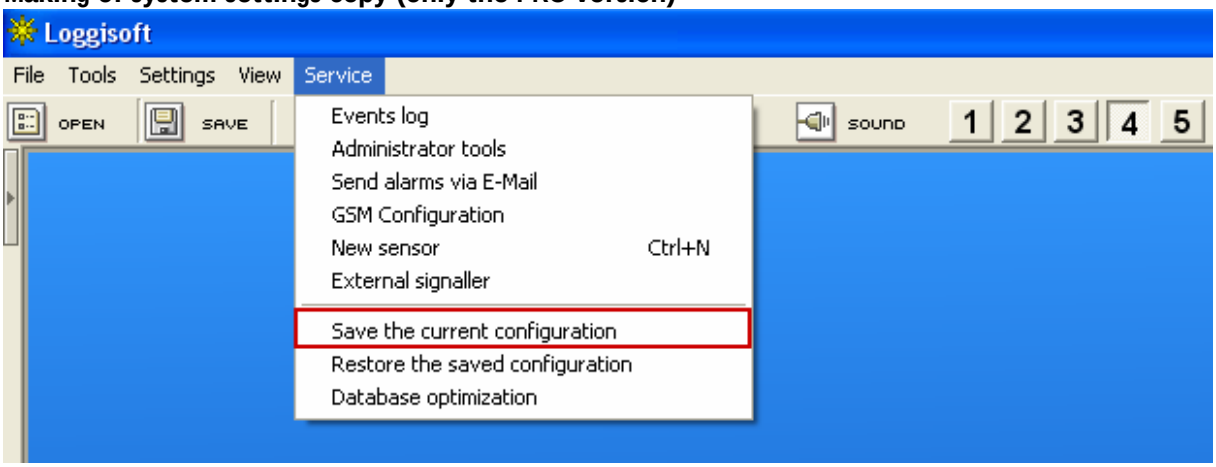
The repair process may take up to a dozen or so minutes. As soon as it is complete, you may carry out the database correctness check again.

If the repair process is unable to remove the defect, proceed with Advanced Repair.

As soon as the advanced repair is complete, the program will display message that it is necessary to restart the computer. Then restart the system and once more activate the Database Repair program in order to complete the repair process.

If in spite of performed advanced repair the defect is not eliminated, restore settings by selecting option Restore Database from Copy. After selecting this option copy selection window will be opened. Final copy made is the lastCopy (copy made once a day).

Making of system settings copy (only the PRO version)



In the PRO version there is an option available to save current configuration in text file. These options can be found in the Service Options menu.

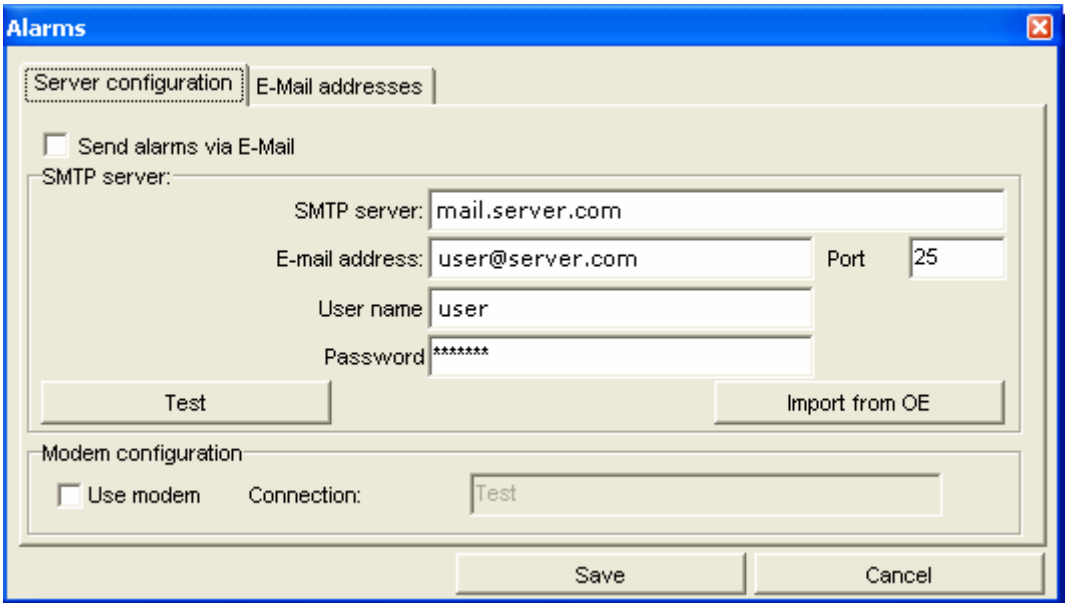
Save current configuration – saves current settings (list of sensors, central units, sensor names ...). The file created by this function allows to restore all system settings (except of the recording). Created file is located in the data subdirectory, its name is lastGoodConfiguration.txt. When closing the program, system inquires user whether to save current configuration.

Restore saved configuration – allows to restore previously saved configuration.

As soon as the system installation is complete (sensor names are set, sensors are arranged on the console, alarm threshold values are set, etc.), it is recommended to save configuration and copy file lastGoodConfiguration.txt to CD-ROM. In case of computer breakdown it will be possible to restore quickly all system settings using the function Restore saved configuration (it is sufficient to copy the file lastGoodConfiguration.txt from CD-ROM to subdirectory Loggisoft2 catalog date).

Notification about alarms by E-Mail

The system allows to notify about alarm occurrence by sending an electronic mail to selected addresses. The message contains measurement point name (sensor name), alarm occurrence time, alarm type (temperature, humidity, doors), and alarm measurement value.
Configuration is done through option from menu *Service options -> Notification about alarms by E-mail*



Description of fields:

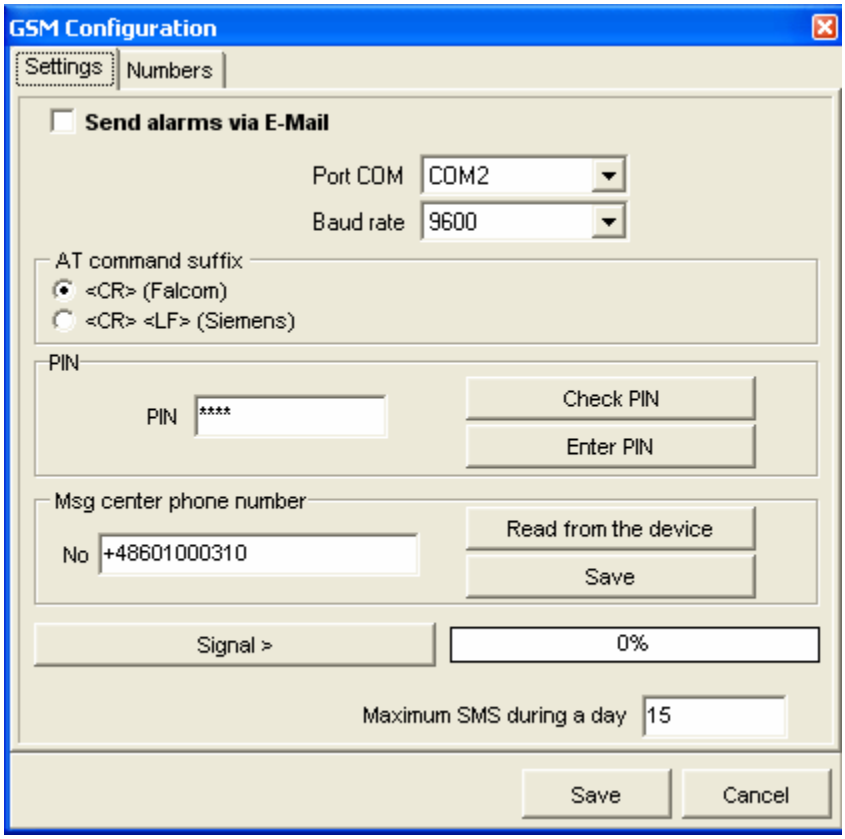
- Send notifications about alarms by electronic mail – specifies whether alarms will be announced by E-mail
- Outgoing mail server (SMTP) – outgoing mail server name
- Sender E-mail address – E-mail address, from which messages will be sent (this address must be a correct address at entered server)
- Port – port for outgoing mail service
- User – e-mail account user name
- Password – if server requires authentication, enter password
- Test – try to send test message from entered account

E-mail Addresses overlap – enter here addresses, to which notifications will be sent.

Notification about alarms by SMS

The system allows to notify about alarm occurrence by sending a text message SMS through an external GSM module connected to computer. The message contains measurement point name (sensor name), alarm occurrence time, alarm type (temperature, humidity, doors), and alarm measurement value.
Configuration is done through option from menu Service options ->

GSM Configuration



Description of fields:

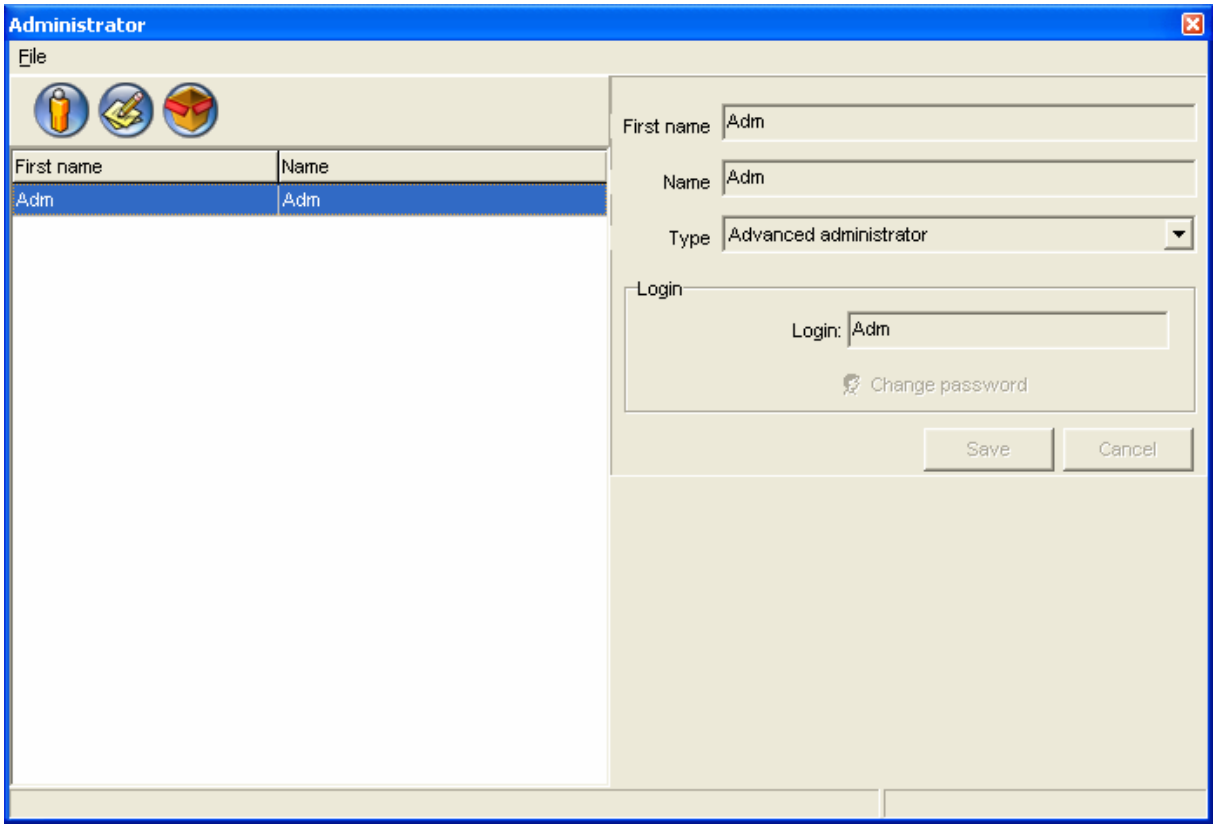
- Send alarms through GSM module - specifies whether alarms will be announced by SMS
- Port COM – number of port COM, to which the GSM module is connected
- Transmission rate – usually transmission rate with GSM modules is 9600
- PIN code – SIM card PIN code
- Verify PIN – checks whether the PIN code has been entered. If not, set the PIN code using the Enter PIN push-button
- Enter PIN – entering the PIN code in order to unblock operator services (ATTENTION! If there is error made three times when entering the code, the SIM card will be blocked)
- Message center number – number depends on operator of selected mobile phone network

Telephone Numbers Overlap – numbers of telephones, to which SMS messages are to be sent.

The Loggisoft system has been adapted for cooperation with various types of GSM modules, which possess AT commands.
Recommended module type : SIEMENS MC35i. – this model has been tested and its compliance with the Loggisoft system is guaranteed.

Rights Administrator

Program Rights Administrator is used to manage access to the system. It is available from menu *Service options -> Rights administrator*



This program allows to define users and to attribute to them proper authorization level (Type). Available levels are:

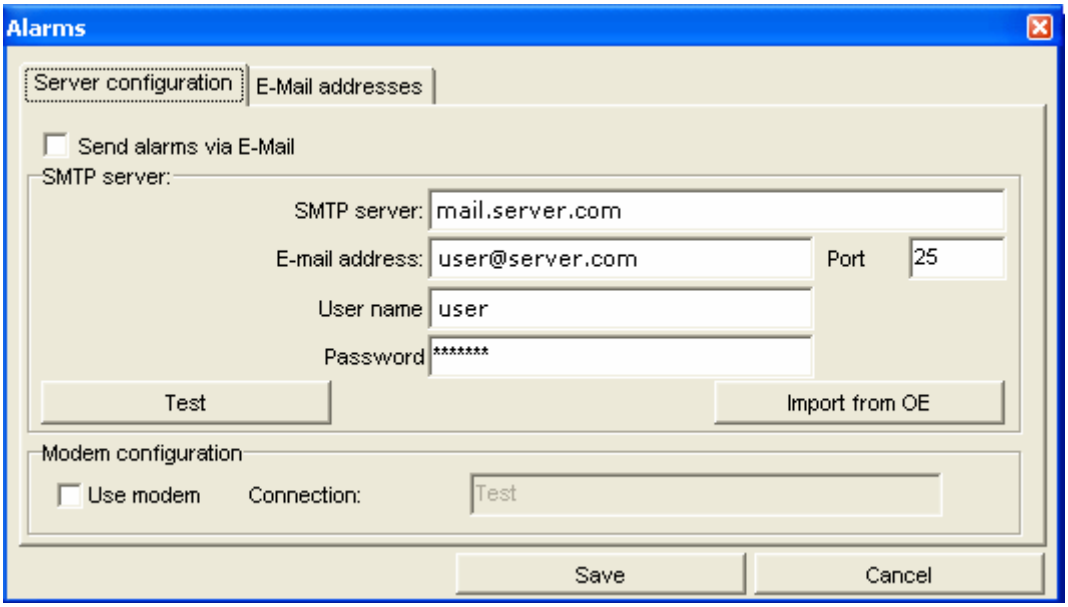
1. Operator – basic user – authorized to activate the program and monitor equipment condition. Cannot modify system configuration
2. Administrator – this user is authorized to introduce changes in system configuration (adding sensors, changing names, alarms etc.)
3. Service – same authorizations as administrator with additional options to configure sensors
4. Advanced Administrator – administrator rights are completed with an option allowing to change users (rights administrator), event log monitoring and configuration of notifying by E-Mail

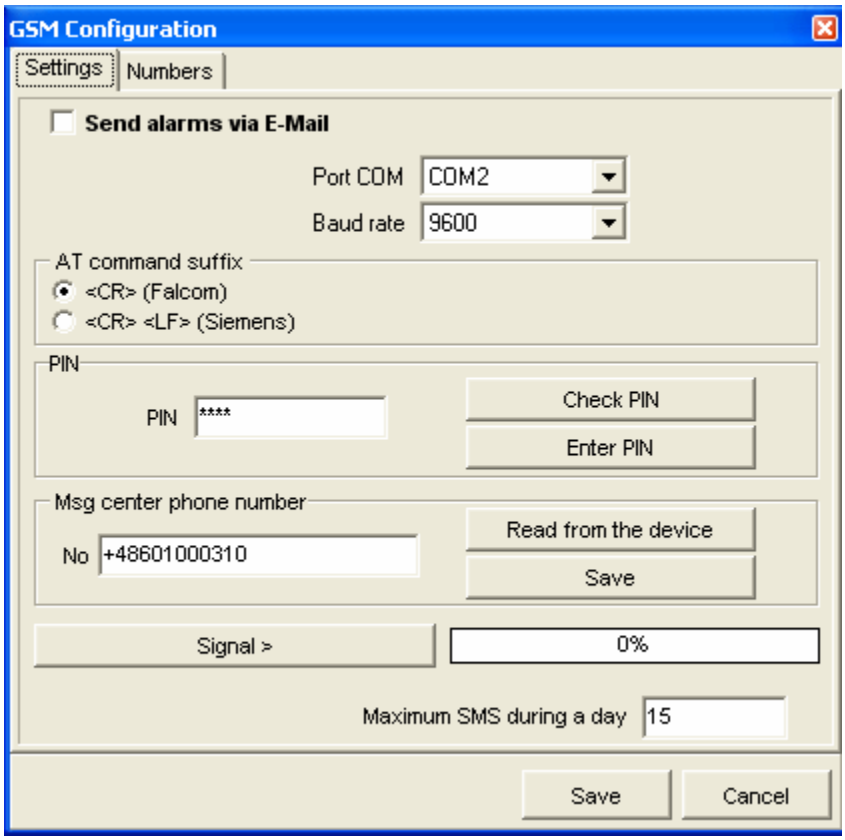
Alarming levels

Alarming levels **(only the PRO version)**

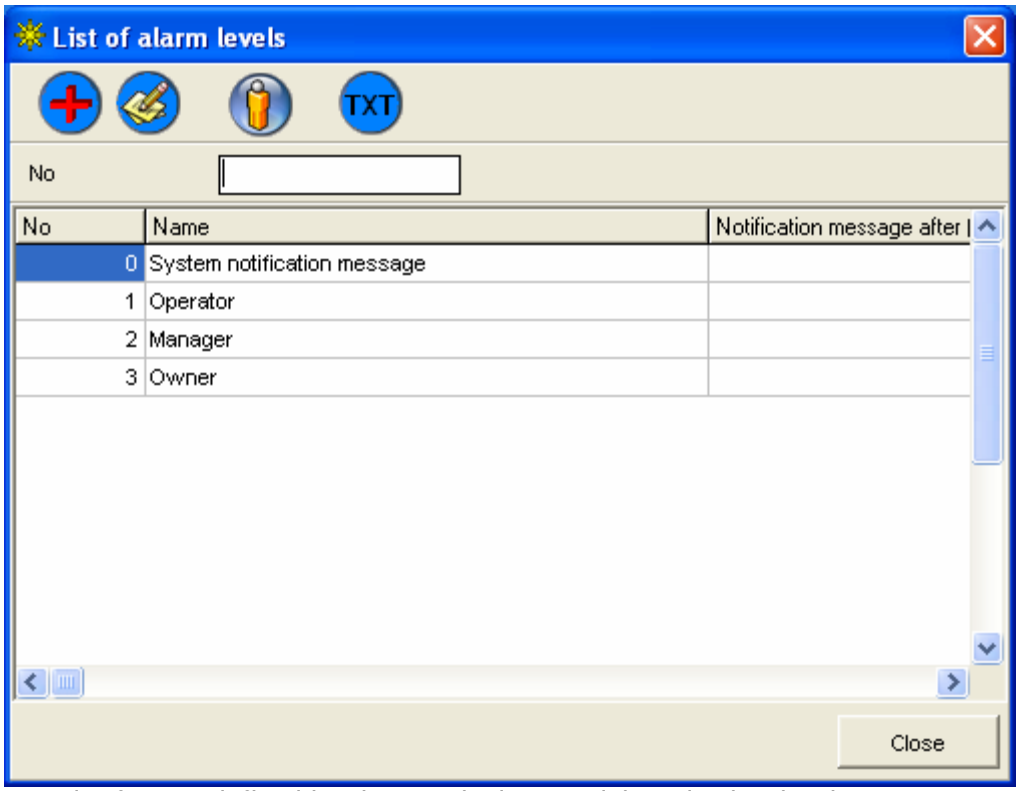
The Loggisoft system allows to inform about alarms either by e-mail or SMS. Besides simple notification (to list of addresses or numbers entered in the notification configuration) it is also possible to define alarm levels. This allows to notify other people for certain points, and to set time, after which another person is to be informed about an alarm. Typical example how to apply this option is the use of hierarchic company structure, where operator is informed after an alarm occurrence, and his task is to eliminate alarm source. If he is unable to eliminate the failure within specified time, his superior will be notified. Number of notification degrees and number of people at a given level is free.

In order to activate this option, mark option Notification about alarms by e- mail or SMS (menu Service options->Notification about alarms by e-mail, or Service options->GSM configuration)





Next step is to define alarm levels. This option is available in menu Settings->Alarm levels



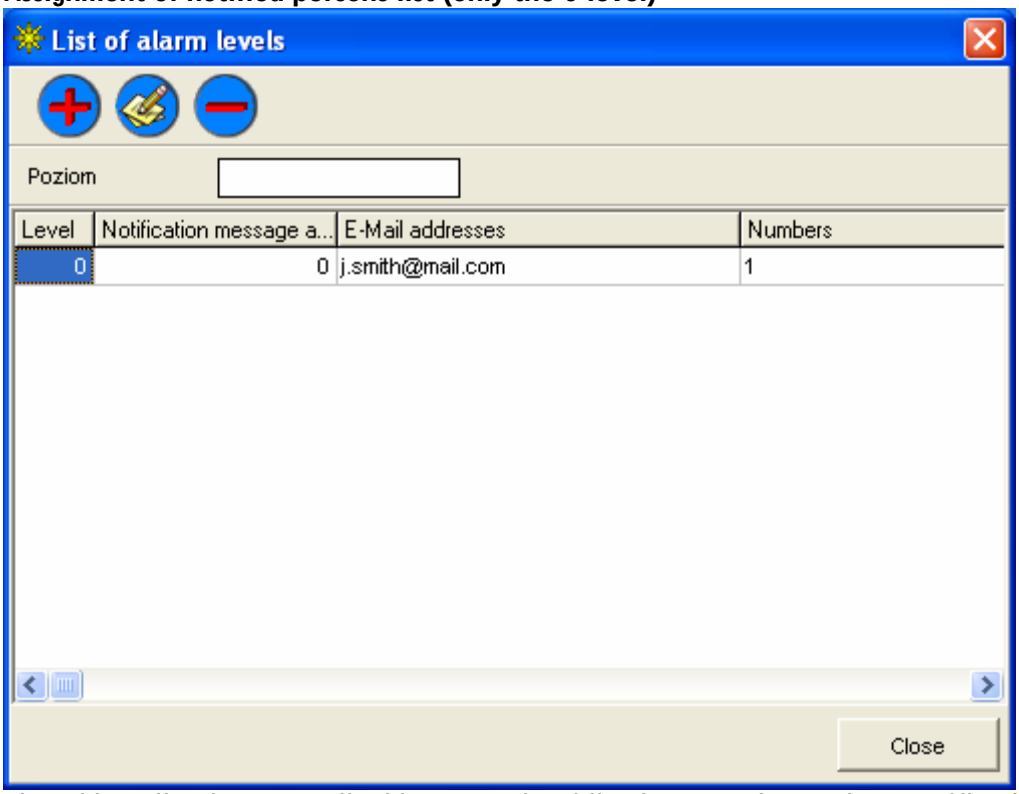
This list contains four predefined levels. Level 0 is a special service level. Alarm systems, as e.g. No transmission with equipment, will be sent to addresses assigned to this level. This is the only

level, to which we assign the list of persons notified from the level list level (for other ones notified persons are being assigned in alarms of a given sensor).

Adding level

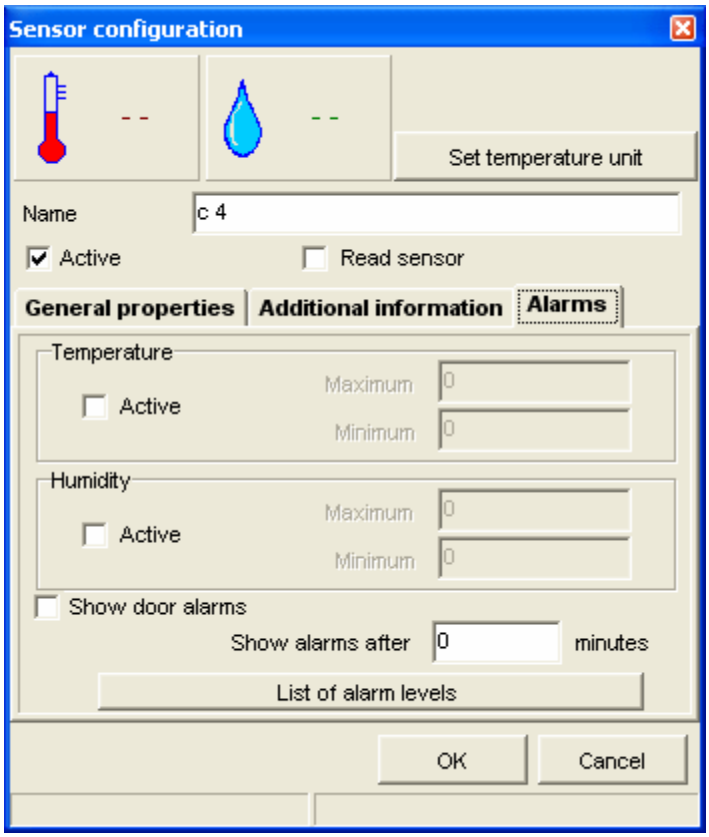
Editing level

Assignment of notified persons list (only the 0 level)



The address list shows e-mail addresses and mobile phone numbers, where notifications at a given level are to be sent to. It is possible to add an address, and remove or modify an existing entry.

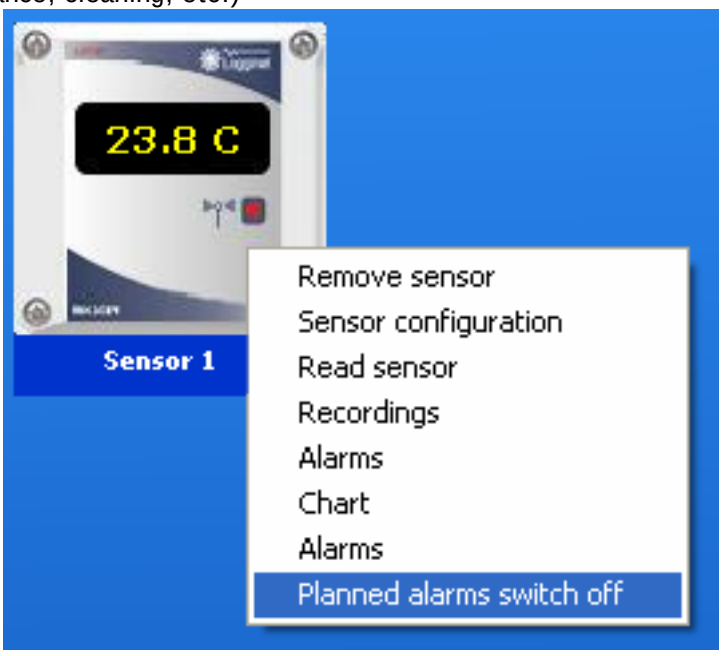
For other levels the address list is defined separately for each measurement point. This option is available in sensor configuration in Alarms overlap:

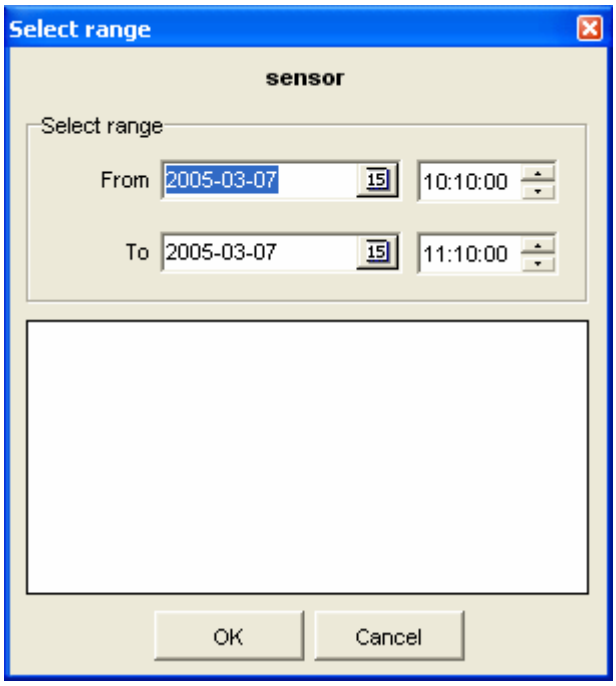


Alarming Levels pushbutton allows to define the list of addresses notified about alarms from selected measurement point. It is required to enter the E-mail address, mobile phone number and level (from the list of previously defined levels).

2) Planned alarms switch off **(only the PRO version)** – this option allows to stop sending notifications about alarms within specified time. It is available after clicking the sensor with mouse right button.

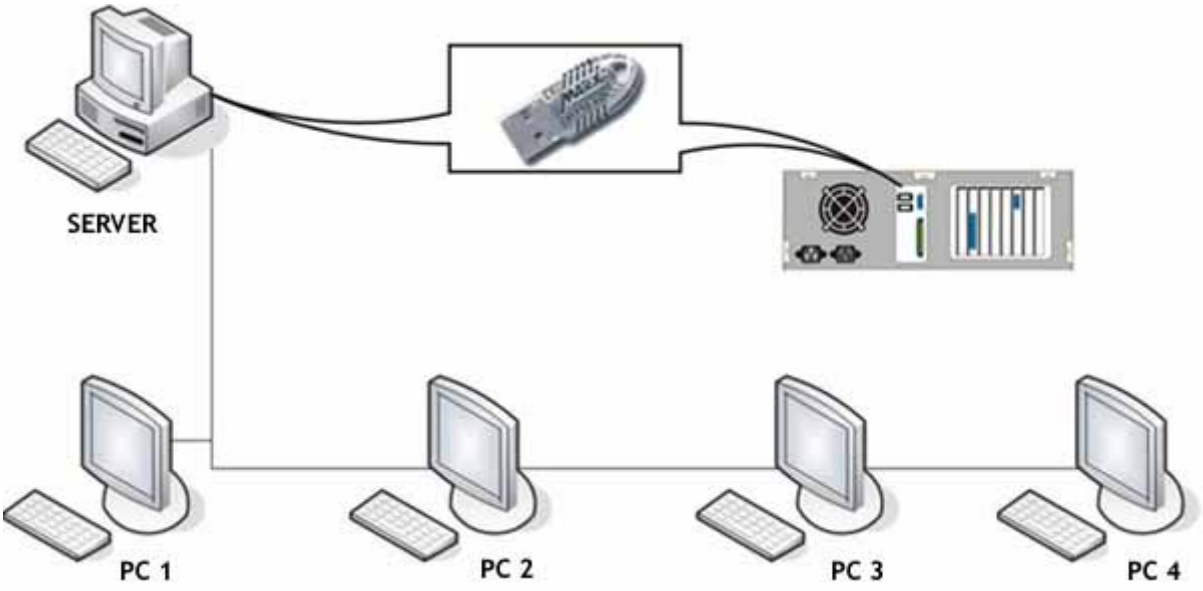
Planned alarms switch off allows to set switch off time range and description – a reason for alarm switch off (maintenance, cleaning, etc.)





Each scheduled alarm switch off is recorded in the HACCP book (see HACCP chapter). Notifying about alarms will be withheld within time period given as planned switch off.

Operating Instructions for the USB Equipment Key System

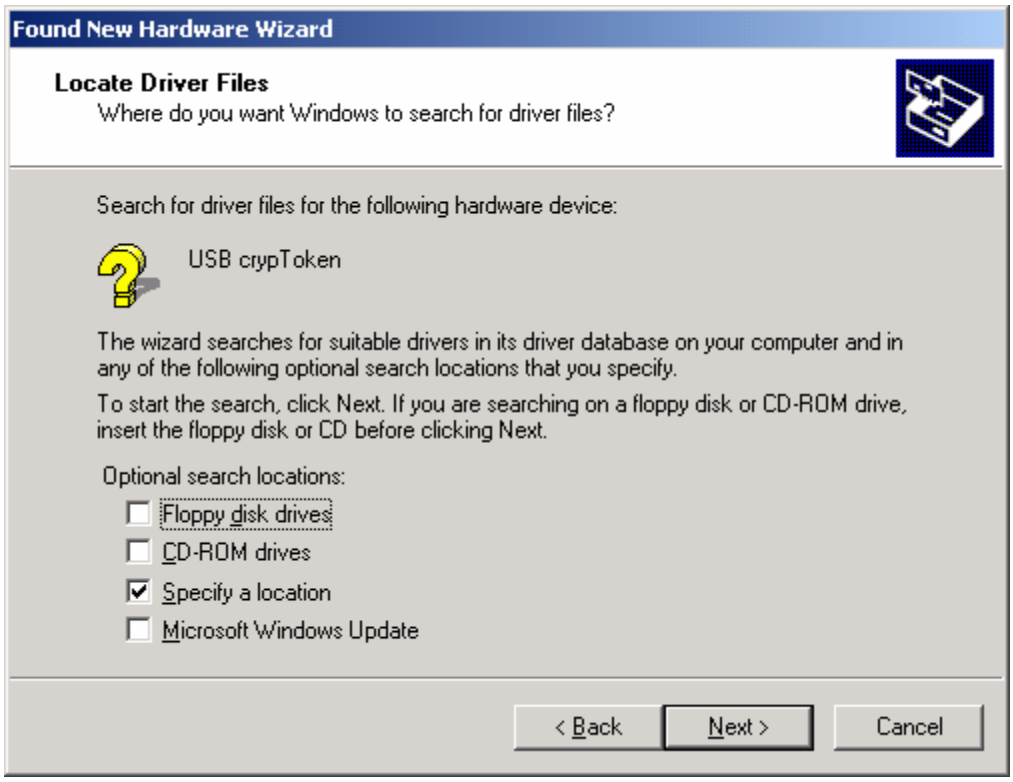


Requirements:
The computer called a SERVER, to which Logginet equipment from MIKSTER is connected, must be equipped with the USB port.

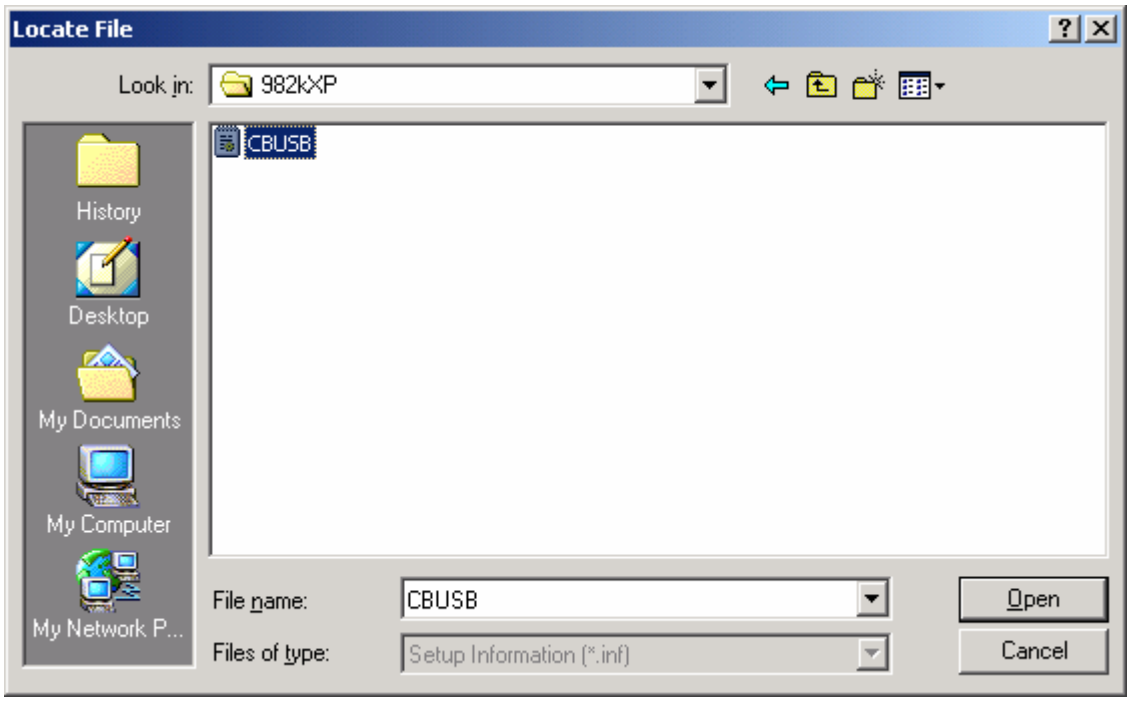
ATTENTION! The USB key should be installed only in ONE computer working in the net

Installation – Windows 2000 Operating System:
Insert the key in the USB port prior to installing The Loggisoft program.
The system will detect new equipment and will start to install the key.
Installation stages are shown on the screen dumps below.

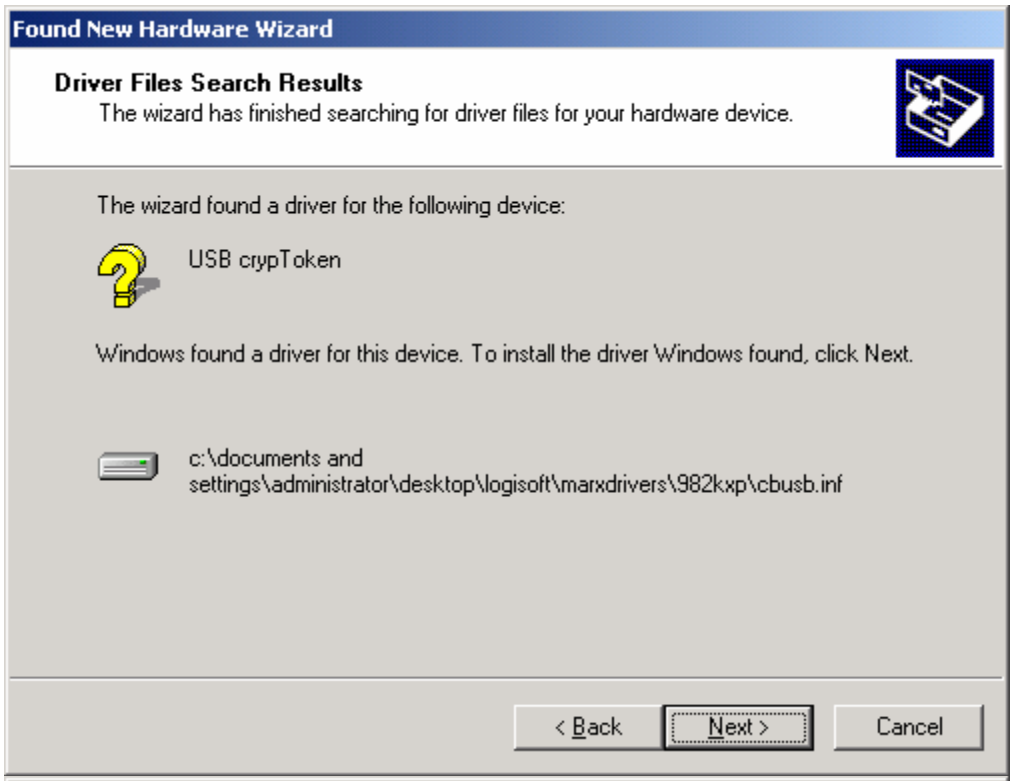
Select option ***Find best controller for the unit. (recommended)***

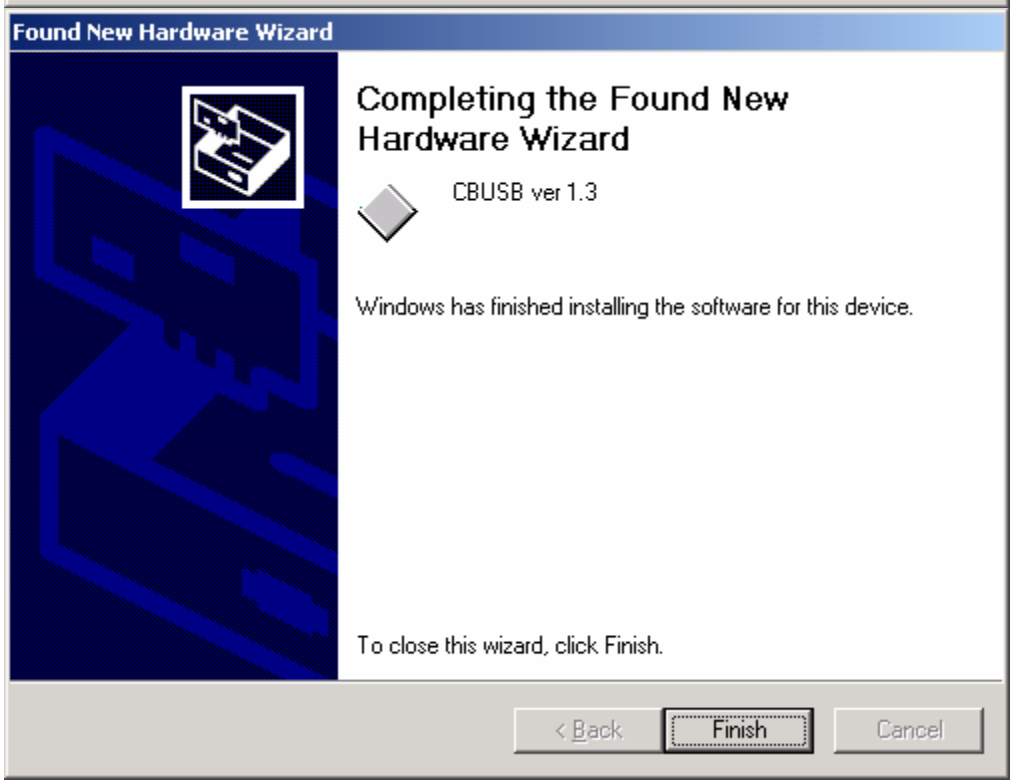


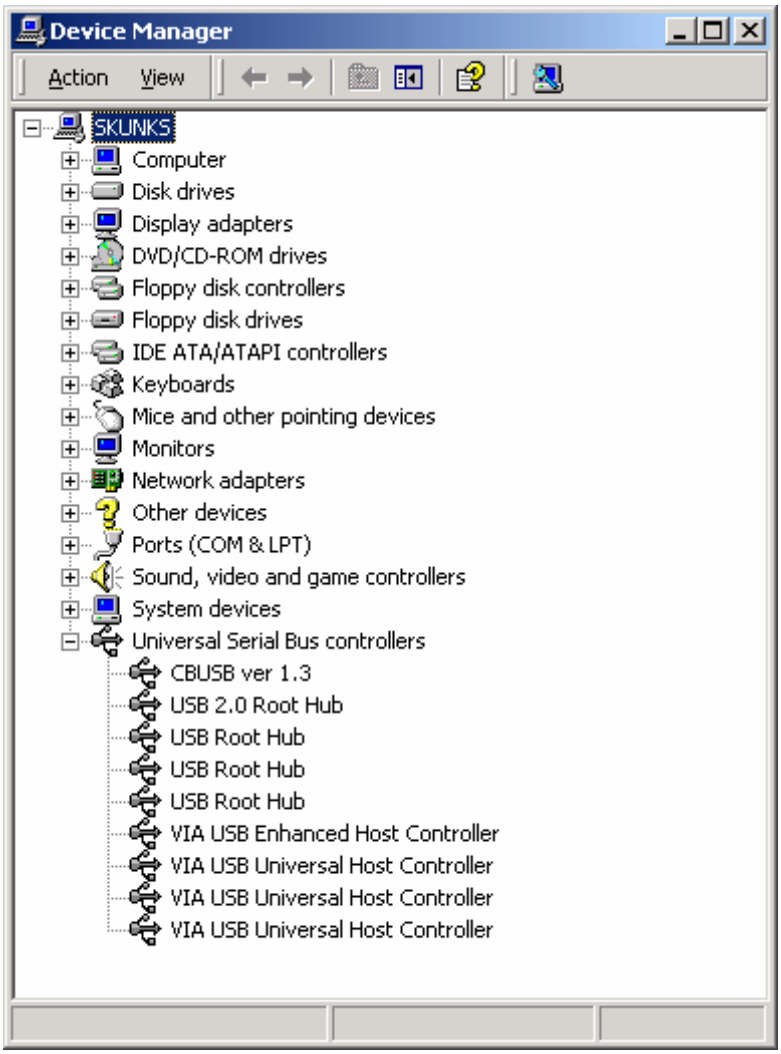
Select option **Browse**



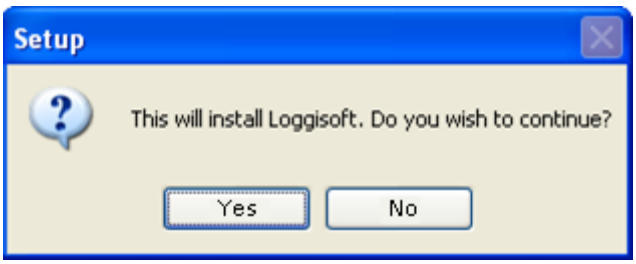
Then select directory **982kXP** on CD-ROM containing The Loggisoft program and confirm with **OK**


Found New Hardware Wizard
Driver Files Search Results
The wizard has finished searching for driver files for your hardware device.
The wizard found a driver for the following device:
USB crypToken
Windows found a driver for this device. To install the driver Windows found, click Next.
c:\documents and settings\administrator\desktop\logisoft\marxdrivers\982kxp\cbusb.inf
< Back
Next >
Cancel

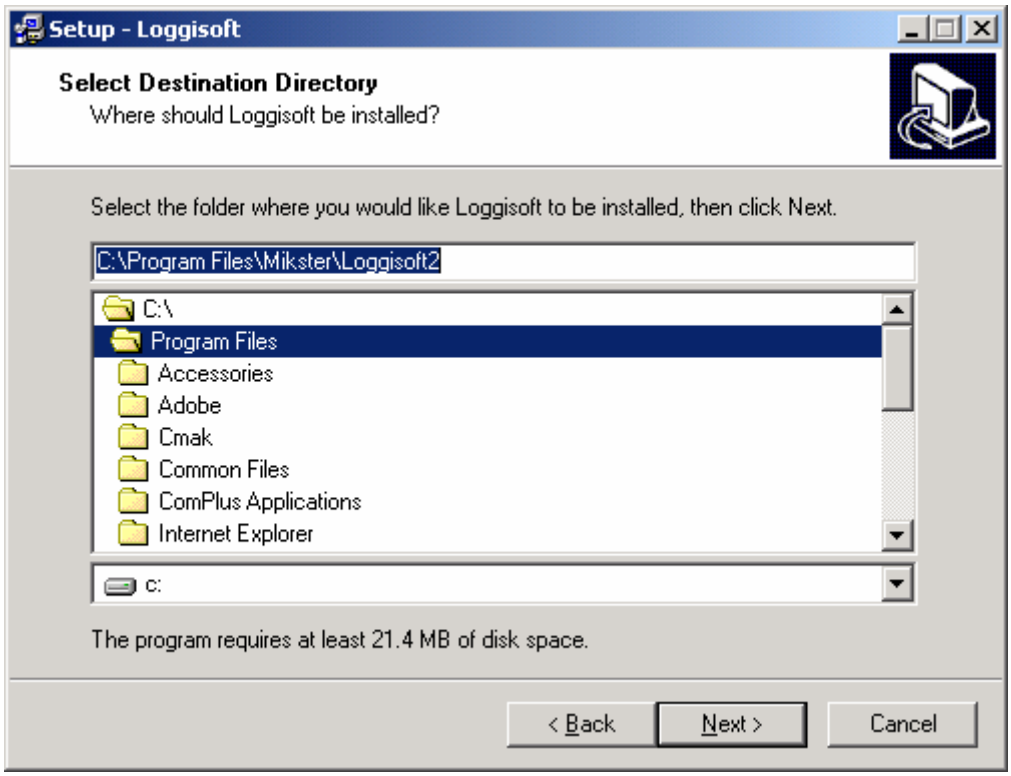

Found New Hardware Wizard
Completing the Found New Hardware Wizard
CBUSB ver 1.3
Windows has finished installing the software for this device.
To close this wizard, click Finish.
< Back
Finish
Cancel



Software successfully installed

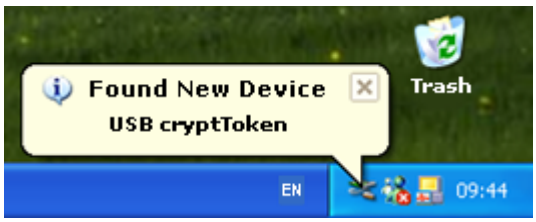


A window asking if to start The Loggisoft program will appear at the end of the procedure



Installation – Windows XP Operating System

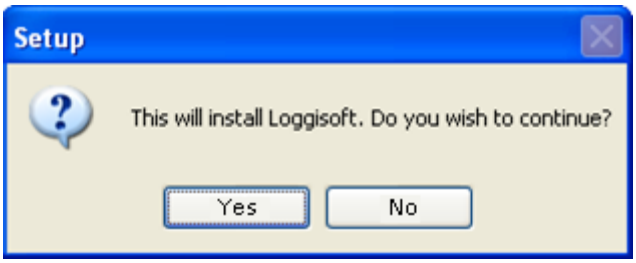
Insert the key in the USB port prior to installing the Loggisoft program on the Windows XP platform. The system will detect new equipment and will start to install the key.
Installation stages are shown on the screen dumps below.



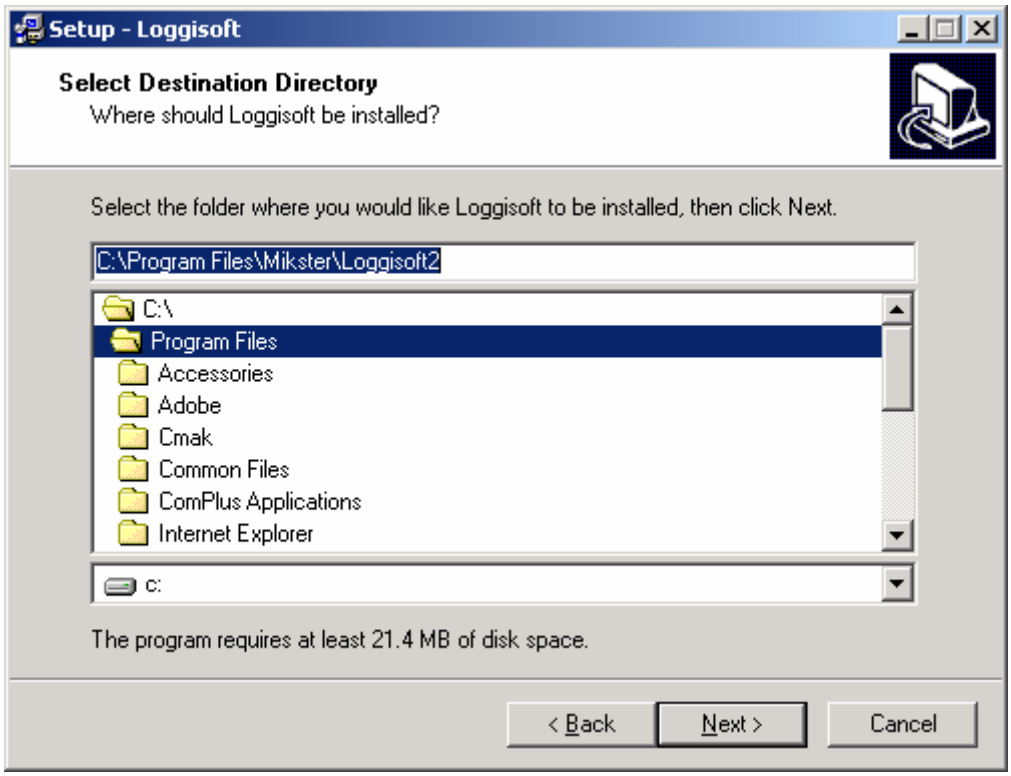
The system has detected new equipment, its automatic installation is in progress.

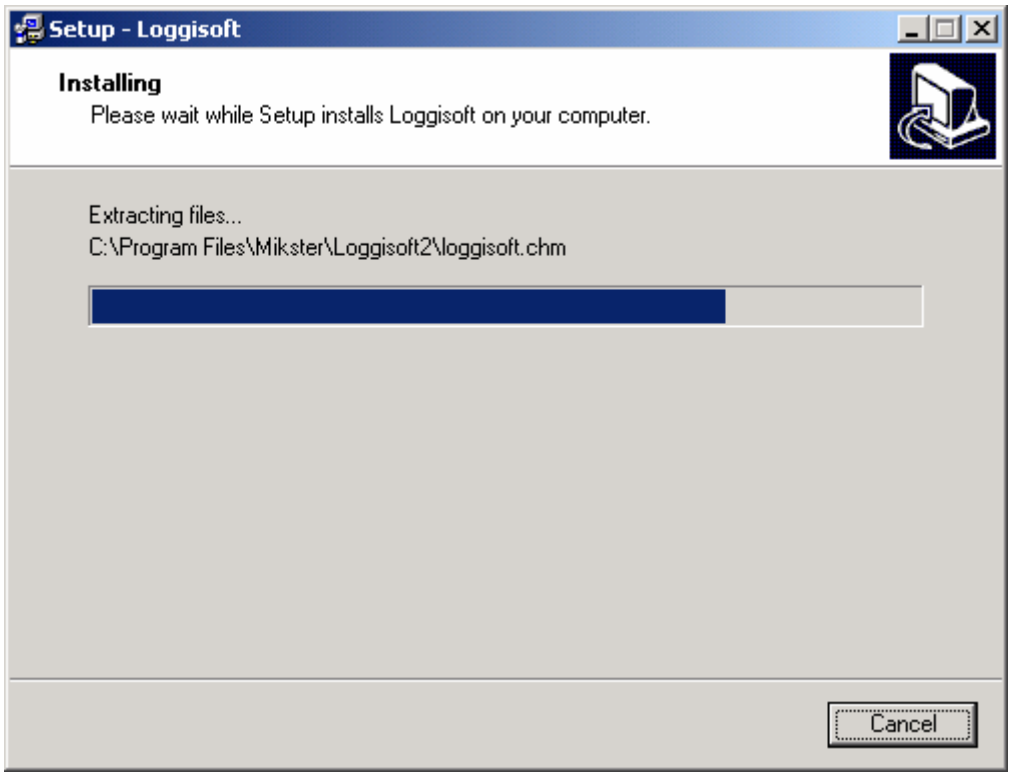

Found New Hardware Wizard
Install Hardware Device Drivers
A device driver is a software program that enables a hardware device to work with an operating system.
This wizard will complete the installation for this device:
USB crypToken
A device driver is a software program that makes a hardware device work. Windows needs driver files for your new device. To locate driver files and complete the installation click Next.
What do you want the wizard to do?
Search for a suitable driver for my device (recommended)
Display a list of the known drivers for this device so that I can choose a specific driver
< Back
Next >
Cancel

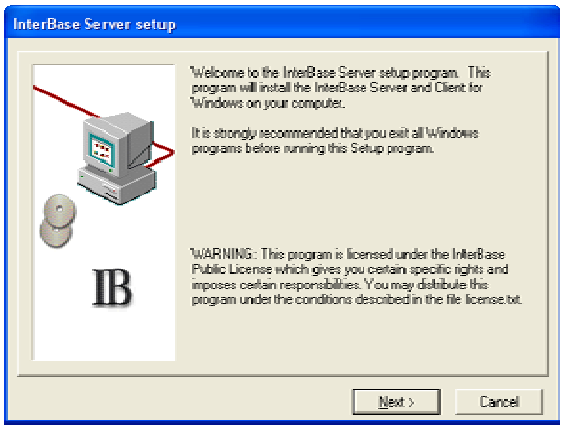

Found New Hardware Wizard
Completing the Found New Hardware Wizard
CBUSB ver 1.3
Windows has finished installing the software for this device.
To close this wizard, click Finish.
< Back
Finish
Cancel



Required drivers are provided on CD-ROM Loggisoft PRO in directory MarxDrivers, in the following subdirectories:
982K for Windows98, Windows ME, Windows2000 and Windows XP operating systems
nt4 Windows NT 4
You may install the The Loggisoft program as soon as drivers are installed.







Number of licenses is stored in the key. After correct key installation in server, the Loggisoft may be started on as many computers as the license has been purchased for.

Exceeded number of licenses
If the program is activated at more terminals than in the license, this will result in display of single-workstation authorization effort (no key), which is based on generated serial number.

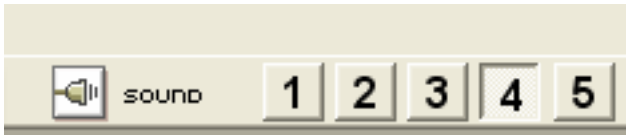
ATTENTION! The USB key should be installed only in ONE computer working in the net

How to increase number of licenses

1. Contact Mikster in order to generate license number
2. Send to Mikster your own key in order to re-program number of licenses

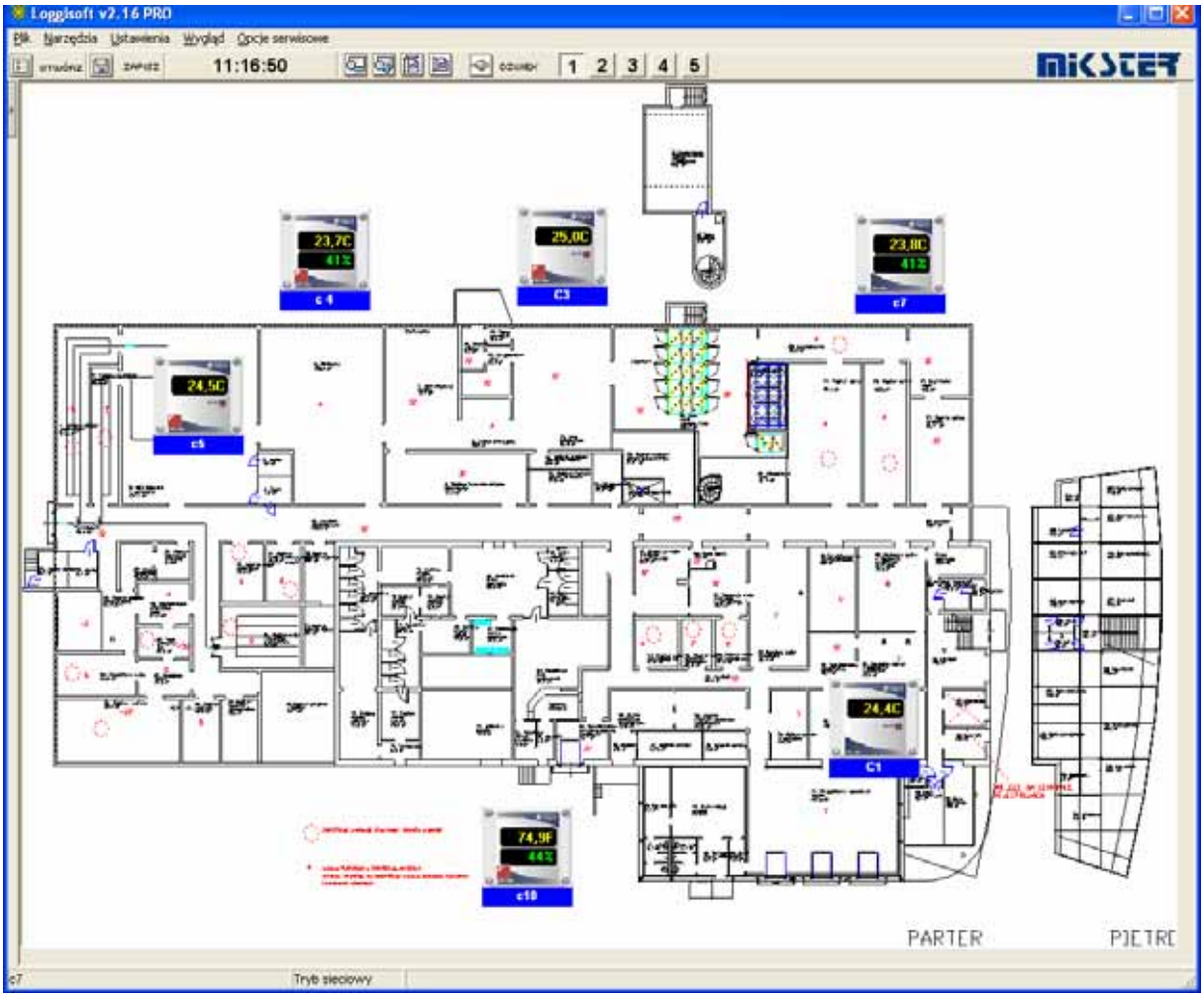
Virtual consoles

The Loggisoft program from version 2.16 up has an additional functionality implemented, that is 5 virtual consoles. When using them we may divide measurement points in logic subgroups, and then assign to each of them a console with plant section suitable for a given group.

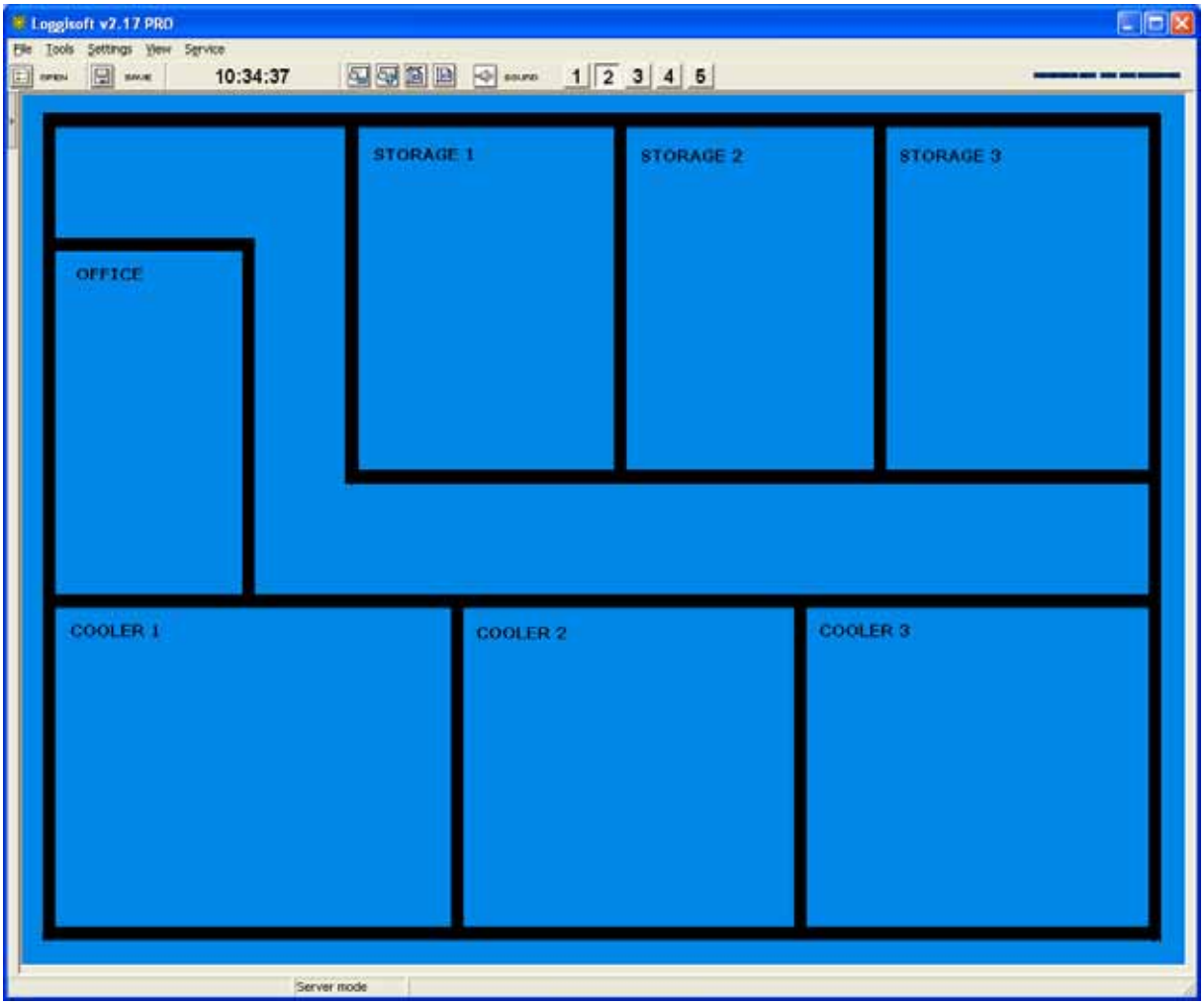


Example of active consoles:

Active Console No. 1



Active Console No. 2



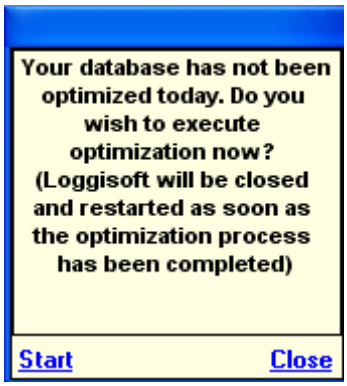
Database Optimization

The Loggisoft program has built-in database optimization mechanisms. The optimization process is executed on server and requires all Loggisoft applications on client stations to be closed at that time.
The Loggisoft proposes to execute optimization once per day. If Loggisoft is activated at night (between 0:00 and 4:00 hours), the optimization is performed automatically (Loggisoft closes, calls the optimization program and reactivates as soon as the optimization is complete. ATTENTION! If during the optimization process execution client stations are active, the optimization will not be completed and will be executed later.

In case if the program has not performed automatic optimization at night (between 0:00 and 4:00 hours), a message will be shown on screen to remind about optimization possibility.

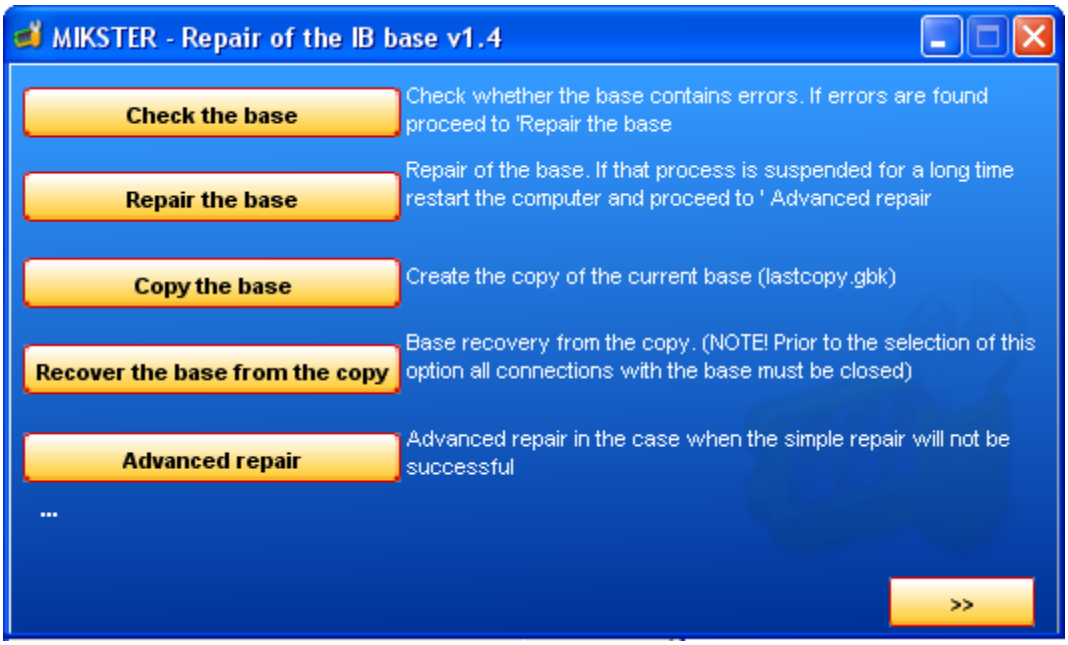
ATTENTION! This message does not block the program operation in any way, there is also no need to carry out optimization immediately after this message has appeared. If you select Execute, the Loggisoft program will be closed and optimization program will activate.
Select Close in order to close the message window.

The database optimization procedure is executed to reduce volume of stored data. It is recommended to carry out optimization at least once per week, the Loggisoft program opens dialog box as on illustration below. Then press pushbutton:
-- Execute --



It is also possible to execute the database optimization process manually, by selecting appropriate application from menu
--Database repair--

During database optimization process it is possible to use the Loggisoft applications in regular way on any workstation but the server.

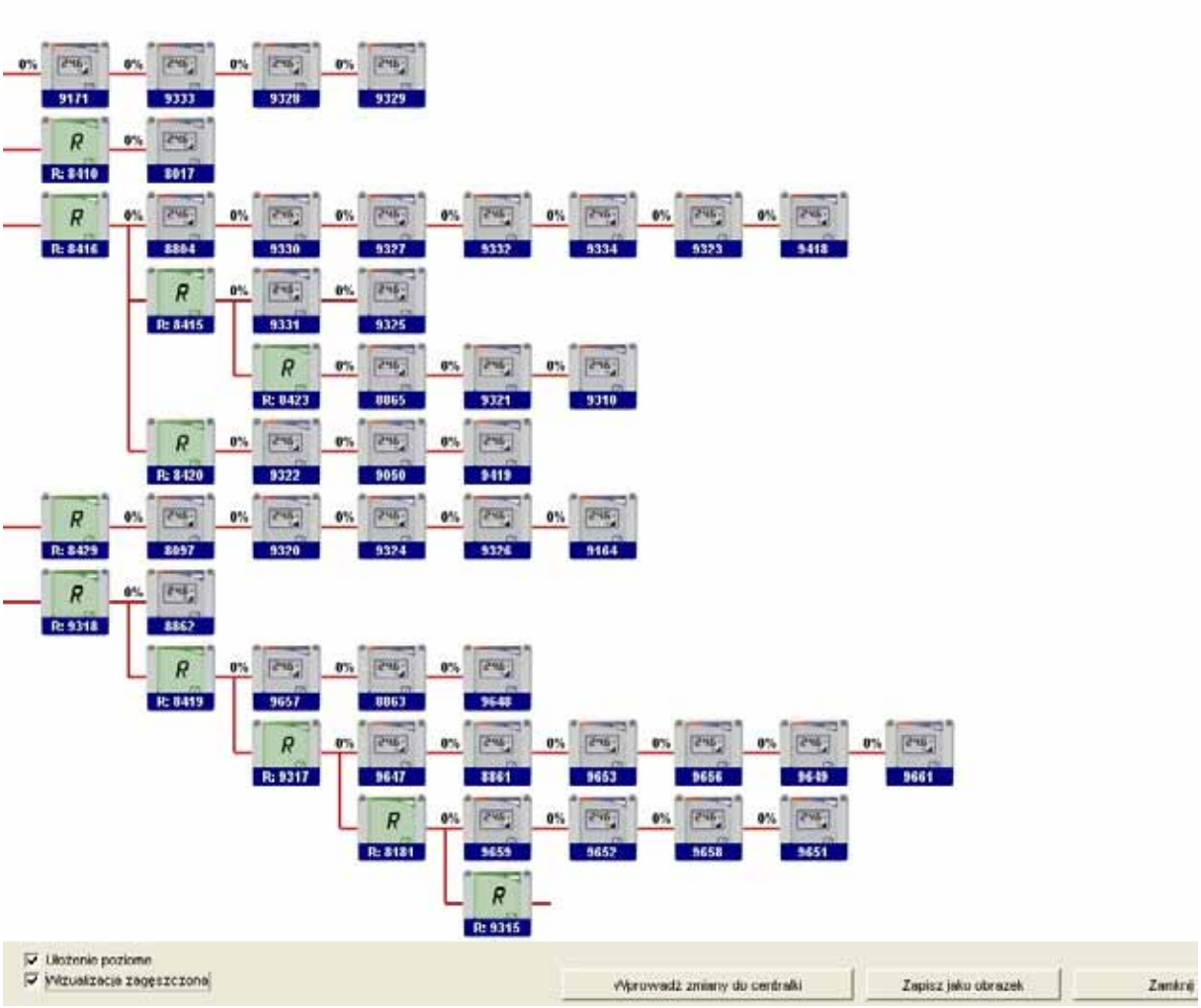


Graphic presentation of radio sensors connection diagram

The Loggisoft program from version 2.16 has been additionally provided with graphic presentation of radio sensors connection diagram, this function is available from the radio central unit configuration level – connections list -> graphic presentation.

Radio network communication change.

An example diagram is shown on the illustration below:


9171
9333
9328
9329
R: 8410
8017
R: 8416
8804
9330
9327
9332
9334
9323
9418
R: 8415
9331
9325
R: 8423
8865
9321
9310
R: 8420
9322
9050
9419
R: 8429
8897
9320
9324
9326
9164
R: 9318
8862
R: 8419
9657
8863
9648
R: 9317
9647
8861
9653
9656
9649
9661
R: 8181
9655
9652
9658
9651
R: 9315
Ułożenie poziome
Wizualizacja zagęszczona
Wprowadź zmiany do centrali
Zapisz jako obrazek
Zamknij