

Loggisoft Service Manual

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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 analysing 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 95B (second edition)

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.

TCP/IP 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)

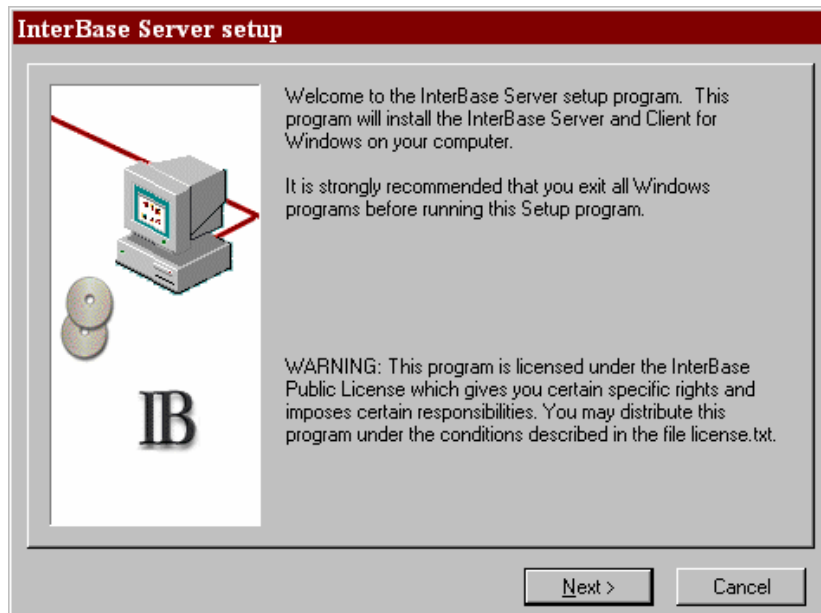
Program Installation

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.

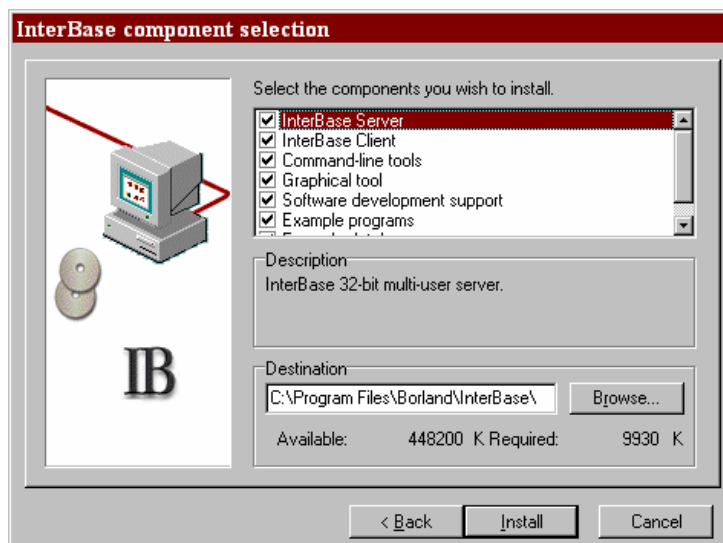
Loggisoft is prepared for work in Windows environment. It is delivered on a CD plate. To install the program the SETUP.EXE located on CD plate in the main directory should be activated.

When the program has been installed the installation program will activate the database InterBase setup.

Database Setup



1. Select the „NEXT >” key and again „NEXT >” on the consecutive screen.
2. The license of the InterBase 6.0 Server will appear on the screen. Press „YES”.
- 3.



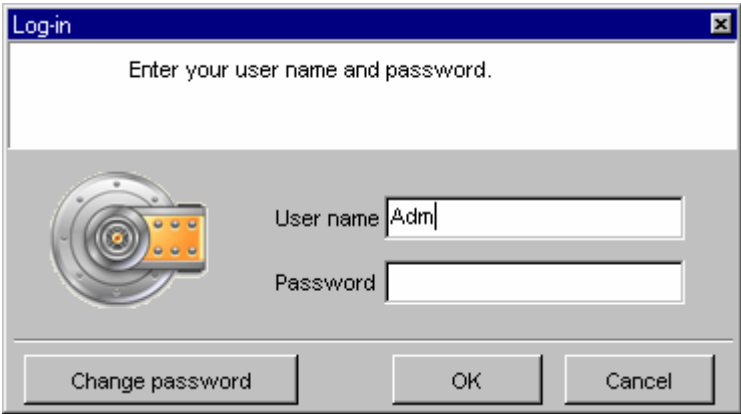
4. Installation option will be shown on the consecutive screen. Leave all parameters without any change and select the „Install” key. If after pressing this key the following information is seen:



it means that the InterBase 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”.

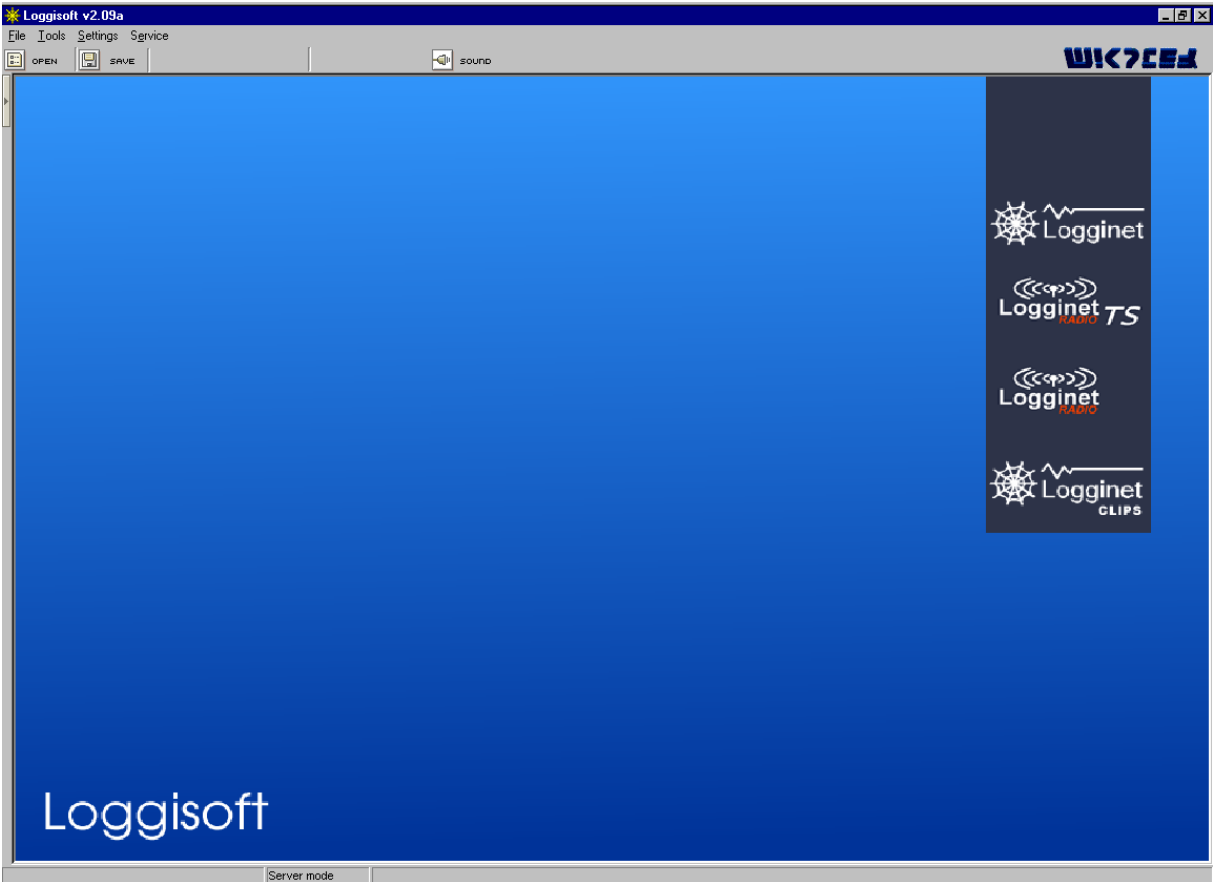
When the installation is completed the program will automatically activate itself. In addition an icon of starting will be placed in the desktop (name Loggisoft) and program menu (Start->Programs->Loggisoft->Loggisoft).

Getting Started



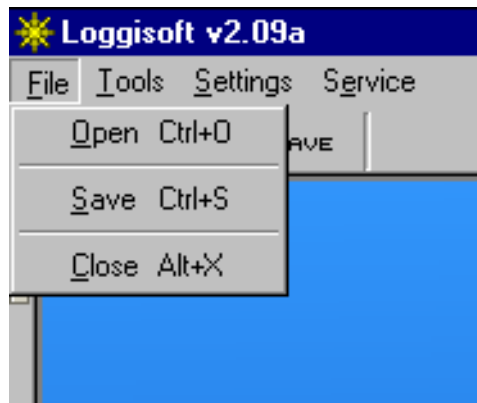
The system requires the user's verification. After the installation the only user is Adm (without a password). This user has all the rights (including the right to create other users of the system).

Main screen



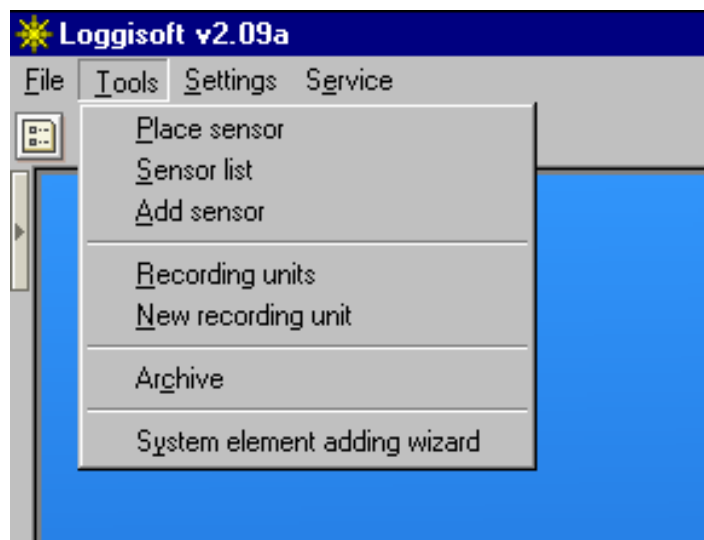
Main menu

1 File



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

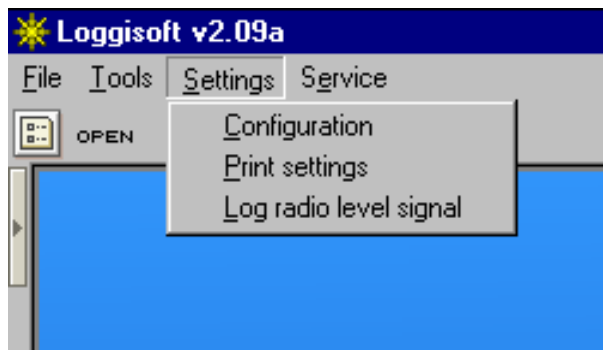
2 Tools



- 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.

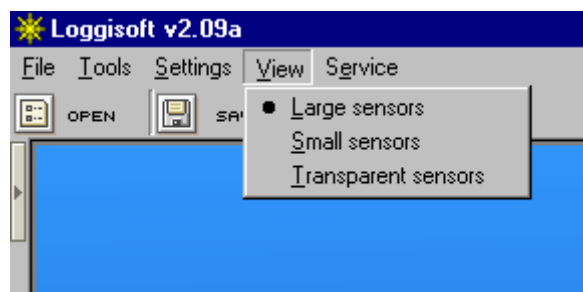
- Sensors list (the function also accessible from the Actions panel of the Main Screen) – the display of all sensors logged in the system.
- Add sensors (the function also accessible from the Actions panel of the Main Screen) – this option is only accessible to the *Adm* user. It activates the creator 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.
- Creator of adding system elements – 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.

3 Settings



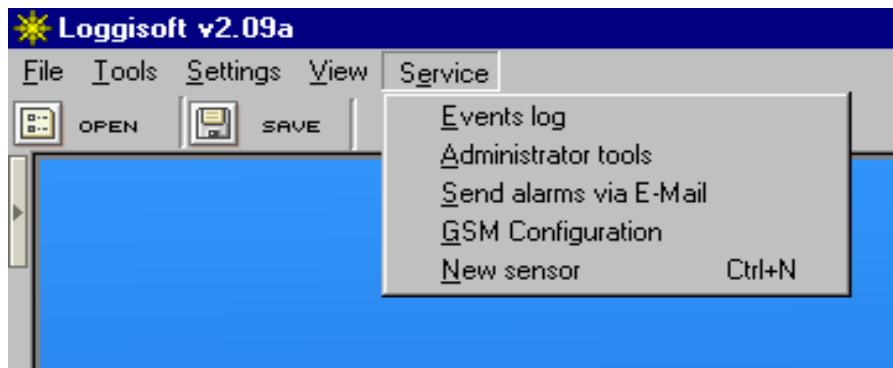
- Program configuration – option accessible to the *Adm* user only. Configuration of program settings (background, colors, readout time, working mode).
- Printout settings – option accessible to the *Adm* user only. Configuration of printout headers and footers.
- Save signal levels – makes possible saving signal levels of radio sensors (ATTENTION – after each start-up this function is switched off!)

4 View – commercial 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



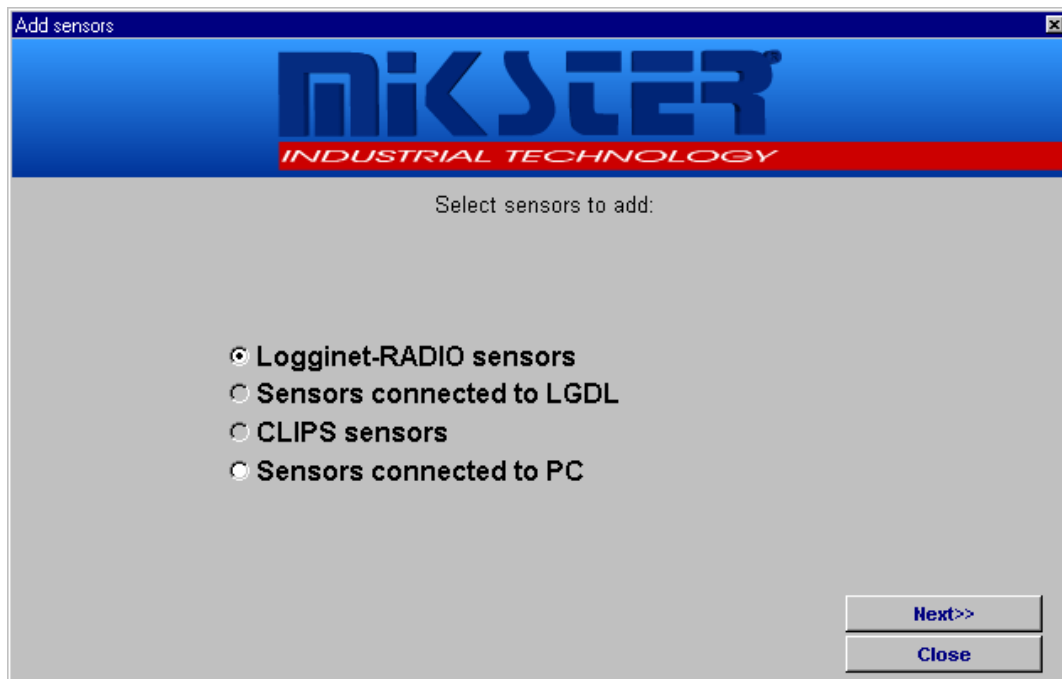
- Review of an events log – preview of changes introduced in the system configuration. The date and the name of the user, who introduced important changes into the system, is recorded.
- Administrator of rights – creation and edition of users (see paragraph „Administrator of rights“).
- E-Mail alarm information – (commercial version only) setting of the server of the outgoing mail and addresses at which alarm information should be sent.

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.



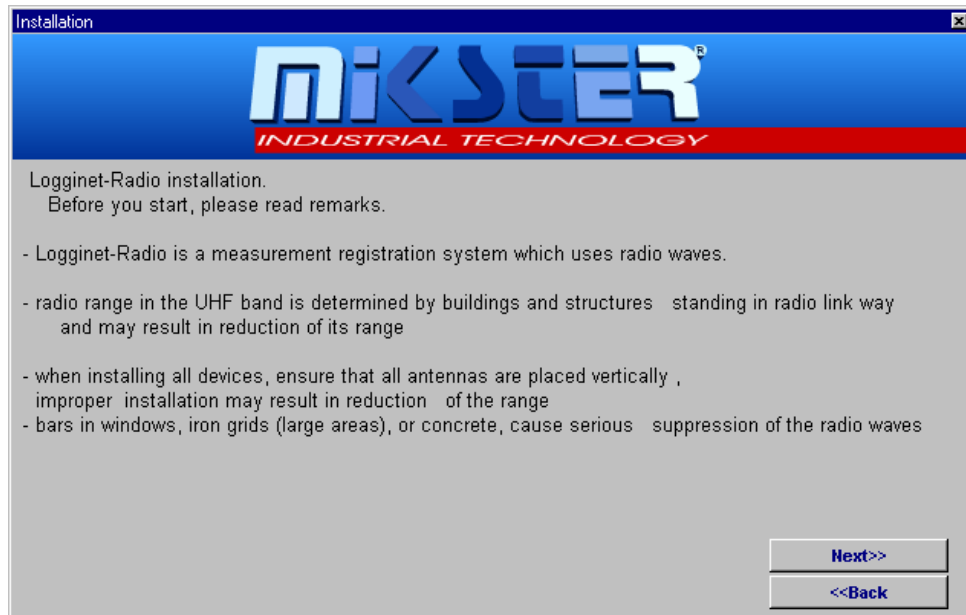
Any number of options can be selected simultaneously (ATTENTION! If the Logginet-Radio option is not accessible it means that the radio system has been

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.

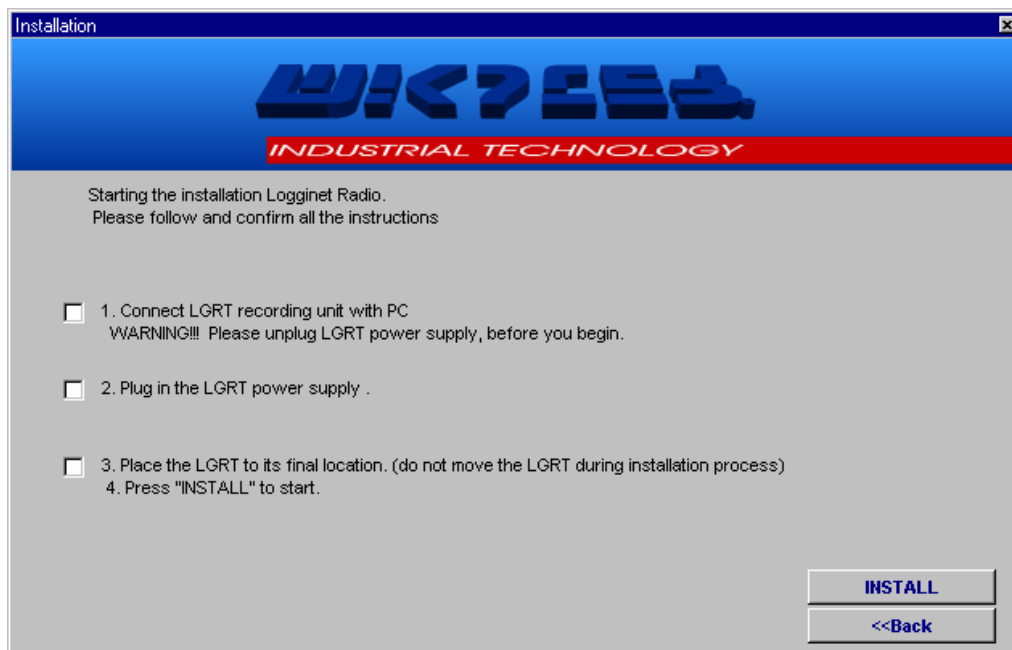
After marking the *Logginet-Radio* check box, press *Next >>*

Step 1



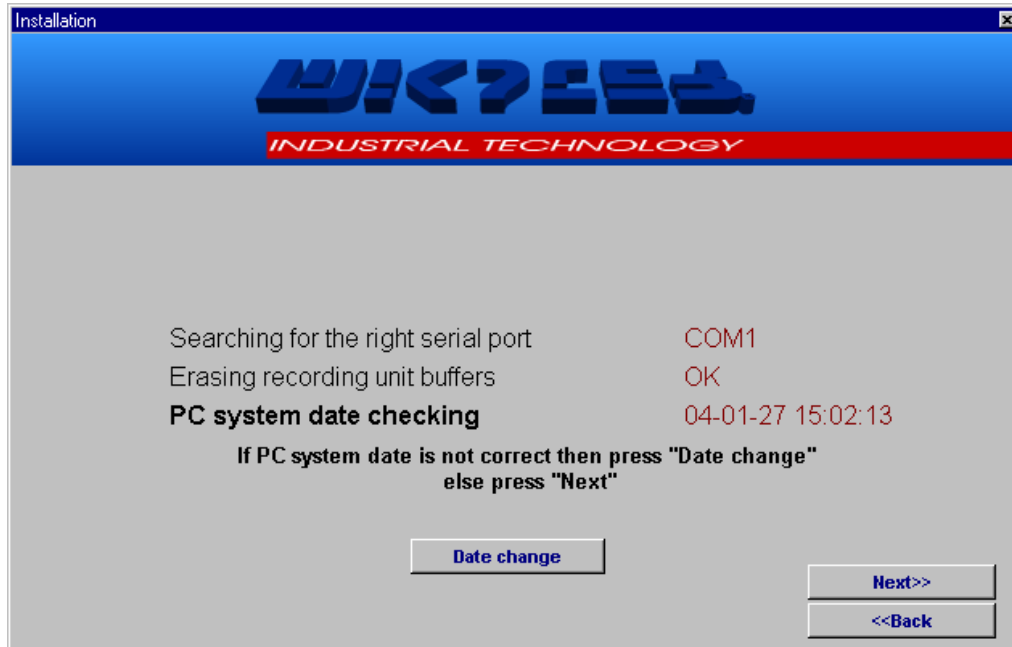
The information screen will describe the main features of the selected system. After familiarizing with all the information press *Next*.

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

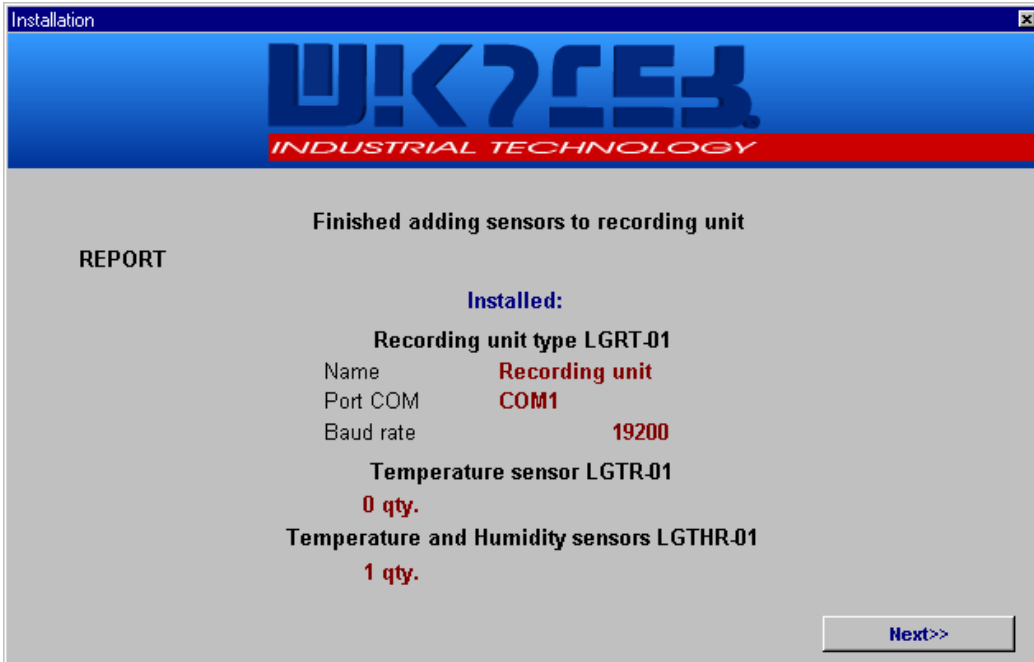


The consecutive screen describes the process of adding radio sensors (described also in this Manual in the paragraph *Installation of radio sensors*). The process of searching for sensors will be activated.

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

Step 6

The creator will display the final report of the installation:



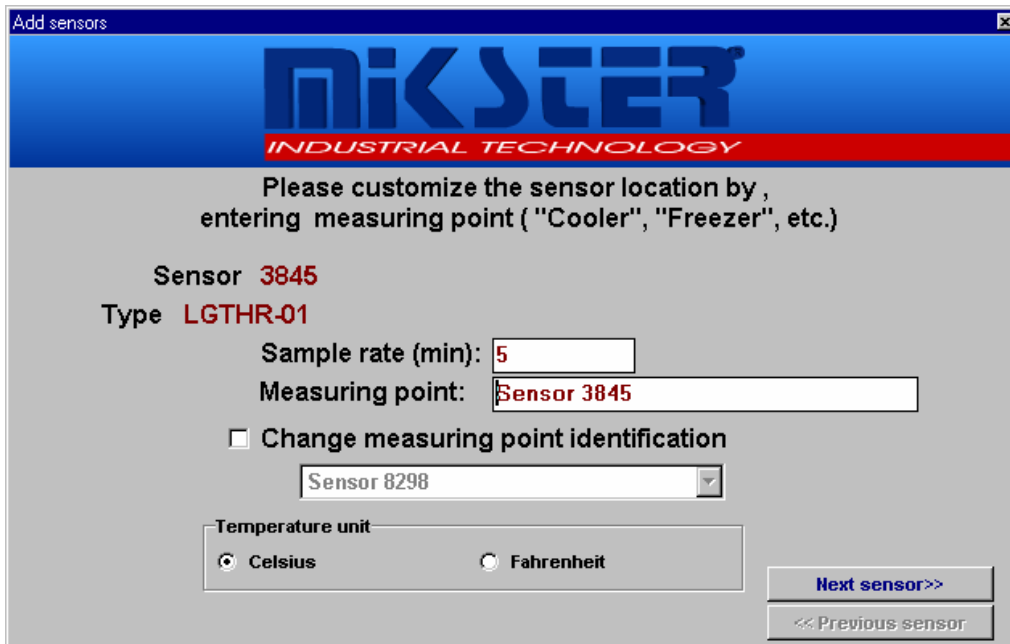
The screenshot shows a window titled "Installation" with the MIKSTER INDUSTRIAL TECHNOLOGY logo at the top. The main content area displays a report titled "Finished adding sensors to recording unit". The report lists the following details:

- Installed:**
- Recording unit type LGRT-01**
- Name: **Recording unit**
- Port COM: **COM1**
- Baud rate: **19200**
- Temperature sensor LGTR-01**
0 qty.
- Temperature and Humidity sensors LGTHR-01**
1 qty.

A "Next>>" button is located at the bottom right of the window.

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

Step 7



The screenshot shows a window titled "Add sensors" with the MIKSTER INDUSTRIAL TECHNOLOGY logo at the top. The main content area displays the following settings for a sensor:

- Please customize the sensor location by ,
entering measuring point ("Cooler", "Freezer", etc.)
- Sensor **3845**
- Type **LGTHR-01**
- Sample rate (min):
- Measuring point:
- Change measuring point identification
-
- Temperature unit:
 Celsius Fahrenheit

Buttons for "Next sensor>>" and "<< Previous sensor" are located at the bottom right of the window.

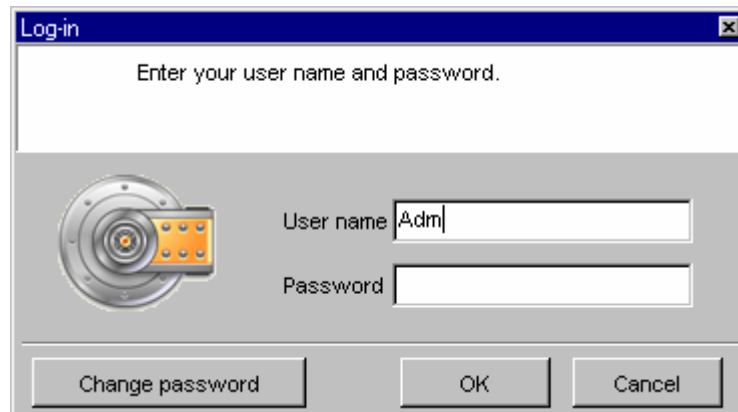
When the recording frequency and the location of all found elements is set the installation process is completed.

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:



Log-in

Enter your user name and password.


User name Adm

Password


Change password OK Cancel

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

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

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].

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 $4 \times (1 + \text{number of stations installed in the system})$ 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 it was being added to the system. The installation performed in a 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 a 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:

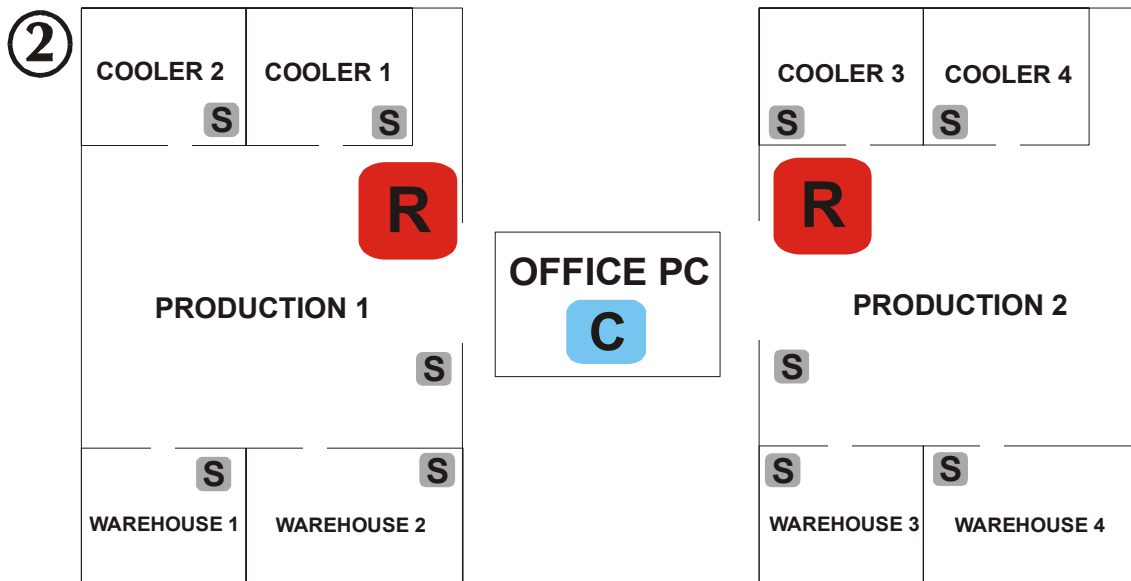
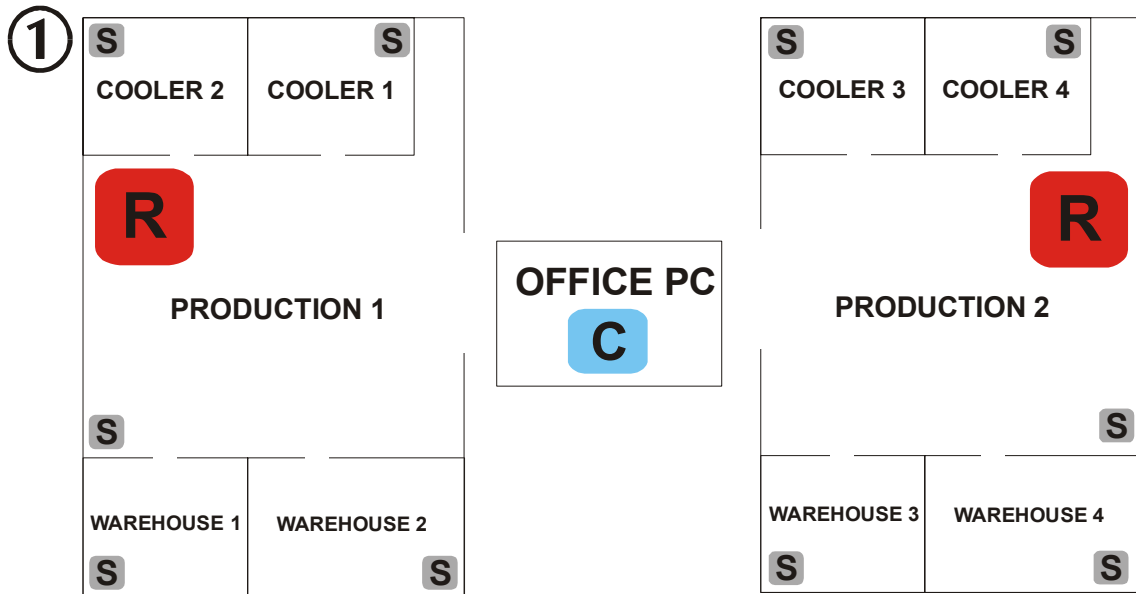
- Placing the radio recording unit and sensors near the electric network conductors or water conduits can significantly lower the number of relay stations needed in the system.
- The general rule of the radio range area is: "you hear me - as you see me" – thus, if possible, the radio recording unit and 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.

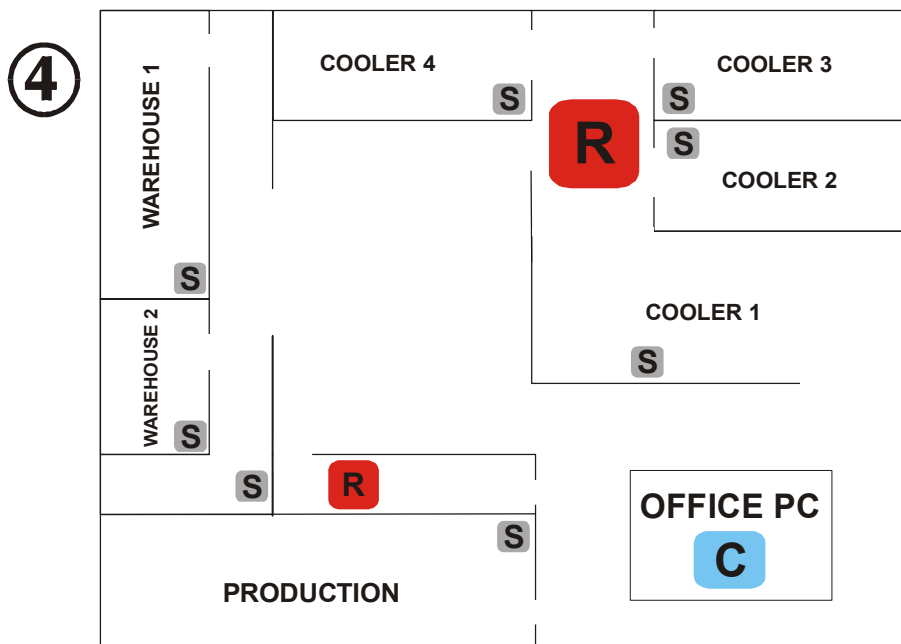
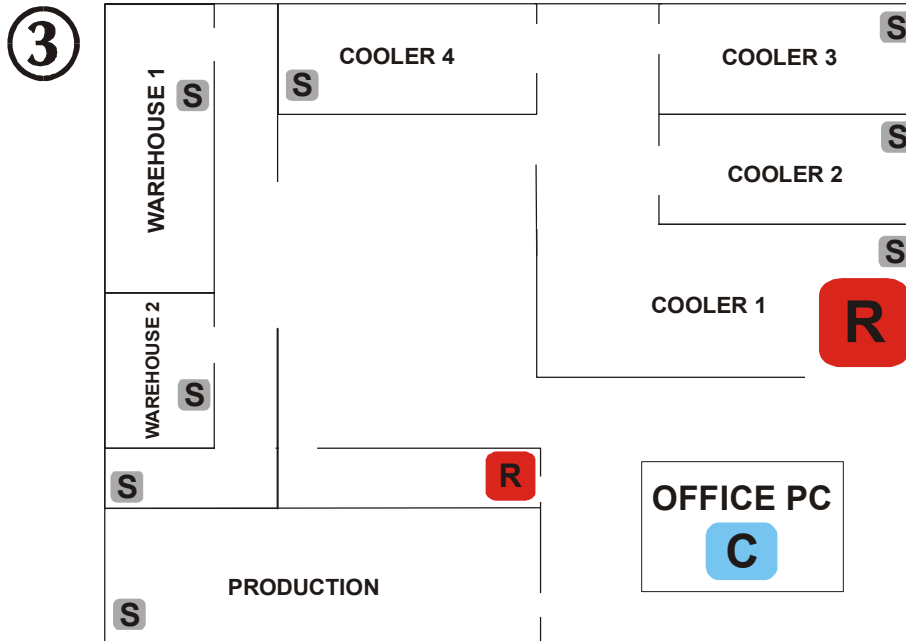
Examples of correct and incorrect radio sensors and relay stations placing.

Plant map



- R** - relay station
- S** - radio sensor
- C** - radio recording unit

Plant map



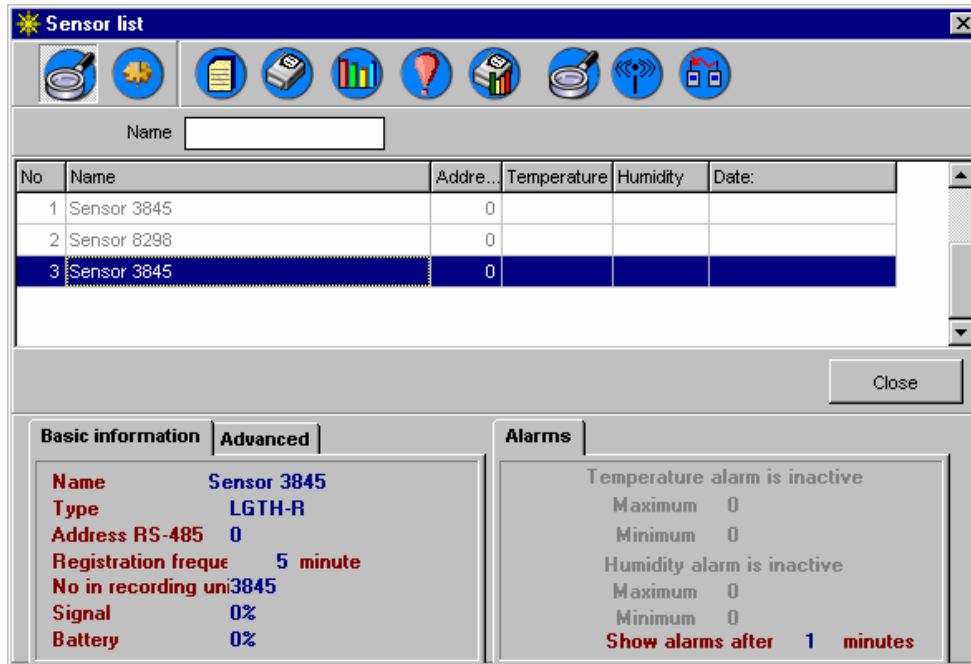
- R** - relay station
- S** - radio sensor
- C** - radio recording unit

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.

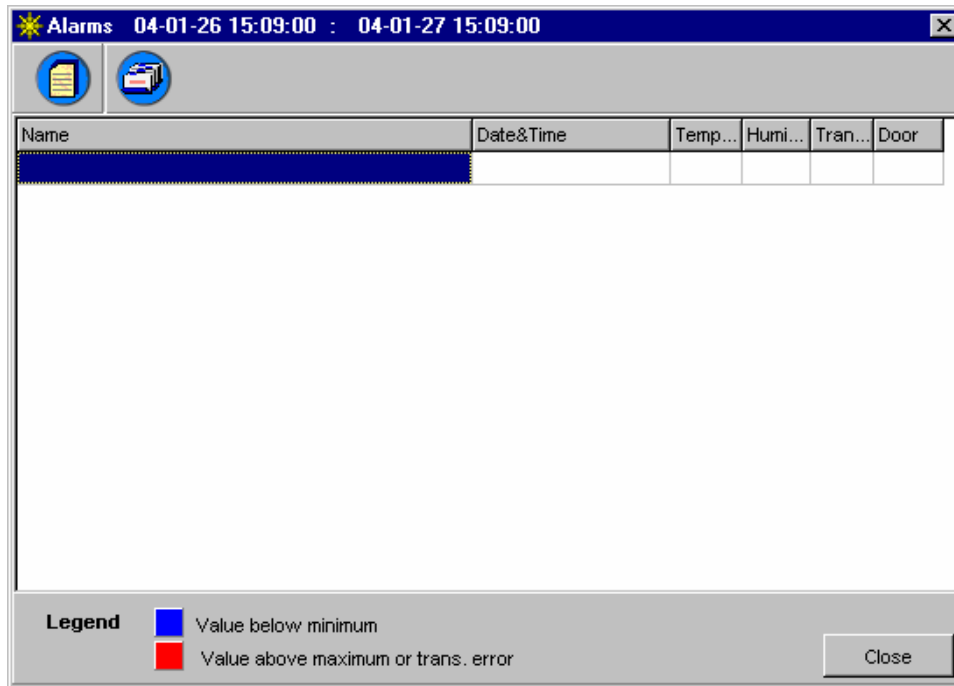
Accessible options:



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

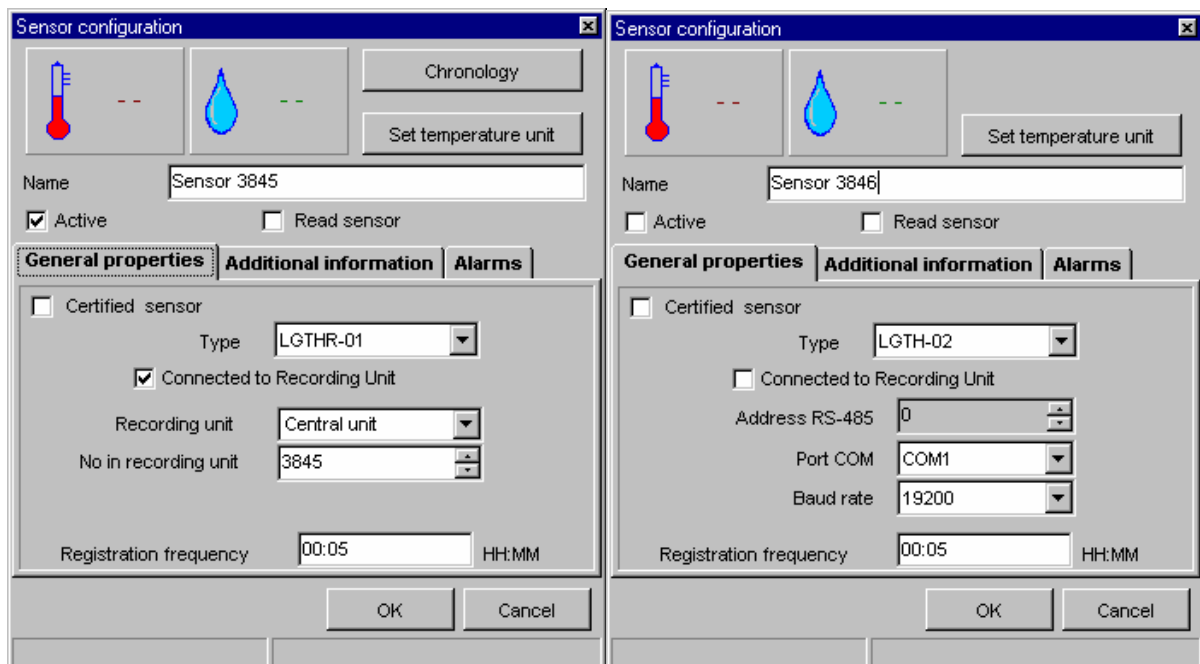


- **List of alarms** – list of alarms for the selected sensor in the chosen time period



- **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

The screenshot shows a 'Sensor configuration' window with the following details:

- Buttons: Chronology, Set temperature unit
- Name: Sensor 3865
- Active: Read sensor:
- General properties | **Alarms** | Additional information
- Temperature:
 - Active:
 - Maximum: -30
 - Minimum: 5
- Humidity:
 - Active:
 - Maximum: 0
 - Minimum: 0
- Show alarms after: 1 minutes
- Buttons: OK, Cancel

Field definition:

Temperature alarm – settings of the temperature alarm,

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

Show alarm after minuts – informs how many minutes after the occurrence 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

The screenshot shows a dialog box titled "Recordings" with a "Select range" section. It contains two rows of input fields. The "From" row has a date field with "04-01-26", a calendar icon, and a time field with "15:09:00". The "To" row has a date field with "04-01-27", a calendar icon, and a time field with "15:14:00". At the bottom are "OK" and "Cancel" buttons.

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:

Select range

Select range

From: 04-01-19 14:09:00

To: 04-01-27 15:16:00

Type

All registered values Min values

Average values Max values

Range: 30 minute

OK Cancel

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

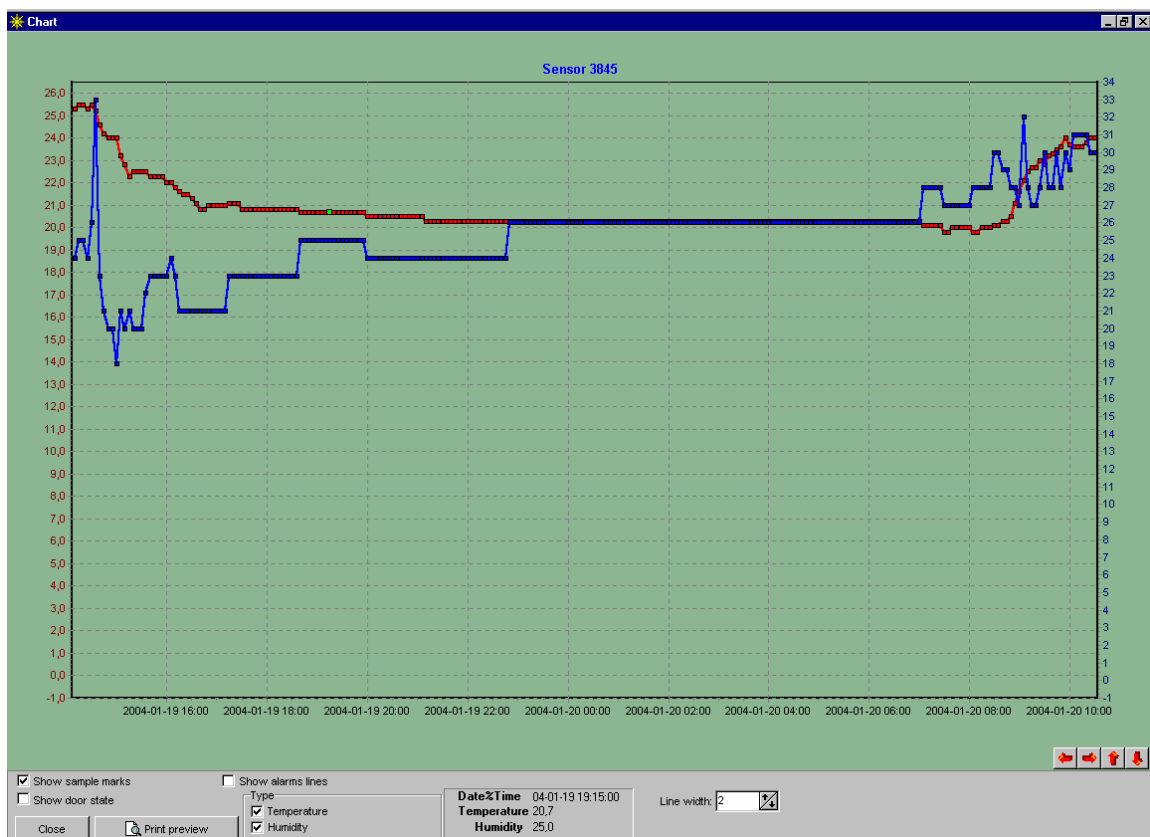
Report type:

- *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*.

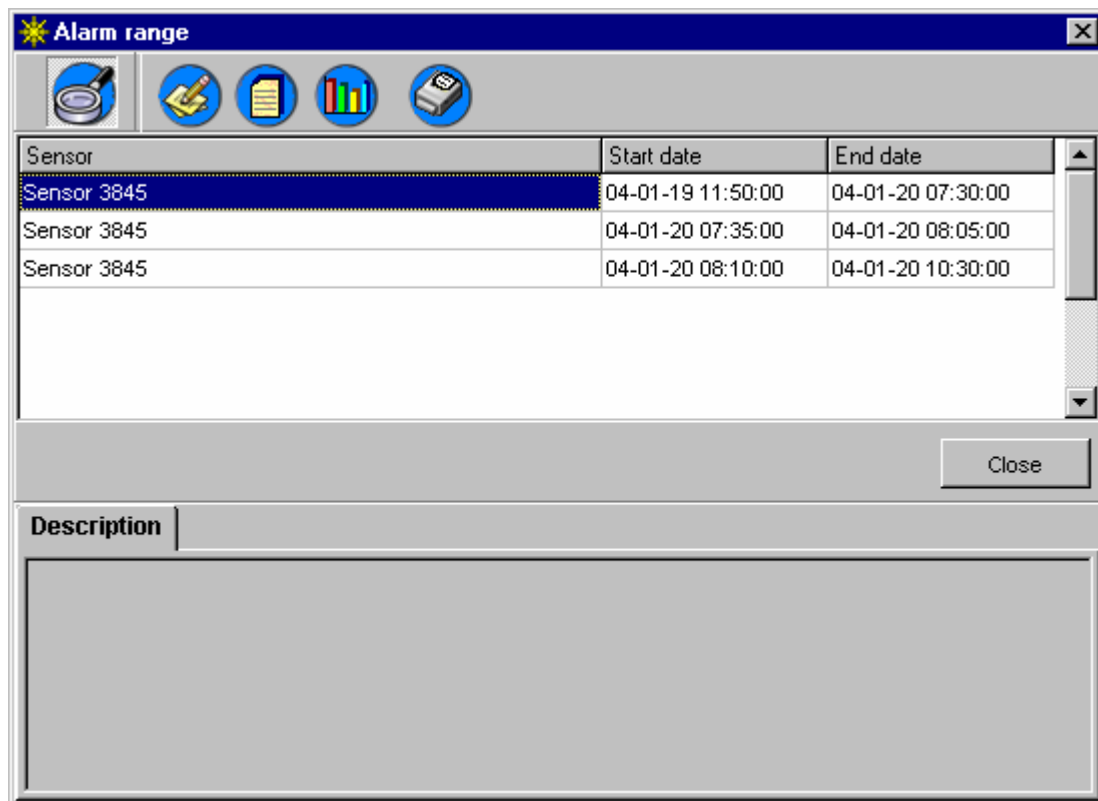
Additional option is the description of alarm zones. If the current sample (green line) exceeds the alarm levels then by the right-hand side button of the mouse the menu with option *Alarm zone description* is called, which allows adding comments for the alarm state occurrence.




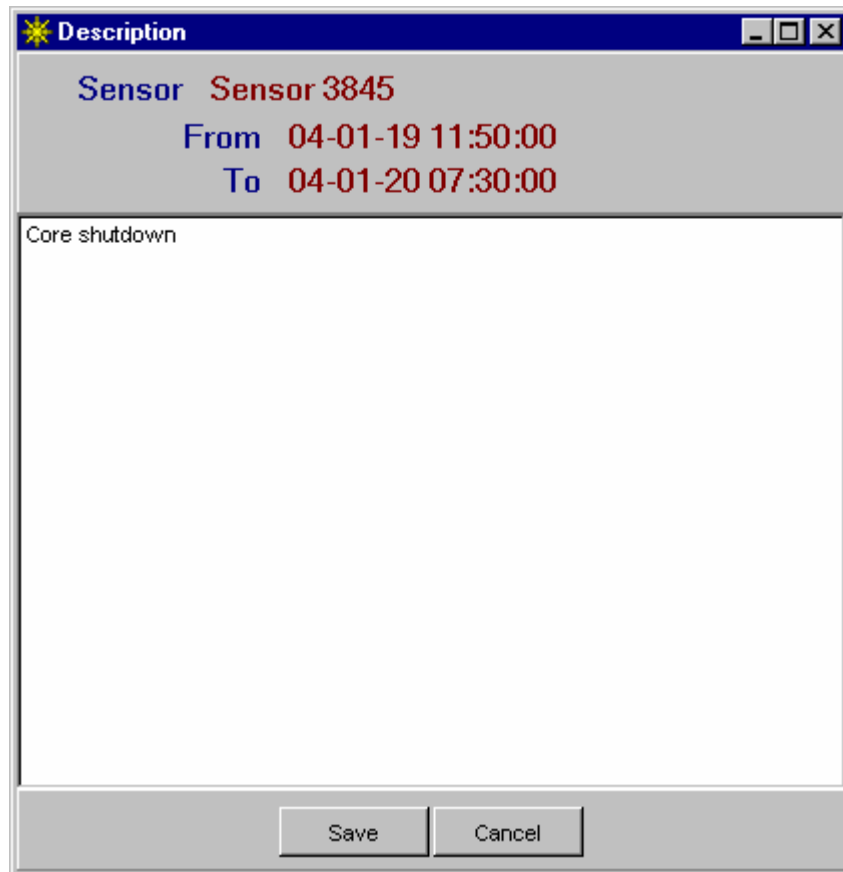
- **Export to the textfile** – export of data to the textfile in a format suitable for the readout of collected data to a certain program. E.g. for Excell the data are separated by semicolons.



- **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).



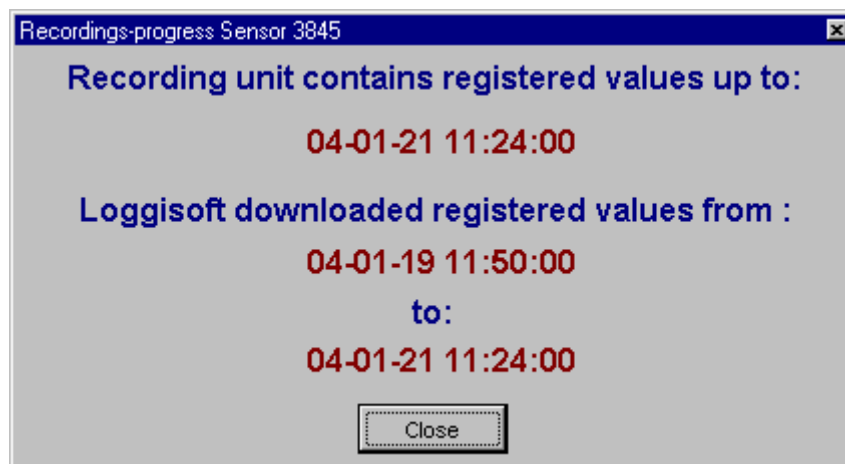
To change the description of alarm zones either  icon should be selected or the left-hand button on the mouse should be pressed on the selected zone. It is also possible to see collected data from the given zone and to construct the graph of measurement points.



- **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 supplementing 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 supplemented in the processing unit.

Loggisoft supplemented 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*”.

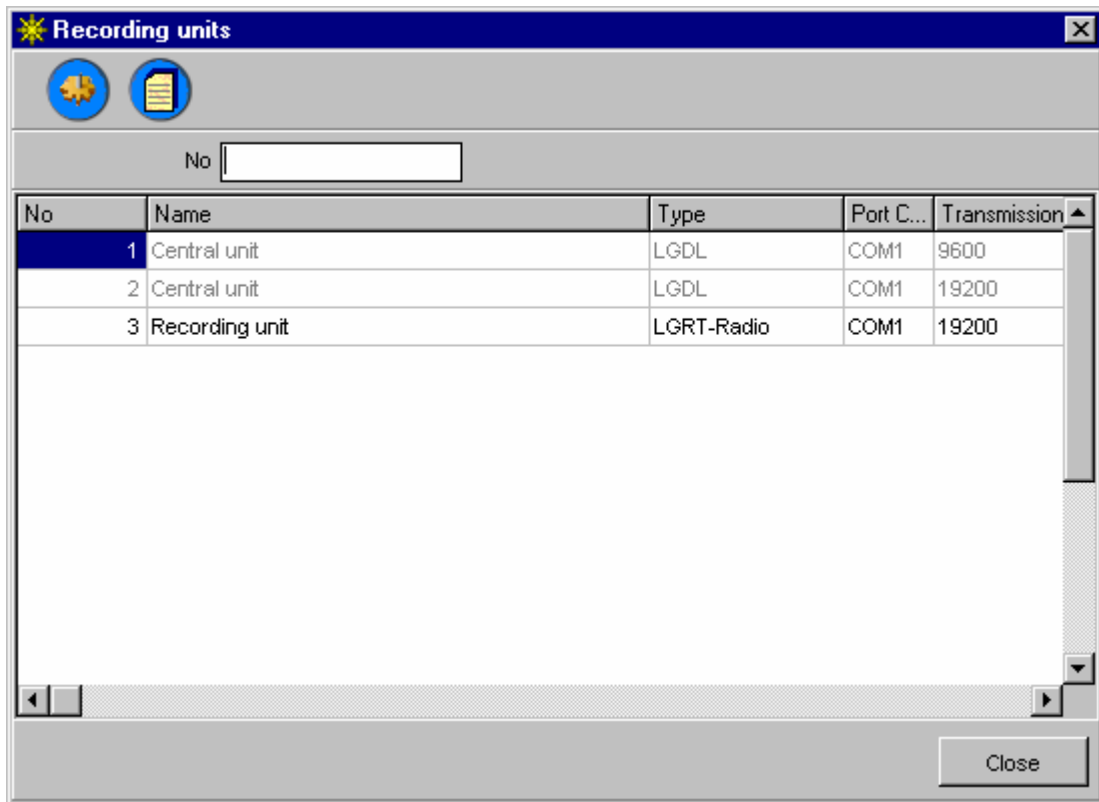
If the relevant function is accessible then by proceeding according to the creator recommendations we approach the search for sensors. When new sensors are found the creator will display data of those sensors enabling their modification.

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

Recording unit configuration

Name Recording unit

Active

Properties Date_Time

Type LGRT - Radio

Address RS-485 1

Port COM COM1

Baud rate 19200

Communication

OK Cancel

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.

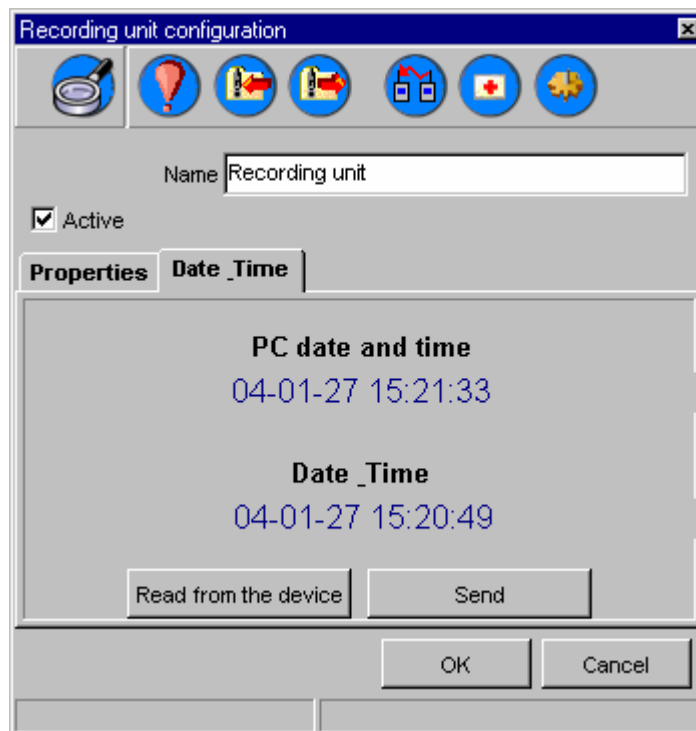


- Creation of the diagnostic data – (radio processing units only). Formation of the diagnostic data needed in case of problems with the radio system. This procedure can take several minutes. As a result the file *diagn.zip*, is created, which enables the full diagnosis of the system.



- **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 choices.

No	Name	Address...	Temperature	Humidity	Date:
1	Sensor 3845	0			
2	Sensor 8298	0			
3	Sensor 3845	0	24,2	24	04-01-27 15:20:57

Basic information | Advanced | Alarms

Name Sensor 3845
Type LGTH-R
Address RS-485 0
Registration frequency 5 minute
No in recording unit 3845
Signal 86%
Battery 100%

Alarms

Temperature alarm is active
Maximum 20
Minimum 0
Humidity alarm is inactive
Maximum 0
Minimum 0
Show alarms after 1 minutes

To select the sensor one must:

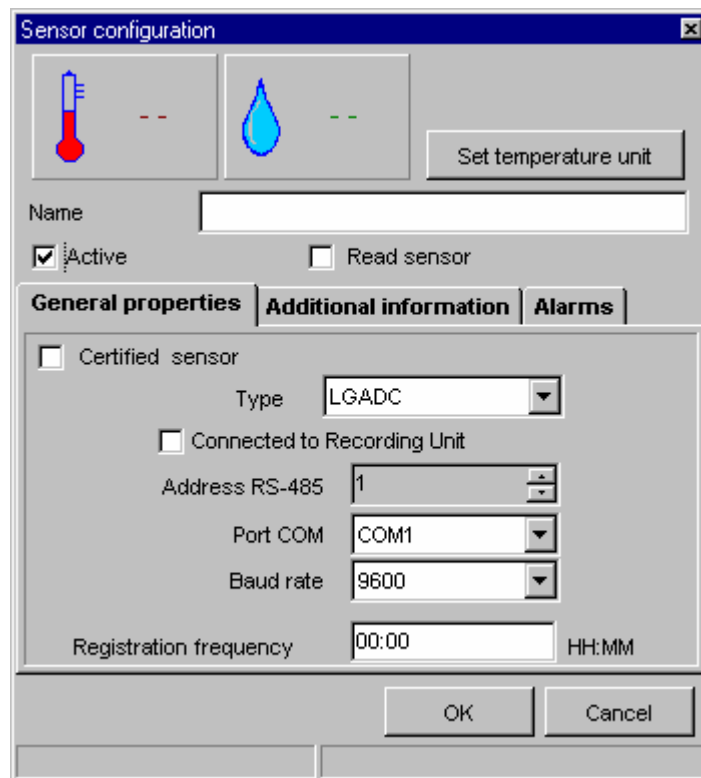
- either mark it on the list and press the *Select* key,
- or press twice the left-hand key on the mouse on the selected sensor.

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.

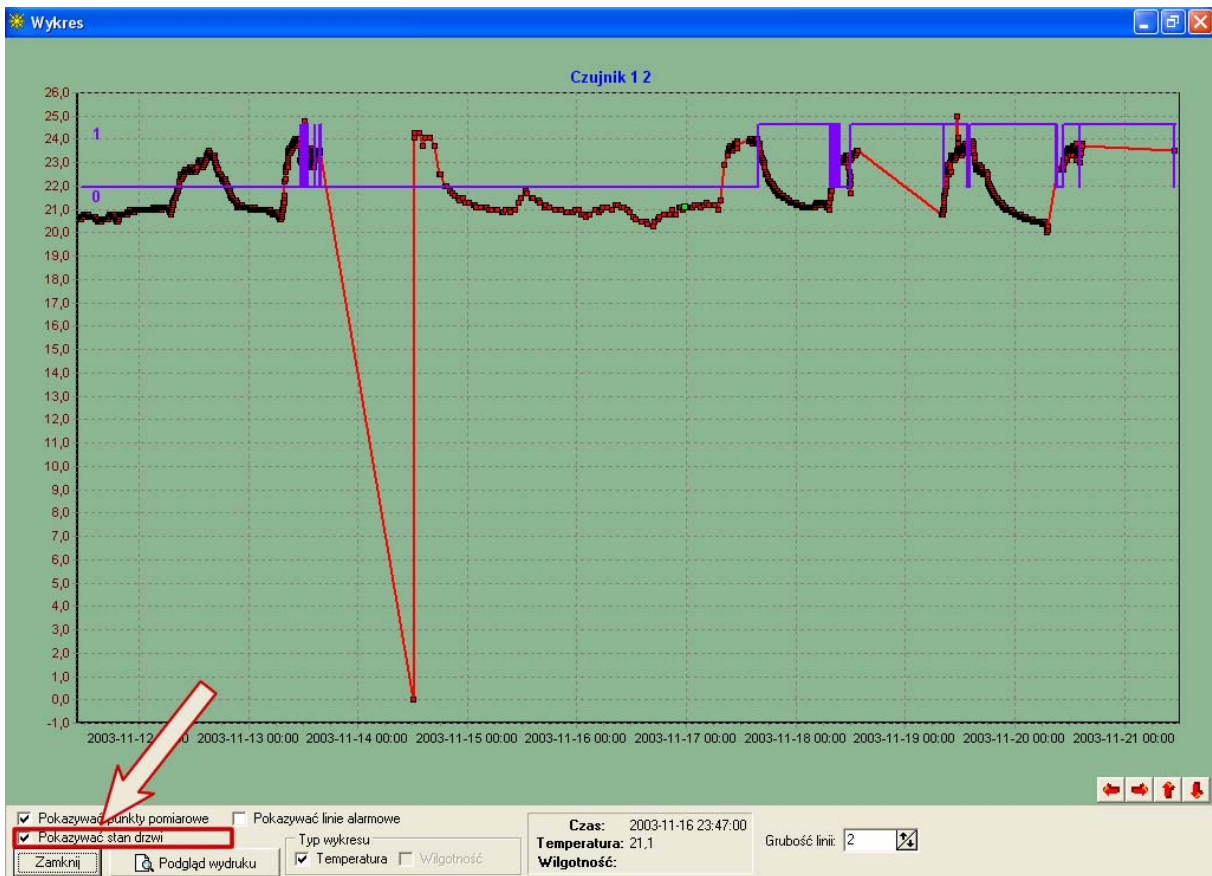
The frequency of recording we might set e.g. every 1 second. After assigning the name to the new sensor we can start working.



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.

Visualisation

Sensors placed on the working screen give additional information (apart from the alarm signaling – described in the Alarms chapter) – also in case of radio sensors. When the mouse cursor is on the sensor the hint will be displayed.



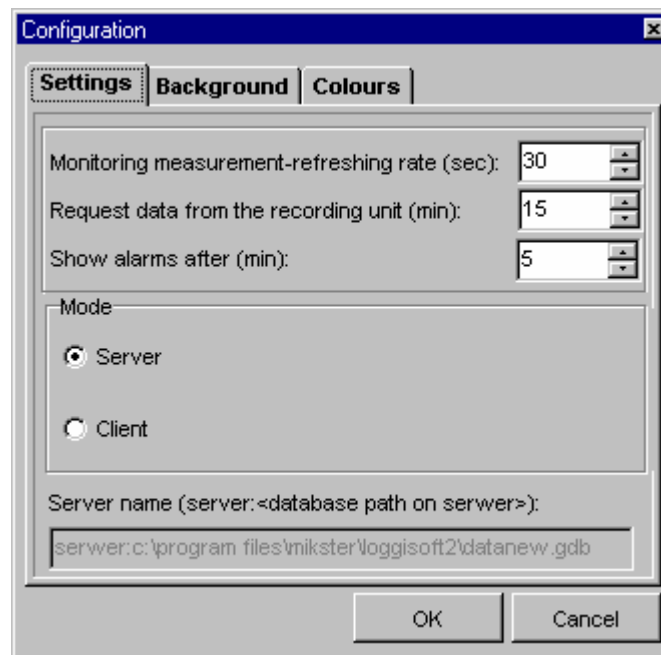
In the seen above record, part S: 0% B: 100% means that the signal level equals 0 % and the state of battery is 100%.

In addition the signal level (Range) is presented as a bargraph (Green color indicates the level). In the case presented above the strip is completely white since the range is 0%. The bargraph has also a hint giving the percentage of the signal level.

Configuration

Option *Settings->Program Configuration* is accessible to the Adm user only.

Basic settings



General parameters:

- The readout to be done every second – setting time of the cyclic readout of sensors,
- The automatic LGDL readout to be done every minuts – setting time of the readout in the „background” of the LGDL processing unit (it is important after marking the option *Automatic collected data readout* on the Action panel),

Working mode (commercial version only)

- Direct – the application cooperates directly with the devices connected to the PC computer port,
- Network – the application downloads data via the access to the database of the network computer. The name of the computer should be given in the field: *Server name*.

Format means:

<name of server computer>:<access path to the server database>

e.g.

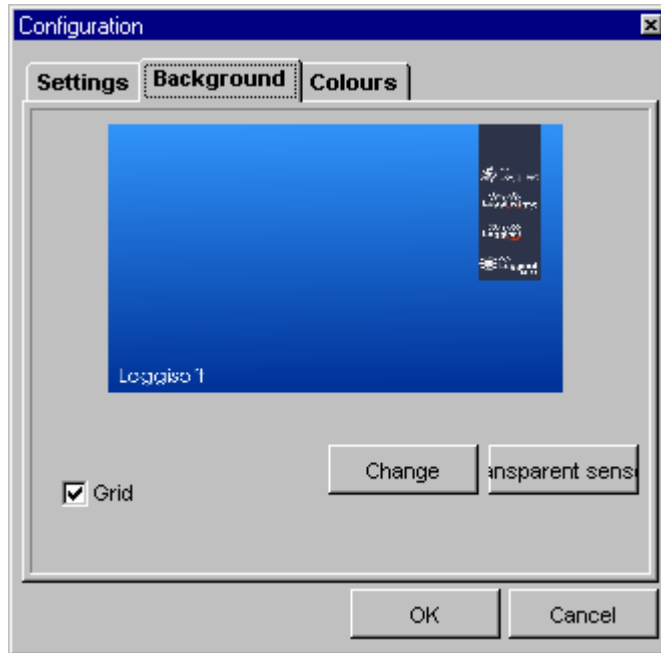
KOMPUTEREK: C:\PROGRAM FILES\MIKSTER\LOGGISOFT2\DATAnew.gdb

The standard access path is:

C:\PROGRAM FILES\MIKSTER\LOGGISOFT2\DATAnew.gdb (the installation path can be changing however the file data.gdb is a constant element).

Background (commercial version only)

Enables setting the application background (e.g. the layout of the factory).



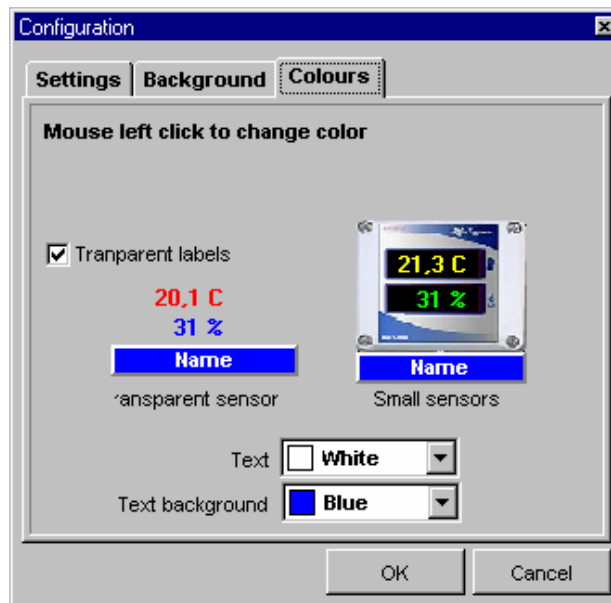
Net – marking of that option causes aligning to the net the sensors localised at the layout (it facilitates placing sensors in even rows and columns). When this option is not marked it allows the discretionary sensor location with the accuracy of one screen point.

Change – selection of a graphic file (bmp) as a background of working area

Without background – there is no bitmap in the background

Colors (commercial version only)

Setting the view of sensors in the working area.



By clicking the left-hand mouse key on the measured values the color might be changed.

Transparent background of inscriptions – concerns only sensors without a background. Marking that check box causes measured values to be displayed directly on the background of working area of the main screen. The marked option displays measured value in the black frame.

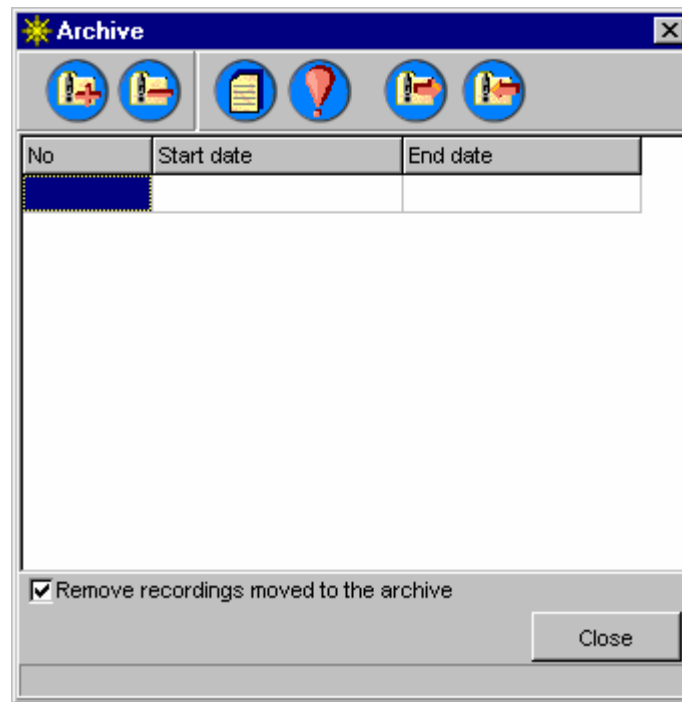
Signature – color of the inscription with the name of the sensor.

Background signature - color of the background under the inscription with the name of the sensor.

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 transferred 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.

Configuration options – file *Settings.ini*

The file *Settings.ini* is in the directory in which the application is installed. Here, in the Parameters section, there are advanced options of the program.

They are as follows:

- **llesleep** - parameter essential for Windows8x and RS485. In case of lcommunication problems this parameter value can be changed. It indicates time delay (in milliseconds) between sending data and switching the line into the receiving state (default 10).
- **Radio processing unit version** - if the software is to cooperate with the older version of processing unit software this parameter should be set to 0 (default 1)
- **Prefix** – this parameter should have the value of a *localhost*:

Backup copies – safety of data

Creation of backup copies of data is recommended (if possible every day or at least every week).

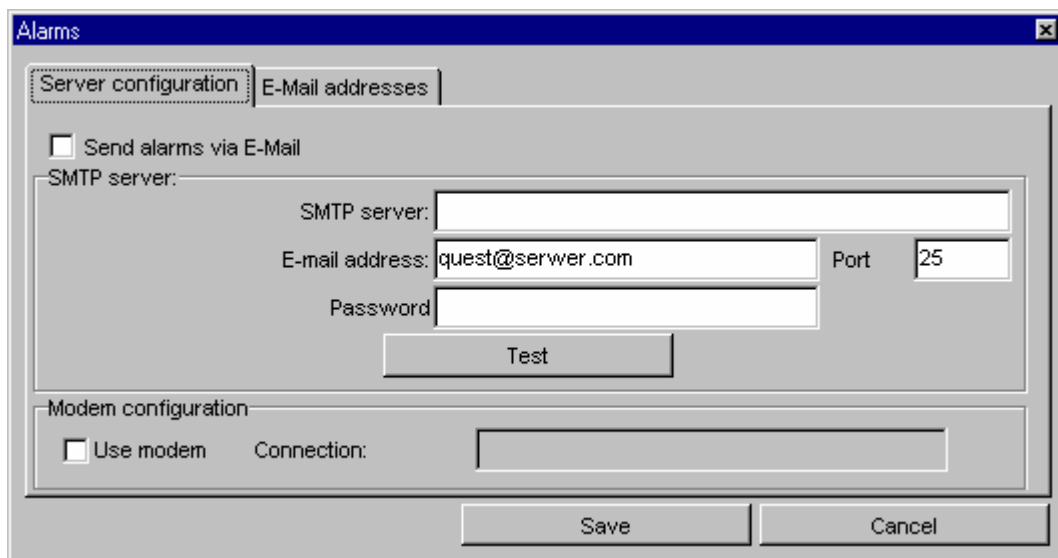
All program settings are written in the file *datanew.gdb*. This file is in the directory in which the Loggisoft is installed (default c:\Program Files\Mikster\loggisoft2). In order to copy the file it is enough to archive it in any way (e.g. zip, rar) and copy into the directory with the name allowing its further identification (e.g. the date of an archive creation).

Retrieval of data from the copy means the substitution of the current file *datanew.gdb* by the file previously archived.

Alarm information by E-Mail

The system enables sending information about an alarm occurrence by E-Mail - at the selected addresses. Such information contains the name of the measurement point (name of the sensor), time, type of alarm (temperature, humidity, doors) and the measured alarm value.

The configuration is being done via the option from the menu *Service options* -> *Alarm information by E-Mail*.



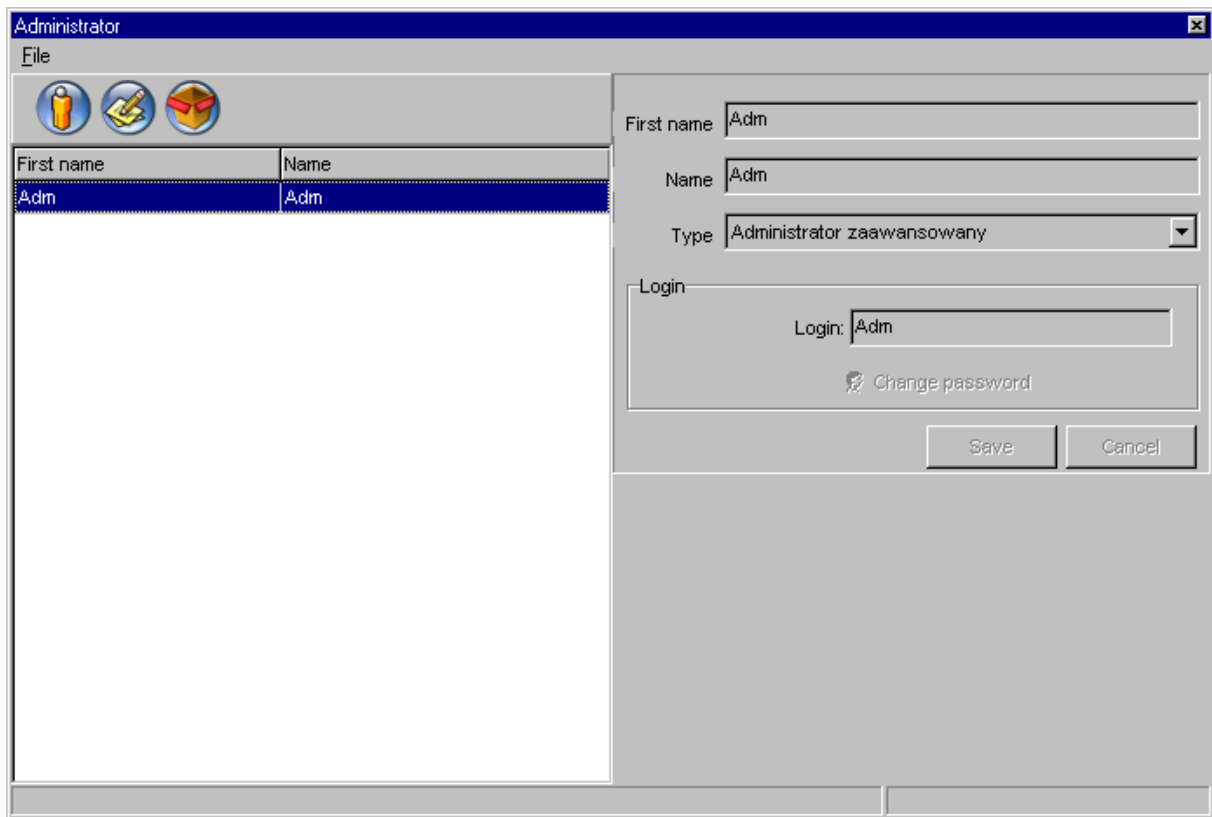
Fields definition:

- Send alarm information by E-Mail – marked check box means that the alarms will be signaled by E-Mail.
- Server of outgoing mail (SMTP) – server's name of the outgoing mail.
- E-Mail address of a sender – E-Mail address, from which information will be sent (it has to be the proper address on the given server).
- Port – port for servicing the outgoing mail.
- Password – if a server requires the authorization the password should be given.
- Test – a trial of sending test information from the given address.

Overlap E-Mail Addresses – this is the place where addresses, at which the information is to be sent, should be written.

Administrator tools

The program Administrator tools is applied for managing the access to the system. It is accessible from the menu *Service options -> Administrator tools*



The program enables defining of users and assigning them the proper level of rights (Type).

Available levels are as follows:

1. Operator – a basic user – has the right to activate the program and to monitor the state of devices. Cannot introduce any changes in the system configuration.
2. Administrator – this user has the right of changing the system configuration (adding sensors, changing names, alarms etc).
3. Service – the same rights as an administrator and in addition the possibility of configuring sensors.
4. Advanced administrator – in addition to the rights of an administrator he is authorized to change users (rights administrator), to preview the events log and to configure the E-Mail information.