PX387

SwitchDimm DMX Controller

MANUAL

TABLE OF CONTENTS

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

PXM Marek Żupnik spółka komandytowa
ul. Przemysłowa 12
30-701 Kraków, Poland

tel.: (12) 626 46 92
fax: (12) 626 46 94
E-mail: info@pxm.pl
Internet: www.pxm.pl

ver. 1.0

1. GENERAL DESCRIPTION

The PX387 driver was designed to cooperate with the PX314 dimmer as an extension module, but it can be used independently as a DMX signal controller.

The device sends 512 channels which are controlled on the ON/OFF basis or continuously with the use of the slider. It is possible to check which channels are currently enabled and disabled.

PX387 allows you to create 16 zones to which you can assign any channel, determine their order and define the size of the displayed buttons. It is possible to define the following two accounts in the driver (administrator and user), which differ in the level of access to different functions.

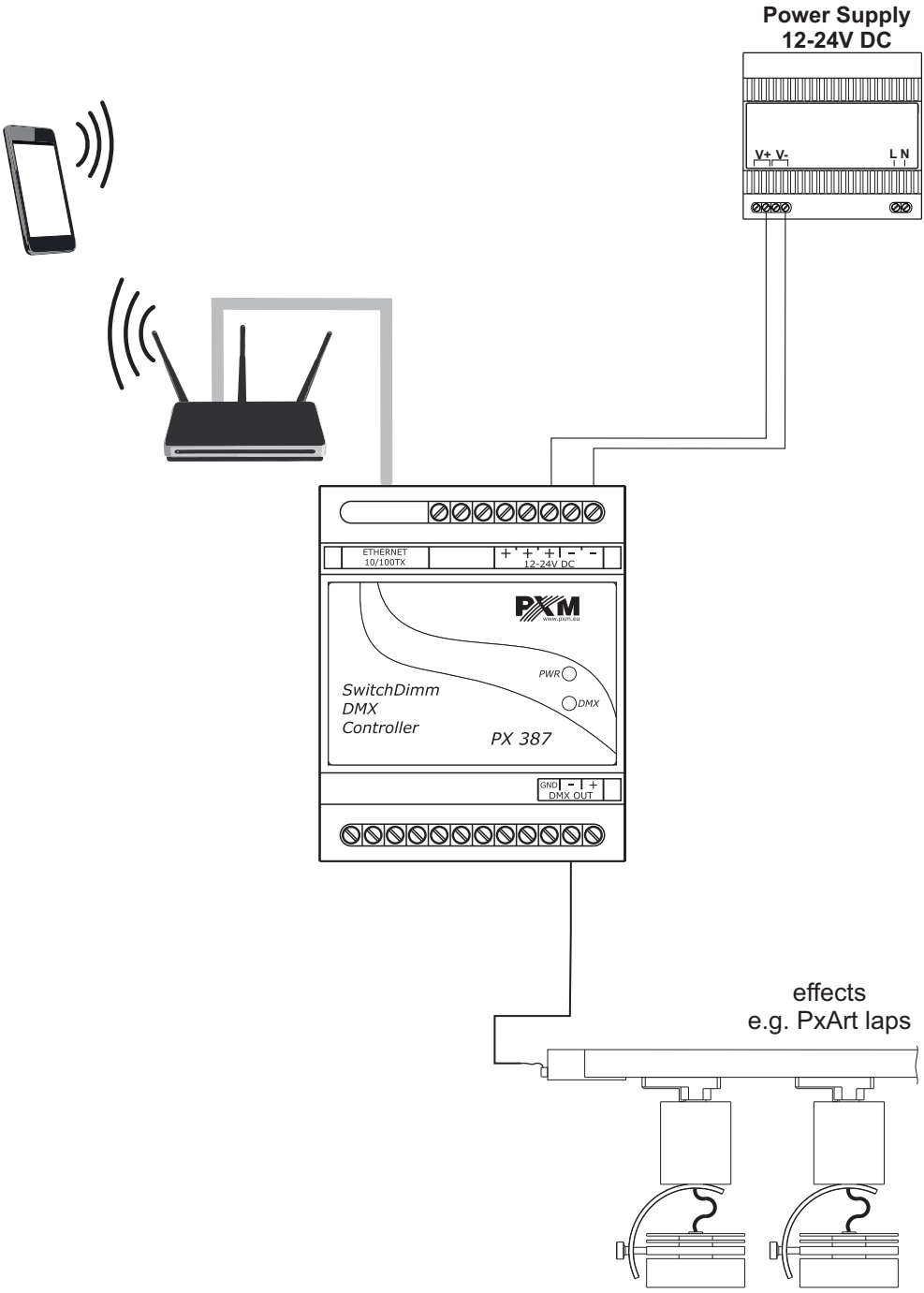
The LAN connection is used to communicate with the environment. In this way, the PX387 can be connected to the Accesspoint and thus controlled using the Android™ smartphone.

2. SAFETY CONDITIONS

PX387 SwitchDimm DMX Controller is a device powered with safe voltage 12-24 V; however, during its installation and use
the following rules must be strictly observed:

1. The device can be connected to 12-24 V DC (stabilised voltage) with current-carrying capacity compatible with technical data.
2. All the conductors should be protected against mechanical and thermal damage.
3. In case of damage to a conductor, it should be replaced with a conductor of the same technical parameters.
4. Connection of DMX signal can be made with a shielded conductor only.
5. All repairs, connecting and disconnecting of cables can only be made with cut off power supply.
6. The device should be strictly protected against contact with water and other liquids.
7. All sudden shocks, particularly dropping, should be avoided.
8. The device cannot be turned on in places with humidity exceeding 90%.
9. The device cannot be used in places with temperature lower than +2°C or higher than +40°C.
10. Clean with damp cloth only.

3. CONNECTION DIAGRAM



4. NETWORK SETTINGS OF THE CONTROLLER

The controller stores the static network configuration. It is always used when static addressing mode was selected or in automatic addressing mode, when it was not possible to get the configuration settings from the DHCP server.
The controller can run in one of the two modes:
• Automatic addressing: DHCP On
• Static addressing: DHCP Off

In automatic mode (DHCP), after connecting to the network, the controller attempts to get the network configuration from a DHCP server (e.g. router). Thanks to this, manual configuration of network parameters is not needed. In the absence of a DHCP server on the network, the controller will operate according to the static configuration (manual setup).
When choosing static addressing, you should configure network parameters in such a way that the controller is able to operate on the subnet and there is no conflict of IP addresses (devices in the network must have unique IP addresses).

The default network settings of the controller:

DHCP:	On
IP:	192.168.0.50
Mask:	255.255.255.0
Gate:	192.168.0.1

Should the controller operate in automatic mode in the network and receive IP address from the DHCP server, the detaching of the network cable will result in the loss of IP address and another attempt to get the new IP address from the DHCP server. If that fails, the controller switches to operate with a static configuration.

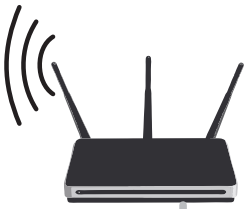
It is recommended to use automatic addressing and connect the controller to the network with a running DHCP server.

Should the controller be connected directly to the computer (no DHCP server), you must manually set the network parameters of both the computer and the controller to operate in one network.

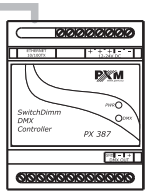
Below are some typical examples of network configuration:

a) Automatic addressing

Smartphone:
smartphone receives configuration on its own



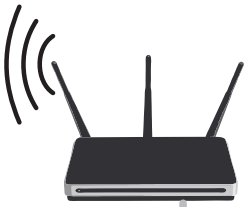
Router:
e.g:
IP: 192.168.0.100
Mask: 255.255.255.0
DHCP: On



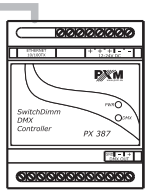
PX387:
IP, mask and gate - optional
DHCP On

b) Static addressing

Smartphone:
IP: 192.168.0.2
Mask: 255.255.255.0
Default gateway: 192.168.0.100



Router:
IP: 192.168.0.100
Mask: 255.255.255.0
DHCP: Off



PX387:
IP: 192.168.0.50
Mask: 255.255.255.0
Gate: 192.168.0.100
DHCP: Off

5. SOFTWARE INSTALLATION

The application can be installed on Android 4.0 or later.

To install software:

1. Upload *.apk installation file available on the CD supplied with the device or downloaded from the PXM website to your phone.

You can also download the app from the Google Play store using a QR code:

2. Go to your phone settings and then check “Allow installation of apps from sources other than the Play Store ” in the [**Security**] tab.
3. Open the application through the system [**File Manager**].

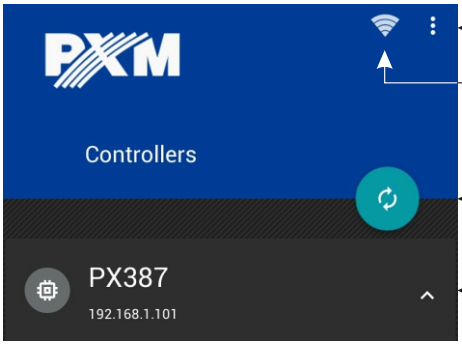
The new software installation screen appears. The screen displays information on the entitlements required for the application to operate.

4. To install the application, press the "Install” button.

After a successful installation process, the application will be available in the application menu of the phone.

6. START OF OPERATION

After running the application, the following options are available on the screen:



„*offline*" mode

Wi-Fi network selection

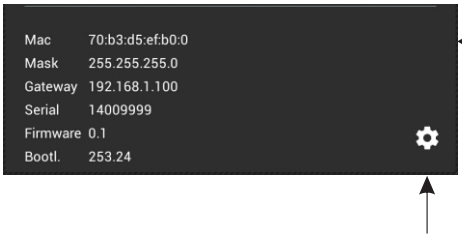
refreshing the list of available drivers

list of the selected network drivers with which the user can connect, driver IP address

6.1. Information about the device and change of network settings

NOTE: The application has access to smartphone network settings and enables the Wi-Fi function when running the application.

For more information about the device, press and hold the tile with its name. Information will be displayed in a new window:



[**Mac**] - MAC address (unique for each network device)

[**Mask**], [**Gateway**] - current network parameters of the driver

[**Serial**] - device serial number

[**Firmware**], [**Bootl.**] - firmware version and driver bootloader

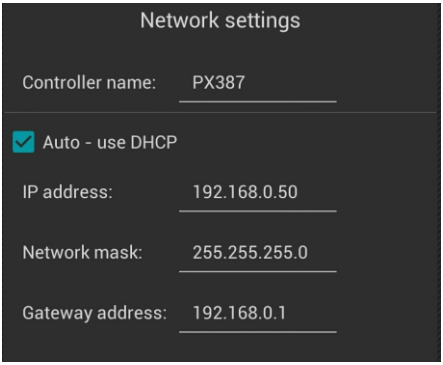
change of settings of DHCP protocol, IP address, MASK and gateway address

It is possible to edit network settings. For this purpose press ⚙. The program displays the editing window in which it will be possible to change:

[**Controller name**] - the maximum length of a new name is 16 characters

[**Auto-use DHCP**] - if the function is selected, address will be automatically assigned from a DHCP server, if not – a static address will be used

[IP address], **[Network mask]**, **[Gateway address]** - static network parameters of the driver



Click in the edit box to display the keyboard cache. The settings will be saved after you select  and provide the administrator password.
It is also possible to exit the tab without changing the settings after selecting the [**Back**] pushbutton on the phone ← .

6.2. Logging on

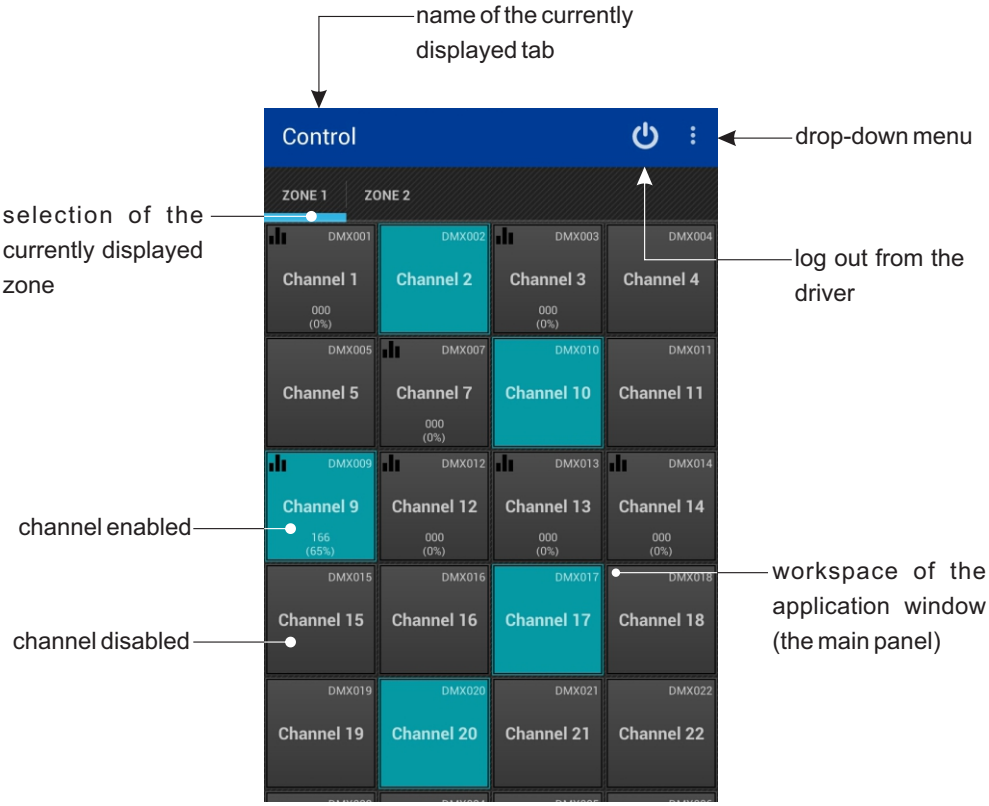
After selecting the device with which the application is to be connected, the phone displays a request for password. The default administrator password is blank.
The procedure for setting the administrator and user passwords is described in chapter 9, page 14.

The application can also be used *offline* (without having to log in to the driver). The *offline* mode is in the menu available under the smartphone menu pushbutton. Should the device not be equipped with the pushbutton, the application displays an additional ⋮ button on the main toolbar. In *offline* mode, the user can create a configuration and save it in phone memory.

NOTE: Only one user can be connected to the driver at a time. If another user is logged into the driver, the attempt to log in as an administrator will log off the previous user. The attempt to log in as a user will fail. If logged in user is inactive for 5 minutes, it will again be possible to log in as a user.

6.3. Structure of the application window

After logging in, the application goes to the control screen.
The application window consists of the following components:



The user account has limited abilities – can only control channels. The administrator can edit all the settings.

7. CREATING CONFIGURATIONS

If there are no zones created, the workspace screen displays the following message: “There are no created zones”. Select the [**Add**] option to go to the [**Edit zones**] screen.

NOTE: If the smartphone is connected to the driver (it works *online*), the introduced changes are sent to the device on an ongoing basis.

7.1. Edit zones

Select the “**Zones**” option to go to the zone management screen [**Edit zones**]. The list of all zones is displayed on the screen. It is possible to add new zones, edit or delete the existing ones, and manage the assignment of DMX channels to the zones.

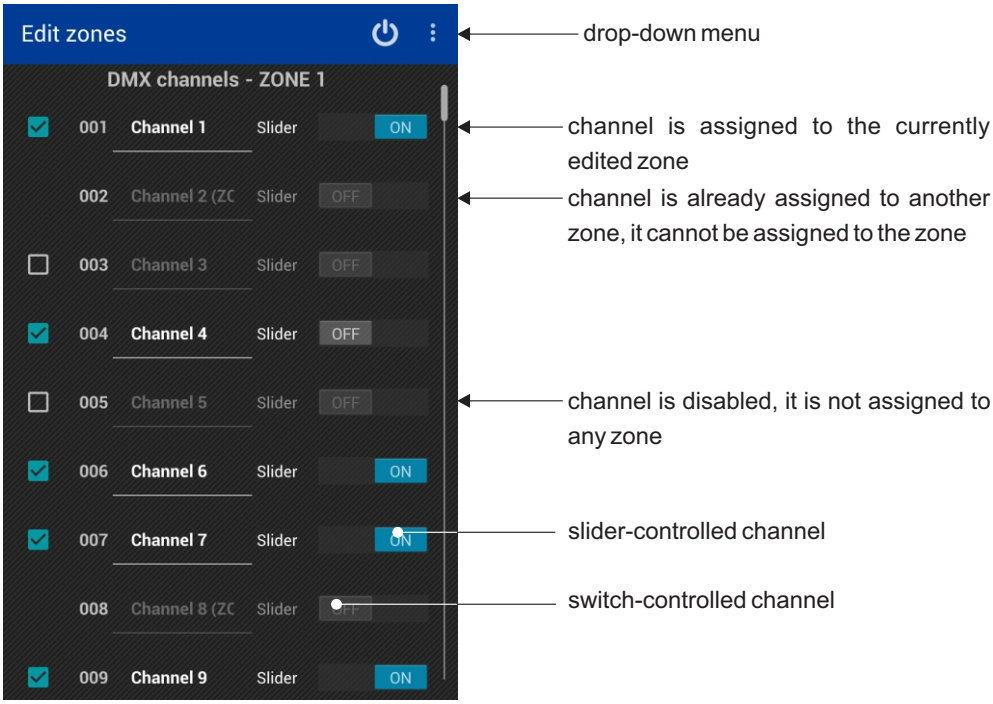
You can add a new zone in the following way:
1. Click “Add new element” 
2. Type the zone name, a maximum of 16 characters
3. Set the grid size (number of columns)

Press and hold the zone to change its position on the list. The order on the list determines the order of desktops.
Zone editing  allows you to change the zone name and specify the number of columns in which buttons are to be displayed. The number of columns determines the size of tiles displayed in a given zone.
Assign channels to the zone 

to display the editing of channels in the zone screen

7.2. Editing of channels in the zone

Enter the screen for the assignment of DMX channels to the zone to display the list of all 512 DXM channels.
The channel is assigned to a given zone after selecting the checkbox ☐).
If the channel is not assigned to any zone, it cannot be controlled (it is not displayed on any desktop).
The channel description can be changed in the list. The description is displayed on the channel tile on the desktop.
On the right side of each channel, there is a switch that can be set so that the channel is controlled with a slider.
The menu includes additional options to facilitate the channel operations.
Channels assigned to other zones are disabled – they cannot be assigned to the zone (no ☐), checkbox). The name of the zone to which the channel is assigned is displayed in brackets.



Menu contains context commands

• **Set all active** - assignment of all available channels to the zone

• **Set all inactive** - removal of all channels from the zone

• **Set active to sliders** - enabling the option for controlling the active channels with a slider

• **Set active to switches** - enabling the option for controlling the active channels with switches

• **Show DMX range** - select ☑ to display the DMX channel range selection screen (1÷512). If you select a range, the above described options will apply only to the selected range.

• **Don't show occupied channels** - select ☑ to hide channels assigned to another zone on the list of DMX channels of the currently edited zone

• **Show only active channels** - select ☑ to hide disabled channels and display only those assigned to the current zone

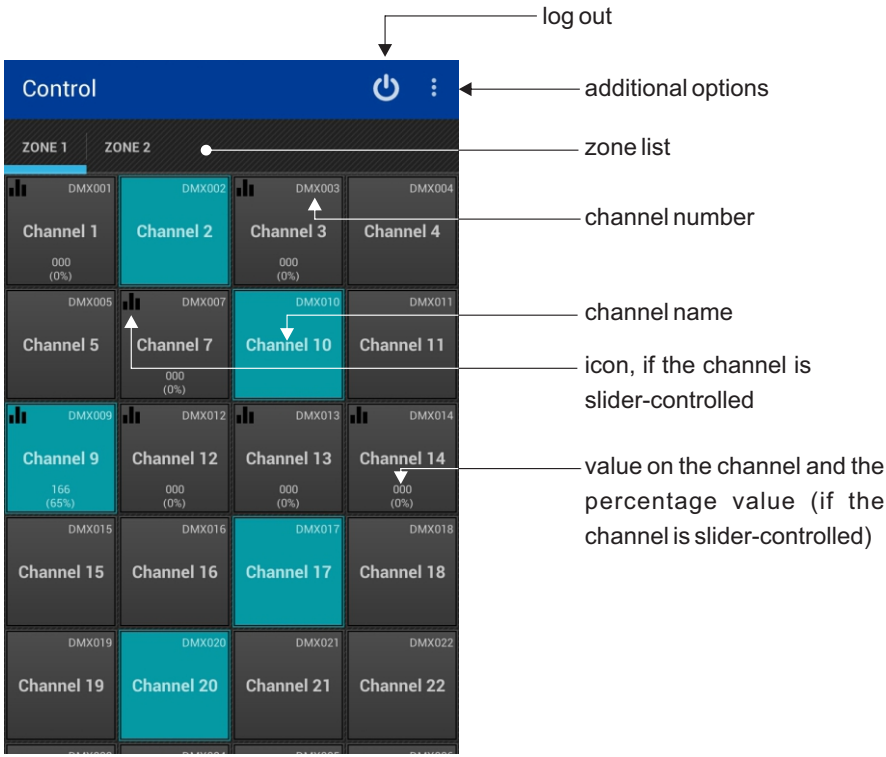
8. CONTROL

The main screen displays buttons used to control the channels. Each channel has one tile. The tile is highlighted when the channel is enabled.

A single click on the button changes the channel or opens the slider. Press and hold the button to change the button order (this option is available only to the administrator).

It is possible to create as many as 16 zones in the application – each zone is displayed on a separate desktop.

Slide the screen left/right to switch between the desktops.



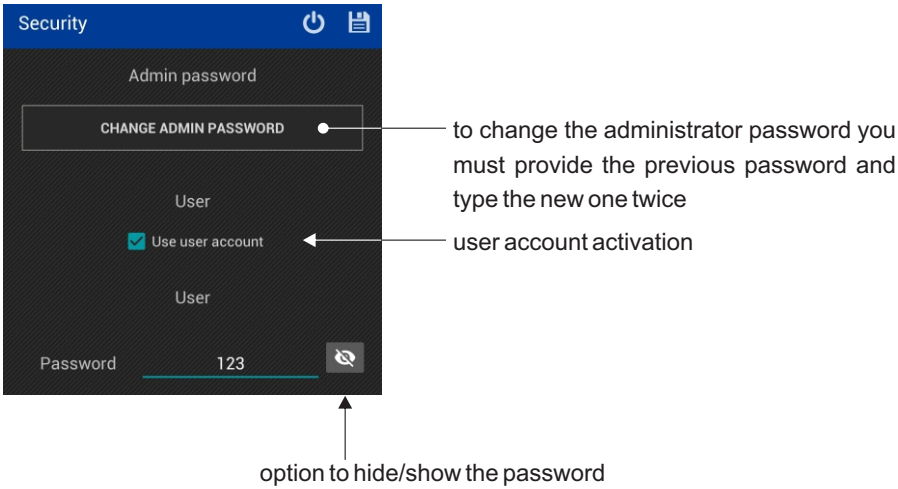
Drop-down menu with the following additional options:

- **Turn on all** - enabling all channels in the zone
- **Turn off all** - disabling all channels in the zone
- **Sort channels** - option of ordering the display of channels by name, channel number and order (descending or ascending)
- **Zones** - switching to the [**Edit zones**] screen
- **Security** - switching to the [**Security**] screen
- **Configuration** - switching to the [**Configuration**] screen

Options: Edit zones, Security and Configuration are available only to the administrator.

9. SECURITY

Switching to the [**Security**] tab allows you to change the administrator and user passwords and select whether the user account will be used.

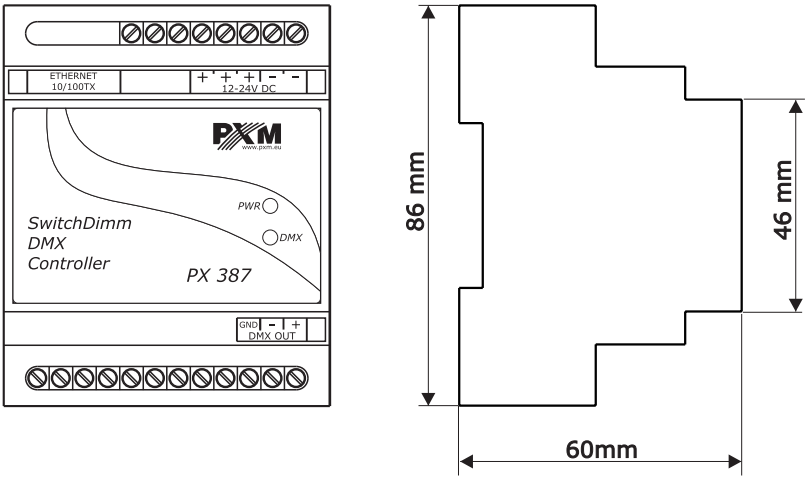


10. CONFIGURATION

The [**Configuration**] tab allows you to save your settings in a file on your phone. It will have the default extension * .cfg387. This is possible when you select [**Save configuration to file**]. You can also upload the existing configuration from the phone memory; this is possible by selecting [**Load configuration**].

After selecting [**Restore factory configuration**] the program returns to the default settings and displays a blank page.

11. TECHNICAL DRAWING



12. TECHNICAL SPECIFICATION

- power supply:	12 - 24V DC
- no-load current consumption:	70 mA for 12V DC 40 mA for 24V DC
- output DMX channel:	512
- communication port:	LAN
- programmable: - zones:	16
- weight:	0,11 kg
- dimensions:	Width: 70 mm (4 DIN rail modules) Height: 86 mm Depth: 60 mm

ul. Przemysłowa 12
30-701 Kraków
tel: 12 626 46 92
fax: 12 626 46 94
e-mail: info@pxm.pl
http://www.pxm.pl

DECLARATION OF CONFORMITY

according to guide line 2004/108/WE

Name of producer: PXM Marek Żupnik sp. k.

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

We declare that our product:

Product name: **SwitchDimm DMX Controller**

Product code: **Px387**

complies with the following standards:

EMC:

PN-EN 55103-1:2012
PN-EN 55103-2:2012
PN-EN 61000-4-2:2011
PN-EN 61000-6-1:2008
PN-EN 61000-6-3:2008

Additional information: DMX signal has to be connected by using a shielded cable, connected to the GND pin.

Marek Żupnik spółka komandytowa
30-701 Kraków, ul. Przemysłowa 12
NIP 677-002-54-53

Kraków, 14.01.2016

mgr inż. Marek Żupnik.