



**B O S**  
LIGHTING

# IMPERVIUS



**MAKE LIFE BRIGHTER**



## CONTACT

### Address

**BOS Lighting**  
Dommelseweg 148  
5554 NV Valkenswaard  
The Netherlands



### Online

Emergency email  
Email  
Website

[sos@bos-lighting.nl](mailto:sos@bos-lighting.nl)  
[info@bos-lighting.nl](mailto:info@bos-lighting.nl)  
[www.bos-lighting.nl](http://www.bos-lighting.nl)



## TABLE OF CONTENTS

SAFETY INSTRUCTIONS & MAINTENANCE	PAGE 3
INSTALLATION	PAGE 4
<i>WHAT IS IN THE BOX?</i>	PAGE 4
<i>DIMENSIONS IMPERVIUS</i>	PAGE 4
<i>PREPARING</i>	PAGE 4
<i>IP 65</i>	PAGE 5
DMX-512 CONTROL CONNECTIONS	PAGE 6
PHOTOMETRIC DATA	PAGE 7
MENU OVERVIEW	PAGE 8
DMX CHANNELS	PAGE 9
<i>1 CH MODE</i>	PAGE 9
<i>2 CH MODE</i>	PAGE 9
<i>5 CH MODE</i>	PAGE 10
<i>10 CH MODE</i>	PAGE 10
<i>13 CH MODE</i>	PAGE 11
<i>58 CH MODE</i>	PAGE 12
TROUBLESHOOTING AND CLEANING	PAGE 14
TECHNICAL SPECIFICATIONS	PAGE 15

This product is for professional use only. It is not for household use.

This product presents risks of severe injury or death due to fire and burn hazards, electric shock and falls. Read this manual before installing, powering or servicing the fixture, follow the safety precautions listed below and observe all warnings in this manual and printed on the fixture. This device has left the factory in perfect condition. In order to maintain this condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this user manual.

If you have questions about how to operate the fixture safely, please contact us via [info@bos-lighting.nl](mailto:info@bos-lighting.nl).



### WARNING!

Read the safety precautions in this section before unpacking, installing, powering or operating this product.

- This luminaries are multi-environmental fixtures with an IP-rating of 65, intended for professional use only. They are not suitable for household use.
- Review the following safety precautions carefully before installing or operating the fixture. This fixture must be installed in accordance with the applicable installation code by a person familiar with the construction and operation of the fixture and the hazards involved.



### WARNING!

Risk of electric shock.

- Always power off/unplug the fixture before removing any covers.
- Ensure that the power is turned off when connecting the fixture to the AC mains supply.
- Do not apply power if the fixture is in any way damaged.
- Do not immerse the fixture in water or liquid.



### WARNING!

Take measures to prevent burns and fire.

- Install in a location that prevents accidental contact with the fixture.
- Install only in a well-ventilated space.
- Install at least 0.3 m (12 in.) away from objects to be illuminated.
- Install only in accordance with applicable building codes.
- Ensure a minimum clearance of 0.1 m (4 in.) around the cooling fans.
- Do not paint, cover or modify the fixture.
- Keep all flammable materials away from the fixture.
- Allow the fixture to cool for 15 minutes after operation, before touching it.
- CAUTION: Exterior surface temperature after 5 min. operation = 45 °C



### WARNING!

Take measure to prevent personal injury.

- Do not look directly at the light source from close range.
- Take precautions to prevent injury due to falls when working at height.
- For permanent installation, ensure that the fixture is securely fastened to a load-bearing surface with suitable corrosion-resistant hardware.
- For temporary installation with clamps, ensure that the quarter-turn fasteners are turned fully and secured with a suitable safety cable.
- The cable must be approved for a safe working load (SWL) of 10 times the weight of the fixture, and it must have a minimum gauge of 3 mm.



### CAUTION!

Disconnect from mains before starting maintenance operation

The following points have to be considered during the inspection:

1. All screws for installing the devices or parts of the device have to be tightly connected and must not be corroded.
2. There must not be any deformations on the housing, color lenses, fixations and installation spots (ceiling, suspension, trussing).
3. Mechanically moved parts must not show any traces of wearing and must not rotate with unbalances.
4. The electric power supply cables must not show any damage, material fatigue or sediments.

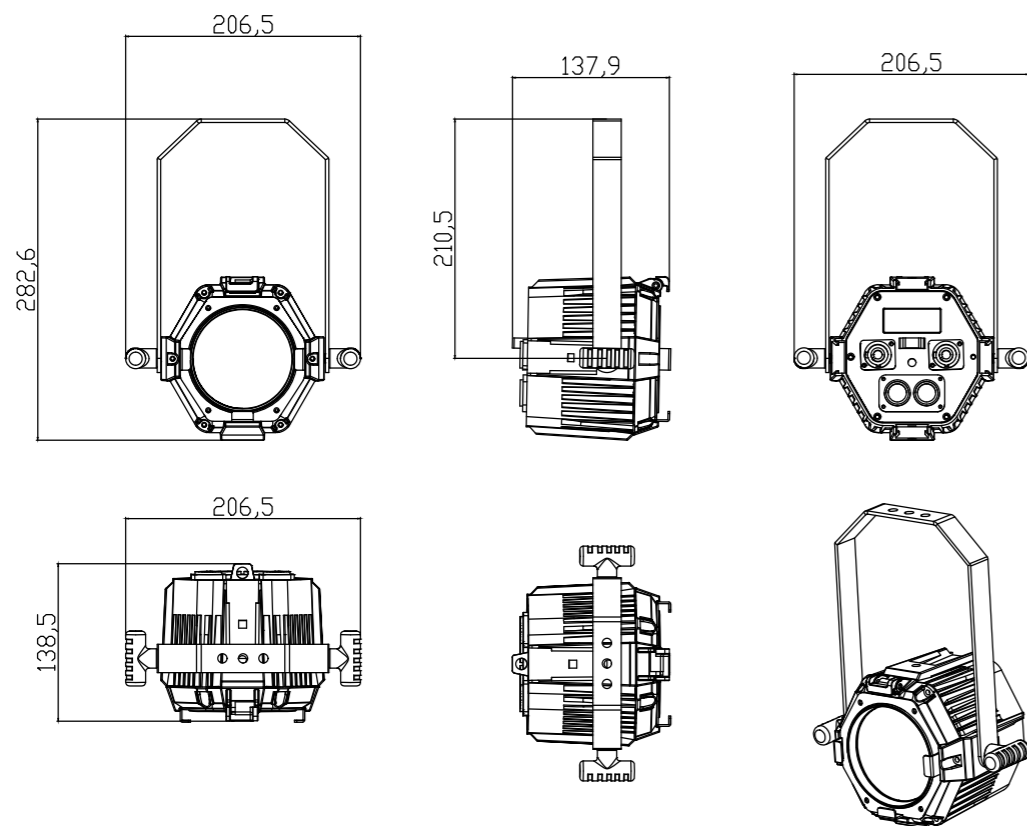
Further instructions depending on the installation spot and usage have to be adhered by a skilled installer and any safety problems have to be removed.

## SECTION 2 INSTALLATION

### WHAT IS IN THE BOX?

- 1x IMPERVIUS
- 1x Shuko -> True1
- 1x Safety cable
- 1x Quicklock bracket for clamp

### DIMENSIONS IMPERVIUS



### PREPARING

Unpack the fixture and inspect it to ensure that it has not been damaged during transport. Read the manual before installation.

When selecting a location for the fixture, ensure that:

- It is situated away from public thoroughfares and protected from contact with people.
- It is not immersed in water or exposed to high-pressure water jets.
- It has adequate ventilation.



### IP 65

SOLIDS		LIQUIDS	
1	Protected against a solid object greater than 50mm such as a hand.	1	Protected against vertical falling drops of water. Limited ingress permitted.
2	Protected against a solid object greater than 12.5mm such as a finger.	2	Protected against vertical falling drops of water with enclosure tilted up to 15 degrees from the vertical. Limited ingress permitted.
3	Protected against a solid object greater than 2.5mm such as a screwdriver.	3	Protected against sprays of water up to 60 degrees from the vertical. Limited ingress permitted.
4	Protected against a solid object greater than 1mm such as a wire.	4	Protected against water splashes from all directions. Limited ingress permitted.
5	Dust protected. Limited ingress of dust permitted. Will not interfere with operation of the equipment.	5	Protected against jets of water. Limited ingress permitted.
6	Dust tight. No ingress of dust.	6	Protected against powerful jets of water. Limited ingress permitted.
Ingress Protection		6	Protected against the effects of immersion in water between 15cm and 1m for 30 minutes.
		5	
		7	Protected against the effects of immersion in water between 15cm and 1m for 30 minutes.
		8	Protected against the effects of immersion in water under pressure for long periods.



#### WARNING!

Make sure the manual is read, and followed, before usage of the product.

IP65 is not waterproof – it is water resistant. Products that carry an IP65 rating cannot be submerged and maintain their protections.

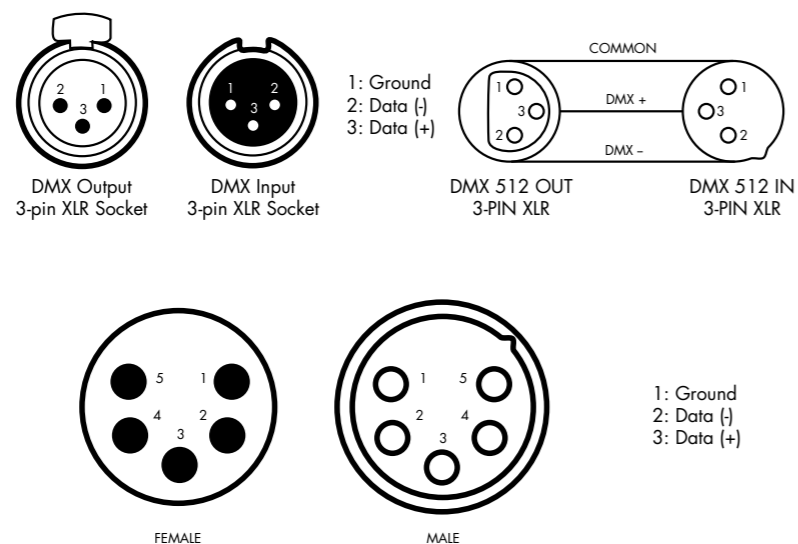
The purpose of the IMPERVIUS is for temporary use. The products purpose is for e.g. festivals, theatres, indoor and outdoor concerts. Long term usage can lead to damage due to aging of the materials and affecting the coated surface, and the rubber sealings will be affected by long-term UV exposure. Tightening the screws to hard will affect the IP-rating. Please make sure the cleaning and maintaining procedures are in order for a safe environment.



## SECTION 3 DMX-512 CONTROL CONNECTIONS

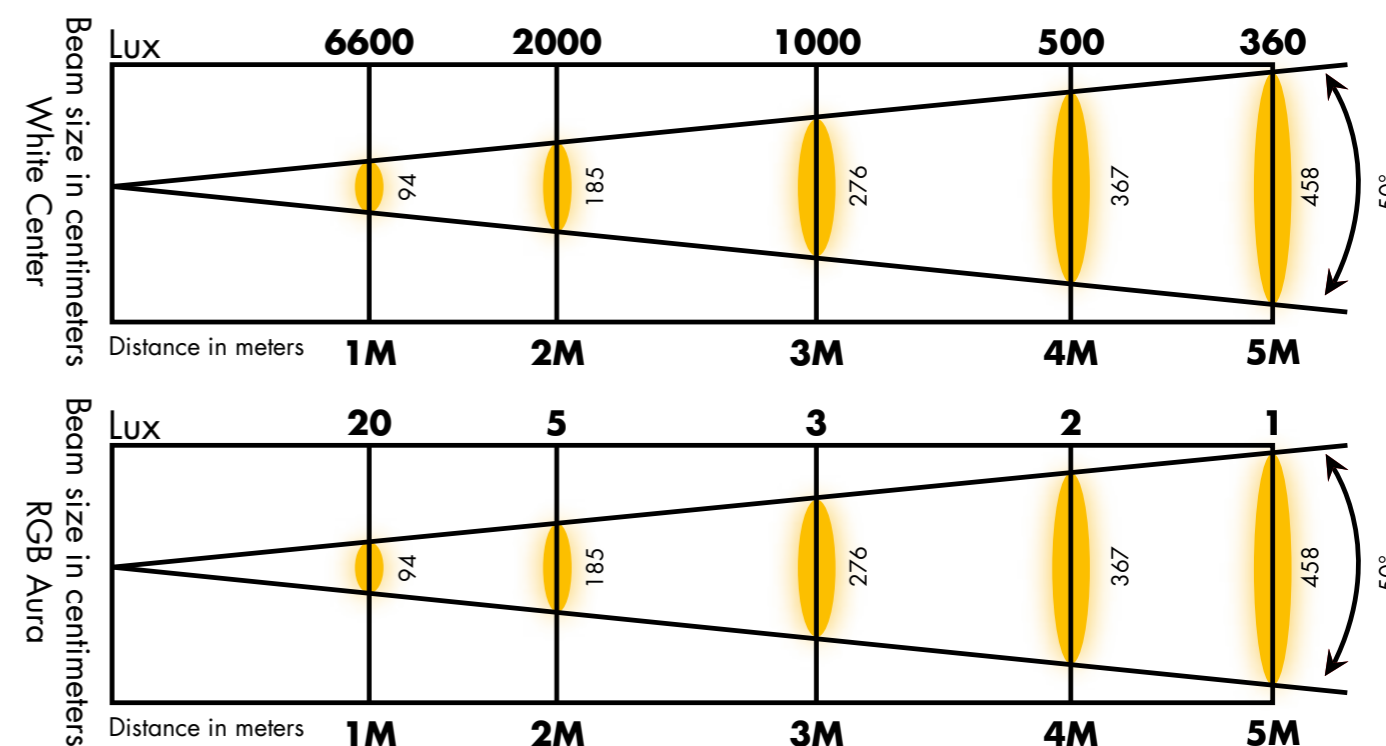
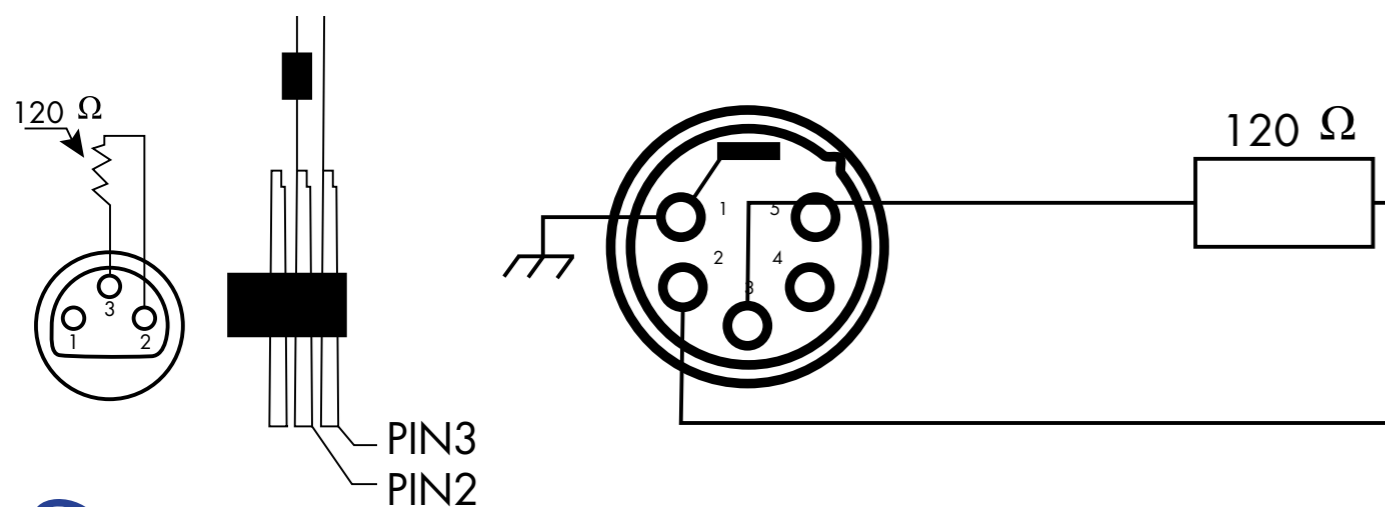
## SECTION 4 PHOTOMETRIC DATA

Connect the provided XLR cable to the female 3-pin XLR & 5-pin XLR output of your controller and the other side to the male 3-pin XLR & 5-pin XLR input of the moving head. You can chain multiple moving head together through serial linking. The cable needed should be two core, screened cable with XLR input and output connectors. Please refer to the diagram below.

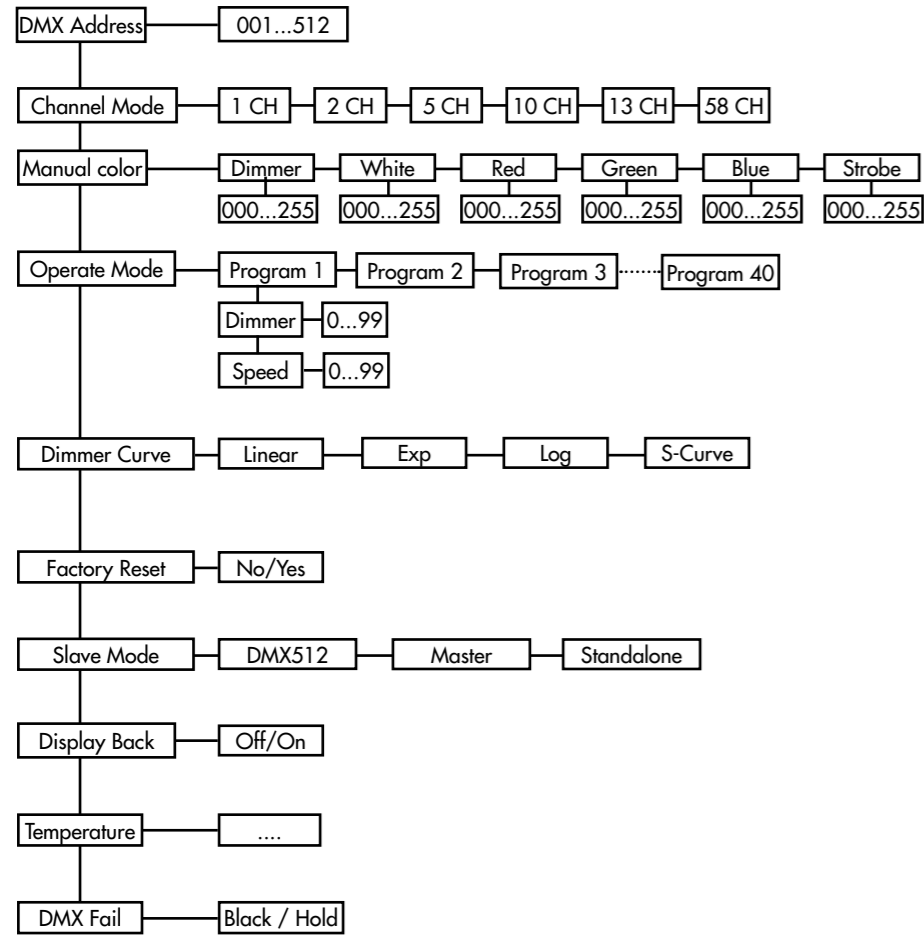


For installations where the DMX cable has to run a long distance or is in an electrically noisy environment, such as in a discotheque, it is recommended to use a DMX terminator. This helps in preventing corruption of the digital control signal by electrical noise. The DMX terminator is simply an XLR plug with a 120 Ω resistor connected between pins 2 and 3, which is then plugged into the output XLR socket of the last fixture in the chain.

Please see illustrations below.



## SECTION 5 MENU OVERVIEW



## SECTION 6 DMX CHANNELS



### 1 CH MODE

Channel	Value	Function
1	000...255	Dimmer intensity for center LED from dark (0) to bright (255)

### 2 CH MODE

Channel	Value	Function
1	000...255	Dimmer intensity for center LED from (0) to bright (255)
2	Shutter for center LED	
	000...049	No Strobe
	050...200	Strobe, Slow-Fast
	201...210	No Strobe
	211...255	Random Strobe, Slow-Fast

### 5 CH MODE

Channel	Value	Function
1	000...255	Dimmer intensity for center LED from dark (0) to bright (255)
2	000...255	Red intensity from dark (0) to bright (255)
3	000...049	Green intensity from dark (0) to bright (255)
4	050...200	Blue intensity from dark (0) to bright (255)
5	Shutter for all LED	
	000...049	No Strobe
	050...200	Strobe, Slow-Fast
	201...210	No Strobe
	211...255	Random Strobe, Slow-Fast

## 10 CH MODE

Channel	Value	Function
1	000...255	Dimmer intensity for center LED from dark (0) to bright (255)
2	000...255	Dimmer intensity for aura LED from dark (0) to bright (255)
3	000...255	Red intensity from dark (0) to bright (255)
4	000...049	Green intensity from dark (0) to bright (255)
5	050...200	Blue intensity from dark (0) to bright (255)
6	Shutter for center LED	
	000...049	No Strobe
	050...200	Strobe,Slow-Fast
	201...210	No Strobe
	211...255	Random Strobe,Slow-Fast
7	Shutter for aura LED	
	000...049	No Strobe
	050...200	Strobe,Slow-Fast
	201...210	No Strobe
	211...255	Random Strobe,Slow-Fast
8	000...255	Aura Macro
9	000...255	Aura Macro Speed
10	Dimmer Curve	
	000...009	No Function
	010...059	Linear Dimming Curve
	060...109	Square Law Dimming Curve
	110...159	Inverse Square Law Dimming Curve
	160...209	S-Curve Dimming Curve
	210...250	No Function

## 13 CH MODE

Channel	Value	Function
1	000...255	Dimmer intensity for center LED from dark (0) to bright (255)
2	000...255	Dimmer intensity for aura LED from dark (0) to bright (255)
3	000...255	Red intensity from dark (0) to bright (255)
4	000...049	Green intensity from dark (0) to bright (255)
5	050...200	Blue intensity from dark (0) to bright (255)
6	Shutter for center LED	
	000...049	No Strobe
	050...200	Strobe,Slow-Fast
	201...210	No Strobe
	211...255	Random Strobe,Slow-Fast
7	Shutter for aura LED	
	000...049	No Strobe
	050...200	Strobe,Slow-Fast
	201...210	No Strobe
	211...255	Random Strobe,Slow-Fast
8	000...255	Aura Macro
9	000...255	Aura Macro Speed
10	Dimmer Curve	
	000...009	No Function
	010...059	Linear Dimming Curve
	060...109	Square Law Dimming Curve
	110...159	Inverse Square Law Dimming Curve
	160...209	S-Curve Dimming Curve
	210...250	No Function
11	011...255	Aura CTC 2000K to 11000K
12	000...255	Aura Macro Color Presets Background
13	000...255	Aura Macro Color Presets Overlay

## 49 CH MODE

Channel	Value	Function
1	000...255	Dimmer intensity for center LED from dark (0) to bright (255)
2	000...255	Aura Pixel 1 Intensity red (0 %...100 %)
3	000...255	Aura Pixel 1 Intensity green (0 %...100 %)
4	000...255	Aura Pixel 1 Intensity blue (0 %...100 %)
5	000...255	Aura Pixel 2 Intensity red (0 %...100 %)
6	000...255	Aura Pixel 2 Intensity green (0 %...100 %)
7	000...255	Aura Pixel 2 Intensity blue (0 %...100 %)
... Pixel 3 to 14		
44	000...255	Aura Pixel 15 Intensity red (0 %...100 %)
45	000...255	Aura Pixel 15 Intensity green (0 %...100 %)
46	000...255	Aura Pixel 15 Intensity blue (0 %...100 %)
47	000...255	Aura Pixel 16 Intensity red (0 %...100 %)
48	000...255	Aura Pixel 16 Intensity green (0 %...100 %)
49	000...255	Aura Pixel 16 Intensity blue (0 %...100 %)

## 53 CH MODE

Channel	Value	Function
1	000...255	Dimmer intensity for center LED from dark (0) to bright (255)
2	000...255	Dimmer intensity for aura LED from dark (0) to bright (255)
Shutter for center LED		
3	000...049	No Strobe
	050...200	Strobe,Slow-Fast
	201...210	No Strobe
	211...255	Random Strobe,Slow-Fast
Shutter for aura LED		
4	000...049	No Strobe
	050...200	Strobe,Slow-Fast
	201...210	No Strobe
	211...255	Random Strobe,Slow-Fast
Dimmer Curve		
5	000...009	No Function
	010...059	Linear Dimming Curve
	060...109	Square Law Dimming Curve
	110...159	Inverse Square Law Dimming Curve
	160...209	S-Curve Dimming Curve
	210...250	No Function
6	000...255	Aura Pixel 1 Intensity red (0 %...100 %)
7	000...255	Aura Pixel 1 Intensity green (0 %...100 %)
8	000...255	Aura Pixel 1 Intensity blue (0 %...100 %)
9	000...255	Aura Pixel 2 Intensity red (0 %...100 %)
10	000...255	Aura Pixel 2 Intensity green (0 %...100 %)
11	000...255	Aura Pixel 2 Intensity blue (0 %...100 %)
... Pixel 3 to 14		
48	000...255	Aura Pixel 15 Intensity red (0 %...100 %)
49	000...255	Aura Pixel 15 Intensity green (0 %...100 %)
50	000...255	Aura Pixel 15 Intensity blue (0 %...100 %)
51	000...255	Aura Pixel 16 Intensity red (0 %...100 %)
52	000...255	Aura Pixel 16 Intensity green (0 %...100 %)
53	000...255	Aura Pixel 16 Intensity blue (0 %...100 %)

## 13 CH EFFECT MACRO

Value	Macro
000...047	Rainbow clockwise
048...063	Rainbow counter clockwise
064...079	Rainbow center inside out
080...095	Rainbow center outside in
96...111	Background overlay clockwise
112...127	Background overlay counter clockwise
128...143	Background overlay center inside out
144...159	Background overlay left to right
160...175	Background overlay right to left
176...191	Background overlay down to up
192...207	Background overlay up to down
208...223	Background overlay Sin Clockwise
224...239	Background overlay mid to top and bottom
240...255	Background overlay mid to left and right

## COLOR MACRO

Value	Function
001...015	Red = 255 - Green = 0 - Blue = 0
016...021	Red = 212 - Green = 43 - Blue = 0
022...027	Red = 247 - Green = 147 - Blue = 0
028...033	Red = 255 - Green = 255 - Blue = 0
034...039	Red = 85 - Green = 170 - Blue = 0
040...045	Red = 43 - Green = 212 - Blue = 0
046...051	Red = 0 - Green = 255 - Blue = 0
052...057	Red = 0 - Green = 212 - Blue = 43
058...063	Red = 0 - Green = 170 - Blue = 85
064...069	Red = 0 - Green = 255 - Blue = 255
070...075	Red = 0 - Green = 85 - Blue = 170
076...081	Red = 0 - Green = 43 - Blue = 212
082...087	Red = 0 - Green = 0 - Blue = 255
088...093	Red = 43 - Green = 0 - Blue = 212
094...099	Red = 85 - Green = 0 - Blue = 170
100...105	Red = 255 - Green = 0 - Blue = 255
106...111	Red = 170 - Green = 0 - Blue = 85
112...117	Red = 212 - Green = 0 - Blue = 43
118...123	Red = 255 - Green = 255 - Blue = 255
123...255	For future use

## 10CH EFFECT MACRO

Value	Function
001...015	Rainbow clockwise
016...021	Rainbow counter clockwise
022...027	Rainbow center inside out
028...033	Rainbow center outside in
034...039	Red Blue Clockwise
040...045	Green Blue Clockwise
046...051	Yellow Blue Clockwise
052...057	White Blue Clockwise
058...063	White Red Clockwise
064...069	Red Clockwise
070...075	Green Clockwise
076...081	Blue Clockwise
082...087	White Clockwise
088...093	Red Blue Counter Clockwise
094...099	Green Blue Counter Clockwise
100...105	Yellow Blue Counter Clockwise
106...111	White Blue Counter Clockwise
112...117	White Red Counter Clockwise
118...123	Red Counter Clockwise
124...129	Green Counter Clockwise
130...135	Blue Counter Clockwise
136...141	White Counter Clockwise
142...147	Red Blue mid to top and bottom
148...153	Green Blue mid to top and bottom
154...159	Yellow Blue mid to top and bottom
160...165	White Blue mid to top and bottom
166...171	White Red mid to top and bottom
172...177	Red mid to top and bottom
178...183	Green mid to top and bottom
184...189	Blue mid to top and bottom
190...195	White mid to top and bottom
196...201	Red Blue mid to left and right
202...207	Green Blue mid to left and right
208...213	Yellow Blue mid to left and right
214...219	White Blue mid to left and right
220...225	White Red mid to left and right
226...231	Red mid to left and right
232...237	Green mid to left and right
238...243	Blue mid to left and right
244...249	White mid to left and right
250...255	No Function



## SECTION 7 TROUBLESHOOTING AND CLEANING



### CAUTION!

Disconnect from mains before starting maintenance operation

The lamp contains professional components such as microcomputer circuit board and high-voltage power supply. For your safety and product life, non-professionals should not disassemble the lamp and related accessories without authorization.

#### The bulb does not light up (except LED light source)

Possible cause: The bulb is not completely cooled, or the bulb has reached the end of its life, the treatment is as follows:

- Due to abnormal operation, the bulb is not completely cooled down, so let the lamp body cool down for more than 10 minutes to make the inside completely return to normal state, and then turn on the power again.
- Check whether the bulb has reached the end of its life, and replace it with a new one.
- Check whether the bulb and the lighter circuit are leaking, falling off, or having poor contact.
- Replace with a new light source.

#### The light beam appears dim

Possible cause: The bulb has been used for a long time or the light path is not clean, the treatment is as follows:

- Check whether the bulb has reached the end of its life, and replace it with a new one
- Check whether the optical components or bulbs are clean, and whether there is dust on the bulbs and other optical components.
- Regular cleaning and maintenance of the bulbs and components in the lamps are required.

#### Blurred pattern projection

Possible cause: Lenses are dirty or electronic focus is defect:

- Check if lenses are clean.
- Check whether the electronic focus channel value is suitable for the current projection distance.

#### The lamps work intermittently

Possible cause: The internal circuit enters the protection state, and the treatment is as follows

- Check whether the fan is operating normally or whether it is dirty, causing the internal temperature of the lamp to rise
- Check whether the internal temperature control switch is closed
- Check whether the bulb has reached the end of its service life, and replace it with a new one.

#### After the lamp is reset normally, it does not accept the control of the console

Possible cause: signal line failure or abnormal lamp parameter setting, the treatment is as follows:

- Check the start address code and check the connection of the DMX signal line (whether the signal line cable is intact, and whether the connection of the head is loose)
- Add signal amplifier, add 120 ohm terminal resistance.

#### The lamp can't start

Possible cause: bad power line, the treatment is as follows:

- Check whether the fuse on the power input socket is fused, replace the fuse.
- Lamps have poor line contact due to vibration during long-distance transportation.
- Check the input power, computer board and other plug-in devices.



### CAUTION!

Disconnect from mains before starting cleaning operation

In order to make the lights in good condition and extend the life time, we suggest a regular cleaning to the lights.

1. Clean the inside and outside lens each week to avoid the weakness of the lights due to accumulation of dust.
2. Clean the fan each week.
3. A detailed electric check by approved electrical engineer each three month, make sure that the circuit contacts are in good condition, prevent the poor contact of circuit from overheating.

We recommend a frequent cleaning of the device. Please use a moist, lint-free cloth. Never use alcohol solvents.



There are no serviceable parts inside the device. Please refer to the instructions under "Installation instructions". Should you need any spare parts, please order genuine parts from your local dealer.

BOS LIGHTING  
BOS Lighting Impervius V2  
Page 16  
Version: v2 // 2023

## SECTION 8 TECHNICAL SPECIFICATIONS

Light Source	1x COB 2700K 50W 16x 5050 RGB LED	
Optical properties	Beam angle	50°
	Repetition rate	3000 Hz
Control	DMX	
	Buttons and display	
	Infrared remote control	
Number of DMX channels	1CH, 2CH, 5CH, 10CH, 13CH, 49CH, 54CH	
Power connections	Lockable True1 In/Out	
Control connections	DMX control	3-pin XLR In/Out or 5-pin XLR In/Out
Power consumption	60W	
Operating supply voltage	100 – 240 V 50/60 Hz	
Protection class	IP65	
Mounting options	Hanging	
Dimensions (W × H × D), with bracket	140 mm × 180 mm × 250 mm	
Weight	2.4 kg	
Ambient conditions	Temperature range	0 °C...40 °C
	Relative humidity	20 %...80 % (non-condensing)
Construction	Outdoor housing, PAR	
Number of LEDs	18	
Color mixture	RGB White	
LED type	3 -in- 1 and 2700K COB	
CRI	>90	
Fanless	Yes	
Wireless DMX	No	
Housing color	Black	