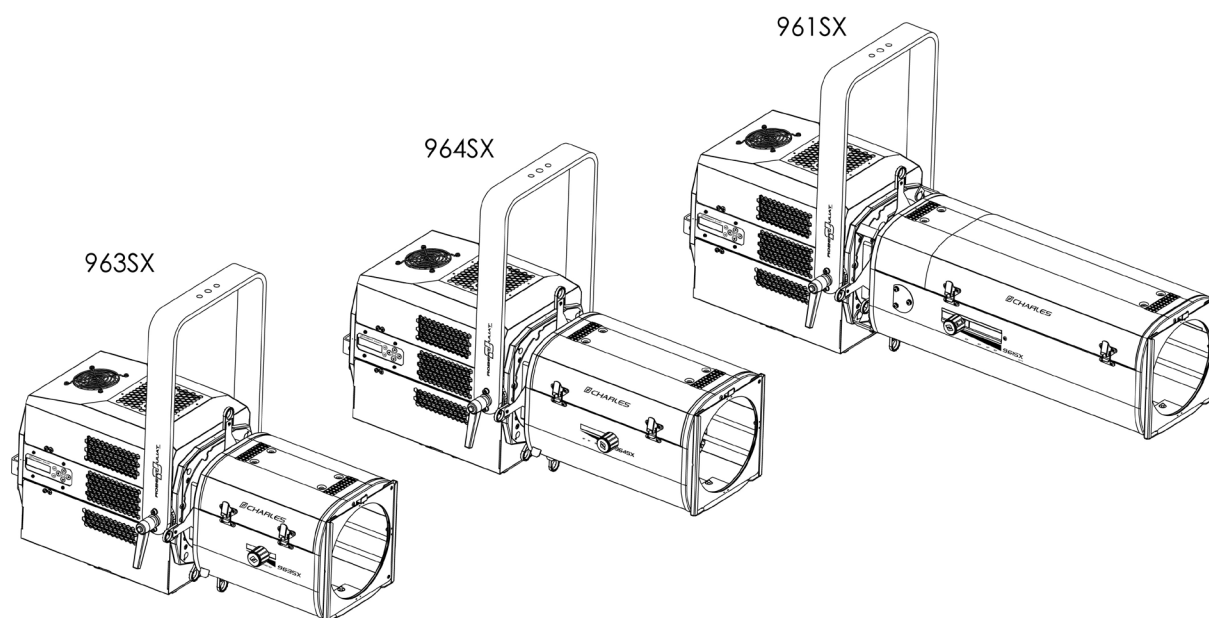


# CHARLES

## LED PROFILES

Manual



### 600 W LED

Model	Standard	North American
8 – 16°	961SX (v3)	961CSX (v3)
29 – 50°	963SX (v3)	963CSX (v3)
15 – 40°	964SX (v3)	964CSX (v3)

Product version:  
V3

Software:  
FIRMWARE V4.00

Date: 19/01/24



**ROBERT JULIAT**

**DN41159401 (EN)**

Robert Juliat S.A.S. 32, rue de Beaumont, F 60530 Fresnoy-en-Thelle - phone : +33 (0)3 44 26 51 89 - info@robertjuliat.fr

[www.robertjuliat.com](http://www.robertjuliat.com)

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## GENERAL INSTRUCTIONS

1. Not for residential use.
2. These fixtures must only be serviced by a qualified technician.
3. In addition to the instructions indicated on this page, relevant health and safety requirements of the appropriate EU Directives must be adhered to at all times.
4. This fixture is in compliance with section 17 - Lighting appliance for theatre stages, television, cinema and photograph studios. Standards NF EN 60598-1, NF EN 60598-2-17, Low Voltage Directive 2014/35/UE & EMC Directive 2014/30/UE.
5. This fixture is rated as IP20, and is for indoor use only.

## FIXTURE

6. Ensure fixture is correctly mounted on an appropriate support.
7. Protection screens and lenses must be replaced in the event of any damage, such as cracks or deep scratches, since these might reduce performance.
8. When hung or flown the fixture must be secured by an additional hanging accessory (such as a safety cable or bond) of suitable length.
9. Safety bonds or cables must be securely attached to the back of the fixture and be as short as possible, or rolled up as necessary, to minimise travel distance should the fixture be dislodged.
10. Movable accessories (scroller, etc.) must also be secured with a suitable safety cable or bond at the front of the fixture.
11. The combined weight of both the fixture and the accessories must be considered when choosing the load-bearing capability of safety cable or bond.
12. Do not open lighting fixture when the source is on.
13. WARNING: LED source become hot during use. Allow fixture to cool before servicing.
14. Do not tamper with design of fixture nor any of its safety features.
15. Tighten electrical mains cable connections regularly and replace with one of identical specification if damaged.
16. Use only with correct power supply.

## VENTILATION

17. Keep well away from flammable material.
18. Not for outdoor use. Do not cover. Do not permit fixture to get wet.
19. To avoid overheating, do not obstruct air vents.
20. Ensure any cooling fans are in correct working order. If fans are not working, turn fixture off immediately and service as necessary.

## CLEANING

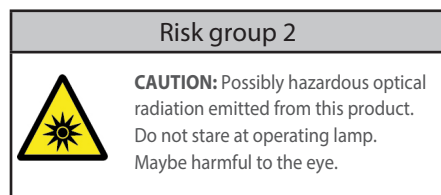
21. Do not touch the LED source with your fingers.
22. To clean the optical parts, use a soft cloth in combination with distilled water or isopropyl alcohol recommended for coated optics. Do not use any cleaning product that contains solvents or abrasives, as these can cause surface damage. Dry with a soft lint-free cloth.
23. Regularly remove dust with a soft lint-free cloth.
24. If the fixture has filters, they must be cleaned frequently.

## POWER SUPPLY

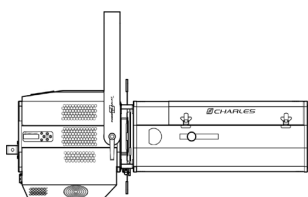
25. Disconnect from the mains before servicing.
26. Mains connection only. Do not connect to "electronic output" such as dimmer.
27. Ensure power supply circuit breakers, always remain accessible.

## PLEASE NOTE

This product has been built to conform to European standards relating to professional lighting equipment. Any modification made to our products will void the manufacturers' warranty.



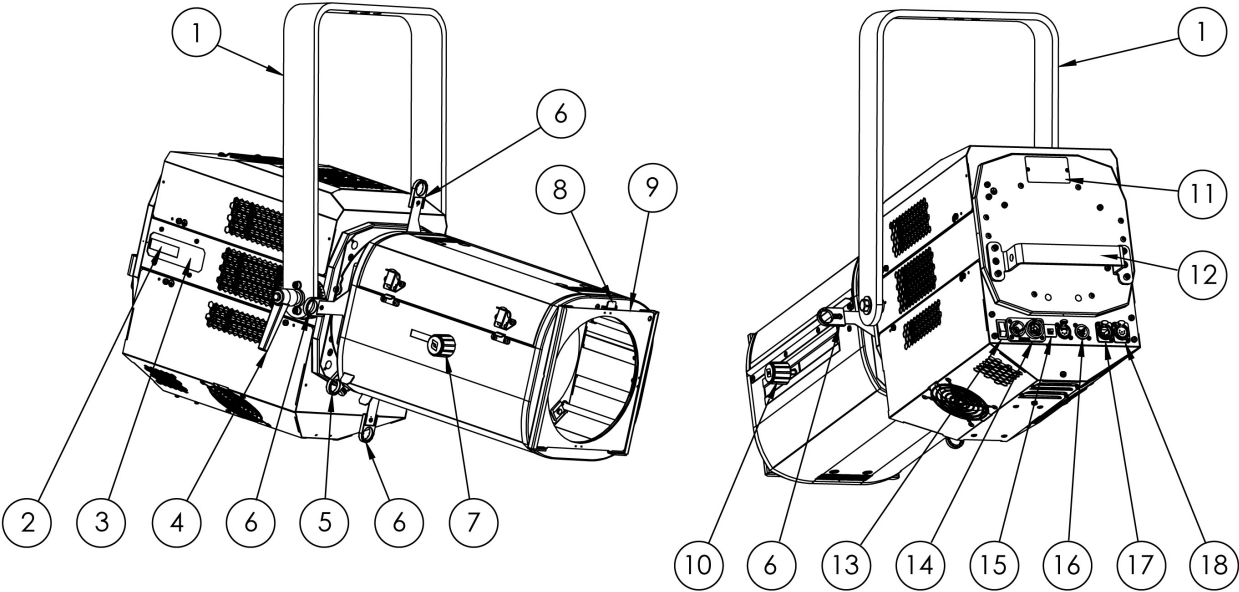
**Group risk 2. Luminaires should be positioned so that prolonged staring into luminaire at a distance closer than 32,3m (961SX), 8,3m (963SX) & 18,1m (964SX) is not expected.**



## Photobiological safety according to EN62471

Minimum distance	X1 Risk group 2	X2 Risk group 1/0
	961SX: 1,6m (5,25 ft)	961SX: 32,3m (105,64 ft)
	963SX: 0,4m (1,31 ft)	963SX: 8,3m (27,23 ft)
	964SX: 0,9m (2,95 ft)	964SX: 18,1m (59,38 ft)

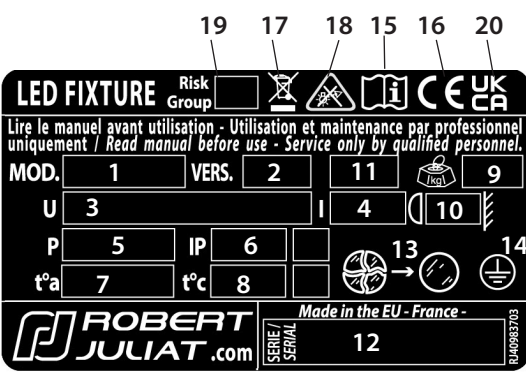













2.1 Functions



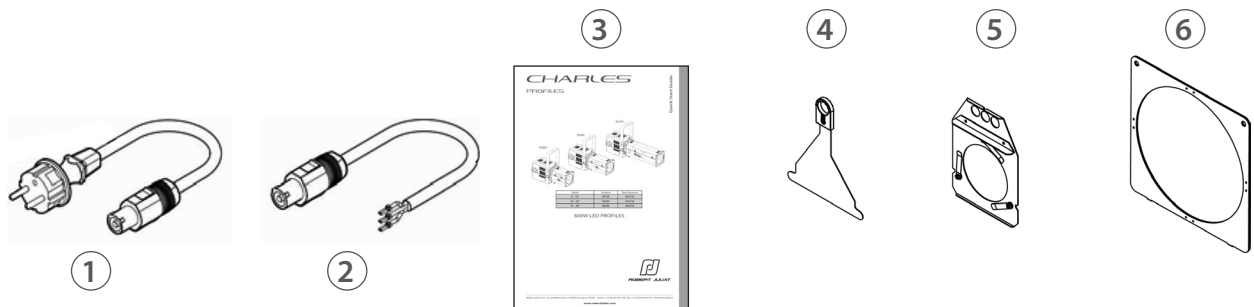
Description	
<div>1. Hanging yoke</div> <div>2. Local display</div> <div>3. Control board</div> <div>4. Tilt locking handle</div> <div>5. Shutter locking system</div> <div>6. Shutters</div> <div>7. Focus adjustment</div> <div>8. Front slot locking system</div> <div>9. Front slot for accessories and gel frame</div> <div>10. Zoom adjustment</div>	<div>11. Identification plate</div> <div>12. Rear handle</div> <div>13. Power switch</div> <div>14. Power connectors (IN and OUT)</div> <div>15. Thermal breaker</div> <div>16. Data connectors (IN and OUT)</div> <div>17. Ethernet connector (RJ45)</div> <div>18. Auxiliary (XLR 7)</div>



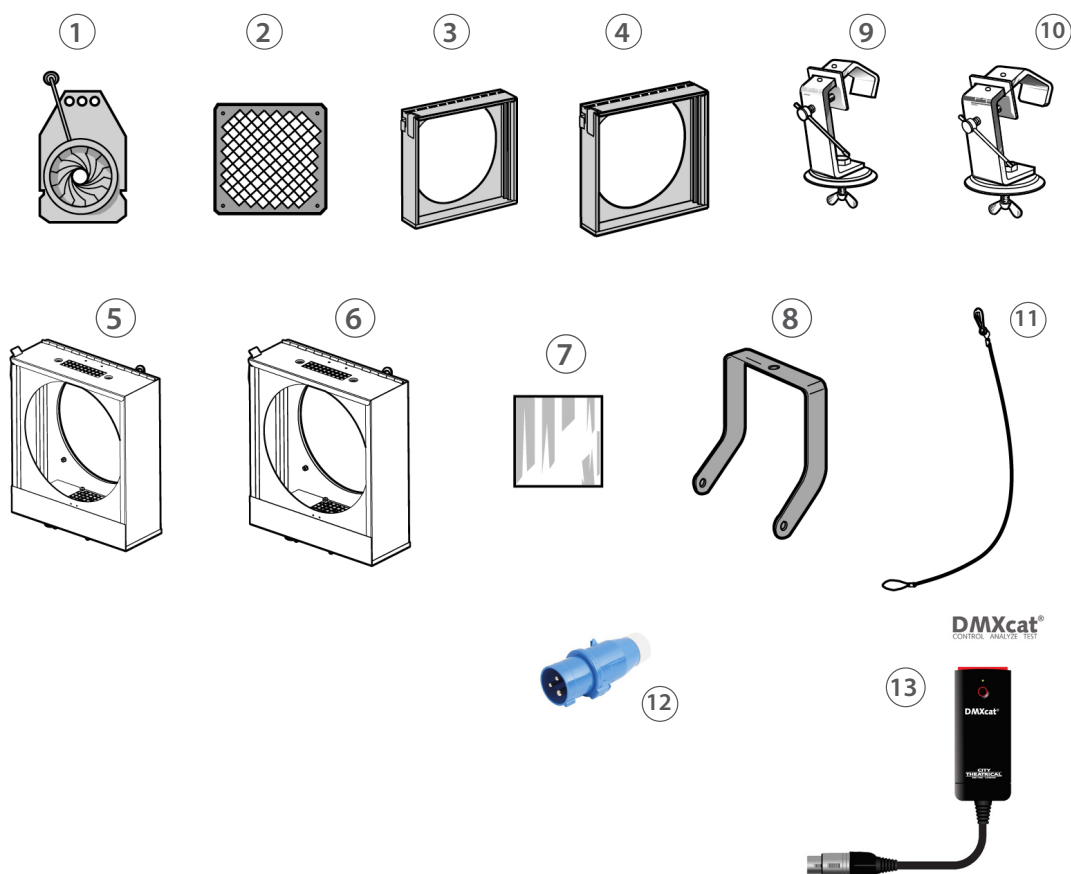
## 2.2 Identification label

Description	
 <p><b>LED FIXTURE</b> Risk Group      </p> <p>Lire le manuel avant utilisation - Utilisation et maintenance par professionnel uniquement / Read manual before use - Service only by qualified personnel.</p> <p>MOD. <b>1</b> VERS. <b>2</b> <b>11</b>  <b>9</b></p> <p>U <b>3</b> I <b>4</b>  <b>10</b></p> <p>P <b>5</b> IP <b>6</b></p> <p>t°a <b>7</b> t°c <b>8</b>  <b>13</b>  <b>14</b></p> <p><b>ROBERT JULIAT</b> .com <i>Made in the EU - France -</i>  <b>12</b>  <b>19</b>  <b>20</b></p> <p><b>Units :</b>  - Weight = kilogram (kg).  - Intensity = Ampere (A).  - Voltage = Volt (V).  - Frequency = Hertz (Hz).  - Temperature = degree Celsius (°C).</p>	<ol style="list-style-type: none"> <li>1. MOD. : Model</li> <li>2. VERS. : Version</li> <li>3. U : Nominal voltage input (V)</li> <li>4. I : Nominal intensity (A)</li> <li>5. P : Maximum power input (W)</li> <li>6. IP : International Protection Rating</li> <li>7. t°a : Maximum ambient temperature (°C)</li> <li>8. t°c : Maximum external temperature of the unit (°C)</li> <li>9. Net weight (kg)</li> <li>10. Minimum distance between a flammable material and the lighting unit (m)</li> <li>11. LED type</li> <li>12. Serial number</li> <li>13. Replace broken glass</li> <li>14. Class 1 product label</li> <li>15. Read manual first label</li> <li>16. European conformity label</li> <li>17. WEEE directive label</li> <li>18. CEI-TR-62778 - Do not stare at light source</li> <li>19. EN62471 - Risk group</li> <li>20. UKCA (UK Conformity Assessed) label</li> </ol>

## 2.3 Accessories included



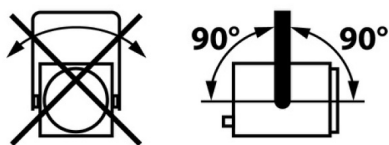
	Reference	Description
1	CAL03	3 meter power cable ( 3G1,5 HO7RNF) with Neutrik PowerCon® True1 and CEE 7/7 (2P+T NF/SCHUKO) connectors (standard version)
2	CAL04	1,50m power cable UL/CSA with Neutrik® powerCON TRUE1 connector (North American version)
3	DN41158200	Quick Start manual
4	D8	Shutter (x4)
5	SGUX	Universal "A" size gobo-holder (metal, glass, frosted glass)
6	PF1000M2	215 x 215mm metal filter holder (Standard version only)



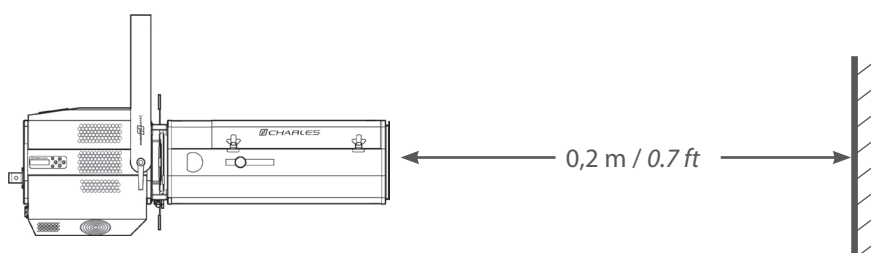
	Reference	Description
1	IWSX755	Drop-in iris (monoplane) with holder
2	G1000	215x215mm safety grid
3	CAV700A	Double slot front cassette for 215x215mm accessories
4	CAV700AJ	Double slot front cassette for 245x245mm accessories
5	RPF960	Front extension cassette for 215x215mm accessories with XLR7 fan (recommended for dark colours on 960SX)
6	RPF960E	Front extension cassette for 245x245mm accessories with XLR7 fan (recommended for dark colours on 960SX)
7	VD120	120x120mm frosted glass
8	FCD700	Angled yoke
9	876	Hook clamp 40x10mm with 28mm M10 screw for Ø35 to 50mm pipes - SWL: 50Kg
10	880	Hook clamp 40x10mm with 28mm M10 screw for Ø50 to 63mm pipes - SWL: 50Kg
11	CS2	Safety cable Ø3mm L= 600mm - SWL: 75 Kg
12	PCP1716A	16A blue 2P+E 6h IEC60309 power connector
13	DMXcat	Bluetooth DMX/RDM Multifunction test tool - City Theatrical DMXcat®

### 3.1 Mechanics

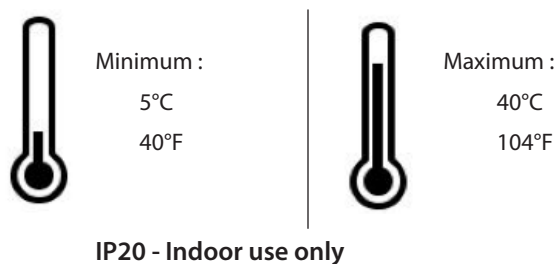
#### 3.1.1 Operating positions



#### 3.1.2 Minimum distance between a flammable material and the lighting unit



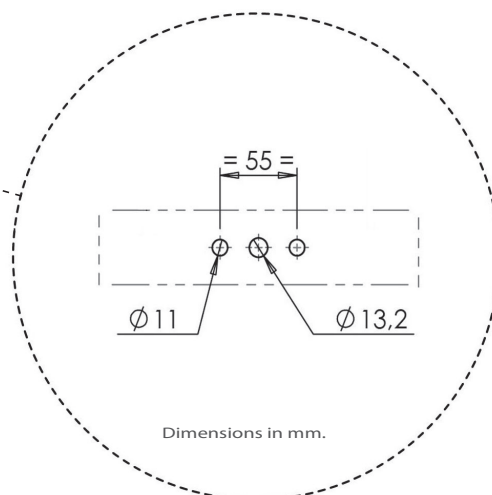
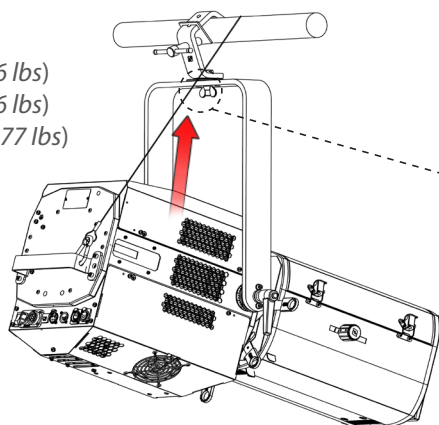
#### 3.1.3 Instructions for use



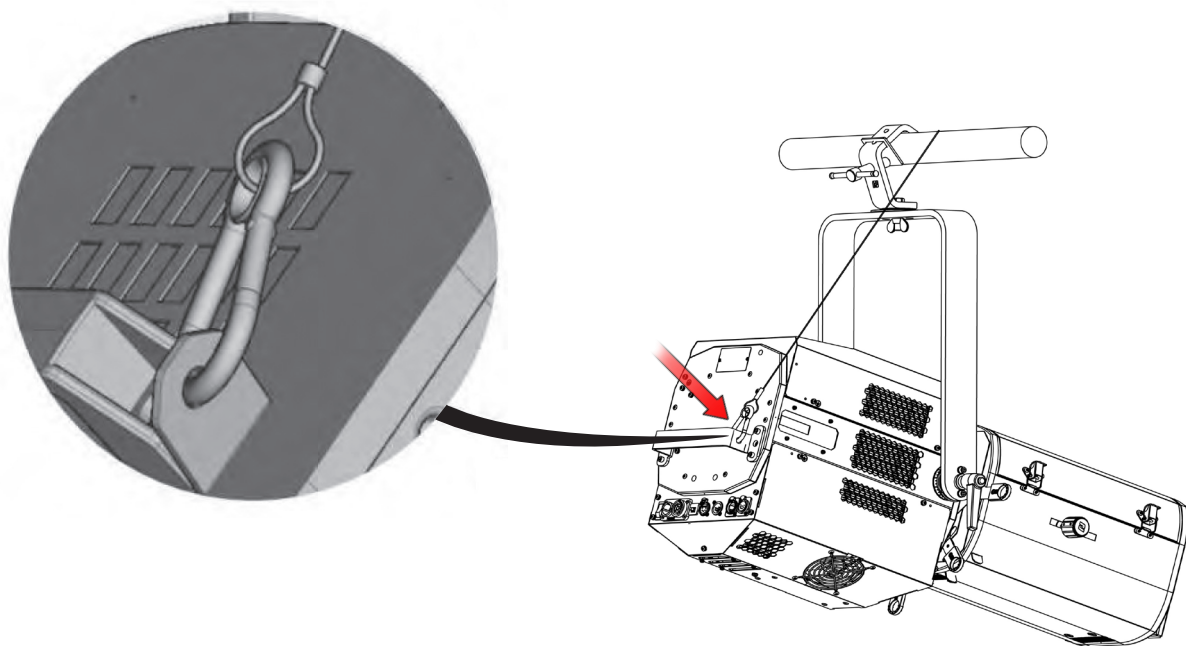
#### 3.1.4 Hanging

- Ensure fixture is correctly mounted on the appropriate support.

- Net weight for  
963SX: 34 Kg (74.96 lbs)  
964SX: 36 Kg (79.36 lbs)  
961SX: 38.7 Kg (83.77 lbs)



- When hung or flown, the fixture must be secured by an additional hanging accessory (such as a safety bond or cable) of suitable length.
- The combined weight of both the fixture and the accessories must be considered when choosing the load-bearing capability of safety cable or bond.
- Safety cables or bonds must be securely attached to the back of the fixture and be as short as possible, or rolled up as necessary, to minimise travel distance should the fixture be dislodged.


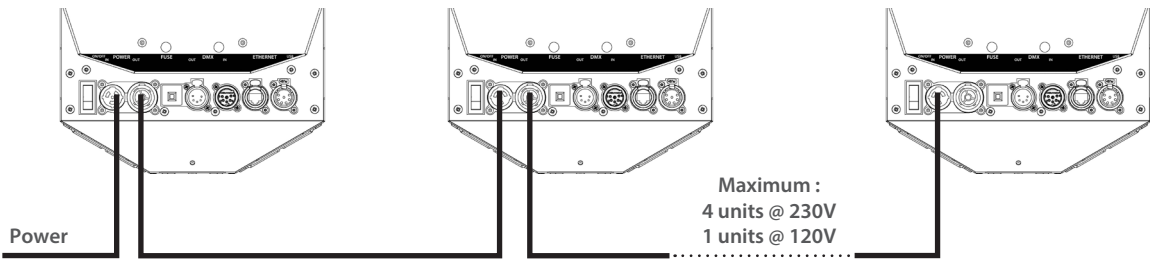


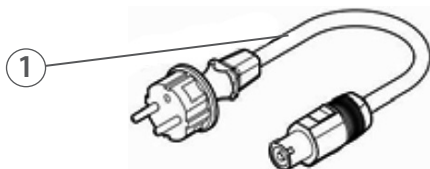

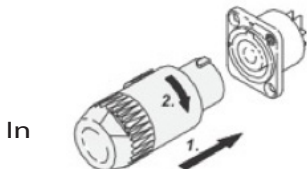
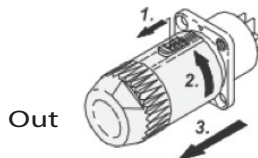
3.2.1 LED source



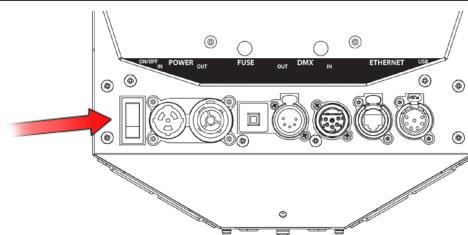
**Never touch or scratch the LED surface.**  
Cf. 6.1.4 LED cleaning procedure if cleaning is necessary.

3.2.2 Power supply

Power supply			
Voltage	Frequency	Input power	Connectors
100 → 264 V	50-60 Hz	3 A / 660 W @ 230V 5.8 A / 680 W @ 120V 7.1 A / 690 W @ 100V Max: 8 A Standby mode: 8.5 W	Neutrik powerCON TRUE1 TOP Input : ref. NAC3FPX-TOP
<div></div> <ul style="list-style-type: none"><li>• Class 1 product. <b>This luminaire must be earthed.</b></li><li>• Must be connected directly to AC power. <b>Do not connect to dimmer power.</b></li><li>• Automatic mains voltage detection.</li></ul>			
<p><b>Daisy chain</b> (with delivered power cable):</p> <div></div>			

Power cable						
<div><div></div><div></div></div>						
Power cable		Connector	Mains plug	Cable type	Cable length	Wiring
1	Standard version	Neutrik® powerCON TRUE1 TOP NAC3FX-W-TOP	CEE7/7	3G1.5 H07RNF	3 m 9.8 ft	Live: Brown Neutral: Blue Ground: Yellow/Green
2	North American version		-	14AWG SJ TYPE (UL/CSA)	1.5 m 4.9 ft	Live: Black Neutral: White Ground: Green
<div><div></div><div></div></div>						

## Power ON



## 3.3 DATA

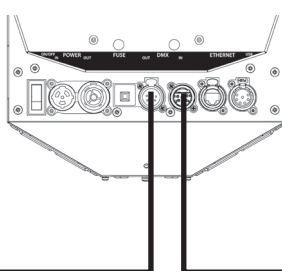
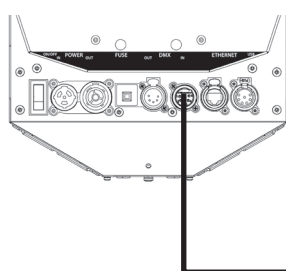
### 3.3.1 DMX 512-A / RDM

Protocol	Input connector	Output connector
USITT DMX 512-A RDM	XLR 5-pin	XLR 5-pin

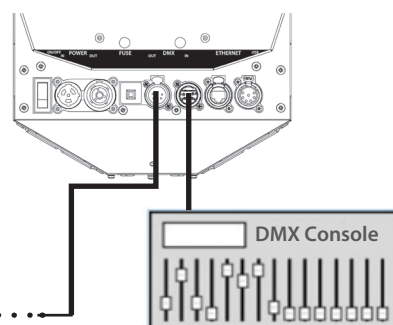
## DATA connectors

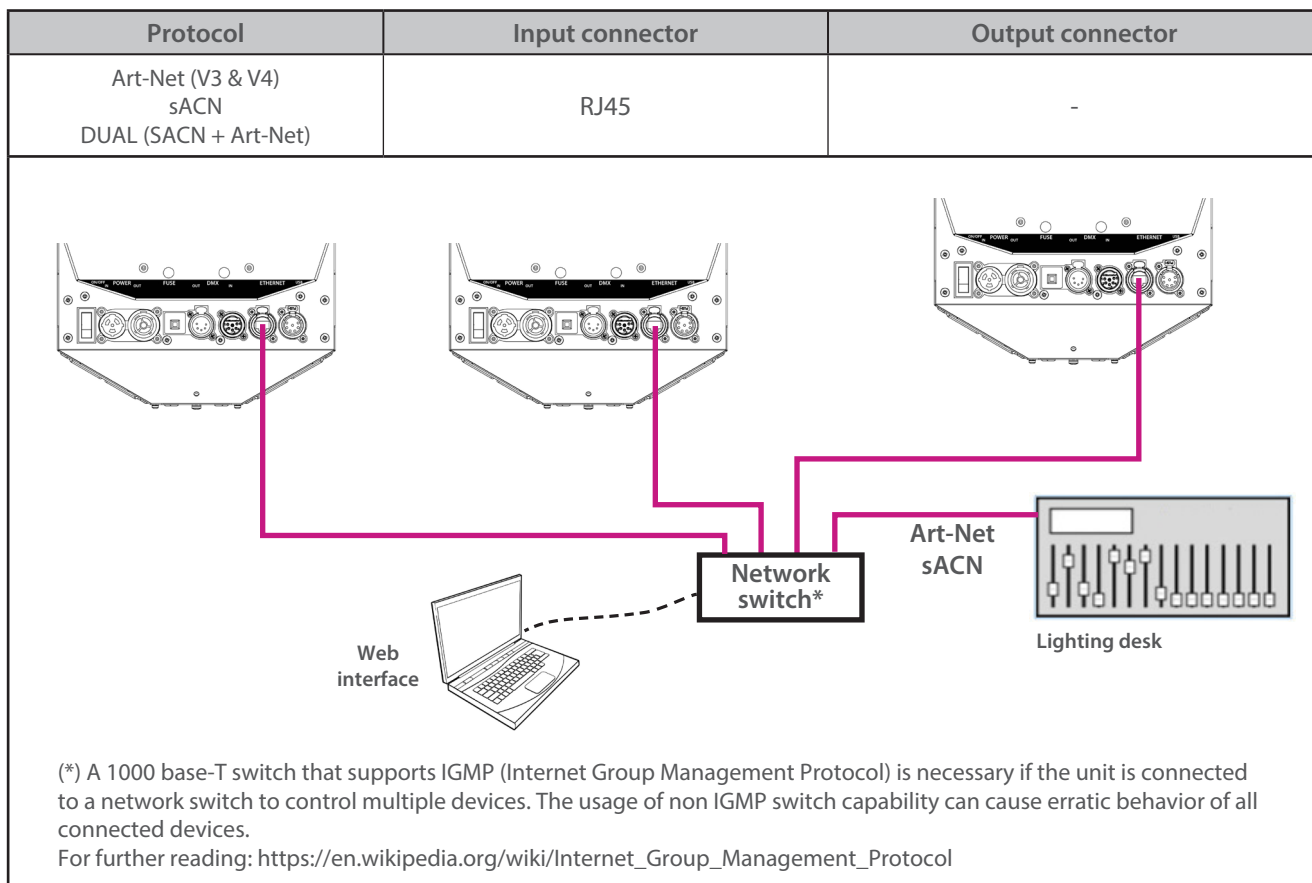
PIN #	DMX	Description	
1	Shielding	Foil & Braided Shield	
2	DMX (-)	1 <sup>st</sup> conductor of 1 <sup>st</sup> twisted pair	
3	DMX (+)	2 <sup>nd</sup> conductor of 1 <sup>st</sup> twisted pair	
4	Not used	1 <sup>st</sup> conductor of 2 <sup>nd</sup> twisted pair	
5	Not used	2 <sup>nd</sup> conductor of 2 <sup>nd</sup> twisted pair	

Daisy chain:

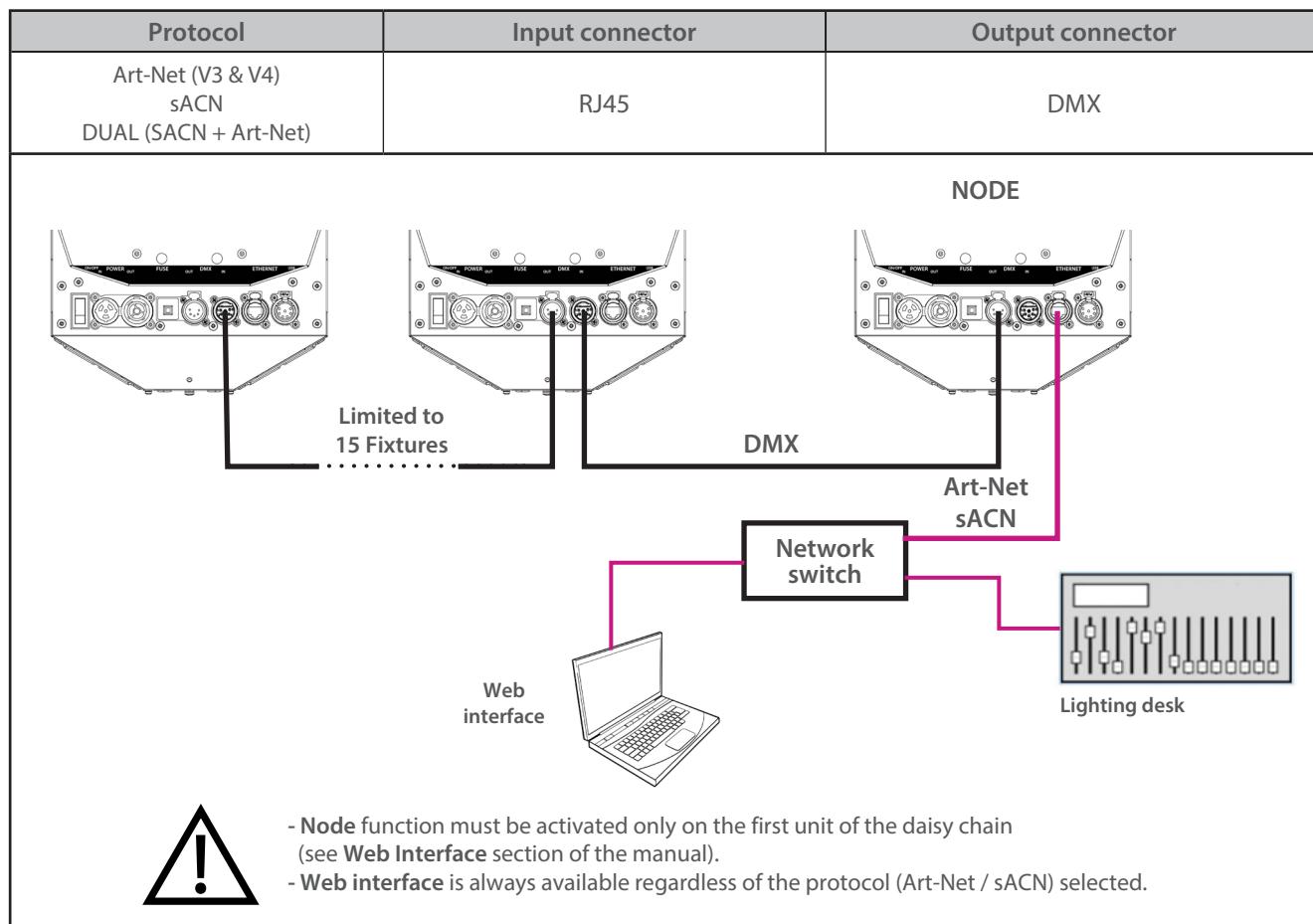


Maximum :  
31 units

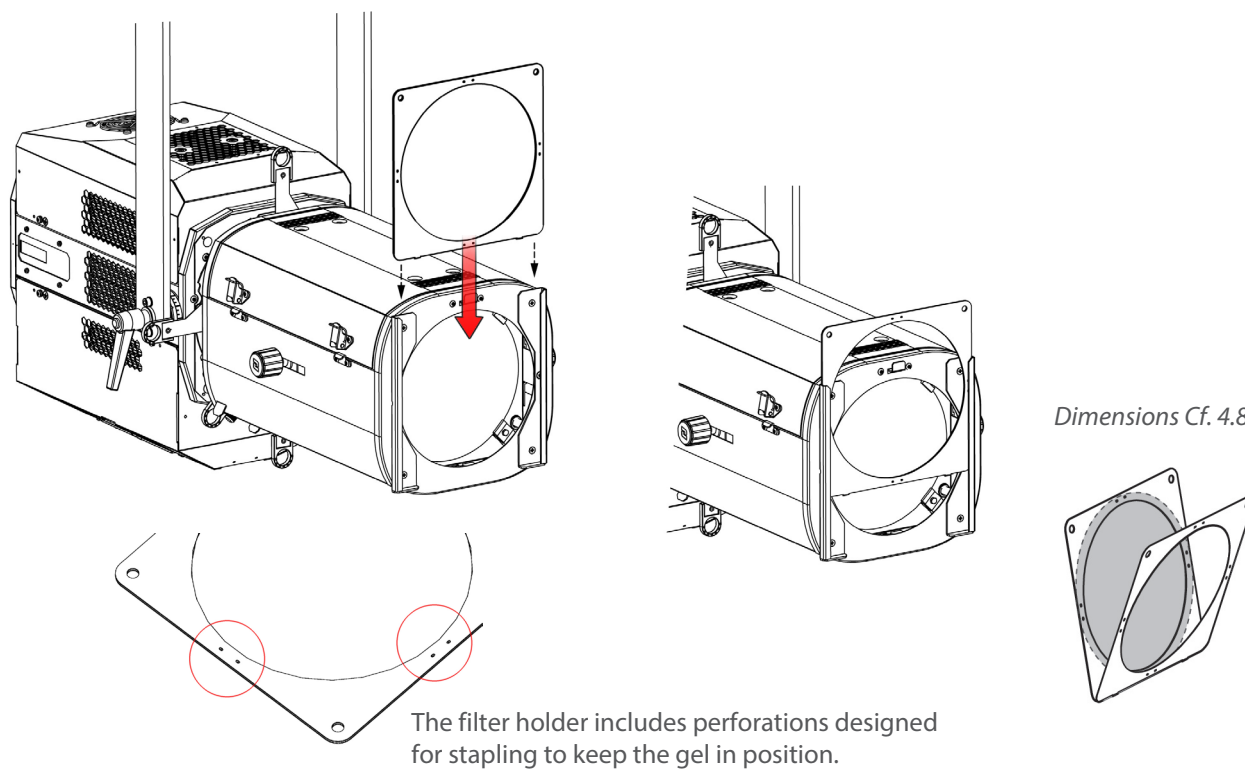




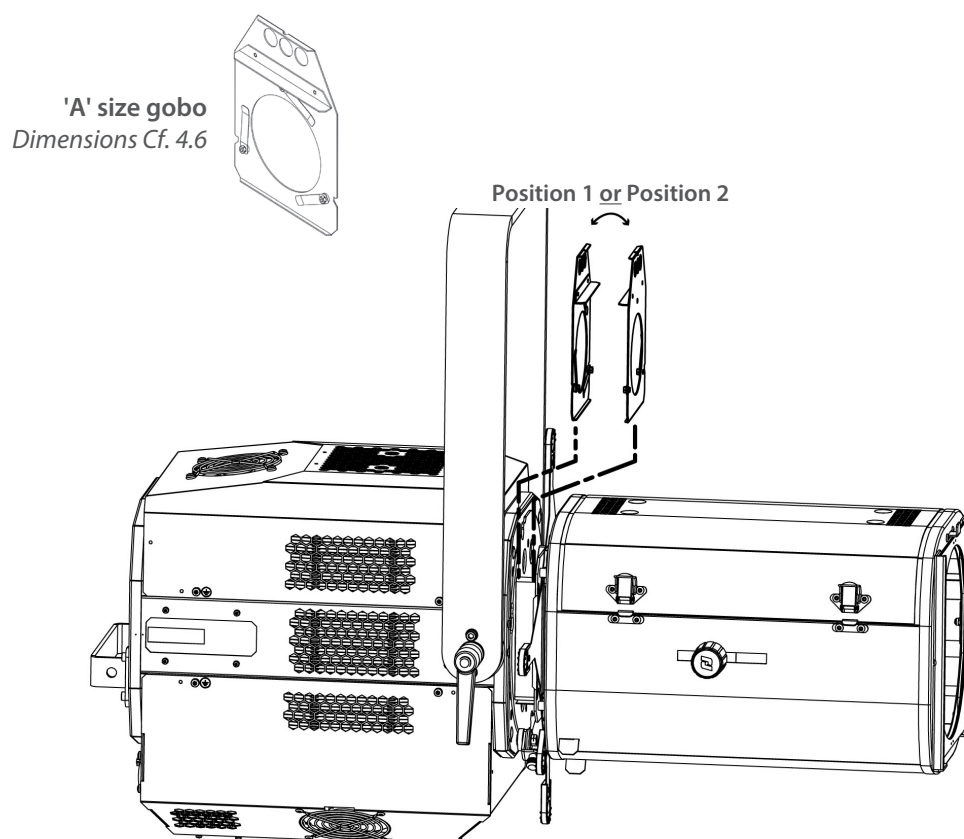
## 3.3.3 Ethernet / DMX node



### 3.4.1 Front filter holder

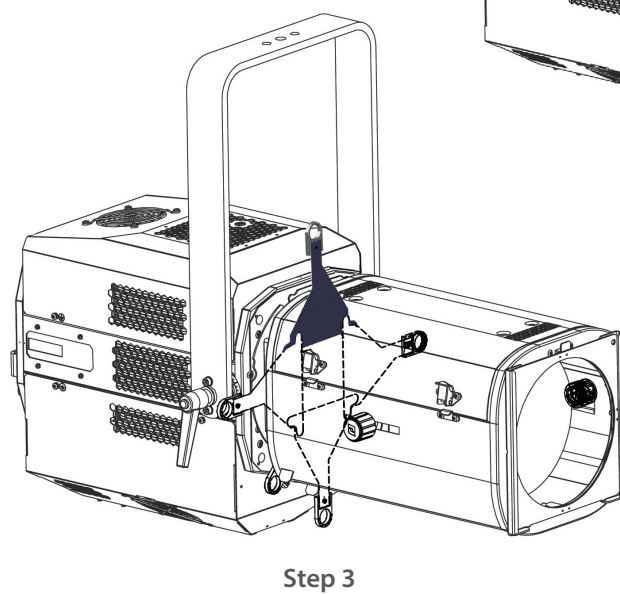
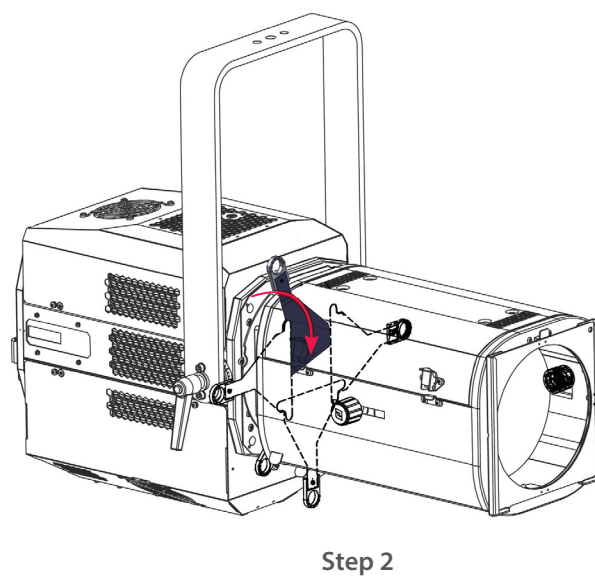
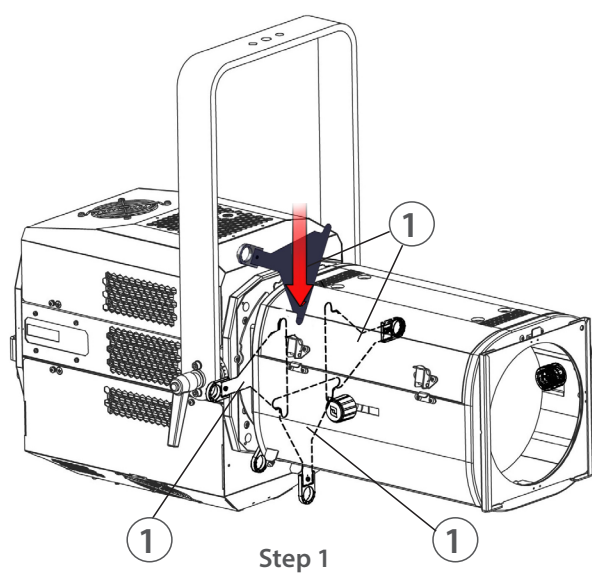


### 3.4.2 Gobo holder



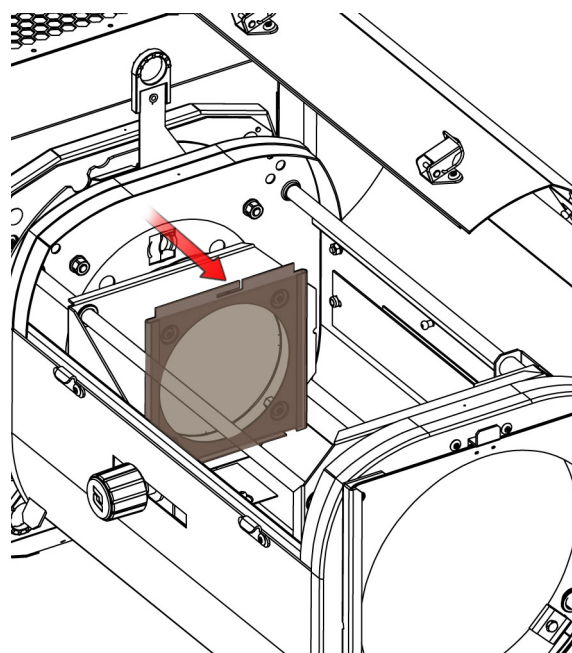
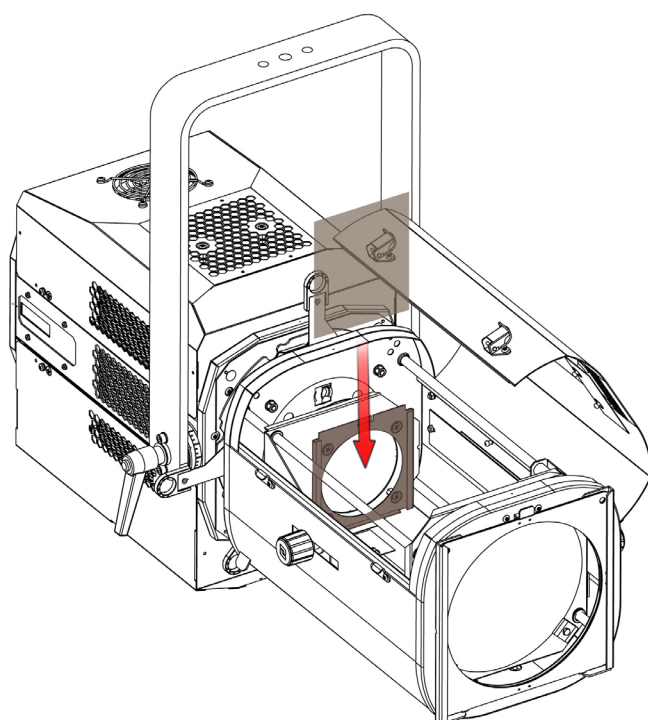


### 3.4.3 Shutters

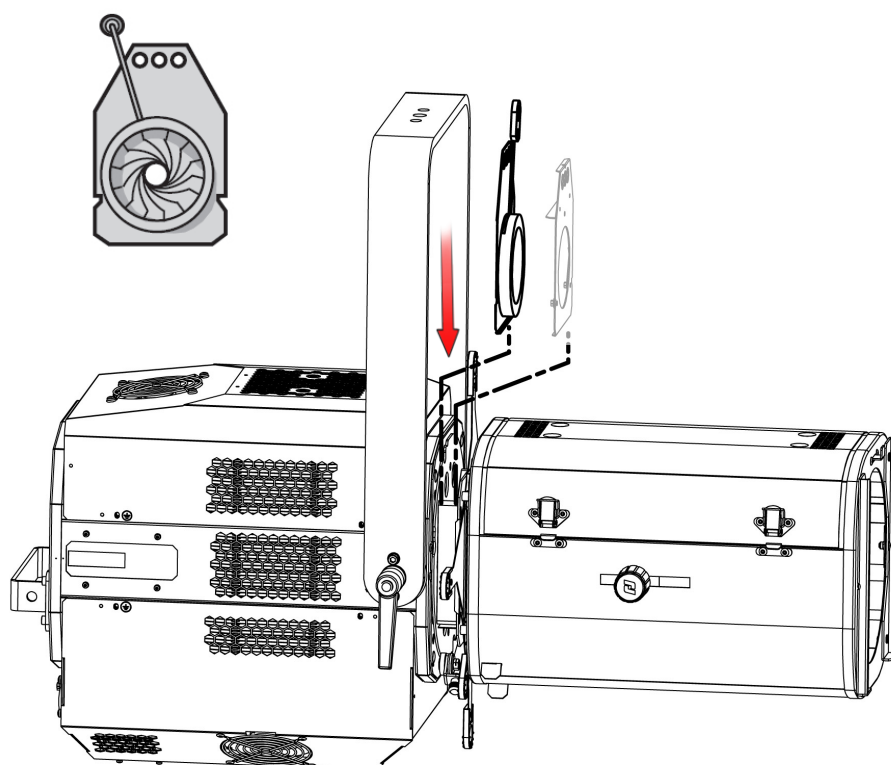


### 3.4.4 Internal filter holder

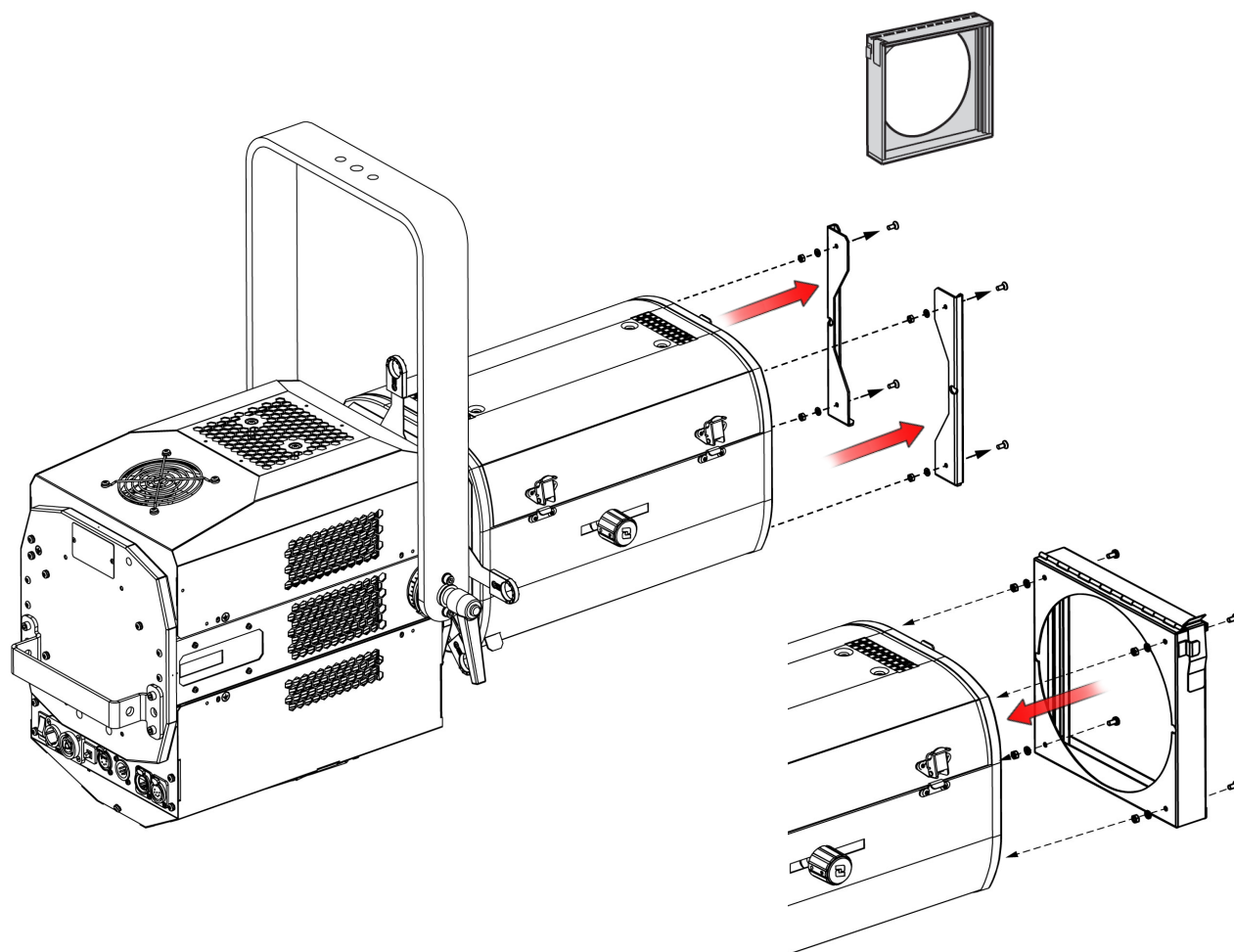
Dimensions Cf. 4.8



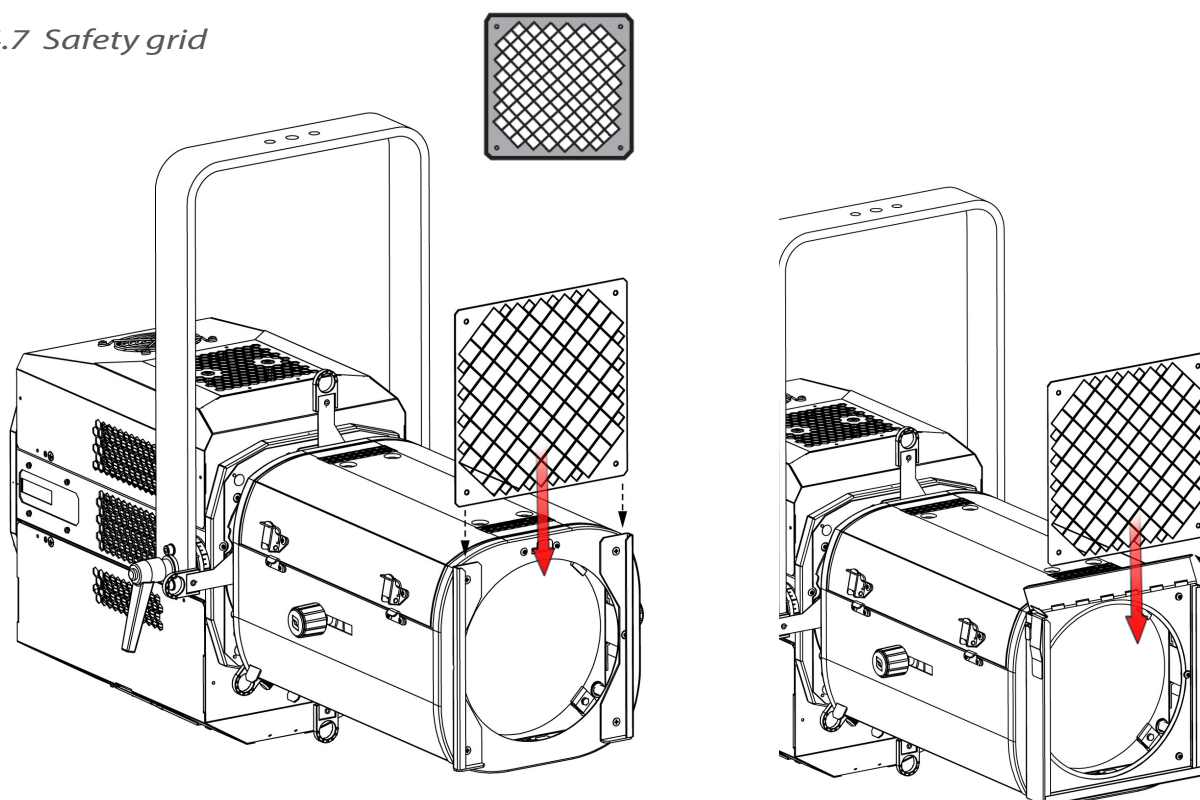
### 3.4.5 Drop-in iris



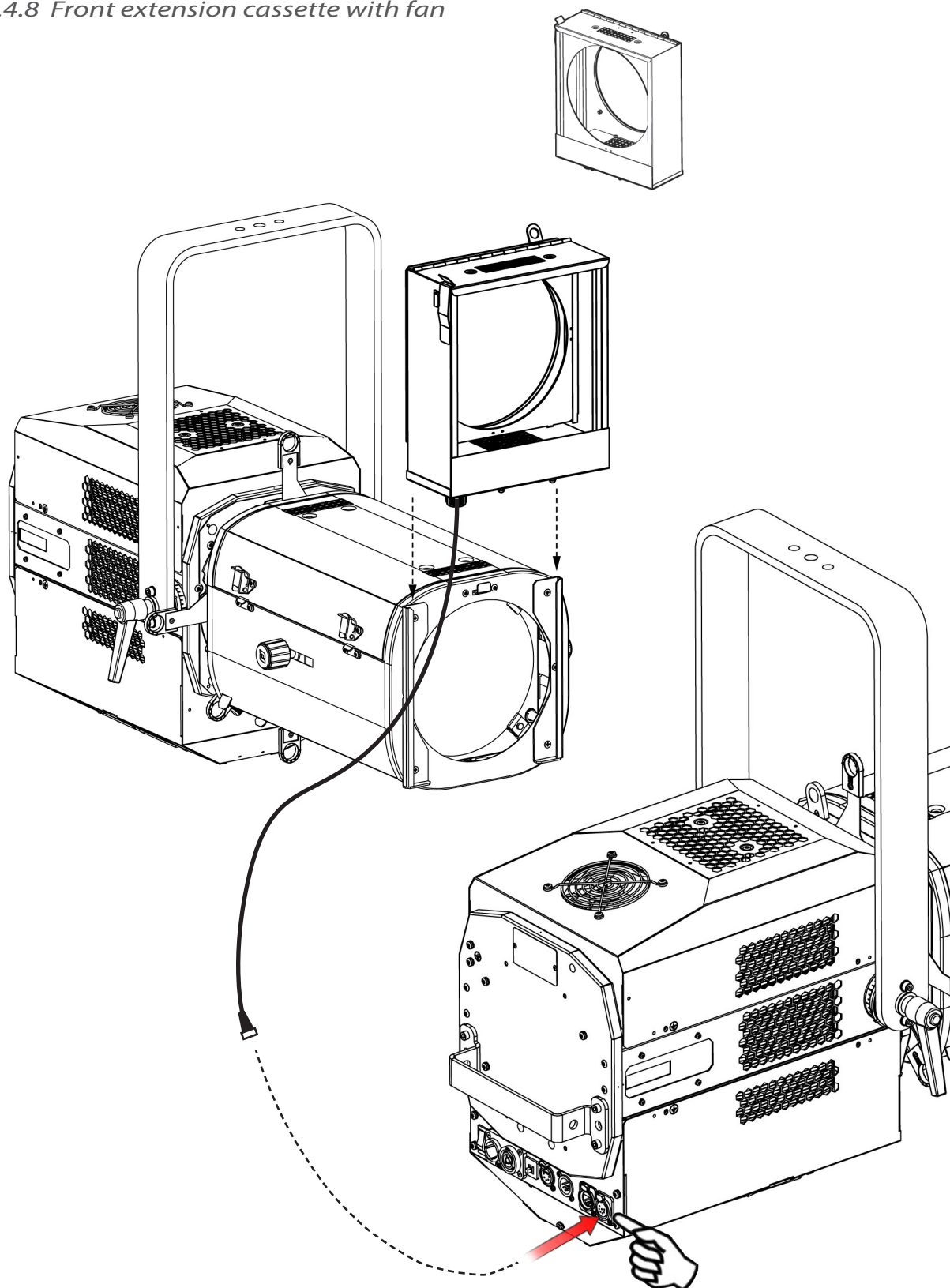
### 3.4.6 Double slot front cassette for accessories



### 3.4.7 Safety grid



### 3.4.8 Front extension cassette with fan

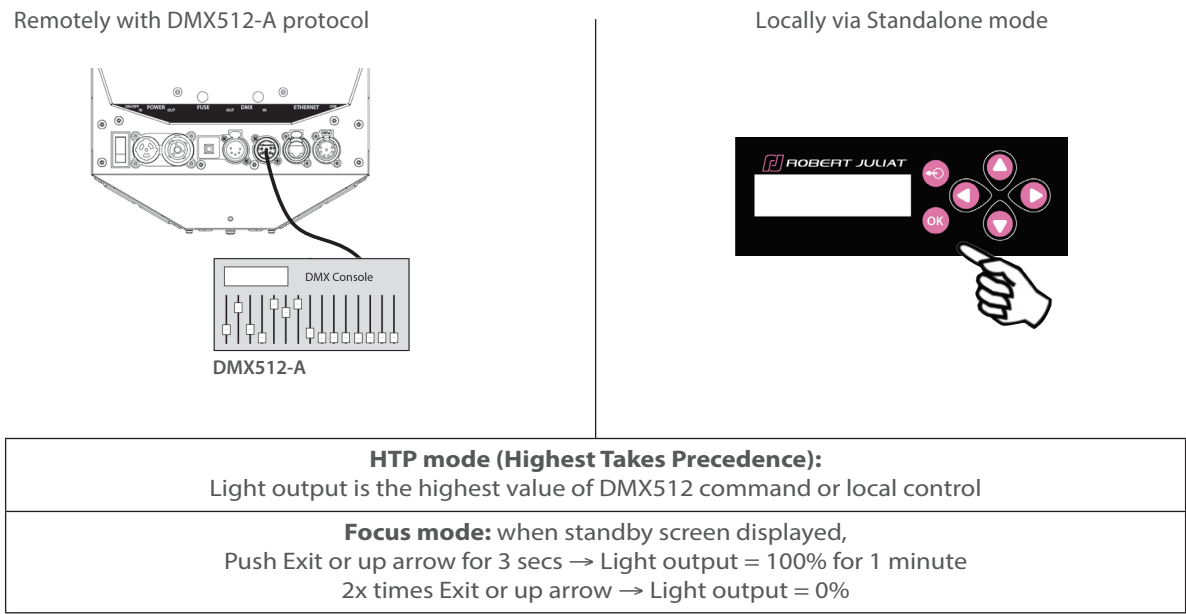


4.1 Light intensity

4.1.1 Range



4.1.2 Control



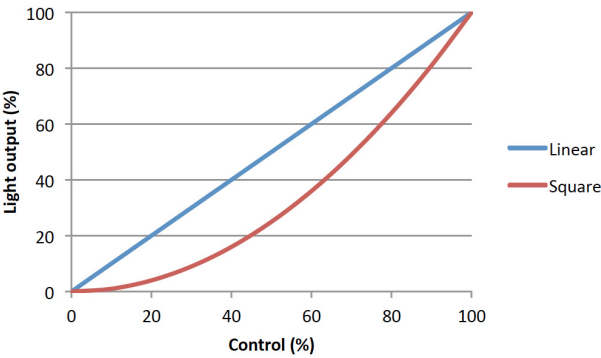
4.1.3 Parameters

4.1.3.1 Dimming resolution - DMX only

Resolution	DMX mode
8 bits – 255 steps	1 - 3 - 5
16 bits – 65 535 steps	2 - 4 - 6

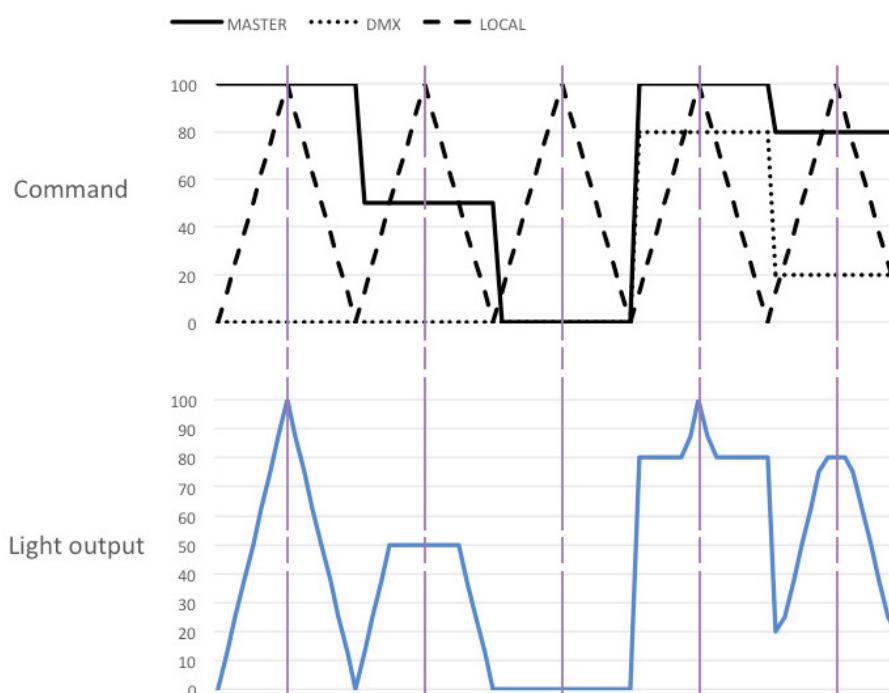
4.1.3.2 Dimming curve

→ selection in SETUP/DIMMER/CURVE menu: LINEAR or SQUARE



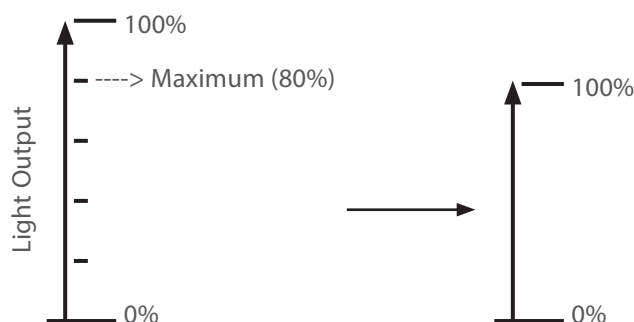
In order to supervise the operator from the console, master control DMX channel can be used. This channel limits the maximum value of the dimmer shutter.

By using this function, it is possible to obtain synchronised fades with several spots or to give intensity limits (minimum and maximum) to the operator. Master is only active when DMX is detected.



#### 4.1.3.4 Set maximum position

→ Selection in *SETUP/DIMMER/ MAX* menu



#### 4.1.3.5 Dimming mode

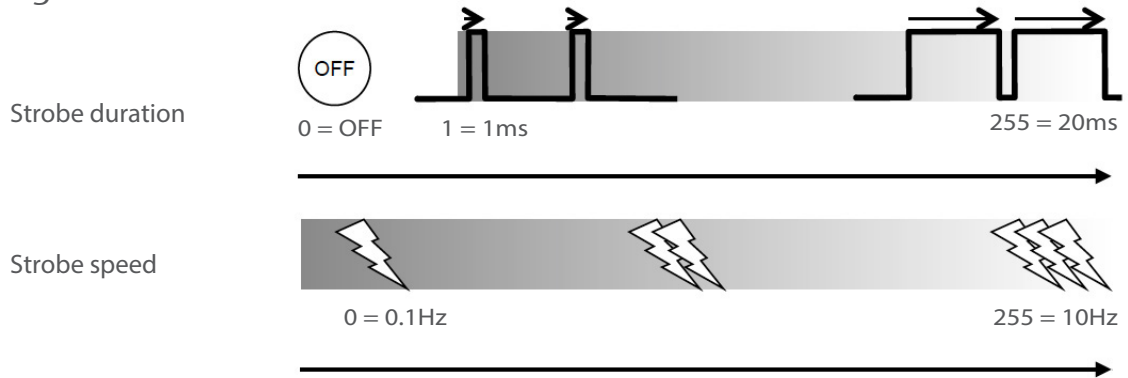
→ Selection in *SETUP / DIMMER / DIMMING MODE* menu

Mode	Result
Without PWM	Flicker-Free, perfect for filming
PWM 1,6 KHz	Very good dimming quality
PWM 3,2 KHz	Good dimming quality
PWM 20 KHz	Good dimming quality (Default Value)

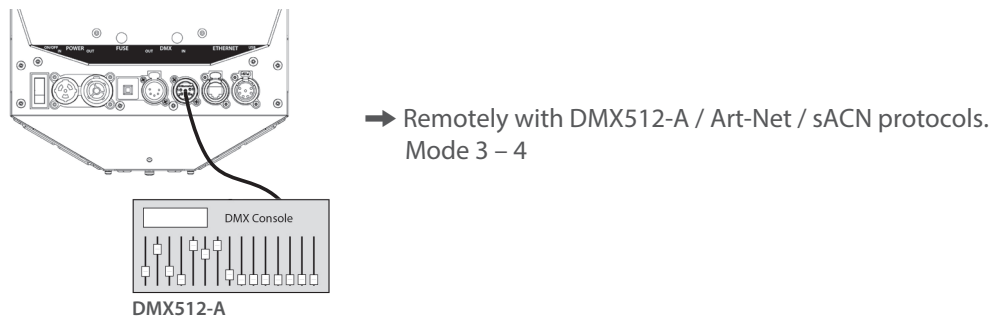


## 4.2 Strobe

### 4.2.1 Range

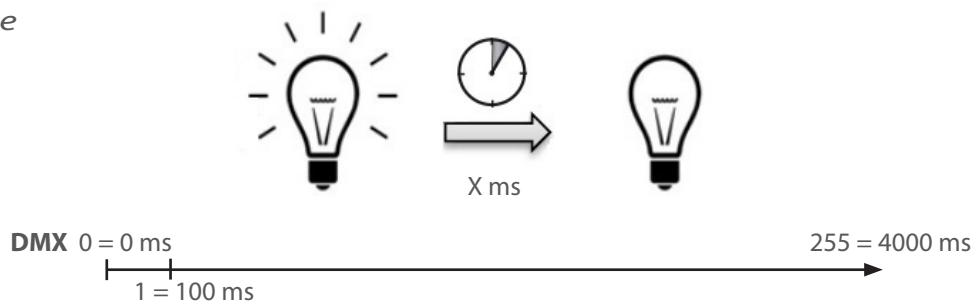


### 4.2.2 Control

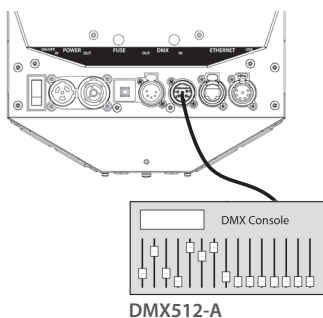


## 4.3 Response time

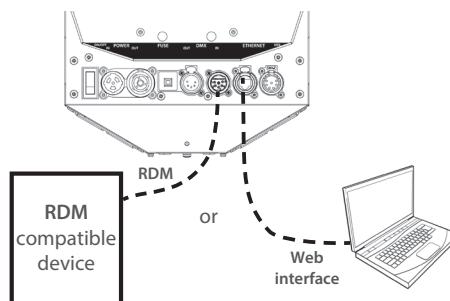
### 4.3.1 Range



### 4.3.2 Control



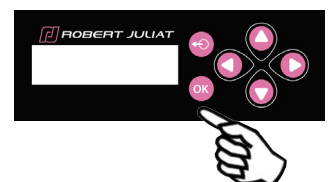
Remotely, with  
DMX512-A / Art-Net / sACN protocols  
Mode 3 - 4 only



→ Set through RDM protocol or  
web interface

Mode	Speed
NONE	OFF
SLOW	700 ms
MEDIUM	470 ms
FAST	350 ms
CUSTOM	0 - 4000 ms

Locally, through the  
local control

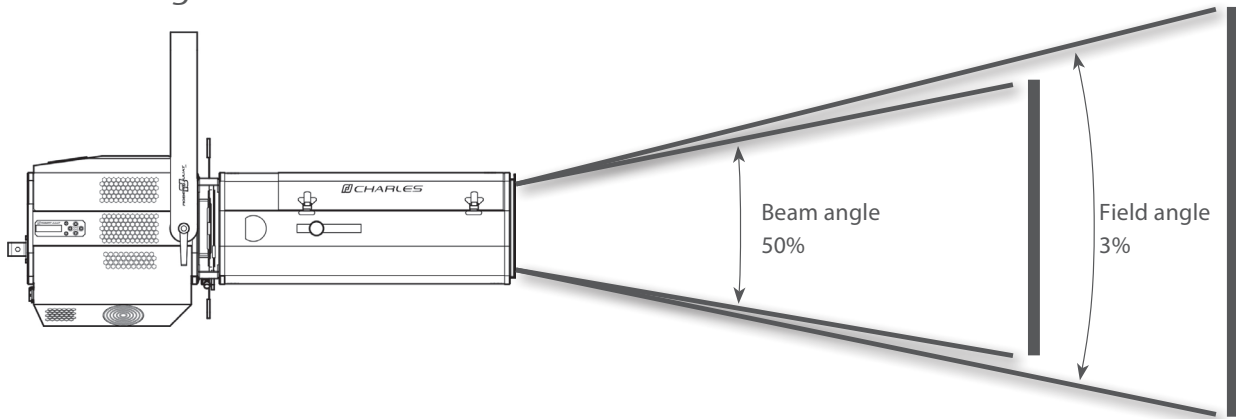


Only when no DMX detected :  
→ selection in SETUP/DIMMER/  
RESPONSE TIME

Mode	Speed
NONE	OFF
SLOW	700 ms
MEDIUM	470 ms
FAST	350 ms
CUSTOM	0 - 4000 ms

## 4.4 Beam size adjustment

### 4.4.1 Range

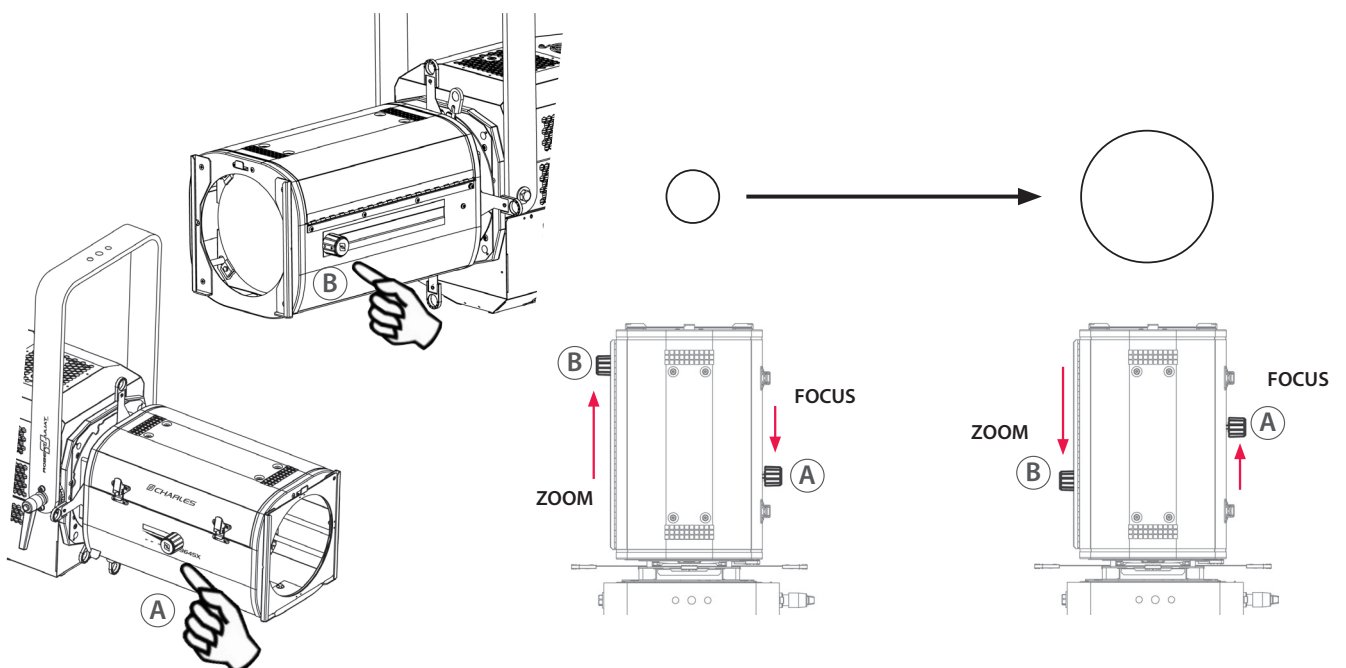


Model	Angles	Minimum angle @ 29°	Maximum angle @ 50°
963SX	Beam angle	30°	48°
	Field angle	31°	52°

Model	Angles	Minimum angle @ 15°	Maximum angle @ 40°
964SX	Beam angle	13°	37°
	Field angle	14°	40°

Model	Angles	Minimum angle @ 8°	Maximum angle @ 16°
961SX	Beam angle	8°	15°
	Field angle	8°	16°

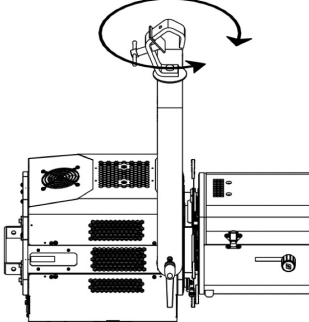
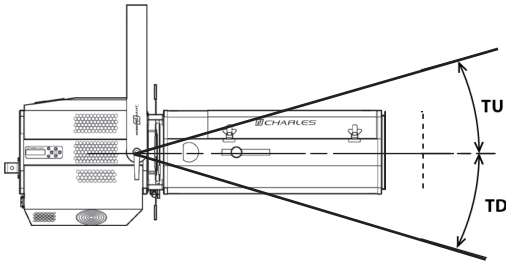
### 4.4.2 Control



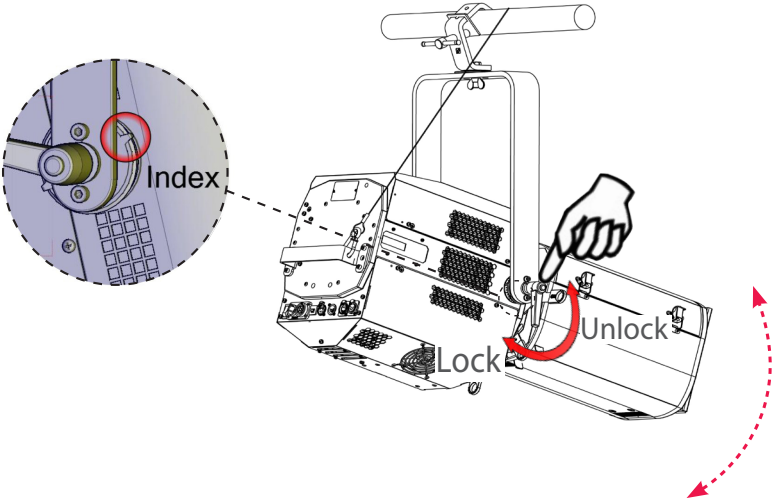


### 4.5 Orientation

#### 4.5.1 Range

Function	Range
<p>PAN</p> 	<p>0 → 360°</p>
<p>TILT</p> 	<p>TU = 0 → 68° TD = 0 → 90°</p>

#### 4.5.2 Control

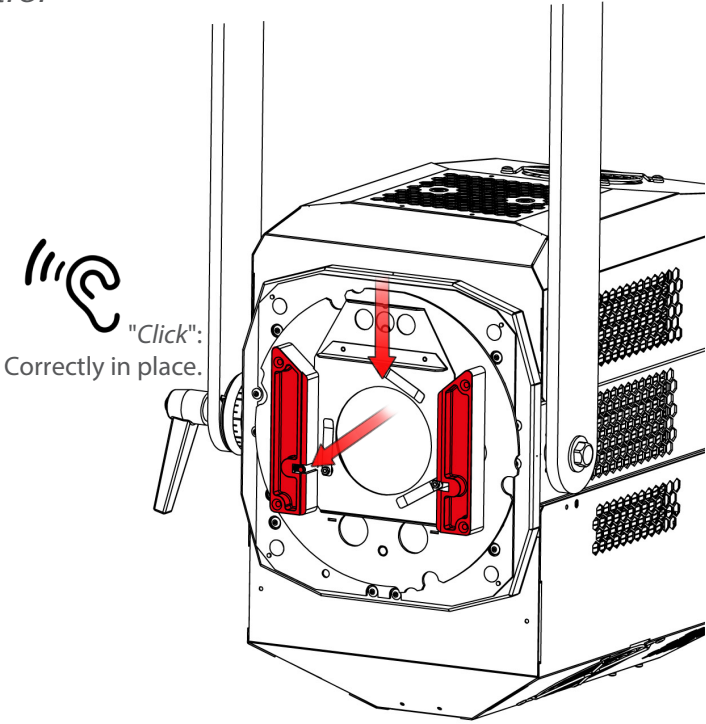


# 4.6 Gobo

## 4.6.1 Range

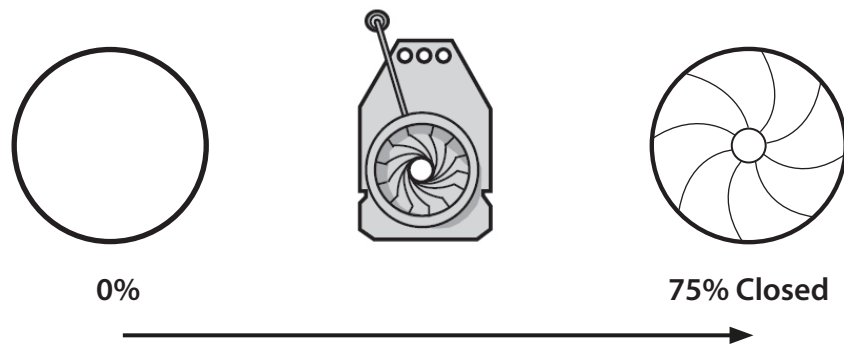
Type	Standard gobo - A size	
Dimensions	<div> <div> <div>Ø100 mm</div> <div> <div>Ø72 mm</div> <div>Maximum image size</div> </div> </div> <div> <ul style="list-style-type: none"> <li>• Metal</li> <li>• Glass</li> </ul> </div> </div>	
Installation	Cf. section: 3.4.2	

## 4.6.2 Control

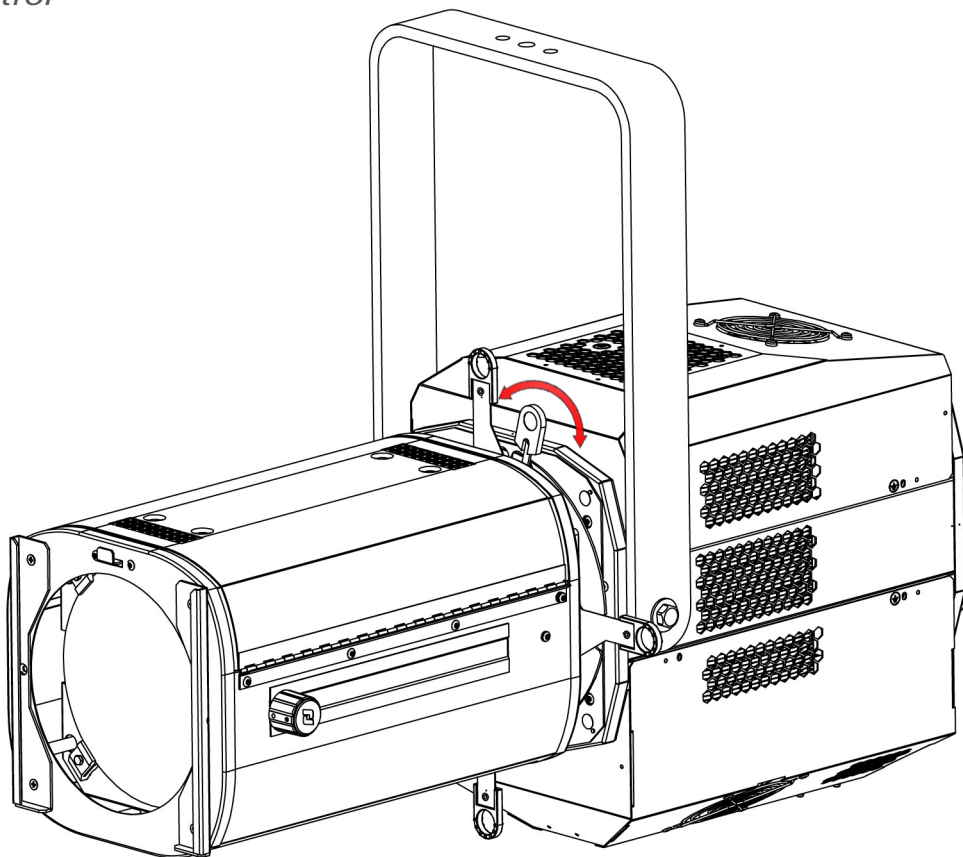


## 4.7 Iris

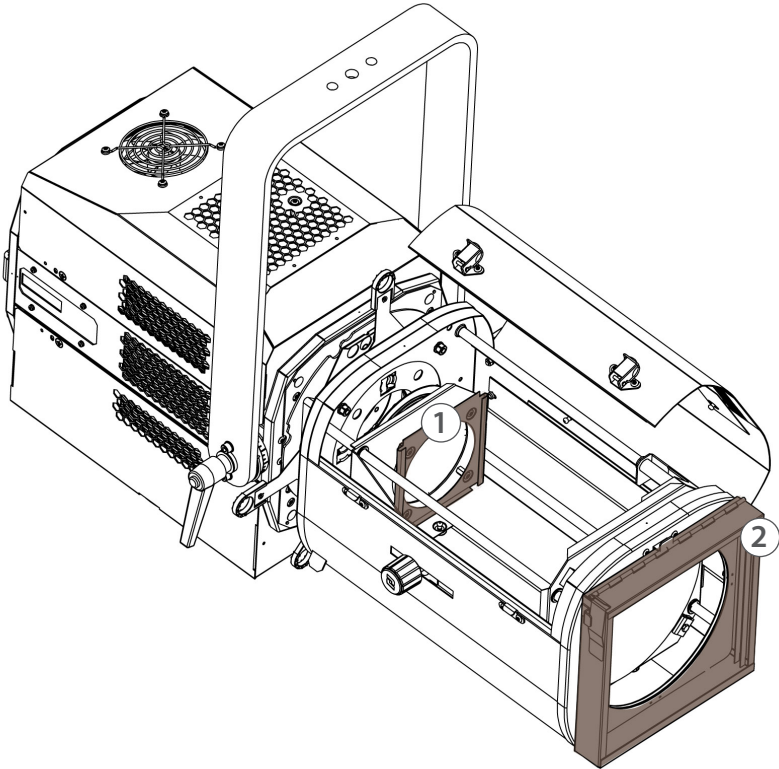
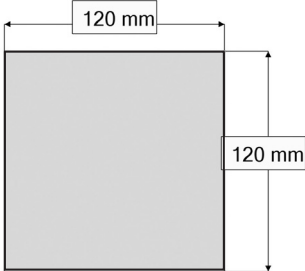
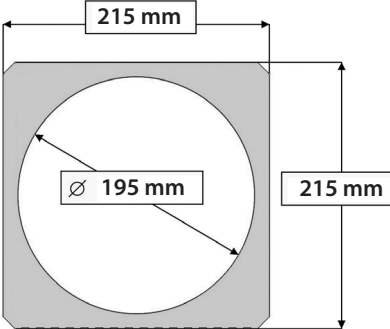
### 4.7.1 Range



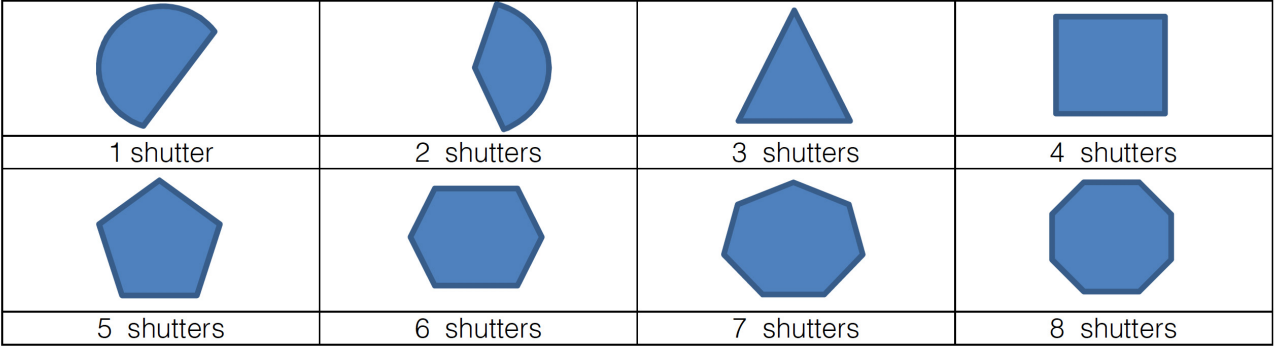
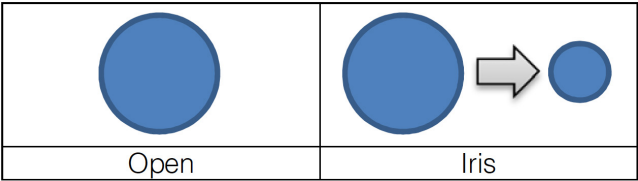
### 4.7.2 Control



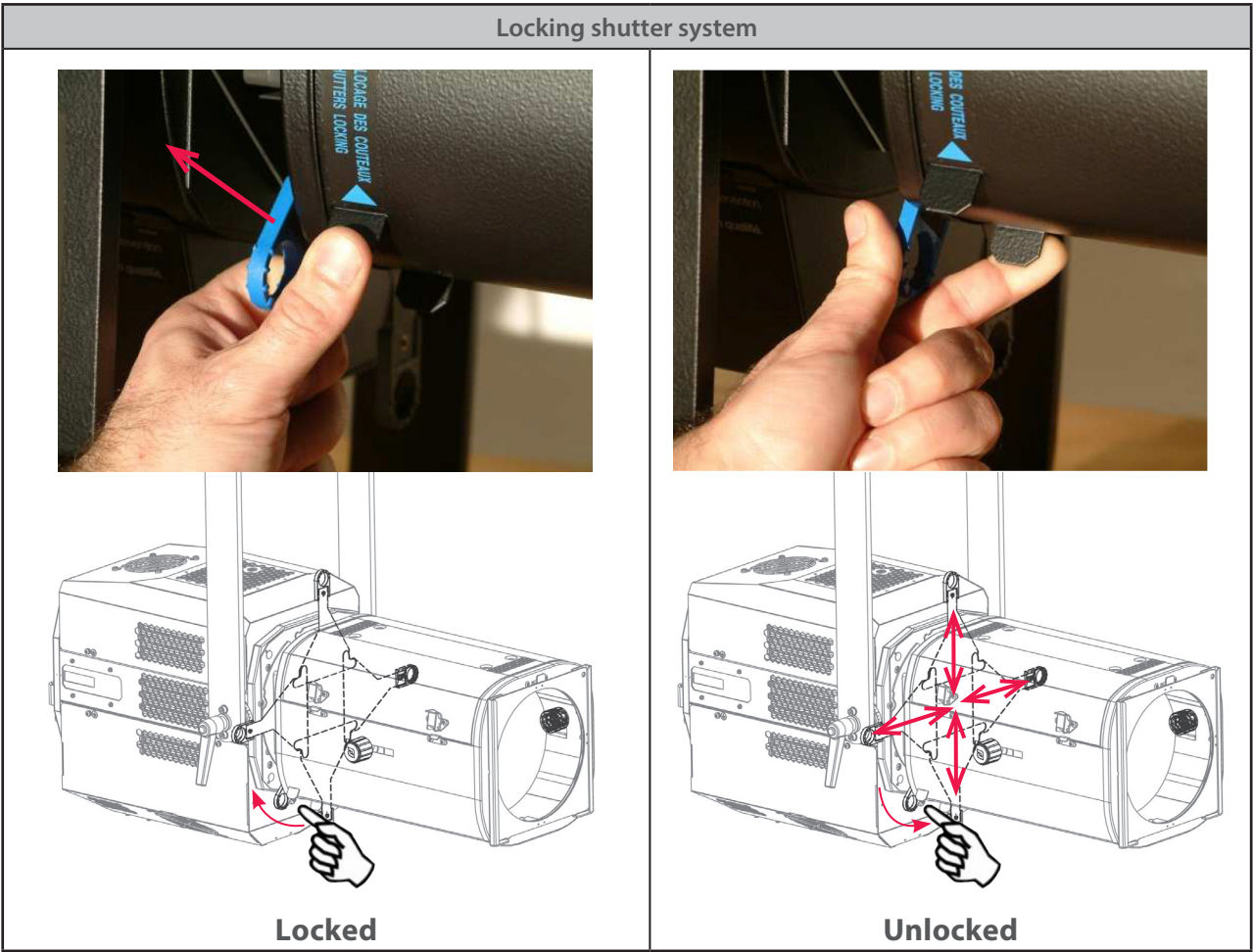
4.8.1 Range

Location		
	1. Internal filter holder	2. Front filter cassette (option)
Type	Frosted or dichroic glass	Coloured gel filter (option)
Dimensions		
Installation	See 3.4.4	See 3.4.6



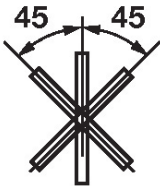
4.9.1 Range



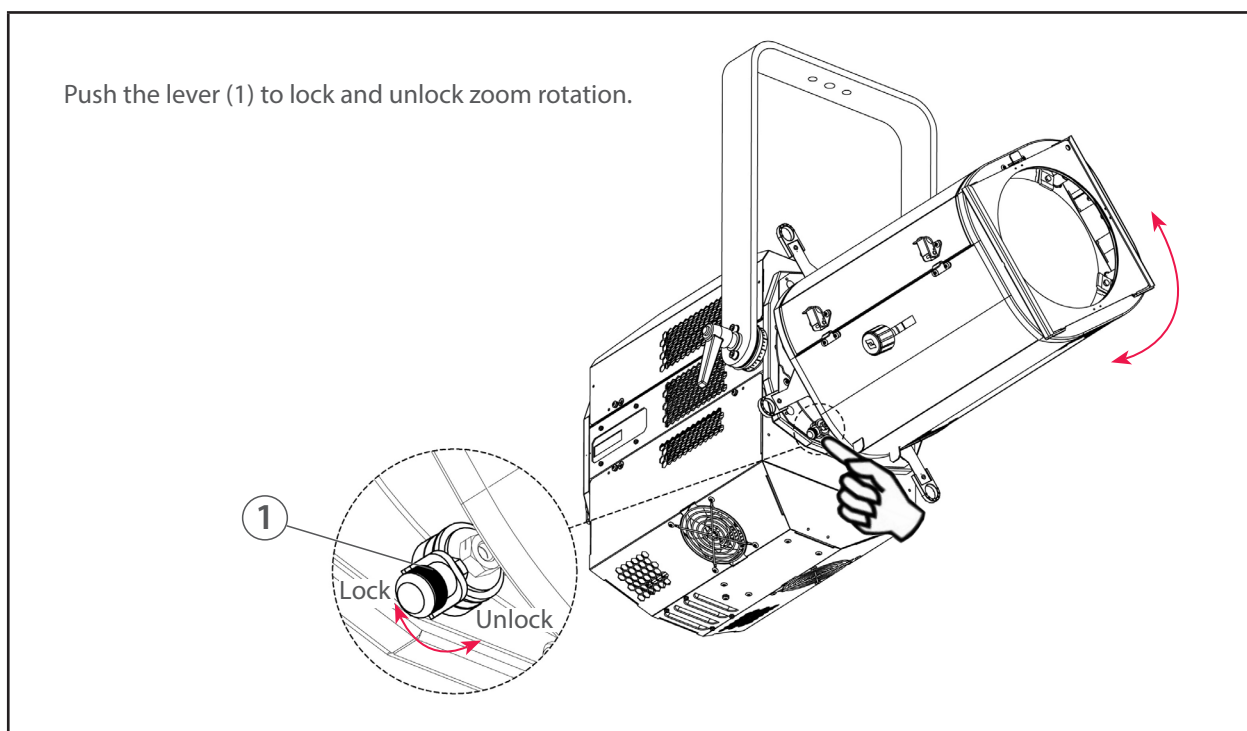
4.9.2 Control



## 4.10.1 Range

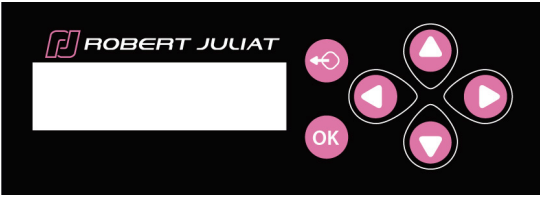
Function		Range
		
Gobo	Shutters	








## 4.10.2 Control



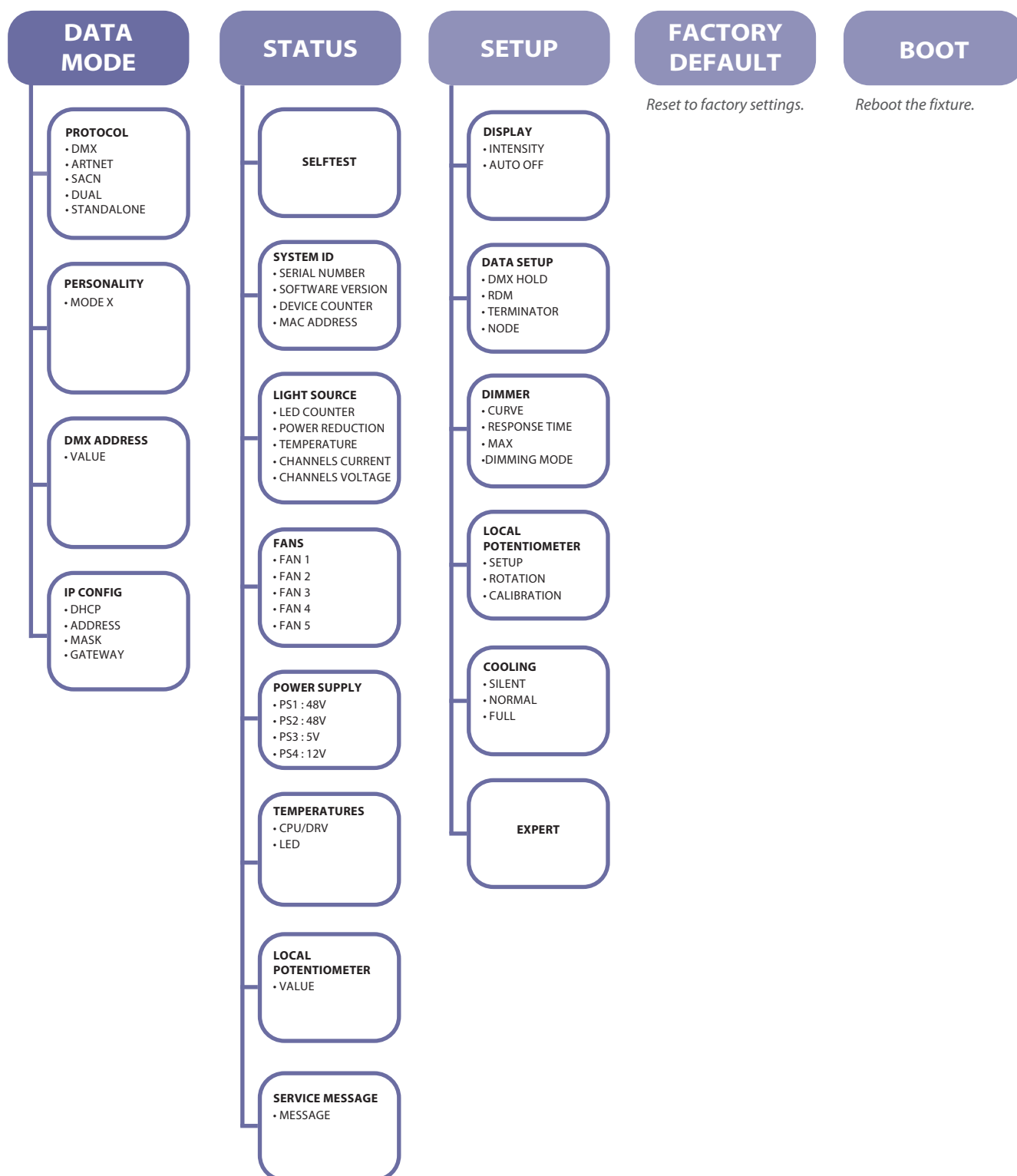
5.1 Local display and controls

5.1.1 Display



Function	
	Exit the current menu option and/or go back
	Press for 3 secs to enter Focus mode
	Enter the current menu option and/or valid
	Scroll through menus and/or Increase data value
	Scroll through menus and/or Decrease data value
	Scroll through menus and/or Increase data value
	Scroll through menus and/or Decrease data value

## 5.1.2 Menu





### 5.1.3 Parameters

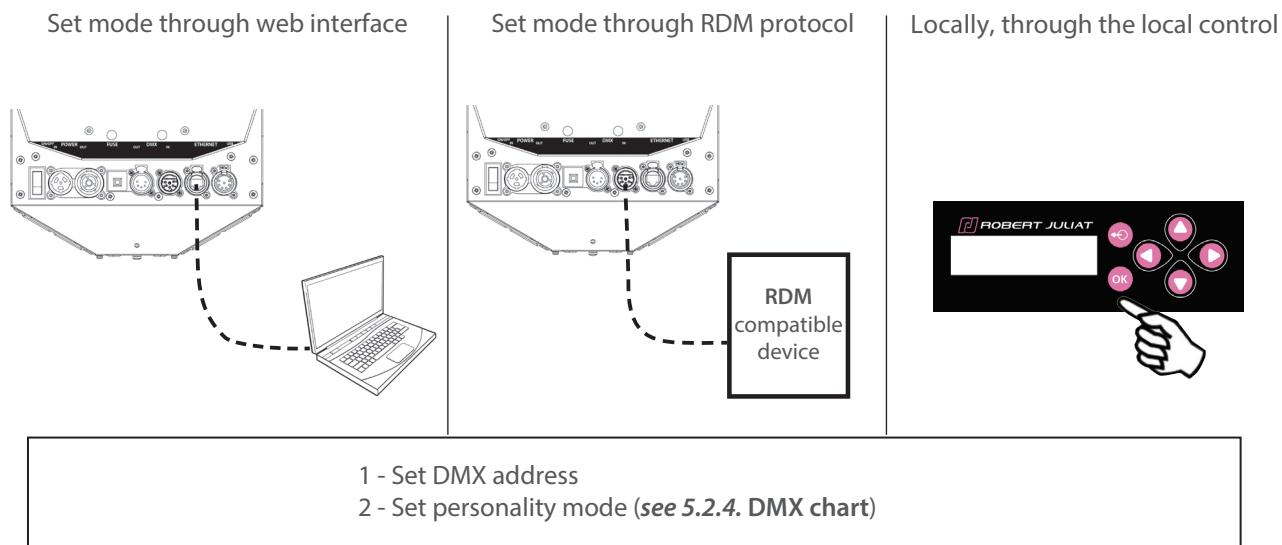
→ Selection in *SETUP/DISPLAY MODE* menu

Display	Mode	Description
	Always ON	Main display (home screen) always ON
	Intensity	Adjust the intensity of the screen  <i>To change value, press buttons :</i>
	Auto-OFF	Main display OFF after 20 seconds

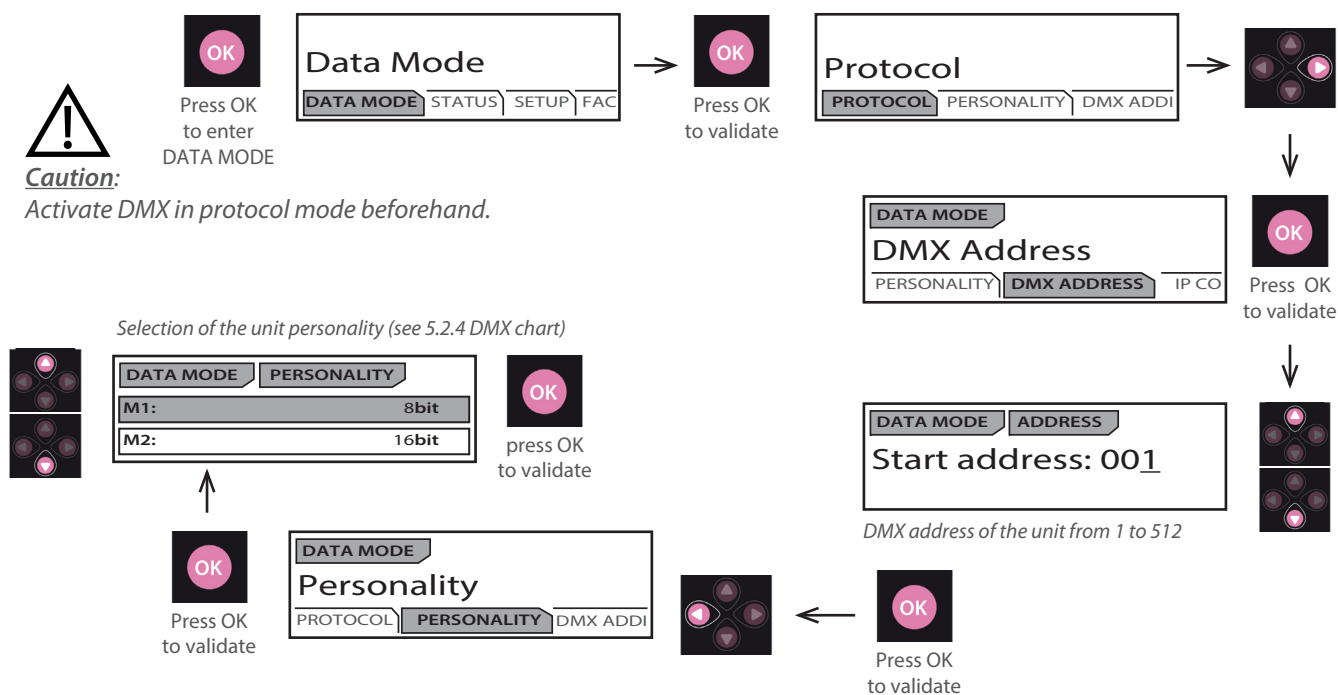
## 5.2.1 Protocol

## E1.11 – 2008, USITT DMX512-A

## 5.2.2 Configuration

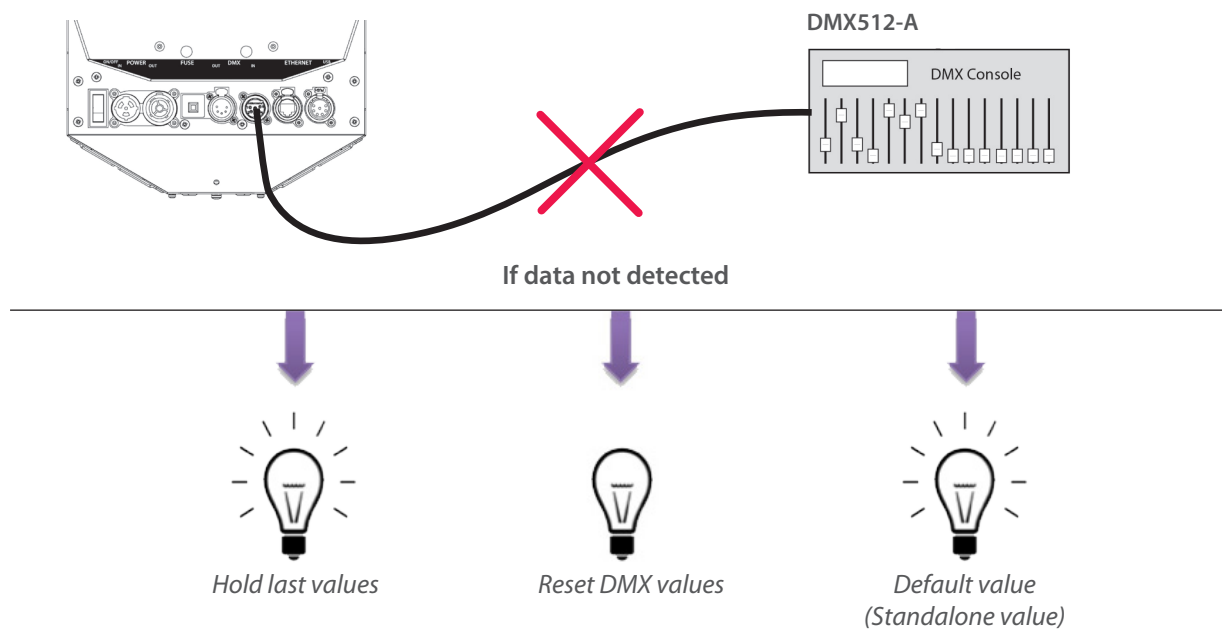
**Caution:**

Activate DMX in protocol mode beforehand.



## 5.2.3.1 DMX Hold

→ Set through RDM protocol, web interface or local control



DMX Channel	Mode 1: Dimmer8B	Mode 2: Dimmer16B	Mode 3: Profile8B	Mode 4: Profile16b
1	Dimmer	Dimmer	Dimmer	Dimmer
2		Dimmer fine	Strobe duration	Dimmer fine
3			Strobe speed	Strobe duration
4			Response time	Strobe speed
5			Control mode	Response time
6				Control mode
7				
8				

## 5.2.5 DMX ranges

## 5.2.5.1 Strobe duration

Range min	Range max	Function
0	0	Strobe OFF
1	255	Strobe ON - 1 ms → 20 ms

## 5.2.5.2 Strobe speed

Range min	Range max	Function
0	255	Frequency: 0,1 Hz → 10 Hz

## 5.2.5.3 Response time

Range min	Range max	Function
0	0	OFF
1	255	Response time: 0,20 ms → 4 s

## 5.2.5.4 Control mode

Range min	Range max	Function
0	0	
1	10	RDM disabled
11	20	RDM enabled
21	100	not used
101	110	Cooling mode: Silent
111	120	Cooling mode: Normal
121	130	Cooling mode: Full power
131	140	Front Ext disable
141	150	Front Ext enable
151	255	not used

Function activated after 5 seconds - need to go back to zero to activate second function.

## 5.3.1 Protocol

## ANSI E1.20 – 2010 / ANSI E1.37 - 1

For more information about RDM protocol: <http://www.rdmprotocol.org/>

## 5.3.2 Functions

PID		Description	Standard	Get	Set	Queued_ Message	Ack_Timer	VERSION 4.00
Network Management								
00	01	DISCOVERY_UNIQUE_BRANCH	E1.20					✓
00	02	DISCOVERY_MUTE	E1.20		✓			✓
00	03	DISCOVERY_UNMUTE	E1.20		✓			✓
00	15	COMMUNICATION_STATUS	E1.20	✓	✓			✓
Status Collection								
00	20	QUEUED_MESSAGE	E1.20	✓				✓
00	30	STATUS_MESSAGES	E1.20	✓				✓
00	31	STATUS_ID_DESCRIPTION	E1.20	✓				✓
00	32	CLEAR_STATUS_ID	E1.20		✓			✓
00	33	QUEUED_MESSAGE_SENSOR_SUBSCRIBE	E1.20-2023	✓	✓			
RDM Information								
00	50	SUPPORTED_PARAMETERS	E1.20	✓				✓
00	51	PARAMETER_DESCRIPTION	E1.20	✓				✓
Product Information								
00	60	DEVICE_INFO	E1.20	✓			✓	✓
00	70	PRODUCT_DETAIL_ID_LIST	E1.20	✓				✓
00	80	DEVICE_MODEL_DESCRIPTION	E1.20	✓				✓
00	81	MANUFACTURER_LABEL	E1.20	✓				✓
00	82	DEVICE_LABEL	E1.20	✓	✓	✓	✓	✓
00	90	FACTORY_DEFAULTS	E1.20	✓	✓		✓	✓
00	C0	SOFTWARE_VERSION_LABEL	E1.20	✓			✓	✓
00	C2	BOOT_SOFTWARE_VERSION_LABEL	E1.20	✓				✓
DMX512 Setup								
00	E0	DMX512_PERSONALITY	E1.20	✓	✓	✓	✓	✓
00	E1	DMX512_PERSONALITY_DESCRIPTION	E1.20	✓				✓
00	F0	DMX512_STARTING_ADDRESS	E1.20	✓	✓	✓	✓	✓
01	20	SLOT_INFO	E1.20	✓				✓
01	21	SLOT_DESCRIPTION	E1.20	✓				✓
Sensors								
02	00	SENSOR_DEFINITION	E1.20	✓				✓
02	01	SENSOR_VALUE	E1.20	✓				✓
Dimmer Settings								
03	40	DIMMER_INFO	E1.37-1	✓				✓
03	42	MAXIMUM_LEVEL	E1.37-1	✓	✓	✓	✓	✓
03	43	CURVE	E1.37-1	✓	✓	✓	✓	✓
03	44	CURVE_DESCRIPTION	E1.37-1	✓				✓
03	45	OUTPUT_RESPONSE_TIME	E1.37-1	✓	✓	✓	✓	✓
03	46	OUTPUT_RESPONSE_TIME_DESCRIPTION	E1.37-1	✓				✓
03	47	MODULATION_FREQUENCY	E1.37-1	✓	✓	✓	✓	✓
03	48	MODULATION_FREQUENCY_DESCRIPTION	E1.37-1	✓				✓
Power / Lamp Settings								
04	00	DEVICE_HOURS	E1.20	✓				✓
04	01	LAMP_HOURS	E1.20	✓	✓			✓
Display Settings								
05	01	DISPLAY_LEVEL	E1.20	✓	✓	✓	✓	✓

PID	Description	Standard	Get	Set	Queued_Message	Ack_Timer	SULLY 4.00
Control							
10 00	IDENTIFY_DEVICE	E1.20	✓	✓	✓		✓
10 01	RESET_DEVICE	E1.20		✓		✓	✓
10 20	PERFORM_SELFTEST	E1.20	✓	✓	✓	✓	✓
10 21	SELF_TEST_DESCRIPTION	E1.20					✓
RDMnet Management							
07 00	LIST_INTERFACES	E1.37-2	✓				✓
07 01	INTERFACE_LABEL	E1.37-2	✓				✓
07 02	INTERFACE_HARDWARE_ADRESS_TYPE1	E1.37-2	✓				✓
07 03	IPV4_DHCP_MODE	E1.37-2	✓	✓		✓	✓
07 05	IPV4_CURRENT_ADDRESS	E1.37-2	✓			✓	✓
07 06	IPV4_STATIC_ADDRESS	E1.37-2	✓	✓			✓
07 09	INTERFACE_APPLY_CONFIGURATION	E1.37-2		✓			✓
07 0A	IPV4_DEFAULT_ROUTE	E1.37-2	✓	✓		✓	✓
07 0B	DNS_IPV4_NAME_SERVER	E1.37-2	✓	✓		✓	✓
PID Manufacturer							
85 58	SELFTEST_RESULT	E1.20	✓				✓
85 59	CURRENT_IP_ADDRESS	E1.20	✓			✓	✓
85 5A	CURRENT_NETMASK	E1.20	✓			✓	✓
85 5B	CURRENT_DRIVER_STATUS	E1.20	✓			✓	✓
85 5C	CUSTOM_RESPONSE_TIME_DESCRIPTION	E1.20	✓				✓
85 5D	CUSTOM_RESPONSE_TIME_VALUE	E1.20	✓	✓	✓	✓	✓
85 60	DATA_MODE_DESCRIPTION	E1.20	✓				✓
85 61	DATA_MODE_VALUE	E1.20	✓	✓	✓	✓	✓
85 62	STANDALONE_VALUE_DESCRIPTION	E1.20	✓				✓
85 63	STANDALONE_VALUE	E1.20	✓	✓	✓	✓	✓
85 64	SACN_UNIVERSE_VALUE_DESCRIPTION	E1.20	✓				✓
85 65	SACN_UNIVERSE_VALUE	E1.20	✓	✓	✓	✓	✓
85 66	ARTNET_UNIVERSE_VALUE_DESCRIPTION	E1.20	✓				✓
85 67	ARTNET_UNIVERSE_VALUE	E1.20	✓	✓	✓	✓	✓
85 68	SERIAL_DESCRIPTION	E1.20	✓				✓
85 69	SERIAL	E1.20	✓	✓	✓		✓
85 6A	DMX_HOLD_DESCRIPTION	E1.20	✓				✓
85 6B	DMX_HOLD	E1.20	✓	✓	✓	✓	✓
85 6C	COMMAND_LOCK_DESCRIPTION	E1.20	✓				✓
85 6D	COMMAND_LOCK_VALUE	E1.20	✓	✓	✓	✓	✓
85 6E	DRIVER_CALIBRATE_DESCRIPTION	E1.20	✓				✓
85 6F	DRIVER_CALIBRATE_VALUE	E1.20	✓	✓	✓	✓	✓
85 70	NODE_DESCRIPTION	E1.20	✓				✓
85 71	NODE_VALUE	E1.20	✓	✓	✓	✓	✓
85 72	TERMINATOR_DESCRIPTION	E1.20	✓				✓
85 73	TERMINATOR	E1.20	✓	✓	✓	✓	✓
85 74	DMX_ERROR_COUNTER_DESCRIPTION	E1.20	✓				✓
85 75	DMX_ERROR_COUNTER	E1.20	✓	✓	✓	✓	✓

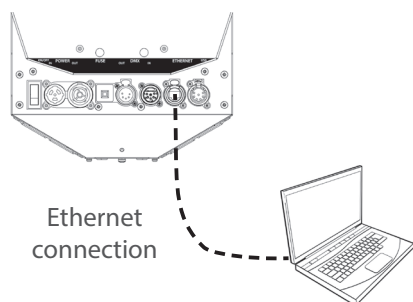
### 5.4.1 Protocol

#### Artistic Licence Art-Net v3 & v4.

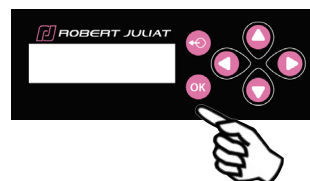
For more information about Art-Net protocol: <http://art-net.org.uk/>

### 5.4.2 Configuration

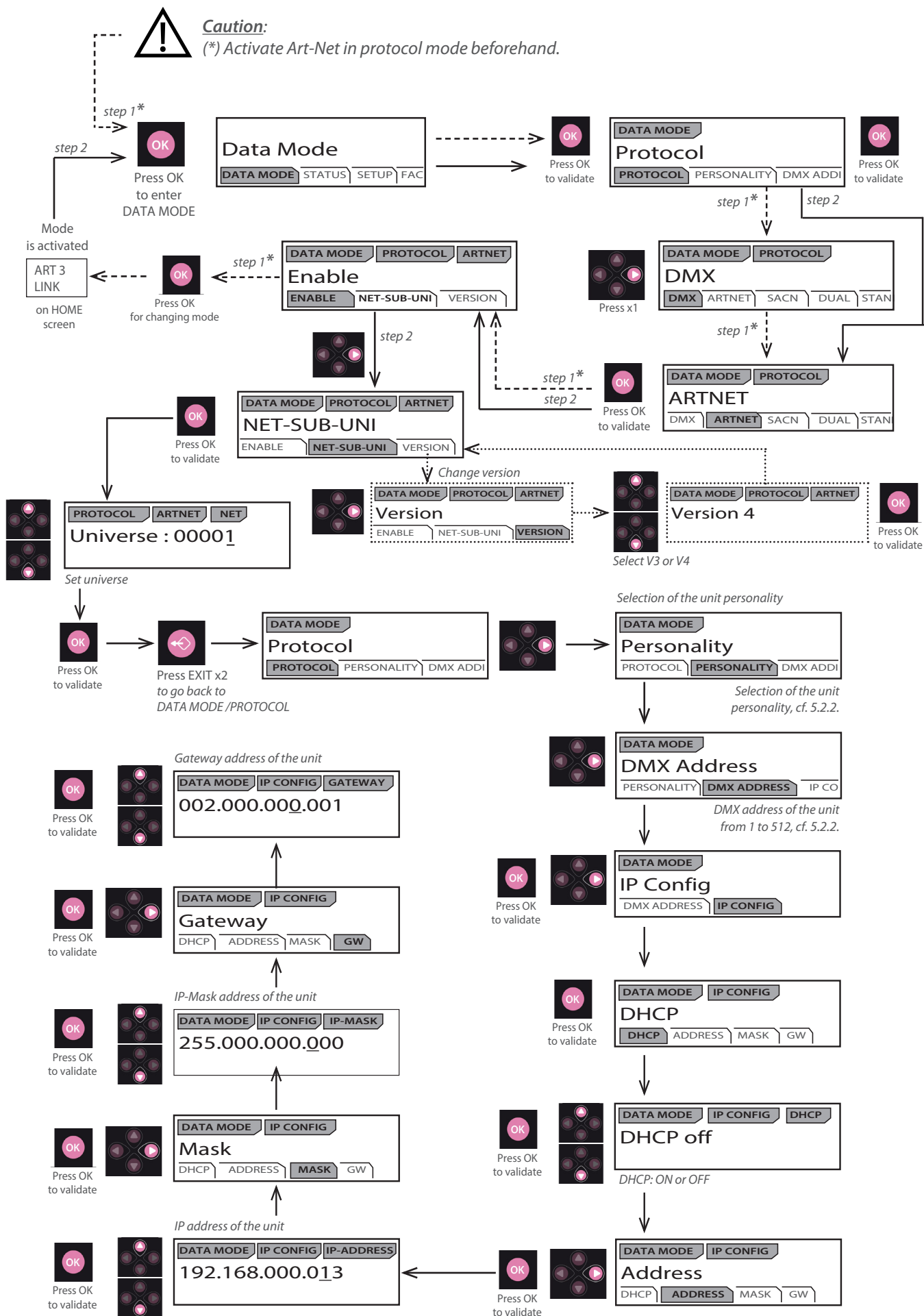
Set mode through web interface  
(see 5.7 Web interface)



Locally, through the local control



- 1 - If necessary, change IP settings
- 2 - Set Art-Net Universe
- 3 - Set DMX address
- 4 - Set personality mode (see 5.2.4. DMX chart)



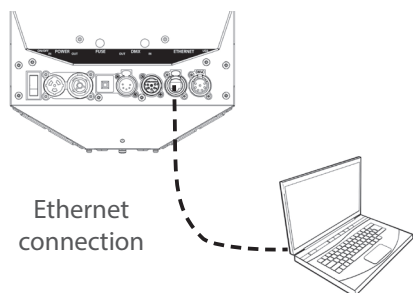


### 5.5.1 Protocol

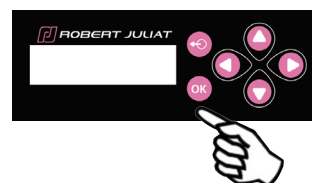
## ANSI E1.31 – 2009 sACN (Streaming-ACN)

### 5.5.2 Configuration

Set mode through web interface  
(see 5.7 Web interface)

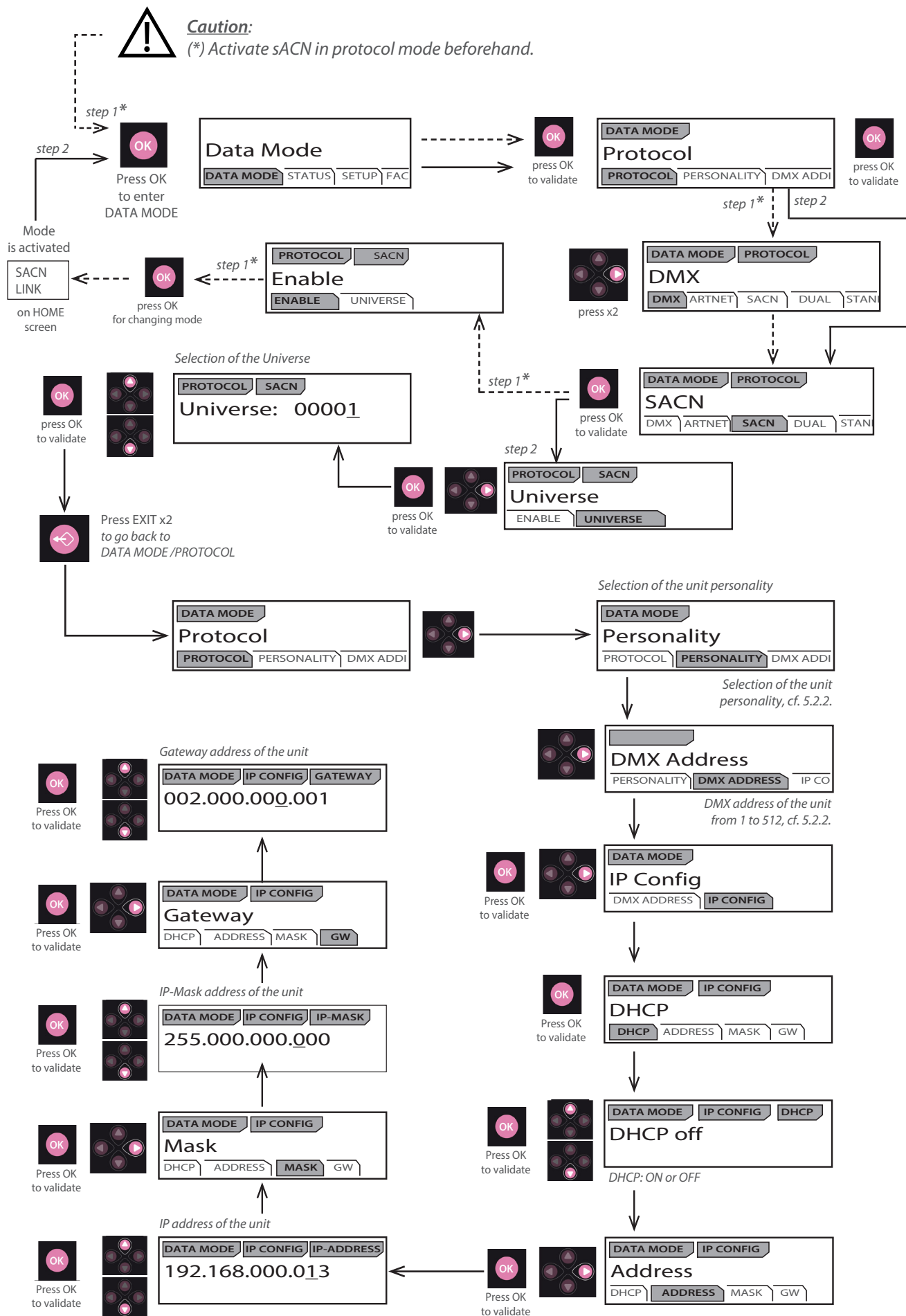


Locally, through the local control



- 1 - If necessary, change IP settings
- 2 - Set sACN universe
- 3 - Set DMX address
- 4 - Set personality mode (see 5.2.4. DMX chart)

### 5.5.3 Local set-up



### 5.6.1 Protocol

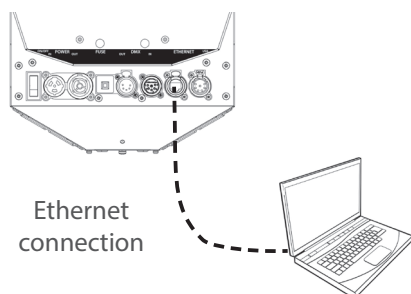
#### Dual Mode: Available only on an Ethernet network

It allows to send a DMX 512 signal through a Sacn data stream and at the same time to use an Artnet/ArtRdm data stream to control, set and monitor the equipment via RDM.

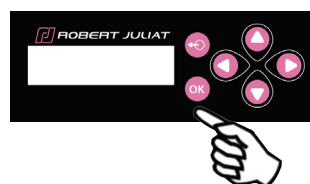
This mode can be set by Web interface or the local control screen.

### 5.6.2 Configuration

Set mode through web interface  
(see 5.7 Web interface)

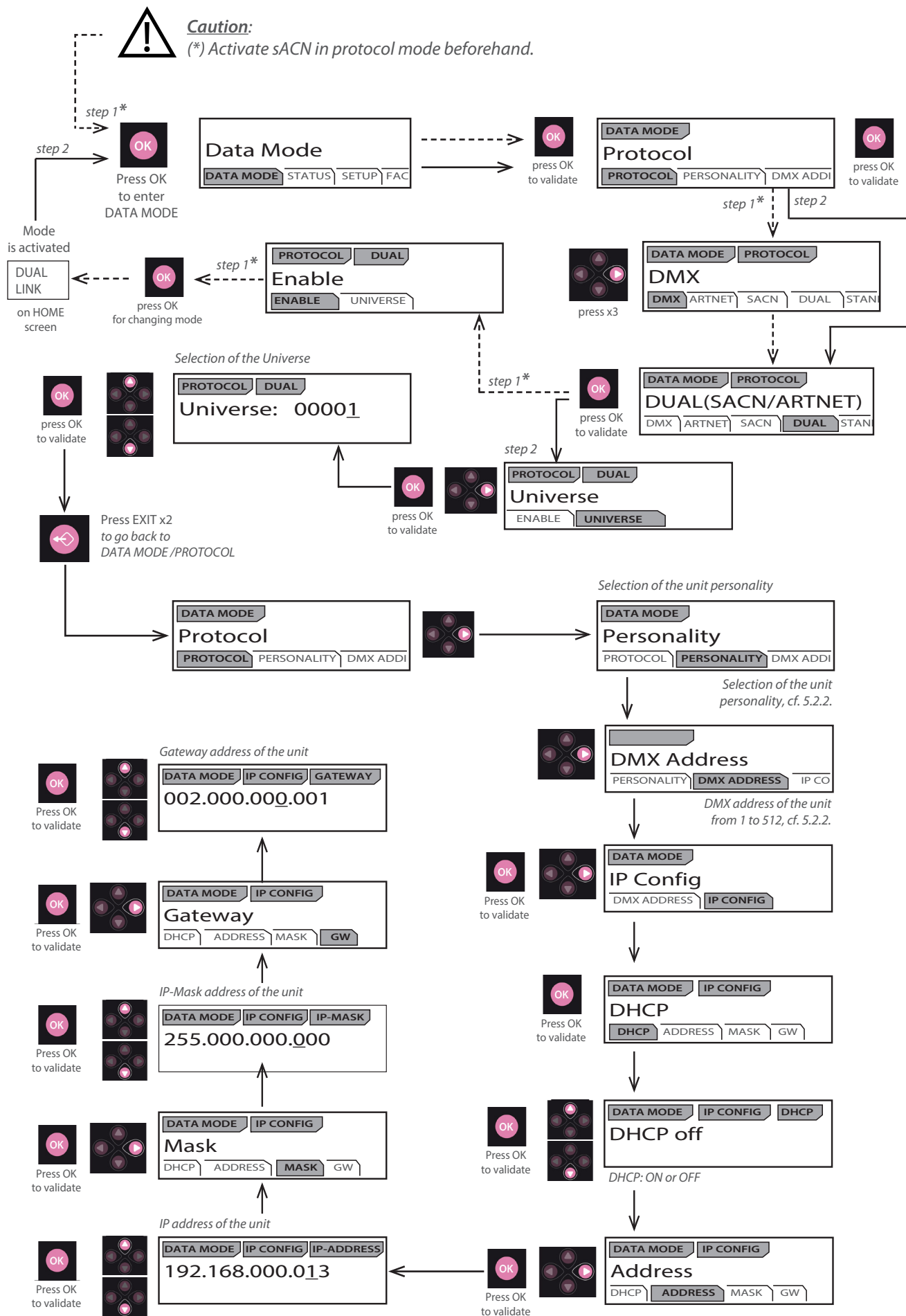


Locally, through the local control



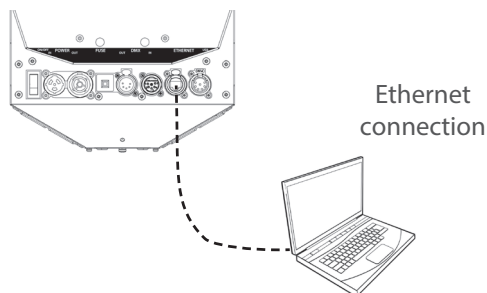
- 1 - If necessary, change IP settings
- 2 - Set DUAL universe
- 3 - Set DMX address
- 4 - Set personality mode (see 5.2.4. DMX chart)

### 5.6.3 Local set-up



## 5.7 Web interface

### 5.7.1 Control



The fixture must be connected to a compatible network or directly to a computer using an ethernet cable.

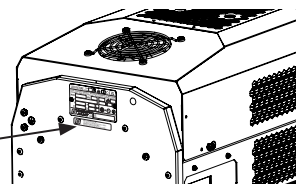
### 5.7.2 Default IP address

**By default :**

DHCP = OFF

Address = 2.XXX.XXX.XXX

Mask = 255.0.0.0



➔ If IP address unknown (due to a previous modification), a hard reset must be done (see 6.6 Factory defaults).

### 5.7.3 Network IP of the computer

The computer must be on the same network as the LED fixture.

Please refer to your computer Operating System to change IPV4 parameters :

- **Microsoft Windows:**

<https://support.microsoft.com/en-us/windows/change-tcp-ip-settings-bd0a07af-15f5-cd6a-363f-ca2b6f391ace>

- **MAC OS:** <https://support.apple.com/en-gb/guide/mac-help/mchlp2718/10.15/mac/10.15>

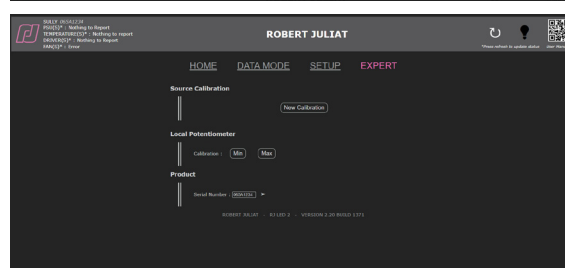
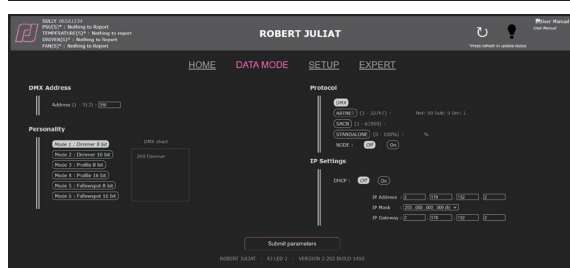
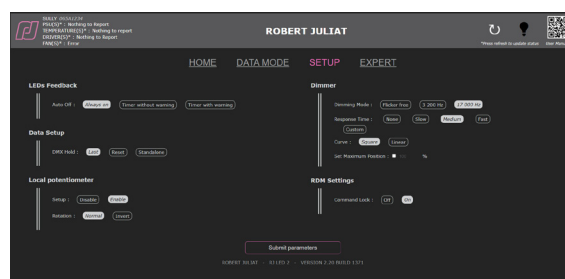
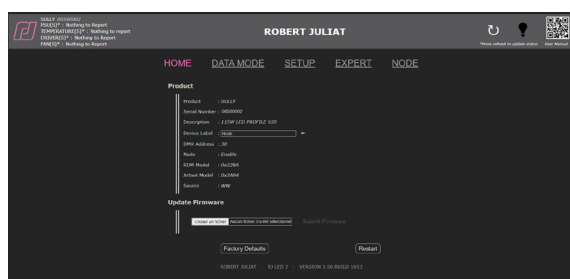
1 - ADDRESS = 2.XXX.XXX.YYY with YYY  $\neq$  XXX

Do not use the same IP address as the LED fixture

2 - MASK = 255.0.0.0

### 5.7.4 Connect to web interface



- 1 - Open a web browser (Microsoft Edge, Firefox, Apple Safari...)
- 2 - Enter the URL address of the LED fixture: <http://2.XXX.XXX.XXX>
- 3 - All parameters can be now modified



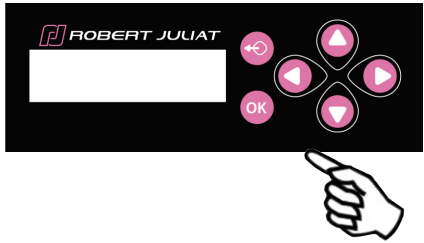
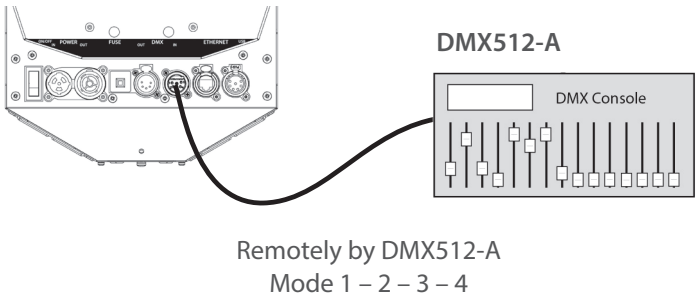
5.8 Fan cooling modes



5.8.1 Range

Modes	Silent	Normal	Full
 Cooling	 < 40.5 dB(A)	 < 43.4 dB(A)	 < 45.8 dB(A)
 Brightness	60 → 85%	80 → 95%	100%

5.8.2 Control



5.9 Gel Fan mode

GEL FAN menu:

- **Enable:** activates / deactivates the fan of the colour changer.

## 6.1 Preventive maintenance

### 6.1.1 Frequency

General maintenance should be performed at least once a year or more frequently if the equipment is operated in adverse conditions (smoke, heat, humidity, touring, etc.).

### 6.1.2 General cleaning

Remove dust from the unit.

Front glasses can be cleaned with solutions containing alcohol.

### 6.1.3 General visual check

- No trace of heat.
- No loose contacts.
- No missing parts.
- Tighten mechanical assemblies (screws, bolts and nuts, etc.).

### 6.1.4 LED source

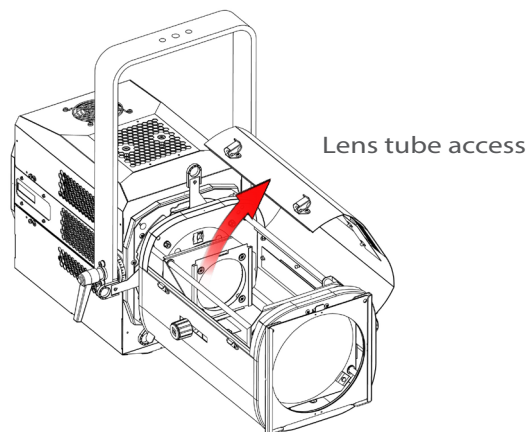


- Do not touch the surface of the LED source (no contact with your hands or any tools).
- Do not put compressed air directly on the source.
- Contact a certified RJ distributor in case of residuals or other objects located on the surface of the LED source.

### 6.1.5 Optics

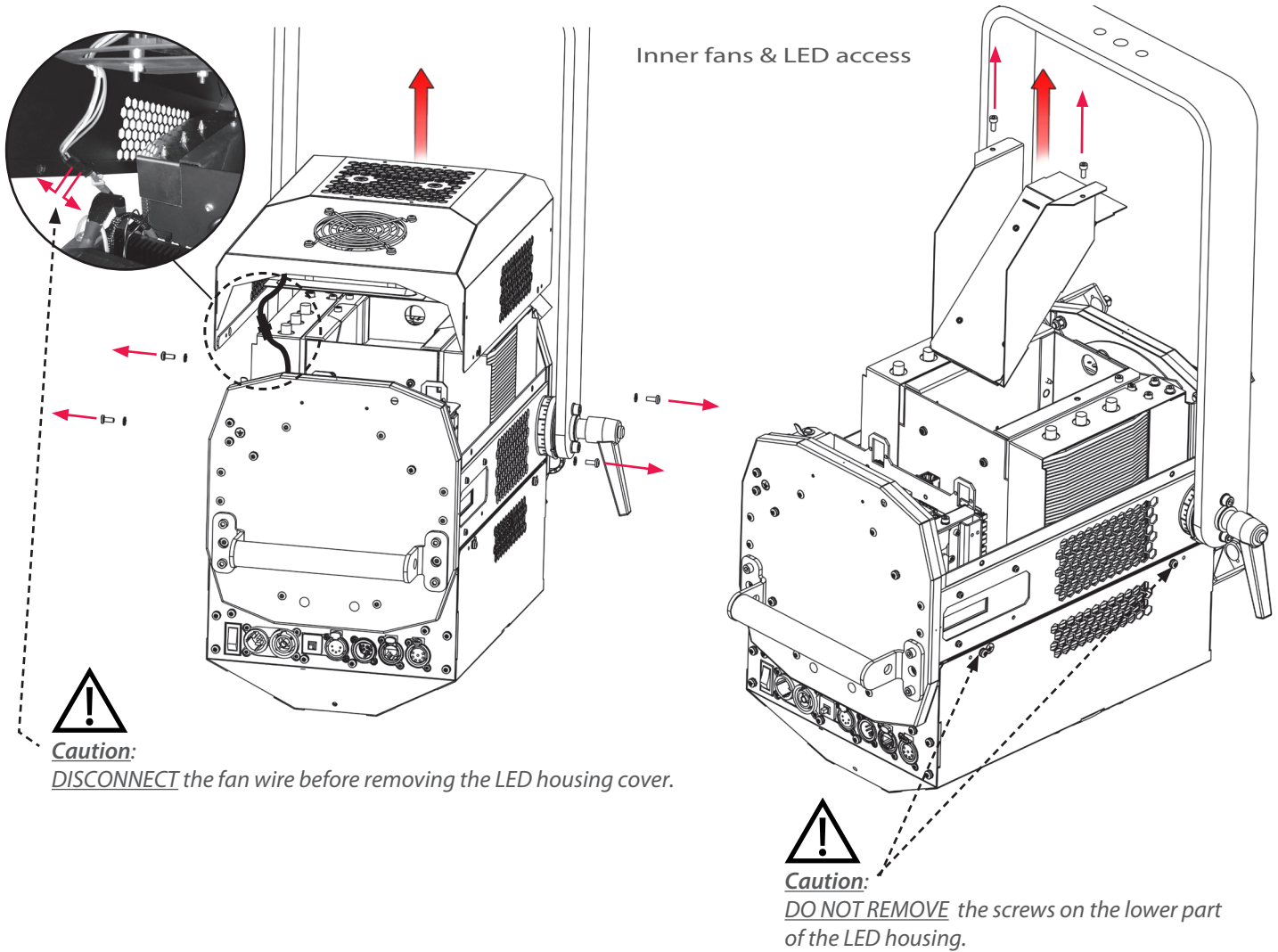
Only use solutions containing alcohol to clean optical parts (lenses).

- To clean the optical parts, use a soft cloth in combination with distilled water or isopropyl alcohol recommended for coated optics. Do not use any cleaning product that contains solvents or abrasives, as these can cause surface damage.
- Dry with a soft lint-free cloth.



### 6.1.6 Inner fans & LED glass protection cleaning

Only use solutions containing alcohol to clean inner parts.



## 6.2 Analysis

In case of problem, contact RJ distributor with the following information:

- Model, version and serial number of the product.
- From the menu status:
  - Software version
  - LED board IDs
  - Device hours
- Description of the problem.

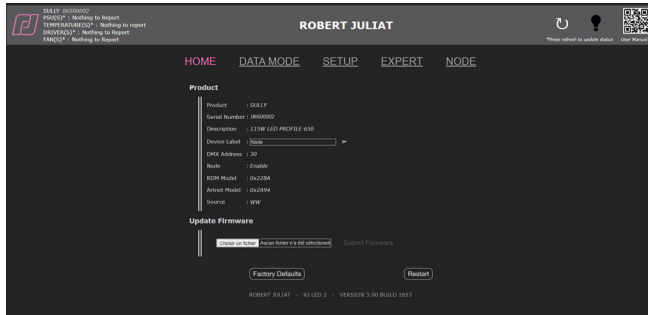




## 6.3 Electronic thermal management system

In case of overheating, light intensity will be reduced by the system.  
Power reduction and temperature values are available by using a RDM protocol compatible device.

## 6.4 Firmware update



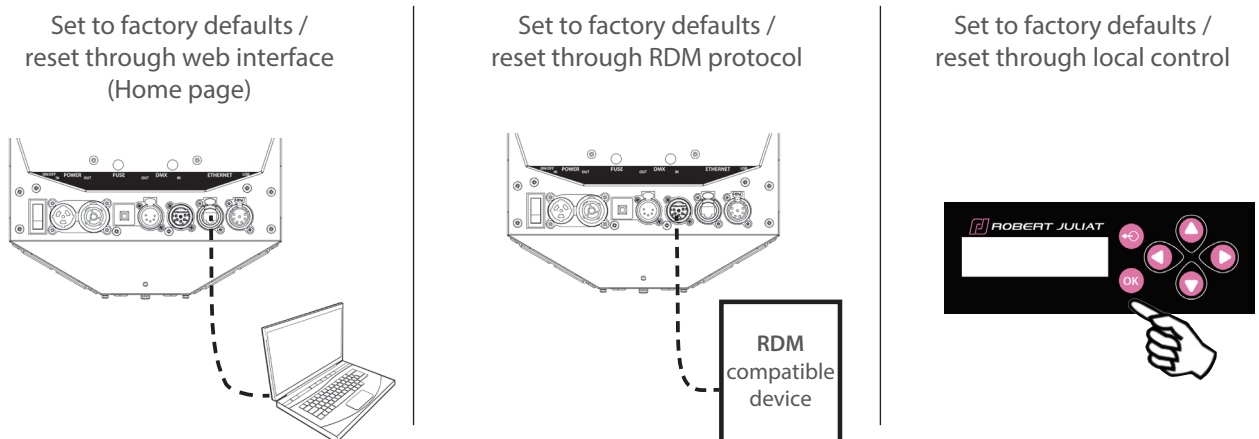
1. Firmware available on [www.robertjuliat.com/profilespots/CHARLES\\_960SX](http://www.robertjuliat.com/profilespots/CHARLES_960SX)
2. Download and unzip the file  
There are 4 files contained in the folder:
  - Firmware (.upd2 format)
  - Firmware History
  - Update Procedure
  - User Manual from firmware V4.00
3. Switch on the unit
4. Connect Network from computer to the unit
5. Open a web browser (Microsoft Edge, Firefox, Apple Safari...)
6. Enter the URL address to connect to the web interface (*see 5.7*)
7. Upload your firmware file (.upd2) in the "Update firmware" section and then click on 'Submit firmware'

## 6.5 Factory defaults


### 6.5.1 Modes

Mode	Description
Restart	Software reset – all user parameters are kept
Factory defaults	Set all user parameters to factory default value

### 6.5.2 Control



Select SELFTEST in the main menu :

  
Press OK  
to start  
SELFTEST

STATUS

SELFTEST

SYSTEM ID

LIGHT SOUP



FANS

PASS

Fan Test

POWER

PASS

PSU Test

TEMPERATURE SENSORS

PASS

Temperature Test

NETWORK

Network fail or no network

**Network Test**  
A data connection is required.

DRIVER

Test in progress

**Driver Test**  
Each driver is tested individually and a calibration is launched if required.

DRIVER

Calibration in progress

DRIVER

PASS

Main Power Stress

PASS

48V PSU Stress Test

  
Press OK

POTENTIOMETER

Turn potentionmeter to maximum  
then press OK

**Dimmer Potentiometer Test**  
Follow the instructions.

POTENTIOMETER

Side / Top ctrl => press UP  
Top ctrl inv => press DOWN

DMX IN  
DMX IN fail or NO DMX

### DMX Test

DMX data is required to complete this test.

DMX OUT  
Plug DMX OUT then press OK

DMX OUT  
DMX OUT fail or NO DMX

LEDS  
green

### Signal Leds Test

LEDS  
blue

LEDS  
red

test report: Fail P=Pass F=Fail							
fans	P	pow	P	temp	P	dmxi	P
dmxo	F	net	F	drv	P	pot	P

### Test Report

To be communicated to **RJ Service** if requested :  
service@robertjuliati.fr