

PX227

DMX/0-10V
Interface 8ch

MANUAL



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Manufacturer reserves the right to make modifications in order to improve device operation.

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1. GENERAL DESCRIPTION

Demultiplexer DMX512 signal - DMX / 0-10 V Interface 8ch

The PX227 is designed to process the DMX512 signal to control the eight analog 0 - 10 V outputs (with accuracy +/- 3%). The device is manufactured in a housing designed for installation in electrical switchgear DIN rail T35.

In addition to simple decoding DMX signal the PX227 allows you to select the characteristics of control and to program unit reacts to loss of DMX signal.

Individually programmable parameters allow to define independent for each channel DMX address from range 1-512. What is more you can arbitrarily assign multiple channels to a single address.

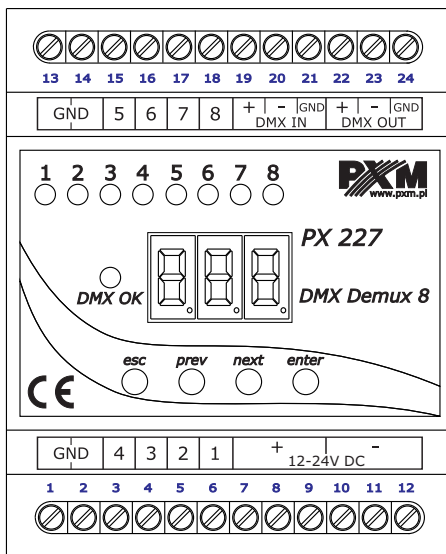
2. SAFETY CONDITIONS

PX227 is a device powered by low voltage equal to 12-24V; however, please observe the following safety rules during its installation and use:

1. Installation of the device, and in particular, connection of power, should be conducted by a suitably qualified person, as described in the manual.
2. The device can be connected only to the power supply of 12-24V DC (stabilized voltage) with a load capacity compatible with technical data.
3. Protect all cables against mechanical and thermal damage.
4. In case of failure of any of the cables, it must be replaced with a cable of the same technical parameters.
5. Only a shielded cable must be used to connect the DMX signal.
6. The device may only be installed in closed housing.
7. All repairs and connections of outputs or DMX signal can only be carried out with power disconnected.
8. PX227 must be strictly protected against contact with water or other liquids.
9. Avoid sudden shocks, particularly dropping.
10. Do not operate the device in rooms with humidity above 90%.
11. The device must not be used in rooms with a temperature below 2 °C or above 40 °C.

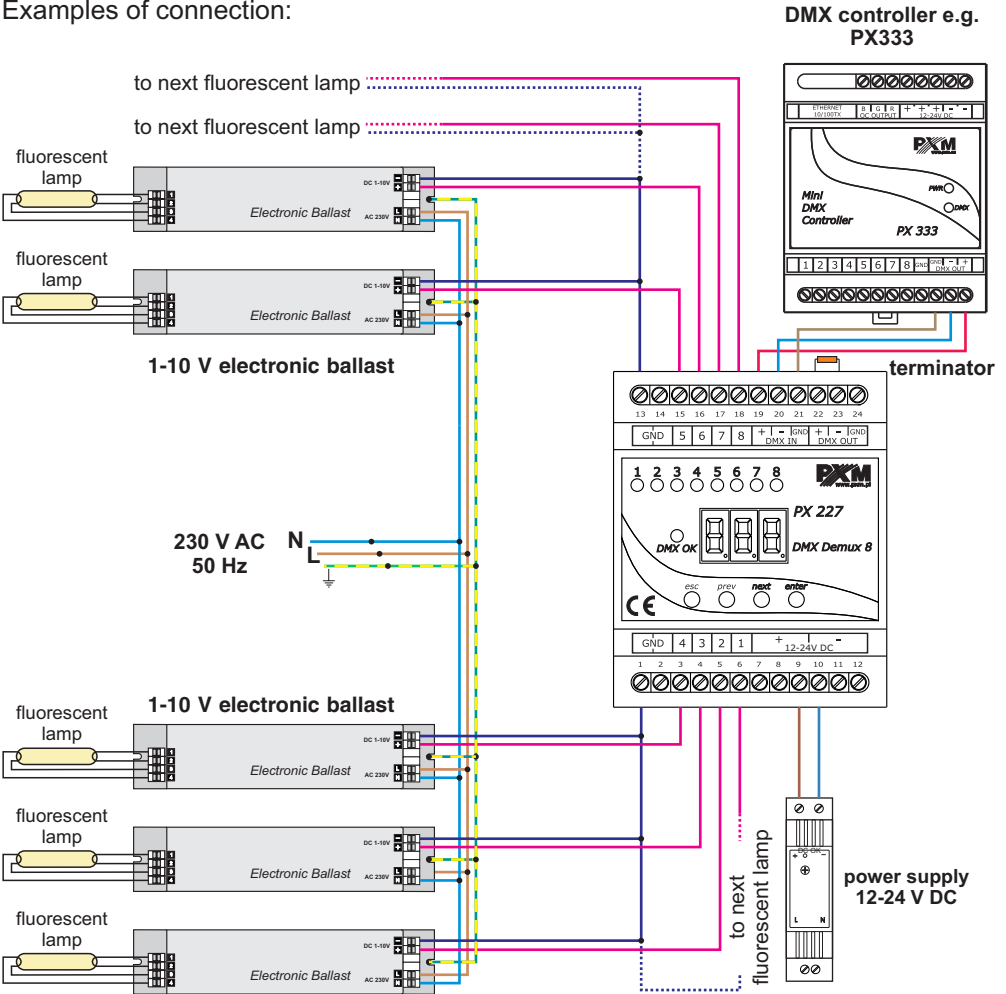
3. DESCRIPTION

Pin no.	Connection
1	GND (-)
2	GND (-)
13	GND (-)
14	GND (-)
6	OUT 1 (+)
5	OUT 2 (+)
4	OUT 3 (+)
3	OUT 4 (+)
15	OUT 5 (+)
16	OUT 6 (+)
17	OUT 7 (+)
18	OUT 8 (+)
7	DC + power type
8	DC + power type
9	DC + power type
10	DC - power type
11	DC - power type
12	DC - power type
19	DMX IN +
20	DMX IN -
21	DMX IN GND
22	DMX OUT +
23	DMX OUT -
24	DMX OUT GND



4. CONNECTION DIAGRAM

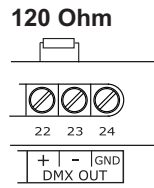
Examples of connection:



5. DMX SIGNAL CONNECTION

PX227 must be connected to DMX line in series. This means that DMX IN terminals in the device must be provided with the driving cable, and then from DMX OUT connector the driving cable must be provided to other DMX receivers.

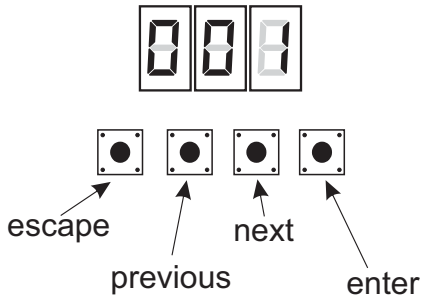
If PX227 is the last device in DMX line, "DMX+" and "DMX-" terminals must be provided with the terminator – resistor of 120 Ohm between pins 22 and 23.



6. PROGRAMMING

After switching on, the display shows the version of the program. During the normal operation of demultiplexer, the display shows only one dot. Press "enter" to go to the main menu, the display shows **ALL**. Press "previous" or "next" to select the programming menu (**ALL**, **Ind**, **dEF**) and press "enter" to confirm.

Navigating the menus:



escape - exits the currently programmed parameter without saving changes, or takes you to a higher menu level.

previous - takes you to a lower menu level, or reduces the set values

next - takes you to a higher menu level, or increases the set values

enter - takes you to device programming function, and confirms the set values

7. PROGRAMMING OF GROUP PARAMETERS

Programming in this menu is common to all channels.

After selecting **ALL** from the main menu, confirm selection by pressing "enter", then with "next" or "previous" select the parameters to be set:

- Adr** - DMX address of the device,
- Cur** - feature of channel dimming,
- noS** - response of the device to the loss of DMX signal,
- Sth** - the function of smoothing the transitions between different values.

The next step is to confirm selection by pressing "enter".

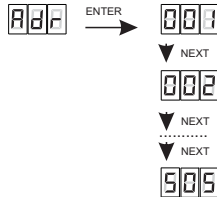
The address or feature programmed in this way will delete the previous individual settings of the channels.

7.1 Setting of DMX address

PX227 menu allows you to set DMX address of the device in the range from 1 to 505.

In order to set DMX address:

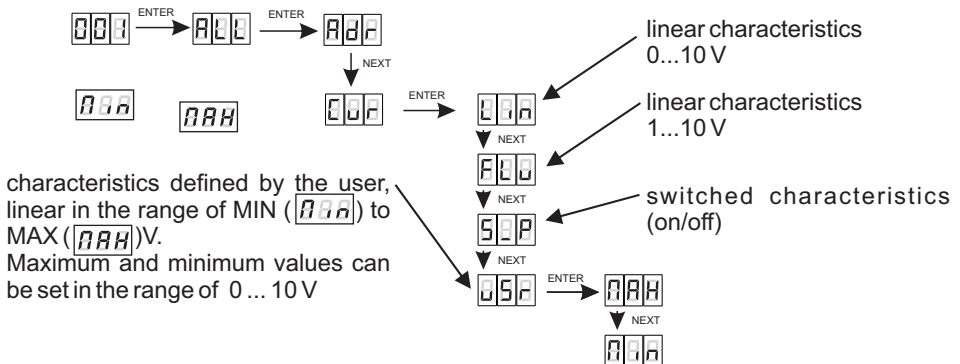
1. Set the **Adr** function.
2. By using "next" or "previous" set the selected DMX address. In order to accept the settings, press "enter".



7.2. Feature of output channels

To adjust the features for all channels set:

1. From the start menu (which is the address of the first channel) by pressing enter, go to the menu of group settings **ALL**
2. Press "enter" again in order to change the settings for all channels
3. Use „next" to select **Cur**. This will allow you to change the characteristic of channel dimming.

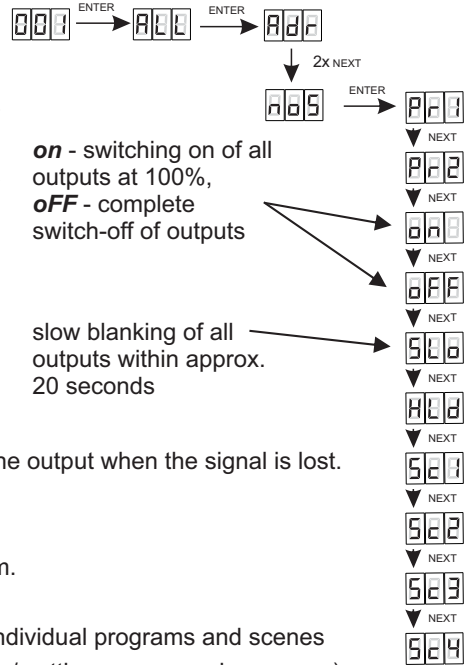


7.3. Response to the loss of DMX signal

This function is used both to protect the system against the disappearance of DMX signal and to gain a specific state on outputs. After it has been activated, in case of a lack of DMX signal, the module will perform the selected function by itself. The reconnecting of DMX signal will automatically break the performed function, and the module will again be controlled by DMX signal.

In order to start the NO SIGNAL function, enter **noS** option

1. From the start menu (which is the address of the first channel) by pressing enter, go to the menu of group settings.
2. Press "enter" again in order to change the settings for all channels.
3. Use "next" to select **noS**. This will allow you to change the characteristic of channel dimming.



The **HLd** function keeps the last DMX value on the output when the signal is lost.

Playback of the first **Pr1** and second **Pr2** program.

Screen playback: **Sc1, Sc2, Sc3, Sc4**.

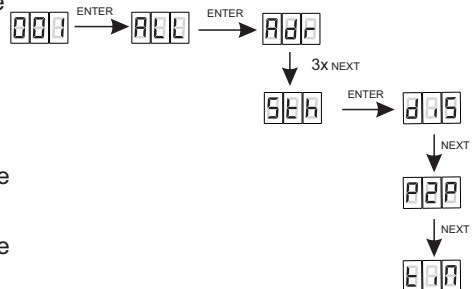
Detailed information on the configuration of the individual programs and scenes can be found in section 9 of the manual (Defining / setting scenes and programs).

7.4. Smoothing function

The device also has the smoothing option. Smoothing allows for smooth color changes. When this option is enabled, switching between successive DMX values sent to channels is smooth, which prevents abrupt changes in voltage.

In order to start the smoothing function, enter the **Sth** option.

1. From the start menu (which is the address of the first channel) by pressing enter, go to the menu of group settings.
2. Press "enter" again in order to change the settings for all channels.
3. Press "next" three times and select the smoothing function, confirm by pressing "enter".



The enabled smoothing function can slightly slow down the device response to the change of DMX signal, so it is possible to switch off this option. In order to switch off smoothing, select **diS** parameter and confirm the selection with "enter".

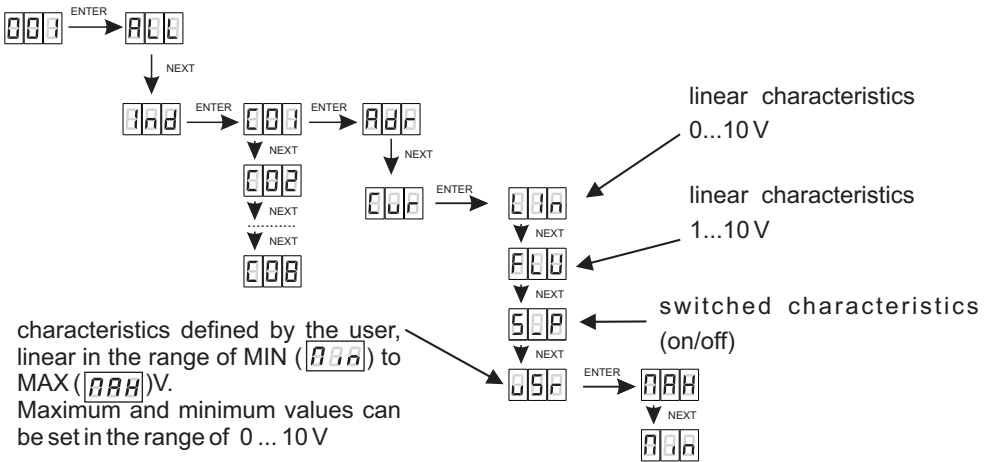
The selection of **P2P** function allows linear transition between successive DMX values.

Time smoothing - time **E_{BN}** allows you to set the time of linear transitions between successive DMX values. The minimum value is 10 [ms] and the maximum is 999 [ms]. This can be smoothly changed by selecting the expected value using "previous" and "next" buttons.

8. PROGRAMMING OF INDIVIDUAL PARAMETERS

PX227 device has the option of individual settings. It allows you to assign each of the eight output channel with any DMX address. It is possible after selecting **Adr.** DMX address can be selected within a range from 1 to 512.

It is also possible to set the output characteristics for each channel:



9. DEFINING, SETTING THE SCENES AND PROGRAMS

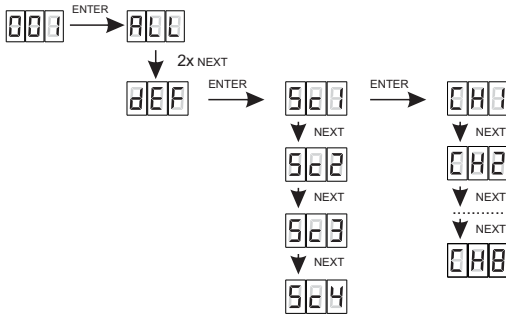
Select **deF** function to set scenes and programs, their number and duration, as well as the smooth transition between the successive steps.

If needed, you can reduce the number of steps of the program (the maximum is 10). In scenes, you can set the output voltage for each channel.

All the scenes and programs are set by default, but can be customized to suit your needs.

9.1. Scenes

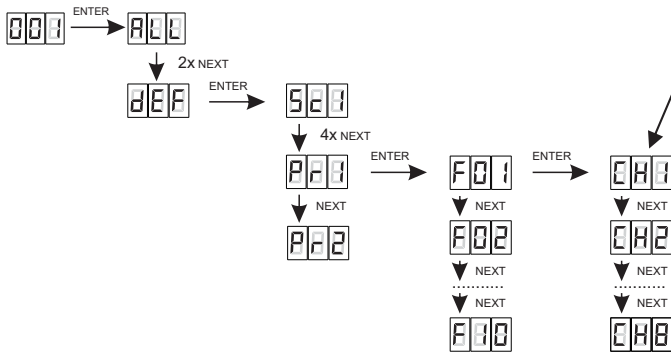
In **dEF** menu, select a scene (there are four scenes available to choose from) that you want to program and press "enter". The display shows **CH1** – the first channel. Press "enter" to start editing the channel.



To set the value of output voltage for channel, in the tab of the channel, select the appropriate value between 0 and 255. In order to accept the settings, press "enter". Selecting zero means setting the minimum value.

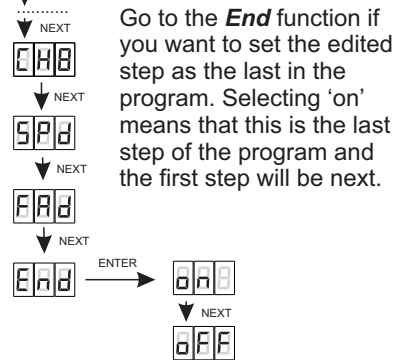
9.2. Programs

In **dEF** menu, select a program (there are two programs available to choose from) that you want to set and press "enter".



To set the value of output voltage for channel, in the tab of the channel, select the appropriate value between 0 and 255. In order to accept the settings, press "enter". Selecting zero means setting the minimum value.

In order to change the speed of changing the steps, press "enter" in the tab of the selected program. Then click "next" or "previous" to set **FAd** parameter. Repress "enter" and enter the selected value between 0 (transition function) to 100 (completely smooth transition) by using "previous" or "next". Confirm the settings with "enter".

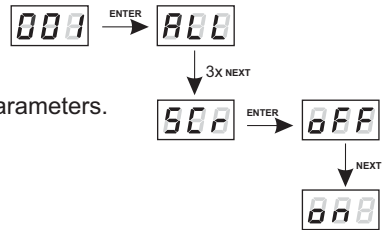


Go to the **End** function if you want to set the edited step as the last in the program. Selecting 'on' means that this is the last step of the program and the first step will be next.

In order to set the playing speed of the program, in the program tab press "enter". Then enter the program settings step and go to the field **Spd**. Repress "enter" and select the appropriate value from 0.1 to 25.0 seconds. In order to accept the settings, press "enter".

10. SCREEN BLANKING

The device has been equipped with the option of switching off the backlight of the screen. This is provided by the **SCr** option. By using it, the display is switched off after approx. 1 min. of inactivity (buttons unused).



The device still operates without interfering with other parameters.
Use any button to restore the backlight.

In order to activate the screen blanking function:

1. Set the **SCr** function and confirm with "enter".
2. With "next" or "previous" change the value to 'on' and confirm with "enter".

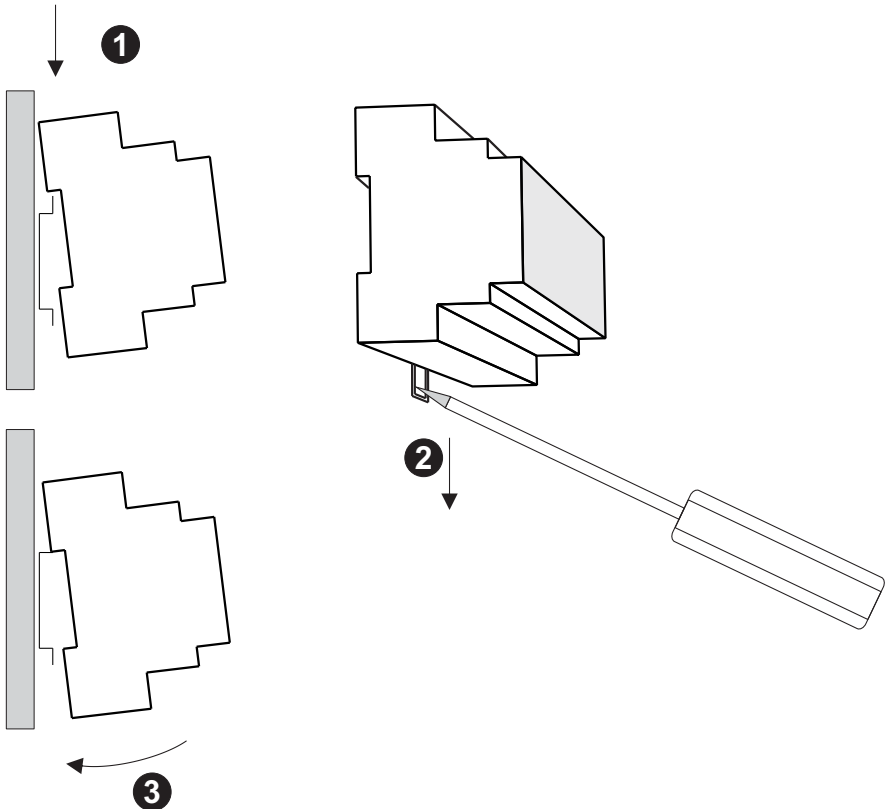
Similarly, you should follow in order to switch off this function, but then selecting **oFF**.

11. MOUNTING

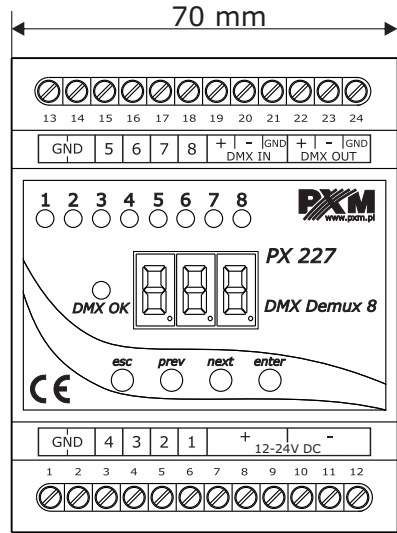
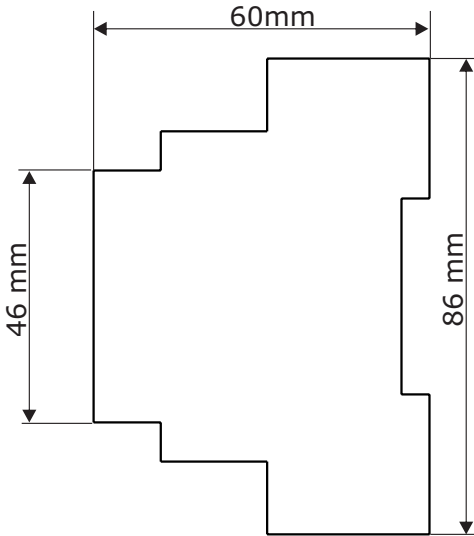
PX227 is installed on the mounting rail T35 in order to provide stable positioning and comfortable access to the device.

Installation on the mounting rail:

1. Set PX227 diagonally to the rail by hooking the two supports on the rear panel of the unit on the upper part of the assembly strip.
2. Pull the latch down using a screwdriver.
3. Attach the device to the rail, still holding a screwdriver in a latch.
4. Release the latch.



13. DIMENSIONS



14. TECHNICAL DATA

- DMX channels: 512
- power supply: 12-24 V DC
- current consumption: max. 250 mA
- number of output channels: 8
- output carrying capacity: max. 30 mA / channel
- voltage on outputs: 0-10 V (+/- 3%)
- output slots: screw terminals

- dimensions:
 - width: 70 mm (4 rail modules)
 - height: 86 mm
 - depth: 60 mm





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DECLARATION OF CONFORMITY according to guide line 2004/108/WE

Name of producer: PXM s.c.

Manufacturer's address: ul. Przemysłowa 12
30-701 Kraków

We declare that our product:

Product name: **DMX DEMUX 8**

Product code: **PX227**

complies with the following standards:

PN-EN 61000-6-1
PN-EN 61000-6-3

Additional information:

1. DMX signal connection must be made using a shielded cable, connected to pin 1 of the plug.
2. The module may only be installed in closed electrical switching stations.

PXM S.C.
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30-701 Kraków, ul. Przemysłowa 12
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Kraków, 13.11.2009

mgr inż. Marek Żupnik.