PX170

AC Dimmer

6 x 1200W

User manual

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

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1 Description

The PX170 dimmer can be powered from three, two or one phase. Switching between these power supply modes is automatic.

PX170 AC Dimmer 6 x 1200W has improved interference suppression filters, thanks to which the operation of the entire installation runs without any problems. In addition, the dimmer has installed with a fan that switches on automatically when the temperature of the device increases during long-term operation at full load.

Advanced electronics allow any addressing of each channel, selection of control characteristics, setting output voltage limits, including the bulb heating system, as well as defining the dimmer's response to the lack of DMX control signal.

Built-in "*PLL*", "*Soft-start*", "*Soft-on*" and "*Even-off*" systems allow for the reliable work even in the most difficult conditions. They ensure reliable operation in the most extreme conditions. Direct zero cross-over with optical insulation DMX input guarantee high noise resistance.

2 Safety conditions

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

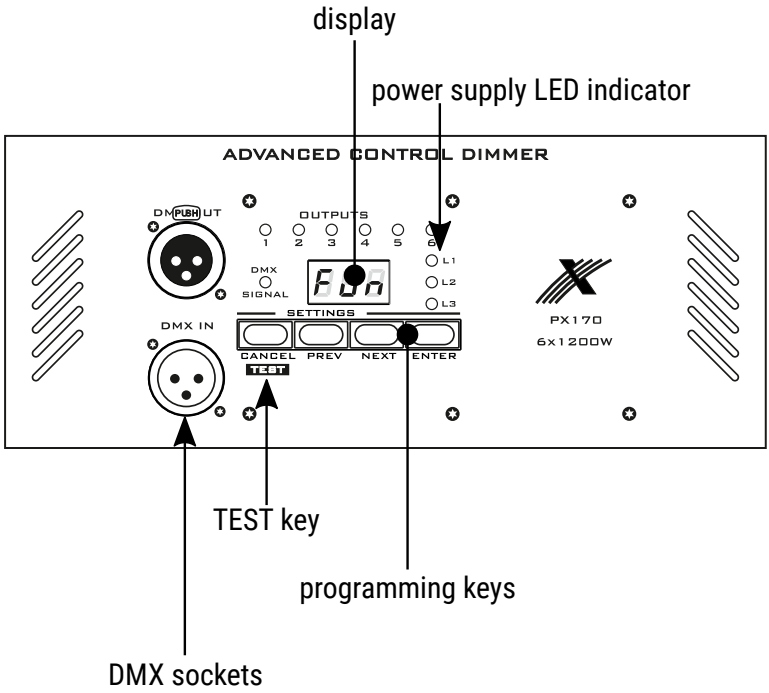
1. Installation, particularly power connection, should be performed according to description in the user manual.
2. Dimmer can be connected only to socket which has protecting installation in working order (3- or 5-wire grid with the separate protective strand).
3. All the conductors should be protected 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 1.5mm^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 90%.
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.

NOTE!

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 Connectors and control elements



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 SIGNAL:

Twinkle LED for DMX signal presence

DMX IN / DMX OUT:

DMX 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:

- Group parameters –  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.
- Individual parameters –  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 six channels will be canceled.*

- Scenes and chasers programming – [dEF] menu:

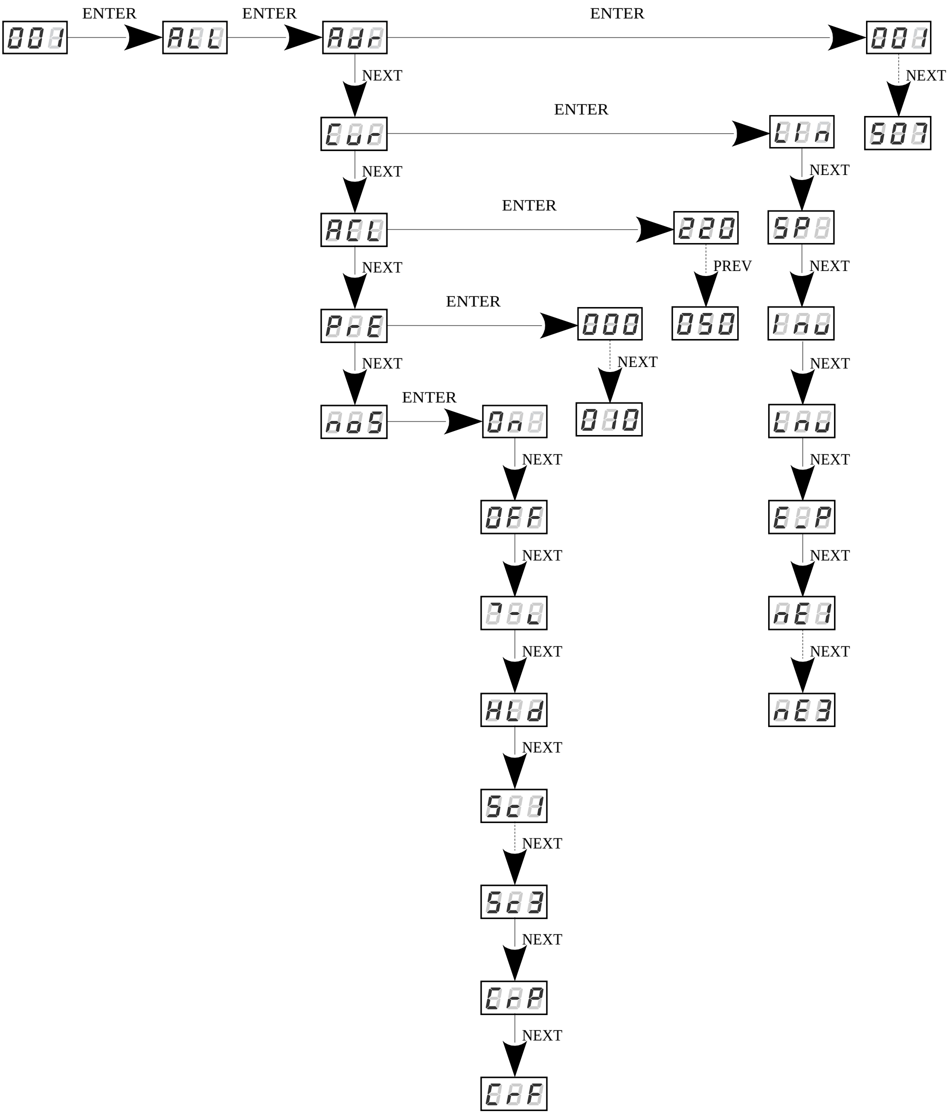
  This function enables to program:

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

4.1 Group parameters

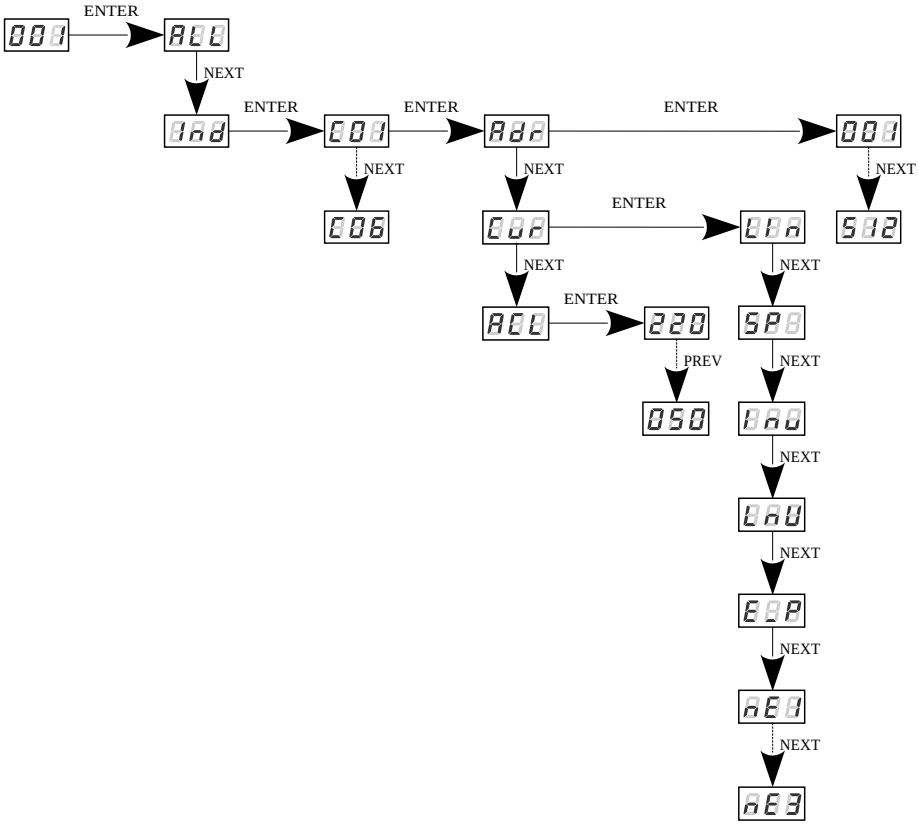
1. [ALL] – DMX address. It is selected from the 1 – 507 range (when 507 address is chosen, channel no. 6 has the address 512).
2. [CUr] – control curve choice. There are 8 options to choose from:
   - [LIn] – linear
   - [SP0] – switchable
   - [InU] – inverted
   - [LoU] – logarithmic
   - [EXP] – exponential
   - [AE1] … [AE3] – for neon lamps control
3. [ACL] – limit. Limiting the output voltage in the range from 50 – 230V AC.
4. [PrE] – preheat. Heating up the bulb filaments. Set in the range from 0 – 10%.

5. [nbS] – 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
   - [SLo] – slow output switching off (~20 seconds)
   - [Sc1] … [Sc3] – programmable scenes
   - [CrF] – factory-defined chaser
   - [CrP] – programmable chaser


ENTER
NEXT
PREV

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
   - [SPE] – switchable
   - [InU] – inverted
   - [LnU] – logarithmic
   - [EXP] – exponential
   - [nE1] … [nE3] – for neon lamps control
3. [ACL] – limit. Limiting the output voltage in the range from 50 – 230V AC.

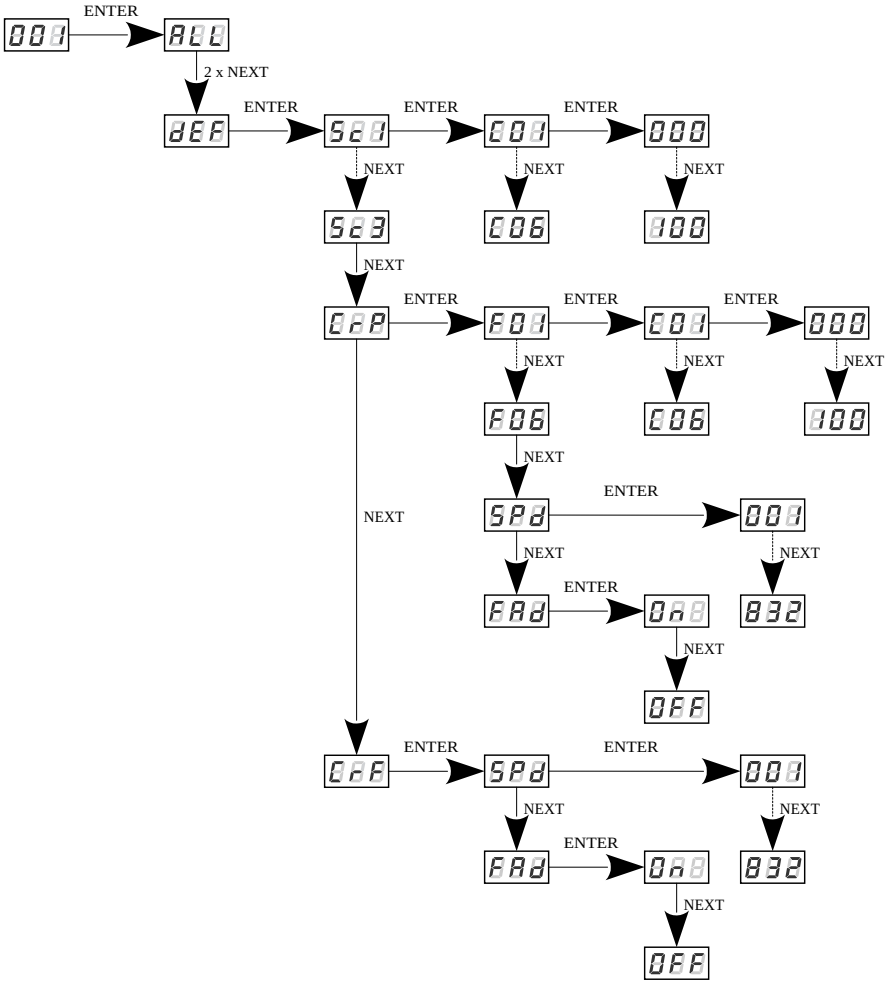


4.3 Scenes and chasers programming

1. S01 ... S03 – scenes programming
   - C01 ... C06 – the number of the edited channel
     - 00 ... 100 – channel value described in %
2. EXP – programmable chaser
   - F01 ... F06 – numbers of the edited scenes
     - C01 ... C06 – number of the edited channel
       - 00 ... 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. CAF – 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). In this case, users who do not know the password will only be able to read the existing settings without making any changes. 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 – [ENA] inscription will show.
3. Push *ENTER* button again – the last set code will show.
4. Set the code using *PREV* and *NEXT* buttons (or leave the previous one) and confirm changes by pressing the *ENTER* button.
5. Now on, access to the dimmer's programming is locked and password protected.

5.2 Switching the access lock off

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 – the inscription [DSB] will show.
3. Push *ENTER* button again– number [127] will show.

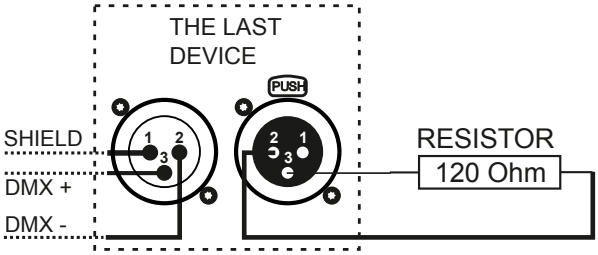
4. Set the code using buttons *PREV* and *NEXT* and confirm it with the *ENTER* button.
5. The access to the programming mode of the dimmer is free.

NOTE! 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 – boc. It is necessary to contact the service.

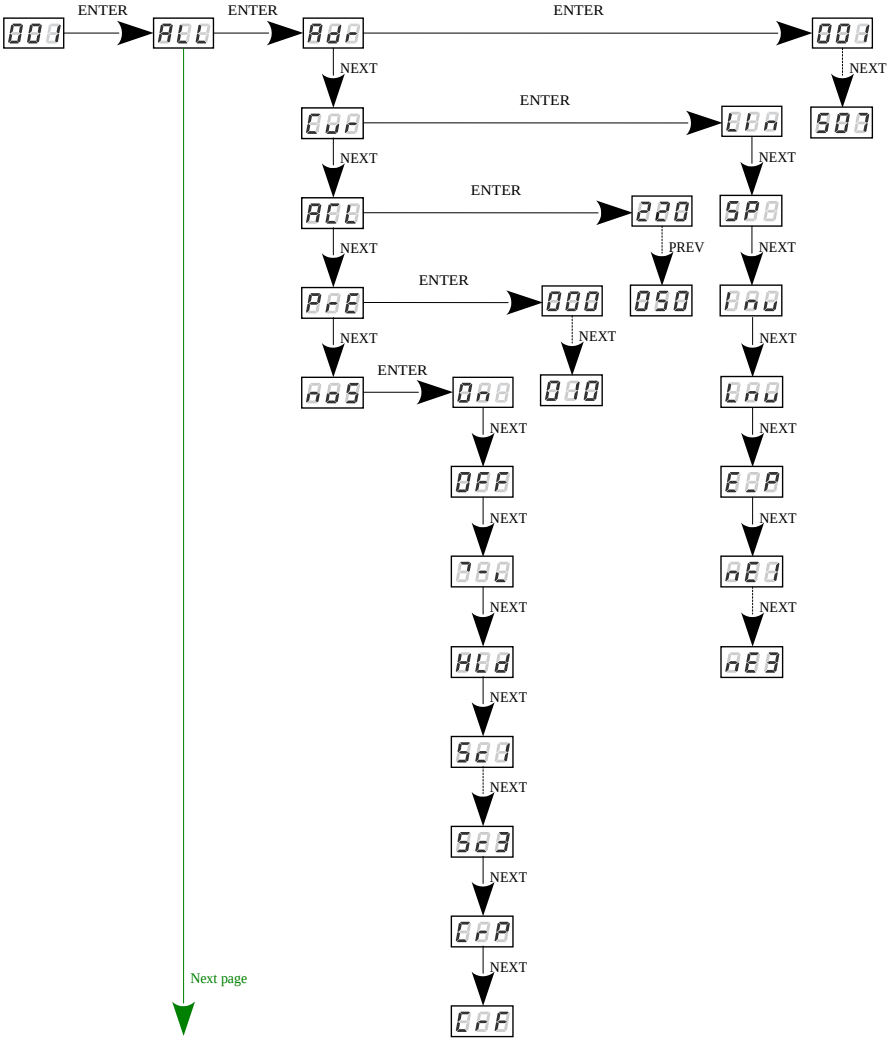
6 DMX signal connecting

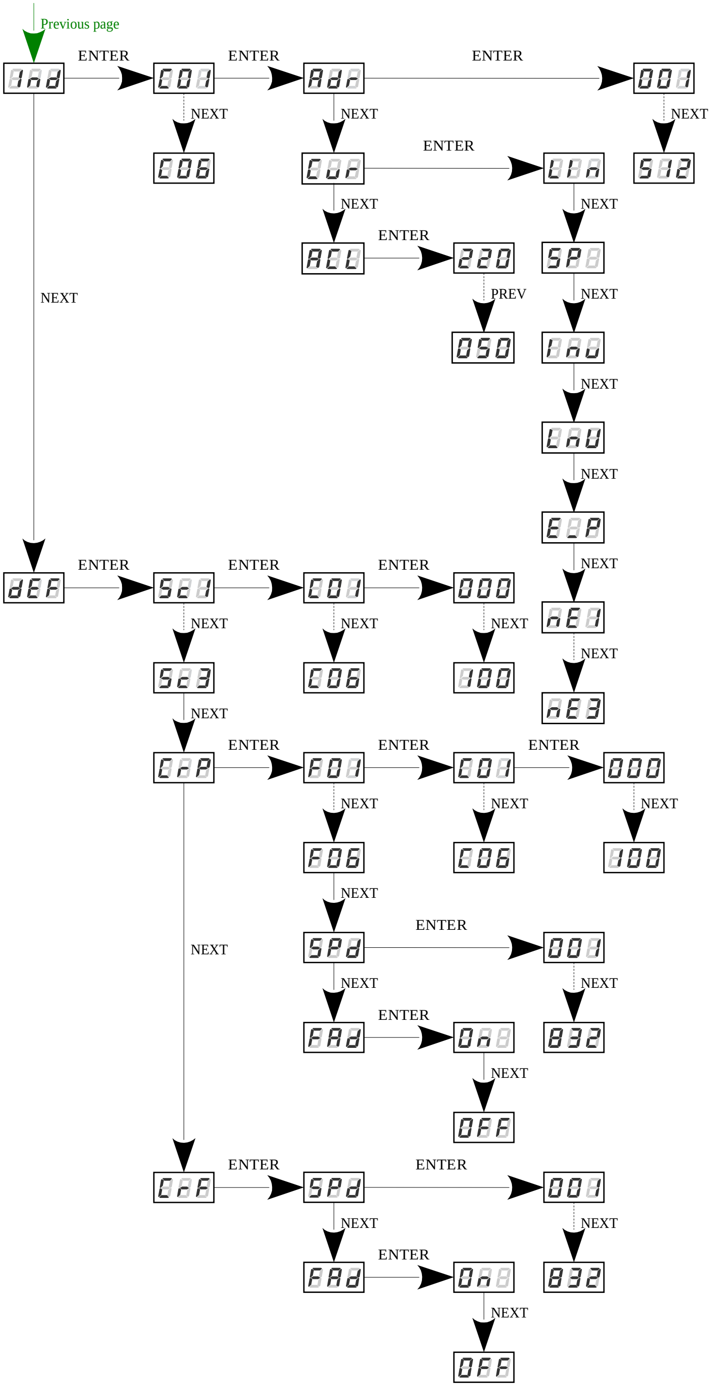
PX170 have to be connected to DMX line in serial mode, with no branches on DMX control cable. This means that a control cable should be connected to the ***DMX IN*** connector on the PX170, and then routed from the ***DMX OUT*** connectors to the next DMX receivers.

If PX170 is the last device in the DMX line then a terminator – 120 Ohm resistor should be connected to the ***DMX OUT*** socket.



7 Dimmer menu scheme




Previous page
ENTER
NEXT
PREV
Ind
C01
C06
Adr
001
512
Cur
Lin
ACL
220
050
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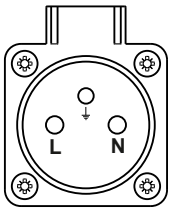
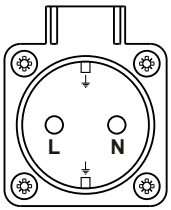
100
F01
F06
SPd
FAd
On
OFF
832

8 Output socket connection

CEE version



Schuko version



L – phase
N – neutral
⏚ – protective

8.1 Power cable colors

Brown strand*	– phase 1
black strand*	– phase 2
black strand*	– phase 3
blue strand*	– neutral
green-yellow strand*	– protective

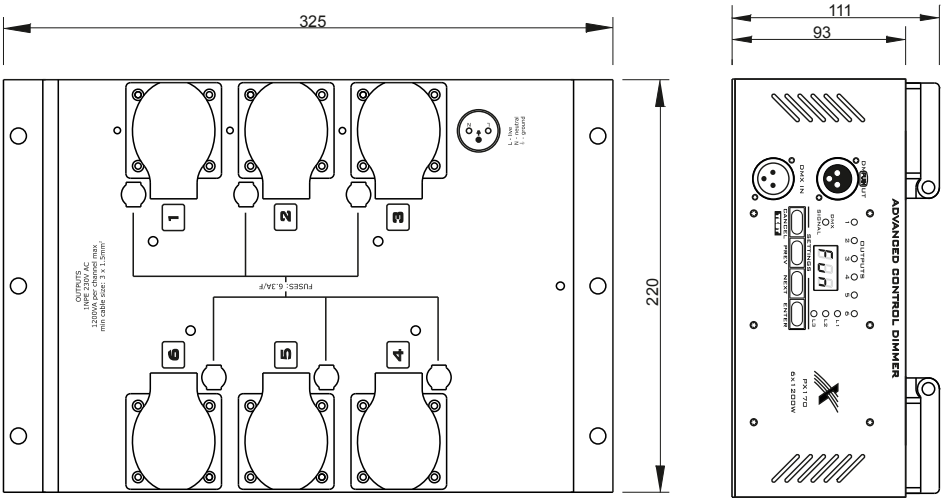
* – those colors may differ depending on production batch

8.2 General rules

1. Installation, particularly power connection, should be performed according to description in the user 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 2.5mm^2.
5. The external devices can be connected to the dimmer with 3-strand 1.5mm^2 minimum cross-section area only.
6. Each receiver has to be powered with a separate cable.

7. All the conductors should be protected against mechanical and thermal damage.
8. After the installation is completed, check the neutralization efficacy of all the powered devices.

9 Dimensions



10 Technical data

type	PX170
DMX channels	512
power supply	3 x 240V AC
current consumption	max. 3 x 12A (full load)
outputs load capacity	6 x 1200W resistantive continuous load 6 x 600VA inductive continuous load
outputs protection	fuses
DMX line connectors	3-pin XLR connector
DMX line optical insulation	yes
interference suppression	according to PN-EN 55014 (according to old markings: slope rise time >110µs)
output sockets	CEE, Schuko
weight	5kg
dimensions	width: 220mm height: 111mm depth: 325mm

Podłęże, 07.02.2020

DECLARATION OF CONFORMITY

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

we declare that our product:

Product name:	AC Dimmer 6 x 1200W
Product code:	PX170

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

PN-EN IEC 63000:2019-01	EN IEC 63000:2018
PN-EN 62368-1:2015-03	EN 62368-1:2014
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 61000-6-3:2008	EN 61000-6-3:2007

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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