



SOFTWARE GUIDE

PM1405 SOFTWARE

Software for Survey meter
PM1405

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INTRODUCTION

The present software guide contains necessary information for correct use of **”PM1405 Software”**.

“**PM1405 Software**” (further the software) developed by Polimaster is installed on personal computer (further PC) and designed for work with “**Survey meter PM1405**” (further the **instrument**).

Software “**PM1405**” allows to connect and network in information system up to three hundred “**Survey meters PM1405**”, as well as to carry out direct (software local mode) or remote (software remote mode) control, monitoring and information collection from all connected “**Survey meters PM1405**”.

Software “**PM1405**” performs continuous radiation monitoring with transfer of read information from the instrument to client PC (software local mode) and server PC (software remote mode).

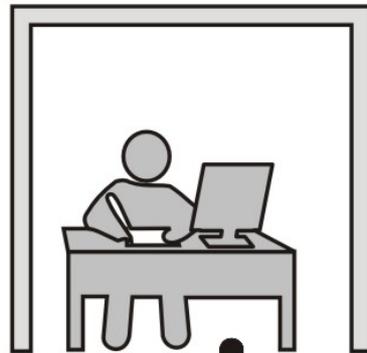
Software solves the following problems:

- ✦ Higher work efficiency of radiation control services personnel, first responders, employees of security service and customs, as well as personnel whose work includes solving problems of local radiation sources detection or single objects contaminated with radionuclides (for example, to determine radioactive contamination of banknotes, scrap, etc.).
- ✦ Transfer of information about radiation situation on the controlled area or object in on-line mode;
- ✦ Creation of automatic reports about control efficiency during the detection of radioactive contamination by beta and gamma sources;
- ✦ Early warning about probability of radiation contamination.

GENERAL FUNCTIONS OF SOFTWARE “PM1405”

- ◆ Creation of a common information system (data base) of radiation control on the basis of the events received from connected and networked instruments.
- ◆ Read of the information (events history) stored in the instrument memory.
- ◆ Display of information about radiation situation in on-line mode.
- ◆ Transfer of information about radiation situation from client to server PC.
- ◆ Management and control of each connected instrument work both from client and server PC.
- ◆ Parameters setting of connected instruments (time synchronization between the instrument and PC, switching on/switching off various alarms, interval of history recording, measurement units, and thresholds for gamma and beta radiation).
- ◆ Adding comments to the events in data base.
- ◆ Automatic archiving of data base in set time period or on user's request.
- ◆ Export of selected events from data base to the file with MS Excel format.
- ◆ Forming and printing of reports made on the basis of data base information in accordance with selected instruments for a period of time or by events types.

**Server PC with
Remote mode SW «PM1405»**



Client PC Local mode SW «PM1405»



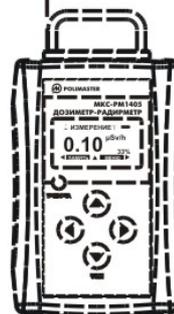
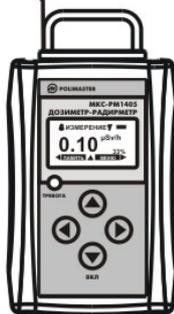
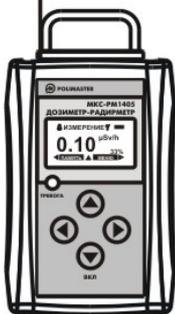
Instruments

#1

#2

#3

#...



INSTALLATION OF SOFTWARE”PM1405”

To install software “**PM1405**” and related documentation, it is necessary to run file *setup.exe* from the root directory of supplied CD.

Before software installing, it is necessary to stop all working Windows programs.

The installer is performed in the form of *master*-program which divides the process into deal of simply enough steps. Besides, it is possible to go to any number of steps back. Each step is accompanied with dialog box which displays comments to suggested actions.

Having chosen or set the required information it is necessary to press the button *Next*. To go back to the previous step it is necessary to press the button *Back*. It is possible to stop the work by pressing the button *Cancel*.

After software installing, it is recommended to connect the instrument , and then to run software by pressing the button “*Start*” in the Window main menu and selecting *Programs> Polimaster > PM1405 >PM1405 Software*.

System requirements to PC:

- ◆ IBM PC-compatible computer with processor Pentium III or higher;
- ◆ Colour monitor with definition from 1024x768;
- ◆ 50 MB of free space on HDD;
- ◆ RAM, no less than 512 MB;
- ◆ Device for reading compact discs CD-ROM (for software installation);
- ◆ Operating system Microsoft Windows 2000 - Microsoft Windows Vista.

BASIC MODES OF SOFTWARE “PM1405” OPERATION

Software “PM1405” supports two basic operation modes – local and remote.

Local mode.

Local mode of software operation is installed on PC which has direct connection to the instrument via USB interface (client PC).

Software realizes the following function in this mode:

- Data base upgrade about operation of connected instrument (on the basis of read history from instrument).
- Display of current operation mode of connected instrument and measurement results, alarms about exceeding set thresholds for beta and gamma radiation.
- Possibility of data export from client PC data base to server PC by local network or by means of external devices (for example, USB-flash or others).
- Parameters setting of connected instruments (time synchronization between the instrument and PC, switching on/switching off various alarm types, interval of history recording, measurement units, threshold for gamma and beta radiations).
- Adding comments to the events in data base.
- Automatic archiving of data base in set time period or on user’s request.
- Forming and printing of reports made on the basis of data base information in accordance with selected instruments for a period of time or by events types.

To set the local mode of software operation, select the *Program settings* command from the *Tools menu* and select the check box *Select local mode*. The COM port field displays the COM port number to which the instrument is connected. If the check box *Auto Detect* is selected, there is the automatic detection of connection settings. (COM port auto detection is possible only when the instrument is connected).



The screenshot shows a dialog box titled "Local Mode Settings". It contains the following elements:

- A checked checkbox labeled "Select Local Mode".
- A "COM Port:" label followed by a dropdown menu showing "COM6" and a checked checkbox labeled "Auto detect".
- A "Port:" label followed by a text input field containing "3133" and a checked checkbox labeled "Operate as server".

Remote mode.

Remote mode of software operation is installed on server PC which is located in control or expert center where information from all networked client PCs is gathered. Thus, a single data base about instruments operation connected to different client PCs is created.

Software realizes the following function in this mode:

- Creation of client PC list.
- Reception and entering of information about connected instruments operation from different client PCs to a single data base.
- Possibility of remote managements and control over instruments operation.
- Adding comments to the events in data base.
- Automatic archiving of data base in set time period or on user's request.
- Forming and printing of reports made on the basis of data base information in accordance with selected instruments for a period of time or by events types.

To set remote mode of software operation, select the *Program settings* command from the *Tools* menu and select the check box *Select remote mode*. Create client PC list from which the information will be gathered (button *Add computer*). To do this, specify IP address in the appeared window and client PC port number. In case of connection problems, please contact system administrator.



BASIC INTERFACE OF SOFTWARE “PM1405”

Basic software operating mode is the events data base interface which displays after the software has been started. From the main menu of this interface it is possible to enter to program settings, instruments settings, to display the current instrument measurements (online mode) and to make reports.



Enter to online mode and instrument settings is possible only when the instrument is connected to PC.

This interface consists of:

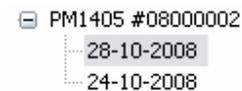
➤ main window;



➤ toolbar;



➤ window of instruments list;



➤ window of events history of the selected instrument;

Date / Time	Mode	Value	Alarm	Comment
17:04:30 31-10-2008	Measurement gamma	8± 4% µR/h		
17:03:30 31-10-2008	Measurement gamma	8± 4% µR/h		
17:02:30 31-10-2008	Measurement gamma	8± 4% µR/h		
17:01:30 31-10-2008	Measurement gamma	8± 4% µR/h		
17:00:30 31-10-2008	Measurement gamma	8± 4% µR/h		
16:59:30 31-10-2008	Measurement gamma	8± 4% µR/h		
16:58:30 31-10-2008	Measurement gamma	8± 4% µR/h		
16:57:30 31-10-2008	Measurement gamma	8± 5% µR/h		
16:56:30 31-10-2008	Measurement gamma	8± 5% µR/h		

➤ status line.



Main window consists of three menus – *File, Tools and Help* (for more details please see the section “**Menu commands**”).

Buttons which correspond to more often used menu commands are located on the toolbar:

-  - to import history from file,
-  - to export history to file,
-  - to print history records,
-  - to edit comment,
-  - online mode,
-  - instrument settings,
-  - program settings,
-  - program information.

Information about software current state (for example, “History reading“) is displayed in the status line (in the bottom of the display).

List of all instruments (numbers and identifiers) wherever connected to PC and operation history of each instrument sorted by date is displayed in the left main window in the tree structure form. This structure is created on the basis of events which exist in data base.

When a particular instrument and necessary date are selected, list of events from data base for a selected instrument is displayed in the right window. The list has the following information:

-  Date and time of event record to instrument memory;
-  Instruments operation mode at the moment of event record to memory;
-  Value of beta or gamma radiation at the moment of event record to memory;
-  Alarms (exceeding of set thresholds by gamma and beta radiation) marked in the events list in red color;
-  Comments to the event.

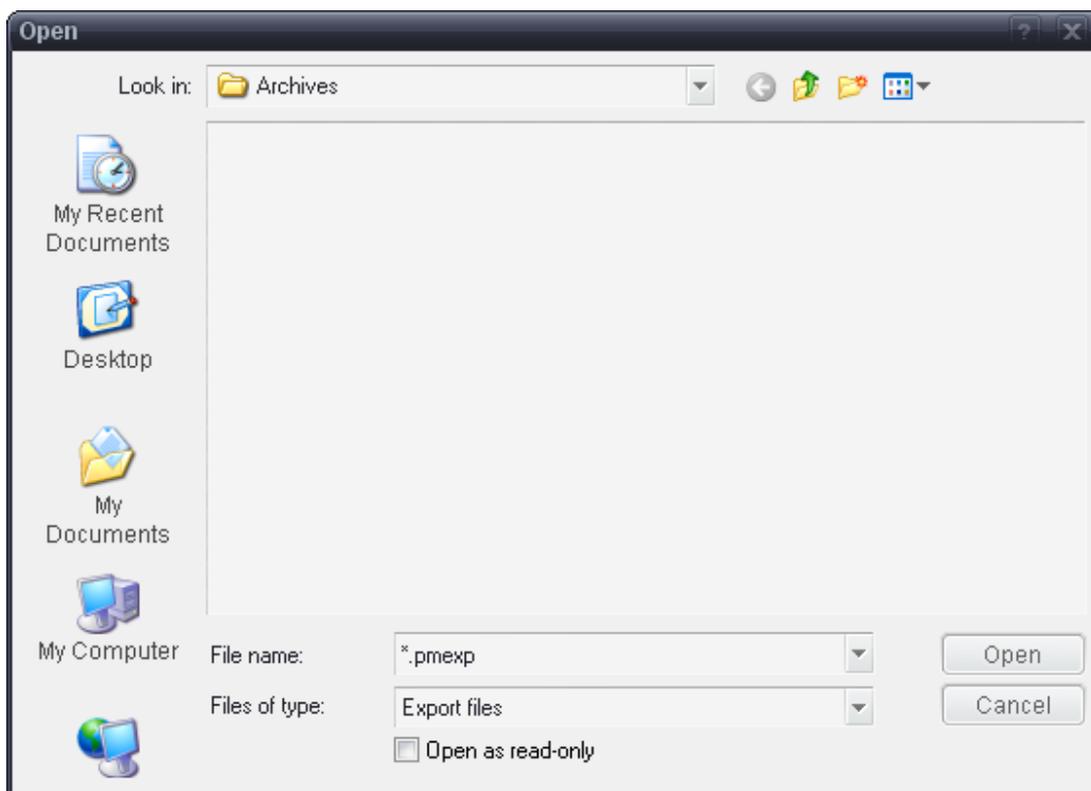
Window of addition and editing of comment to the event is opened by double click on the selected event.

There is also a possibility to select parameters of event display – “All events” or "Alarms only" (dropping menu over the events list).

OPTIONS OF SOFTWARE“PM1405”

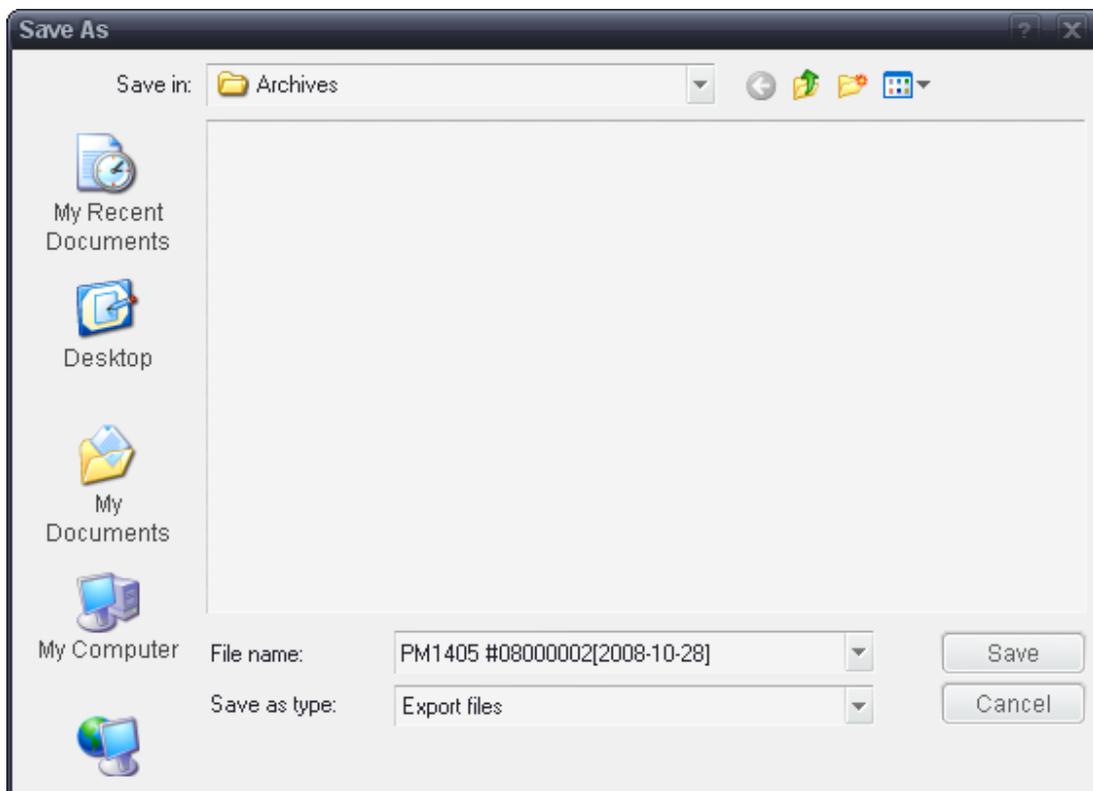
Menu “File”

➤ Import history



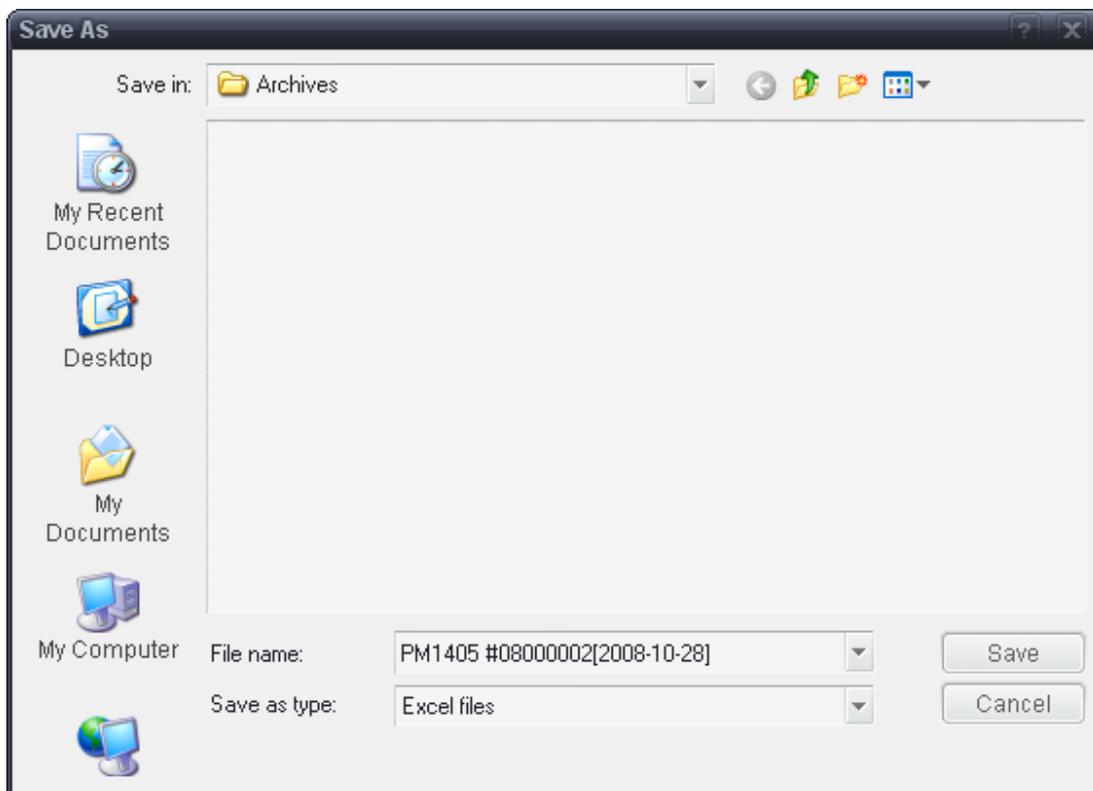
This option allows to receive data in the file with the format *.pmexp (internal format of software) from various PC (both client and server) and to enter it to data base. The option is duplicated on the toolbar as a button .

Export history



This option allows to save events list of the particular instrument in the selected date (in the file with the format *.pmexp) to export this data to server PC or other client PCs of the network. The option is duplicated on the toolbar as a button .

➤ **Save history as...**



This option allows to save the list events of the particular instrument in the selected date in the file with the format MS Excel (format *.xls).

➤ **Download history**

In remote mode this option allows to read the events history from the connected client PC and to enter it to data base of server PC (similarly to the option *Read history* from menu *Tools* for a local mode).

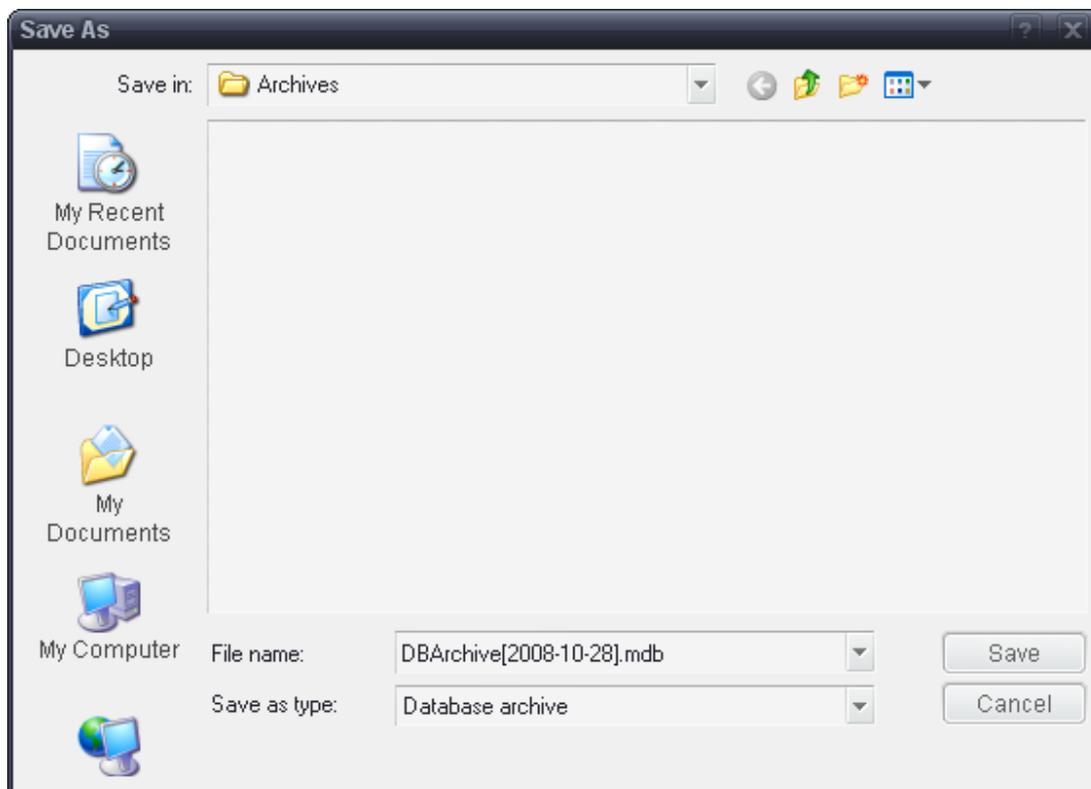
➤ **Print...**

This option displays a standard Windows *Print* dialog window which allows to select the printing settings (to select a printer, printing range, number of copies, etc.) and to print the events list from data base (the whole list or for a selected time period). The option is duplicated on the toolbar as a button .

➤ **Print Overview**

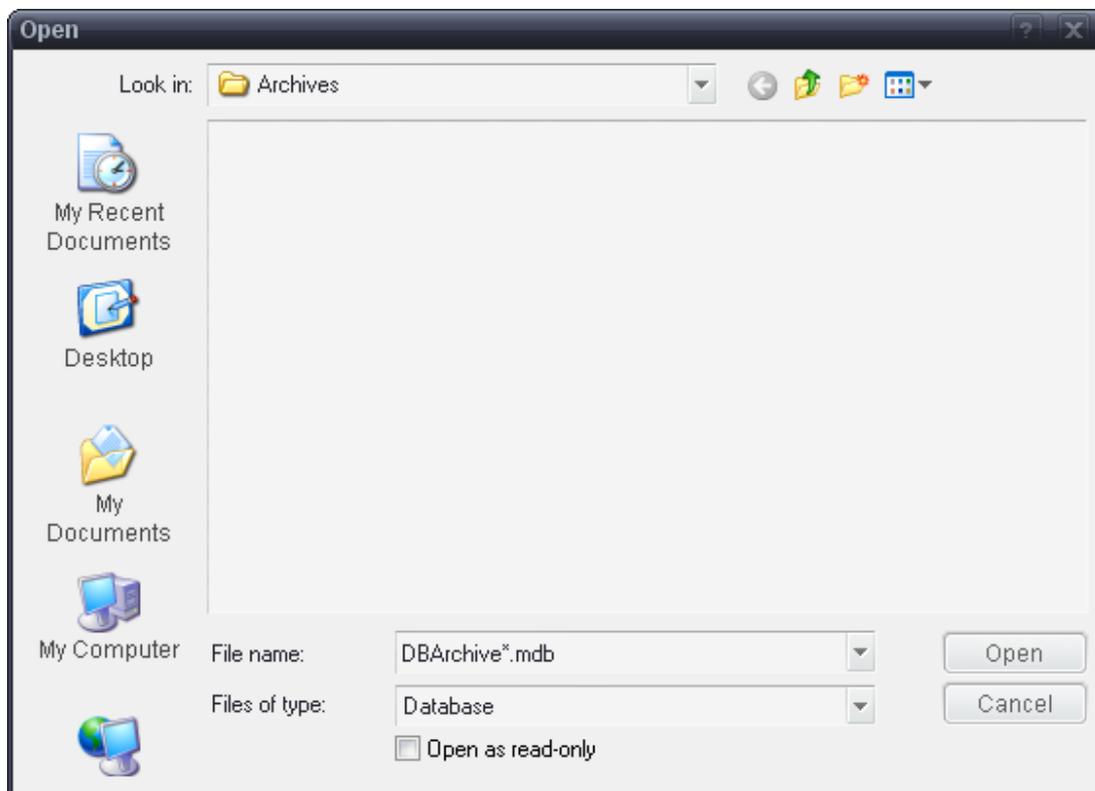
This option allows to preview the pages before printing.

➤ Archive data base



This option allows to archive the events list of the particular instrument in the selected date in the file with the format MS Access ***.mdb**.

View Archive Database



This option allows to select and view any previously saved file of the data base archive.

Switch to main base

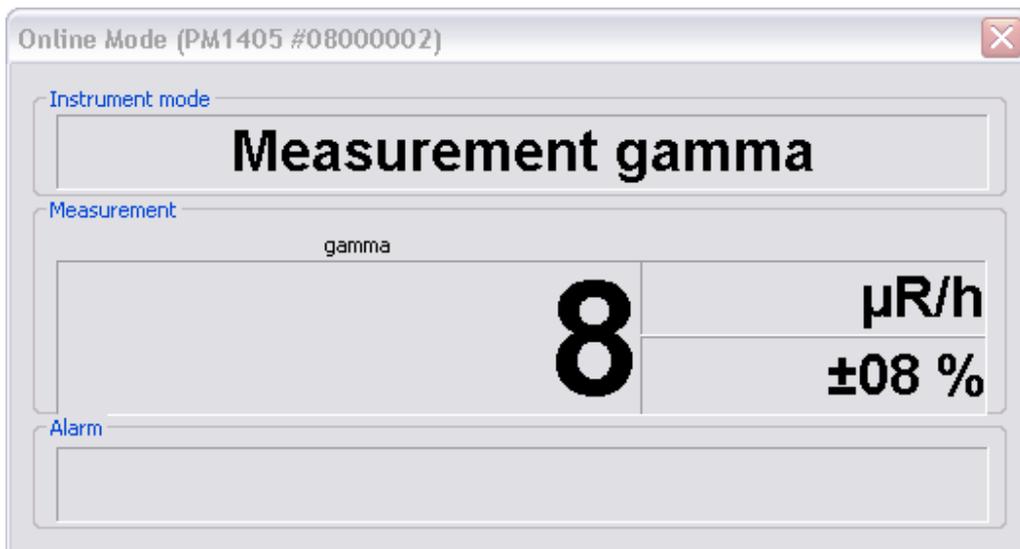
At viewing of archive data base, this option allows to return and view the operating (main) base.

Exit

This option allows to close the program.

Menu “Tools”

➤ Online Mode



This option displays a window which in the real time mode displays the operation mode of the connected instrument, current value of gamma and beta radiation, permissible error and in case of set threshold exceeding, alarm message is also displayed. The option is duplicated on the toolbar as a button .

➤ Read history

In the local mode this option allows to read the events history from the connected instrument and to enter it to data base (similarly to the option *Download history* from menu *File* for remote mode).

➤ Edit comment



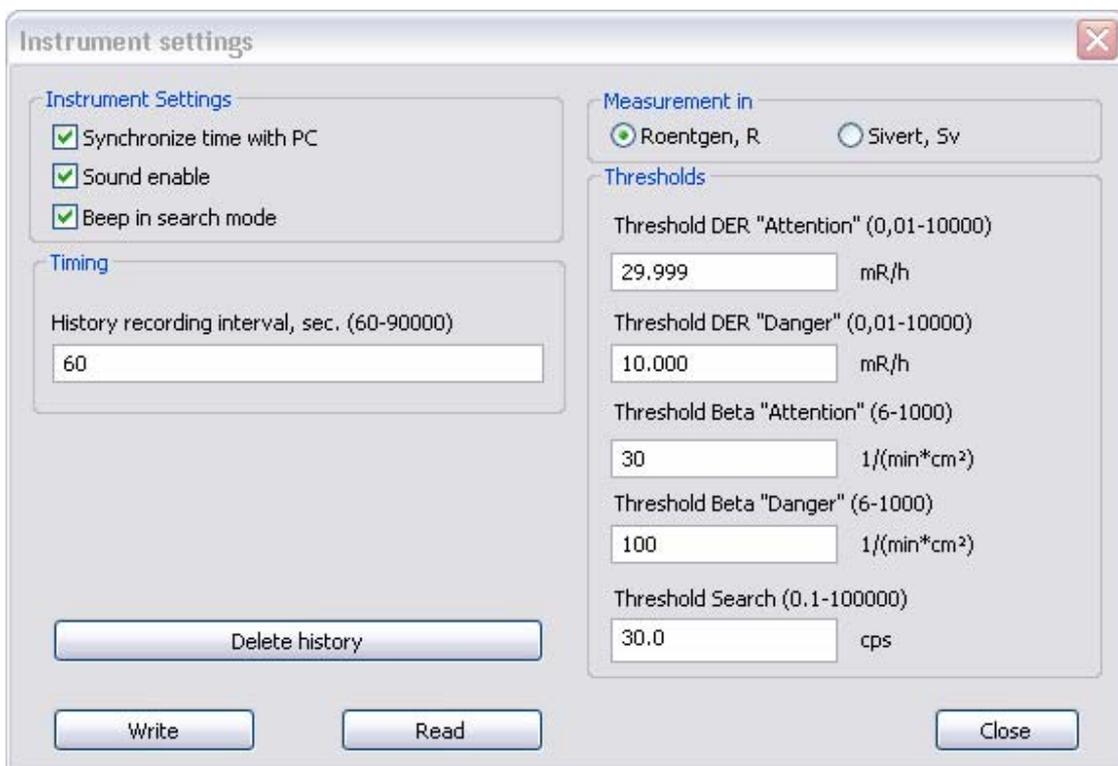
This option allows to add or edit comments to the selected event. The option is duplicated on the toolbar as a button .

Instrument settings

To login into this menu, enter the password (on default the password is "admin", the password is case sensitive).



The option *Instrument settings* is duplicated on the toolbar as a button .



This option allows to read (the button *Read*) and to change (the button *Write*) the following settings of the connected instrument:

- 🔻 - switching on/off time synchronization of instrument with PC;
- 🔻 - switching on/off sound alarm;
- 🔻 - switching on/off the beep in search mode;
- 🔻 - history recording interval (time interval in seconds between two subsequent automatically recorded events in the monitor history);
- 🔻 - measurement units (Roentgen or Sivert);
- 🔻 - threshold DER "Attention";

- ▾ - threshold DER “Danger”;
- ▾ - threshold Beta “Attention”;
- ▾ - threshold Beta “Danger”;
- ▾ - threshold Search.

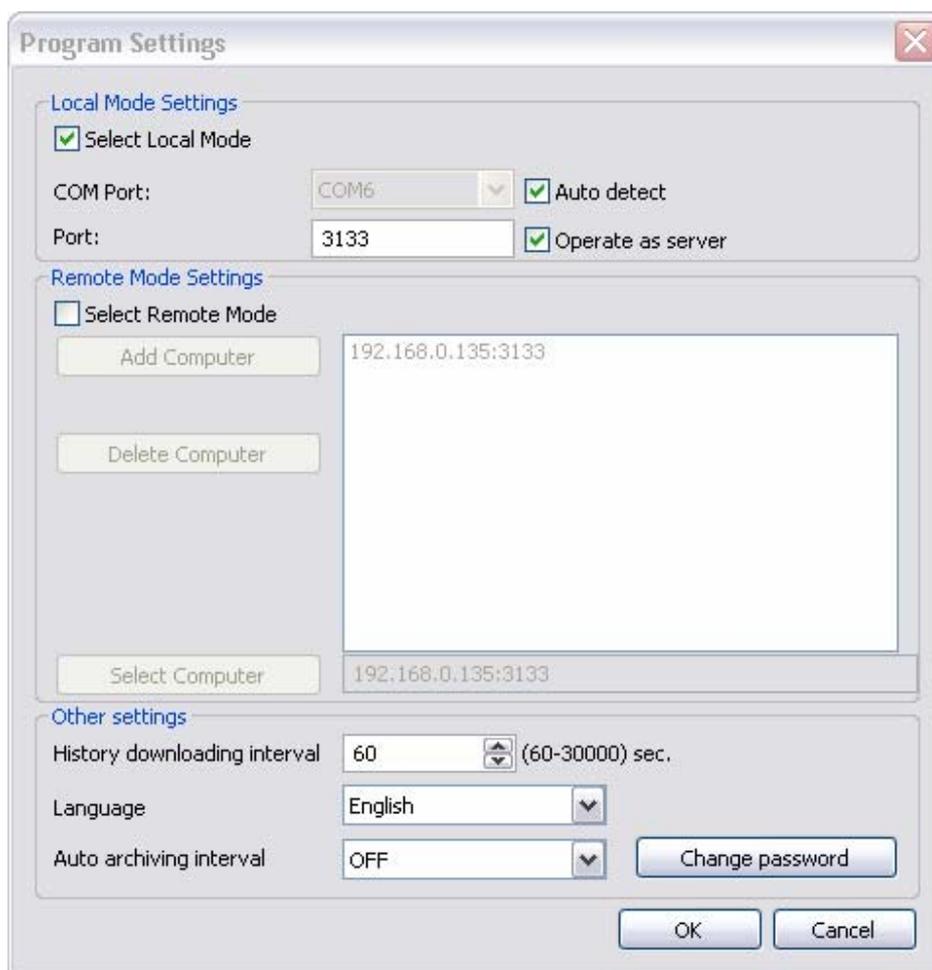
Moreover, this menu allows to delete the whole history from the memory of the connected instrument (the button *Delete history*).



Important!

It is not recommended for the not-trained user to change the settings. It may cause incorrect readings and faulty operation.

▾ **Program settings**



This menu allows to set the following program settings of software "PM1405":

- select local or remote operation mode (for more details see section "**Basic modes of software "PM1405" operation**) and setting of selected mode;
- history downloading interval from the connected instrument (time interval in seconds in which software automatically reads the history from the connected instrument and enter it to data base);
- select interface language (Russian or English);
- auto archiving interval of data base;
- change of password to the menu of instrument settings.

Menu "Help"

The menu *About PM1405 Software...* displays the information about software version.

Thank you for choosing Polimaster!