LMS057

Digital Dimmpack 4 x 600 W

INSTRUCTION MANUAL

PXM®

CONTENTS

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

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1. GENERAL DESCRIPTION

LMS057 is a digital dimmer of 4 x 600 W power, destined to DIN rail mounting in the electrical switching stations. LMS057 is powered with one phase. Allows to control four independent circuits, 0.6 kW each.
The advanced electronics allows to address freely every channel, select the control characteristics (linear, inverted linear, logarithmic, exponential, switable on/off and three characteristics for neon lamps control), set the ACL level (level of the output voltages in a range from 50 to 230 V, exact to 1 V), adjust the preheat (bulbs' filaments preheatintg, from 0 to 10%) and to select the dimmer reaction to DMX signal interruption (off, on at 100%, slow dimming, previously controlled value, one of three scenes or one of two chasers).
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-isolated DMX input guarantee high noise resistance.
The module is equipped with DMX-512 standard control inputs.
136 mm wide case for DIN rails mounting.

2. SAFETY CONDITIONS

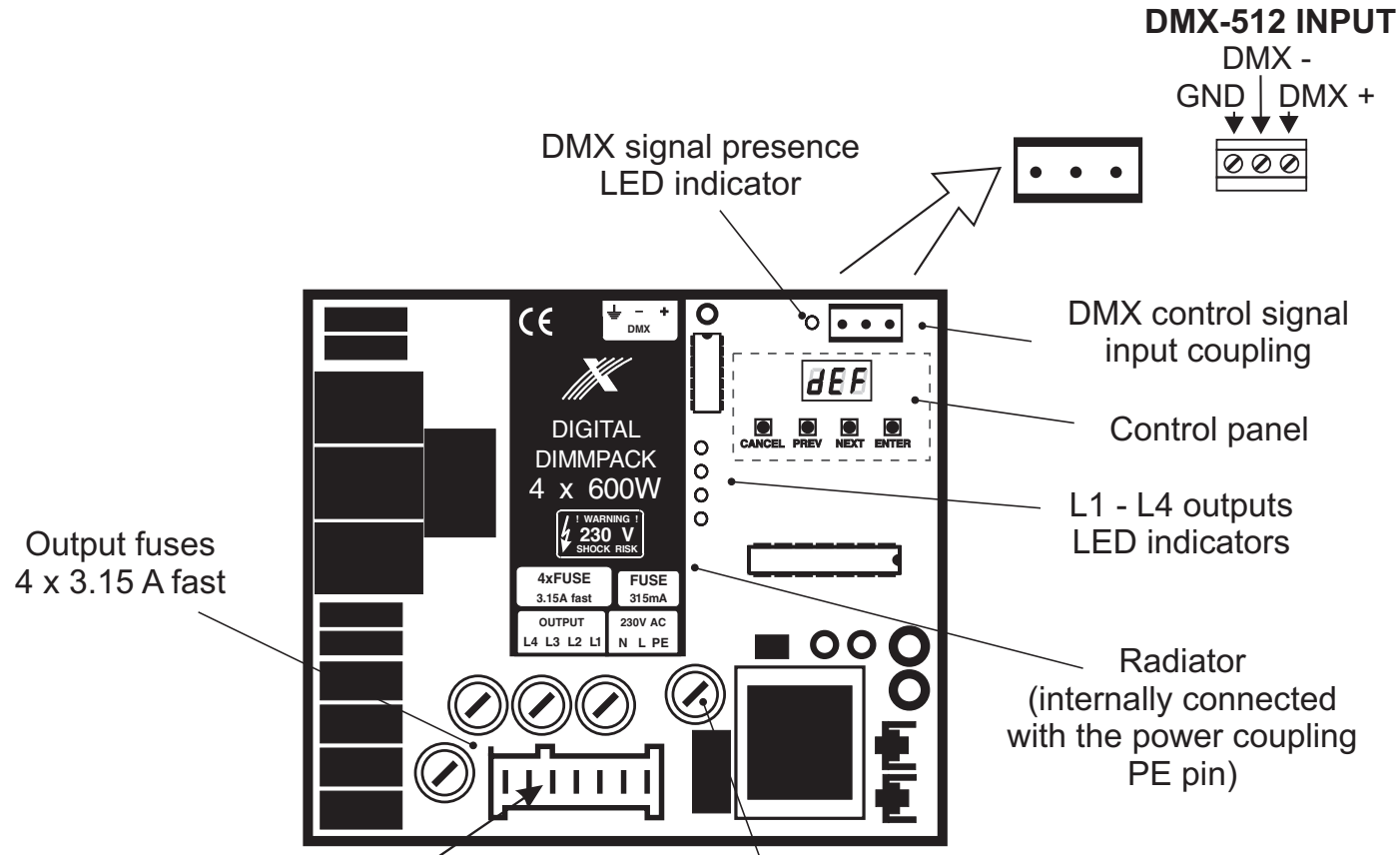
LMS057 Dimmer is powered directly from standard 230 V grid what can cause electric shock when safety rules are not observed. Therefore it is necessary to observe the following :

1. Installation, particularly power connection, should be performed by a person holding the appropriate qualifications, according to instruction manual.
2. Dimmer can be connected only to grid, which has protecting instalation in working order (3-wire grid).
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 and attestations.
5. The external devices can be connected to the dimmer with 3-strand 1.5 mm^2 minimum cross-section area only.
6. The dimmer can be installed in closed switching stations only, that block off the access of person, who does not hold the qualifications to attend the devices powered with 230 V tension.
7. After the installation is completed, check the neutralization efficacy of all powered devices.
8. All repairs, as well the fuse replacement, 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 visible mechanical damage cannot 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.

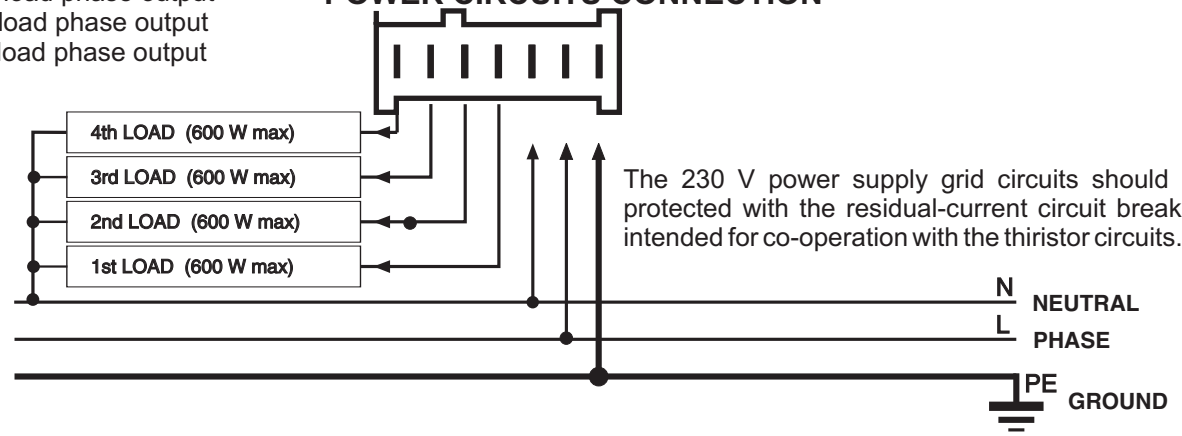
ATTENTION!!!

1. Improper connection of the protective wire can cause electric shock.
2. Improper connection of the neutral wire automatically causes the dimmer malfunction.
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 distincly states so.

3. CONNECTORS AND CONTROL ELEMENTS DESCRIPTION



POWER CIRCUITS CONNECTION

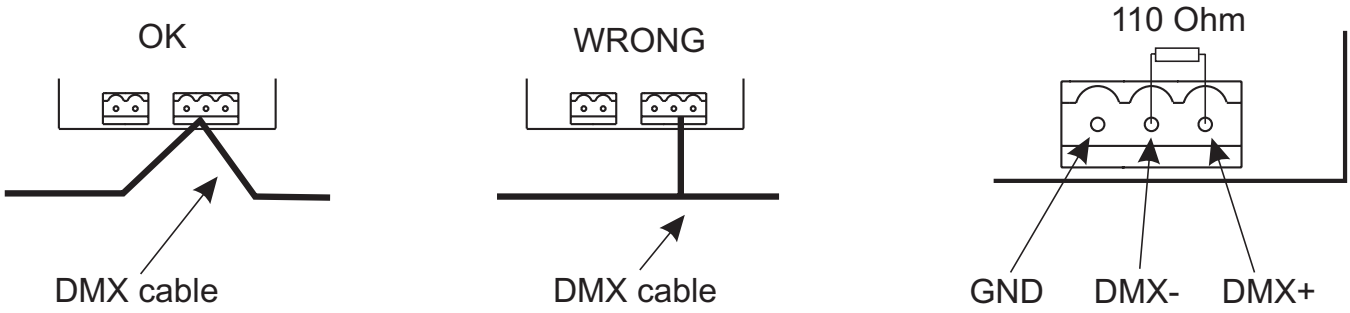


The 230 V power supply grid circuits should be protected with the residual-current circuit breaker, intended for co-operation with the thiristor circuits.

4. DMX SIGNAL CONNECTION

LMS057 must be connected to the DMX line in series. This means that DMX connector of LMS057 must be connected to the control cable, and then from this connector the control cable should run to other DMX receivers.

If LMS057 is the last device in the DMX line, then terminals "DMX+" and "DMX-" should be connected to a terminator - 110 Ohm resistor.



5. DISPLAYED MESSAGES MEANING

F-L	Lack of the DMX signal. Slow dimming (approx. 20 secs of all the outputs.
00	Minimal brightness of a particular channel shown in percents (%).
100	Maximal brightness of a particular channel shown in percents (%).
ACL	Limitation of the output voltage in a range from 50 - 230 V.
Adr	DMX address. Selected from range 1 - 511 (when 511 is set, channel no. 2 has 512 address).
ALL	Group parameters.
C01	C01 - C04, number of the edited channel.
CrF	Factory defined chaser (additionally - reaction to DMX signal interruption).
CrP	Programmable chaser (additionally - reaction to DMX signal interruption).
Cur	Characteristics. 6 diffrerent dimming characteristics to choose from.
dEF	Scenes and chasers programming.
E_P	Characteristics: exponential.
F01	F01 - F04 - numbers of the edited scenes.
FAd	Scene smooth fading feature turning on / off.
HLd	No DMX signal: holding all the previously controlled values.
Ind	Individual programming parameters.
Lin	Characteristics: linear.
LnU	Characteristics: logarithmic.
Inu	Characteristics: inverted.
nE1	nE1 - nE3. Characteristics: for neon lamps control.
noS	No DMX signal. Device reaction to DMX signal interruption (7 options).
0n	No DMX signal: turning all the outputs on at 100%.
OFF	No DMX signal: turning all the outputs off.
PrE	Preheat - bulb filament preheating. Set in a range from 0 - 10 %.
Sc1	Sc1 - Sc4 - programmable scenes (set also when the DMX signal is off).
SPd	Chaser speed, in a range from 001 - 032.
SP_	Characteristics: switchable.

6. DIMMER PROGRAMMING

After turning the device on, software version is displayed on the screen. During the dIMMER normal operation the screen displays only one dot signalling operation of the device. Press ENTER to switch to the main menu, the display will show ALL. Press PREVIOUS or NEXT to select programming menu (ALL, Ind, dEF), and then press ENTER to confirm your selection.

6. PROGRAMMABLE PARAMETERS

The dimmer allows to program the different 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.

6.1. GROUP PARAMETERS

1. Adr - DMX address. It is chosen from the 1 - 511 range (when 507 address is chosen, channel no. 2 has the address 512).
2. CUr - control curve choice. There are 8 options to choose from:
   - LIn - linear,
   - SPE - switchable,
   - InU - inverted,
   - LoU - logarithmic,
   - E_P - exponential,
   - nE1 ... nE3 - for neon lamps control.
3. ACL - limit. Limiting of the output voltage in the range 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 in case of the interruption of the DMX signal. 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,
   - F-d - slow output switching off (about 20 secs),
   - Sc1 ... Sc3 - programmable scenes,
   - CrF - factory-defined chaser,
   - CrP - programmable chaser.

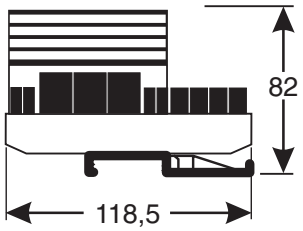
6.2. INDIVIDUAL PARAMETERS

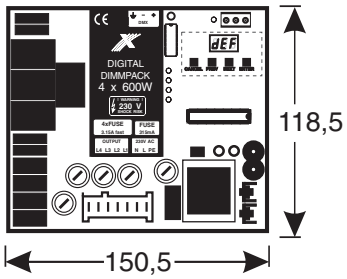
1. AdR - DMX address. Chosen from the 1 - 512 range.
2. CUr - control curve choice. There are 8 options to choose from:
   - LIn - linear
   - SPS - switchable
   - InU - inverted
   - LnU - logarithmic
   - E_P - exponential
   - nE1...nE3 - for neon display steering.
3. ACL -limit. Limiting the output voltage in the range 50 - 230 V.

6.3. SCENES AND CHASERS PROGRAMMING

1. Sc1...Sc3 - scenes programming
   - C01 ... C04 - the number of the edited channel
   - 000 ... 100 - channel value described in %.
2. CrP - programmable chaser
   - F01 ... F04 - numbers of the edited scenes
   - C01 ... C04 - numbers of the edited channel
   - 000 ... 100 - the value of the chosen channel described in %
   - SPd - chaser speed in the range 1 - 32
   - FAd - switching on / off of the crossfade function.
3. CrF - factory-defined chaser
   - SPd - chaser speed in the range 1 - 32
   - FAd - switching on / off of the crossfade function.

7. PULLEY DIMENSIONS [mm]

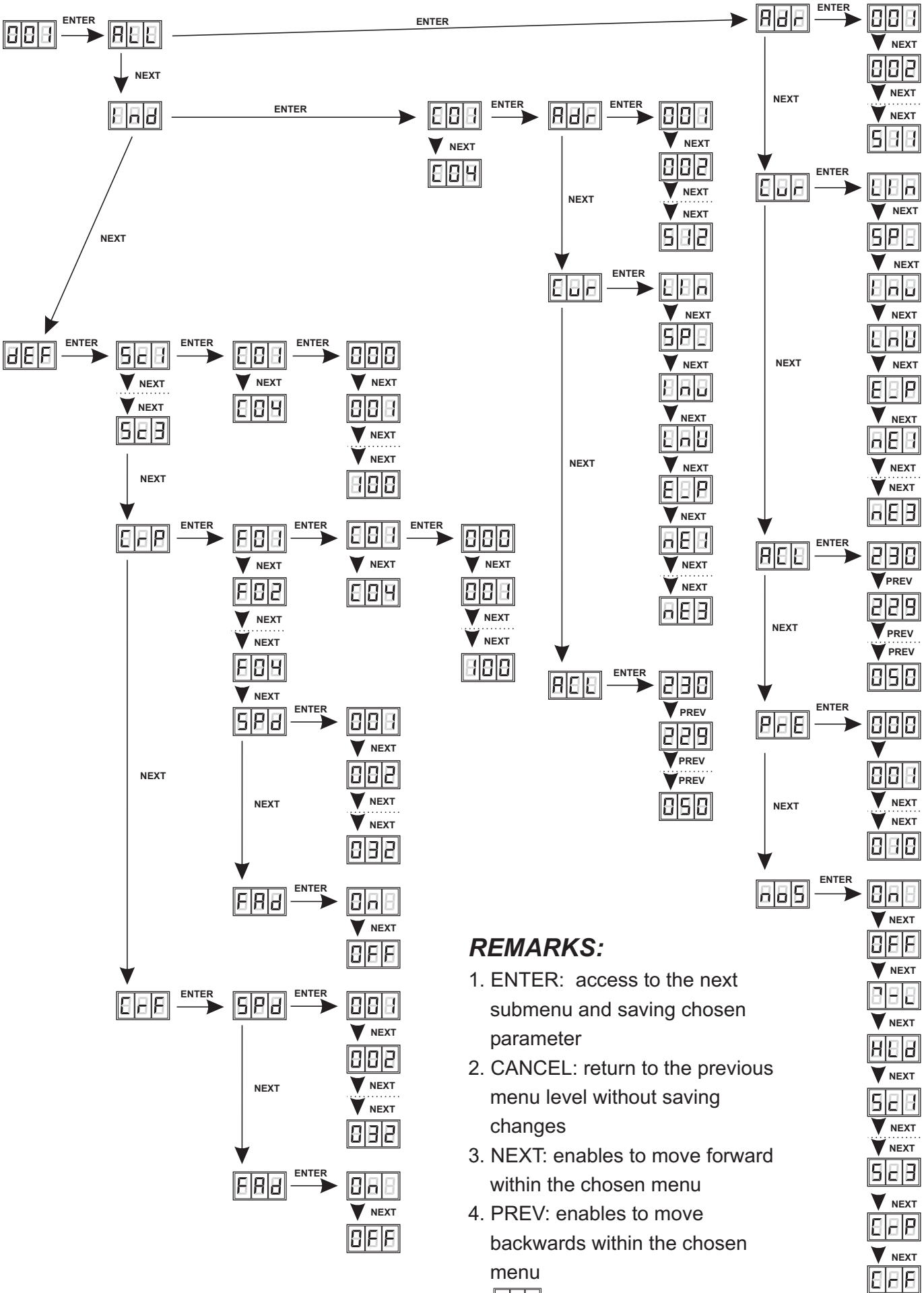




8. TECHNICAL SPECIFICATION

- control input	- DMX-512
- outputs load capacity	- 4 x 600 W continuous load (resistantive)
	- 4 x 600 VA continuous load (inductive)
- outputs protection	- 4 x 3.15 A fast fuses
- power supply	- 230 V / 50 Hz
- maximal current consumption	- 10 A
- dimensions:	
- width	118,5 mm
- height	150,5 mm
- depth	82 mm

9. MENU SCHEME



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DECLARATION OF CONFORMITY
according to guide lines 73/23/EWG and 89/336/EWG

Name of producer: PXM s.c.

Address of producer: ul. Przemysłowa 12
30-701 Kraków

declares that the product:

Name of product: **Digital Dimmpack 4 x 600 W**

Type: **LMS057**

answers the following product specifications:

LVD: **PN-EN 60065**

EMC: **PN-EN 55014**

Additional informations:

1. The dimmer PE terminal has to be connected to the efficient protective installation, equipped with the residual-current circuit breakers.
2. The dimmer can be installed in the closed switching stations only.

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Kraków, 01.06.2006

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