



# **Network Dimming Pack**

## **Instruction Manual**

### **Models:**

**NDP1210, NDP1213, NDP1216  
NDP6025, NDP6032**

**NDPN1210, NDPN1213, NDPN1216  
NDPN6025, NDPN6032**

**version 2 since 3/2014**

### **ATTENTION!**

This instruction manual contains important information about the installation and the use of the equipment. Please read and follow these instructions carefully.

Always ensure that the power to the equipment is disconnected before opening the equipment or commencing any maintenance work.

## **1. General information**

### ***IMPORTANT INSTRUCTIONS!***

All safety and operating instructions should be read before the equipment is installed or operated.

### ***IMPORTANT SAFETY INFORMATION***

The following general safety precautions have to be observed during all phases of operation, service, and the repair of this equipment. Failure to comply with these precautions or with specific warnings in this manual violates safety standards of design, manufacture, and the intended use of this equipment.

#### ***Do not operate in an explosive atmosphere!***

Do not operate this equipment in the presence of flammable gases or fumes. Operation of any electrical instrument in such an environment constitutes a definite safety hazard.

#### ***Water, moisture, heat and humidity***

Do not operate this equipment near water or in areas with wet floors, or in high humidity atmosphere, where condensation forms on the equipment. It should never be placed near or over a heat register or other source of heated air. It should not be installed or operated without proper ventilation.

#### ***Power connections***

This equipment must be earthed.

Let the equipment adapt the environment for at least 10 minutes after unpacking.

Please double check the signals of the power cable. Cable must be 5-wire (3L+N+E) with the CEE form input socket 32A/63A – 5-pin or hardwired to the installation rack.

#### ***Output connection***

The output terminals are located inside the dimmer. Live, neutral and earth connections must be made to all load equipment.

#### ***DMX Input connection***

DMX512 standard 3-pin and 5-pin XLR connectors are located on the rear panel of NDP12xx. DMX inputs are optically isolated.

#### ***Ethernet Art-Net, s.NET Input connection***

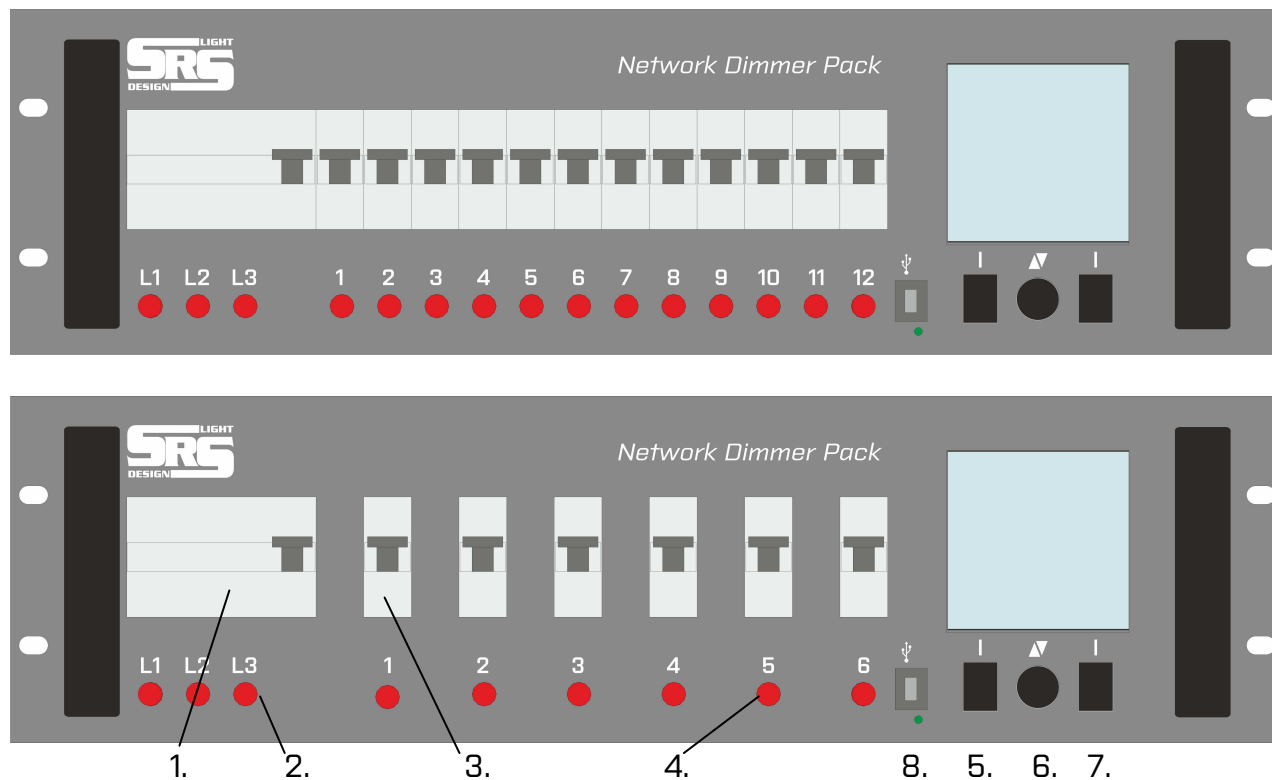
Ethernet standard RJ45 input connector is located on the rear panel next to the DMX input connectors.

#### ***USB connector***

There is a USB-A connector located on the front panel of the unit.

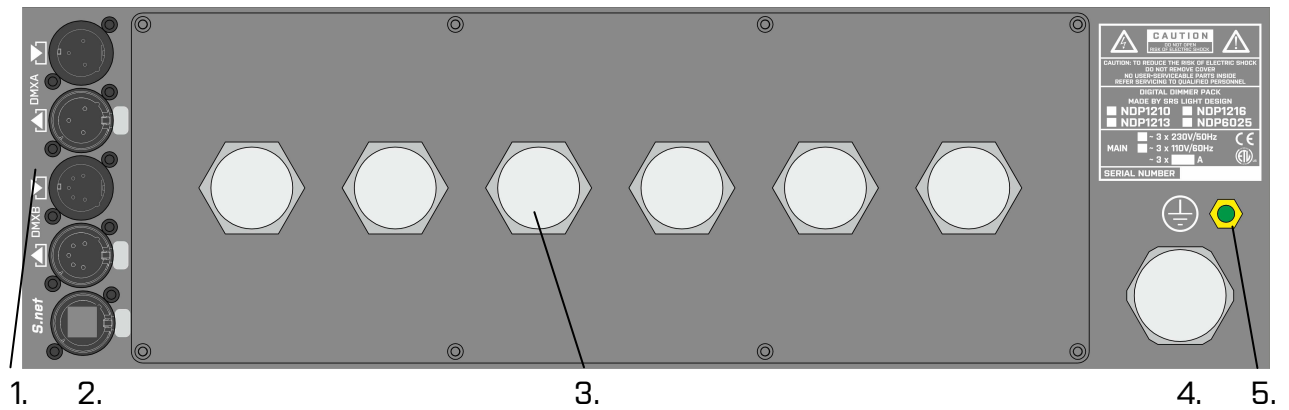
## 2. Functions and Control

### Front panel:



1. Residual current device
  - a. GF163 or 80A type A 30mA
  - b. Main switch on models marked as NDPxxxxB or NDPNxxxxB
2. Indicator of main input
3. Circuit breakers
  - a. **1P** for NDPxxxx
  - b. **1P+N** for NDPNxxxx
4. Output load indication /off when the lamp connection and channel level are set to zero/
5. Left selection key
6. Encoder
7. Right selection key
8. USB port

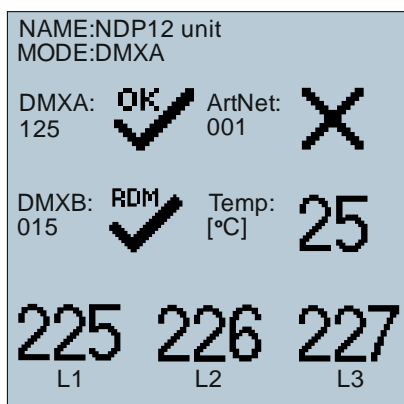
## Rear panel:



1. 2x DMX input/output
2. Ethernet
3. Dimmer output terminal
4. Power cable 5G6 or 5G10 according to the amperage of dimmer, 1.5m long
5. PE grounding point

## 2. Navigating menu

The navigation of NDP12xx is done using two buttons and the Encoder. Initial menu indicates the user defined name of unit, working mode, DMX start addresses, the DMX/RDM statuses, Art-Net status, inner system temperature, the main phase voltages and the frequency.



### DMX/Art-Net status:



DMX or Art-Net is OK



RDM communication is OK



DMX or Art-Net is not connected



DMX signal is inverted or one of the signals is missing or is short circuited.

### Temperature status:

25

Number shows the temperature of dimmer in °C

25

Inverted number indicates WARNING. System temperature is higher or lower than the value selected by user, in this case 25 degrees of Celsius.

### Phase Voltages:

225

The voltage of each phase in Volts is displayed at the bottom of LCD.

225

Inverted number indicates WARNING. Voltage of particular phase is higher or lower than the value selected by user.

### Frequency status:

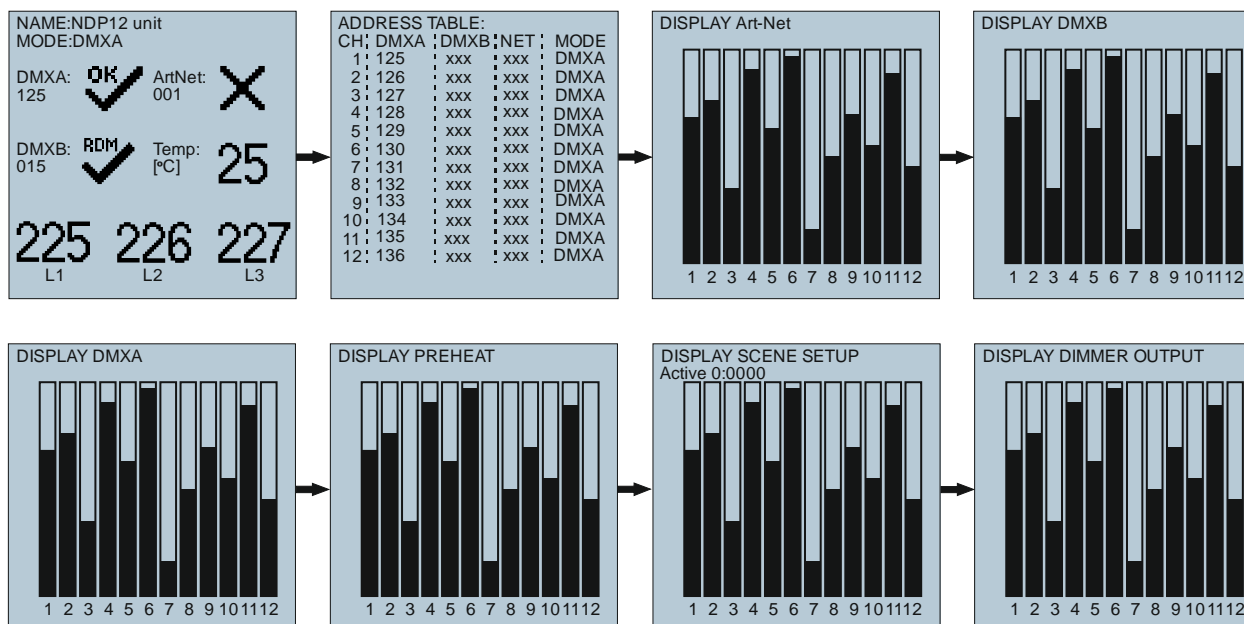
50

Number shows the line frequency in Hz.

50

Inverted number indicates WARNING. Line frequency is higher or lower than the value selected by user.

Rotating the Encoder shows the following quick view screens.



### Address table:

Address table shows the mode of operation and address patch for every channel. First column shows the number of channel. Second and third columns are the user patched addresses for DMXA and DMXB inputs, respectively. Next column displays the user patched address for Art-Net input. The last one indicates the mode of operation for every channel.

Possible modes of operation are DMXA, DMXB, Art-Net, HTP, LTP and Manual.

### Display Art-Net:

Shows actual values on channels received over Art-Net.

### Display DMXB:

Shows actual values on channels received over DMXB input.

### Display DMXA:

Shows actual values on channels received over DMXA input.

### Display Preheat:

Shows preheat values assigned by user.

### Display Scene Setup:

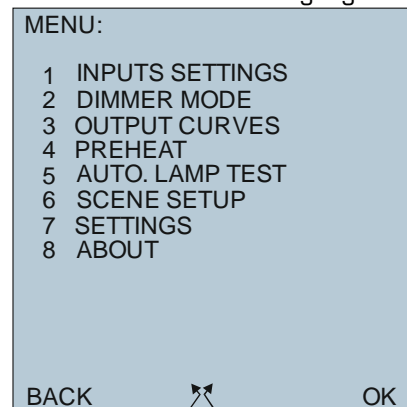
Indicates the output values of dimmer scene generator. Active [latch]:[flash] shows the active latch scene and flash scenes.

### Display Dimmer Output:

Indicates real output values on channels after dimmer signal processing. If some of the channels are set to manual mode, their values can easily be changed here. Press the MAN (left button) and set the required value on particular channel by the Encoder. Press the Encoder to save the settings and to return to the main screen.

## Menu navigation:

To enter the menu, unlock the device by pressing both buttons at the same time and press the Encoder. Rotate the Encoder to highlight the desired option and press the Encoder to enter:



1. INPUT SETTINGS
  - 1.1 DMXA Start addr.
  - 1.2 DMXB Start addr.
  - 1.3 Art-Net Start addr.
  - 1.4 DMXA Patch
  - 1.5 DMXB Patch
  - 1.6 Art-Net Patch
2. DIMMER MODE
  - 2.1 DMXA
  - 2.2 DMXB
  - 2.3 Art-Net
  - 2.4 MANUAL
  - 2.5 PATCH
  - 2.6 HTP DMXA + DMXB
  - 2.7 LTP DMXA + DMXB
  - 2.8 HTP DMXA + Art-Net
  - 2.9 LTP DMXA + Art-Net
  - 2.10 HTP DMXB + Art-Net
  - 2.11 LTP DMXB + Art-Net
  - 2.12 HTP DMXA + DMXB + Art-Net
  - 2.13 LTP DMXA + DMXB + Art-Net
3. OUTPUT CURVES
  - 3.1 Curves common
  - 3.2 Curves each
4. PREHEAT
5. AUTO. LAMP TEST
6. SCENE SETUP
  - 6.1 Modes & Delay
  - 6.2 Scene 01-16
7. SETTINGS
  - 7.1 LCD BackLight
  - 7.2 Time/Date
  - 7.3 Network
  - 7.4 Art-Net
  - 7.5 Passwords
  - 7.6 Warnings
  - 7.7 Memory
  - 7.8 USB Device
  - 7.9 Soft Reset
  - 7.10 Hard Reset
8. ABOUT

## 1. Input Settings

1. INPUTS SETTINGS

- 1.1 DMXA start addr.
- 1.2 DMXB start addr.
- 1.3 Art-Net start add
- 1.4 DMXA patch
- 1.5 DMXB patch
- 1.6 Art-Net patch

BACK       OK

Rotate the Encoder to select the desired input setting and press the Encoder or OK to confirm. To start the address setting, select submenu 1.1 for DMXA, 1.2 for DMXB, 1.3 for Art-Net. A new screen will be shown.

START ADDRESS  
DMXA:

125

BACK    PATCH    OK

START ADDRESS  
DMXB:

015

BACK    PATCH    OK

START ADDRESS  
Art-Net:

001

BACK    PATCH    OK

Rotate the Encoder until you reach the desired value of the start address and press OK. Remaining addresses will be incremented by one. To set different addresses for every channel, use the submenu 1.4 for DMXA, 1.5 for DMXB, 1.6 for Art-Net or press the Encoder in the start address menu.

PATCH ADDRESS  
DMXA:

Channel:Address

1: 001	7: 007
2: 002	8: 008
3: 003	9: 009
4: 004	10: 010
5: 005	11: 011
6: 006	12: 012

BACK    SET    OK

PATCH ADDRESS  
DMXB:

Channel:Address

1: 001	7: 007
2: 002	8: 008
3: 003	9: 009
4: 004	10: 010
5: 005	11: 011
6: 006	12: 012

BACK    SET    OK

PATCH ADDRESS  
Art-Net:

Channel:Address

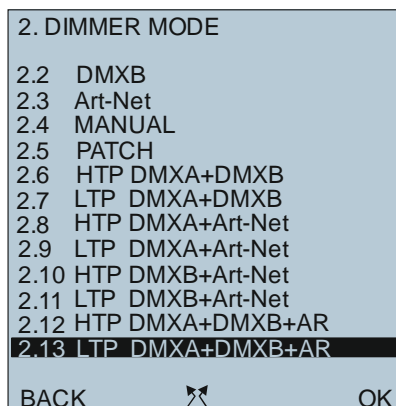
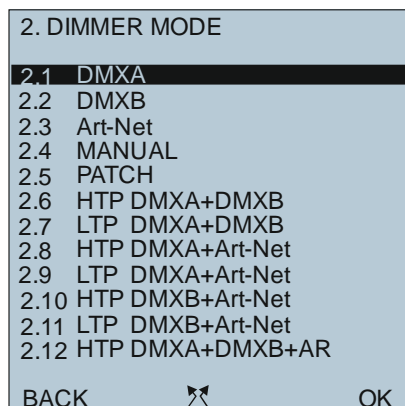
1: 001	7: 007
2: 002	8: 008
3: 003	9: 009
4: 004	10: 010
5: 005	11: 011
6: 006	12: 012

BACK    SET    OK

Press the Encoder for patch settings. Select the desired channel using left and right button. Rotate the Encoder to set the desired value of appropriate channel. Press the Encoder to quit the editing mode. Press OK to save changes. To discard changes, press BACK.



## 2. Dimmer Mode



To set the whole dimmer to DMXA input, select 2.1 by rotation of the Encoder and confirm by pressing OK. For DMXB select 2.2, for Art-Net select 2.3, for the manual mode select 2.4. Mode on each channel can be set individually using the submenu 2.5 PATCH.

ADDRESS TABLE:				
CH	DMXA	DMXB	NET	MODE
1	125	xxx	xxx	DMXA
2	126	xxx	xxx	DMXA
3	127	xxx	xxx	DMXA
4	128	xxx	xxx	DMXA
5	129	xxx	xxx	DMXA
6	130	xxx	xxx	DMXA
7	131	xxx	xxx	DMXA
8	132	xxx	xxx	DMXA
9	133	xxx	xxx	DMXA
10	134	xxx	xxx	DMXA
11	135	xxx	xxx	DMXA
12	136	xxx	xxx	DMXA

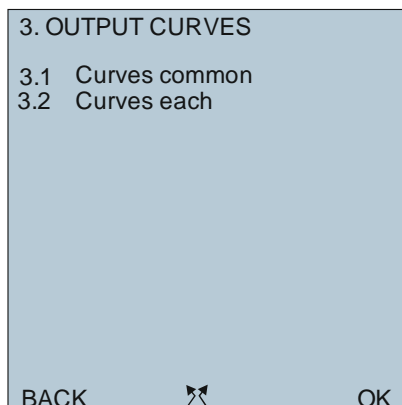
Enter the editing mode by pressing the Encoder. Navigate to proper item by pressing left and right button and select mode for channel by the Encoder. Address can be changed (if selected modes are DMXA, DMXB, Art-Net, HTP or LTP). The output value can be changed if the manual mode is selected. Press the Encoder to quit the editing mode. Press OK to store settings or BACK to discard settings.

To set the dimmer in HTP or LTP mode, select one of the 2.6 – 2.13 items and press OK.

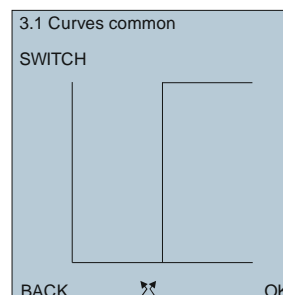
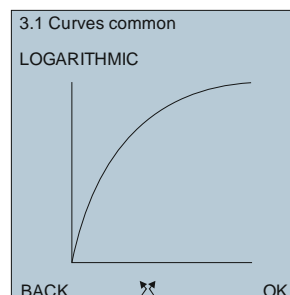
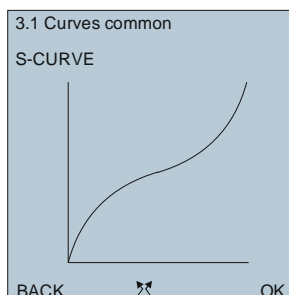
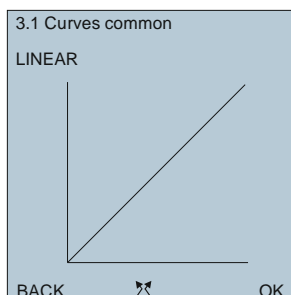
- 2.6 HTP DMXA + DMXB
- 2.7 LTP DMXA + DMXB
- 2.8 HTP DMXA + Art-Net
- 2.9 LTP DMXA + Art-Net
- 2.10 HTP DMXB + Art-Net
- 2.11 LTP DMXB + Art-Net
- 2.12 HTP DMXA + DMXB + Art-Net
- 2.13 LTP DMXA + DMXB + Art-Net

### 3. Output curves

To setting the output curves, enter the Output Curves Menu.

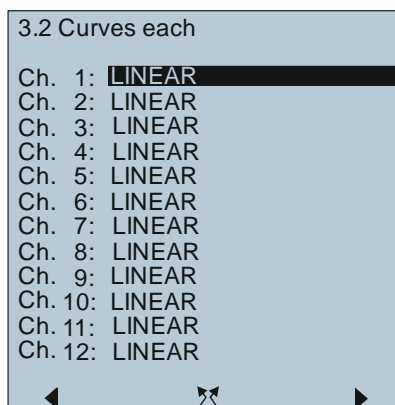
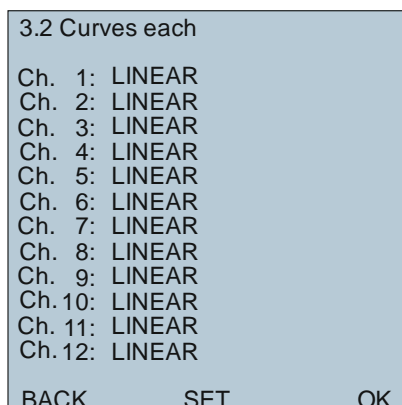


To set one common output curve for the whole dimmer, select submenu 3.1. There are four options for output curves.



Rotate the Encoder to choose one of the options and press OK to store the curve. To discard changes, press BACK.

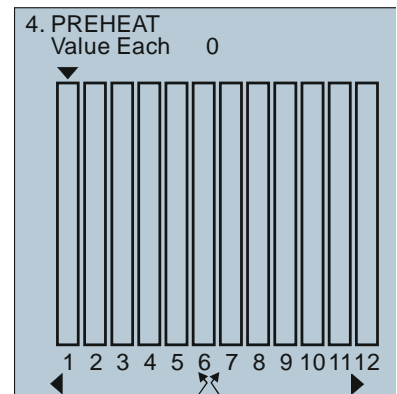
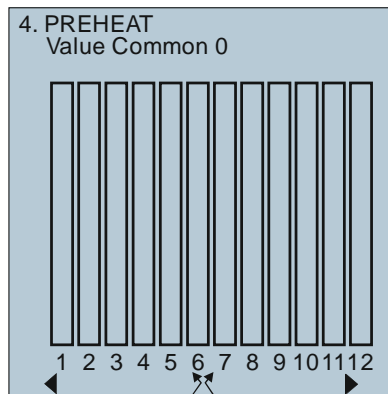
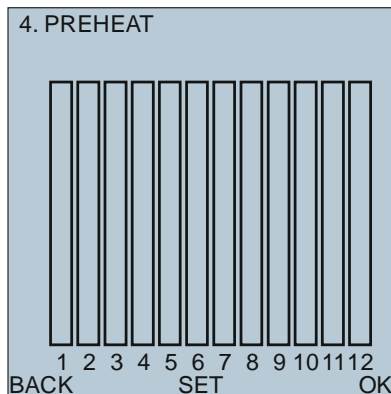
To set the curve for each channel individually, choose submenu 3.2.



To enter the editing mode, press the Encoder. Use left and right button to select the channel and the Encoder to choose a curve for selected channel. Press Encoder to quit the editing mode. Press OK to store changes or BACK to discard changes.

## 4. Preheat

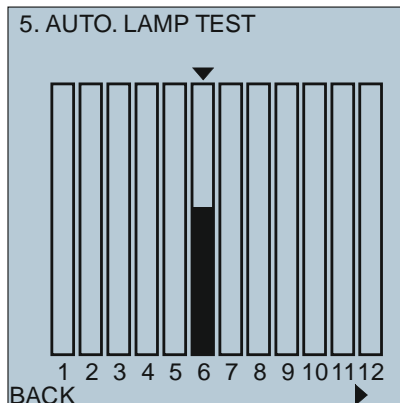
To set preheat, enter the PREHEAT Menu.



To enter the editing mode, press the Encoder. Use left and right button to select the channel. First option is common preheat value setting and is followed by individual channel setting. When the option is selected, rotate the Encoder to set value for preheat. Press the Encoder to quit the editing mode. Press OK to save changes. Press BACK to discard changes.

## 5. Automatic lamp test

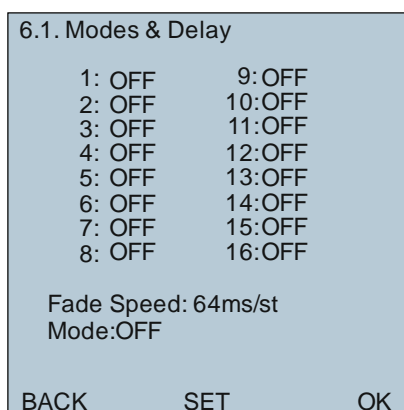
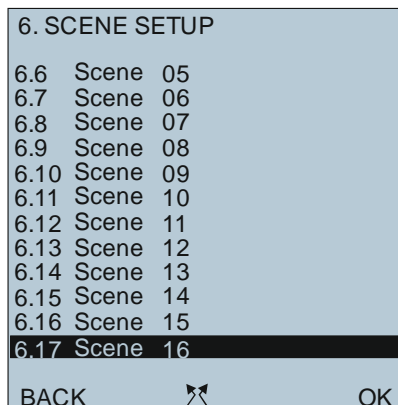
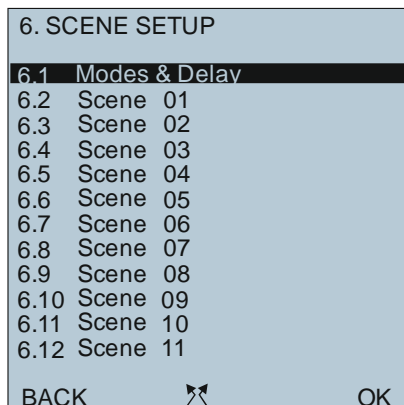
Select menu item 5 and press OK or the Encoder to start automatic lamp test.



Each channel will be tested by increasing/decreasing the output value individually one by one. Press the right button to move on the next channel. Press BACK to quit the automatic lamp test.

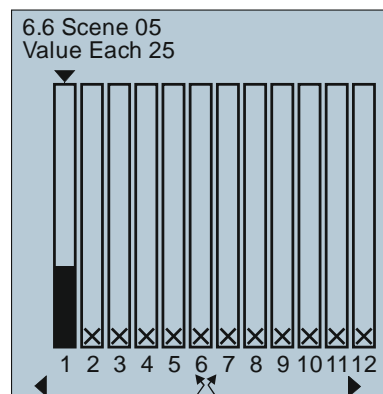
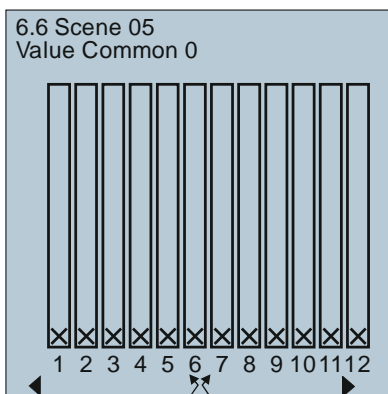
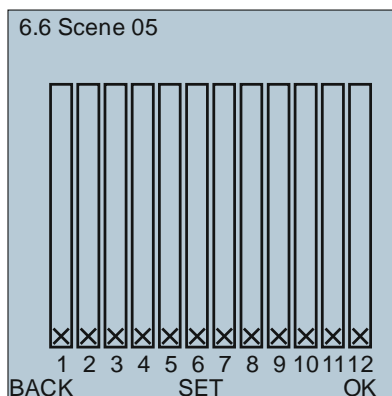
## 6. Scene Setup

Select menu item 6 and press OK or the Encoder to enter the dimmer scene generator setup. Scene generator is controlled via first two channels of DMXB input. First channel selects the scene number. Second channel activates the selected scene by receiving value higher than 127 from the DMXB input. To set up the generator, select submenu 6.1 Modes & Delay. Press the Encoder or OK to confirm.



To enter the editing mode, press the Encoder. To change the scene mode, navigate to desired scene using right and left button and change the mode by rotating the Encoder. Possible modes are OFF, LATCH and FLASH. To change the fade speed, select Fade Speed. Fade speed is the time required to change step [ms/step]. Scene generator modes are OFF, LTP/dimmer, LTP/channel, HTP/channel. Quit this submenu by pressing the Encoder. Press OK to save changes or BACK to discard changes.

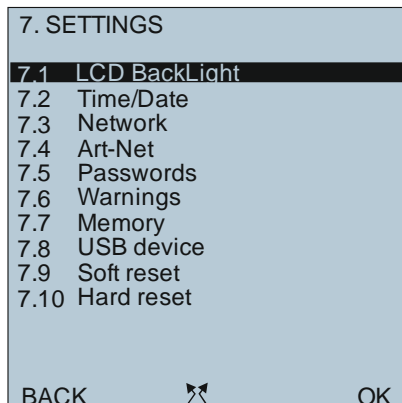
To create or edit scene 01 – 16, select submenu 6.2 – 6.17 and press OK.



Enter the editing mode by pressing the Encoder. Use right and left button to select the channel and rotate the Encoder to change the value of output. Quit the editing mode by pressing the Encoder. To save changes press OK or discard changes by pressing BACK.

## 7. Settings

Access to various dimmer settings is available in menu section 7. SETTINGS.



Rotate the Encoder to desired subsection and press the Encoder or OK to enter. Every subsection is described in detail below.

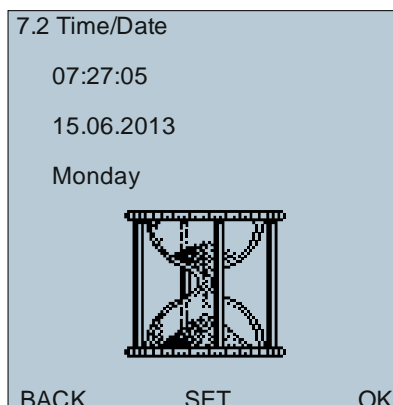
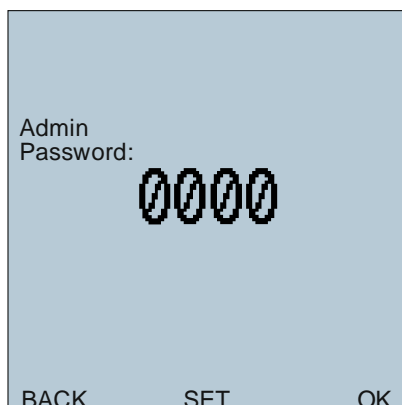
### 7.1 LCD backlight



Rotate the Encoder to set desired backlight intensity value of LCD. Press OK to save the changes or press BACK to discard changes.

### 7.2 Time/Date setup

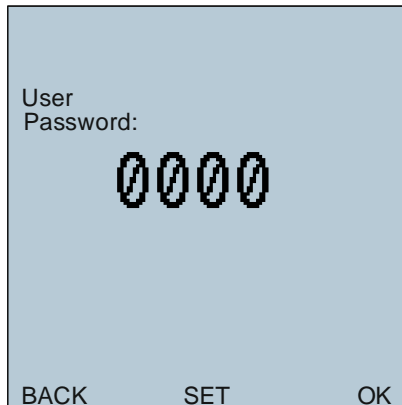
To access this setting, press the Encoder, enter the ADMIN password and confirm by OK. ADMIN password is set to 0000 by default. Press the Encoder to enter the editing mode. Use left and right button to navigate to value to be changed. Set proper value by rolling the Encoder. Press the Encoder to quit the editing mode. Press OK to save changes or BACK to discard changes.



### 7.3 Network settings

If user password is set, it must be entered first. If not, the submenu is accessed directly. To enter the password, press the Encoder and rotate it to select value on each digit. Use left and right button to move between digits.

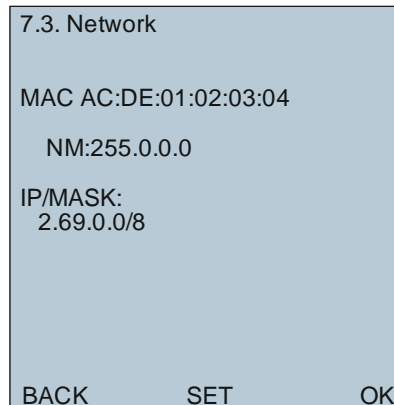
Network setup submenu is available now.



User Password:

0000

BACK SET OK



7.3. Network

MAC AC:DE:01:02:03:04

NM:255.0.0.0

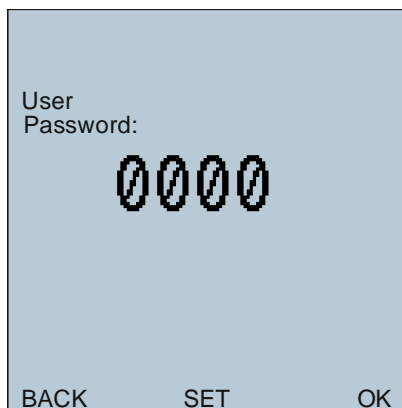
IP/MASK:  
2.69.0.0/8

BACK SET OK

Enter the editing mode by pressing the Encoder. Use left and right button to navigate to the value to be changed. Enter correct IP address. To set the network mask, insert the CIDR value after the slash. Press OK to store value or press BACK to discard changes.

### 7.4 Art-Net

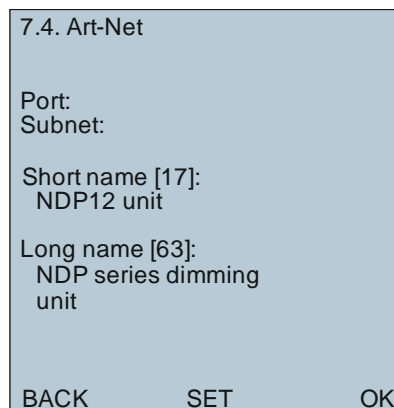
If user password is set, it must be entered first. If not, the submenu is accessed directly.



User Password:

0000

BACK SET OK



7.4. Art-Net

Port:  
Subnet:

Short name [17]:  
NDP12 unit

Long name [63]:  
NDP series dimming  
unit

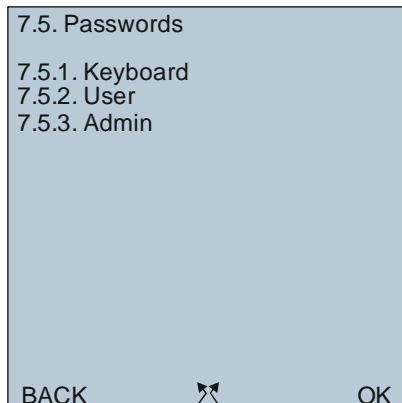
BACK SET OK

Press the Encoder to enter the editing mode. Select value that is to be changed. Navigate Port, Subnet, Short Name or Long Name items by pressing left and right button. Change values by rotating the Encoder. Press Encoder to exit the editing mode. Press OK to save the setup or BACK to discard changes.

## 7.5 Passwords

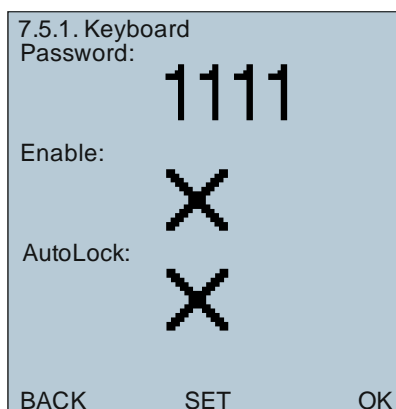
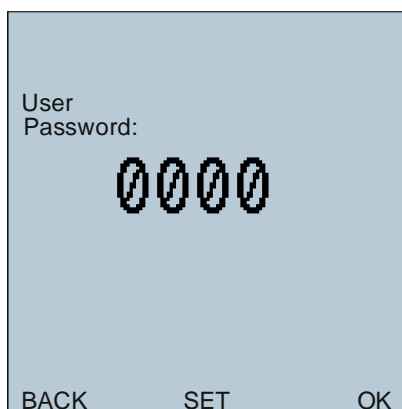
Section Passwords includes three submenus for passwords in order of their level priority.

1. Keyboard
2. User
3. Admin



**7.5.1 Keyboard password** is the first level of NDP security. If Keyboard password option is enabled, correct Keyboard password must be entered to unlock the dimmer.

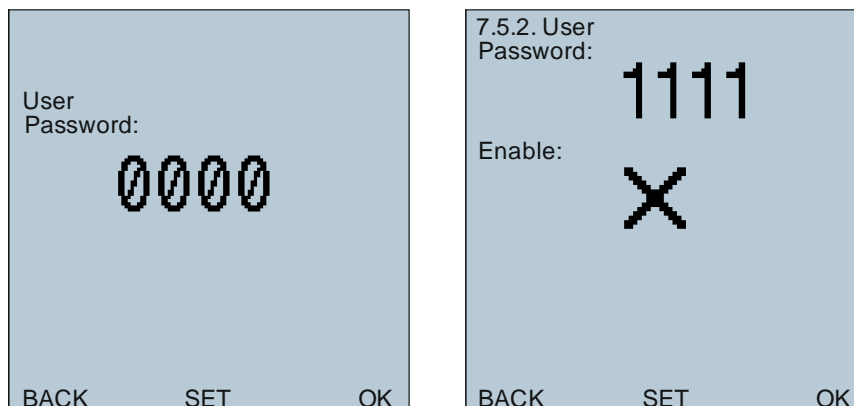
To access the Keyboard password setting, enter the submenu 7.5.1 Keyboard. If user password option is enabled, it must be entered; otherwise this menu can be accessed directly.



Enter the editing mode by pressing the Encoder. Use left and right button to navigate to the value to be changed. Password consists of 4 integers. To activate the Keyboard password, select Enable and rotate the Encoder to change the cross icon to OK icon. Now the Keyboard password is active. Auto-lock function provides automatic lock option in case of inactivity for more than 10 seconds. To enable this function, navigate to AutoLock and enable it by rolling the Encoder. To quit the editing mode, press the Encoder. To save changes press OK, to discard changes press BACK.

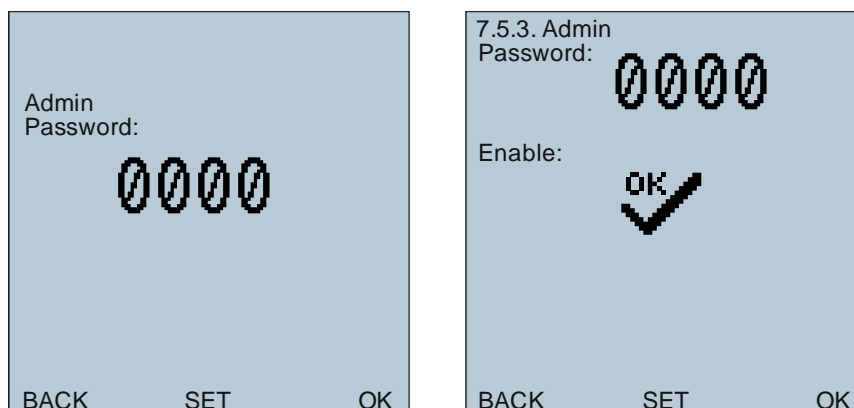
**In case of forgotten Keyboard password,** User or Admin password can be used to change the keyboard password.

**7.5.2 User password** is the second level of NDP security.



To change the settings, navigate to 7.5.2 User. To enter this menu, User password must be entered first. By default, it is set to **1234** and **is not enabled**. Enter the editing mode by pressing the Encoder. Navigate to the value to be changed. Rotate the Encoder to set the value. To activate this password, navigate to Enable and rotate the Encoder to change the cross icon to OK icon. Press the Encoder to quit the editing mode. Press OK to save changes or BACK to discard changes.

**7.5.3 Admin password** is the highest level of NDP security.



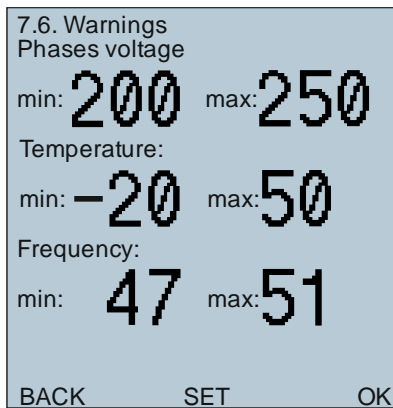
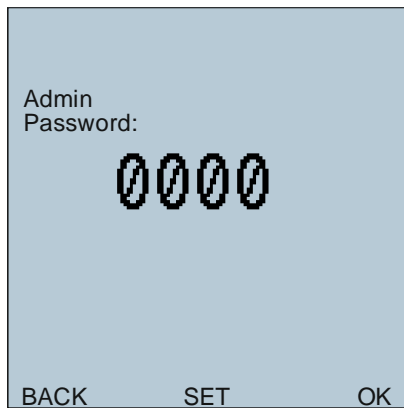
To change the settings, navigate to 7.5.3 Admin. To enter this menu, Admin password must be entered first. By default, it is set to **0000** and **is enabled**. Enter the editing mode by pressing the Encoder. Navigate to the value to be changed. Rotate the Encoder to set the value. To activate this password, navigate to Enable and rotate the Encoder to change the cross icon to OK icon. Press the Encoder to quit the editing mode. Press OK to save changes or BACK to discard changes.

## 7.6 Warnings

This setup consists of limit values for NDP dimmer function. In this setup, minimal and maximal phase voltages, operating temperature and frequency can be changed. Hard limits set by factory are wider than user selectable values. User can set narrow range of operating limits to meet his/her requirements. To access this submenu, navigate to 7.6 Warnings and press OK.

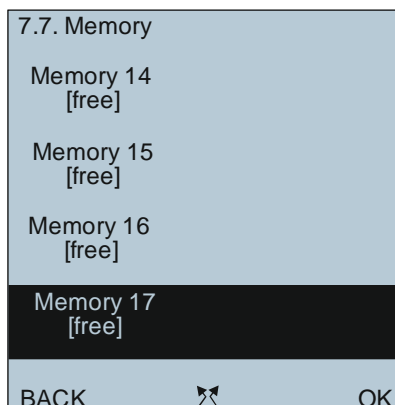
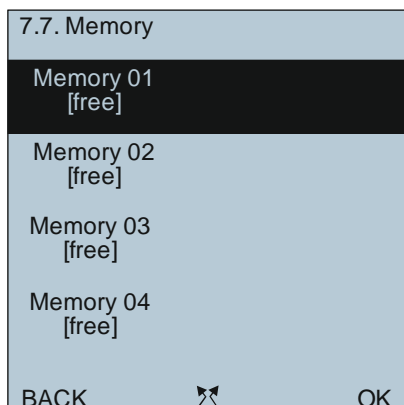
Enter the Admin password first. Then enter the editing mode by pressing the Encoder. Navigate to the value to be changed and by rolling the Encoder set it to the required value. Quit the editing mode by pressing the Encoder. To store changes, press OK; to discard, press BACK.





## 7.7 Memory

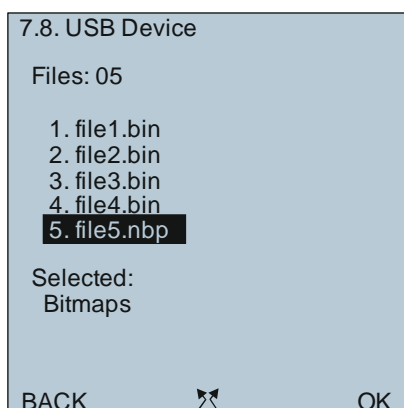
This feature gives a possibility to store the current setting of dimmer and to load it later. To store the current settings of dimmer, rotate the Encoder to the Memory place you wish to save settings to and press SAVE. Free memory place is indicated with [free] string. If memory place is used, the name of unit, date and time are showed under the Memory place. To reload configuration, rotate the Encoder to the memory place you wish to reload and press LOAD. Now the settings of dimmer are reloaded. To erase memory rotate the Encoder to the Memory place you wish to erase and press ERASE.



## 7.8 USB Device

The USB Device section shows the information about files stored on USB Mass storage device connected to front USB port. The information include the total number of files, their names and the type of selected file (only bitmap is supported).

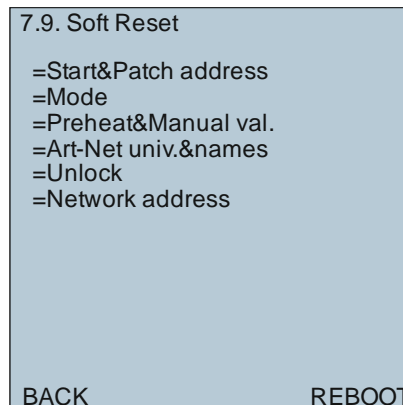
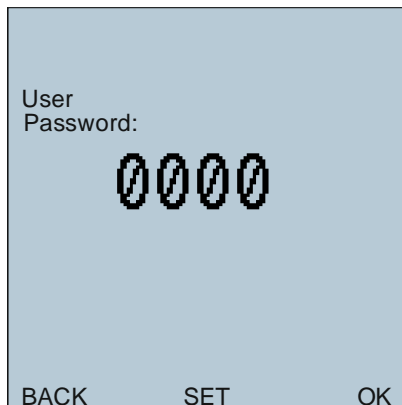
Use the Encoder to scroll to the desired file and press OK.



## 7.9 Soft reset

This option allows setting NDP to the user standard. If the User password is enabled, it must be entered first. Soft reset will set factory defaults for:

1. Start Addresses and Patch
2. Mode
3. Preheat & Manual values
4. Art-Net universes and names
5. Unlock
6. Network address



Press the right button to proceed or the left button to return.


## 7.10 Hard reset

Hard reset sets the whole NDP to factory defaults. To enter this function, Admin password must be entered. Hard reset menu is similar to the Soft reset one, but will set factory defaults for:

1. Start Addresses and Patch
2. Mode
3. Preheat & Manual values
4. Art-Net universes and names
5. Unlock
6. Network address
7. Language
8. Backlight
9. Keyboard/User settings
10. Curves
11. Warnings

## 8. About

This screen provides overall information about current NDP dimmer pack. It shows:

NAME:NDP12 unit	1. NAME of the unit
MAC AC:DE:01:02:03:04	2. MAC Address
IP:2.69.0.0	3. IP Address
NM:255.0.0.0	4. Network Mask
GW:2.0.0.1	5. Gateway
SW: 1.2	6. Software version
SN: 000000000	7. Serial Number
RDM ID: 29A901000000	8. Overall UP Time
UPTIME: 1234h56m54s	
SRS Light Design www.srslight.com	
BACK 	

## Technical data

### Dimming capacity

NDPx1210	12x10A	12x2.3kW
NDPx1213	12x13A	12x3kW
NDPx1216	12x16A	12x3.7kW
NDPx6025	6x25A	6x5.7kw
NDPx6032	6x32A	6x7.3kW

### Housing:

Steel housing with gray powder coating  
482.5 x 132 x 420 mm

### Weight:

NDP12xx: 29 kg  
NDP60xx: 25 kg

### Interference suppression:

In-line precision filters: 400us

### Protection:

Short circuit protection by MCB  
Optional 1P+N short circuit protection  
Double thermal protection

### Ventilation:

100% duty cycle  
Temperature-controlled fan  
Automatic shutdown at critical temperature

### Other:

All safety features are displayed on the display  
Soft start  
Controlling of special functions via display, three keys and Encoder  
Circuit breakers on the front panel  
Easy change of power output connectors

## Display Functions:

Voltage of all 3 phases  
Single channel values  
Inner temperature  
Load status check  
DMX signal status  
Art-Net status

## Digital menu functions:

Preheat per channel  
Dimmer curve per channel  
Single channel patch  
Variable channel set  
DMX processing with fast output response  
Hold function for output in case of the DMX data failure

## Power Cable:

H07RNF cable 5 x 4/6/10 mm<sup>2</sup>

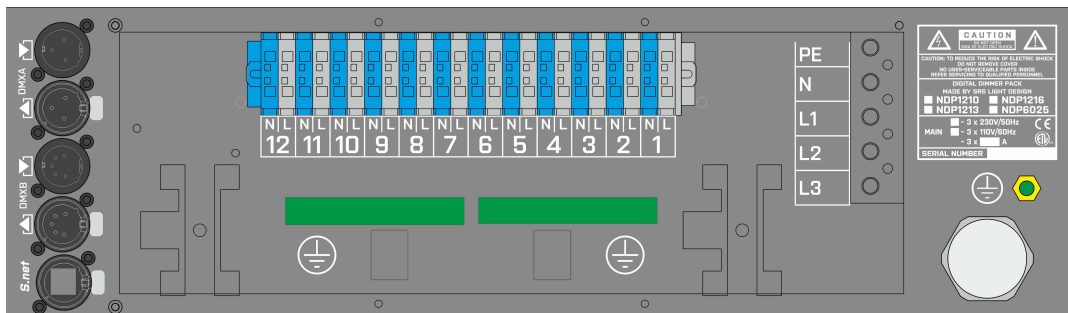
## Inputs and Outputs:

### Pin out for the XLR connectors:

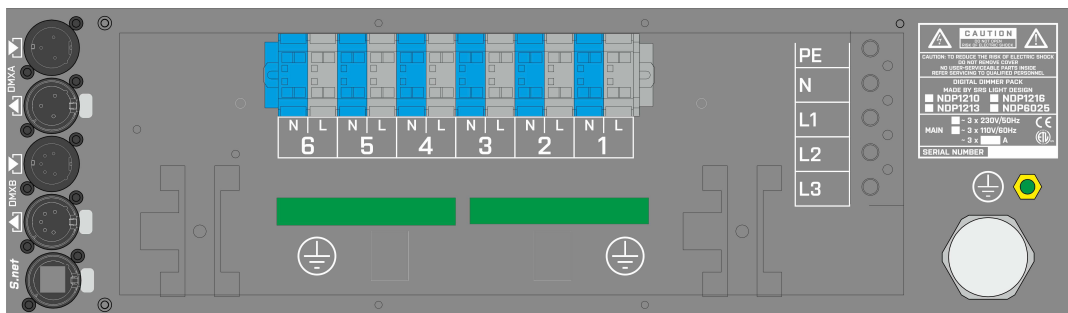
Pin 1	Data CMN (not connected to earth)
Pin 2	Data -
Pin 3	Data +
Pin 4, 5	Not connected

The DMX Input and Outputs are connected in ratio 1:1

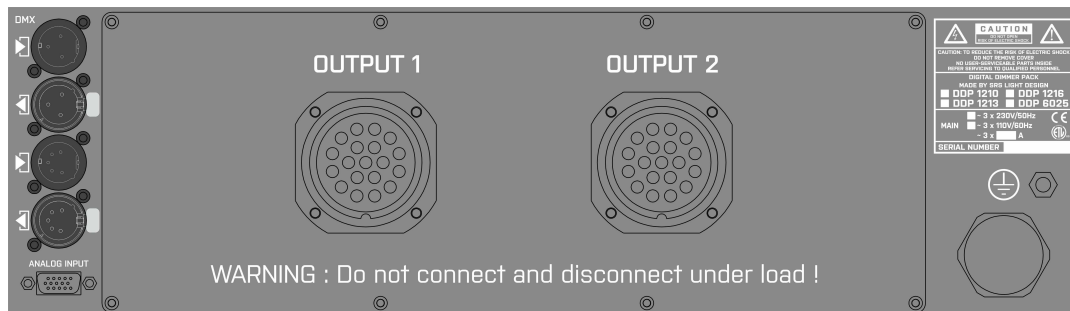
### Pin out for the NDP12xx Terminal board for direct cable connection:



### Pin out for the NDP60xx Terminal board for direct cable connection:



## Pin out for the SOCAPEX connectors:



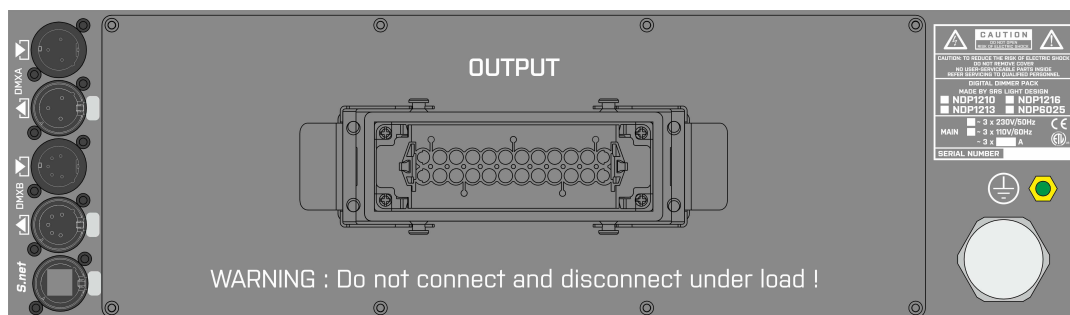
### Output 1:

Pin 1,3,5,7,9,11	Phase 1,2,3,4,5,6
Pin 2,4,6,8,10,12	Neutral
Pins 13-19	Earth

### Output 2:

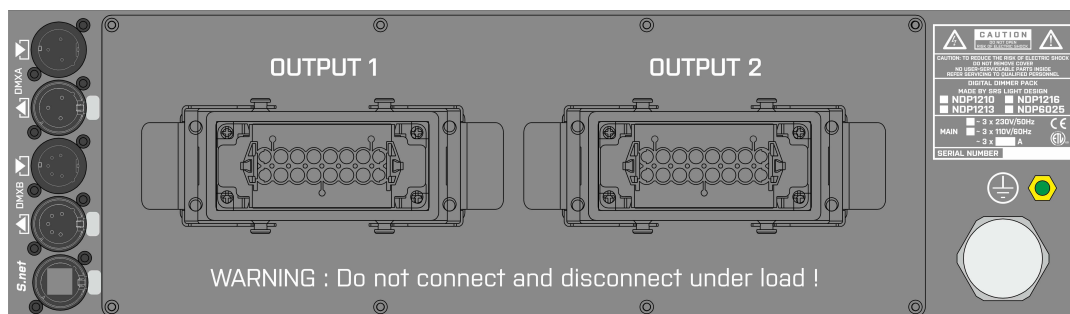
Pin 1,3,5,7,9,11	Phase 7,8,9,10,11,12
Pin 2,4,6,8,10,12	Neutral
Pins 13-19	Earth

## Pin out for the Harting/Ilme 24 connectors:



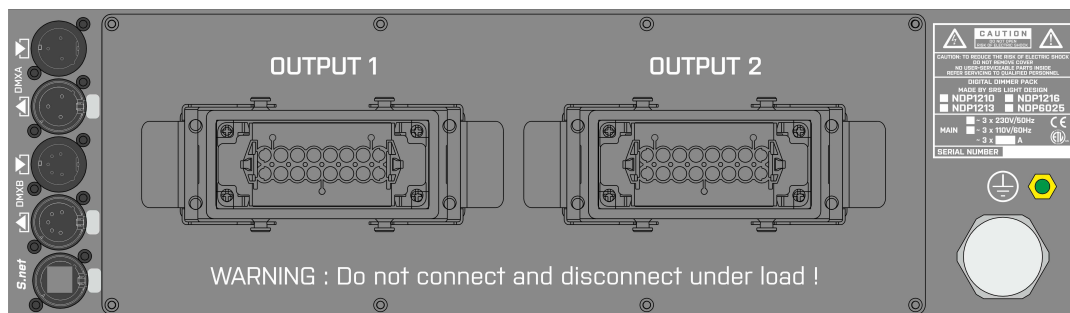
Pins 1-12	Phases 1-12
Pins 13-24	Neutral

## Pin out for the Harting/Ilme 16 connectors /Type A – phase + neutral, top + bottom/



Pins 1-6	Phases 1-6/7-12
Pins 9-14	Neutral

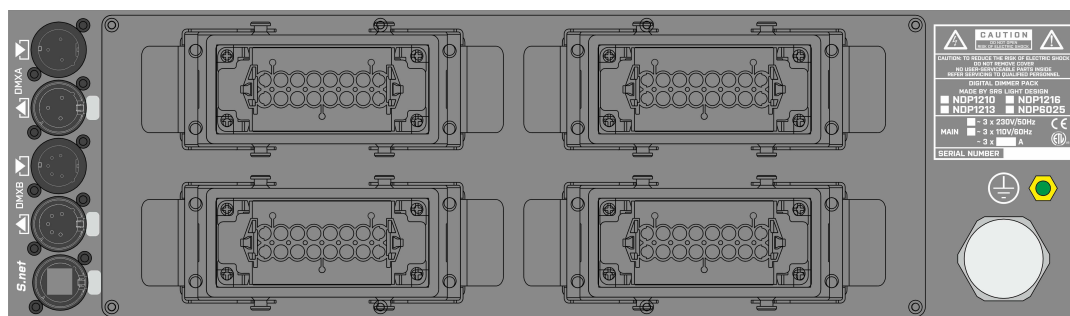
## Pin out for the Harting/Ilme 16 connectors /Type B – phase + neutral inline/



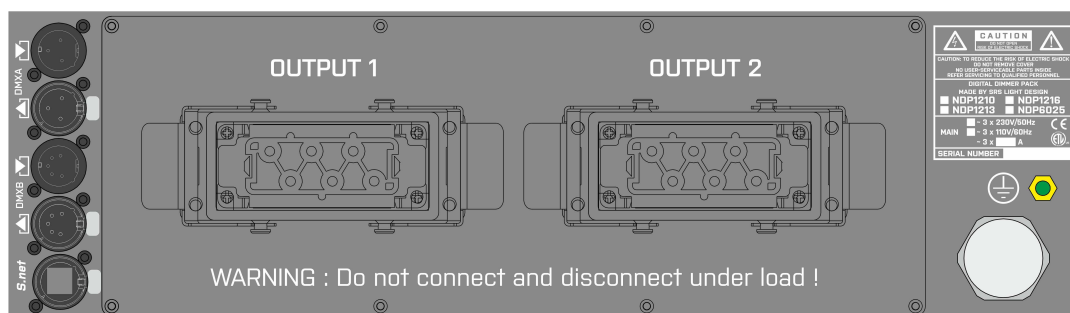
Pin 1,3,5,7,9,11 Phase 1-6/7-12

Pin 2,4,6,8,10,12 Neutral

## Pin out for the 4x Harting/Ilme 16 connectors /type of wiring on request/



## Pin out for the Ilme 6 connectors:



Output 1:

Pin 1,2,3 Phase 1,2,3

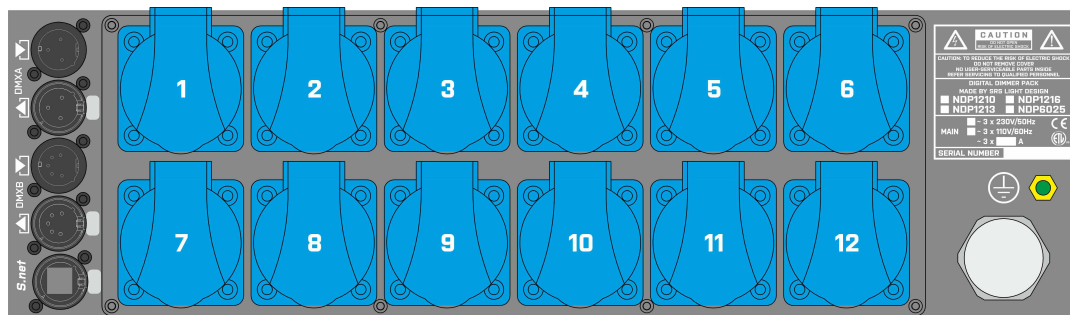
Pin 2,4,6 Neutral

Output 2:

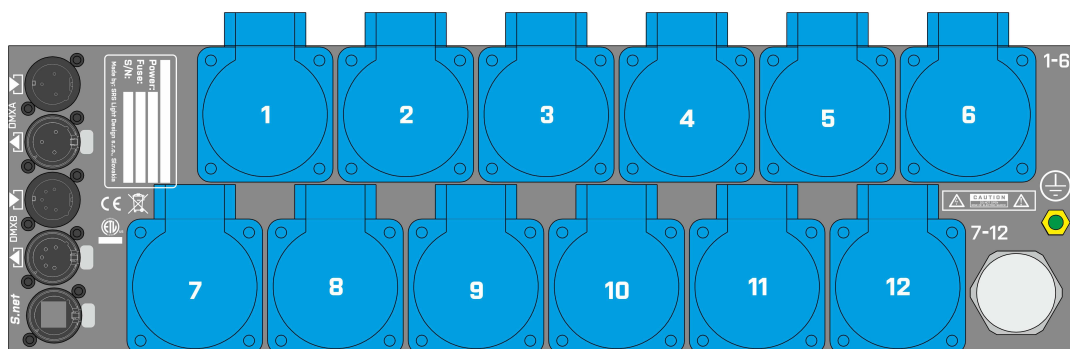
Pin 1,2,3 Phase 4,5,6

Pin 2,4,6 Neutral

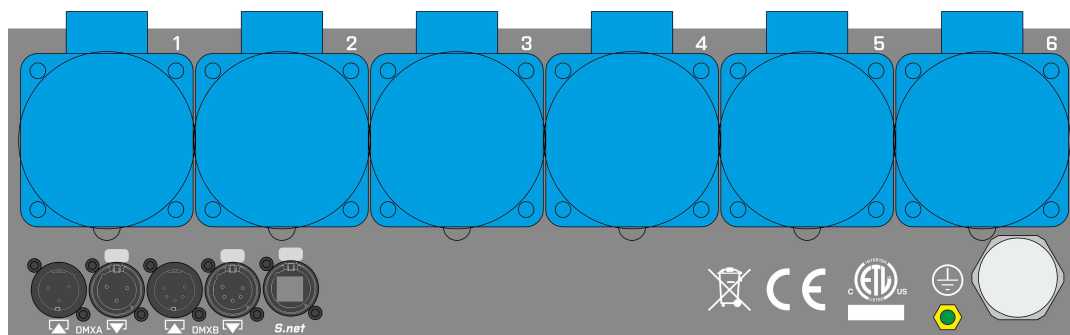
## Pin out for the 12x Socket /French, Schuko, UK, Danish,.../



## Pin out for the 12x CEE16/3p type 17 socket



## Pin out for the 6x CEE32/3p socket





## Declaration of conformity

We hereby declare that the equipment described below conforms to its design, type and version introduced by us to the fundamental safety and health requirements of the EU Guidelines Machines.

Manufacturer:

SRS Light Design  
Rybničná 36/D  
83106 Bratislava  
Slovakia

Declares that the product:

Name of product:

Network Dimming Pack

Type/version:

**NDP12xx, NDP60xx, NDPN60xx, NDPN12xx**

Correspond to the following specifications:

EN 60-950-1:2003

EN 55103-1:2000

EN 55103-2:2000

EN 60-598-2-17 1989 including amendments 1/2

EN 60-598-1 1992 including amendment 1

CE marking directive 93/68 EEC

Low voltage directive (2006/95/EG)

EMC directive (2004/108/EWG)

Bratislava, December 29, 2013

Robert Sloboda