SULLY 650SX

115 W LED PROFILE SPOT

REF	Standard	North American
28 - 54°	653SX	653CSX
16 - 35°	654SX	654CSX
11 - 26°	651SX	651CSX

Product Updates:

V1

- FIRMWARE: **V4**.x
- RJ-LED2 FIRMWARE PLATFORM (Node Mode) full manual is available for download at **www.robertjuliat.com/LED/PDF_PAGE**

DN4201901 (EN)

Released: 12/06/24

Table of Contents

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1 User's instructions

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 becomes 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.

Risk group 2
CAUTION: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. Maybe harmful to the eye.
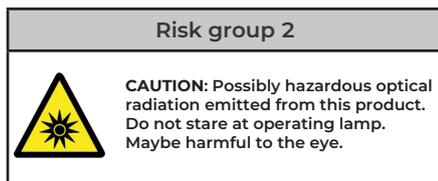
Group risk 2. Luminaires should be positioned so that prolonged staring into luminaire at a distance closer than 10,6m (651SX), 7,1m (653SX) & 11m (654SX) is not expected.
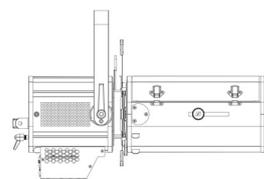
Photobiological safety according to EN62471

Minimum distance	X1	Risk group 2	X2	Risk group 1
651SX CW/WW: 0,8m *(2.63 ft)*		**651SX CW/WW:** 10,6m *(34.78 ft)*		
653SX CW/WW: 0,8m *(2.63 ft)*		**653SX CW/WW:** 7,1m *(23.30 ft)*		
654SX CW/WW: 0,8m *(2.63 ft)*		**654SX CW/WW:** 11m *(36.10 ft)*		

2 Presentation

2.1 Functions
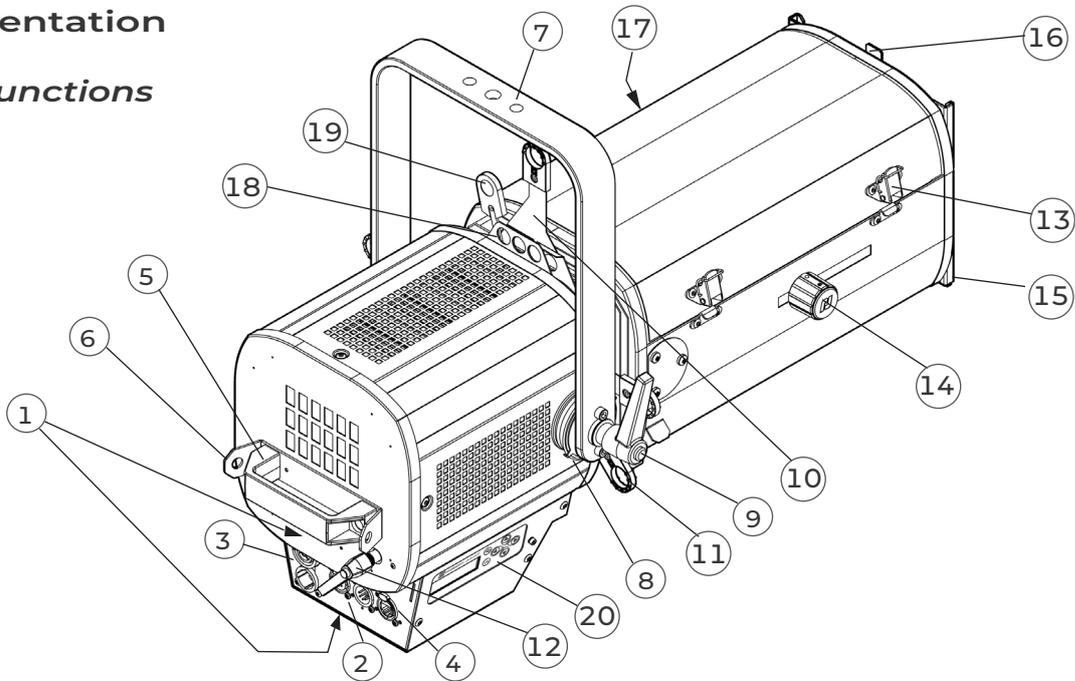
Description	
1. Identification plates	11. Shutter locking system
2. Data connector (IN and OUT)	12. Lens tube rotation locking button
3. Power connector (IN and OUT)	13. Lens tube access
4. RJ45 network connector	14. Focus adjustment
5. Handle	15. Front slot for accessories and gel frame holder
6. Safety cable attachment point	16. Front slot locking system
7. Hanging yoke	17. Zoom adjustment
8. Tilt index	18. Gobo holder
9. Tilt locking handle	19. Iris
10. Shutters	20. Local display and controls (option)

2.2 Identification labels

2.2.1 Label on LED compartment

Description	
	1. MOD. : Model 2. VERS. : Version 3. U : Nominal voltage input (V) 4. I : Nominal intensity (A) 5. P : Maximum power input (W) 6. IP : International Protection Rating 7. t°a : Maximum ambient temperature (°C) 8. t°c : Maximum external temperature of the unit (°C) 9. Net weight (kg) 10. Minimum distance between a flammable material and the lighting unit (m) 11. Colour temperature version 12. Serial number 13. Replace broken glass 14. Class 1 product label 15. Read manual first label 16. European conformity label 17. WEEE directive label 18. CEI-TR-62778 - Do not stare at light source 19. EN62471 - Risk group 20. UKCA (UK Conformity Assessed) label

Units:
- Weight   = kilogram (kg).
- Intensity   = Ampere (A).
- Voltage   = Volt (V).
- Frequency   = Hertz (Hz).
- Temperature = degree Celsius (°C).

Description

1. Model beam angles
2. Net weight (kg) without LED compartment
3. Serial number
4. Class 1 product label
5. Read manual first label
6. European conformity label
7. WEEE directive label
8. Operating positions
9. UKCA (UK Conformity Assessed) label

Units:
- Weight   = kilogram (kg).
- Intensity   = Ampere (A).
- Voltage   = Volt (V).
- Frequency   = Hertz (Hz).
- Temperature = degree Celsius (°C).

2.3 Accessories included
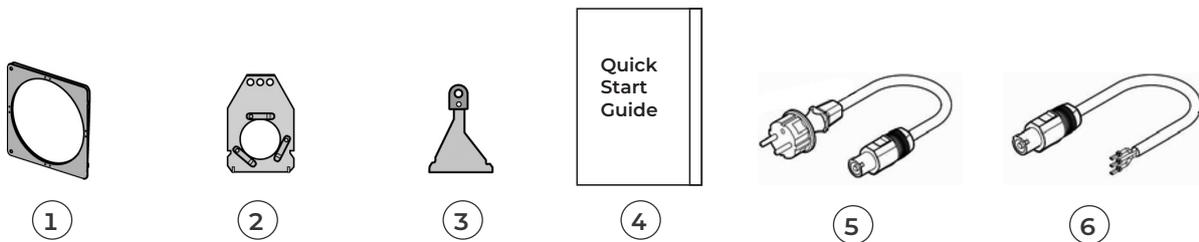
	Reference	Description
1	PF500M2	180 x 180 mm (7.1 x 7.1 in) metal filter holder
2	SGUX	Universal A-size gobo holder (metal, glass, frosted glass)
3	D8	Shutters (x4)
4	DN41202300	Quick Start manual
5	CAL03	3 meter power cable (3G1,5 HO7RNF) with Neutrik PowerCon© True1 TOP and CEE 7/7 (2P+T NF/SCHUKO) connectors (standard version)
6	CAL04	1,50m power cable UL/CSA with Neutrik PowerCon© True1 TOP connector (North American version)

2.4 Accessories
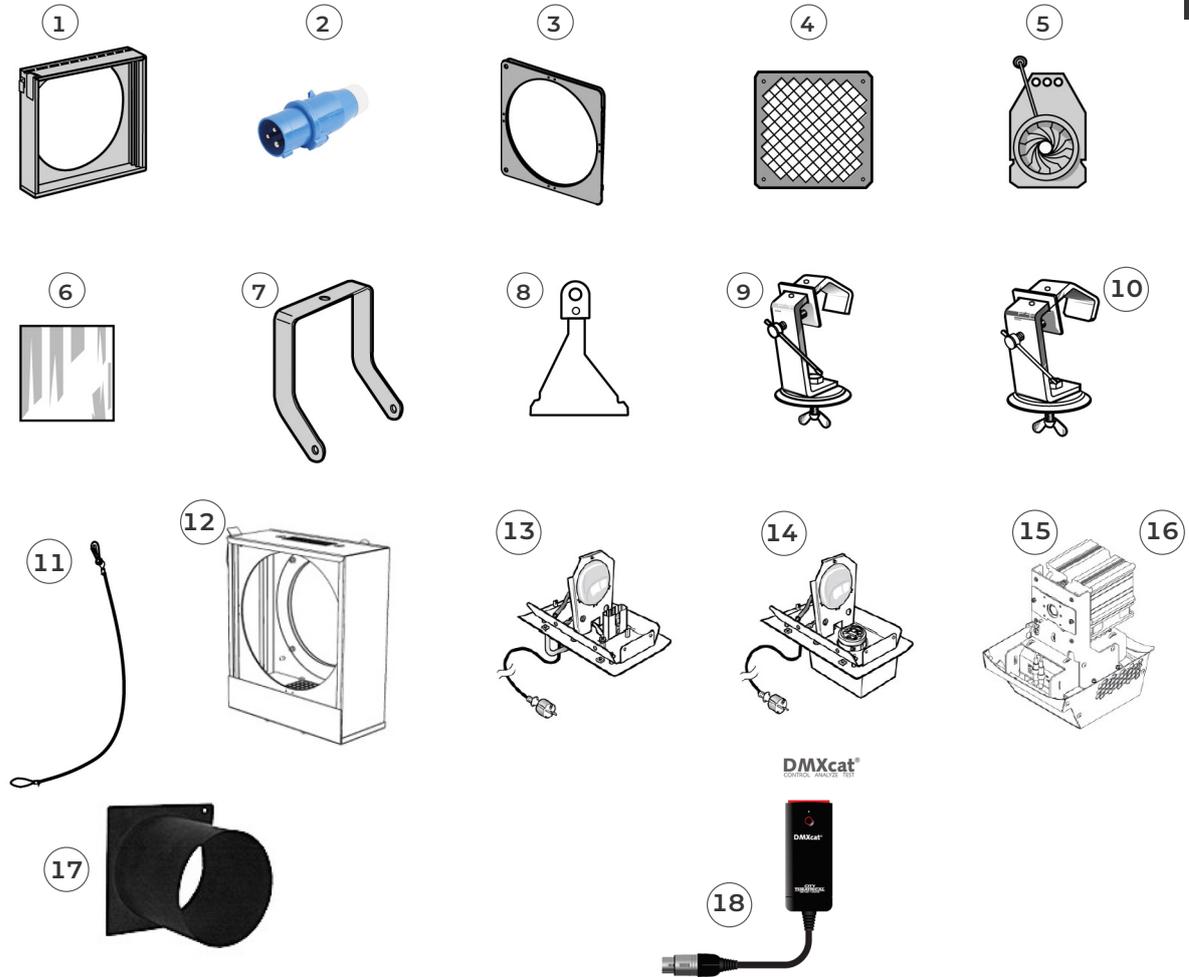
	Reference	Description
1	CAV 600A	Double slot front cassette for 180x180 mm accessories
	CAV 600AE	Double slot front cassette for 185x185 mm accessories
2	PCP1716A	16A blue 2P+E 6h IEC60309 power connector
3	PF600M2	185x185 mm (7.28 x 7.28 in) metal filter holder
4	G500	180x180 mm safety grid
5	IWSX755	Drop-in iris (monoplane) with holder
6	VD 120	120x120mm frosted glass
	FO120C-1	120x120mm 1° frost optical filter
	FO120C-10	120x120mm 10° frost optical filter
	FO120C-2	120x120mm 2° frost optical filter
	FO120C-5	120x120mm 5° frost optical filter
7	FCD600	Angled yoke
8	D8	Shutter
9	876	Hook clamp 40x10 mm with 28 mm M10 screw for Ø35 to Ø50 mm pipes
10	880	Hook clamp 40 10 mm with 28 mm M10 screw for Ø50 to Ø63 mm pipes
11	CS2	Safety cable Ø3 mm (length = 600 mm)
12	RPF613	180x180 mm front extension cassette for 215x215 mm accessories without fan (recommended for dark colours on 613SX/663SX)
	RPF613E	180x180 mm front extension cassette for 245x245 mm accessories without fan (recommended for dark colours on 613SX/663SX)
13	T/600SX	Lamp compartment for 1000/1200W tungsten GX9,5 lamps - 3 meter power cable with CEE 7/7 (2P+T NF/SCHUKO) connector
14	T/600VSX	Lamp compartment for 1000/1200W tungsten G22 lamps with fan - 3 meter power cable with CEE 7/7 (2P+T NF/SCHUKO) connector
15	T/650SXCW	SULLY 115 W LED compartment - Cool White - 3 meter power cable with CEE 7/7 (2P+T NF/SCHUKO) connector
16	T/650SXWW	SULLY 115 W LED compartment - Warm White - 3 meter power cable with CEE 7/7 (2P+T NF/SCHUKO) connector
17	TH600	180 x 180 mm "Top hat" (without safety cable)
18	DMXcat	Bluetooth DMX/RDM Multifunction test tool - City Theatrical DMXcat®

3 Set-up

3.1 Mechanics

3.1.1 Operating positions
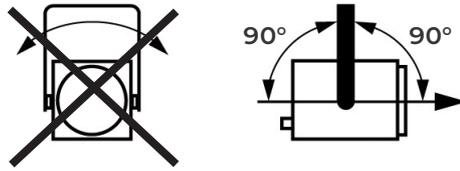
3.1.2 Minimum distance between a flammable material and the lighting unit

0,80 m
(2.6 ft)
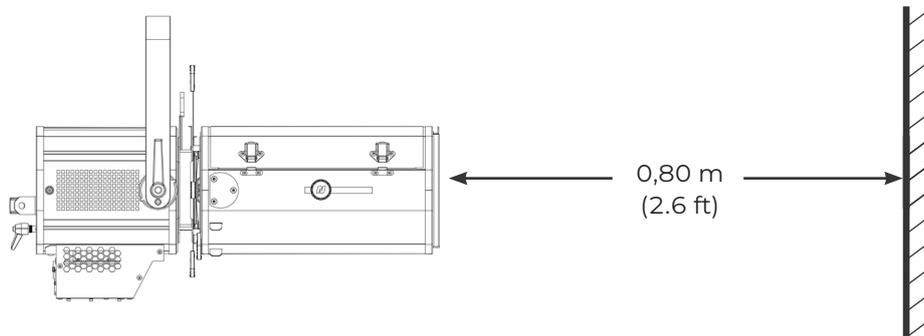
3.1.3 Instructions for use

Minimum : 5°C / 40°F

Maximum : 40°C / 104°F
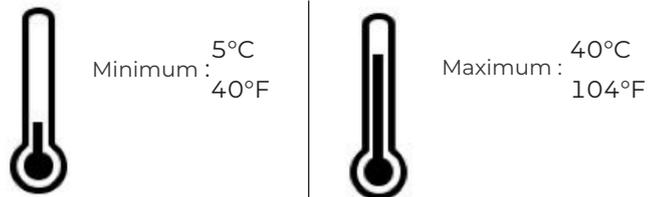
IP20 - Indoor use only

3.1.4 Hanging

· Ensure fixture is correctly mounted on an appropriate support

Hook

Ø 13,20 mm

Net weight:
653SX = 12.2 kg (*26.8 lbs*)
654SX = 13.6 kg (*29.9 lbs*)
651SX = 13.9 kg (*30.6 lbs*)
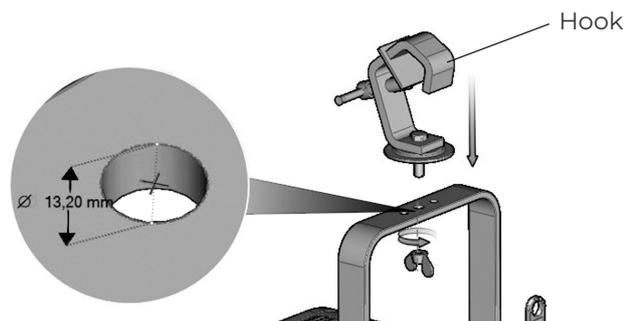
3.1.5 Safety cable
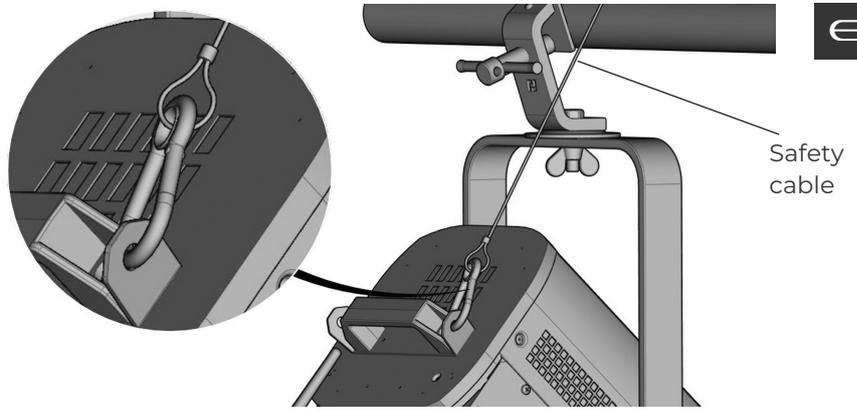
Safety cable

- 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 Electrical information

3.2.1 LED source

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

3.2.2 Power supply

Power supply			
Voltage	**Frequency**	**Input power**	**Connectors**
90 ➡ 277 V	50-60 Hz	0,7 A / 130 W @ 230V 1,15 A / 135 W @ 120V 1,4 A / 135 W @ 100V Max: 1,5A Standby mode: 10W	Neutrik powerCON TRUE1 TOP Input : ref. NAC3FPX-TOP

⏚ · Class 1 product. This luminaire must be earthed.
· Must be connected directly to AC power. **Do not connect to dimmer power.**
· Automatic mains voltage detection.

Daisy chain (with delivered power cable):
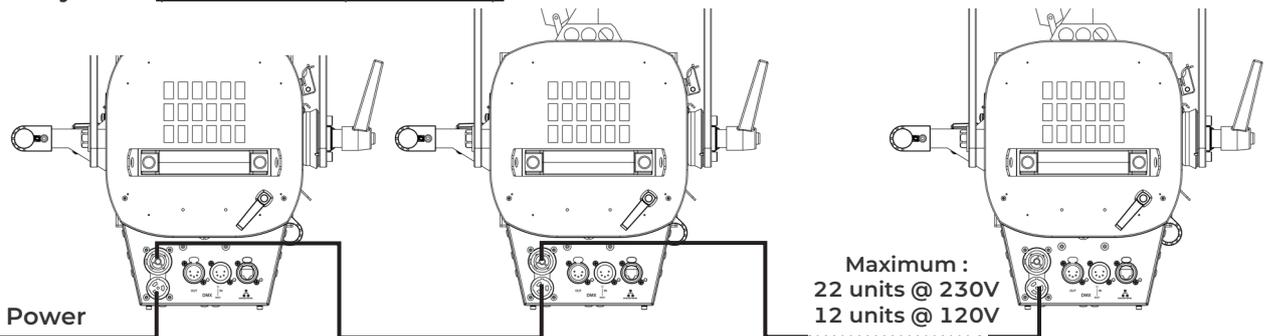
Power

Maximum :
22 units @ 230V
12 units @ 120V

Power cable					
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
In			Out		

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 (-)	1st conductor of 1st twisted pair	
3	DMX (+)	2nd conductor of 1st twisted pair	
4	Not used	1st conductor of 2nd twisted pair	
5	Not used	2nd conductor of 2nd twisted pair	

DMX OUT   DMX IN

Daisy chain:

Maximum :
31 units total

DMX Console

3.3.2 Art-Net / sACN / DUAL

Protocol	Input connector	Output connector
Art-Net (V3 & V4) sACN DUAL (SACN + Art-Net)	RJ45	-

(*) A 1000 base-T switch that supports IGMP (Internet Group Management Protocol) is necessary if the unit is connected to a network switch to control multiple devices. The usage of non IGMP switch capability can cause erratic behavior of all connected devices.
For further reading: https://en.wikipedia.org/wiki/Internet_Group_Management_Protocol

3.3.3 Ethernet / DMX node / DUAL
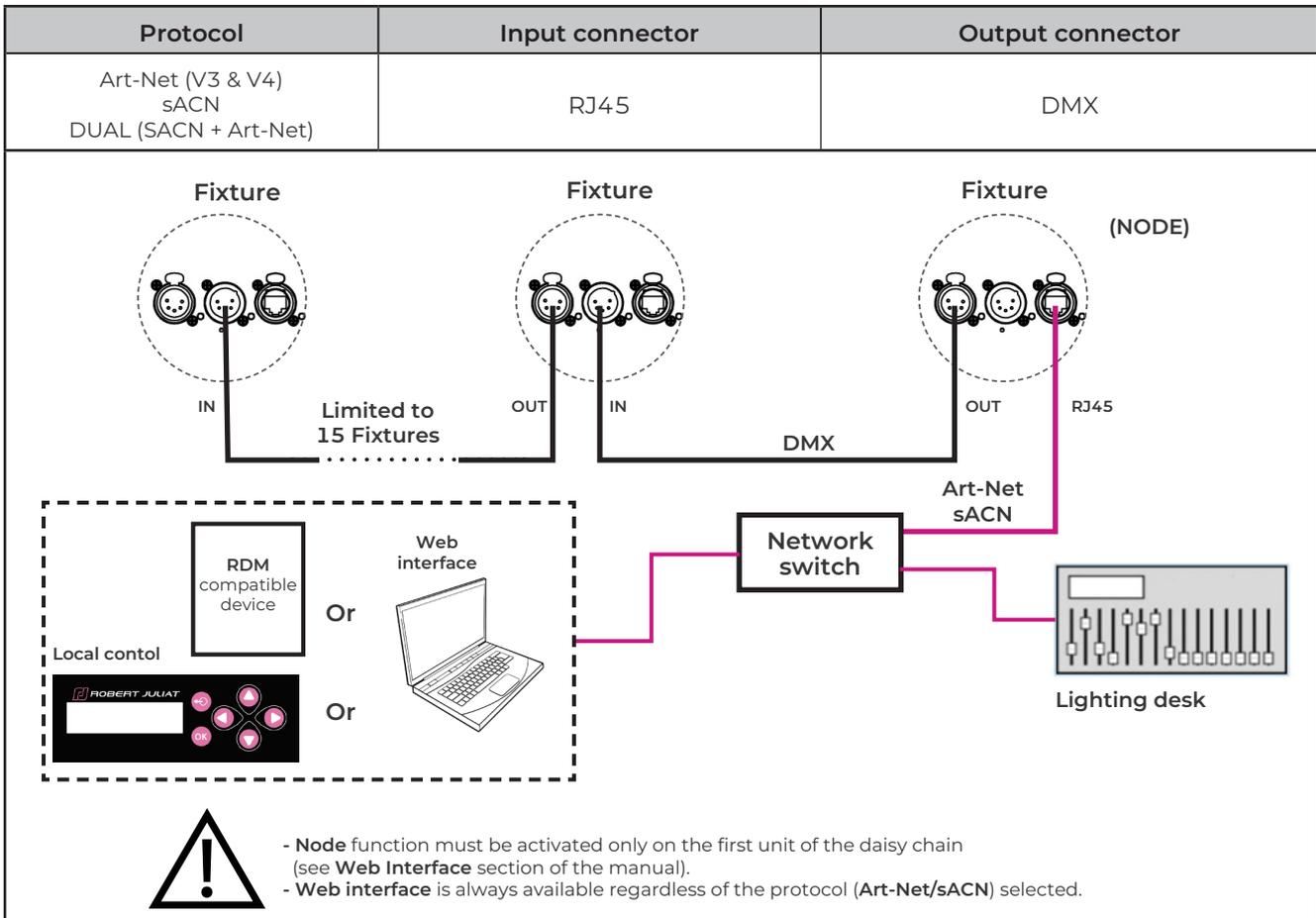
Protocol	Input connector	Output connector
Art-Net (V3 & V4) sACN DUAL (SACN + Art-Net)	RJ45	DMX

- **Node** function must be activated only on the first unit of the daisy chain (see **Web Interface** section of the manual).
- **Web interface** is always available regardless of the protocol (**Art-Net/sACN**) selected.

RJ-LED2 FIRMWARE PLATFORM (Node Mode) full manual is available for download at **www.robertjuliat.com/LED/PDF_PAGE**

3.4 Accessories

3.4.1 Front filter holder
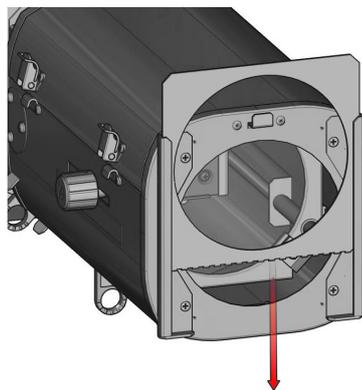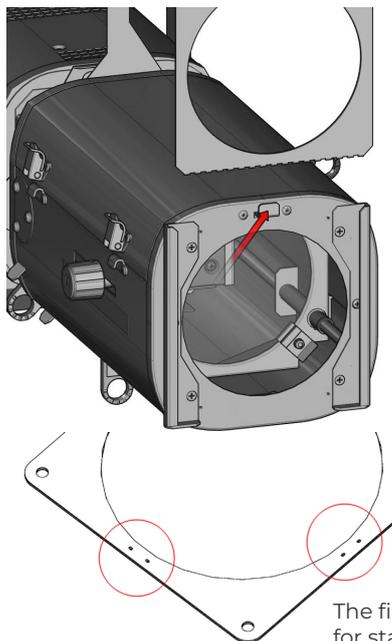
For filter dimensions, see section **4.6**
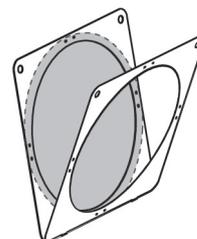
The filter holder includes perforations designed for stapling to keep the gel in position.

3.4.2 Double-condenser set

Tools
1 : Angled L- Shaped Open-Socket Wrench – 10 mm
or
2 : Flat spanner – 10 mm
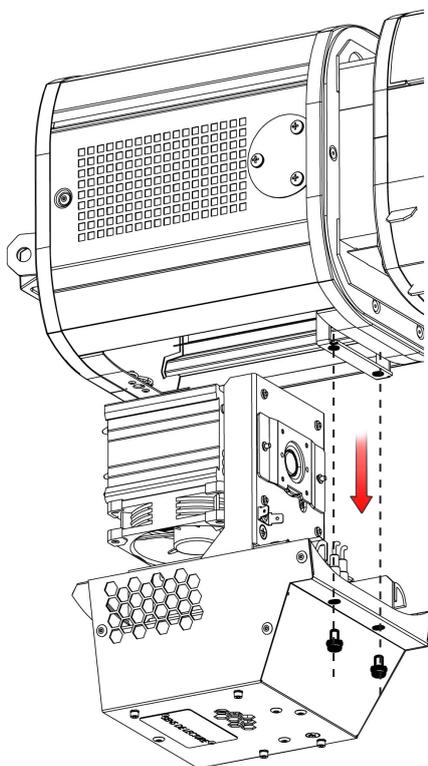
For full procedure, see section 6.1.7
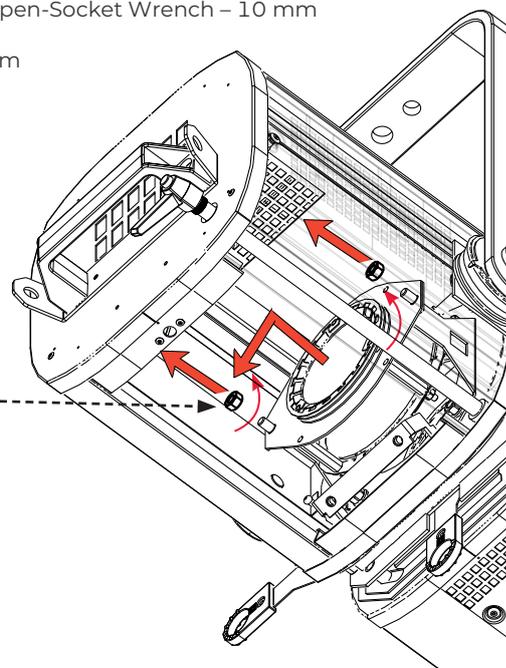
⚠ Only possible with LED version (not with halogen)

3.4.3 Internal filter holder
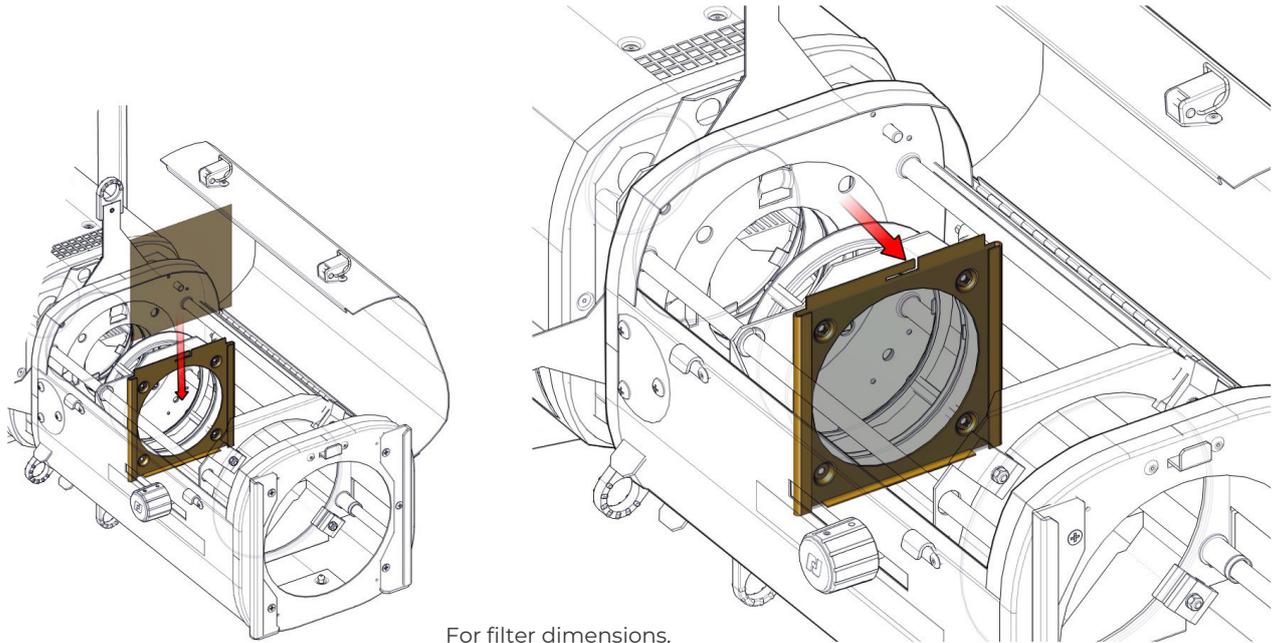
For filter dimensions,
see section **4.6**

3.4.4 Gobo holder / Iris

For gobo dimensions,
see section **4.9**

Position 1

Position 2

'click'

3.4.5 Shutters

Step 1

Step 2

Step 3
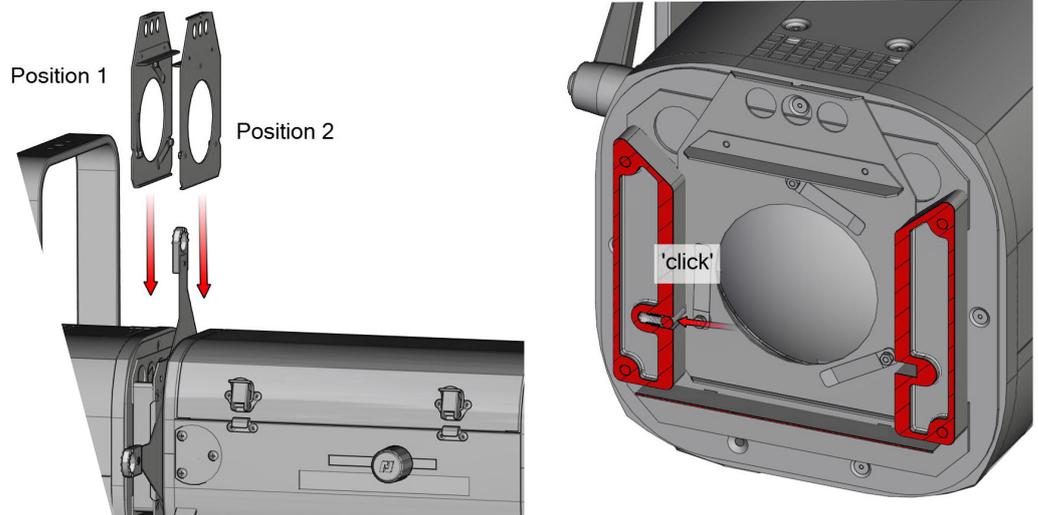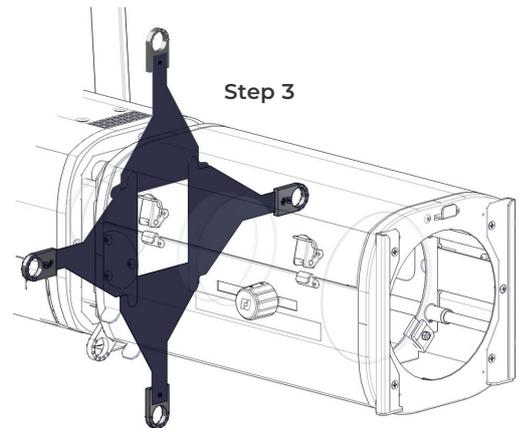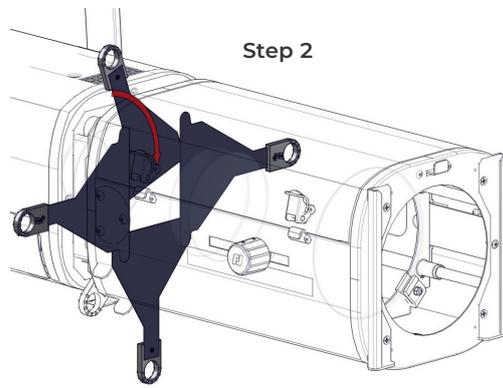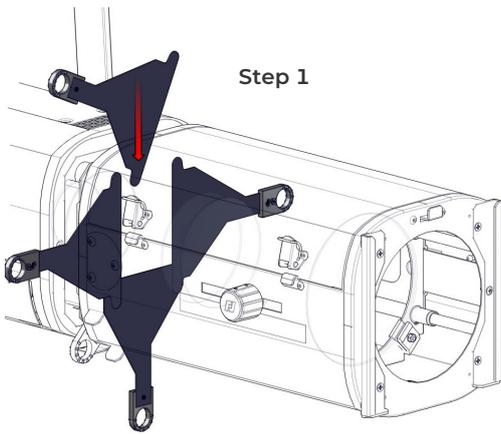
Beam size adjustment
see section **4.7**

4 Operations

4.1 Light intensity

4.1.1 Range

0%   100%

4.1.2 Control

➡ Remotely with DMX512-A / Art-Net / sACN / Dual protocols

➡ Set through standalone mode and the RDM protocol or web interface
See **5.3 Home Values**

➡ Locally via Standalone mode
See **5.3 Home Values**

> **Focus mode:** when standby screen displayed,
> Push Exit or the upper arrow button for 3 secs ➡ Light output = 100% for 1 minute
> 2x times Exit or the upper arrow button ➡ Light output = 0%

4.1.3 Parameters

4.1.3.1 Dimming resolution - DMX only

➡ Set through RDM protocol, web interface or local control

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

4.1.3.2 Dimming curve

➡ Set through RDM protocol, web interface or local control
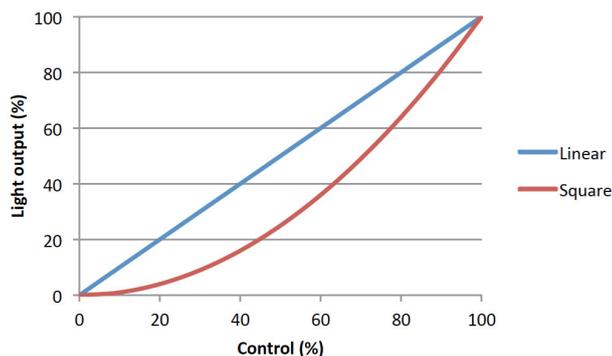
4.1.3.3 Set maximum position

➡ Set through RDM protocol, web interface or local control
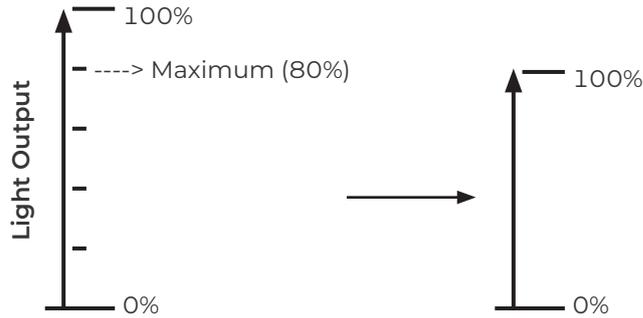
4.1.3.4 Dimming mode

➡ Set through RDM protocol, web interface or local control

Mode	Result
Without PWM	Flicker-Free, perfect for filming
PWM 17 kHz	Good dimming quality (Default Value)
PWM 3,2 kHz	Very good dimming

4.2 Strobe

4.2.1 Range

Strobe duration

0 = OFF   1 = 1ms   255 = 20ms

Strobe speed

0 = 0.1Hz   255 = 10Hz
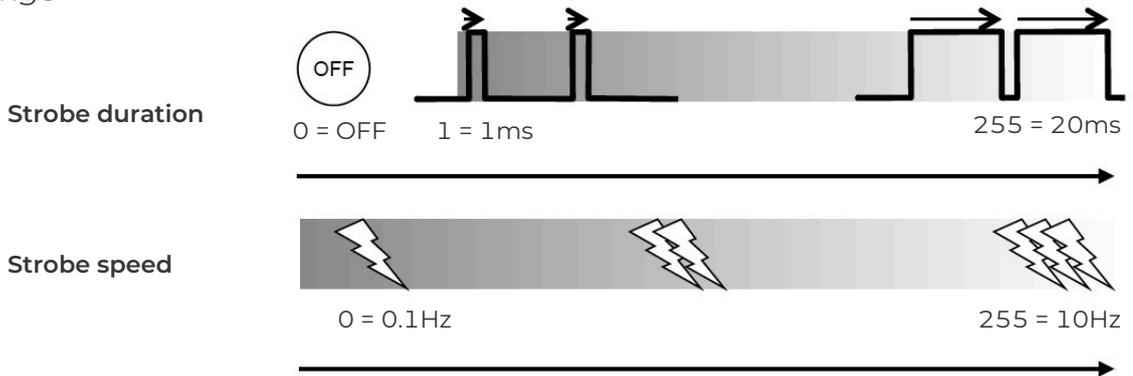
4.2.2 Control

➡ Remotely with DMX512-A / Art-Net / sACN / Dual protocols.
   Mode 2 – 4
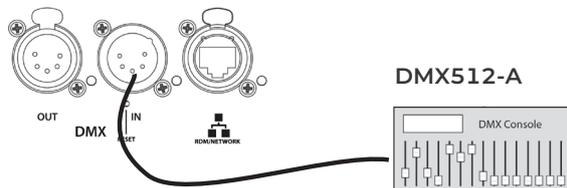
DMX512-A

4.3 Response time

4.3.1 Range
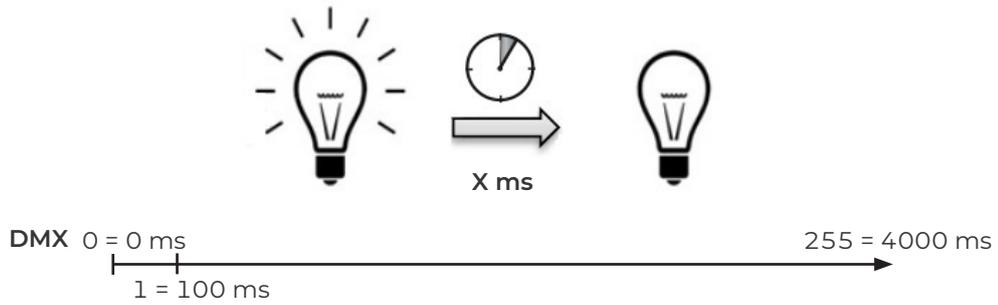
X ms

DMX 0 = 0 ms   255 = 4000 ms

1 = 100 ms

4.3.2 Control

DMX512-A

Remotely, with
DMX512-A / Art-Net / sACN / Dual protocols
Mode 2 – 4 only

RDM

RDM compatible device

or
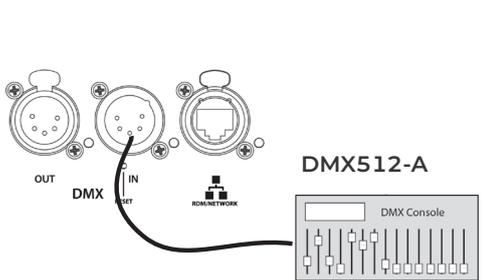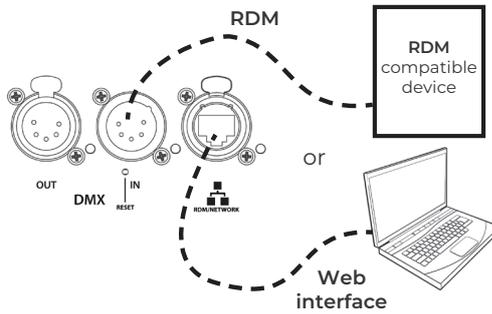
Web interface

➜ Set through RDM protocol or web interface

Mode 1 – 3

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

see **5.3 Home Values**

Locally
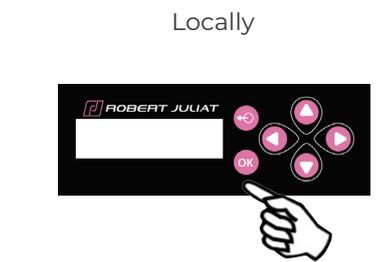
➜ selection in SETUP/DIMMER/ **RESPONSE TIME**

Mode 1 – 3

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

see **5.3 Home Values**

4.4 Beam size adjustment

4.4.1 Range

Field angle
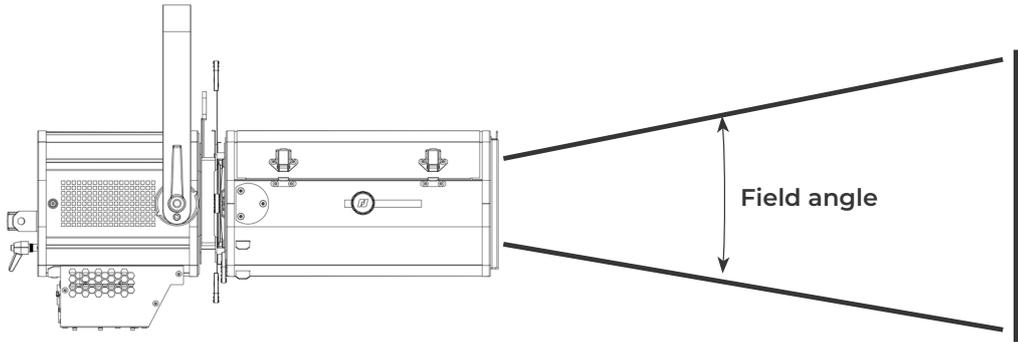
Model	Minimum angle	Maximum angle
653SX / 653CSX	28°	54°
654SX / 654CSX	16°	35°
651SX / 651CSX	11°	26°

4.4.2 Control

Focus

Zoom
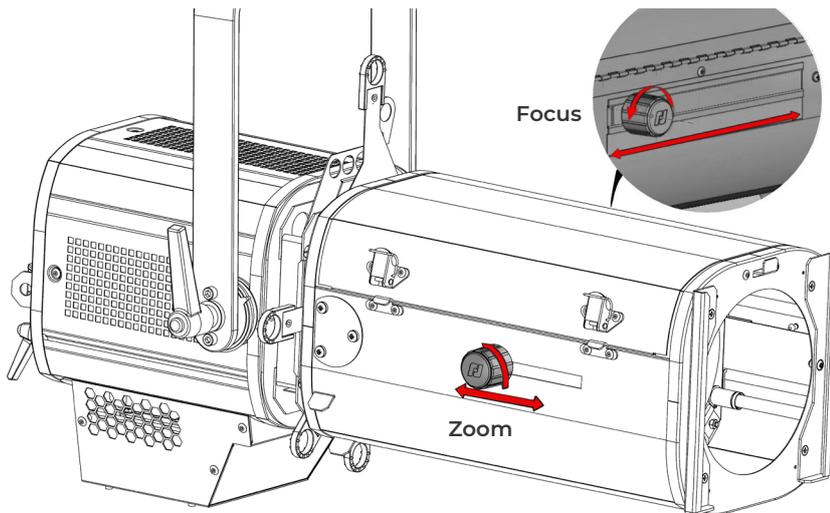
4.5 Orientation

4.5.1 Range

Function	Range
PAN	0 ➡ 360°
TILT	TU = 0 ➡ 63° TD = 0 ➡ 90°

PAN	TILT
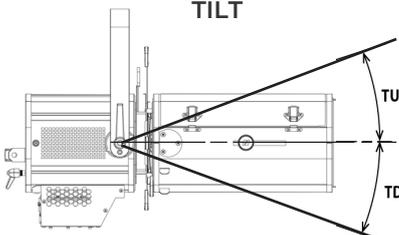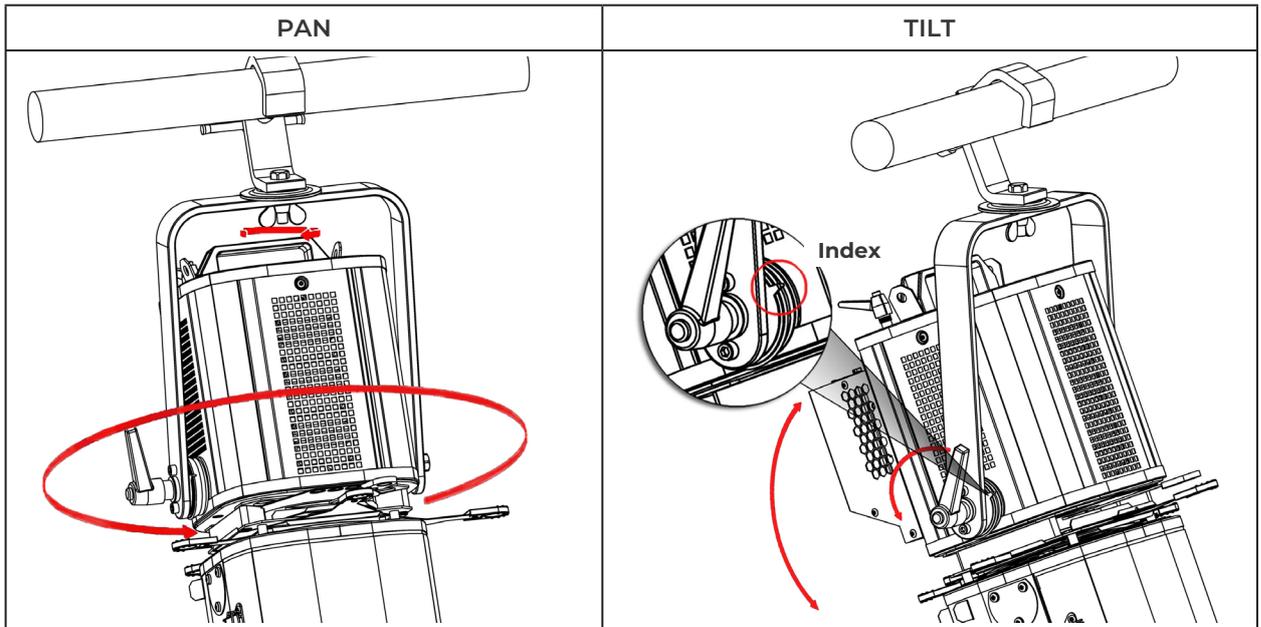
4.6 Colour

Fixed colour:

| Location		
	1. Front filter holder	**2. Internal filter holder**
Type	Standard coloured gel filter	Frosted or dichroic glass
Dimensions	180,00 mm / ∅ 160,00 mm / 180,00 mm	120 mm / 120 mm
Installation	*See 3.4.1*	*See 3.4.2*

4.7 Beam shaping

4.7.1 Range

Open	Iris

1 shutter	2 shutters	3 shutters	4 shutters
5 shutters	6 shutters	7 shutters	8 shutters

4.7.2 Control

Locking shutter system
Locked	Unlocked
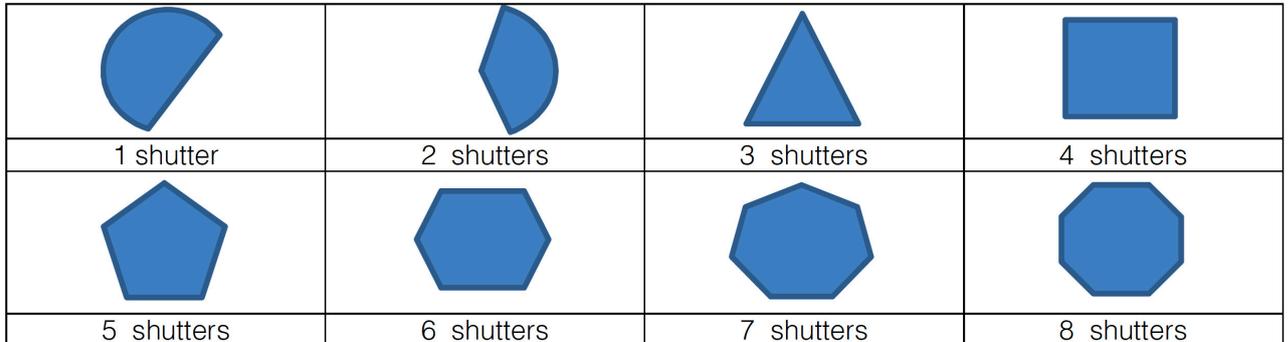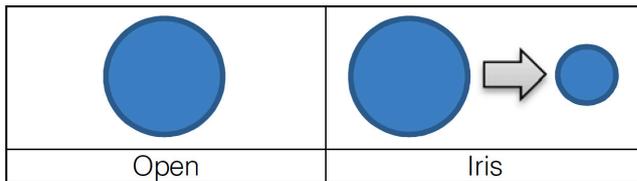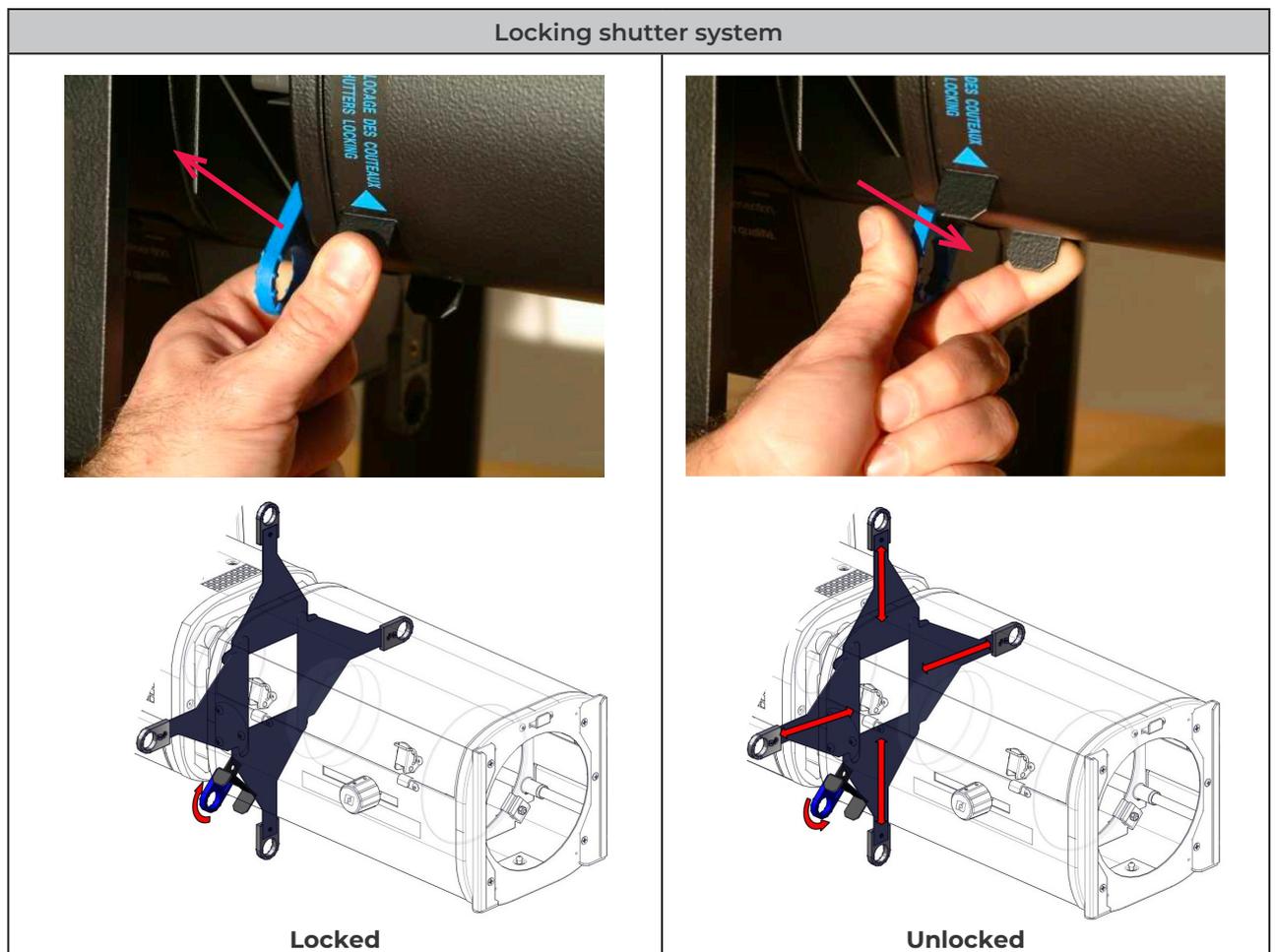
See 3.4 **Accessories** for gobo, iris and additional shutters installation

4.8 Beam rotation

4.8.1 Range
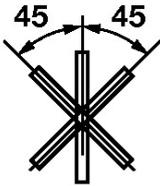
Function		Range
Gobo	Shutters	

4.8.2 Control

Location	Position 1 / Position 2
Type	Metal / Glass
	A-size 75 mm / 100 mm
Gobo installation	**Position 1** / **Position 2**
Optical filter installation	**Position 1**
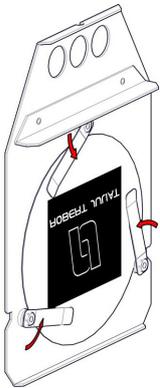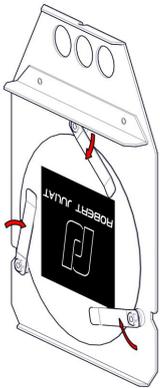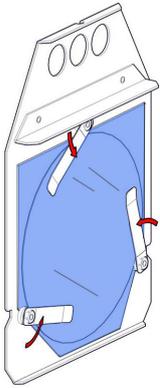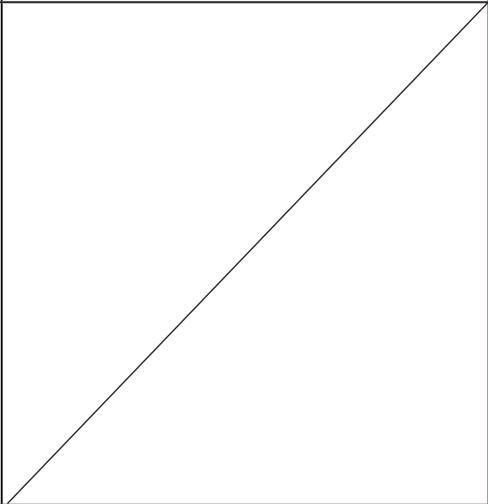
5 Controls and parameters

5.1 Local display and controls*

5.1.1 Display
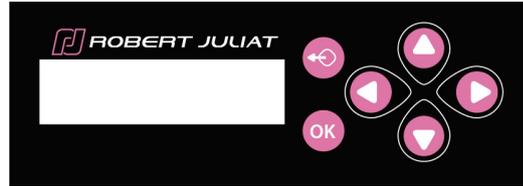
Function	
	Exit the current menu option and/or go back
	Long press for 3 seconds => Access Focus mode
	Enter the current menu option and/or valid
	Scroll through menus and/or Increase data value
	Scroll through menus and/or Decrease data value
	Scroll through menus and/or Increase data value
	Scroll through menus and/or Decrease data value

(*) If equipped with this option

5.1.2 Home screen

Display	Mode	Description
DUAL : NO HOLD LAST **NO DMX** DIMMER: 00	**Home**	Main display (home screen)
Diagnostic Nothing to report	x1 push	Diagnostics
Link status : NOK DHCP : OFF IP 192.168.000.013 MASK 255.255.255.000 GW 192.168.000.001	x1 push	Network information
FOCUS MODE Remaining... 59s	Press 3 secs.	Focus mode

DATA MODE

PROTOCOL
• DMX
• ARTNET
• SACN
• DUAL
• STANDALONE

PERSONALITY
• MODE X

DMX ADDRESS
• VALUE

IP CONFIG
• DHCP
• ADDRESS
• MASK
• GATEWAY (GW)

STATUS

SELFTEST

SYSTEM ID
• SERIAL NUMBER
• SOFTWARE VERSION
• MAC ADDRESS
• RDM UID
• RDM DEVICE LABEL

DEVICE COUNTER
• VALUES

LIGHT SOURCE
• LED COUNTER
• POWER REDUCTION
• TEMPERATURE
• CHANNELS CURRENT
• CHANNELS VOLTAGE

FANS
• VALUES

POWER SUPPLY
• VALUES

TEMPERATURES
• VALUES

SETUP

DIMMER
• CONTROL
• CURVE
• RESPONSE TIME
• MAX
• DIMMING

HOME VALUES
• DIMMER
• REPONSE TIME

DISPLAY
• BRIGHTNESS
• AUTO OFF

DATA SETUP
• DMX HOLD
• RDM
• FIXTURE ID
• TERMINATOR
• NODE

COOLING*
• SILENT
• NORMAL
• FULL

(*) If availble for the fixture.

EXPERT

FACTORY DEFAULT

Reset to factory settings.

➜ Selection in menu: **SETUP / DISPLAY**

Display	Function	Description
SETUP ⌐ DISPLAY ⌐ BRIGHTNESS Brightness: 40% Bightness ⌐ Auto-Off	**Brightness**	Adjust the intensity of the screen To change value, press buttons: OK press OK to validate
SETUP ⌐ DISPLAY ⌐ AUTO OFF Always on Timer without warning	**Auto-OFF**	To keep the main display (home screen) always ON, select : **Always ON** Timer without warning Timer with warning Main display turns OFF after 20 seconds OK press OK to validate
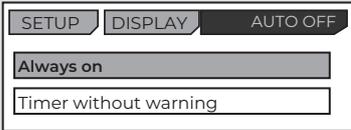
➜ Selection in menu: **SETUP / DISPLAY**

5.2 DMX512 - A remote control

5.2.1 Protocol

E1.11 – 2008, USITT DMX512-A

5.2.2 Configuration

Set mode through web interface
(*see 5.9* **Web interface**)
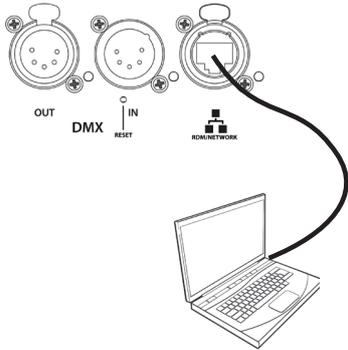
Set mode through RDM protocol

Local control

OUT   DMX   IN
RESET   RDM/NETWORK

RDM compatible device

1 - Set DMX address
2 - Set personality mode (*see 5.2.4.* **DMX chart**)

Press OK to validate

Data Mode
DATA MODE | STATUS | SETUP | FAC

Press OK to validate
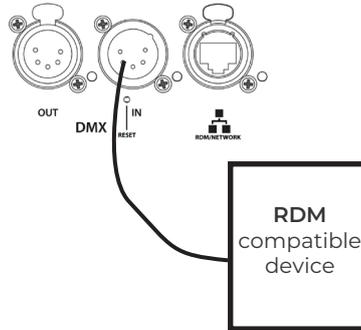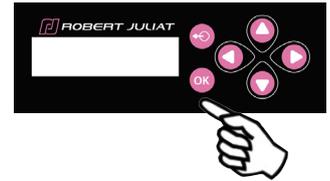
Protocol
PROTOCOL | PERSONALITY | DMX ADDI

Caution:
Activate DMX in protocol mode beforehand.

DATA MODE
DMX Address
PERSONALITY | DMX ADDRESS | IP CO

Press OK to validate

DATA MODE | ADDRESS
Start address: 001
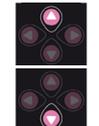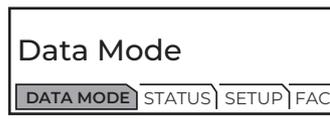
DMX address of the unit from 1 to 512

Selection of the unit personality

DATA MODE | PERSONALITY
M1:   DIMMER   8B
M2:   PROFILE 16B

Press OK to validate

Press OK to validate

DATA MODE
Personality
PROTOCOL | PERSONALITY | DMX ADDI

Press OK to validate
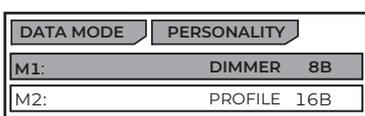
5.2.3 Parameters

5.2.3.1 DMX Hold

➡ Selection in **SETUP / Data Setup / DMX HOLD** menu
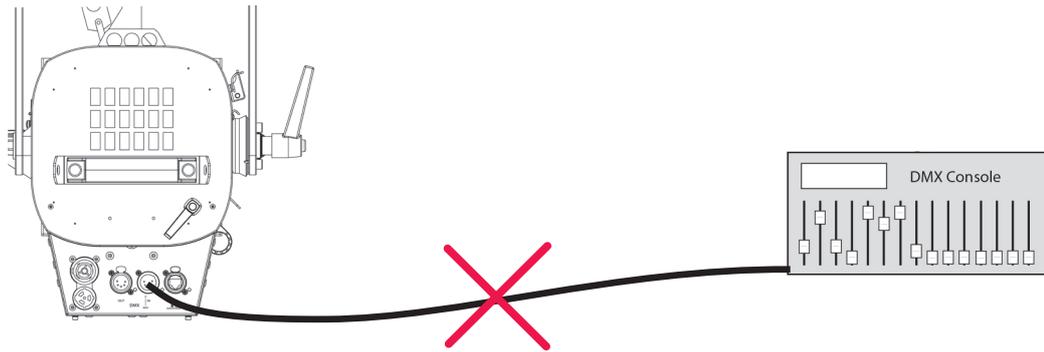
If data not detected

Hold last values   *Blackout*   *Home Value*
                                                   (***See section 5.3***)

5.2.3.2 FIxture ID

➡ Selection in **SETUP / DATA SETUP / FIXTURE ID** menu

Fixture ID can be set through **web interface** or **RDM** protocol or **local control**

Each unit can be identified by a Fixture ID number
– Once defined, the Fixture ID is displayed on the Home screen.

Example: Installation with 6 units						
Home screen information	ID1 @ 101	ID2 @ 123	ID3 @ 145	ID4 @ 167	ID5 @ 189	ID6 @ 211
Fixture ID	1	2	3	4	5	6
DMX address	101	123	145	167	189	211
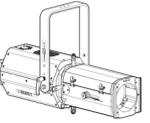
5.2.3.3 Terminator

Mode: Auto
A resistor of 120R is automatically connected to terminate the DMX line as the RS485 standard specifies.

5.2.3.4 Node

On sACN/ArtNet/Dual mode we have the possibility to transmit a DMX/RDM signal protocol on the DMX port (Output). The selection can be done through the menu/Webpage/RDM.

On Dual mode (sACN/ArtRdm) the node feature is automatically selected.

5.2.4 DMX chart

DMX Channel	Mode 1: Dimmer 8B	Mode 2: Dimmer 16B	Mode 3: Profile 8B	Mode 4: Profile 16B
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

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: 0,1 s ➡ 4 s

5.2.5.4 Control mode*

Range min	Range max	Function
0	0	-
1	10	RDM OFF
11	20	RDM ON
21	30	Fixture Reset
31	40	Dimmer Curve Linear
41	50	Dimmer Curve Square
51		
61		
71		
81		
91		
101	110	Cooling mode: Silent
111	120	Cooling mode: Normal
121	130	Cooling mode: Full power
131	255	Not used

(*) Function activated after 5 seconds - needs to go back to zero to activate second function.

5.2.6.1 Protocol

ANSI E1.20 – 2010 / ANSI E1.37 - 1
For more information about RDM protocol: http://www.rdmprotocol.org/

5.2.6.2 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	✓	✓	✓	✓	✓

5.3 Home values & Standalone

"Home values" represent a selection of parameters manually entered into the device via the keypad to produce a defined lighting effect and dimming behavior.

These Home values can be set in the following modes:

Functions *	Mode 1: Dimmer 8B	Mode 2: Dimmer 16B	Mode 3: Profile 8B	Mode 4: Profile 16B		Standalone **
Dimmer	Valeur DMX	Valeur DMX	Valeur DMX	Valeur DMX		HOME VALUE
Response Time	HOME VALUE	Valeur DMX	HOME VALUE	Valeur DMX		HOME VALUE

If the function is not controlled by DMX, the Home value is automatically activated.

(*) Functions are displayed according to the selected mode (Mode 1-2-3-4).
 - In the case of using one or more functions in Mode 1 / 2 / 3 / 4   Data mode ➡ personality ➡ Mode 1 / Mode 2 / Mode 3 / Mode 4

(**) Defines a standalone operating mode in the following cases:
 - As default values when used without data   Data mode ➡ Protocol ➡ Standalone

5.4 Network

Our network stack can handle several flows of protocol at the same time.

Protocol always available:
 - Web page to set up parameters - *See section 5.4.4*
 - LLRP (Low Level Recovery Protocol) for IP network configuration - *See section 5.4.5*

A selection of Protocols dedicated to lighting:
 - Art-Net V4 - *See section 5.4.1*
 - sACN - ***See section 5.4.2***
 - Dual: Sacn + Art-RDM (DMX512 data signal + RDM) - *See section 5.4.3*

From July 2024 the Robert Juliat equipment based on RJ LED2 platform is configured as follows:
 - DHCP (**Dynamic Host Configuration Protocol - RFC1531**) ON
   ➡ https://www.rfc-editor.org/rfc/rfc1531
 - Zeroconf (**Zero-configuration networking – IPv4LL/APIPA – RFC3927**) ON
   ➡ https://www.rfc-editor.org/rfc/rfc3927

IP Addressing of Parameters - *See section 5.1.2*
Default:
 - At startup, the device's IP address is set to 000.000.000.000 with a subnet mask of 000.000.000.000
 - After connecting to the network, the device awaits the assignment of an IP address and subnet mask by the DHCP server.
 - If there is no DHCP server, a unique IP address and subnet mask are automatically assigned.
        IP : 169.254.XXX.XXX **Mask :** 255.255.0.0

Most personal computers are configured with DHCP and Zeroconf enabled, so the IP address defaults to 169.254.X.X with a subnet mask of 255.255.0.0.
When connected to a Robert Juliat device, since the IP address/mask range are in the same class, network communication works seamlessly.
This configuration was chosen to make it easier for non-IT technicians.

Static IP:
It's possible to configure a static IP address, but be sure to select a unique IP address with the correct subnet mask.
Configuration can be done via the Web Page, RDM, LLRP, Art-Net, or locally.

Default IP Address:
When DHCP mode is OFF and no static IP address has been selected, the device will default to a Class A IP address of 2.XXX.XXX.XXX with a subnet mask of 255.0.0.0.
This address can be found on a label near the ID plate or by pressing the right arrow on the local control.

Default Settings:
DHCP = OFF
Address = 2.XXX.XXX.XXX
Mask = 255.0.0.0
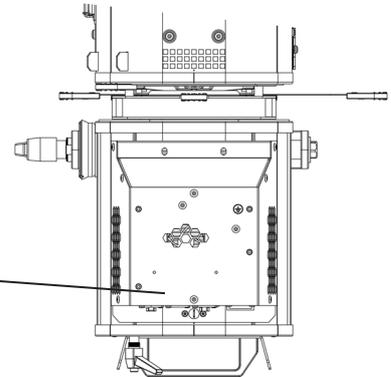
Changing the Controlling Computer's IP Address:
- The IP address and subnet mask of both the fixture and the computer must be on the same network class.
- The computer's IP address must be different.
- Refer to your operating system's support to modify IPv4 settings:
  Change your IP address on Windows
  ➡ https://support.microsoft.com/en-us/windows/change-tcp-ip-settings-bd0a07af-15f5-cd6a-363f-ca2b6f391ace
  Change your IP address on Mac
  ➡ https://support.apple.com/en-ae/guide/mac-help/mh14129/mac

Example: Using the fixture's default IP address
1 - Computer IP address: 2.2.2.2
2 - Computer subnet mask: 255.0.0.0

5.4.1 Art-Net remote control

5.4.1.1 Protocol

Artistic Licence Art-Net v4.
For more information about Art-Net protocol: http://art-net.org.uk/

5.4.1.2 Configuration

Set mode through Web interface (*see 5.9 Web interface*)	Set mode through RDM protocol	Local control

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

⚠️ **_Caution_**:
(*) Activate Art-Net in protocol mode beforehand.

step 1*
step 2

OK
Press OK
to enter
DATA MODE

**Mode
is activated**

Data Mode

| DATA MODE | STATUS | SETUP | FAC |

step 1*
step 2

OK
press OK
to validate

| DATA MODE |
Protocol
| PROTOCOL | PERSONALITY | DMX ADDI |

OK
press OK
to validate

step 1*
step 2

ART: NO LINK
**on HOME
screen**

step 1*

OK
press OK
for changing mode

| DATA MODE | PROTOCOL | ARTNET |
Enable
| ENABLE | UNIVERSE |

step 2

OK
press OK
to validate

| DATA MODE | PROTOCOL |
DMX
| DMX | ARTNET | SACN | DUAL | STANI |

press x1

OK
press OK
to validate

| DATA MODE | PROTOCOL | ARTNET |
Universe
| ENABLE | UNIVERSE |

step 1*
step 2

| DATA MODE | PROTOCOL |
ARTNET
| ARTNET | SACN | DUAL | STANDALON |

OK
press OK
to validate

OK
press OK
to validate

Selection of the Universe

OK
press OK
to validate

| PROTOCOL | ARTNET | NET |
Universe: 00001

Press x2 to go back to
DATA MODE / PROTOCOL

| DATA MODE |
Protocol
| PROTOCOL | PERSONALITY | DMX ADDI |

Selection of the unit personality

| DATA MODE |
Personality
| PROTOCOL | PERSONALITY | DMX ADDI |

*Selection of the unit personality,
cf. 5.2.2.*

| DATA MODE |
DMX Address
| PERSONALITY | DMX ADDRESS | IP CO |

Gateway address of the unit

OK
press OK
to validate

| DATA MODE | IP CONFIG | GATEWAY |
002.000.000.001

OK
press OK
to validate

| DATA MODE | IP CONFIG |
Gateway
| DHCP | ADDRESS | MASK | GW |

IP-Mask address of the unit

OK
press OK
to validate

| DATA MODE | IP CONFIG | IP-MASK |
255.000.000.000

OK
press OK
to validate

| DATA MODE | IP CONFIG |
Mask
| DHCP | ADDRESS | MASK | GW |

IP address of the unit

OK
press OK
to validate

| DATA MODE | IP CONFIG | IP-ADDRESS |
192.168.000.013

*DMX address of the unit
from 1 to 512, cf. 5.2.2.*

OK
press OK
to validate

| DATA MODE |
IP Config
| DMX ADDRESS | IP CONFIG |

OK
press OK
to validate

| DATA MODE | IP CONFIG |
DHCP
| DHCP | ADDRESS | MASK | GW |

OK
press OK
to validate

| DATA MODE | IP CONFIG | DHCP |
| OFF | ON |

DHCP: ON or OFF

OK
press OK
to validate

| DATA MODE | IP CONFIG |
Address
| DHCP | ADDRESS | MASK | GW |

5.4.2 sACN remote control

5.4.2.1 Protocol

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

5.4.2.2 Configuration

Réglage via interface web
(***Cf. 5.4.4 Interface Web***)

Mode de réglage via protocole RDM

Localement

Appareil compatible **RDM**

OUT   DMX

OUT   DMX   IN

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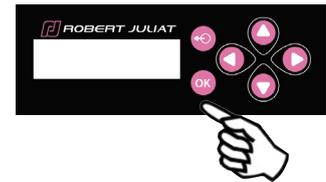
1 - If necessary, change IP settings
2 - Set sACN universe
3 - Set DMX address
2 - Set personality mode (***see 5.2.4. DMX chart***)

Caution:
(*) Activate sACN in protocol mode beforehand.

step 1*

step 2

OK

**Press OK
to enter
DATA MODE**

**Mode
is activated**

Data Mode

| DATA MODE | STATUS | SETUP | FAC |

**press OK
to validate**

DATA MODE | Protocol

| PROTOCOL | PERSONALITY | DMX ADDI |

**press OK
to validate**

step 1*   *step 2*

SACN: NO LINK

**on HOME
screen**

OK

**press OK
for changing mode**

PROTOCOL | SACN

Enable

| ENABLE | UNIVERSE |

OK

**press OK
to validate**

DATA MODE | PROTOCOL

DMX

| DMX | ARTNET | SACN | DUAL | STANI |

press x2

step 1*

DATA MODE | PROTOCOL

SACN

| SACN | DUAL | STANDALONE |

**press OK
to validate**

Selection of the Universe

PROTOCOL | SACN | UNIVERSE

Universe: 00001

**press OK
to validate**

step 2

PROTOCOL | SACN

Universe

| ENABLE | UNIVERSE |

**press OK
to validate**

Press x2 to go back to
DATA MODE / PROTOCOL

DATA MODE

Protocol

| PROTOCOL | PERSONALITY | DMX ADDI |

Selection of the unit personality

DATA MODE

Personality

| PROTOCOL | PERSONALITY | DMX ADDI |

*Selection of the unit personality,
cf. 5.2.2.*

DATA MODE

DMX Address

| PERSONALITY | DMX ADDRESS | IP CO |

Gateway address of the unit

DATA MODE | IP CONFIG | GATEWAY

002.000.000.001

**press OK
to validate**

DATA MODE | IP CONFIG

Gateway

| DHCP | ADDRESS | MASK | GW |

**press OK
to validate**

*DMX address of the unit
from 1 to 512, cf. 5.2.2.*

DATA MODE

IP Config

| DMX ADDRESS | IP CONFIG |

**press OK
to validate**

IP-Mask address of the unit

DATA MODE | IP CONFIG | IP-MASK

255.000.000.000

**press OK
to validate**

DATA MODE | IP CONFIG

Mask

| DHCP | ADDRESS | MASK | GW |

**press OK
to validate**

DATA MODE | IP CONFIG

DHCP

| DHCP | ADDRESS | MASK | GW |

**press OK
to validate**

DATA MODE | IP CONFIG | DHCP

| OFF | | ON |

**press OK
to validate**

DHCP: ON or OFF

IP address of the unit

DATA MODE | IP CONFIG | IP-ADDRESS

192.168.000.013

**press OK
to validate**

DATA MODE | IP CONFIG

Address

| DHCP | ADDRESS | MASK | GW |

**press OK
to validate**

5.4.3.1 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.

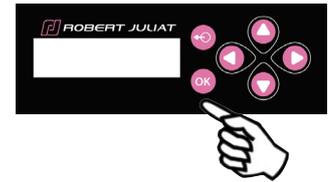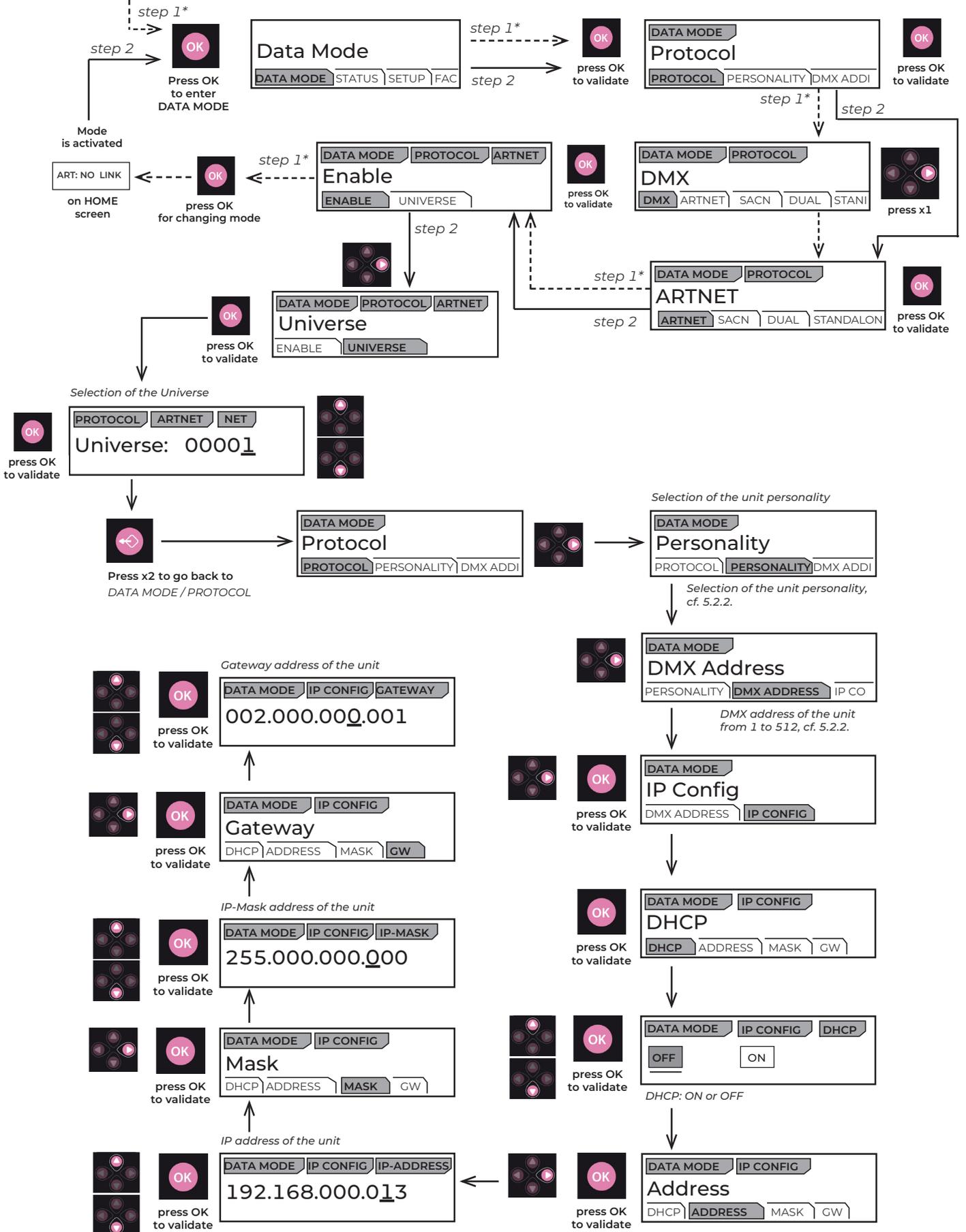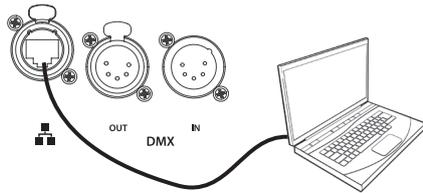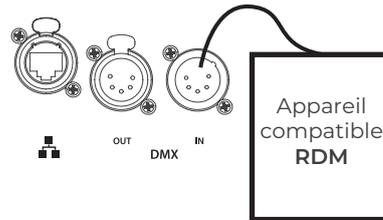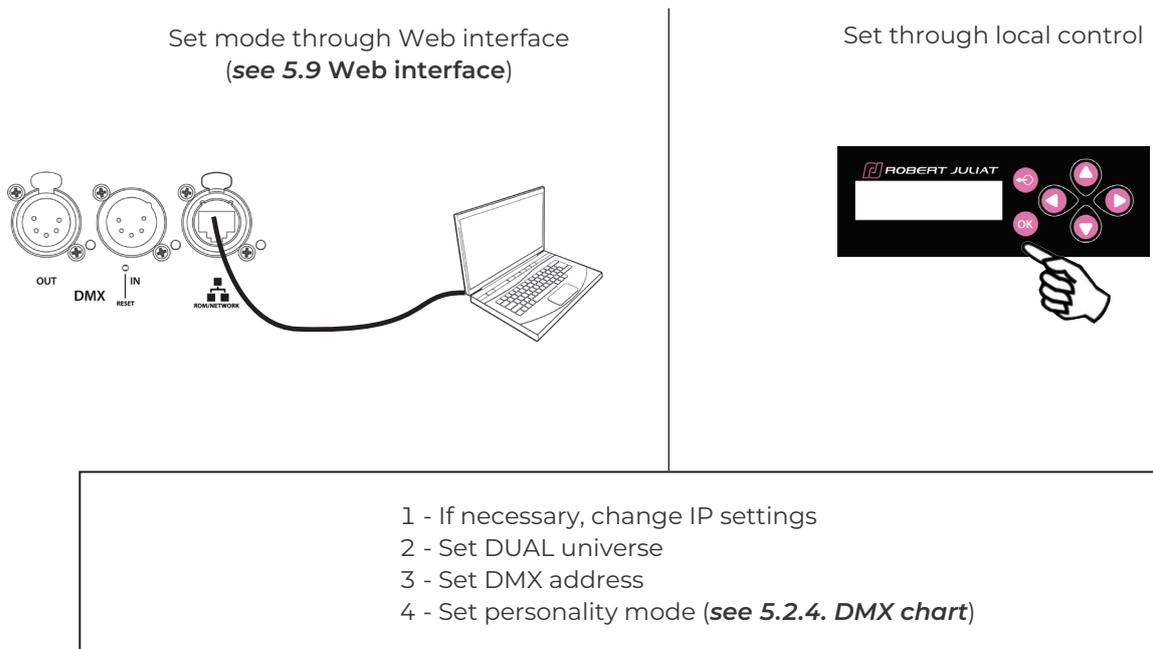This mode can be set by Web interface or the local control screen.
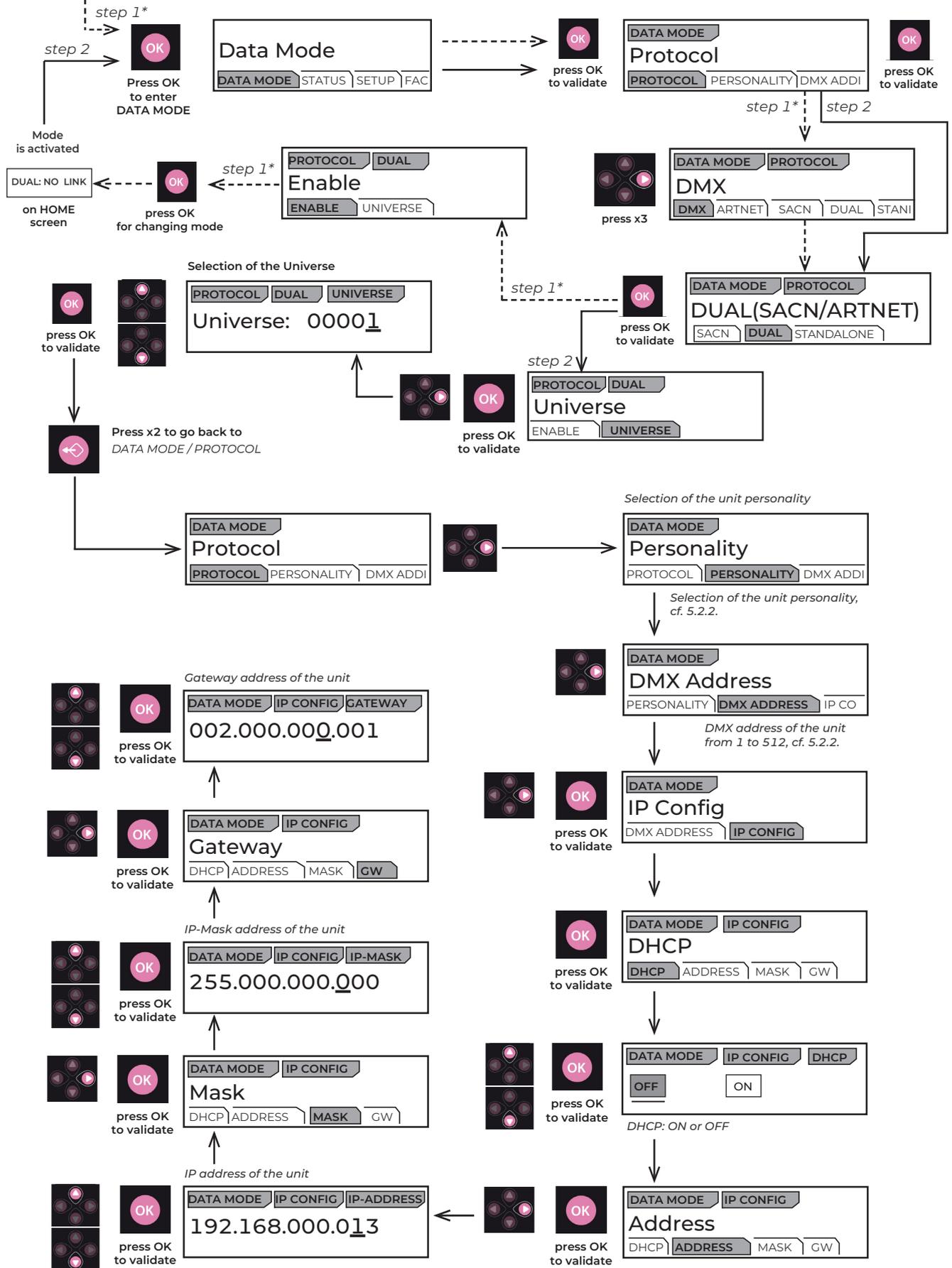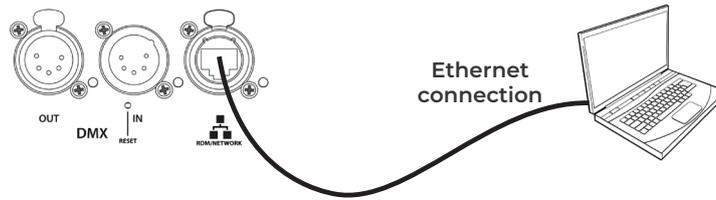
5.4.3.2 Configuration

Set mode through Web interface
(*see 5.9 Web interface*)

Set through 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*)

Caution:
(*) Activate DUAL in protocol mode beforehand.

step 1*

step 2

OK

**Press OK
to enter
DATA MODE**

**Mode
is activated**

Data Mode

| DATA MODE | STATUS | SETUP | FAC |

press OK
to validate

| DATA MODE | PROTOCOL | | |
Protocol
| PROTOCOL | PERSONALITY | DMX ADDI |

press OK
to validate

step 1* | *step 2*

press x3

| DATA MODE | PROTOCOL |
DMX
| DMX | ARTNET | SACN | DUAL | STANI |

| DATA MODE | PROTOCOL |
DUAL(SACN/ARTNET)
| SACN | DUAL | STANDALONE |

| PROTOCOL | DUAL |
Enable
| ENABLE | UNIVERSE |

step 1*

OK

**press OK
for changing mode**

DUAL: NO LINK

**on HOME
screen**

Selection of the Universe

| PROTOCOL | DUAL | UNIVERSE |
Universe: 00001

step 1*

press OK
to validate

step 2

| PROTOCOL | DUAL |
Universe
| ENABLE | UNIVERSE |

press OK
to validate

OK

**press OK
to validate**

Press x2 to go back to
DATA MODE / PROTOCOL

| DATA MODE | | |
Protocol
| PROTOCOL | PERSONALITY | DMX ADDI |

Selection of the unit personality

| DATA MODE | | |
Personality
| PROTOCOL | PERSONALITY | DMX ADDI |

*Selection of the unit personality,
cf. 5.2.2.*

| DATA MODE | | |
DMX Address
| PERSONALITY | DMX ADDRESS | IP CO |

*DMX address of the unit
from 1 to 512, cf. 5.2.2.*

press OK
to validate

| DATA MODE | IP CONFIG |
IP Config
| DMX ADDRESS | IP CONFIG |

press OK
to validate

| DATA MODE | IP CONFIG |
DHCP
| DHCP | ADDRESS | MASK | GW |

press OK
to validate

| DATA MODE | IP CONFIG | DHCP |
| OFF | | ON |

press OK
to validate

DHCP: ON or OFF

| DATA MODE | IP CONFIG |
Address
| DHCP | ADDRESS | MASK | GW |

press OK
to validate

Gateway address of the unit

OK

press OK
to validate

| DATA MODE | IP CONFIG | GATEWAY |
002.000.000.001

| DATA MODE | IP CONFIG |
Gateway
| DHCP | ADDRESS | MASK | GW |

press OK
to validate

IP-Mask address of the unit

| DATA MODE | IP CONFIG | IP-MASK |
255.000.000.000

press OK
to validate

| DATA MODE | IP CONFIG |
Mask
| DHCP | ADDRESS | MASK | GW |

press OK
to validate

IP address of the unit

| DATA MODE | IP CONFIG | IP-ADDRESS |
192.168.000.013

press OK
to validate

5.4.4 Web interface

5.4.4.1 Control

The fixture must be connected to a compatible network or directly linked to a computer with an RJ45 Ethernet cable.
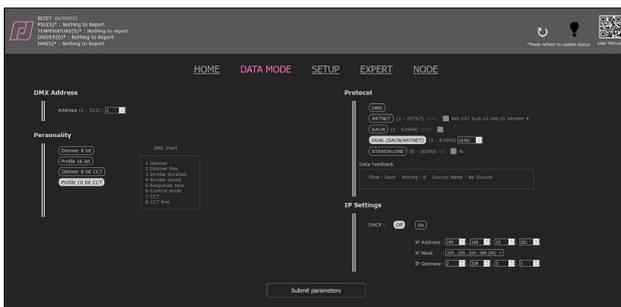
The fixture's IP address: *see section 5.4. Network*
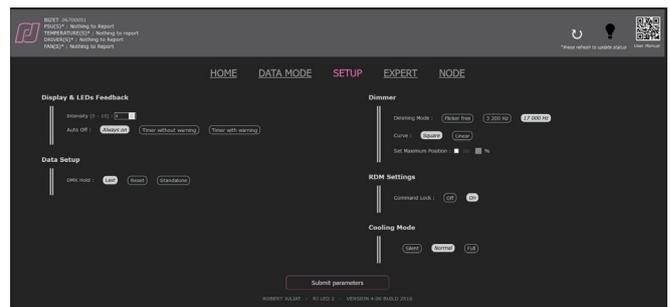
5.4.4.2 Connection to the Web interface

1 - Open a web browser (Microsoft Edge, Firefox, Apple Safari...)
2 - Enter the fixture's IP address in the browser's address bar
   · "00X" is read as "X".
   · Never type a zero (0) before the numbers XX or X (*see 5.4*)
3 - The HOME page will appear, and all settings can now be viewed and modified.
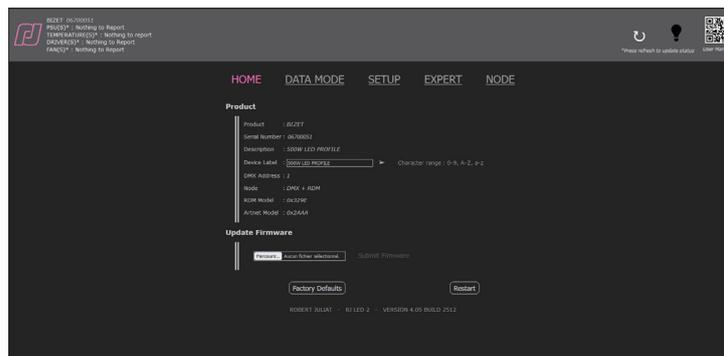
HOME Page

DATA MODE Page

SETUP Page
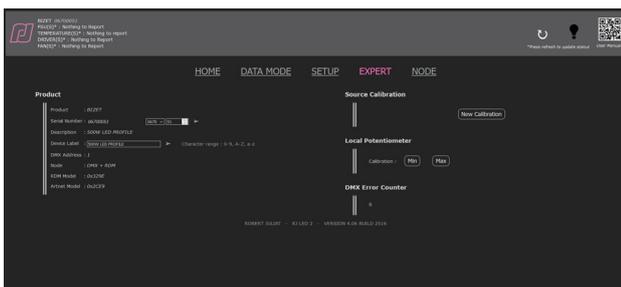
EXPERT Page**,** password-protected (1280).

(*) UID : RDM Unique Identifier
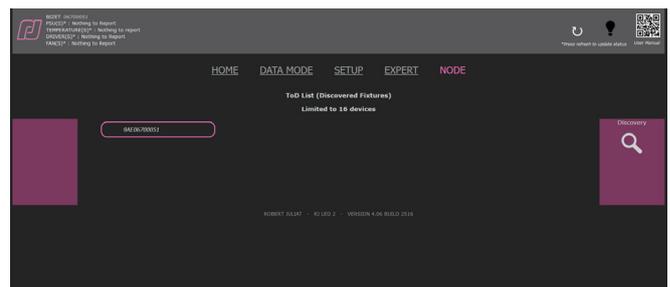
NODE Page
UID***** list of devices detected by RDM on the DMX OUT link;
the first UID is the fixture.

5.4.5 LLRP (Low-Level Reader Protocol)

LLRP is a multicast protocol that facilitates basic IP configuration. It is part of the ESTA E1.33 RDMnet standard.
LLRP can be used for the initial configuration of networked equipment. It provides a low-level mechanism for discovering and configuring the network parameters of devices, including IP settings and basic RDMnet configuration settings.

LLRP Targets expose these parameters for configuration and respond to discovery requests from LLRP Managers. Once an LLRP Manager discovers one or more LLRP Targets, it can use LLRP to send RDM commands to retrieve or modify these parameters.

A SOLUTION FOR INCORRECT OR UNKNOWN IP CONFIGURATION

Network connectivity issues are often caused by misconfigured network addresses, with improperly configured subnet masks being the most common problem.
LLRP uses two multicast IP addresses, enabling communication even when all other network communication has failed.
Since multicast addresses are unaffected by a misconfigured subnet mask, LLRP provides an efficient and reliable solution to recover from network misconfiguration.

In summary, LLRP simplifies the process of identifying and configuring the IP addressing of LLRP-compatible devices on your network.

All Robert Juliat equipment based on the RJ LED2 platform includes LLRP functionality.

Two LLRP Manager software tools are available for free:

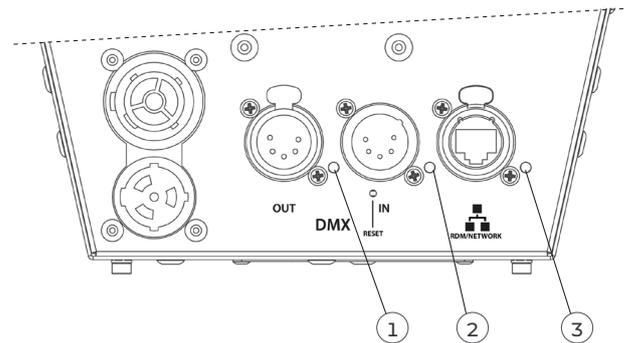- DMXworkshop by Wayne Howell from Singularity (UK): https://singularity-uk.com/product/dmx-workshop/
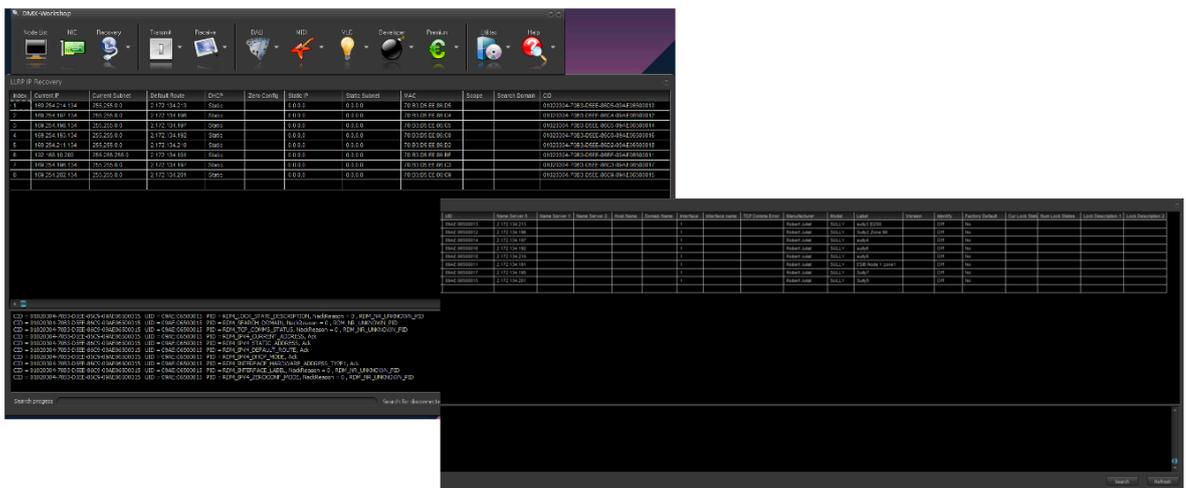
- CLU/Netron from Obsidian : https://obsidiancontrol.com/netron-clu

5.5 LEDs Feedback

5.5.1 Trouble shooting

• During unit initialisation (power up) – up to 5 seconds:

1 DMX OUT	2 DMX IN	3 Network	Description
B	B	B	Unit OFF
R	R	R	Unit error
G	G	G	Unit has been reset successfully
B	B	or R / or G / B	RDM protocol activated

• After initialisation - Node mode "OFF":

1 DMX OUT	2 DMX IN		3 Network	
B	B		B	Display auto-off
B	G	DMX protocol detected without data received	R	No ethernet
B			G	Ethernet detected (link)
B			B	Ethernet detected + data
B	B	DMX protocol detected with data received	R	No ethernet
B			G	Ethernet detected (link)
B			B	Ethernet detected + data
B	R	No DMX protocol detected	R	No ethernet
B			G	Ethernet detected (link)
B			B	Ethernet detected + data
R	R		R	Unit error
B	Terminator ON			

• After initialisation - Node mode "ON":

1 DMX OUT		2 DMX IN	3 Network	
B		B	B	Display auto-off
G	DMX protocol detected without data received	B	R	No ethernet
		B	G	Ethernet detected (link)
		B	B	Ethernet detected + data
B	DMX protocol detected with data received	B	R	No ethernet
		B	G	Ethernet detected (link)
		B	B	Ethernet detected + data
R	No DMX protocol detected	B	R	No ethernet
		B	G	Ethernet detected (link)
		B	B	Ethernet detected + data
R		R	R	Unit error

5.5.2 Parameters

5.5.2.1 Intensity

➔ Set through RDM protocol, web interface or local control (option)

Mode	Description
Display level	Adjust the intensity of the feedback LEDs

5.5.2.2 Auto-OFF

➔ Set through RDM protocol, web interface or local control (option)

Mode	Description
Always ON	Feedback LED, always **ON**
Timer without warning	Feedback LED **OFF** after 20 seconds
Timer with warning	Feedback LED **OFF** after 20 seconds, **ON**, if warning information occurs

6 Service

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.

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.


Lens tube access
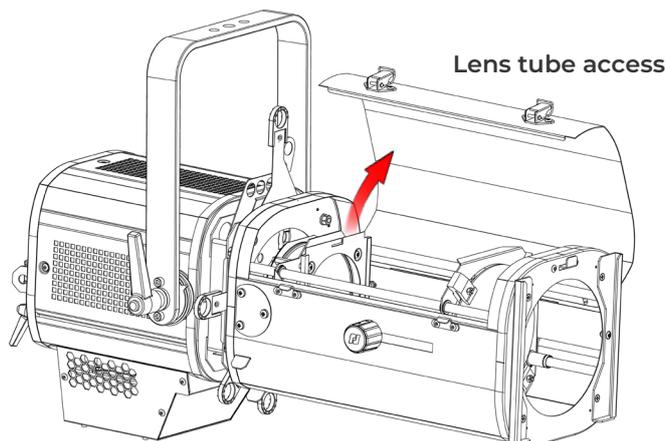
6.1.6 LED house cleaning

Inner parts & lens holder access:
- 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.
- The double condenser system (aspheric and biconvex lenses) can easily be removed, without tools, by removing the two M6 nuts. The complete holder can then be removed for cleaning, *see section 3.4.2.*
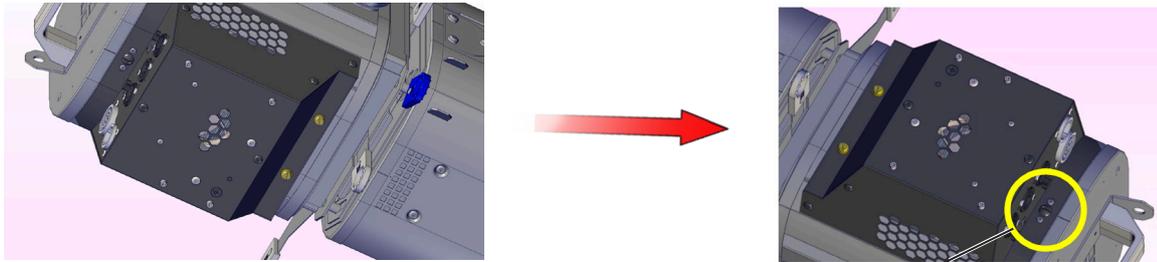
How to remove the Sully LED compartment for cleaning:

1. We recommend you place your luminaire on a flat clean surface. Disconnect from the mains before servicing.

2. Unlock the quarter turn screw with a flat screwdriver.

3. Remove the two screws with a flat screwdriver.

4. Slightly slide out the LED compartment and remove the earth attachment before removing it completely from it's housing.

5. Carefully place the LED compartment on a flat clean surface.
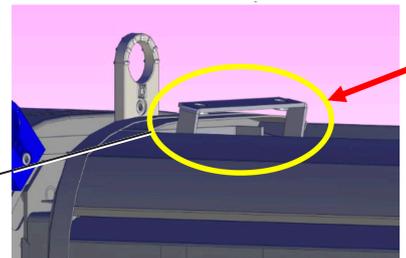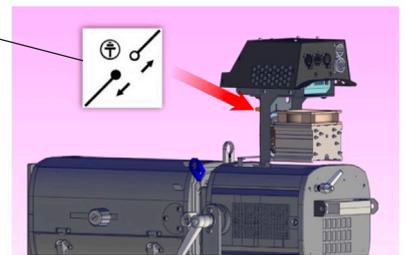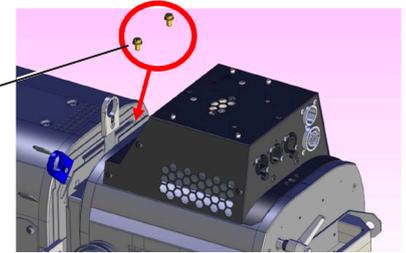
Sully LED compartment installation:

6. Extend the hinge to its maximum position to make it easily accessible.
    Insert the LED compartment into your luminaire, making sure it is positioned vertically to enable the LED compartment to enter the lamp house correctly.

7. Connect the ground connection (faston tab terminal) to the Sully LED compartment.

8. Once the LED compartment is fully inserted, remount tightly the two screws nearest the shutter gate. Re-tighten the quarter turn screw located at the back of the lamp base to lock the LED compartment securely into your luminaire.
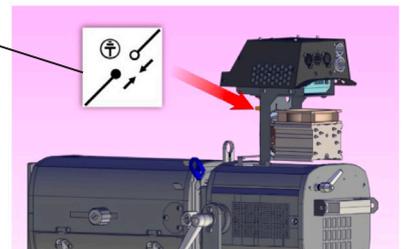
6.2 Analysis

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

⚠️ After updating your device with firmware V3.0, we strongly recommend that you update the source type (CCT) either to CW (Cold White) or WW (Warm White) by following the procedure described in the section below: **CCT selection**

CCT selection

Until now, the CCT of the LED source was not taken into account. From V3.0, your device will be automatically recognized as CW or WW source.

Devices shipped with firmware prior to V3.0 do not have a designated CCT.
After updating to V3.0, it is highly recommended to specify the CCT of your device.
For this you will have to stay on the Web Page that you used for the update.

In the **Source** section of the HOME tab, the CCT of your device is indicated.
· If "unknown", please select the CCT of your device and click on icon `CW` or `WW` , then on the arrow `➤` .
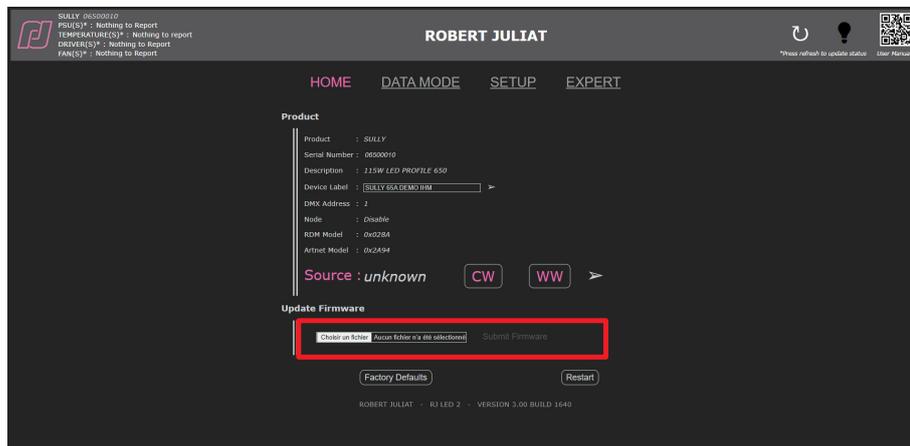
· Changing the source type changes the Model_ID as well. It is used in libraries to recognize devices automatically and for an Auto-Patch.
· If the source type has to be changed or in case of typing error, it will be always possible to change the source type in the Expert mode which is protected by a password.

1. **Download the firmware** from one of the following links :
    · www.robertjuliat.com/LED/**PDF_PAGE or scan the QR code:**
    · www.robertjuliat.com/profilespots/**SULLY_650SX**
2. **Unzip** the file. There are 4 files:
    · **Firmware** (.upd2 format)
    · **Firmware history**
    · **Update procedure**
    · **User manual** from firmware version **V4.0x** onwards
3. **Switch on** the lighting fixture.
4. **Connect the fixture to the network** using an **RJ45 Ethernet cable** from your computer.
    You can either connect it to your lighting network (**RJ45**) or directly to your computer (**RJ45**).
5. Open a Web browser (Microsoft Edge, Firefox, Apple Safari, etc.).
6. Enter the fixture's IP address in the browser's address bar
    ⚠️ · "00X" is read as "**X**".
    · **Never type a zero** (0) before the numbers XX or X (*see section 5.4*).
7. Upload your firmware file (.upd2).
    In the "**Update firmware**" window, select the update file and then click on "**Submit firmware**".
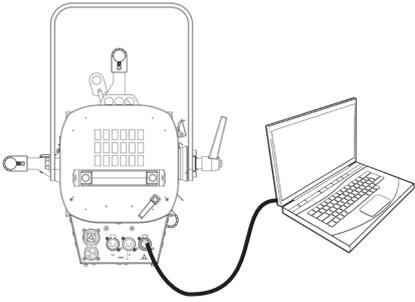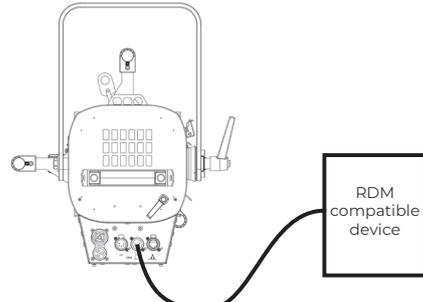
6.5 Factory defaults

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

| Set to factory defaults / reset through web interface (Home page)	Set to factory defaults / reset through RDM protocol	Set to factory defaults / reset through local control, when equipped with this option

RDM compatible device
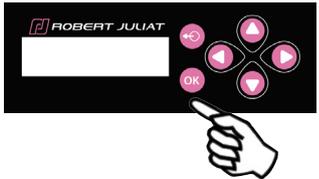
Select **FACTORY DEFAULT** in the main menu to reset all values and parametres

➡ If IP address unknown (due to a previous modification), IP address can be read from RDM protocol or a **hard reset** must be done:

OUT

DMX IN
RESET

RDM/NETWORK

Reset
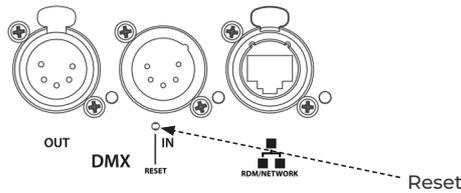
6.6 Selftest

Select **SELFTEST** in the STATUS menu :

OK

Press OK to start SELFTEST

STATUS

SELFTEST

SELFTEST SYSTEM ID DEVICE COU

At the end of each test, a **PASS/FAIL** message will be displayed.
If the DMX and network functions need to be tested, the system will prompt you to perform certain operations.

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

Test Report
An "F" (FAIL) or "P" (PASS) will be displayed at the end of the self-test (SELFTEST).

If the problem persists, please take a photo of the test result and send it either to your Robert Juliat dealer or to the Robert Juliat After-Sales Service, if requested
(email: service@robertjuliat.fr)