USER GUIDE

PM520 SERVICE CONFIGURATION SOFTWARE

Software for PM520
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GENERAL “PM520 SERVICE CONFIGURATION SOFTWARE” FUNCTIONS

Radiation Monitoring System PM520 (RMS) is a system of gamma-neutron radiation detection units (DU) installed in specified places and connected to the processing unit (PU). One processing unit can be connected up to eight detecting units, as well as an external sound alarm. Number of connected detection units is determined by the consumer.

RMS can be used as a system with personal computer, and as an independent system without connection to the PC. For PC- processing unit connection is used the USB interface (with a standard cable no longer than 3 m).

The processing unit controls the LEDs and external sound alarm on/off switching, switches contacts of the output relays, system or database malfunction relays, as well as controls an additional alarm device by gamma or neutron radiation operation threshold exceeding.

The switching procedure for the output relay contacts is determined by the specific RMS design and is programmed with the help of PC and special software «PM520 Service Configuration Software», supplied on CD with PU.
“PM520 Service Configuration Software” developed by “Polimaster” company, enables user to operate the RMS, particular DU, included in it, as well as change the DU and PU settings.

SYSTEM AND PC CONFIGURATION REQUIREMENTS

- IBM PC – compatible PC, Pentium III or higher;
- Clock speed 1 GHz or higher;
- Any of the following operating system:
  - Microsoft Windows 7;
  - Microsoft Windows 8.
- Screen resolution: NLE 1024x768;
- USB–port for standard connector 7 mm x 1 mm.

SOFTWARE INSTALLATION

To install the software (included in the delivery set) and corresponding documentation it is necessary to follow the standard installation procedure with the help of the Setup Wizard that divides the installation process into several simple steps. Setup Wizard lets the user going any steps back if required. Every step is accompanied by a dialog window displaying comments to the suggested actions. Follow all instructions of the installer, by pressing the Next button.

Installer creates all the necessary shortcut icons on the PC desktop and in the Main Windows Menu.
START THE PROGRAM

Click the program icon in the start menu All Programs > Polimaster > PM520 Software > PM520 Configuration Software to launch the program. You can also use the icons on the desktop or in the taskbar. Access to PM5000 Workstation entry is password-protected. Enter the initial password “PM520” (capital letters, Roman characters), which can be replaced later, and click “Continue”. Password is case sensitive.

Software has no main program window in traditional sense. As a main program window serves the window, which opens by default after entering the program and contains control elements for the connected detection units, as well as information about them.

Components of the main program window:
1 – Program menu;
2 – Field displaying connected detection units;
3 – Name of the detection unit;
4 – Detection unit operation mode;
5 – Instrument readings;
6 – Entry to the detection unit settings page;
7 – Analogue dynamic scale, indicating the dose rate change, as well as the calibration process.
If the checkbox corresponding to the determined detection unit is not flagged, the information on this detection unit will be hidden.

Measured DER level can be displayed graphically as well. Filling of the analogue scale corresponds to measured DER relative to set DER threshold.

When set DER threshold is exceeded, analogue scale is filled totally. Program displays message that corresponding threshold is exceeded and measured DER value is displayed in red color.
Measurement mode

0.11 07 % μSv/h

1.20 05 % μSv/h

First threshold
DETECTOR MENU

Detector menu contains following items:
- Add detector;
- Edit detector;
- Remove detector.

Adding of the new detection unit

Choosing the “Add detector” item will open the window that allows adding a new detection unit to the system.
To do it:

1. Choose the “Add detector” item of the “Detector” menu;
2. Select the necessary detection unit type from the drop down list:

3. Identify the detector network address on the known serial number of the detector (enter the known number of the detection unit in the appropriate textbox) using the “Detect” function;
4. Enter the detector network address in the textbox checking it using the “Check” function. The detector serial number is determined.
5. Set the detector operation mode in the appropriate textbox. You can choose between the **search mode** and **dose rate measurement mode**. When the search mode is selected as the measurement mode it is necessary to set the coefficient $n$ in the appropriate textbox. The coefficient $n$ is the number of measured deviations for gamma or neutron radiation (depending on the detector type).

6. When the dose rate measurement mode is selected as the measurement mode it is necessary to set two DER thresholds in the appropriate textbox: First and Second.

7. Flag the checkbox “Sound on” to switch the audible alarm on when the DER thresholds are exceeded;

8. Press the "Save" button to confirm the settings change, or "Close" to cancel it.

**Editing the detection unit settings**

There are two ways to enter the connected detection unit settings: to select the menu “Edit”, or the direct link “Edit” in the top right corner of the detector information field.

![PM 520 Configuration software interface]

When you select the first way:
1. Choose the "Edit detector" item of the “Detector” menu;
2. Select the necessary detection unit from the drop down list;
3. Press the “Edit” button;
4. Press the “Close” button to confirm the settings change and to exit the window.
As a result the detector settings window will be opened, similar to the “Add detector” window.
After the necessary changes are made, press the “Save” button to save them and “Close’ button to exit this mode.

When the search mode is selected, the detection unit enters the calibration mode and displays the appropriate information in the information field of the detection unit.

Removing of the detector

The procedure of the detection unit removal is similar to the procedure of the detection unit settings change.

To remove the unit:
1. Choose the “Delete” item of the “Detection unit” menu;
2. Select the necessary detector from the detectors drop down list;
3. Press the “Delete” button;
4. Click “Close” to confirm the changes and exit this mode.
As a result undesirable detection unit will be excluded from the system.
SETTINGS MENU

Settings menu contains following items:
1. Processing unit;
2. Software;
3. About.

Processing unit settings

Processing unit settings window contains the following fields and functions:
1. The field displaying the model and serial number of the processing unit, as well as checkboxes to switch the alarm and/or error sounds on;
2. The list of the detection units included in the system;
3. The dropdown list of the output relays numbers by threshold exceeding for the selected detection unit;
4. The password change field. To change the password enter a new password and confirm it in the appropriate textbox, and then click “Save” to confirm your actions;

5. The “Save” and “Close” buttons to save changes and exit this mode.

**Software settings**

Software settings window contains two items:

1. Interface language;
2. Measurement units.

To change the interface language select the language from the dropdown list. Current software version supports Russian and English languages. Default software interface language is English. Restart software to enable new interface language.

To change the measurement units select them from the dropdown list (Sv/h - R/h) and save the changes. Software restart is not required.
“About” item

Item “About” contains information about the software version, processing unit version, as well as detection unit versions.