PxMobile

User manual

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1   Description

PxMobile is an application used to communicate with PX340, PX345 and PX710 controllers. From within the application, the user can:

- turn on and off scenes, programs and videos
- trigger events
- display statuses
- edit selected scenes
- modify master value

To be able to communicate with the controller from the smartphones, firstly, the user must create user accounts with appropriate access rights and appropriate configuration via PxDesigner application (the configuration process is described in the PxDesigner manual available on the website). Multiple users can log in at the same time.

A free download version of PxMobile is available from Google Play after scanning the following QR code or from the manufacturer page (pxm.pl).
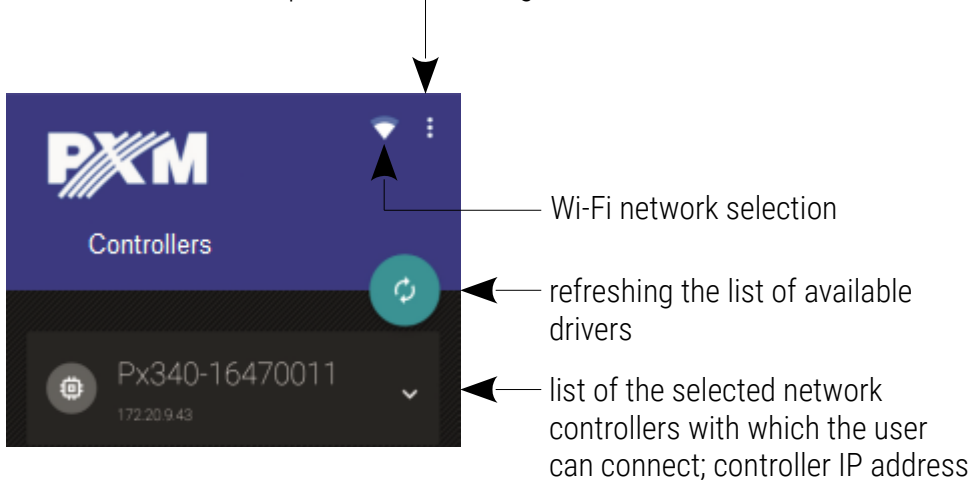
2   Start of operation

After running the application, the following screen appears:

Demo mode – goes to the demo mode – without connecting to the controller (static configuration is stored in the application)
Information – displays screen with information about the application and publisher
Remote control – opens the remote login window to the device

Wi-Fi network selection

refreshing the list of available drivers

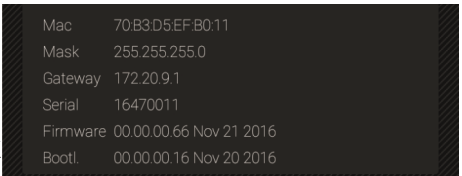list of the selected network controllers with which the user can connect; controller IP address

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

2.1 Device information

For more information about the device, click on the arrow. Information will be displayed in a new window:

```
Mac       70:B3:D5:EF:B0:11
Mask      255.255.255.0
Gateway   172.20.9.1
Serial    16470011
Firmware  00.00.00.66 Nov 21 2016
Bootl.    00.00.00.16 Nov 20 2016
```

- **Mac** – MAC address (unique for each network device)
- **Mask**, **Gateway** – current network parameters of the controller
- **Serial** – device serial number
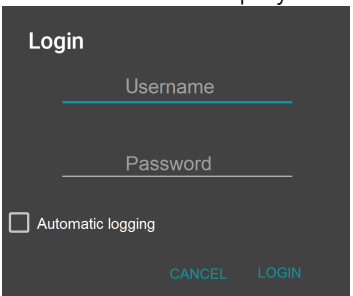- **Firmware**, **Bootl.** – firmware version and controller bootloader

2.2 Logging in to the local network

Clicking on the selected device on the same local network will display the login window. The ADMIN account is always available for the controller and it has the highest level of authorization.

The default password for the ADMIN user is the device serial number. It is recommended

Login

Username

Password

☐ Automatic logging

CANCEL   LOGIN

to change the default password and create user accounts with certain level of authorization.

2.3 Remote logging (external network)

The PxMobile application allows you to log in to the device from an external network via the internet, for this purpose it should be:

- have an external IP address on the router assigned by the internet provider and be able to establish connections from outside (incoming packets are not blocked by the provider's and router's firewall)
- redirect port 500002 TCP / UDP to the IP address of the controller working in the local network (so-called forwarding port)
- unblock selected port in the router's firewall
- the address of the driver / drivers in the local network can not change (the driver must have a static IP address set or the DHCP server must assign the same addresses to the same devices each time)

Most routers available on the market usually have several parameters in port forwarding options:

- forwarding number
- port or port range for redirection
- the IP address of the device to be redirected to
- protocol type (TCP / UDP or both)
- attach / delete diversion

Example:

The controller works in the local network with the following settings:

- external IP address: 66.77.88.99 (example address)
- IP address: 192.168.1.10
- mask: 255.255.255.0
- target device port: 50002
- protocol: TCP or TCP/UDP (in this case option "Both")

Below is the screen of the example setting in the router:

Port range forwarding sets up public services on your network, such as web servers, ftp servers, e-mail servers, and other specialized Internet applications. When you have set up one service, then the communication requests from the Internet to your router's WAN port will be converted to the specified LAN IP address.

NO.	Start port-End port	LAN IP	Protocol	Enable	Delete
1.	50002 - 50002	192.168.1. 10	Both ▼	☑	☐
2.	-	192.168.1.	TCP ▼	☐	☐
3.	-	192.168.1.	TCP ▼	☐	☐
4.	-	192.168.1.	TCP ▼	☐	☐
5.	-	192.168.1.	TCP ▼	☐	☐
6.	-	192.168.1.	TCP ▼	☐	☐
7.	-	192.168.1.	TCP ▼	☐	☐
8.	-	192.168.1.	TCP ▼	☐	☐
9.	-	192.168.1.	TCP ▼	☐	☐
10.	-	192.168.1.	TCP ▼	☐	☐

Well-known service ports: DNS(53) ▼   Add to ID   1 ▼

Ok   Cancel

If there is no option to set one port forwarding in the router, create a range (from 50002 to 50002).

If everything is correctly configured to connect to the controller from the (external) internet network, select the *Remote login* in the application and then enter the *User* and *Password* of the user and *Host* (assigned by the internet provider, in this case 66.77.88.99), in the *Port* field enter the port number (50002).

Login

Username

Password

Host: _____

Port: _____50002_____

CANCEL   LOGIN

Router:
IP:192.168.1.1
Mask: 255.255.255.0
DHCP serwer ☐
Redirectiong port 50002
to the device address (192.168.1.10)

external IP address
e.g 66.77.88.99

INTERNET

PX340

PX340:
IP: 192.168.1.10
Mask: 255.255.255.0
Gate: 192.168.1.1
DHCP ☐

internet connection
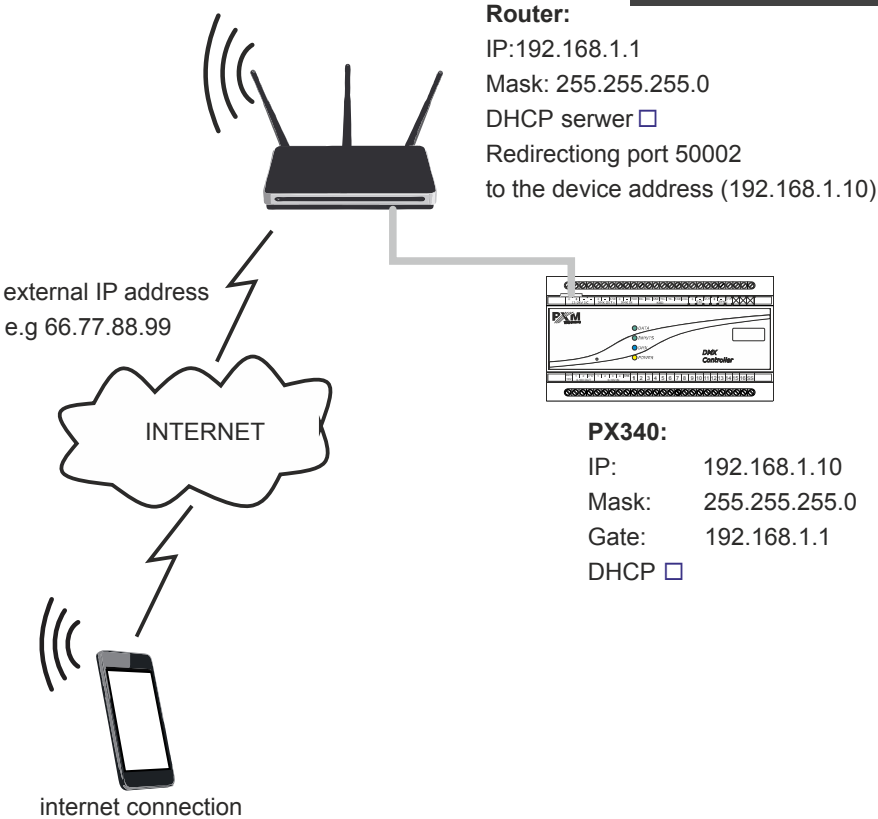
NOTE: In most routers available on the market, you can set a static IP address by the DHCP server based on the MAC address of the device. For example, for a device with the MAC address 70:B3:D5:EF:B1:60 the IP address 192.168.1.15 will always be assigned by the DHCP server (example below).

Static assignment

IP Address 192.168.1. [15]

MAC address [70] : [b3] : [d5] : [ef] : [b1] : [60]   [Add]

NO.	IP Address	MAC address	Delete
1	192.168.1.15	70:B3:D5:EF:B1:60	[Delete]

3   Structure of the application window

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

drop-down menu:
Edit mode
Logout
About

zone master

selection of the currently displayed zone

KITCHEN   LIVING ROOM

available scene master

Scene 1   Program

disabled scene

enabled scene

Scene 2   Status   Film

editable scene

status

video

Event

event with no value

Event with value

event with a value
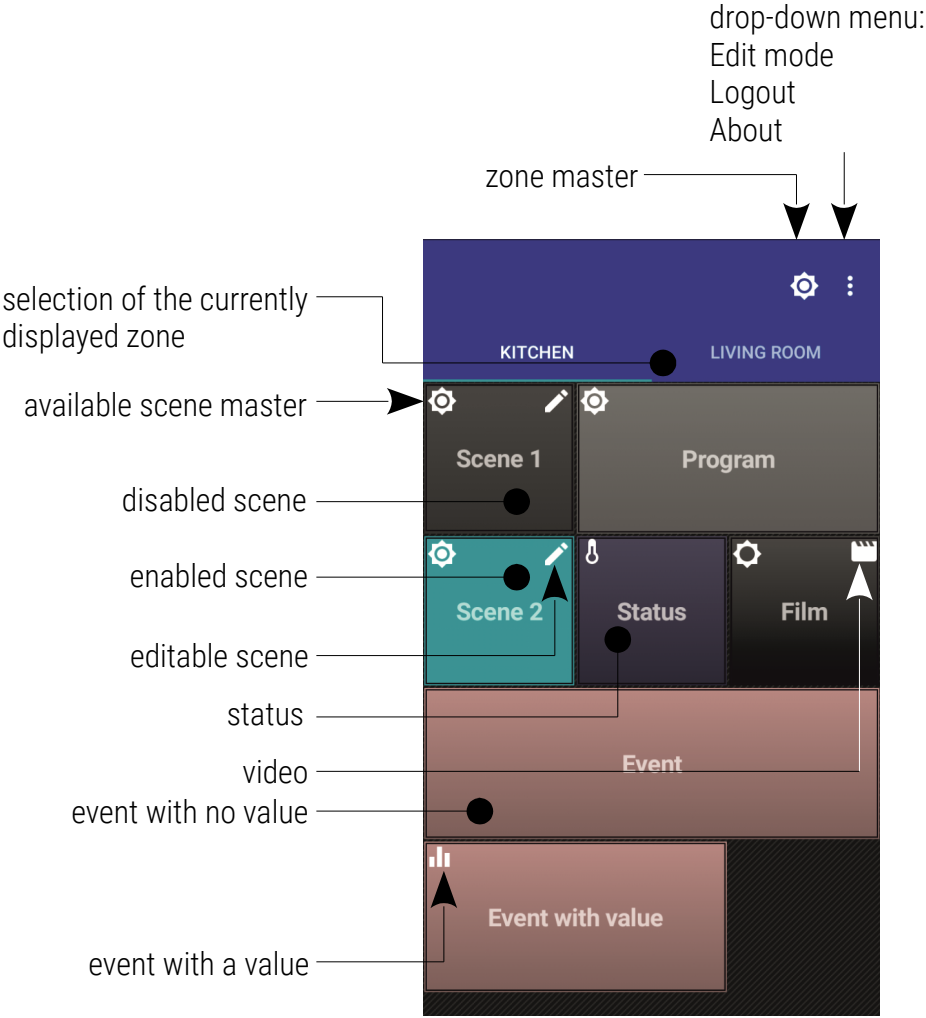
4   Configuration

Configuration sent to the user consists of zones (displayed on the phone as sliding desktops) to which the user has access. After logging in to the controller, PxMobile downloads the configuration prepared for the selected user.

The following items are assigned to each:

- scenes
- programs
- events
- statuses
- videos

Each item is displayed as a tile. Scenes, programs and statuses have two states – enabled (blue) and disabled. Event tiles have no state.

The zone master button allows for controlling the brightness of all currently enabled items in the zone. To switch between the zones move your finger horizontally across. Short-click a tile to enable / disable the item (does not apply to status) or open the slider.

4.1   Editing mode

Each tile can be single, double or triple, and the sequence of tiles can be changed. To edit the tiles, click on ⋮ and select **[Editing mode]**, the application header turns red. Each click on the tile changes its size (from single to triple width). Press and hold the tile to change its position.

After exiting the editing mode, the visual configuration is stored locally for the user (and loaded when logging on). The arrangement of tiles is saved for each user separately. However, the administrator can change the global settings.

5   Scene

Scene can be editable and masterable. If it is editable, the user can enter the screen used to edit the selected scene, and the ✎ symbol is displayed in the upper right corner of the tile.

If it is masterable, the user can modify its master, and the ✿ symbol is displayed in the upper left corner.

Short-click the scenes to change its state. The tile colour indicates the current state of the scene (grey when it is disabled and blue when it is enabled).

Press and hold the scene tile to display:

Additional options of the scene	Operation
scene is editable (✏)	goes to the editing mode
scene is masterable (◉)	displays a slider of the master
scene is editable and masterable (✏ and ◉)	displays a check box: whether to edit or control the master

5.1 Scene edit

After entering the scene editing screen, a live preview (livemode) of the scene is activated. The preview only includes channels of the same zone.

NOTE: Only one user can edit the scene within the zone at the same time.

If the scene is both masterable and editable, press and hold the scene tile to display a menu of a screen to be entered:
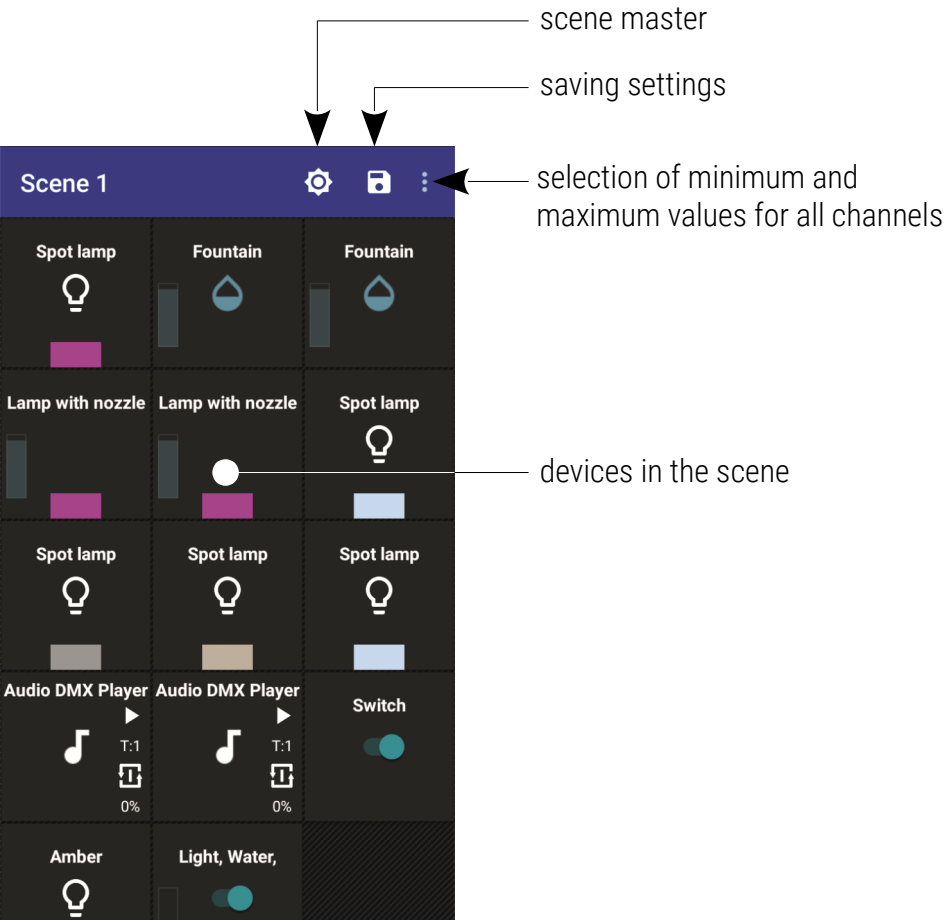
- Scene edit
- Master change

If the scene is only masterable or editable, the user is directly moved to an appropriate window. In the scene editing mode, the application displays a grid with all devices assigned to the zone. If a simple operation (turn on / off the switch) is available, it can be performed from this level.

Additionally from the context menu ⁝, collective actions can be performed:

- Set all to min
- Set all to max

The device is displayed according to its type. Click on the device tile to enter the device control mode. Once the device is entered, the application displays its sliders. If the device has the light type channels, the header colour indicates the selected colour.
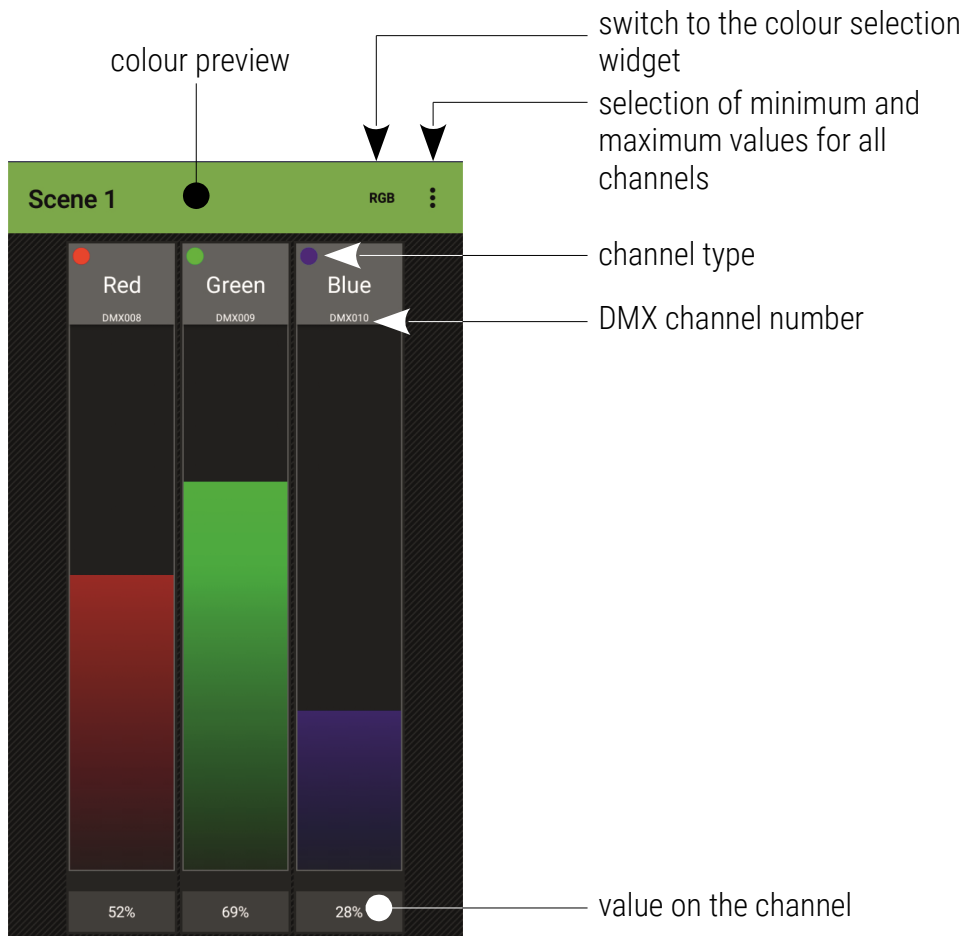
scene master

saving settings

selection of minimum and maximum values for all channels

devices in the scene
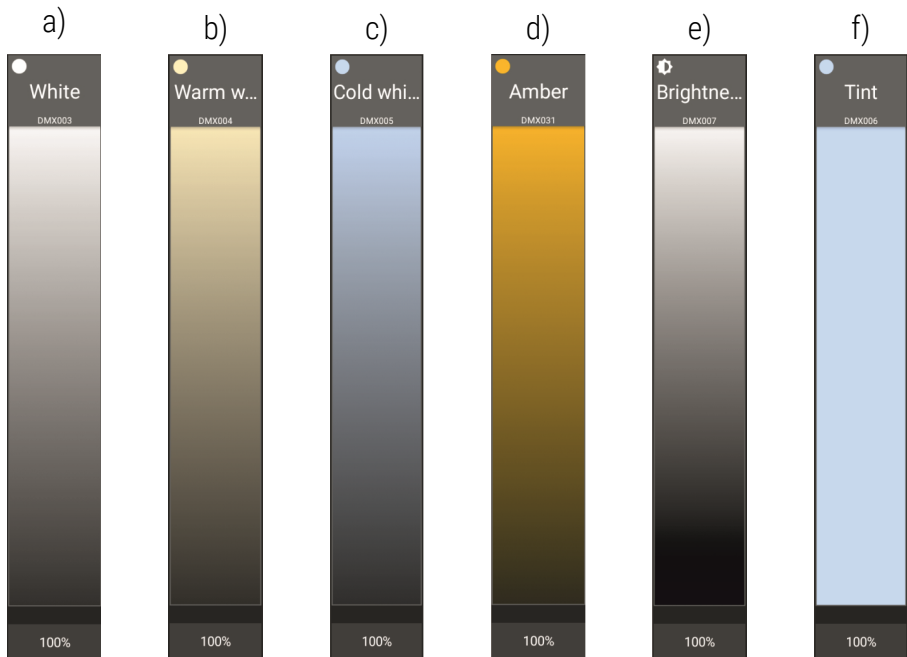
5.1.1 Light

The icon $\underline{\underline{\mathbb{Q}}}$ is on the tile. At the bottom of the tile, the application displays a rectangle in the current colour of the lamp.

Device control:

If the device has **R**, **G** and **B** channels, apart from sliders, a colour selection widget can also be controlled. Values on the channels modify the colour of the preview pane. The following channels: **R** (Red), **G** (Green), **B** (Blue), **WW** (Warm White), **NW** (Neutral White), **CW** (Cold White), **A** (Amber) modify the colour components. The dimmer channel dims the colour set on the remaining channels. The **CT** (Color Temperature) and Brightness channels set the colour temperature and brightness, respectively.

colour preview

switch to the colour selection widget

selection of minimum and maximum values for all channels

channel type

DMX channel number

Scene 1 RGB ⋮

Red | Green | Blue
DMX008 | DMX009 | DMX010

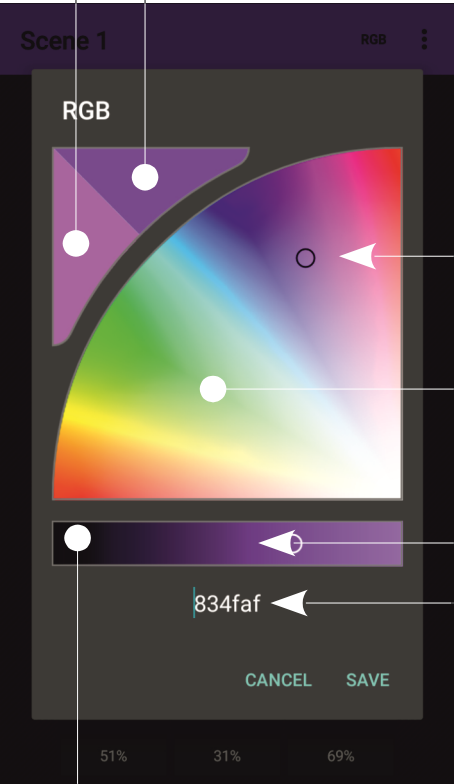value on the channel

52% | 69% | 28%

Light controlling channels:

a) neutral white

b) warm white

c) cold white

d) amber

e) brightness

f) tint

After selecting **[RGB]** the application opens the window of the colour selection widget.

colour before editing

currently edited colour – colour displayed in this window is coupled with the one selected in the colour change filed

RGB

colour selection indicator

colour change field

brightness selection indicator

hexadecimal RGB components

834faf

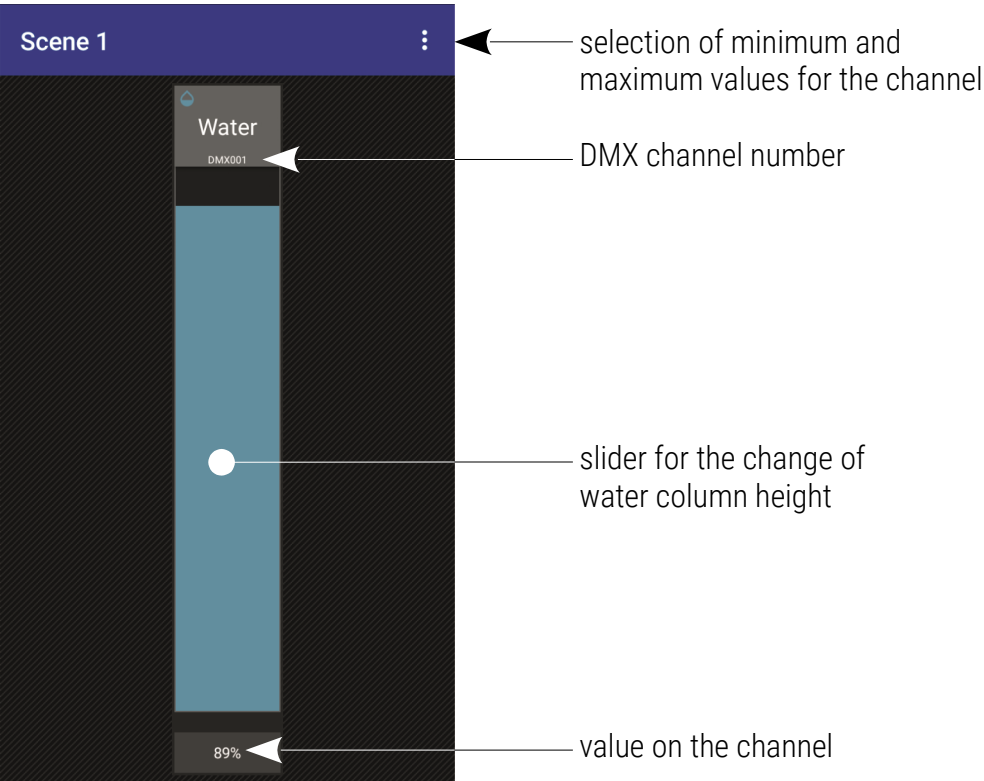CANCEL   SAVE

slider for linear change of brightness

5.1.2 *Water*

The device is displayed as a single slider.

Device control:

selection of minimum and maximum values for the channel

DMX channel number

slider for the change of water column height

value on the channel

5.1.3 Switch

The switch is displayed on the scene screen as a tile with "*switch*". A single **ON** / **OFF** switch is displayed instead of a slider.
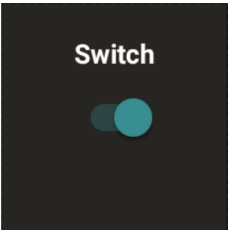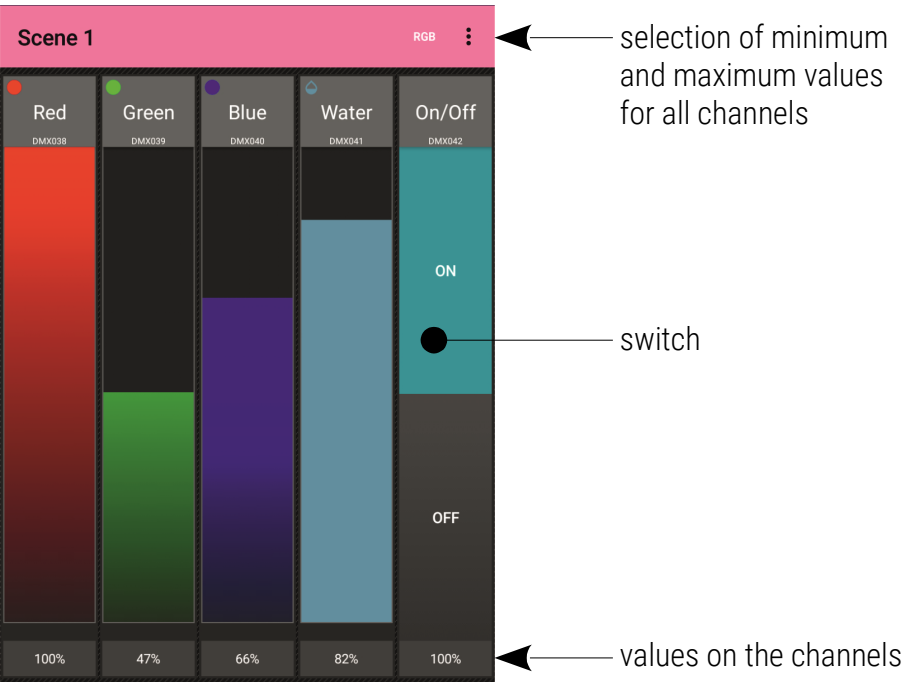
5.1.4 Light and water

Display and control is treated as a combination of two devices: Light + Water.

5.1.5 Light, water and switch

Display and control as a combination of three devices: Light + Water + Switch.

Scene 1				RGB ⋮
● Red	● Green	● Blue	◌ Water	On/Off
DMX038	DMX039	DMX040	DMX041	DMX042
				ON
				●
				OFF
100%	47%	66%	82%	100%

selection of minimum and maximum values for all channels

switch

values on the channels

5.1.6 Multimedia

Device control:

The device is displayed in the form of control buttons each channel: play / pause / stop for the playback channel, track number selection, playback mode buttons and volume slider. In case of 7-channel media player, three additional sliders are displayed for: balance, bass level and treble level.

selection of minimum and maximum values for all channels

DMX channel number

commands for track playback control (play, pause, stop)

track number selection switch, the user can select a tack in the range 1 – 85
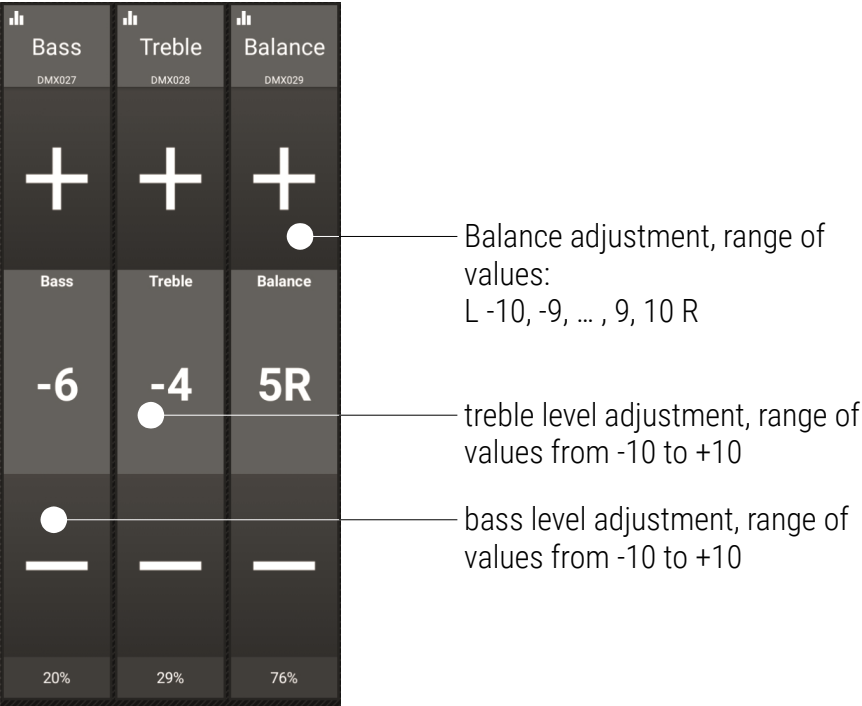
track volume adjustment – in the range 0 – 100%, volume change is linear
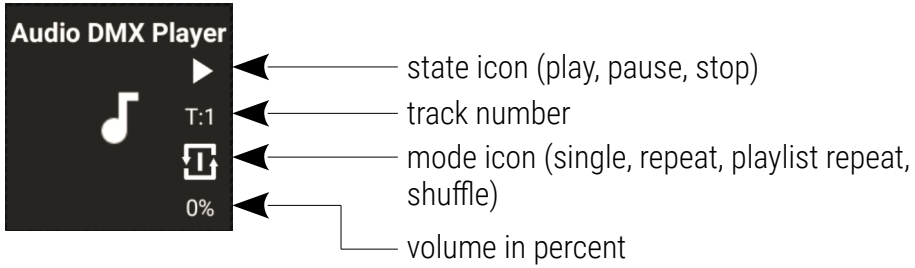
value on the channel

operation mode selection switch

Operation mode selection:

   ▮   the selected track is played once

   ↻1↑   the selected track is played multiple times

   ▮.▮   the playback occurs in sequence, starting from the selected track, after the last track, the playback is stopped

   ↻▮.▮↑   the playback occurs according to the track sequence, starting from the selected track, after the last track, the first track on the list is played back

   ⤬   selected tracks are played back in a random sequence

Balance adjustment, range of values:
L -10, -9, … , 9, 10 R

treble level adjustment, range of values from -10 to +10

bass level adjustment, range of values from -10 to +10

Identification of the multimedia tile displayed on the screen:

Audio DMX Player ▶ ──────── state icon (play, pause, stop)

T:1 ──────── track number

──────── mode icon (single, repeat, playlist repeat, shuffle)

0% ──────── volume in percent

5.1.7 Unidentified devices

Unidentified device is displayed on the scene screen as a tile with just a name and no additional information is provided.
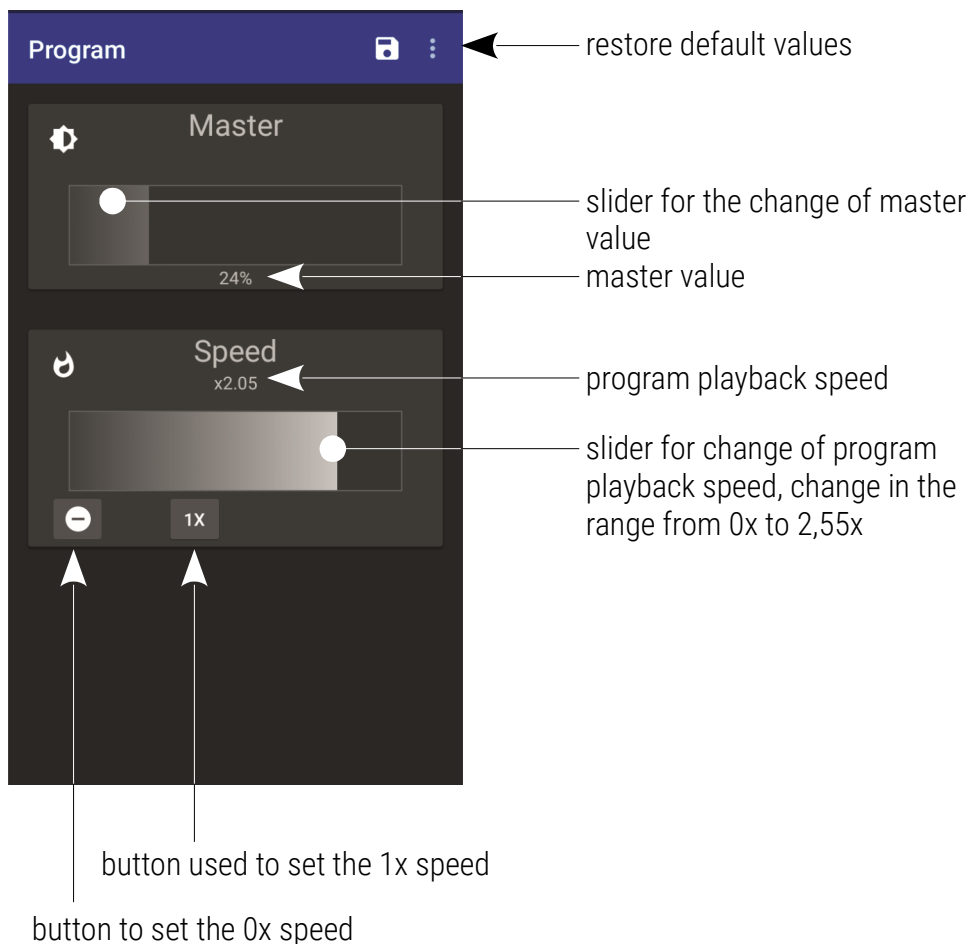
Device control:

All channels are displayed as sliders.

6   Program

The program can be masterable ⚙ and have a speed 🔥.

Short-click in the program changes its state (enabled / disabled). The tile colour indicates the current state of the program (grey, when it is disabled and blue when it is enabled). Press and hold the program to display appropriate (master and / or acceleration) sliders.

Program

restore default values

Master

slider for the change of master value

24%

master value

Speed
x2.05

program playback speed

slider for change of program playback speed, change in the range from 0x to 2,55x

1X

button used to set the 1x speed

button to set the 0x speed

If only speed or master is available in the program, the second slider is not visible.

7   Status

The application displays only a tile which cannot be clicked. The tile colour indicates the current state of the selected status of the controller:

- dark purple when it is disabled
- blue when it is enabled
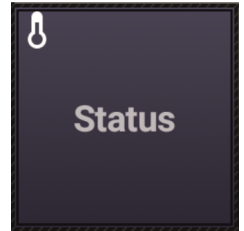
8   Events

Event with no value:

Tile which sends an appropriate event to the controller every time it is pressed on. The tile does not change its colour, there is only a signal that it was pressed.

Event with value:

Short-click the tile to display the slider used to select the value which will be sent after confirming with OK.
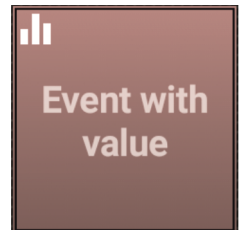
9   Movies

Short-click the video tile to turn it on / off. The video can be masterable. Then, the ⬙ icon is displayed in the upper left corner. Press and hold the tile to go to the master change option.