PX389

PxArt+ 3

User manual

Table of Contents

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

1 Description

PxArt + 3 is a professional LED illuminator designed to illuminate museum and exhibition displays.

By using the latest semiconductor light sources OSLON® Square and advanced control electronics, a high-class illuminator has been created that meets very high requirements concerning museum and exposition lighting. Its most important advantages include the total lack of ultraviolet radiation, trace amounts of infrared radiation, very high CRI color rendering index, high brightness and low energy consumption.

The device has a handle that allows for its installation to GLOBAL Trac® Pulse control current rails which have an additional control line.

An individual address assigned to each lamp enables the regulation of brightness independently from settings of other lamps.

The button on the lamp housing also allows for manual control (e.g. when the lamp is connected to the current rail without control lines).

The lamp has high-efficiency LEDs and an effective control system thanks to which the lamp emits small amounts of heat. The lamp housing makes it possible to change the lighting direction on two axes.

2   Safety conditions

<u>Caution! Before installing, connecting and using the lamp you have to absolutely read this document.</u>

The following symbols are used to underline important information on security on the product and in this manual.

| **Danger!** | **Warning!** | **Warning!** | **Warning!** | **Warning!** |
| Risk of loss of life and health | Fire hazard | LED light emission, the risk of eye damage | The risk of burns | Read the instruction manual |

Caution!

Do not look at the LEDs, LEDs can cause damage or eye irritation. Do not look at the light source with any optical devices that focus the light rays.

Light is harmful to unprotected eyes, can cause irritation, eye damage or even loss of eyesight.

While working outdoors in normal conditions, the housing unit can heat up to +65°C. Make sure that accidental contact with the device during use is impossible.

In case of improper usage of the product it may cause a risk of serious injury or death because of the threat of fire.

The PX389 device is powered directly from 230V power grid. Failure to comply with the safety rules may result in electric shock and may endanger the user's life. Therefore it is necessary to observe the following:

1. Installation should be performed by a person holding the appropriate qualifications, according to the instruction manual.
2. The electrical installation to which the lamp is to be connected must meet the safety requirements (the installation must be 3-wire and equipped with a residual current device).
3. All the conductors should be protected against mechanical and thermal damage.
4. In the event of damaging any conductor, it should be replaced with a conductor of the same technical data.
5. All repairs, should be made with cut off power supply.
6. Do not connect to the power supply to device with visible damage.
7. All sudden shocks, particularly dropping, should be avoided.
8. The device cannot be used in places with temperature lower than +2°C or higher than +40°C.
9. Clear with damp cloth only.

3 Connectors and control elements

Brightness adjustment

PX277 parameter programming connector

Indication LED
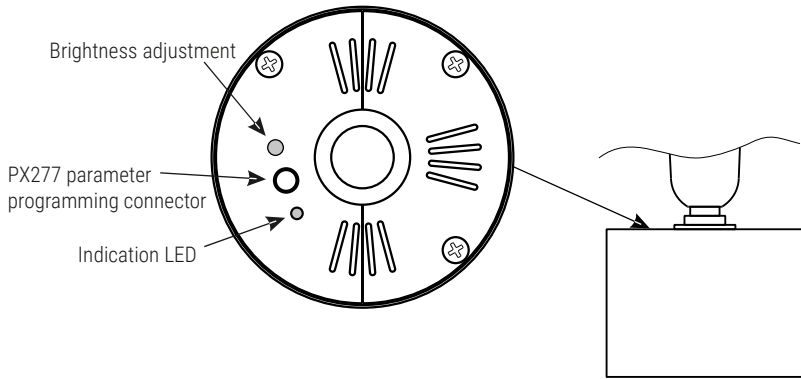
4 Information on version

Below is a description of the PX389 model designations with their explanation:

PX389 – XX – YYY – Z

XX – beam angle:
10 – 10°
25 – 25°
40 – 40°

YYY – CRI and color temperature:
927 – CRI 90, temp. 2700K
930 – CRI 90, temp. 3000K
940 – CRI 90, temp. 4000K
950 – CRI 90, temp. 5000K
965 – CRI 90, temp. 6500K

Z – housing colors:
1 – gray
2 – black
3 – white

5　DMX connection

PX389 is a device attached to the GLOBAL Trac® Pulse Control rail by using the GAC 600 adapter included in the kit.

5.1　GLOBAL Trac® GAC 600 adapter
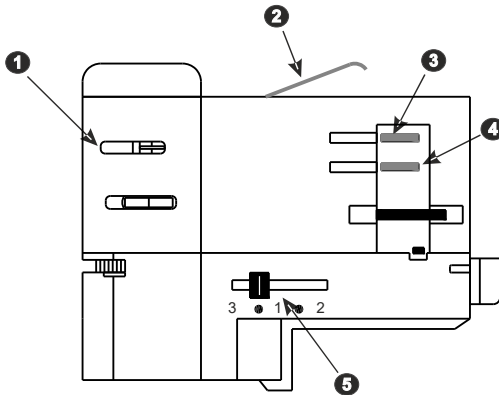
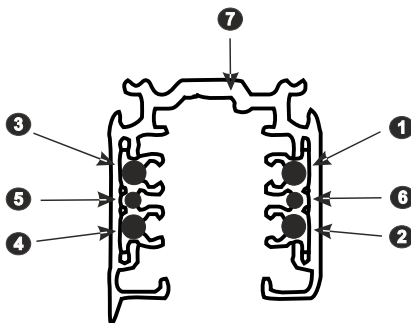**DMX contacts**

❶ DMX - (on the opposite side DMX +)

MAINS POWER SUPPLY

❷ protective ⏚

❸ phase 1 (on the opposite side phase 2)

❹ neutral (on the opposite side phase 3)

❺ phase selection switch

5.2　The cross-section of the DMX GLOBAL Trac® Pulse Control

POWER SUPPLY

❶ phase 2
❷ phase 3
❸ phase 1
❹ neutral

DMX

❺ DMX -
❻ DMX +
❼ mass (GND)

6 Control

6.1 Button

The lamp has been equipped with button which allow for changing the brightness level. The button have been placed at the bottom part of the junction box, above the lamp reflector.

Depending on a situation, the diode signals the following:

- start of the lamp – quick flickering of the diode for 2 seconds
- DMX signal receiving – slow flickering of the brightness adjustment button (1Hz frequency) in the first minute after receiving the DMX signal
- after the start of the lamp in case of the loss of DMX signal – diode lights (continuously) for 1 minute
- if the state of DMX signal changed (if there wan no DMX signal and it returned, or vice versa) – diode signals it for 1 minute
- damage of the temperature sensor module – diode does not go out after 1 minute

To change the brightness, press and hold down the control button. If during the brightness adjustment the button diode starts flickering, it means that the extreme value (minimum or maximum) has been reached.

It is possible to change the adjustment direction without reaching extreme values. For example, while the lamp brightness is increased, release the control button for a moment. The diode will signal the change of

adjustment direction. The pressing of the adjustment button again will cause the dimming of the lamp (brightness decrease).

While the lamp operates, the diode stays switched off (excluding situations mentioned above).

6.2 DMX signal

The PX389 lamp can be controlled via one DMX channel.

- channel 1 – brightness

Setting the lamp parameters:

	Value of the lamp parameter	Value of the DMX signal
Brightness adjustment	100%	255
	:	:
	50%	128
	:	:
	0%	0

7 Cooperating with the PX277 configurator

Lamp settings can be changed by connecting the PX277 configurator (PxArt+ Settings Controller) to it. It allows in connection with PX389 to define the following parameters: DMX addresses for brightness (in the range of 1 – 512) and device behavior in the absence of DMX signal (programmable scene).

When the lamp is connected to the configurator, the PX389 will restart.

7.1 Available parameters

Bright. address – changing the DMX address of the brightness channel in the range 1 – 512,

Scene bright. – setting the scene value that will be triggered when the DMX signal disappears,

Smooth – smoothness of DMX signal value changes:

- *OFF* – smoothing disabled,
- *P2P* – linear smoothing between DMX packets,
- *Time* – smoothing in a given time interval,

Smooth time – the time in which successive DMX signal values sent to the lamp are smoothed with each other. Possible settings in the range of 10 – 2000ms.

Default sett. – factory reset in PX389:

- **Bright. address**: 001
- **Scene bright**: 128
- **Smooth**: OFF
- **Smooth time**: 0200[ms]

Lighting time – total lighting time (years / days / hours / minutes),

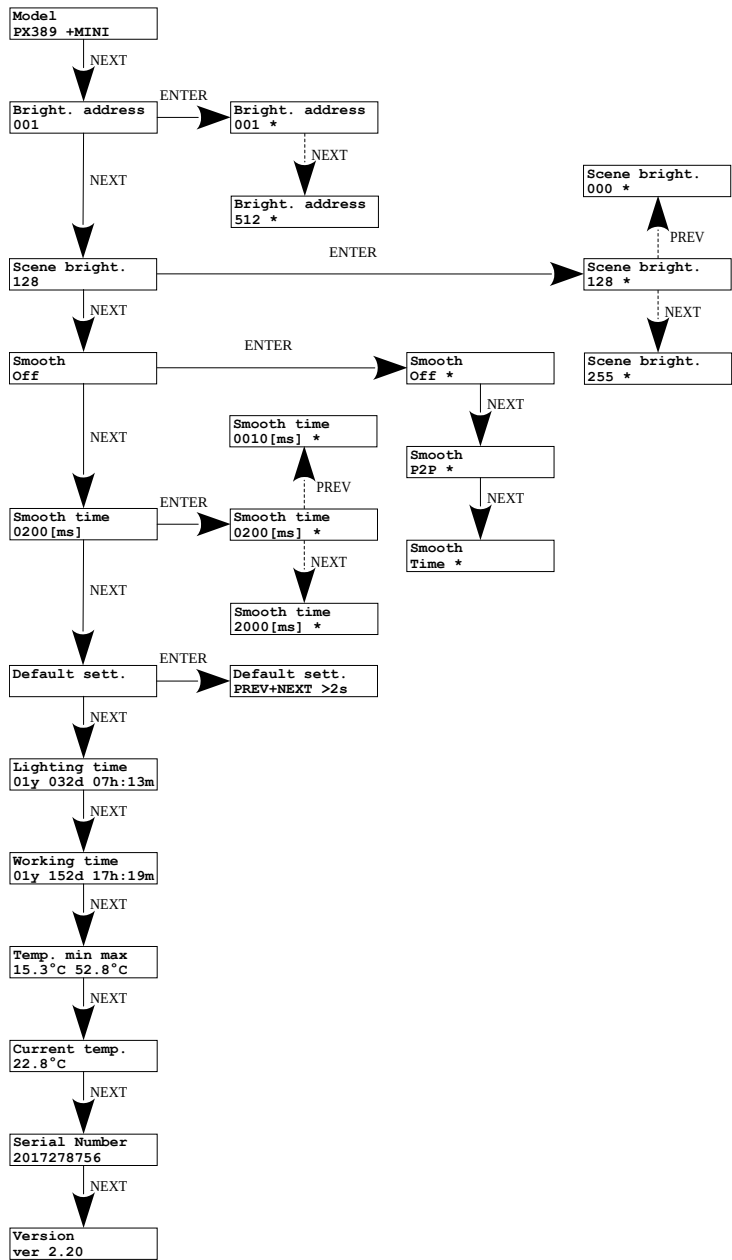*Working time* – total working time (years / days / hours / minutes),

Temp. min max – information on the minimum and maximum temperature recorded by the device,

Current temp. – current device temperature,

Serial number – serial number,

Version – firmware version.

7.2 Scheme of the PX389 menu in PX277

```
Model
PX389 +MINI
```
↓ NEXT

```
Bright. address
001
```
── ENTER ──→
```
Bright. address
001 *
```
⋮ NEXT
```
Bright. address
512 *
```

↓ NEXT

```
Scene bright.
128
```
──────── ENTER ────────→
```
Scene bright.
128 *
```
↑ PREV
```
Scene bright.
000 *
```

```
Scene bright.
128 *
```
↓ NEXT
```
Scene bright.
255 *
```

↓ NEXT

```
Smooth
Off
```
──── ENTER ────→
```
Smooth
Off *
```
↓ NEXT
```
Smooth
P2P *
```
↓ NEXT
```
Smooth
Time *
```

↓ NEXT

```
Smooth time
0200[ms]
```
── ENTER ──→
```
Smooth time
0200[ms] *
```
↑ PREV
```
Smooth time
0010[ms] *
```

```
Smooth time
0200[ms] *
```
↓ NEXT
```
Smooth time
2000[ms] *
```

↓ NEXT

```
Default sett.
```
── ENTER ──→
```
Default sett.
PREV+NEXT >2s
```

↓ NEXT

```
Lighting time
01y 032d 07h:13m
```

↓ NEXT

```
Working time
01y 152d 17h:19m
```

↓ NEXT

```
Temp. min max
15.3°C 52.8°C
```

↓ NEXT

```
Current temp.
22.8°C
```

↓ NEXT

```
Serial Number
2017278756
```

↓ NEXT

```
Version
ver 2.20
```

8   RDM – available parameters

The PX389 supports the DMX-RDM protocol. DMX protocol allows only of a one-way data transmission, while extension the RDM protocol can transmit information in two directions. This makes possibility of monitoring activities of the compatible devices. Thanks to RDM some available settings of compatible devices may be programmed using this protocol.
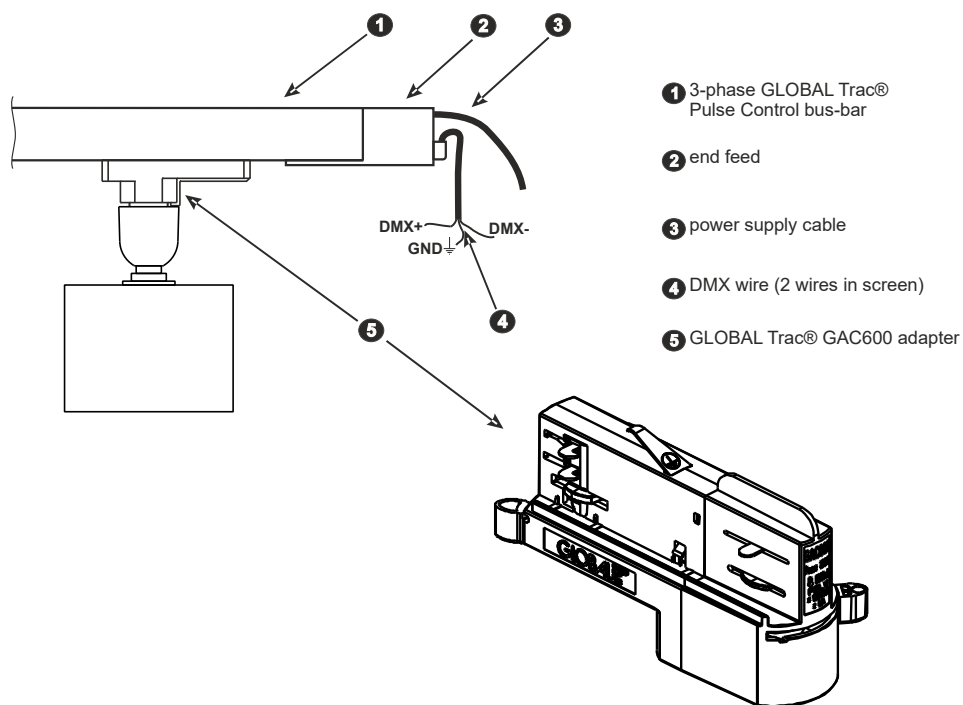
List of RDM parameters supported by the PX389:

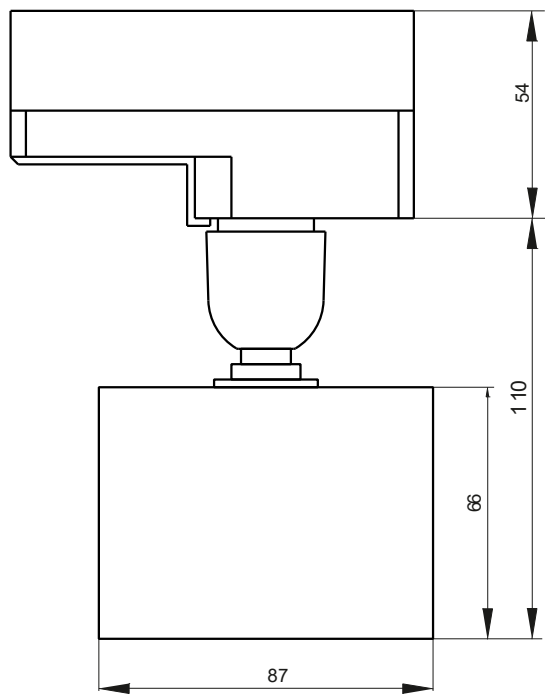| Parameter name	PiD	Description
SUPPORTED_PARAMETERS	0x0050	all supported parameters
PARAMETER_DESCRIPTION	0x0051	description of additional parameters
DEVICE_INFO	0x0060	information concerning the device
SOFTWARE_VERSION_LABEL	0x00C0	firmware version of the device
DMX_START_ADDRESS *	0x00F0	DMX starting address of the device
IDENTIFY_DEVICE *	0x1000	device identification; Two states are possible: identification is off (0x00 value) and identification is on (0x01 value)
DEVICE_MODEL_DESCRIPTION	0x0080	device description, e.g. name
MANUFACTURER_LABEL	0x0081	manufacturer description, e.g. name
DEVICE_LABEL *	0x0082	additional device description; It is possible to enter an additional device description using up to 32 ASCII characters

Parameter name	PiD	Description
FACTORY_DEFAULTS	0x0090	device default settings
DMX_PERSONALITY *	0x00E0	DMX operational mode
DMX_PERSONALITY_DESCRIPTION	0x00E1	description of individual operational modes
SENSOR_DEFINITION	0x0200	information on the selected temperature sensor
SENSOR_VALUE	0x0201	information about sensors
DEVICE_HOURS	0x0400	total lamp working time
LAMP_HOURS	0x0401	total lamp lighting time
SMOOTH_DIS_0/P2P_1/TIM_2 *	0x801A	selection of smoothing options
SMOOTH_TIME *	0x801B	smoothing time for the TIM function for the temporal smoothing option
SCENE_BRIGHTNESS *	0x8022	brightness setting, the default is 128
SERIAL_NUMBER	0x8030	device serial number

* - editable parameter

9   Connection scheme

1. 3-phase GLOBAL Trac® Pulse Control bus-bar

2. end feed

3. power supply cable

4. DMX wire (2 wires in screen)

5. GLOBAL Trac® GAC600 adapter

DMX+
DMX-
GND

10 Dimensions

11   Technical data

type	PX389
power supply	230V AC
number of LEDs	3
power consumption	10W
max. increase of the housing temperature	+20°C
lifetime of diodes	50000h
beam angle	10°, 25°, 40°
color temperature	2700K, 3000K, 4000K, 5000K, 6500K
range of brightness adjustment	0 – 100%
CRI index	min. 90
control	DMX, RDM
programmable scenes	1
mounting	GLOBAL Trac® Pulse Control
available housing colors	gray, black, white
weight	0.45kg
dimensions	height: 110mm diameter: 87mm

DECLARATION OF CONFORMITY

PXM Marek Żupnik spółka komandytowa
Podłęże 654, 32-003 Podłęże

we declare that our product:

Product name: PxArt+ 3

Product code: PX389

meets the requirements of the following standards, as well as harmonised standards:

PN-EN 60598-1:2021-07	EN 60598-1:2021
PN-EN 62471:2010	EN 62471:2008
PN-EN 61000-4-2:2011	EN 61000-4-2:2009
PN-EN IEC 61000-6-1:2019-03	EN IEC 61000-6-1:2019
PN-EN 61000-6-3:2021-08	EN 61000-6-3:2021

and meets the essential requirements of the following directives:

2011/65/UE DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment
Text with EEA relevance.

2014/30/UE DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility (recast)
Text with EEA relevance.

2014/35/UE DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits

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