PX170

AC Dimmer 6 x 1200 W

INSTRUCTION MANUAL

PXM®

CONTENTS

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

Rev. 1.2

1. GENERAL DESCRIPTION

PX170 is a professional AC class dimmer 6 x 1200 W powered with 3 phases, 2 phases or 1 phase. The dimmer controls 6 independent channels, 1.2 kW each. Advanced electronics allows to address easily each channel, to choose the control curve, to set output voltage limitation and preheat level and to determine dimmer answer for the interruption of the DMX control signal as well.

Built-in PLL, soft-start, soft-on and even-off systems allow for the reliable work even in the most difficult conditions. Direct zero cross-over with opto-insulated DMX input guarantee high noise resistance. Tricolour LEDs for monitoring each channel and DMX control signal. The device comes in the casing for truss mounting.
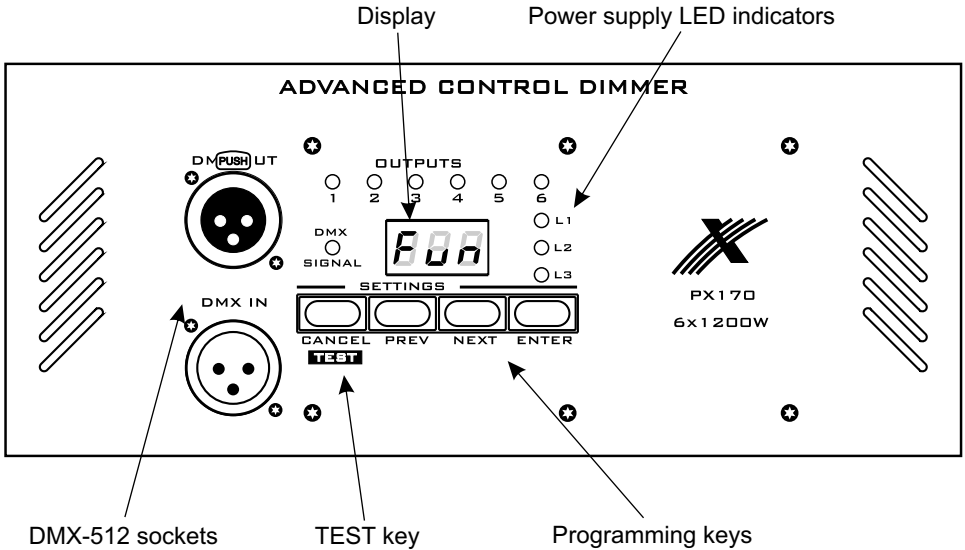
2. SAFETY CONDITIONS

PX170 AC Dimmer is powered directly from standard 230 V grid, what can cause electric shock when safety rules are not observed. Therefore it is necessary to observe the following :

1. Installation, particularly power connection, should be performed by a person holding the appropriate qualifications, according to description in the instruction manual.
2. Dimmer can be connected only to socket which has protecting instalation in working order (3- or 5-wire grid with the separate protective strand).
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 parameters.
5. The external devices can be connected to the dimmer with 3-strand 2.5 mm^2 minimum cross-section area only.
6. Each receiver has to be powered with a separate cable.
7. After the installation is completed, check the neutralization efficacy of all powered devices.
8. All repairs demanding casing opening should be made with cut off power supply.
9. The device should be strictly protected against water and other liquids.
10. All sudden shocks, particularly dropping, should be avoided.
11. Device with damaged (cracked) casing should not be connected to the mains.
12. The device cannot be turned on in places with humidity exceeding 80%.
13. The device cannot be used in places with temperature lower than 2°C or higher than 40°C.
14. Clean with damp duster only - dimmer has to be cut off the power supply.

ATTENTION!!!
1. Improper connection of the protective wire (yellow-green strand) can cause electric shock.
2. Improper connection of the neutral wire (blue strand) can cause a dimmer improper operation or even its damage.
3. The dimmer can control resistantive and inductive circuits (loads) only. The dimmer cannot be used for controlling the electronic transformers, electronic ballasts for fluorescent lamps and other devices that have electronic circuits, unless the producer distinctly states so.

3. FRONT PANEL

Display   Power supply LED indicators

ADVANCED CONTROL DIMMER

OUTPUTS
1 2 3 4 5 6

DMX
SIGNAL

DM PUSH UT

DMX IN

FUn

SETTINGS

CANCEL PREV NEXT ENTER

TEST

L1
L2
L3

PX170
6x1200W

DMX-512 sockets   TEST key   Programming keys

SETTINGS

There are four buttons for dimmer programming:

ENTER -   starts programming mode and confirms settings
NEXT -   scrolls MENU forwards or increases values set
PREV -   scrolls MENU backwards and decreases values set
CANCEL -   allows to cancel programming (without saving)

DMX OK

Twinkle LED for DMX signal presence.

DMX IN, DMX OUT

DMX-512 line input and output. Optical insulation of these sockets reduces the risk of dimmer damage and improves its reliability.

TEST

When the dimmer is not in the programming mode (the display shows DMX address), the test button forces all outputs to light up at 100%, light all the LEDs and all the display segments.

DISPLAY

In the standard operation shows the DMX address of the first channel. In the programming mode shows currently programmed parameter.

L1, L2, L3

Power control LEDs. For the proper work of the dimmer at least L1 LED should be lit up.

4. PROGRAMMABLE PARAMETERS

The dimmer allows to define the following operation parameters:

1. The group parameters - ⏢ALL⏢ menu

   Chosen settings are same for all channels. In case of the DMX address, the displayed value is related to the first channel. For all the other channels subsequent address values are assigned.

2. Individual parameters - ⏢Ind⏢ menu

   Each channel can be programmed individually. It applies also to the DMX address. The same address can be programmed for several channels.

   Group parameters have higher priority then individual ones. It means that when the DMX address is programmed in the ⏢ALL⏢ mode, the previous settings for all twelve channels will be cancelled.

3. Scenes and chasers programming - ⏢dEF⏢ menu

   This function enables to program:

   - settings for all three scenes
   - twelve steps settings and the speed and fading of programmable chaser
   - speed and fading of the factory-defined chaser

4.1. GROUP PARAMETERS

1. ⏢Adr⏢ - DMX address. It is selected from the 1 - 507 range (when 507 address is chosen, channel no. 6 has the address 512).

2. ⏢CUr⏢ - control curve choice. There are 8 options to choose from:

   ⏢LIn⏢ - linear,
   ⏢SP_⏢ - switchable,
   ⏢Inu⏢ - inverted,
   ⏢LnU⏢ - logarithmic,
   ⏢E_P⏢ - exponential,
   ⏢nE1⏢...⏢nE3⏢ - for neon lamps control.

3. ⏢ACL⏢ - limit. Limiting the output voltage in the range from 50 - 230 V.

4. ⏢PrE⏢ - preheat. Heating up the bulb filaments. Set in the range from 0 - 10 %.

5. ⏢noS⏢ - lack of signal. It determines functioning of the dimmer according to parameters defined in case of DMX signal interruption. There are 9 options to choose from:

   ⏢On_⏢ - turning all outputs on at 100%,
   ⏢OFF⏢ - turning all outputs off,
   ⏢HLd⏢ - the last received value is held,
   ⏢?-L⏢ - slow output switching off (about 20 secs),
   ⏢Sc1⏢...⏢Sc3⏢ - programmable scenes,
   ⏢CrF⏢ - factory-defined chaser,
   ⏢CrP⏢ - programmable chaser.

4.2. INDIVIDUAL PARAMETERS

1. `Adr` - DMX address. Chosen from the 1 - 512 range.
2. `Cur` - control curve choice. There are 8 options to choose from:
   `Lin` - linear,
   `SP.` - switchable,
   `Inu` - inverted,
   `LnU` - logarithmic,
   `E.P` - exponential,
   `nE1`...`nE3` - for neon lamps control.
3. `ACL` -limit. Limits the output voltage in the range from 50 - 230 V.

4.3. SCENES AND CHASERS PROGRAMMING

1. `Sc1`...`Sc3` - scenes programming
   `C01` ... `C06` - the number of the edited channel
   `0` ... `100` - channel value described in %.
2. `CrP` - programmable chaser
   `F01` ...`F06` - numbers of the edited scenes
   `C01` ...`C06` - numbers of the edited channel
   `0` ...`100` - the value of the chosen channel described in %
   `SPd` - chaser speed in the range 1 - 32
   `FAd` - switching on / off the crossfade function.
3. `CrF` - factory-defined chaser
   `SPd` - chaser speed in the range 1 - 32
   `FAd` - switching on / off the crossfade function.

5. ACCESS LOCK

Because of a great number of possibilities when defining the dimmer functions, all introduced changes can be protected with a code (number in a range from 0 - 255). The `dEF` position of the main menu will also be hidden.

5.1. SWITCHING THE ACCESS LOCK ON

1. In the basic position of the display (DMX address of the first channel) push and hold TEST button, push shortly NEXT button and release TEST button - `PAS` will show.
2. Push ENTER button - `Enb` inscription will show.
3. Push ENTER button again - the last set code will show.
4. Set new code using "PREV" and "NEXT" buttons (or leave the previous one) and confirm changes by pressing the ENTER button.
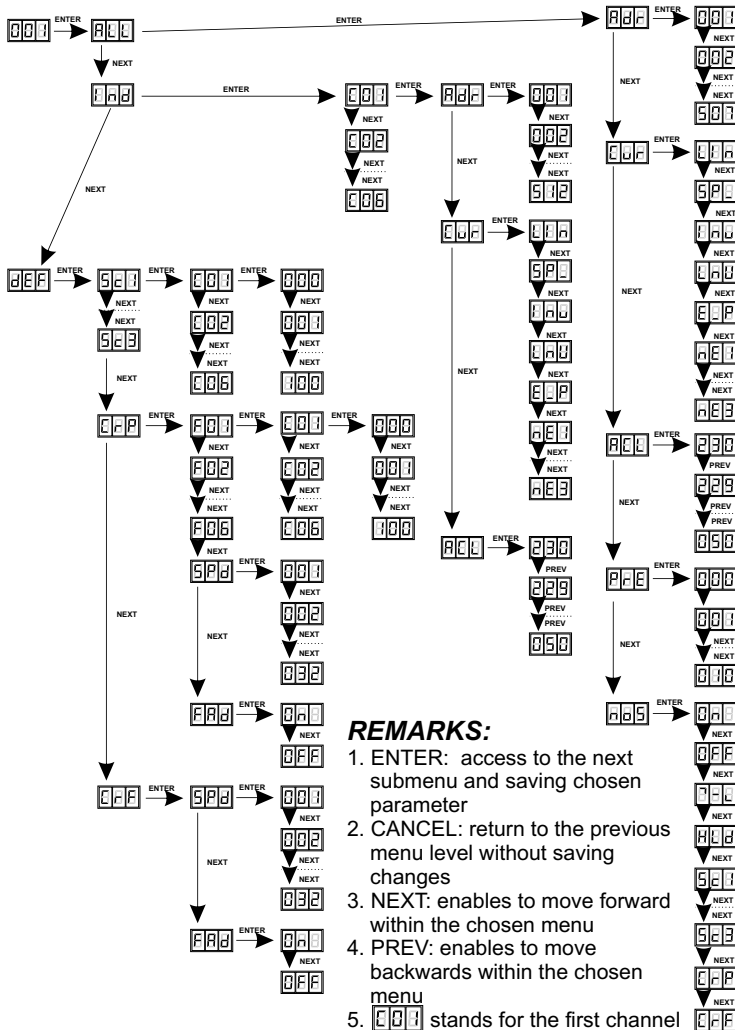
5.2. SWITCHING THE ACCESS LOCK OFF

1. Refer to point 1 in the previous chapter.

2. Push ENTER button - the inscription `dSb` will show.

3. Push button ENTER again - number `127` will show.

4. Set the code using buttons "PREV" and "NEXT" and confirm it with the "ENTER" button.

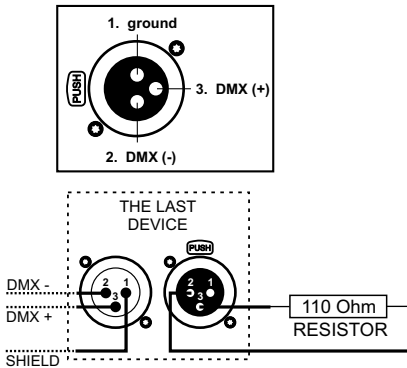5. The access to the programming mode of the dimmer is free.

WARNING

When the wrong code is entered, the inscription `bAd` is displayed. When the wrong code is entered three times, the access to the programming mode of the dimmer is completely locked: `Loc`. It is necessary to contact the service.

6. MENU SCHEME

REMARKS:
1. ENTER: access to the next submenu and saving chosen parameter
2. CANCEL: return to the previous menu level without saving changes
3. NEXT: enables to move forward within the chosen menu
4. PREV: enables to move backwards within the chosen menu
5. `C01` stands for the first channel

7. DMX SIGNAL CONNECTION

1. ground

PUSH

3. DMX (+)

2. DMX (-)

1. To connect devices use of the microphone cable is recommended (two strands in the shield).
2. The devices should be connected in series.
3. To split the DMX line it is necessary to use the DMX SPLITTER (PX094).
4. In case of the great number of devices or long distances use the DMX REPEATER (PX097). It is an amplifier of the DMX signal.
5. In the last device a terminator should be installed. It is a 110 Ohm resistor.

THE LAST DEVICE

PUSH

DMX -

DMX +

SHIELD

110 Ohm RESISTOR

8. OUTPUT SOCKETS CONNECTION

CEE version   **SCHUKO version**

L

N

L

N
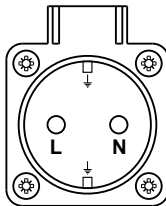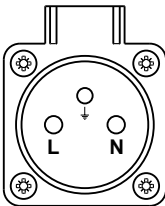
L - phase
N - neutral
⏚ - protective

8.1. POWER CABLE COLOURS

brown strand*	= phase 1
black strand*	= phase 2
black strand*	= phase 3
blue strand	= neutral
yellow - green strand	= protective

* those colors may differ depending on production batch

8.2. GENERAL RULES

1. Installation, particularly power connection, should be performed according to description in the instruction manual.
2. The device has to have properly connected the protective cable (yellow - green strand of the power cable).
3. The power circuit, where the PX170 dimmer is connected, must be equipped with the residual-current circuit breaker.
4. The minimal power cable cross-section area is 5 x 4 mm^2.
5. The external devices can be connected to the dimmer with 3-strand 2.5 mm^2 minimum cross-section area only.
6. Each receiver has to be powered with a separate cable.
7. After the installation is completed, check the neutralization efficacy of all the powered devices.
8. All the cables must be strictly protected against mechanical and thermal damage.

9. TECHNICAL SPECIFICATION

- DMX channels   1 - 512
- DMX line optical insulation   yes
- outputs load capacity   6 x 1200 W continuous load (resistantive)
                                         6 x 600 VA continuous load (inductive)
- outputs connection   6,3 A fast fuses
- DMX control input   3-pin XLR plug
- DMX control output   3-pin XLR socket
- power supply   3 x 230 V / 50 Hz
- output sockets   CEE, schuko
- current consumption   3 x 12 A (full load)
- weight   5 kg
- dimensions:
  - width   230 mm
  - heigth   115 mm
  - depth   330 mm

10. TECHNICAL DRAWING

PXM
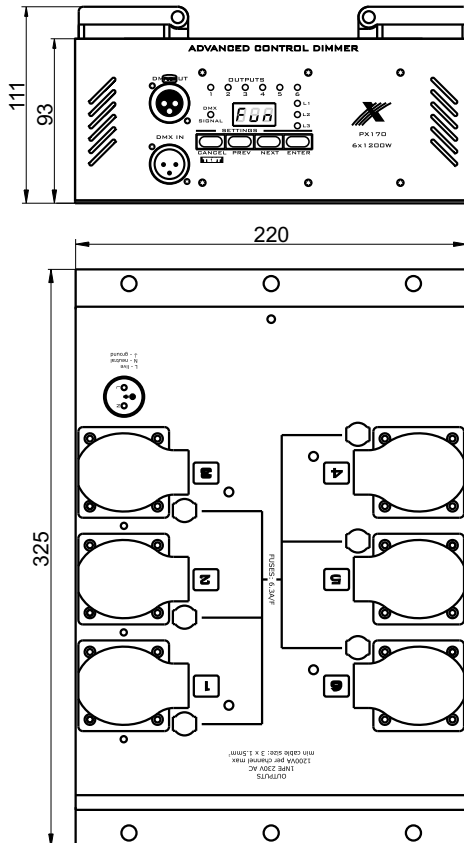
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DECLARATION OF CONFORMITY
according to guide lines 2004/108/WE and 2006/95/WE

Name of manufacturer: PXM Marek Żupnik sp. k.

Address of manufacturer: ul. Przemysłowa 12
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declares that the product:

Name of product: **AC Dimmer 6 x 1200 W**

Type: **PX170**

answers the following product specifications:

LVD: **PN-EN 60065:2004**

EMC: **PN-EN 61000-4-2:2011**
PN-EN 61000-6-1:2008
PN-EN 61000-6-3:2008

Additional information:
1. All DMX512 inputs and outputs must be shielded and the shielding must be connected to pin 1 XLR plug.
2. A ground wire of the dimmer load cable must be connected to efficient ground installation.

PXM
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Kraków, 18.07.2013

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