![ANOLiS - A ROBE BUSINESS logo]

SubDrive 4

Version 1.4

SubDrive 4

Table of contents

1. Introduction

The SubDrive 4 serves for power and control up to four ArcSource Submersible II LED modules.

2. Safety information

FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY
BEFORE POWERING OR INSTALLING YOUR SUBDRIVE 4 !
Save it for future reference.

DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THIS UNIT!

The fixture was designed for outdoor use and it is intended for professional application only. It is not for household use.

Make sure that the available voltage is not higher than stated on the fixture.

Be careful when removing fixture cover in order to get access to the control display and the fixture is under voltage. If you do not need to set the fixture, always disconnect the fixture from AC power before removing its cover.

Do not install the fixture near an open flame.

Refer servicing to qualified service personnel.

This fixture falls under protection class I. Therefore this fixture has to be connected to a mains socket outlet with a protective earthing connection.

Do not connect this fixture to a dimmer pack.

Keep combustible materials at least 10 cm away from the fixture.

Do not cover the fixture with cloth or other materials.

When choosing the installation spot, please make sure that the fixture is not exposed to extreme heat or dust.

Only operate the fixture after having checked that the housing is firmly closed and all screws are tightly fastened.

Operate the fixture only after having familiarized with its functions. Do not permit operation by persons not qualified for operating the fixture.

Please consider that unauthorized modifications on the fixture are forbidden due to safety reasons!
Please use the original packaging if the fixture is to be transported.

If this device will be operated in any way different to the one described in this manual, the product may suffer damages and the guarantee becomes void. Furthermore, any other operation may lead to dangers like short-circuit, burns, electric shock etc.

Immunity of the equipment is designed for electromagnetic environments E1, E2, E3 according to
the standard EN55103-2 ed.2 Electromagnetic compatibility. Product family standard for audio, video,
audiovisual and entertainment lighting control apparatus for professional use. Part 2: Immunity.
The installation company should check levels of possible interferences above the tested levels E1,E2,E3 given by this standard (e.g. transmitters in surrounding area) before installing the equipment.

The product (covers and cables) must not be exposed to a high frequency electromagnetic field higher than 3V/m.

Emission of the equipment complies with the standard EN55032 Electromagnetic compatibility of multimedia equipment – Emission Requirements according to class B.

3. Fixture exterior view
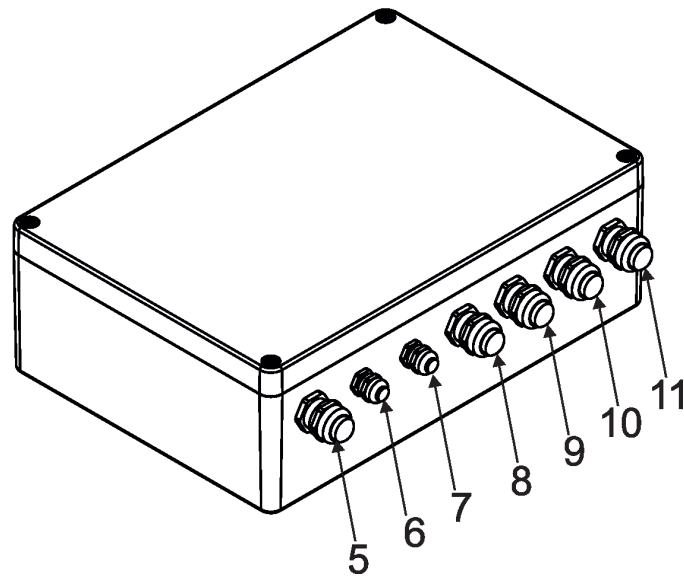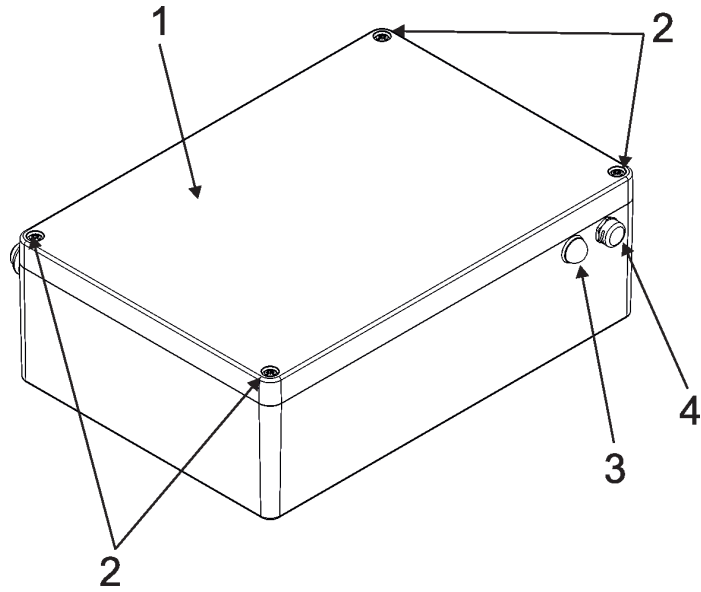
1-Top cover
2-Fastening screws
3- Antenna cover
4-Gore valve
5- Power In

6- DMX In
7- DMX Out
8- LED Output 1
9- LED Output 2
10- LED Output 3
11- LED Output 4

4. Mounting

Fixture must be installed by a qualified electrician in accordance with all national and local electrical and construction codes and regulations.

Maximum cable length between between the SubDrive 4 and the ArcSource Submersible II depends on the operating mode:
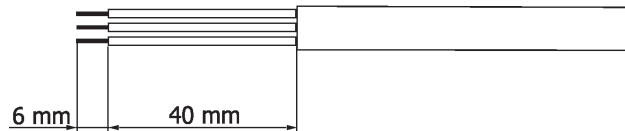**Minimum mode: 100 m**
Medium mode: 50 m
Maximum mode: 25 m

1. Unscrew four fastening screws (2) on the top cover (1) of the SubDrive 4 to get access to the PCB RB 3091 (14) with a display and connection blocks.

2. Fasten the SubDrive 4 on a non-flammable flat surface via four mounting holes (12) of a diameter of 6 mm in the housing.

3. Remove end caps (2) from cable glands before passing cables into the SubDrive 4.
   Five cable glands M20x1.5 serve for cables of diameter of 7-13mm and two cable glands M12x1.5 serve for cables of diameter of 3-7mm.
   We recommend to apply an adequate layer of the paste LOCTITE 5331 on the plastic holder of each cable gland before inserting it into the body of the gland.

Cable gland M20x1.5 and M12x1.5

LOCTITE 5331

Thread   Sealing holder   Seal   Nut   End cap
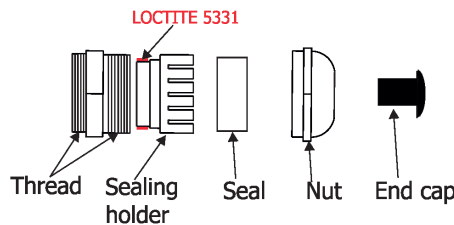
DMX cables and ArcSub cables

6 mm   40 mm

Power cable

8 mm   40 mm
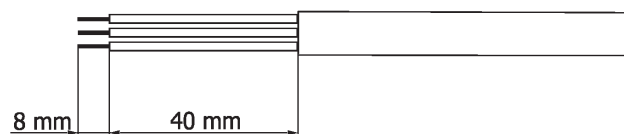
Note: enclosed reducing seal (P/N 13051388) serves for cable of diameter of 4-8mm. Original seal has to be removed from the cable gland before installing the reducing seal.

This device falls under protection class I. Therefore the SubDrive 4 has to be connected to a mains socket outlet with a protective earthing connection.

4. Connect the power cable to the terminal block (13) and rest of cables to the terminal blocks on the PCB (14) according to the tables below, check their connection.

5. Fully tighten cable gland nuts and check that cables are properly fastened in the cable glands.
Note: To keep declared IP rating, every cable gland has to be covered with the end cap if this cable gland is not used for cable passing.

Power connection

	L	**N**	⏚
EU	Braun	Blue	Green/yellow
US	Black	White	Green

DMX connection

D +	**D -**	**0V**
Data +	Data -	Data ground (shielding)

ArcSource Submersible II connection

+	**DATA**	**-**
+24V (red wire)	Communication (orange wire	Ground (blue wire)

6. Connect the fixture to mains.

7. Set desired parameters in the fixture menu (DMX address, operating mode, etc) by means of display and four control buttons.

8. Screw the top cover of the fixture back. Check that all screws are firmly tightened.

RB 3091

RB3091-V2.1

SV3
SV2

DMX IN

0V 1
D- 2
D+ 3

DMX OUT

0V 1
D- 2
D+ 3

J1

WIFI

PROG

ESC

ENTER

S1
S2

UP

DOWN

S3
S4

SV1

+ 2
1
2x PWR
+ 2
- 1

SV4

DI1

- DATA +
1 2 3
LED1

- DATA +
1 2 3
LED2

- DATA +
1 2 3
LED3

- DATA +
1 2 3
LED4
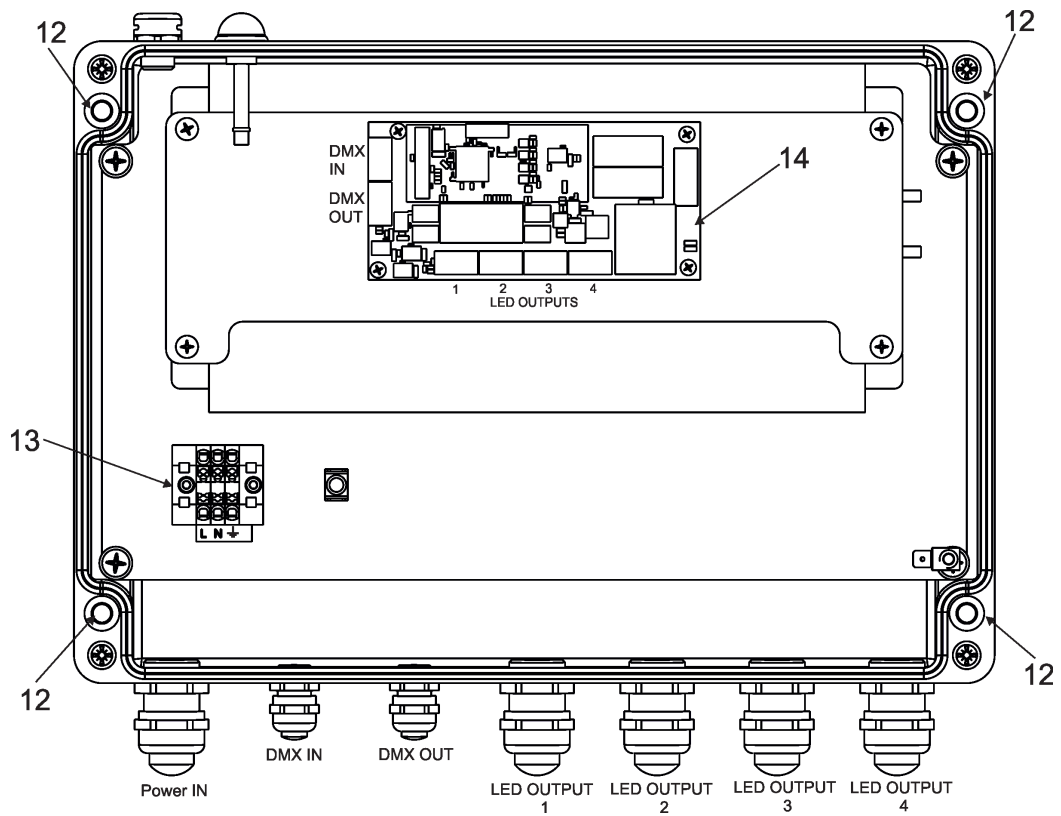
5. SubDrive 4 menu

The 4-digit display with four buttons serves for setting the fixture to desired operating mode ,setting DMX address and mode, manual control etc.
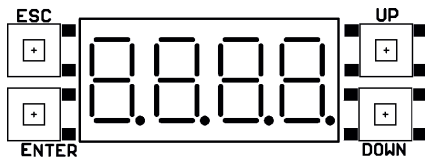
Note: If DMX signal has been disconnected, DMX address blinks.

The four control buttons on the front have the following functions:
    ESCAPE button - leaves menu without saving changes.
    ENTER button - enters menu, confirms adjusted values and leaves menu.
    UP and DOWN buttons - allows you to move between menu items on the same level and set values.

Some menu items depend on selected DMX mode and ArcSource Submersible II variant (RGBW, RGBA, SW, SC).

5.1 Fixture Address ("A001")

Use this menu to set the DMX address of the fixture.

"E. dMX" --- Set DMX address. Select this submenu to set a DMX start address.
To set a DMX address.
1. Use the UP/DOWN buttons to find " E.dMX" item.
2. Press the ENTER button.
3. Use the UP/DOWN buttons to select desired start address.
4. Press the ENTER button to confirm the choice.

Note: After switching the fixture on, the SubDrive 4 will automatically detect whether DMX 512 data is received or not.
If there is no data received at the DMX input, the display will start to flash with actually set address.

"dM.Pr" --- DMX mode selection. Select this submenu to select desired DMX mode, for more information please see DMX protocol.

5.2 Fixture information ("InFo")

Use this menu to read useful information about the fixture and connected ArcSource Submersible II modules.
"P.O.tI" ---Power On time. Use the menu to read the number of operation hours of the SubDrive 4 and connected ArcSource Submersible IIs.
       "P.O.ti" --- Total Power On time. Use the menu to read a total number of operation hours.
          "P.O.t.b." - the item shows total number of operation hours of the SubDrive 4 since
           the SubDrive 4 has been fabricated.
          "P.O.t.1." - the item shows a total number of operation hours of the ArcSource Submersible II
           connected to the LED output 1 since this ArcSource Submersible II has been fabricated.
          "P.O.t.2." - the item shows a total number of operation hours of the ArcSource Submersible II
           connected to the LED output 2 since this ArcSource Submersible II has been fabricated.
          "P.O.t.3." - the item shows a total number of operation hours of the ArcSource Submersible II
           connected to the LED output 3 since this ArcSource Submersible II has been fabricated.
          "P.O.t.4." - the item shows a total number of operation hours of the ArcSource Submersible II
           connected to the LED output 4 since this ArcSource Submersible II has been fabricated.
       "P.O.t.r." - Use the menu to read a total number of operation hours since counters were last reset.
          "P.t.r.b." - the item shows a total number of operation hours of the SubDrive 4 since
           the counter has been last reset.
          "P.t.r.1." - the item shows a total number of operation hours of the ArcSource Submersible II
           connected to the LED output 1 since the counter has been last reset.
          "P.t.r.2." - the item shows a total number of operation hours of the ArcSource Submersible II
           connected to the LED output 2 since the counter has been last reset.
          "P.t.r.3." - the item shows a total number of operation hours of the ArcSource Submersible II
           connected to the LED output 3 since the counter has been last reset.
          "P.t.r.4." - the item shows a total number of operation hours of the ArcSource Submersible II
           connected to the LED output 4 since the counter has been last reset.

In order to reset some counter to 0 you have to press and hold the UP and DOWN buttons and at the same time press the ENTER button.

"dM In" ---**DMX input values**. Select this function to read DMX values of each channel received by the fixture.

"tEMP" ---**LED module temperature**. Select this menu to read temperature of a connected LED module:

        "Cur.t." --- the current temperature of the LED module.

            "LEd1." - temperature in the ArcSource Submersible II connected to the LED output 1.
            "LEd2." - temperature in the ArcSource Submersible II connected to the LED output 2.
            "LEd3." - temperature in the ArcSource Submersible II connected to the LED output 3.
            "LEd4." - temperature in the ArcSource Submersible II connected to the LED output 4.

        "Hi.tE." --- the maximum temperature of the ArcSource Submersible II since the ArcSource Submersible II has been fabricated.

            "LEd1." - temperature in the ArcSource Submersible II connected to the LED output 1.
            "LEd2." - temperature in the ArcSource Submersible II connected to the LED output 2.
            "LEd3." - temperature in the ArcSource Submersible II connected to the LED output 3.
            "LEd4." - temperature in the ArcSource Submersible II connected to the LED output 4.

        "rSEt" --- the maximum temperature of the LED module since the counter was last reset.

            "LEd1." - temperature in the ArcSource Submersible II connected to the LED output 1.
            "LEd2." - temperature in the ArcSource Submersible II connected to the LED output 2.
            "LEd3." - temperature in the ArcSource Submersible II connected to the LED output 3.
            "LEd4." - temperature in the ArcSource Submersible II connected to the LED output 4.

        In order to reset some counter to 0 you have to press and hold the UP and DOWN buttons and at the same time press the ENTER button.

        The notice "n A" means that no ArcSource Submersible II is connected to LED output.

The temperature can be displayed in either °C or °F - see option "tEM.U" in the menu "PErS".

"Ver.S." ---**Software Versions**. Select this function to read the software version of the SubDrive 4 and connected ArcSource Submersible II modules.

        "VEr.d" --- version of the SubDrive 4.
        "VE.L.1" --- version of the ArcSource Submersible II connected to the LED output 1.
        "VE.L.2" --- version of the ArcSource Submersible II connected to the LED output 2.
        "VE.L.3" --- version of the ArcSource Submersible II connected to the LED output 3.
        "VE.L.4" --- version of the ArcSource Submersible II connected to the LED output 4.
        "VE.V.i" --- version of the wireless DMX module (if is installed).

5.3 Personality ("PErS")

Use this menu to modify the SubDrive 4 operating behaviour.

"dM.Pr." --- **DMX mode**. Select this menu item to set a desired DMX mode. Please refer to the DMX protocol for detail description of each DMX mode.

"M. F.ti." --- **Max. fade time**. Select this menu item to set a desired max. fade time (0.1-25.5 sec.). This adjusted fade time influences fade of red, green, blue, white and dimmer during DMX operation:

If time between two receiving DMX values is > than fade time set in the item "M.F.ti.", the entire adjusted fade time will be used.

If time between two receiving DMX values is < than fade time set in the item "M.F.ti.", the adjusted fade time will be reduced to fill entire time between the two receiving DMX values.

e.g "M.F.ti." = 2sec. and fixture has received Red=0 DMX, after 5 seconds will receive red=255 DMX. It means, that red will go to full intensity during 2 seconds.

"M.F.ti." = 8 sec. and fixture has received Red=0 DMX, after 5 seconds will receive red=255 DMX. It means, that red will go to full intensity during 5 seconds. (Max, fade time is reduced from 8 sec. to 5 sec.).

Value "OFF" means, that this function is disabled.

"CAL.t" --- **Calibrated colour temperature**. The menu item influences behaviour of the colour channels if the channels are fully saturated (at RGBW or RGBA version). If the item is set to "Yes", the light output will be calibrated white 5600K, if the item is set to "no", the light output will be uncalibrated white. The menu item does not influence DMX mode 4, 7 at RGBW or RGBA version.

"rGb.C." --- **White counting**. If this function is On, the white channel uses red, green and blue channels in a proportion to the intensity of the white channel in order to maximize white output of the LED module.

If you wish to light only with white LEDs at white channel, switch this function to OFF.

"tEM.U" --- **Temperature Unit**. Use this menu item in order to display the ArcSource Submersible II temperature in desired units: °C or °F.

"LoAd" --- **Load**. Use this menu to set a desired power to the connected ArcSource Submersible IIs. You can set different power to each LED output (**LEd1, LEd2,LEd3, LEd4**).
      "Min." - Minimum mode (35W).
      "MEd." - Medium mode (70W).
      "MAX." - Maximum mode (100W).

"In.Po." --- **Init effect positions**. Use this menu to set effects to desired positions to which they will move after switching the fixture on without receiving DMX signal.

"dF.SE" --- **Default Setting** .The menu item sets certain fixture parameters to the default (factory) values:
      "M. F.ti." = 0.1
      "rGb.C." = On
      "tEM.U" = °C
      "LoAd" =MEd

5.4 Manual mode ("Man.C.")

Use this menu for control the fixture without connected DMX console.
To control fixture channels.
1. Use the UP/DOWN buttons to find " Man.C" menu.
2. Press the ENTER button.
3. Use the UP/DOWN buttons to select desired effect (channel).
List of control channels:
"rEdA." - all red LEDs saturation
"GrE,A." - all green LEDs saturation
"bLu.A." - all blue LEDs saturation
"Vhi.A." - all white LEDs saturation
"AMb.A" - all amber LEDs saturation
"CtO" - a colour temperature correction
"V.C.Vh" - a virtual colour wheel
"Stro"- a strobe, shutter
"dim"- a dimmer
"din.F" a fine dimmer
4.Press the ENTER button and use the UP/DOWN buttons to set value , press the ENTER button to confirm it.

5.5 Test sequences ("tESt")

Use this menu to run test sequences without an external controller, which will show you some possibilities of using the ArcSource Submersible II.

5.6 Stand-alone setting ("St.AL")

The fixtures on a data link are not connected to the controller but can execute pre-set programs which can be different for every fixture.

"Auto" --- **Automatic playback**. This function allows you to select the program which will be played after switching the fixture on. Selected program will be played continuously in a loop.
1. Use the UP/DOWN buttons to find " St.AL" menu.
2. Press the ENTER button.
3. Use the UP/DOWN buttons to select item "Auto" item.
4. Press the ENTER button.
5. Use the UP/DOWN buttons to select desired program (tESt, PrG.1, PrG2, PrG3). Option "OFF" disables
   the function.
6. Press the ENTER button to confirm the choice.

"PLAy" --- **Playing program**. Use the menu to run desired program.
1. Use the UP/DOWN buttons to find "PLAy" menu.
2. Press the ENTER button.
3. Use the UP/DOWN buttons to select desired program (tESt, PrG.1, PrG2, PrG3).
4. Press the ENTER button. The selected program runs in a loop.

"Edit" --- Editing program. The fixture offers 3 freely editable programs (PrG.1-Prog.3) each up to 42 steps. Every program step includes a fade time-the time taken by the step´s channel status to reach the desired level and a step time-the total time occupied by the step in the program.

E.g. If fade time=5 second and step time =20 second, effects will go to the desired position during 5 seconds and after that they will stay in this position for 15 seconds before going to the next prog. step

1. Use the UP/DOWN buttons to find " St.AL" menu and press the ENTER button.
2. Use the UP/DOWN buttons to select "Edit" menu and press the ENTER button.
3. Use the UP/DOWN buttons to select a program you want to edit (PrG.1-PrG.3) and press ENTER button.
4. Use the UP/DOWN buttons to select a desired program step ("St.1" - "St. 42") and press ENTER button.
5. Use the UP/DOWN buttons to select a channel you want to edit and press the ENTER button.
List of editable items:

"P.End" - a total number of program steps (value 1-42). This value should be set before start
programming (e.g. if you want to create program with 10 steps, set P.End=10).
"rEd1" - a red LEDs saturation on output 1
"GrE.1" - a green LEDs saturation on output 1
"bLu.1" - a blue LEDs saturation on output 1
"Vhi.1" - a white LEDs saturation on output 1
"AMb.1" - an amber LEDs saturation on output 1
:
"rEd4" - a red LEDs saturation on output 4
"GrE.4" - a green LEDs saturation on output 4
"bLu.4" - a blue LEDs saturation on output 4
"Vhi.4" - a white LEDs saturation on output 4
"AMb.4" - an amber LEDs saturation on output 4
"CtO" - a colour temperature correction (for all outputs)
"V.C.Vh" - a virtual colour wheel (for all outputs)
"Stro"- a strobe, shutter (for all outputs)
"dinn"- a dimmer (for all outputs)
"din.F" a fine dimmer (for all outputs)
"F.tiM."- a fade time, (0-25.5) seconds
"S.tiM." - step time, value (0-25.5) seconds
"CoPy". – this item duplicates the current prog. step to the next prog. step. The item "P.End" is
increased automatically if you stay in a last program step.

6. Use the UP/DOWN buttons to set a DMX value of the channel and then press the ENTER button.
7. Use the UP/DOWN buttons to select next channel and press the ENTER button.
8. After having set all channels in the current program step, press the ESCAPE button to go by one menu level back and select another program step.

5.7 Special functions ("SPEC")

"rdML" --- RDM Code. This menu item shows the first part of the RDM identification code.

"rdMH" --- RDM Code. This menu item shows the second part of the RDM identification code.

"L. tyP." --- LED colour variant. This menu allows to set desired colour variant according to connected LED module.

"rGbV" – RGBW variant.
"Si. Co."– Single colour variant.
"SM.Wh.– Smart white variant.
"rGbA" - RGBA variant.
Note: some menu items will be changed according to set colour variant!

uPd.b. --- Software update. The menu item allows you to update software in the Control unit and connected ArcSource Submersible IIs via either serial or USB port of PC.
The following items are required in order to update software:
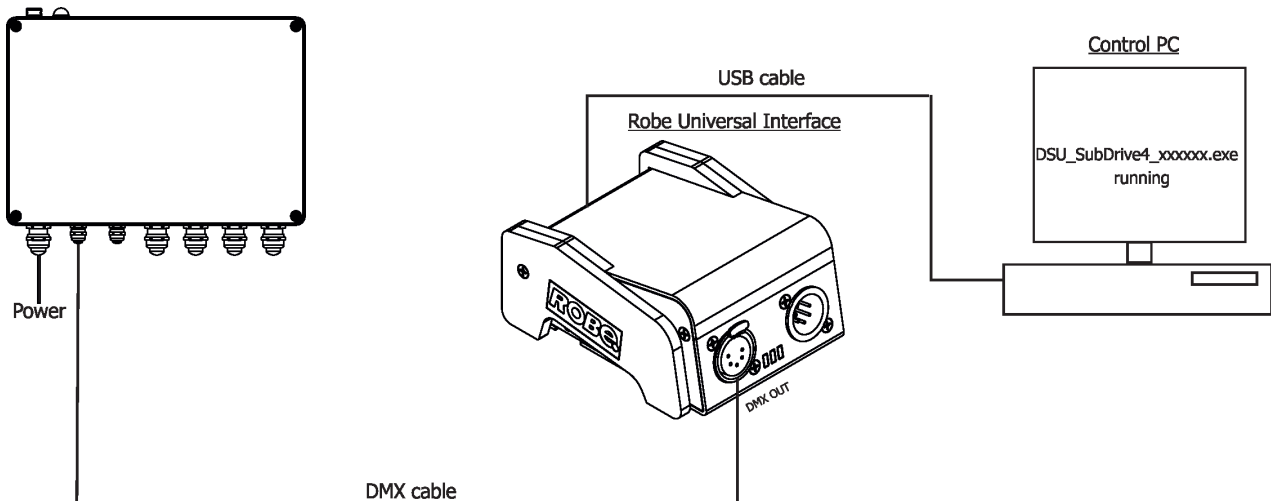- PC running Windows or Linux or macOS
- DSU file
- Flash cable RS232/DMX, P/N13050624 (if you want to use a serial port of PC)
- Robe Universal Interface or Robe Universal interface WTX (if you want to use an USB port of PC)
After the software update the fixture will be set to default values.

To update software in the fixture.

1. DSU file is available from Robe web site at WWW.robe.cz.
   File with extension zip is intended for Windows (used and tested from XP to W10 on 32/64bit systems).
   File with extension tbz is intended for Linux (used and tested on Debian and Ubuntu 32/64bit).
   File with extension dmg is intended for macOS (used and tested on OSX up to Sierra) XQuartz required,
   install it from https://www.xquartz.org/
   Save the download file to a folder on your computer.
   In case that you use windows, extract files in the zip file (e.g. DSU_SubDrive_4.zip)
2. Disconnect the fixture from DMX controller.
3. If you use the flash cable RS232/DMX, connect a serial port of your computer with DMX input of the fixture
    by means of the cable.
   If you use the Robe Universal Interface, connect a USB port of your computer with the Robe Universal Interface
   by means of the USB cable and DMX input of the fixture with the DMX output of the Robe Universal Interface
   via a DMX cable.
4. Switch the fixture to the update mode (tab "SPEC" --> "uPd.b."--> "yES.").
   Note: If you do not want to continue in the software update, you have to switch off and on the fixture
   to escape from the updating mode.
   We recommend to cancel all running programs on your computer before starting the software update.
5. Double-click the software uploader file (e.g. DSU_SubDrive_4.exe) in
   the extracted files. The Software Uploader program will start running.
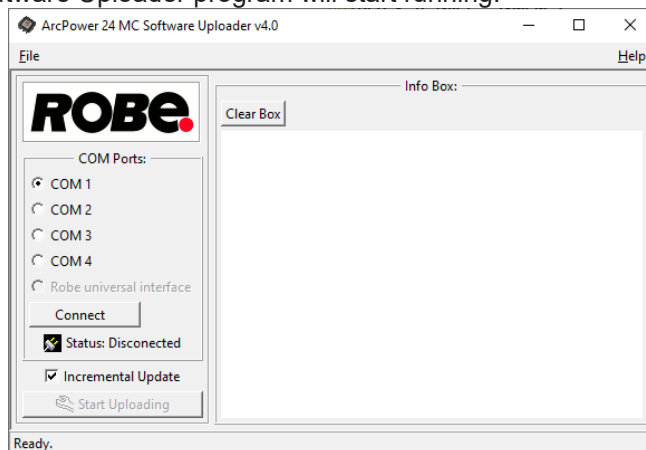
6. Select correct "COM " number if you use a Flash cable RS232/DMX or select "Robe Universal Interface "
   if you use the Robe Universal Interface/Robe Universal Interface WTX and then click on the "Connect" button.
7. If the connection is OK, click the "Start Uploading" button to start software uploading. It will take several
   minutes to perform software update.
   If the option "Incremental Update" is not checked, all processors will be updated (including processors with
   the same software version).
   If you wish to update only processors with new version of software, check the "Incremental Update box".
   Avoid interrupting the process. Update status is displayed in the "Info Box" window.

When the update is finished, the line with the text "Fixture is successfully updated" will appear in this window.

In case upload process is interrupted (e.g. power loss), the fixture stays in "Updating mode" and you will have to repeat the software update again.

Another way, how to update software in the fixtures (especially large installation of fixtures) is to use the ROBE Uploader. It is a software for automatized software update of Robe fixtures. It takes advantage of RDM
 support).
For more information please see https://www.robe.cz/robe-uploader/.
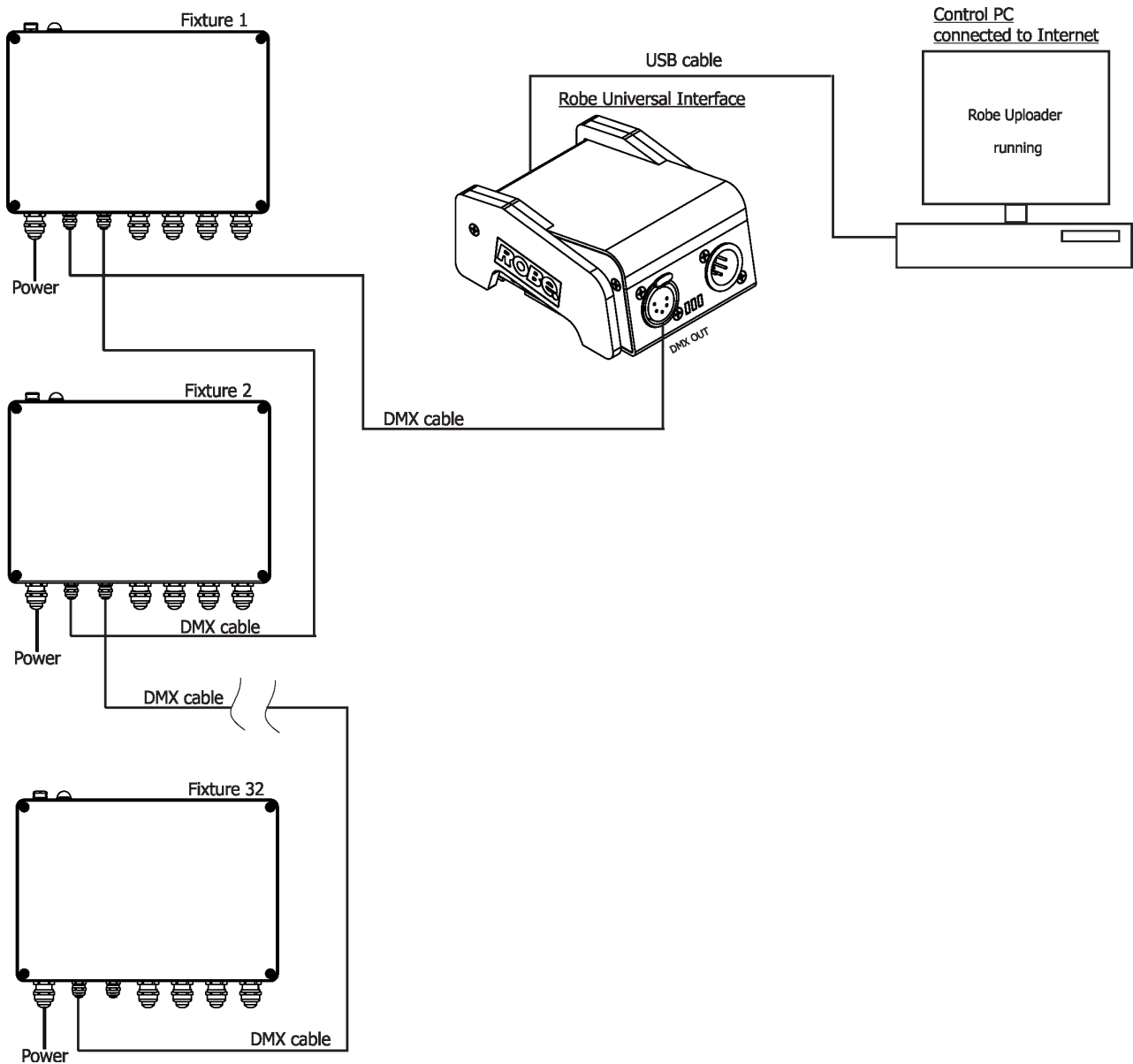
6. Technical specifications

ELECTRICAL

Input Voltage: 100 - 277 V AC 50 / 60 Hz
Max. Power Consumption: 440W
Max. Output Power per Output
        Maximum mode (1A): 100W
        Medium mode (700mA): 70W
        Minimum mode (350mA): 35W
Max. Output Current per Output
        Maximum mode: 1000 mA
        Medium mode: 700 mA
        Minimum mode: 350 mA
LED Output Voltage: 24V DC
Fuse F1/F2/F3/F4: T4A/T4A/T4A/T4A

CONTROL

Display: 4 - Digit LED, 4 buttons
Wireless DMX (Option): Lumen Radio CRMX Technology
Interface Protocol: USITT DMX512, RDM
Control System: Third Party DMX Controllers
Operating Modes: DMX, Master/Slave, Stand-alone
DMX Modes:
        RGBW/RGBA: 7 (2,3,4,9,12,16,3 channels)
        SW: 4 (2,2,6,8 channels)
        SC: 3 (1,3,4 channels)
Editable Programs: 3 (up to 42 steps each)
Settings/Addressing: Via RDM communicator or Robe Universal Interface (RUNIT)

PHYSICAL

Weight 7.5 kg | 16.53 lbs
Number of LED Output zones: 4
Max. Load Per Zone: 1x ArcSource Submersible II
Total Load: 4x ArcSource Submersible II
Max Cable Length:
            100m (Minimum mode)
            50m (Medium mode)
            25m (Maximum mode)
LED Output Connection: Terminal Block
DMX Connection: Terminal Block
Power Connection: Terminal Block
Finish Options: Standard Colour - Graphite Black (RAL 9011), Silver (RAL 9006)
Cost Option: Custom RAL
Mounting Method: 4 Mounting Holes
Protection Factor: IP66 (CE)
               Suitable For Wet Location (US)
IK Rating: IK10
Cooling System: Convection
Operating Temperature Range: -20 °C / +40 °C (-4 °F / +104 °F)

INCLUDED ITEMS
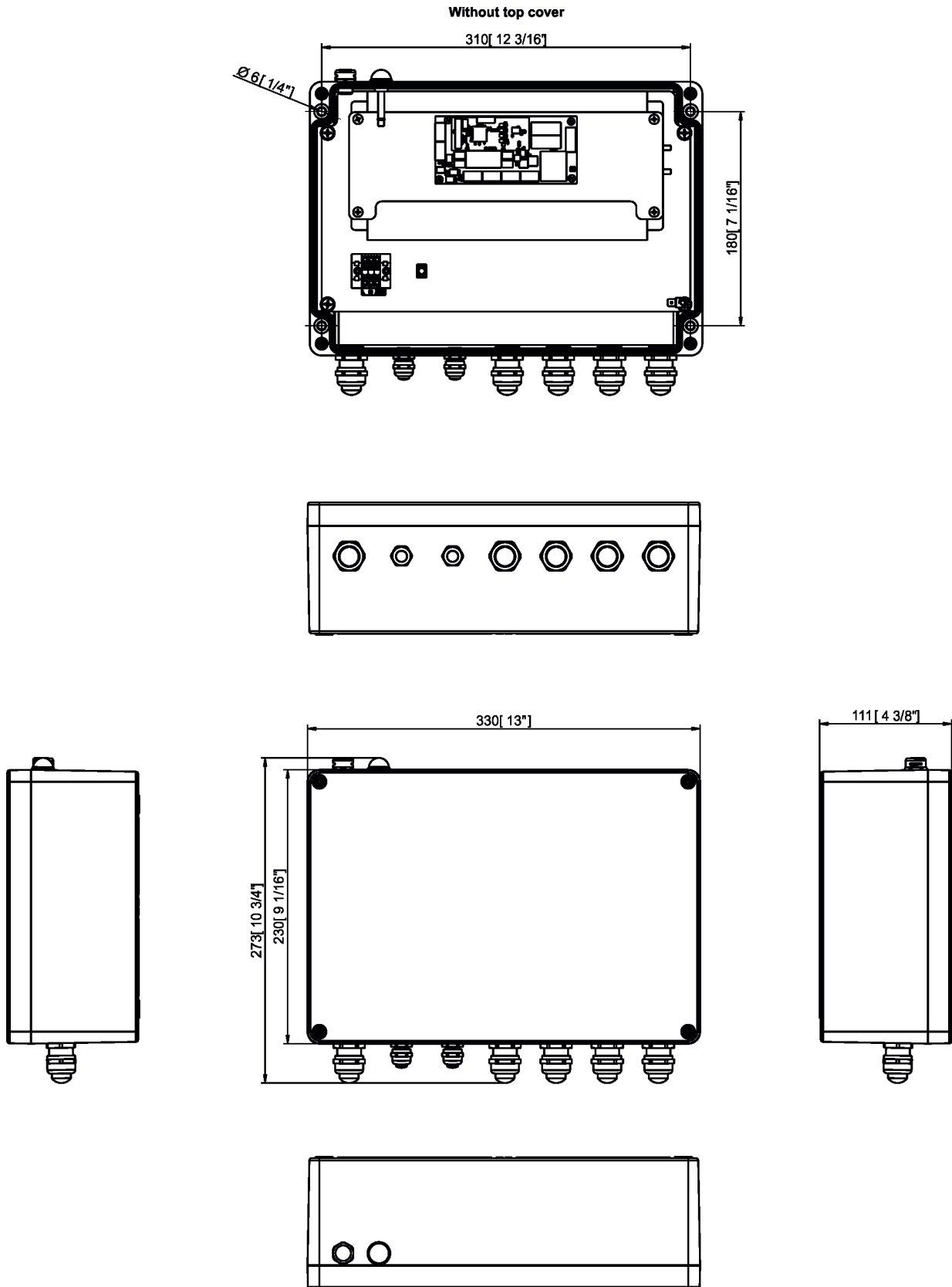
1 x SubDrive 4
1 x Reducing seal (P/N 13051388) for cable diameter of 4-8 mm.
1 x User manual

DiMENSIONS
mm [inch]

Without top cover

310[12 3/16"]

Ø 6[1/4"]

180[7 1/16"]

330[13"]

111[4 3/8"]

273[10 3/4"]

230[9 1/16"]

SubDrive 4 (RGBW, RGBA) - DMX chart, version 1.0									
Mode/Channel							Value	Function	Type of control
1	**2**	**3**	**4**	**5**	**6**	**7**			
*	1	1	1	*	*	*		**Red - all zones**	
							0-255	Red LEDs saturation control (0-100%) (255=default)	proportional
*	2	2	2	*	*	*		**Green - all zones**	
							0-255	Green LEDs saturation control (0-100%) (255=default)	proportional
*	3	3	3	*	*	*		**Blue - all zones**	
							0-255	Blue LEDs saturation control (0-100%) (255=default)	proportional
*	*	4	4	*	*	*		**White (Amber) - all zones**	
							0-255	LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	*	1	1	*		**Red - zone 1**	
							0-255	Red LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	*	2	2	*		**Green - zone 1**	
							0-255	Green LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	*	3	3	*		**Blue zone 1**	
							0-255	Blue LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	*	*	4	*		**White (Amber) - zone 1**	
							0-255	LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	*	4	5	*		**Red - zone 2**	
							0-255	Red LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	*	5	6	*		**Green - zone 2**	
							0-255	Green LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	*	6	7	*		**Blue - zone 2**	
							0-255	Blue LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	*	*	8	*		**White (Amber) - zone 2**	
							0-255	LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	*	7	9	*		**Red - zone 3**	
							0-255	Red LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	*	8	10	*		**Green - zone 3**	
							0-255	Green LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	*	9	11	*		**Blue - zone 3**	
							0-255	Blue LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	*	*	12	*		**White (Amber) - zone 3**	
							0-255	LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	*	10	13	*		**Red - zone 4**	
							0-255	Red LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	*	11	14	*		**Green - zone 4**	
							0-255	Green LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	*	12	15	*		**Blue - zone 4**	
							0-255	Blue LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	*	*	16	*		**White (Amber) - zone 4**	
							0-255	LEDs saturation control (0-100%) (255=default)	proportional
								Green correction -all zones	
*	*	*	*	*	*	1	1-127	Minus green - uncorrected white	proportional

Mode/Channel							Value	Function	Type of control
1	2	3	4	5	6	7			
						1	128	Uncorrected white (128=default)	step
							129-255	Uncorrected white - Plus green	proportional
*	*	*	5	*	*	2		**CTO - all zones**	
							0	No function (0=default)	step
							1-255	Colour temperature correction	proportional
1	*	*	6	*	*	*		**Virtual Colour Wheel - all zones**	
							0	No function (0=default)	step
							1-2	White 2700 K	step
							3	White 2700 K (tungsten emulation*)	step
							4-5	White 3200 K	step
							6	White 3200 K (tungsten emulation*)	step
							7-9	White 4200 K	step
							10-12	White 5600 K	step
							13-15	White 8000 K	step
							16	Blue (Blue=full, Red+Green+White=0)	step
							17-55	Red=0, Green->up,Blue =full, White=0	proportional
							56	Light Blue (Red=0, Green=full, Blue =full, White=0)	step
							57 - 95	Red=0, Green=full, Blue->down, White/Amber=0	proportional
							96	Green (Red=0, Green=full, Blue =0, White=0)	step
							97 – 134	Red->up, Green=full, Blue=0, White=0	proportional
							135	Yellow (Red=full, Green=full, Blue=0, White=0)	step
							136 - 174	Red=full, Green->down, Blue=0, White=0	proportional
							175	Red(Red=full, Green=0, Blue=0, White=0)	step
							176 -214	Red=full, Green=0, Blue->up, White=0	proportional
							215	Magenta (Red=full, Green=0, Blue=full, White=0)	step
							216 - 246	Red -> down, Green=0, Blue=full, White=0	proportional
							247	Blue (Red=0, Green=0, Blue=full, White=0)	step
							248-251	Rainbow effect(with fade time) from min.->max. speed	proportional
							252-255	Rainbow effect(without fade time)from min.->max.speed	proportional
*	*	*	7	*	*	*		**Shutter/Strobe - all zones**	
							0-31	Shutter closed	step
							32-63	Shutter open (32=default)	step
							64-95	Strobe effect from slow--> fast	proportional
							96-127	Shutter open	step
							128-143	Opening pulses in sequences from slow--> fast	proportional
							144-159	Closing pulses in sequences from fast--> slow	proportional
							160-191	Shutter open	step
							192-223	Random strobe effect from slow --> fast	proportional
							224-255	Shutter open	step
2	*	*	8	*	*	3		**Dimmer coarse - all zones**	
							0-255	Dimmer intensity from 0% to 100% (0=default)	proportional
*	*	*	9	*	*	*		**Dimmer fine -all zones**	
							0-255	Dimmer intensity from min.—>max. (0=default)	proportional

*Halogen lamp effect during dimming

SubDrive 4 (SW) - DMX chart, version 1.0						
Mode/Channel				**Value**	**Function**	**Type of control**
1	**2**	**3**	**4**			
1	*	**1**	*		**Warm white - all zones**	
				0-255	Warm white LEDs saturation control (0-100%) (255=default)	proportional
2	*	**2**	*		**Cool white - all zones**	
				0-255	Cool white LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	**1**		**Warm white - zone 1**	
				0-255	Warm white LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	**2**		**Cool white - zone 1**	
				0-255	Cool white LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	**3**		**Warm white - zone 2**	
				0-255	Warm white LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	**4**		**Cool white - zone 2**	
				0-255	Cool white LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	**5**		**Warm white - zone 3**	
				0-255	Warm white LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	**6**		**Cool white - zone 3**	
				0-255	Cool white LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	**7**		**Warm white - zone 4**	
				0-255	Warm white LEDs saturation control (0-100%) (255=default)	proportional
*	*	*	**8**		**Cool white - zone 4**	
				0-255	Cool white LEDs saturation control (0-100%) (255=default)	proportional
*	**1**	**3**	*		**Virtual Colour Wheel - all zones**	
				0	No function (0=default)	step
				1-2	White 2800K	step
				3-4	White 3200K	step
				5-6	White 3800K	step
				7-8	White 4200K	step
				9-10	White 4600K	step
				11-12	White 5000K	step
				13-14	White 5600K	step
				15-16	White 6300K	step
				17-247	Warm white --> Cool white	proportional
				248-255	Reserved	
*	*	**4**	*		**Shutter/Strobe - all zones**	
				0-31	Shutter closed	step
				32-63	Shutter open (32=default)	step
				64-95	Strobe effect from slow--> fast	proportional
				96-127	Shutter open	step
				128-143	Opening pulses in sequences from slow--> fast	proportional

Mode/Channel				Value	Function	Type of control
1	**2**	**3**	**4**			
				144-159	Closing pulses in sequences from fast--> slow	proportional
				160-191	Shutter open	step
				192-223	Random strobe effect from slow --> fast	proportional
				224-255	Shutter open	step
*	2	5	*		**Dimmer coarse - all zones**	
				0-255	Dimmer intensity from 0% to 100% (0=default)	proportional
*	*	6	*		**Dimmer fine - all zones**	
				0-255	Dimmer intensity from min.—>max. (0=default)	proportional

SubDrive 4 (SC) - DMX chart, version 1.0					
Mode/Channel			Value	Function	Type of control
1	2	3			
*	*	1		**Dimmer - zone 1**	
			0-255	Dimmer intensity from 0% to 100% (0=default)	proportional
*	*	2		**Dimmer - zone 2**	
			0-255	Dimmer intensity from 0% to 100% (0=default)	proportional
*	*	3		**Dimmer - zone 3**	
			0-255	Dimmer intensity from 0% to 100% (0=default)	proportional
*	*	4		**Dimmer - zone 4**	
			0-255	Dimmer intensity from 0% to 100% (0=default)	proportional
*	1	*		**Shutter/Strobe - all zones**	
			0-31	Shutter closed	step
			32-63	Shutter open (32=default)	step
			64-95	Strobe effect from slow--> fast	proportional
			96-127	Shutter open	step
			128-143	Opening pulses in sequences from slow--> fast	proportional
			144-159	Closing pulses in sequences from fast--> slow	proportional
			160-191	Shutter open	step
			192-223	Random strobe effect from slow --> fast	proportional
			224-255	Shutter open	step
1	2	*		**Dimmer coarse - all zones**	
			0-255	Dimmer intensity from 0% to 100% (0=default)	proportional
*	3	*		**Dimmer fine - all zones**	
			0-255	Dimmer intensity from min.—>max. (0=default)	proportional