

PX314/PX814

User manual

PC applications



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

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1 Network settings

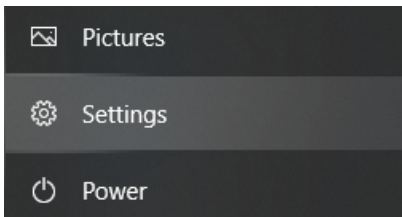
The device allows for setting the IP address in any subnet. The default IP address of the device is set according to the Art-Net standard in 2.0.0.0/8 subnet.

1.1 Change of the computer network configuration

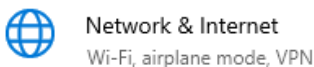
The procedure for changing the computer network configuration varies depending on the operating system. Windows® 7 system is an example here.

Change of the computer network configuration in the Windows® 7 operating system is done in the following:

1. Click **[Start]** 
2. Select **[Settings]** tab

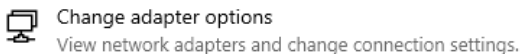


3. Go to **[Network & Internet]** tab

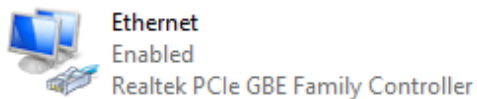


4. Select **[Advanced network settings]**

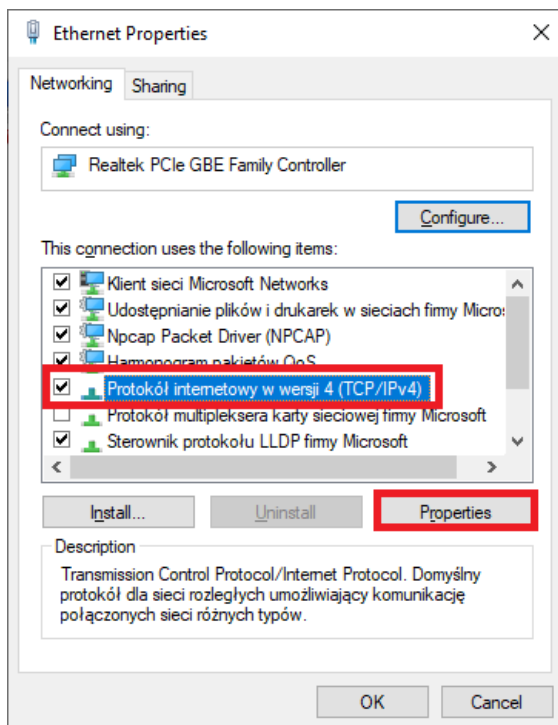
Advanced network settings



5. Right-click on the appropriate connection, for example it could be **[Ethernet]** and select **[Properties]**

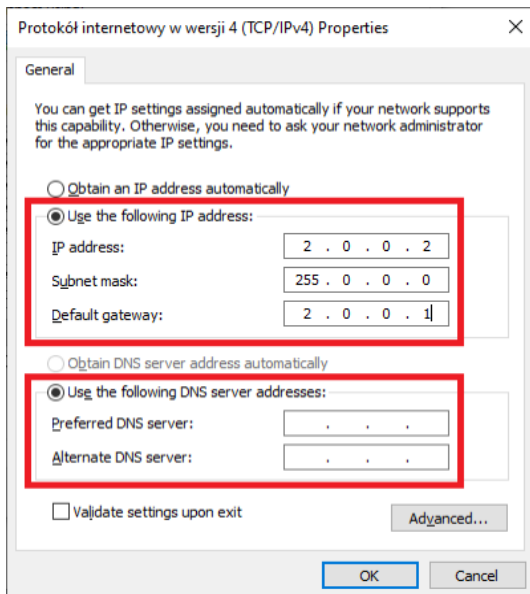


6. In the new window that appears, select **[Internet Protocol Version 4 (TCP/IPv4)]** and then press properties



7. In the next window, select [Use the following IP address:]

To connect directly (computer – driver) with a controller that has a default configuration, use the sample settings:

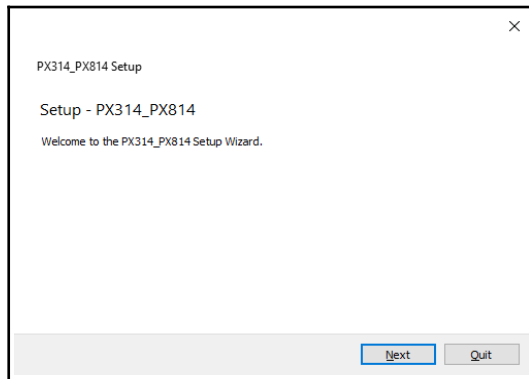


IP address: 2.0.0.2
Subnet mask: 255.0.0.0
Default gateway: 2.0.0.1

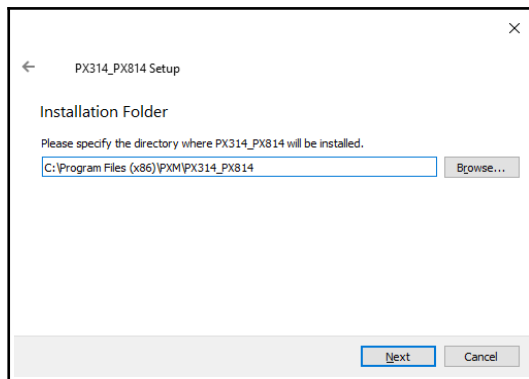
2 Software installation

The software can be installed on Windows® 7 or later. The procedure for installing the software varies depending on the operating system on the computer. Windows® 10 system is an example here.

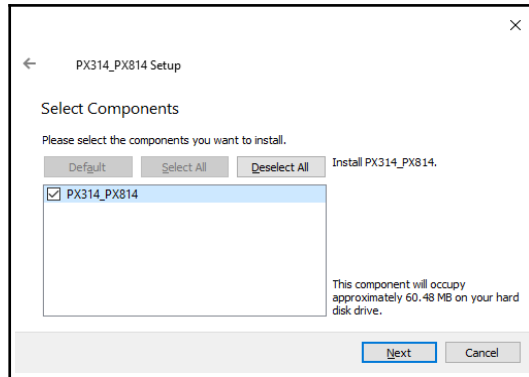
1. Open the installation file downloaded from the manufacturer's website. Click the **[Next]** button to proceed to software installation.



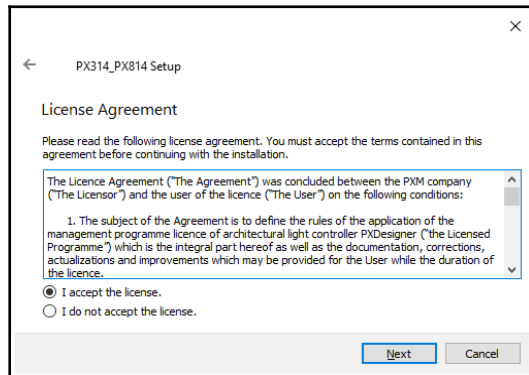
2. Select the folder in which the software is to be installed. Confirm your selection by clicking the **[Next]** button.



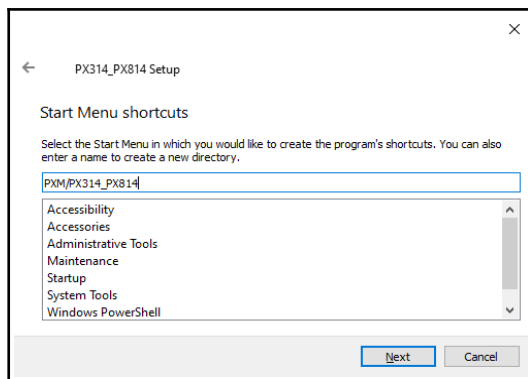
3. Select the components you want to install (PX314_PX814), and then click **[Next]**.



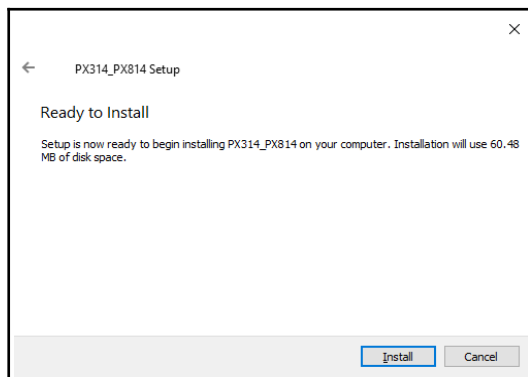
4. Read the license agreement, if you agree to the terms of the agreement, select **[I accept the license]** and click **[Next]**.



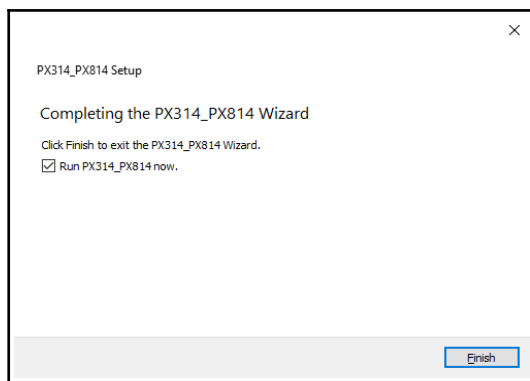
5. Select the start menu where you want to create a shortcut to the program. You can also change the directory name, then click **[Next]**.



6. The installer will ask again if you want to install the software, click **[Install]** if you agree.



- When the installation completion window appears on the screen, press **[Finish]** to exit the installation wizard. If you want to go to the program, check **[Run PX314_PX814 now]** in the selection box.



3 Construction and functionality of the application window

The information presented in the program are grouped on the panel which is divided into tabs: **[Summary]**, **[Devices]**, and in the main menu in the form of pull-down menu: **[File]**, **[Devices]**, **[Language]**, **[Help]**. In addition, the central part of the application window is workspace.

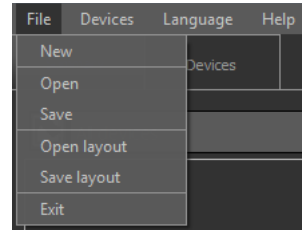
Depending on the tab selected in the panel, the contents of the main panel are changed.

3.1 Main menu

The application menu bar consists of 4 categories:

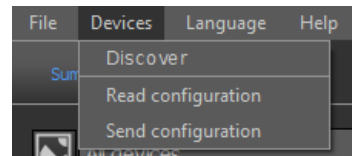
[File]:

- **New** – adds a new default configuration to the list,
- **Open** – opens the existing and previously saved configuration file,
- **Save** – displays a dialog to choose a location where to save the file; the user will be asked to enter the file name, the file extension will be *.cfg314,
- **Open layout** – opens an existing and previously saved file with the layout configuration,
- **Save layout** – saves layout configuration,
- **Exit** – closes the application.



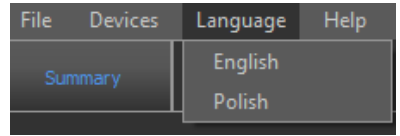
[Devices]:

- **Discover** – searches for dimmers in the network,
- **Read configuration** – displays a list of dimmers with which the application is connected then, the user should select the device from which you want to download the configuration. If the application is connected to no device, an appropriate message will be displayed.
- **Send configuration** – as in **Read configuration** – the application must be connected to dimmer to send the configuration.



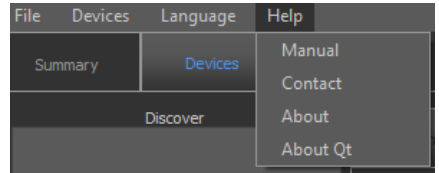
[Language]:

- *English*,
- *Polish*.



[Help]:

- *Manual* – opens the manual (it is displayed in the language which is set in the application),
- *Contact* – displays the contact information of the manufacturer,
- *About* – displays the software information,
- *About Qt* – information on the Qt library used (version, license).



3.1.1 Connection to devices

The application can connect with 16 dimmers (PX314 / PX814) available on the network. To make distinction between dimmers easier, the user can give them labels.

Start working with the application as follows:

1. From the menu, select **[Devices]** → **[Discover]**

The application displays the message *Searching devices. Please wait*. Should the application not find any device, it will display the message *No devices found*.

NOTE! If there are already connections, a message will appear that the current connections will be disconnect and the configurations will be deleted.

2. In the device selection window [Devices], check next to the device or devices with which you want to connect and confirm your selection by clicking *OK*.
3. The application will ask: *Would you like to get configs from devices*, if you agree, select *Yes*, the application will display the message *Downloading configurations. Please wait*.

4 Summary

The appearance of the [Summary] tab:

The screenshot shows the Pulse software interface with the following components and labels:

- main menu and tabs:** Located at the top left of the window.
- selection device:** A dropdown menu labeled "All devices" below the main menu.
- dimmer name and number:** Labels for "AA Dimmer 1", "AB Dimmer 2", and "AC Dimmer 3" above their respective channel displays.
- full screen view option:** A button in the top right corner of the dimmer display area.
- device information:** Text at the bottom of each dimmer display showing "Frequency: 49.9 Hz", "Temp 1: 25.4°C", "Fan 1: Off", "Phase 1 voltage: 239 V", "Phase 2 voltage: 239 V", "Current: 0.9 A", "Temp 2: 22.4°C", "Fan 2: Off", "Phase 2 voltage: 241 V".
- error notification key (if any):** A red triangle icon in the bottom right of each dimmer display.
- current value on the channel:** The percentage value shown inside each of the 24 channel bars.

The screen can display all devices that are currently connected to the application. After moving the cursor to the selected channel, the following information will be displayed:

- **Channel output** – output of the channel, value given in %,
- **Input value** – channel value calculated from inputs,
- **Fuse** – fuse status, error messages,
- Input values:
 - **Merge mode**,
 - **Override** – state of bypass switch (ON / OFF),
 - **DMX1**,
 - **DMX2**,
 - **Artnet1**,
 - **Artnet2**,
 - **Artnet3**.

Channel colors:

- **pink** – channel set to *ALWAYS ON*,
- **orange** – there is a warning on the channel,
- **red** – there is an error on the channel,
- **navy blue** – *Override* is active (*Bypass* switch is on),
- **blue** – channel control.

4.1 Errors




Error notification key is displayed on the screen when one of the following errors is detected in the dimmer (to display error messages, click the warning icon)

Possible messages:

- **PHASE LOSS** – error, no voltage on the phase (contact the service),
- **PHASE ERROR 1** – error, internal error (contact the service),
- **MODULE NOT RESPONDING** – error, no communication with the unit (contact the service),
- **TERMISTOR MISSING** – error, thermistor damage (contact the service),
- **TERMISTOR SHORTED** – error, thermistor is shorted (contact the service),
- **OUTPUT SHORTED** – error, channel is shorted (contact the service),
- **FUSE MISSING** – warning, fuse is not enabled or one supply phase is missing,
- **OVERLOAD** – warning, channel overcurrent
- **TRIAC SHORTED** – error, triac is shorted (contact the service),
- **OPEN CIRCUIT** – warning, open circuit or burnt bulb.

The messages are divided into errors and warnings – errors are shown in **red**, and a warnings in **orange**.

The function **[Clear errors]** – error confirmation (first, remove the error cause).

Click on the icon  to return to the channel summary window.

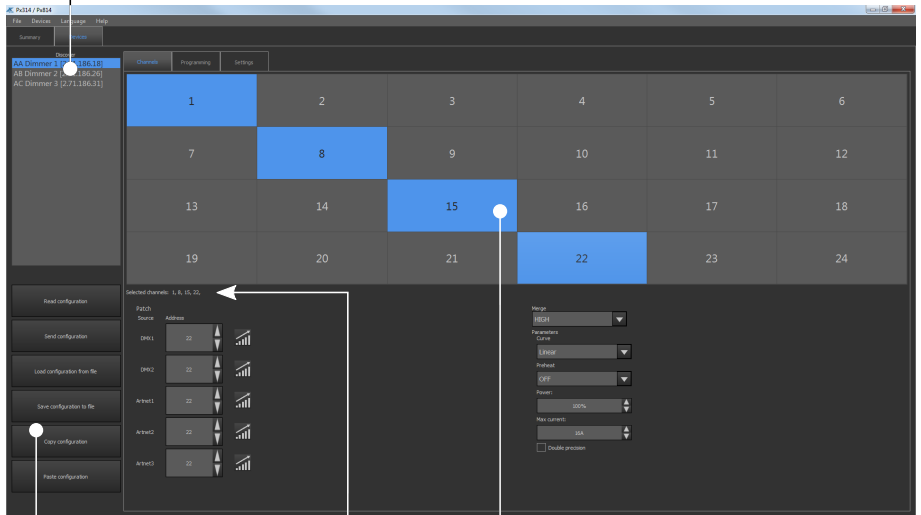
NOTE! In the case of closing the output circuit, the dimmer automatically disconnects the circuit. In this case, disconnect device from the power supply and check the cause of short circuit.

5 Devices

In the **[Devices]** tab, the following tabs are available:

- **[Channels]** – setting the parameters of output parameters,
- **[Programming]** – defining the scenes and program that can be activated in the absence of DMX signal,
- **[Settings]** – management of characteristics curves, settings of: network, fan, Art-Net, no signal option, display and password protection of the device.

devices / local configuration list



configuration options

list of selected channels

workspace

The list of configuration options includes:

- **[Read configuration]** – opens the window for the selection of device it is connected to and for which the configuration is to be read. If a password is set for the device – it displays a window to enter the password.

NOTE! The configuration is read only from the device selected on the left in the **[Discover]** list.

- **[Send configuration]** – opens the window for the selection of device it is connected to and to which the configuration is to be sent. If a password is set for the device – it displays a window to enter the password.

NOTE! The application sends the configuration to the currently selected device in the **[Discover]** list on the left. In the case of sending a local configuration, a dialog box will appear with the option to select the target device.

- **[Load configuration from file]** – it displays window for the selection of file stored on hard disc,
- **[Save configuration to file]** – displays a dialog to choose a location where to save the file; the user will be asked to enter the file name, the file extension will be **.cfg314*,
- **[Copy configuration]** – copies the selected configuration,
- **[Paste configuration]** – pastes the copied configuration into another, selected in the list.

To view the dimmer configuration, it must be read from the dimmer. All configuration changes should be sent to the dimmer. When reading and sending the configuration, the user must enter the administrator password (if any):

- **[2.71.180.181]** – IP address of the device from which the configuration was downloaded,
- **[Local]** – local configuration (i.e. created/stored in the application memory).

By double right-click on the device name in the **[Discover]** box, the user can open the window for editing the device label – the label change should also be sent to the device.


NOTE! The configuration currently selected on the list is displayed in the work space.

5.1 Channels

The **[Channels]** tab allows for setting the merging mode and input offset for each channel in the selected configuration. It is also possible to select a curve for each channel and adjust the “preheat” parameter.

Click on the channel to select it. Click while holding down the Shift key to select a range of channels; click while holding down the Ctrl key to select several channels at once. If several channels are selected, parameters will be adjusted for each of them.

Mapping (setting the channel address on outputs) is as follows:

1. Select (as described above), the channel or channels for which you want to set the address.
2. In the source address box, type the address of your choice. All selected channels will be addressed in the same way.
3. After pressing the  key, the application will set next addresses on the selected channels, starting with the given address.

Available values for the merge mode:

- **ALWAYS ON** – channel is always enabled,
- **HIGH** – the highest of values,
- **LAST** – last value,
- **DMX1** – value from the DMX 1 input,
- **DMX2** – value from the DMX 2 input,
- **UNIVERSE 1** – value from the Art-Net 1 input
- **UNIVERSE 2** – value from the Art-Net 2 input,
- **UNIVERSE 3** – value from the Art-Net 3 input,
- **is DMX1/DMX2** – value from the DMX 1 input, if there is a signal on it, if not – DMX 2 input,
- **is DMX1/DMX2 CAPTURE** – if DMX 1 and DMX 2 are enabled, value from the DMX 1 input is selected. If you disable DMX 1, value from the DMX 2 is selected only when it reaches the DMX 1 input value, only when it reaches the DMX 1 input value. This mode prevents abrupt changes in values

- *is DMX2/DMX1* – value from the DMX 2 input, if there is a signal on it, if not – DMX 1 input,
- *is DMX2/DMX1 CAPTURE* – if DMX 1 and DMX 2 are enabled, value from the DMX 2 input is selected. If you disable DMX 2, value from the DMX 1 is selected only when it reaches the DMX 2 input value, only when it reaches the DMX 2 input value. This mode prevents abrupt changes in values
- *is DMX1/UNVRS 1* – value from the DMX 1 input, if there is a signal on it, if not – UNIVERS 1 input,
- *is DMX1/UNVRS 1 CAPT.* – if DMX 1 and UNIVERS 1 are enabled, value from the DMX 1 input is selected. If you disable DMX 1, value from the UNIVERS 1 is selected only when it reaches the DMX 1 input value.
- *is UNVRS 1/DMX1* – value from the UNIVERS 1 input, if there is a signal on it, if not – DMX 1 input,
- *is UNVRS 1/DMX1 CAPT.* – if DMX 1 and UNIVERS 1 are enabled, value from the UNIVERS 1 input is selected. If you disable UNIVERS 1, value from the DMX 1 is selected only when it reaches the UNIVERS 1 input value.

The user can select the following curves:

- ***Logarithmic*** – logarithmic characteristics,
- ***Linear*** – the value on the output is directly proportional to the input value,
- ***Exponential*** – exponential characteristics,
- ***ON/OFF*** – two-level characteristics,
- ***Reversed*** – the value on the output is inversely proportional to the input value,
- ***User1-5*** – 5 curves to be defined by the user.

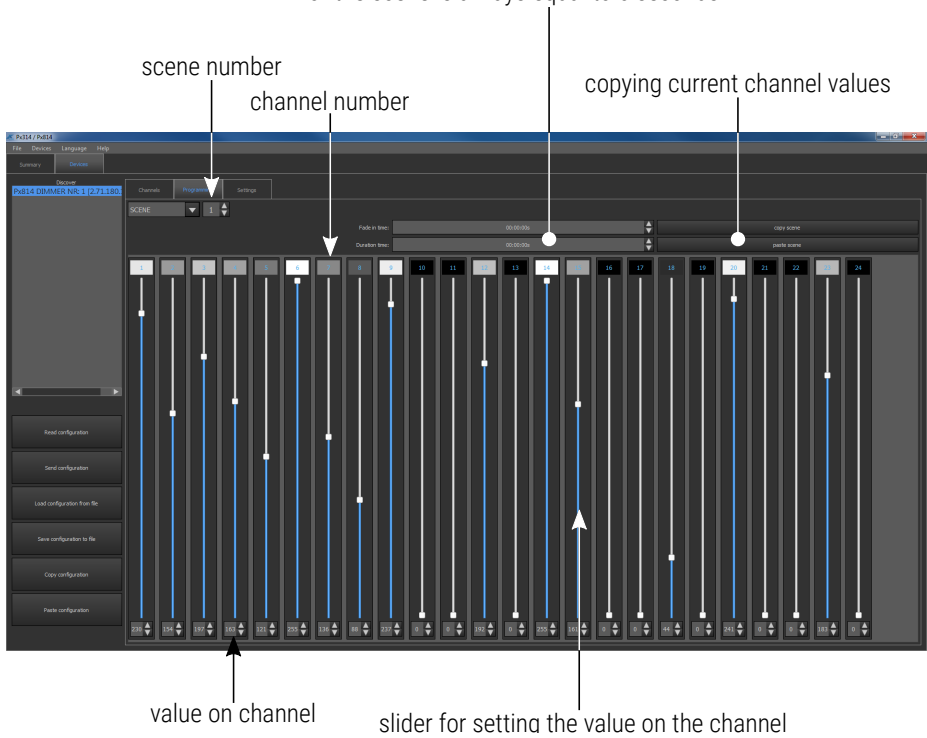
5.2 Programming

The programming tab allows for defining the appearance of all available scenes and creating a program with them.

5.2.1 Scene edit

Select the **[SCENE]** option from the drop-down menu to edit on of 128 scenes.

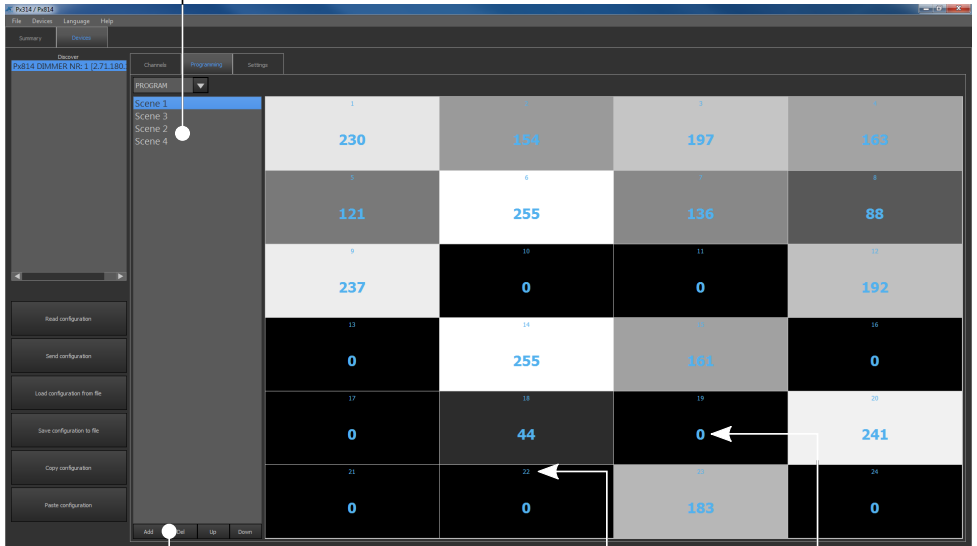
time change - allows you to set the time of entry and duration of a given scene, the time of fading of the scene is always equal to 5 seconds



5.2.2 Program edit

Selecting **[PROGRAM]** from the pull-down menu allows to edit the program, which may consist of 64 scenes.

sequence of steps in the program



options for adding and removing program steps, and changing their order

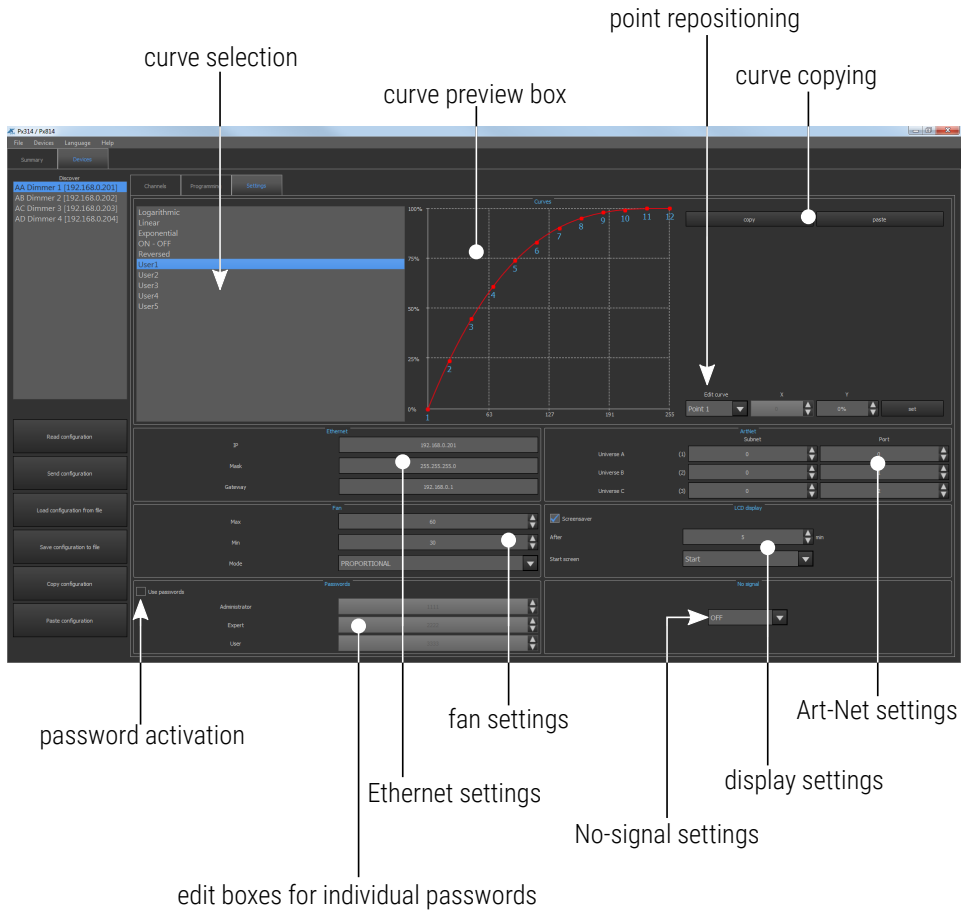
channel number

value on the channel

5.3 Settings

The **[Settings]** tab includes all other dimmer settings:

- curves edit,
- Ethernet settings,
- Art-Net settings,
- fan settings,
- display settings,
- passwords,
- "No signal" settings.

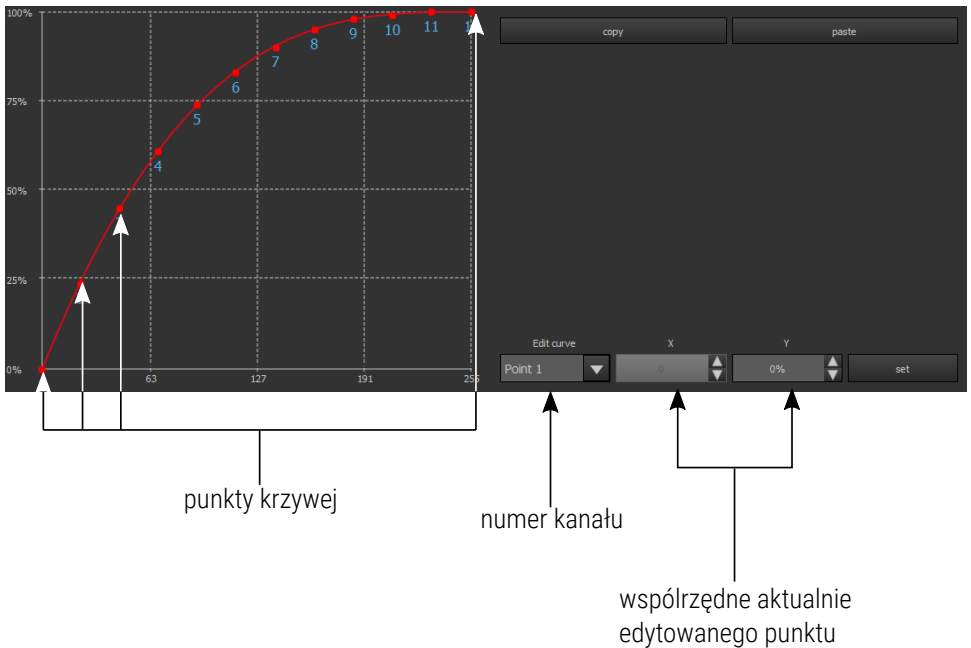


5.3.1 Curves edit

10 curves are available in the device: 5 preset and 5 user-definable. Preset curves can be previewed and copied. User's curves can be edited and copied.

For preset curves, the **[Copy]** key is displayed next to the preview. For user's curves, **[Copy]** and **[Paste]** keys are available.

Pressing the **[Copy]** key allows to copy the selected curve values (preset and user's curves) to one of the five user's curves. Pasting is possible after selecting the **[Paste]** key.



NOTE! The first point of the defined curve must always have the x coordinate equal to 0.

Configuration of the user's curve:


1. In the **[Devices]** → **[Settings]**, select the user's curve, e.g. **[User1]**.
2. Enter the channel input values (x coordinate) and the channel output power values (y coordinate) for twelve points. Any change of value should be confirmed by clicking the **[Set]** key.

The curve will be drawn between the designated points. The curve can be created from 2 – 12 points.

NOTE! Only the points for which the values on the x-axis are given incrementally are taken into account. If you enter lower x value than the previous one, only these points that meet the ascending principle for the x value will be taken into account.

5.3.2 Ethernet

In the **[Ethernet]** menu, dimmer network settings are available: IP, mask and gateway.



The screenshot shows a dark-themed interface for the 'Ethernet' settings. The title 'Ethernet' is at the top right. Below it are three rows, each with a label on the left and a text input field on the right. The first row is 'IP' with the value '2.71.180.181'. The second row is 'Mask' with the value '255.0.0.0'. The third row is 'Gateway' with the value '2.0.0.1'.

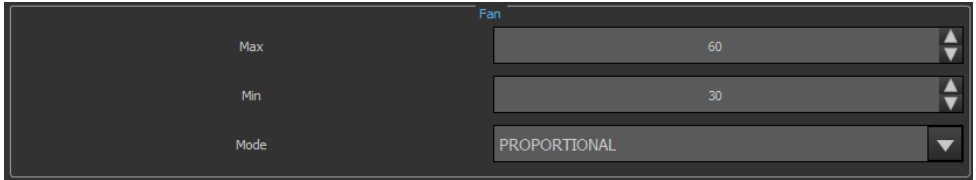
Label	Value
IP	2.71.180.181
Mask	255.0.0.0
Gateway	2.0.0.1

5.3.3 Fan

Dimmer monitors the temperature of channel groups; if the temperature of +65°C is exceeded, the output power is automatically reduced. This reduction is linear over the range from +65°C to +80°C, i.e., if the temperature of +80°C is exceeded, the device will disable the channels.

The following settings are available in the fan menu:

- **Max** – temperature at which the fan operates with maximum power,
- **Min** – temperature at which the fan turns on,
- **Mode** – operating mode.



The screenshot shows a dark-themed interface for the 'Fan' menu. It contains three settings: 'Max' set to 60, 'Min' set to 30, and 'Mode' set to 'PROPORTIONAL'. Each setting is displayed in a grey box with a small arrow icon on the right side for adjustment.

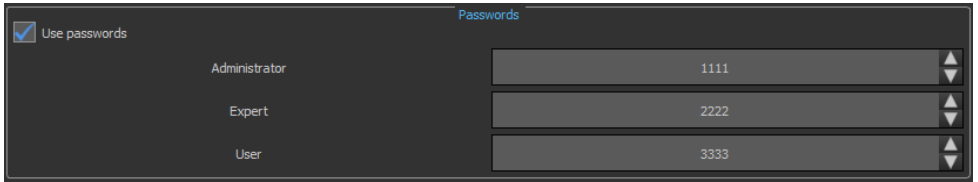
Fan operation modes:

- **PROPORTIONAL** – the air flow increases linearly with the increasing temperature (between the minimum and maximum temperature),
- **HYSTERESIS** – the fan turns on and operates at 100% when the specified maximum temperature is exceeded, and turns off below the minimum temperature,
- **ON** – fan operates with maximum power.

NOTE! The device has a safety feature that turns the fan on also when the load current of any output exceeds 5A, or the total current exceeds 20A.

5.3.4 Passwords

The [**Passwords**] category allows for setting the access passwords for 3 different accounts on the device:

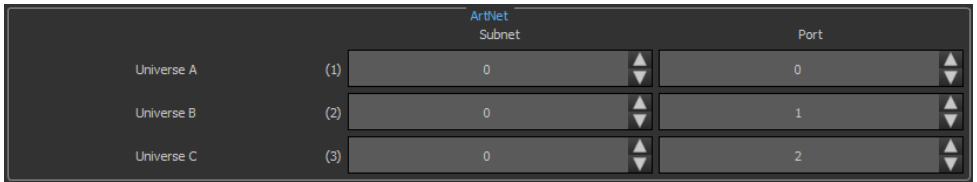


The device has 3 users whose access levels are shown in the table below:

	No logging	User	Technician	Administrator
Start screen	✓	✓	✓	✓
Summary screen	X	✓	✓	✓
Channel preview screen	X	✓	✓	✓
Scene / program running	X	X	✓	✓
Channel setting	X	X	✓	✓
Program / scene edit	X	X	✓	✓
Channel patch	X	X	✓	✓
Curve, fan, display setting	X	X	✓	✓
Ethernet, Art-Net settings	X	X	X	✓
User and password management	X	X	X	✓

5.3.5 Art-Net

In the [ARTNET] menu, there are address settings [Subnet] and [Port] which allow you to select Universers for each of the three Art-Net input ports.



5.3.6 Display

The display menu includes the screen saver settings. You can determine whether the screen saver is to be run, and if so, after what idle time and which of the screens is to be displayed after the "awakening".



List of available start screens displayed after device awakening:

- *Info,*
- *Login,*
- *Menu,*
- *Programming,*
- *Settings,*
- *Start.*

5.3.7 No DMX signal response

By using the **[No signal]** screen, you can program the operation of the device in the absence of DMX signal.



The possible options are:

- **ON** – all channels will be enabled at 100%,
- **OFF** – all channels will be disabled,
- **SLOW TURN OFF** – there will be a slow blanking of all channels,
- **HOLD** – the last value present before the signal loss will be saved on the channels,
- **SCENE** – the selected scene will be displayed,
- **PROGRAM** – the program will be played.

5.4 Uploading / saving configuration

The created configuration should be uploaded to the dimmer:

1. Select the device in the configuration list on the left – each device is a separate configuration,
2. Click **[Send configuration]**.

NOTE! In the case of sending a local configuration, a dialog box will appear with the option to select the target device.

The configuration can also be saved on hard disc; to do this, click on **[Save configuration to file]**.