

# PROGRAM

## Cadmium ECOMONITOR

### Quick Start

Second edition, January 2011

#### 1. Preface

The “Cadmium ECOMONITOR” program is intended for computer-aided noncontact readout of measurement results via the Bluetooth interface from the MKS-05 “TERRA” dosimeter (hereinafter MKS-05) or from the RKS-01 “STORA-TU” radiometer (hereinafter RKS-01).

To start the program on the user's computer, follow the next procedure:

- install “Cadmium ECOMONITOR” program on the computer;
- connect BlueWalker Bluetooth USB adapter to the computer;
- install IVT BlueSoleil software in accordance with the instruction;
- carry out “Cadmium ECOMONITOR” program setup.

The program allows using other than the BlueWalker Bluetooth USB adapter or PC embedded Bluetooth interface.

#### 2. “Cadmium ECOMONITOR” program installation

To install the “Cadmium ECOMONITOR” program, the operator should have the rights of the OS Administrator.

Simply launch the Setup.exe installation file from the Cadmium\_Setup directory located on the CD enclosed and answer all the installation questions step by step.

The program copies all files to

```
<bootdrive>:\Program Files\SVC\Cadmium
```

or to the directory selected by the user during installation.

#### 3. Bluetooth adapter installation

Connect the Bluetooth USB adapter to one of the USB ports of the computer. It is required to install the IVT BlueSoleil software from the accompanying CD.

After the IVT BlueSoleil is installed, do the following:

- launch IVT BlueSoleil program;
- select **My Bluetooth->Device properties...** Enter the name of the device in the **General** tab and the **Device Name:** component. First 10 symbols of the name should be set in **CHECKPOINT** – other symbols are optional and can be set at the operator's discretion (Figure 1). In the **Accessibility** tab select the **Connectable, Mode: General Discoverable, Accepts Bonding** radio buttons (Figure 2);

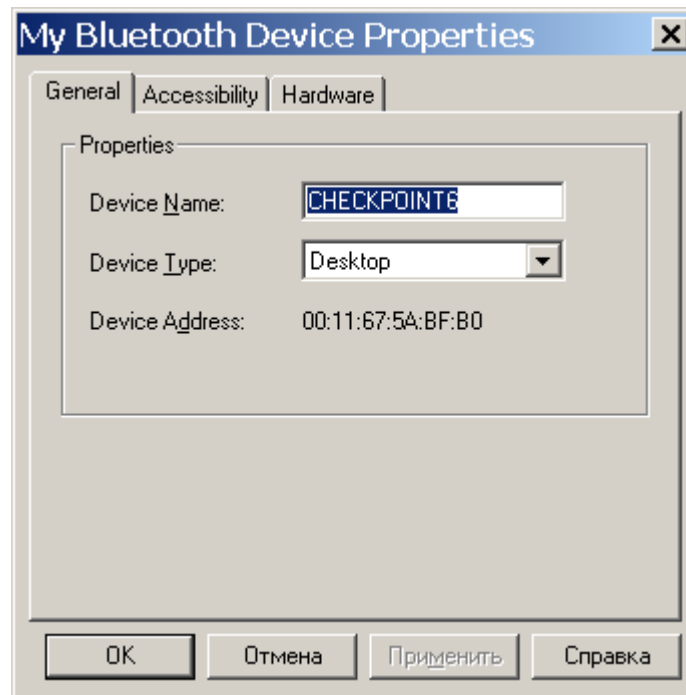


Figure 1 – “My Bluetooth -> Device properties...” tab setup

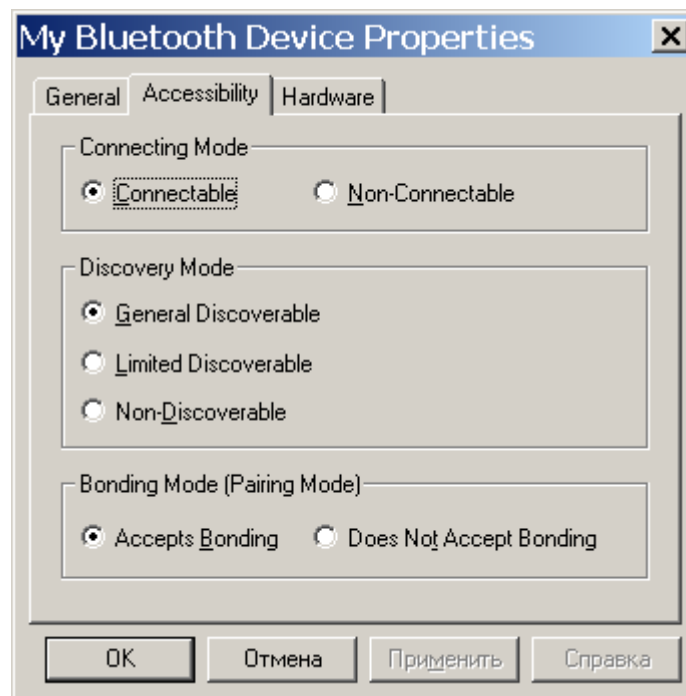


Figure 2 – “Accessibility” tab setup

- select **My Bluetooth->Security...** Set the **Low** radio button in the **Security level** component of the **General** tab (Figure 3);

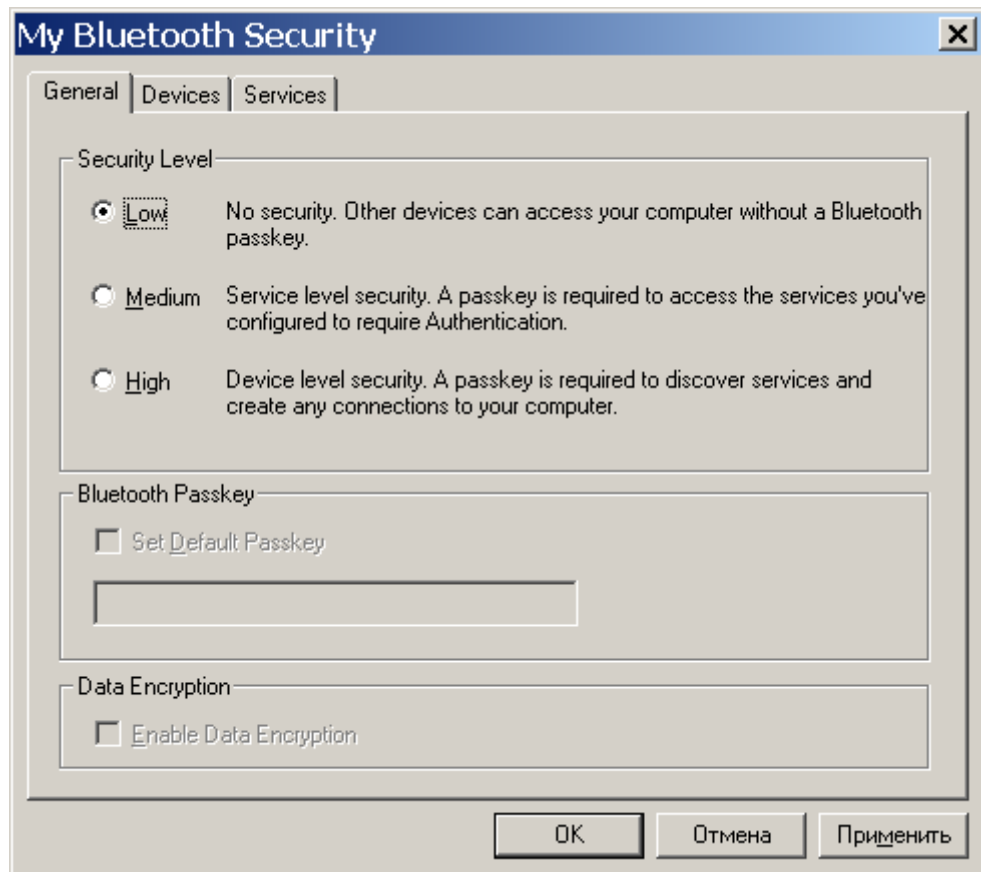


Figure 3 – “General” tab setup

- select **Tools->My Bluetooth device**. Set the **USB** radio button in the **Bluetooth Device** tab (Figure 4);

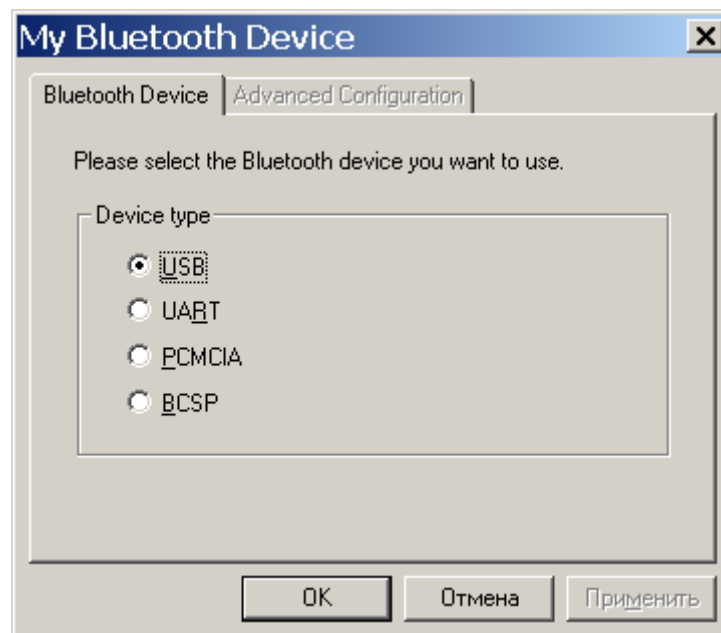


Figure 4 – “Bluetooth Device” tab setup

- select **My services->Properties...** Set the **Auto-start this service when My Bluetooth starts** check box in the **Serial Port A** tab (Figure 5). Record the value of the **Serial Port Service** component for further setup of the “Cadmium ECOMONITOR” program. Clear the **Auto-start this service when My Bluetooth starts** check box in the **Serial Port B** tab;

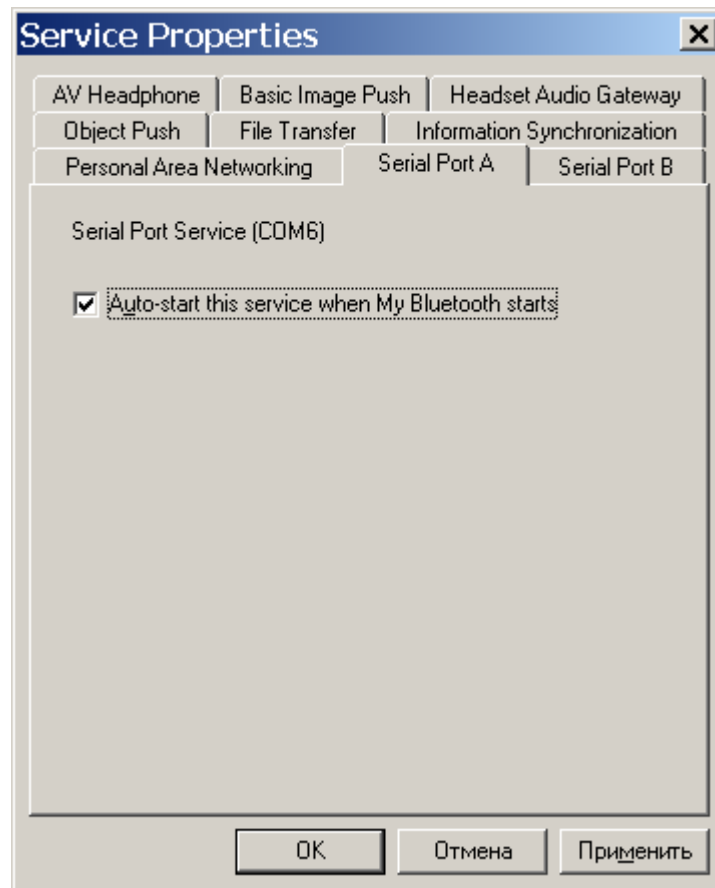


Figure 5 – “Serial Port A” tab setup

- exit the BlueSoleil program.

The program allows using other than the BlueWalker Bluetooth USB adapter or PC embedded Bluetooth interface. However, the software setup of the Bluetooth interface supplied with such adapters should comply with the setups for the IVT BlueSoleil given in this user guide.

#### 4. “Cadmium ECOMONITOR” setup

In order to set up the program parameters, launch the program and specify the “**Settings**” command in the main window. In an emerging window set up the following (Figure 6):

- set the value in the “**COM-port:**” component, which was earlier read and recorded in the “**Serial Port Service**” component during IVT BlueSoleil program setup;
- set the “**Change language immediately**” indicator in the “**Language:**” component and among the given languages choose the “**English**” language of the program dialog;
- select the dosimeter type with which data communications should be performed in the “**Select dosimeter:**” component. “**MKS-05**” should be selected in this field in order to read information from the MKS-05 dosimeter or RKS-01 radiometer;
- click “**Apply**”.

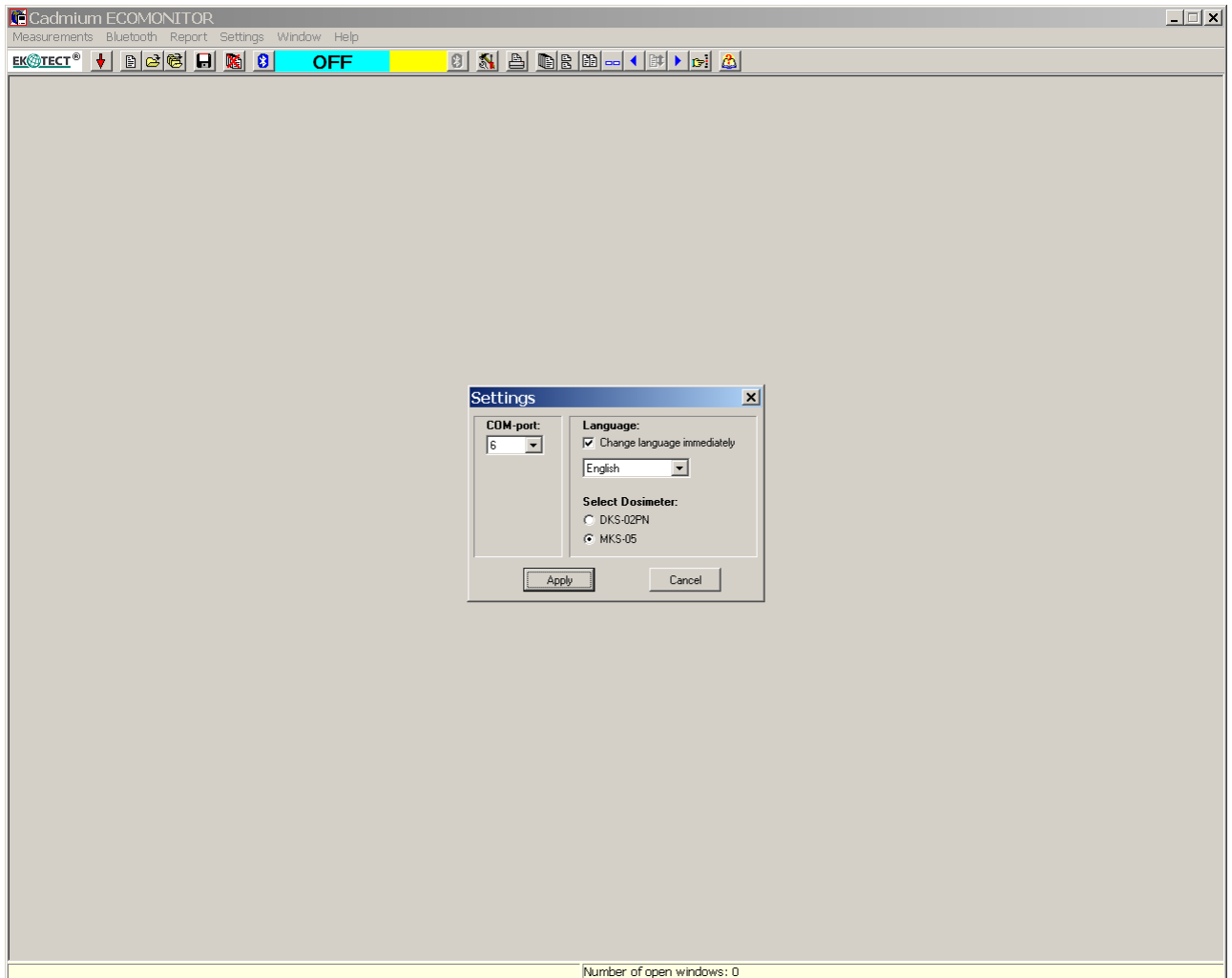


Figure 6 – “Settings” window of the “Cadmium ECOMONITOR” program

## 5. “Cadmium ECOMONITOR” program start

The program is started with the help of the standard program-start facilities used in Windows – by calling it from the main menu of the taskbar

Start->All programs->Cadmium->Cadmium

## 6. Using MKS-05 (“TERRA”) or RKS-01 (“STORA-TU”) devices

Do the following:

- press shortly the **MODE** button to switch on the MKS-05 dosimeter or RKS-01 radiometer. The device sends a short vibration-audio signal (MKS-05) or audio signal (RKS-01) and starts to display symbols on the LCD. The device enters the mode of photon-ionizing radiation DER measurement, which is shown by “ $\gamma$ ” symbol and “ $\mu\text{Sv/h}$ ” dimension of the measured quantity (Figure 7);



Figure 7 – LCD of the dosimeter  
(the mode of photon-ionizing radiation DER measurement)

- to save the measurement result of photon-ionizing radiation DER in the nonvolatile memory, press and hold the **THRESHOLD** button in the measurement mode until the “Arch” symbols are displayed on the LCD. Then release the **THRESHOLD** button (Figure 8);



Figure 8 – LCD of the dosimeter  
(start of the submode of measurement result saving in the nonvolatile memory).

- proceed to the submode of measurement result saving by a short press of the **MODE** button. The low-order digit of the object number is blinking and shows that its value can be programmed (Figure 9). Use the **THRESHOLD** button to set the required value of the blinking digit. Successive short presses and releases of the **THRESHOLD** button change this value per unit. A long press of the **THRESHOLD** button starts automatic change of this value, which is stopped after the button is released. A short press of the **MODE** button fixes the value of the digit (it stops blinking) and allows presetting the value of the next digit, which starts blinking at that. Other digits are programmed likewise. As soon as the third (last) digit is programmed, the DER measurement result, the measurement object number, and the date and time of measurement are saved in the nonvolatile memory. If the information is saved, the measurement value under saving blinks three times on the LCD of the device, and it returns to the mode of photon-ionizing radiation DER measurement;



Figure 9 – LCD of the dosimeter  
(the submode of measurement result saving of photon-ionizing radiation DER)

- start the “Cadmium ECOMONITOR” program. No diagnostic messages should appear when launching the program. After the main window of the program is opened, the “Off” message should appear on a blue background of the Bluetooth interface status indicator;
- click the “Settings” command in the main window. In an emerging window select the “MKS-05” radio button and click “Apply”;
- click “Activate Bluetooth”. The “Search” message on a white background should appear on the Bluetooth interface status indicator (Figure 10);

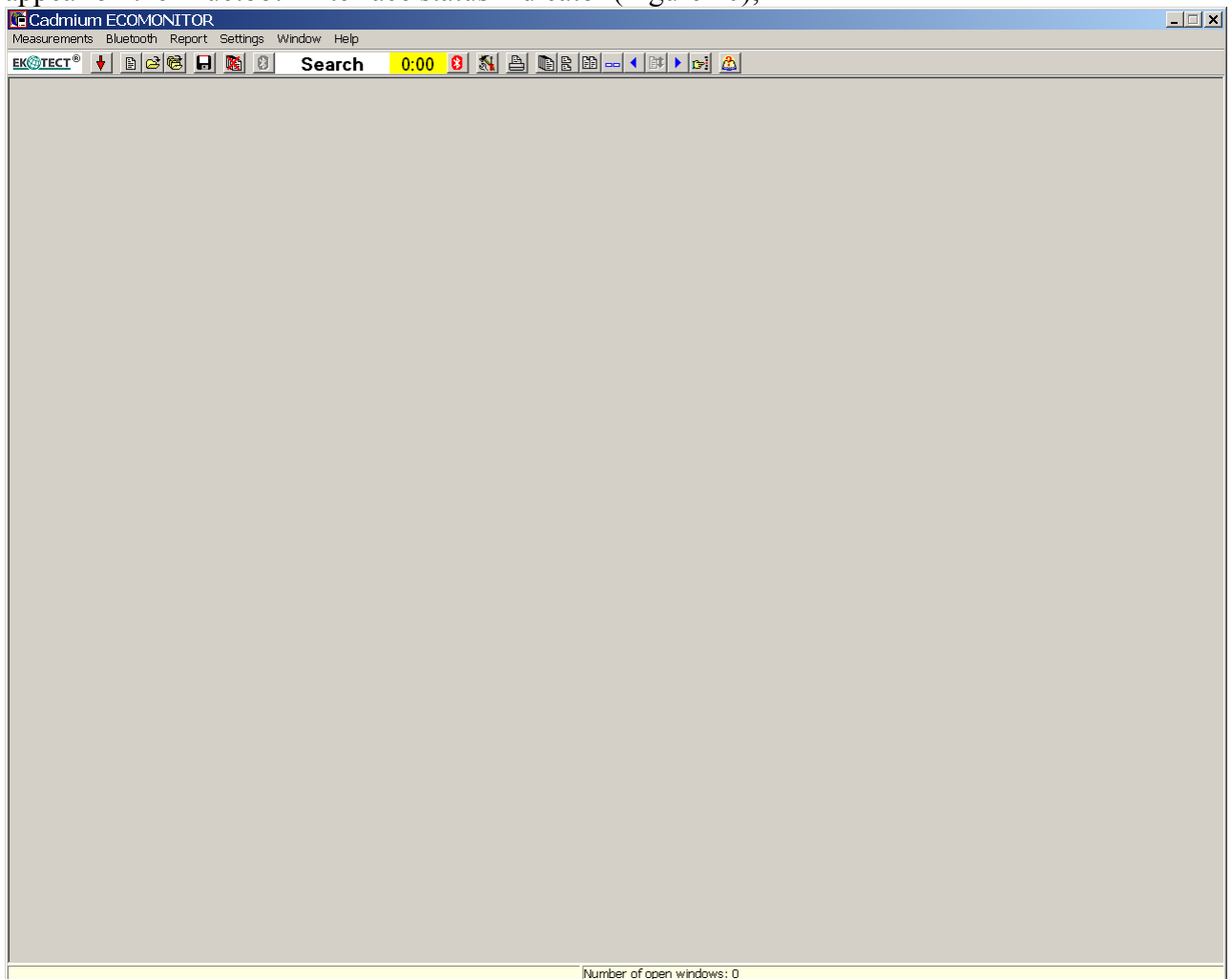


Figure 10 – Window of the activated Bluetooth interface of the program

- For MKS-05 or RKS-01 devices set the mode of communications with the PC (“PC” symbol appears on the LCD (Figure 11)) by successive presses of the **MODE** button. Then press the **THRESHOLD** button. The LCD of the device displays the Bluetooth symbol, the “PC” symbols start blinking and the device starts searching for the corresponding computer with **CHECKPOINT** name of the Bluetooth device to establish connection. **Caution! Do not carry out any additional actions on the PC at that!**

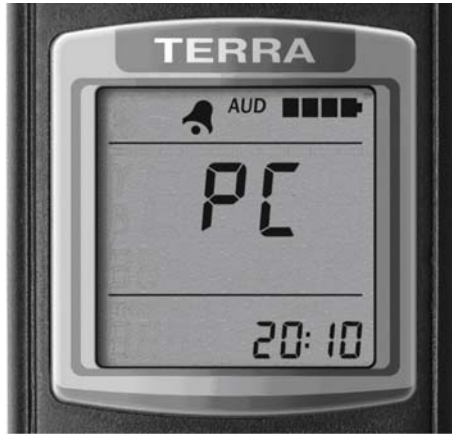


Figure 11 – LCD of the dosimeter  
(the mode of data communications control with the PC)

In case of a successful connection with the PC and data communications start, the LCD of the dosimeter displays a stripe (1) (Figure 12) “moving” across the instantaneous value indicator. The serial number of the device on a green background will appear on the Bluetooth interface status indicator together with the “NNNNNNN - found dosimeter” dialog box and “Connection with dosimeter established! Continue data communications?” query (Figure 13). Click “Yes”. Information read from the device will open in a new data window with the “NNNNNNN – Dosimeter operation protocol” heading (Figure 14) and the countdown starting from 5 min will take place on the allowed connection time indicator;

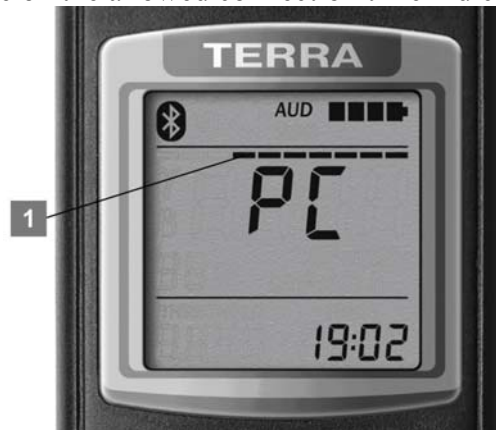


Figure 12– LCD of the dosimeter  
(Successful connection of the dosimeter and the PC)



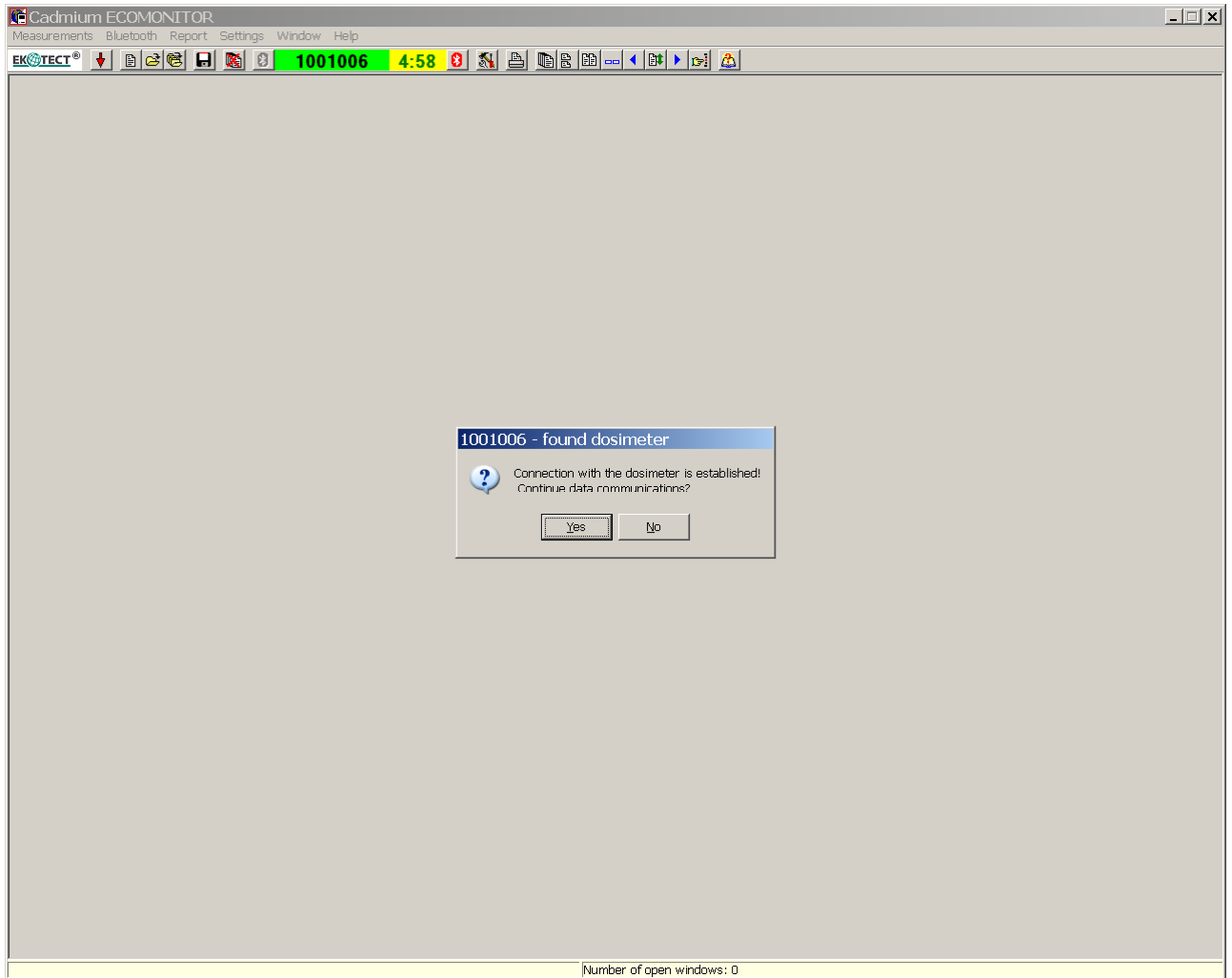


Figure 13 – Window of successful connection of the device and the PC via Bluetooth interface

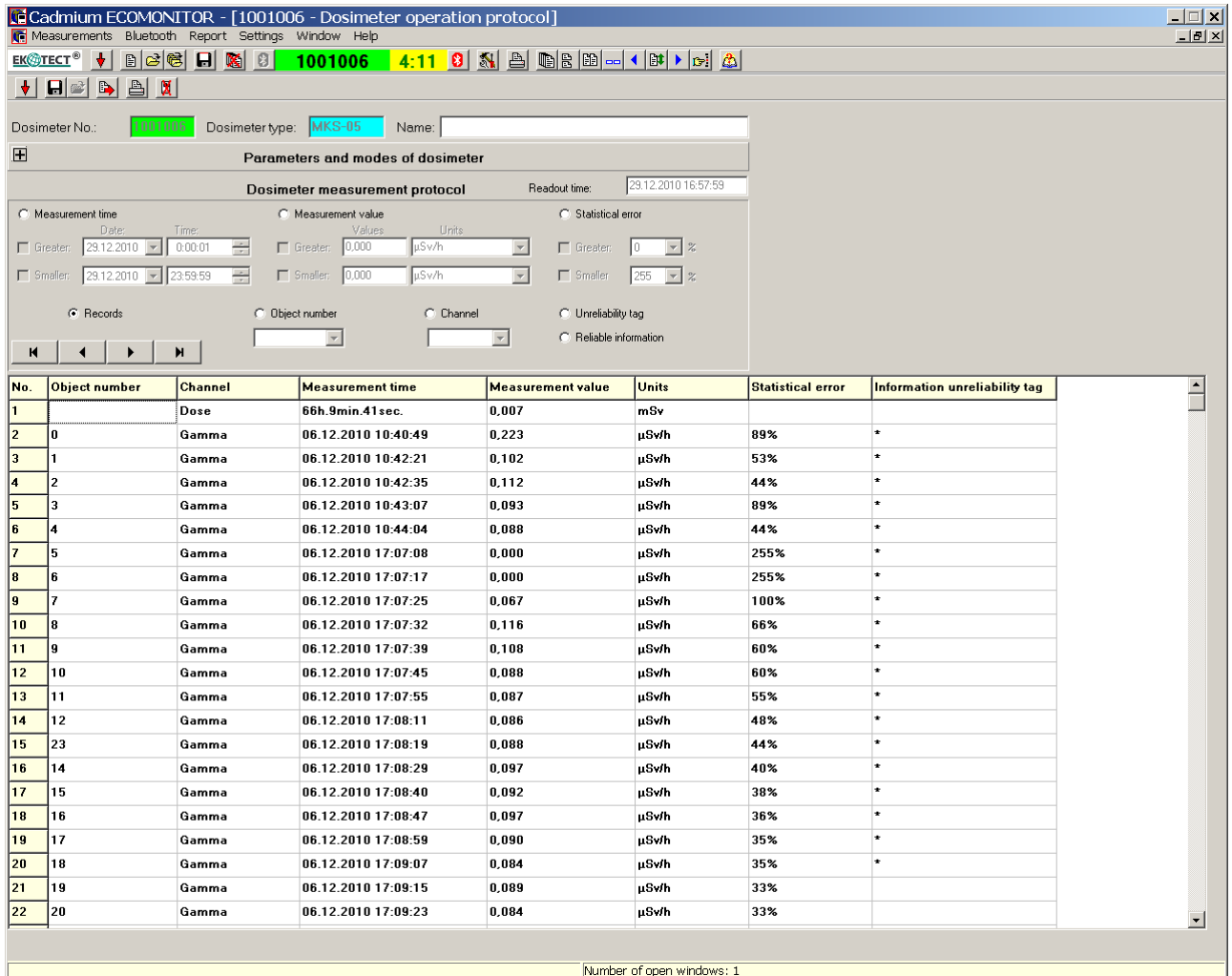


Figure14 – Window with measurement results data read from the device

- finish data communications with MKS-05 or RKS-01. For this purpose, specify the **“Finish communications”** command. After successful execution of the command, connection between the “Cadmium ECOMONITOR” program and the device breaks, the indicator of the Bluetooth interface status enters the **“Search”** mode, and the allowed connection time indicator is reset;
- press and hold (circa 6 seconds) the **MODE** button until the device turns off;
- disable the Bluetooth interface using the **“Deactivate Bluetooth”** command;
- close the data window by specifying the **“Close window”** command of the data window;
- exit the program by specifying the **“Exit program”** command in the program’s main window.

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