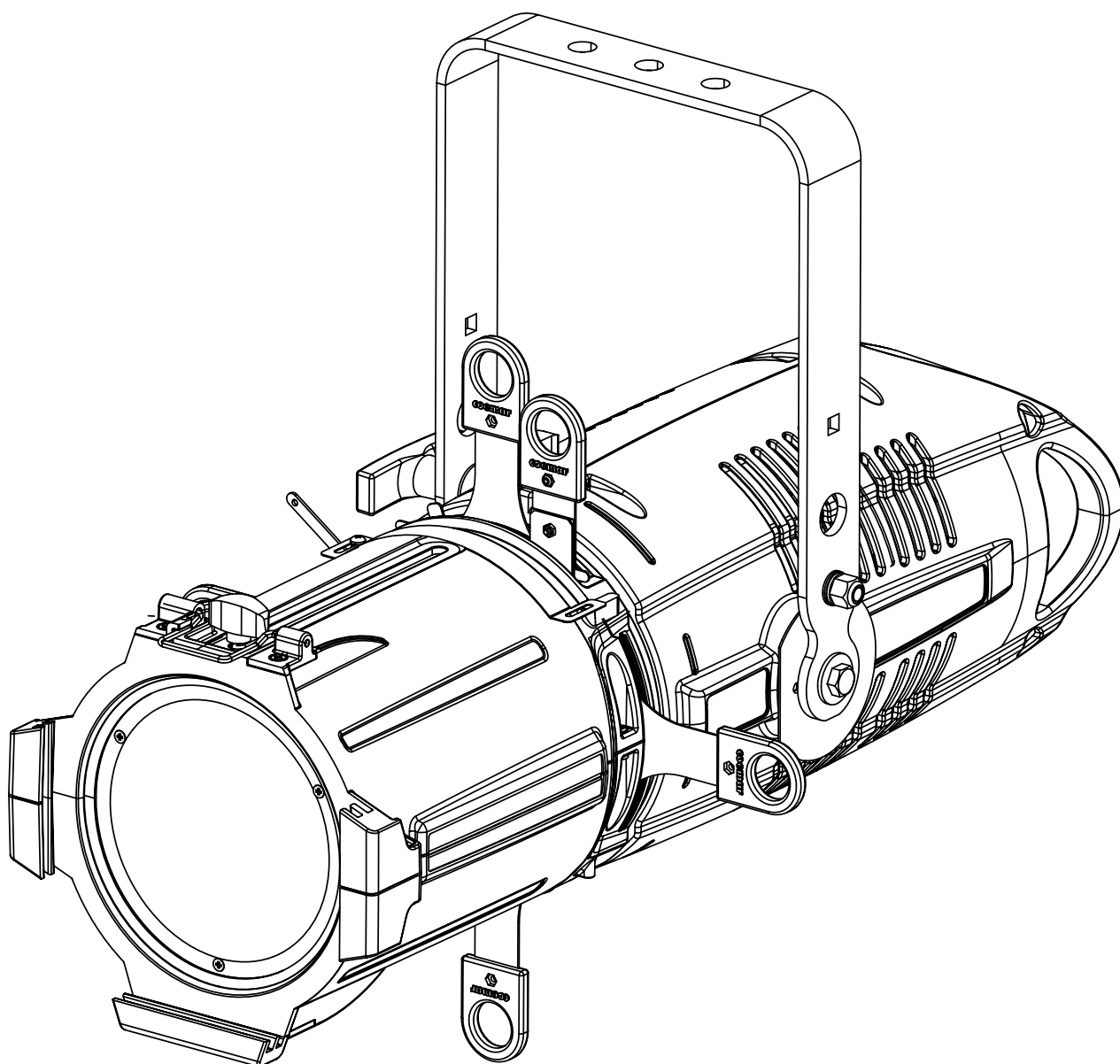


REFLECTION  
**LEDKO™**

# FullSpectrum 6 HD Studio



instruction manual

Edition May 2021 **Version 2.0**

 **coemar**  
LIGHT EMOTION



# FullSpectrum 6 HD Studio

Fixture code:

.....

Purchase date:

.....

Dealer:

.....

Address:

.....

Suburb:

.....

Country:

.....

Phone / Fax:

.....

Please note in the space provided above the relative service information of the model and the retailer from whom you purchased your **LEDko FullSpectrum 6 HD**: this information will assist us in providing spare parts, repairs or in answering any technical enquiries with the utmost speed and accuracy.

**WARNING:** the security of the fixture is granted only if these instructions are strictly followed; therefore it is absolutely necessary to keep this manual.

# Index

<b>1. Packaging and transportation</b>	Pag. 5
<b>1.1.</b> Packaging	Pag. 5
<b>1.2.</b> Transportation	Pag. 5
<b>2. General information</b>	Pag. 5
<b>2.1</b> Safety informations	Pag. 5
<b>2.2</b> Warranty conditions	Pag. 6
<b>2.3</b> EC Norms	Pag. 6
<b>3. Product specifications</b>	Pag. 7
<b>3.1</b> Technical characteristics	Pag. 7
<b>3.2</b> Dimensions	Pag. 7
<b>3.3</b> Unit's main components	Pag. 8
<b>3.4</b> Back panel description	Pag. 9
<b>4. Installation</b>	Pag. 10
<b>4.1</b> Optical Installation	Pag. 10
<b>4.2</b> Mechanical installation	Pag. 11
<b>4.3</b> Safety chain	Pag. 11
<b>4.4</b> Adjusting unit's tilt	Pag. 11
<b>5. Powering up</b>	Pag. 12
<b>5.1</b> Operating voltage and frequency	Pag. 12
<b>5.2</b> Connection to mains power	Pag. 12
<b>6. Control signal connections</b>	Pag. 13
<b>6.1</b> Control signal connection by XLR5 plugs	Pag. 13
<b>7. Turning on the projector</b>	Pag. 14
<b>7.1</b> DMX address of the unit	Pag. 14
<b>8. DMX Chart</b>	Pag. 15
<b>8.1</b> DMX Chart: 16, 7, 1 channels	Pag. 15
<b>8.2</b> DMX Chart: Studio mode	Pag. 18
<b>8.3</b> DMX Chart: RGB mode	Pag. 19
<b>9. Display panel functions</b>	Pag. 21
<b>9.1</b> Quick guide to menu	Pag. 21
<b>9.2</b> Rapid count	Pag. 21
<b>9.3</b> Main functions menu	Pag. 24
<b>9.4</b> Measure	Pag. 24
<b>9.5</b> Color presets	Pag. 26
<b>9.6</b> Special functions of the fixture	Pag. 29
<b>9.7</b> Error messages	Pag. 29
<b>10. Accessories and spare parts</b>	Pag. 30

<b>11. Maintenance</b> .....	Pag. 32
<b>11.1</b> Firmware update.....	Pag. 32
<b>11.2</b> Periodic cleaning.....	Pag. 32
<b>11.3</b> Periodic controls.....	Pag. 32
<b>11.4</b> Fuses.....	Pag. 32
<b>12. F.A.Q. and answers</b> .....	Pag. 33

Congratulations on having purchased a **Coemar** product. You have assured yourself of a fixture of the highest quality, both in componentry and in the technology used. We renew our invitation to you to complete the service information on the previous page, to expedite any request for service information or spares (in case of problems encountered either during, or subsequent to, installation). This information will assist in providing prompt and accurate advice from your **Coemar** service centre. Following the instructions and procedures outlined in this manual will ensure the maximum efficiency of this product for years to come.

# 1. Packaging and transportation

## 1.1 Packaging

Open the packaging and make sure that no part of the equipment has suffered any damage during the transportation. In case of damage to the fixture, contact your carrier and your supplier immediately by telephone, fax or email, and inform them you will formally notify them in writing through registered letter.

### Packing list

Ensure the packaging contains:

**1 LEDko FullSpectrum 6 HD**

**1 Instruction manual**

**1 Main power plugs**

## 1.2 Transportation

The **LEDko FullSpectrum 6 HD** should be transported in either its original packaging or in an appropriate flight case.

# 2. General information

## 2.1 Safety informations

### Fire prevention:



1. Never locate the fixture on any flammable surface.
2. Minimum distance from flammable materials: 0,5m.
3. Minimum distance from the closet illuminable surface: 0,5m.
4. Replace any blown or damaged fuse only with those of identical values. Refer to the schematic diagram if there is any doubt.
5. Connect the projector to mains power protected by a thermal magnetic circuit breaker.

### Prevention from electric shock:



1. Presence of high voltage inside of the fixture. Insulate the projector from mains supply before opening or performing any function which involves touching the inside of the fixture, including lamp replacement.
2. For the connection to the mains, adhere strictly to the guidelines outlined in this manual.

3. The level of technology of **LEDko FullSpectrum 6 HD** requires the use of specialised personnel for all service applications; refer all work to your authorised **Coemar** service centre.
4. A good earth connection is essential for the proper functioning of the projector. Never connect the fixture if there is no earth connection.
5. Mains cables must not come into contact with other cables.
6. Do not operate the projector with wet hands or in an area where water is present.
7. The fixture must never be located in an exposed position, or in areas of extreme humidity.

### **Safety:**



1. The projector must always be installed with bolts, clamps, or other fixing devices which are suitably rated to support the weight of the projector.
2. Always use a secondary safety fixing device with chain or steel wire of a suitable rating to sustain the weight of the unit in case of failure of the principal fixing point.
3. The external surfaces of the unit, at various points, may reach 60°C. Never handle the unit until at least 10 minutes have elapsed since the LED was turned off.
4. Never install the fixture in an enclosed area lacking sufficient air flow; the room temperature must not exceed 35°C.
5. The projector contains electronic and electrical components which must under no circumstances be in contact with water, oil or any other liquid. Failure to do so will compromise the proper functioning of the projector.

---

## **2.2 Warranty conditions**

1. The fixture is under warranty for 36 months from the purchase date against factory defec-tions.
2. Damage ought to unskillfulness, inappropriate use, or lack of suggested maintenance are excluded from the warranty.
3. Warranty expires when the projector is opened by unauthorized personnel.
4. Warranty doesn't include the replacement of the fixture.
5. Serial number and model of the fixture are necessary to retrieve informations and assistance from the dealer.

---

## **2.3 EC Norms**

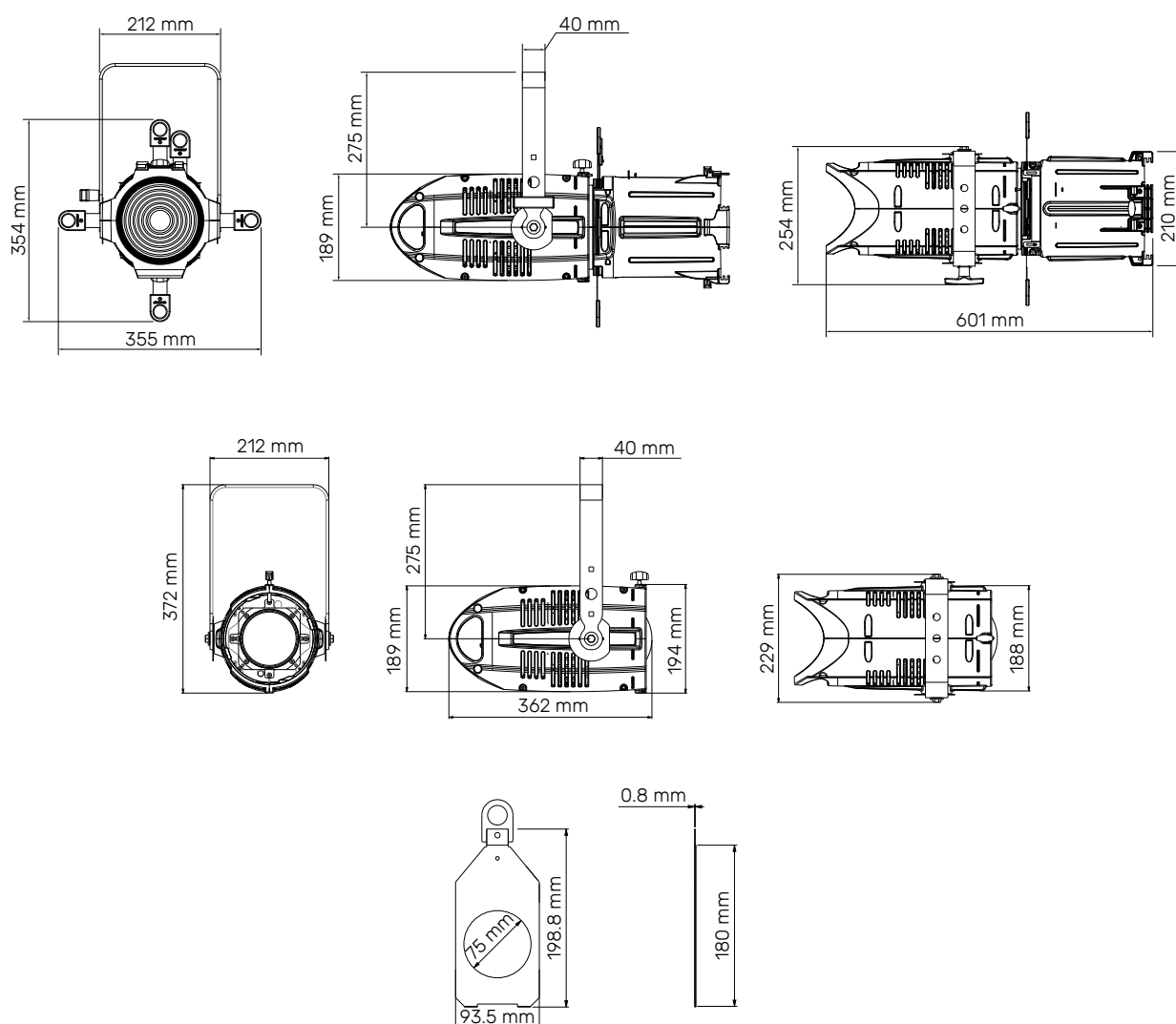
The projector meets all fundamental applicable EC requirements.

# 3. Product specifications

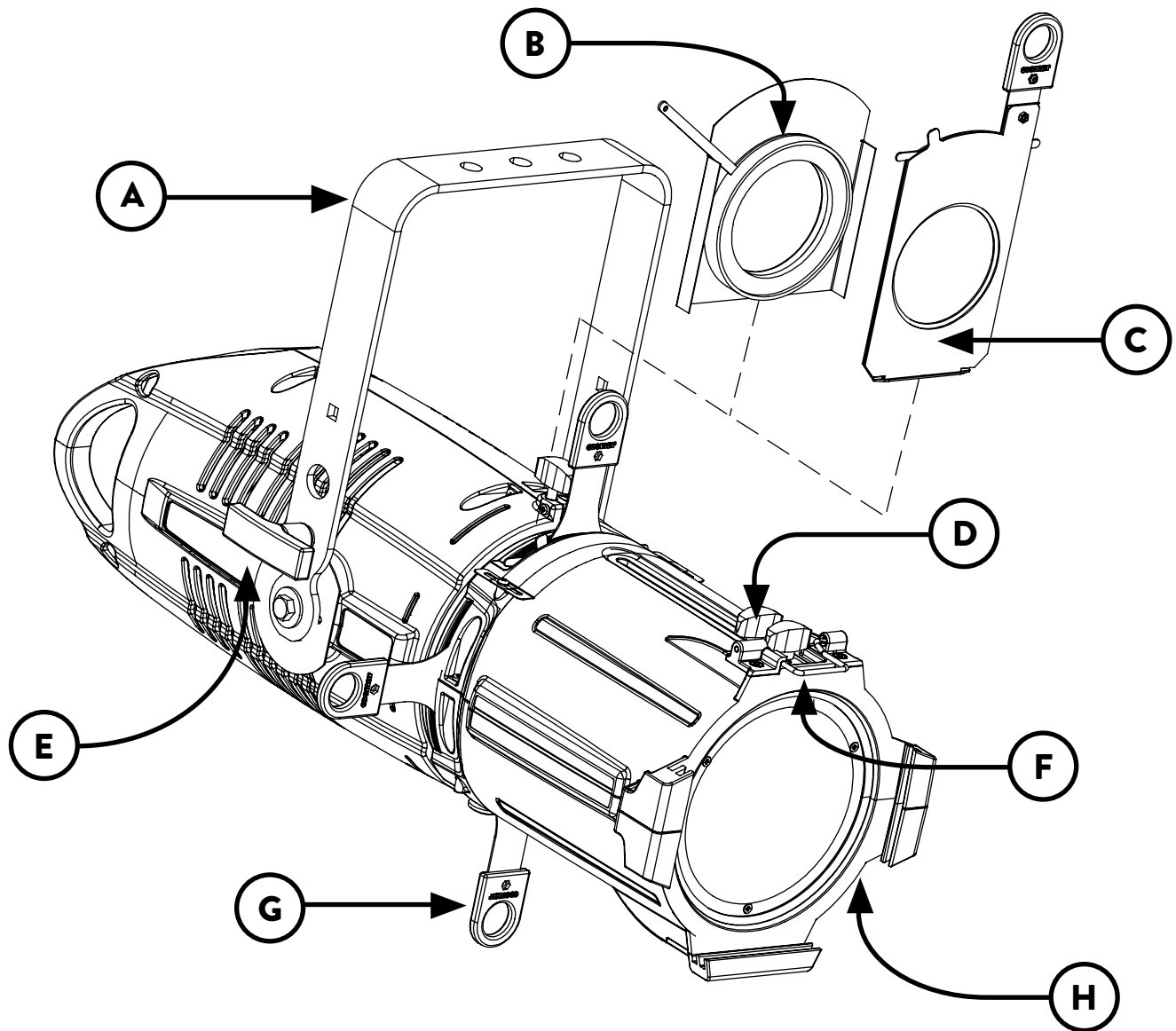
## 3.1 Technical characteristics

<b>Power supply</b>	80-264 V, auto-sensing, 50/60 Hz
<b>Maximum current</b>	1.06 A at 230 V, 2.13 A at 115 V
<b>Power factor</b>	$\cos\varphi = 0.9$
<b>Max power consumption</b>	220 W
<b>Color temperature</b>	RGBCLA, with pure color mixing throughout the field and all whites from 2.700 to 10.000 K
<b>Color Rendering Index (CRI)</b>	CRI > 95
<b>Weight (without optic)</b>	6 Kg - 13.2 lbs
<b>Maximum ambient temperature</b>	+35°C / +95°F
<b>IP rating</b>	20

## 3.2 Dimensions



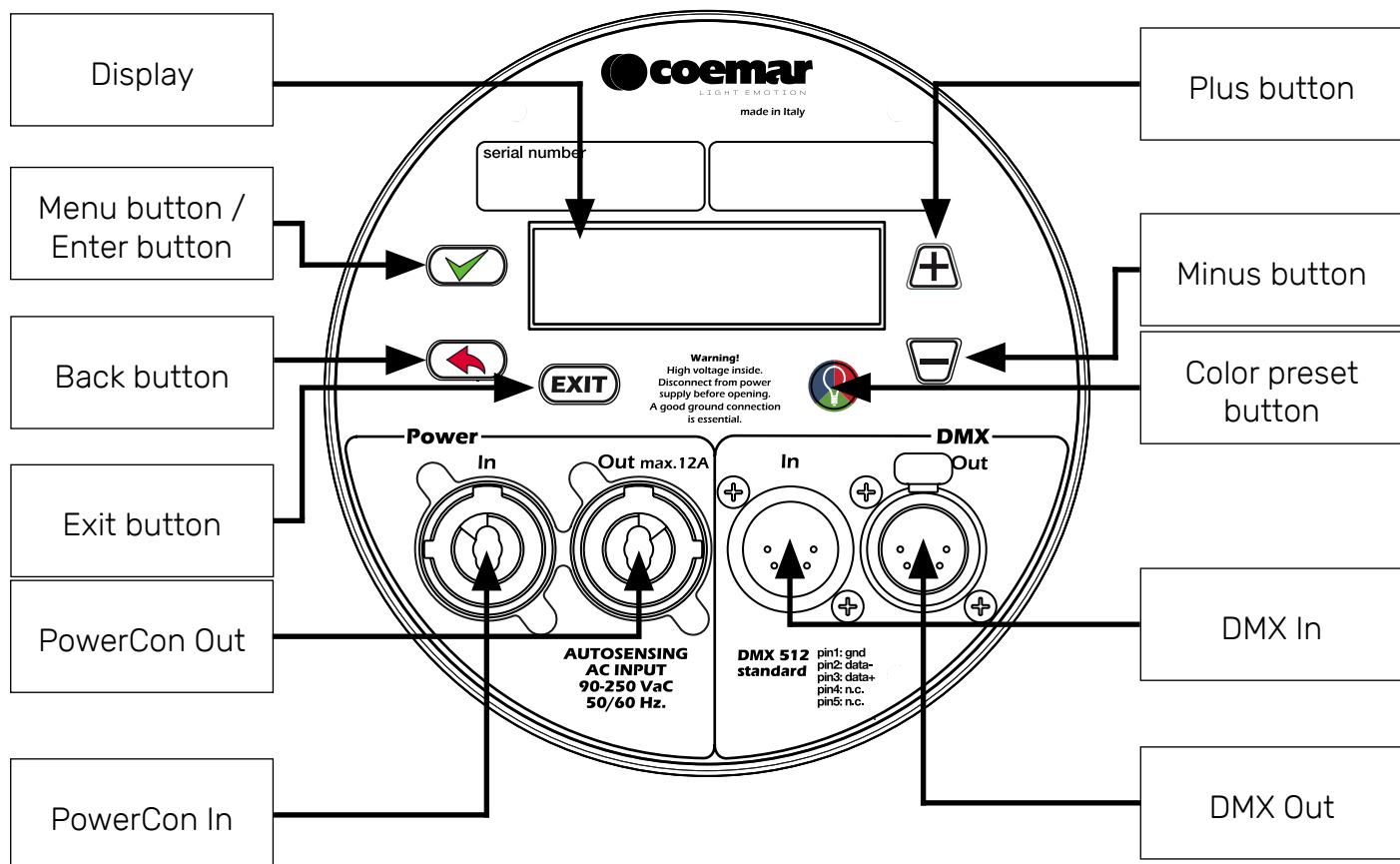
### 3.3. Unit's main components



Components description	
<b>A</b>	Adjustable yoke
<b>B</b>	Iris (optional)
<b>C</b>	Gobo holder (optional)
<b>D</b>	Lens adjusting handles
<b>E</b>	Yoke locking handle
<b>F</b>	Gel frame locking spring
<b>G</b>	Profile blade
<b>H</b>	Interchangeable optic

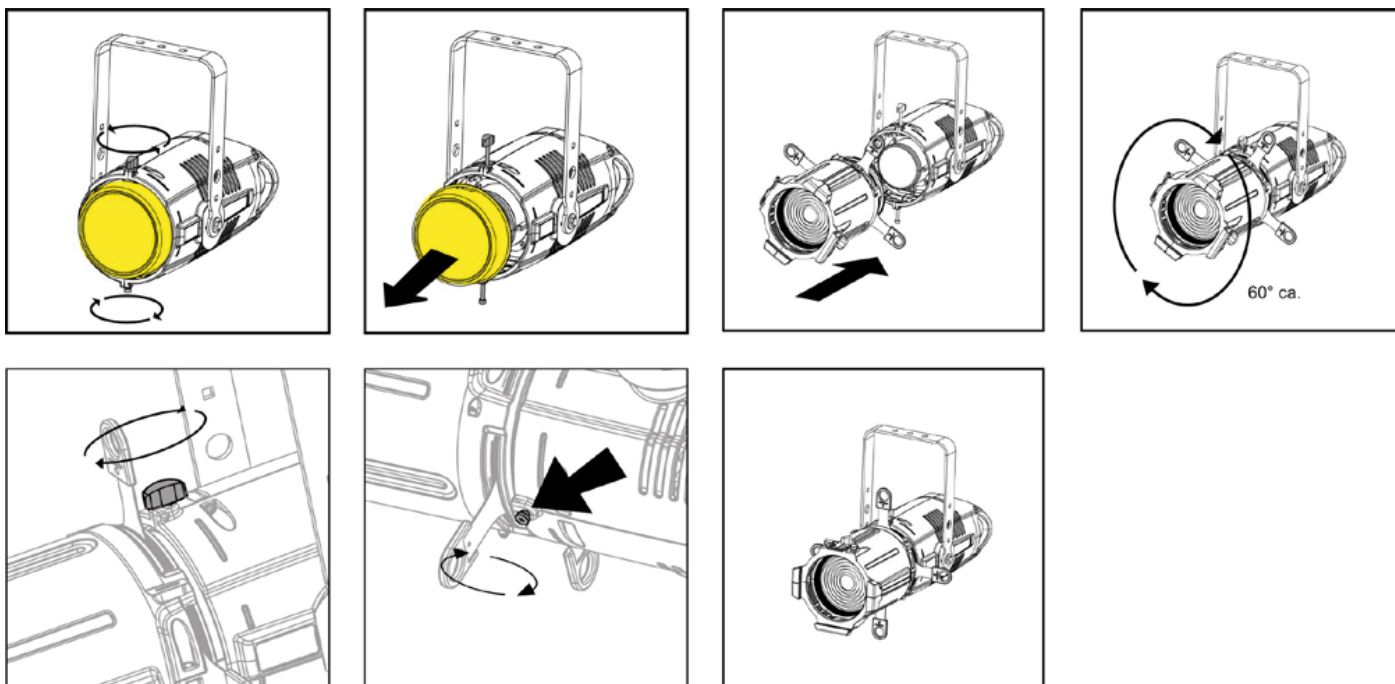


### 3.4 Back panel description



# 4. Installation

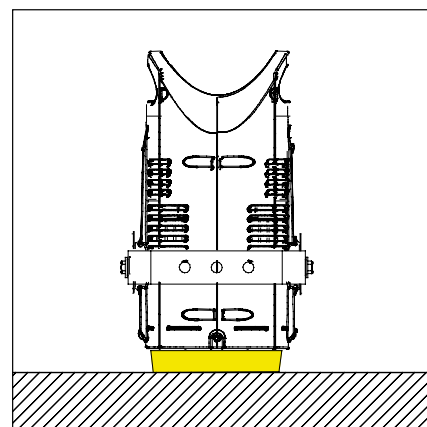
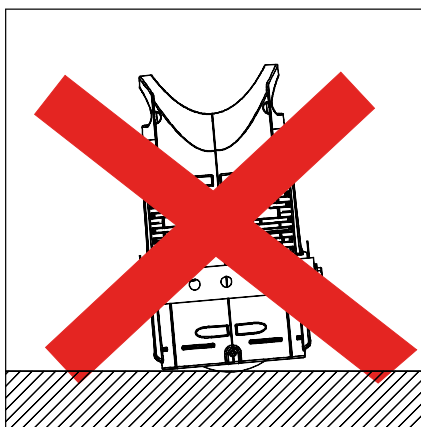
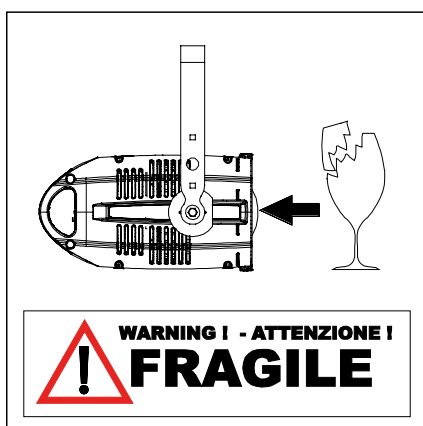
## 4.1 Optical installation



Remove the frontal cap by loosening the upper and lower screws enough to free the cap itself, set the optic's flange tilted about 60°. Insert the optic's flange into the body's receptacle and turn the optic 60° until it is firmly assembled to the projector body, free to rotate but not free to detach itself from the body. Ensure the optic to the body by tightening the two screws previously loosened.

### Warning!!

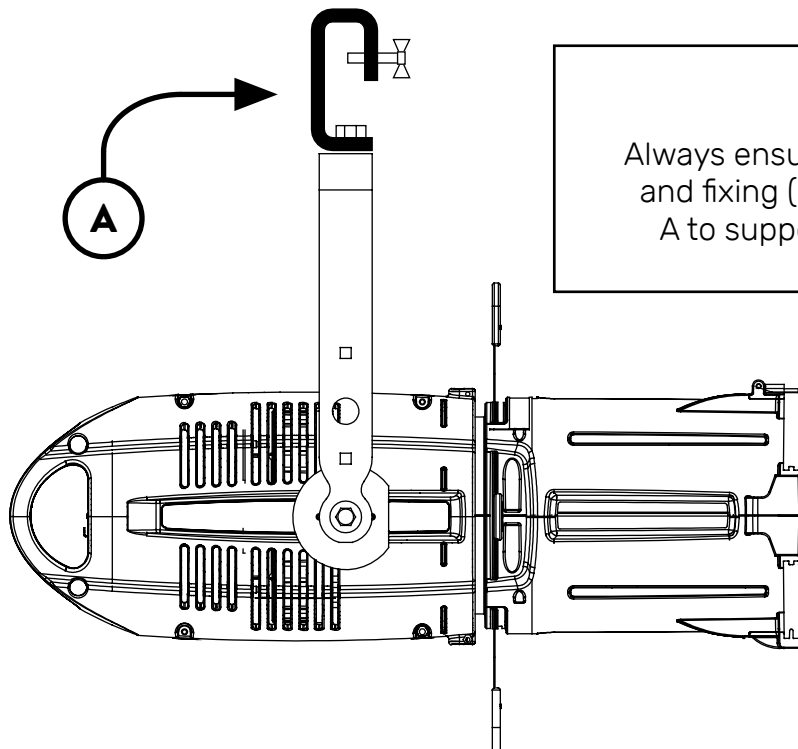
When the protective cap is removed, never lean the fixture facing down.  
The front lens can be seriously damaged.



---

## 4.2 Mechanical installation

**LEDko FullSpectrum 6 HD** may be hung from an appropriate structure in any position or on tripod. If hanging the fixture from a lighting truss or similar, we recommend the use of an appropriate clamp "A", as shown in the following diagram.



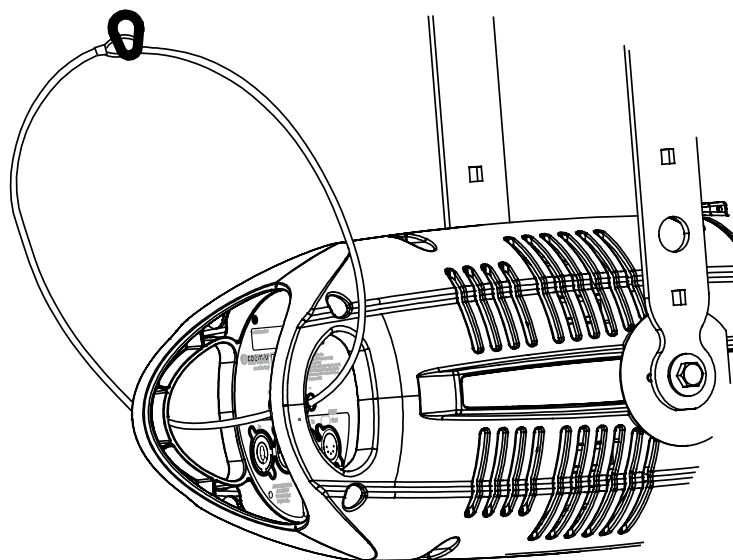
### **Warning!!**

Always ensure that your support structure and fixing (bolts, clamps, etc...) are rated A to support the weight of the fixture.

---

## 4.3 Safety chain

When hanging it is recommended to use a safety chain, as required by current legislation. The safety chain must pass through the handles of the unit and then attached to the structure. If using steel cables and chains not 's production, make sure they are suitable to support the weight of the unit according to normative UL/ETL (required: the weight of 6 complete devices for at least one hour).



---

## 4.4 Adjusting unit's tilt

In order to adjust the tilt of the unit simply loose the side handle adjust the tilt and lock the yoke by tightening the handle again.

# 5. Powering up

## 5.1 Operating voltage and frequency

The unit may operate at voltage ranges from 80 to 264 V at a frequency of 50 or 60 Hz. It is not needed to effect any setup procedures: **LEDko FullSpectrum 6 HD** will automatically adjust its operation to suit any frequency or voltage within this range.

## 5.2 Connection to mains power

### Mains cable characteristics

The mains cable provided is thermally resistant, complying to the most recent International standards.

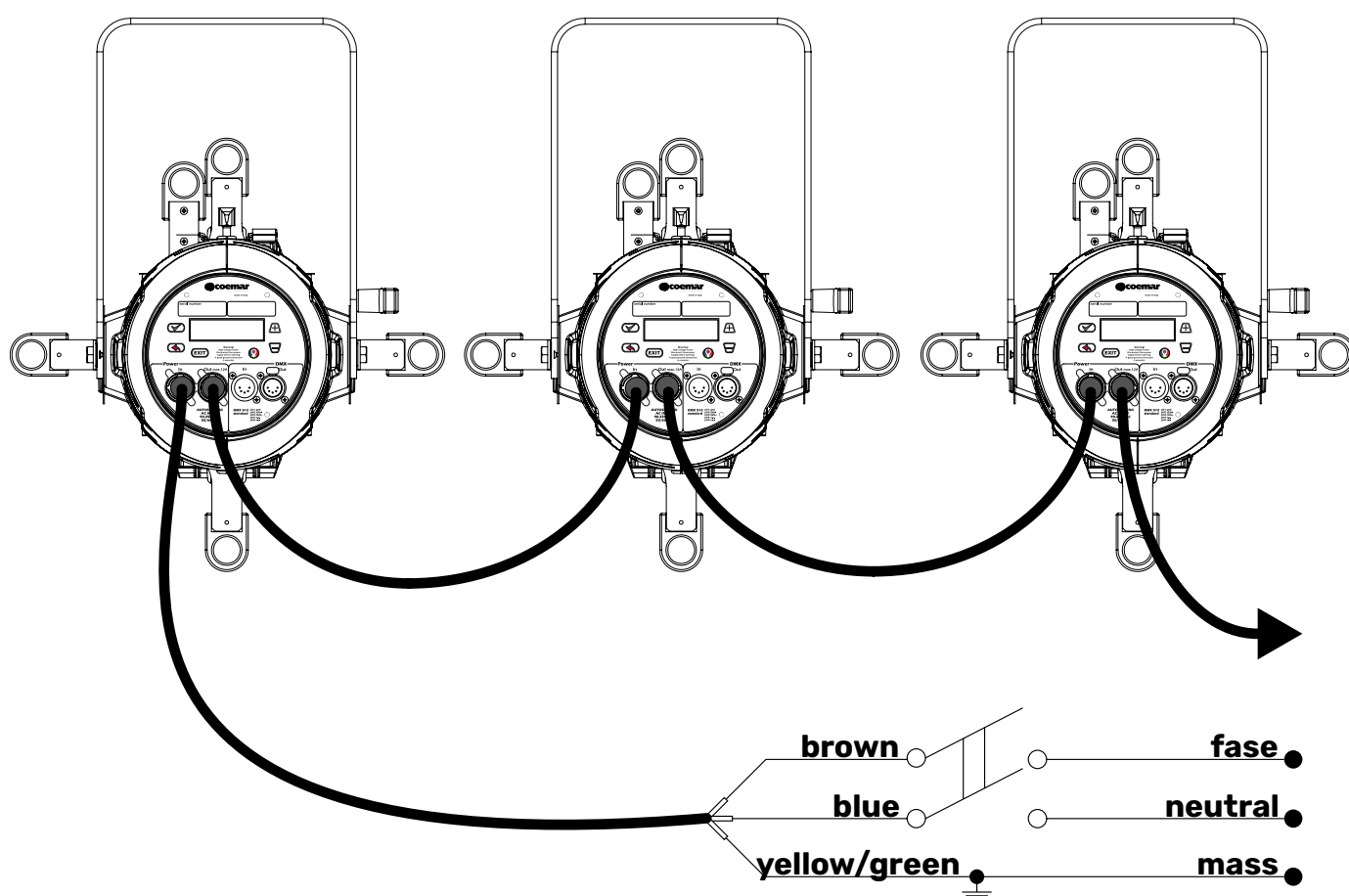
**Note:** in case of cable replacement, similar cable with comparable thermal resistant qualities must be used exclusively (cable 3 X 1,5 ø external 10 mm, rated 300/500V, tested to 2 KV, operating temperature -40°C + 180°C, Coemar cod. CV5311).

### Connection to mains power

**LEDko FullSpectrum 6** is equipped with two power connectors, one as input and one as output, which can be used to feed up to 8 (at 230 V) or 4 (at 115 V) fixtures.

The max absorption of **LEDko FullSpectrum 6 HD** is reported in the following table:

- 230 V 1.06 A constant during normal exercise.
- 115 V 2.13 A constant during normal exercise.



### Warning!!

The use of a thermal/magnetic circuit breaker is recommended. Strict adherence to regulatory norms is strongly recommended.

**LEDko FullSpectrum 6 HD** should not be powered through a dimmer as this may damage the internal switching power supply.

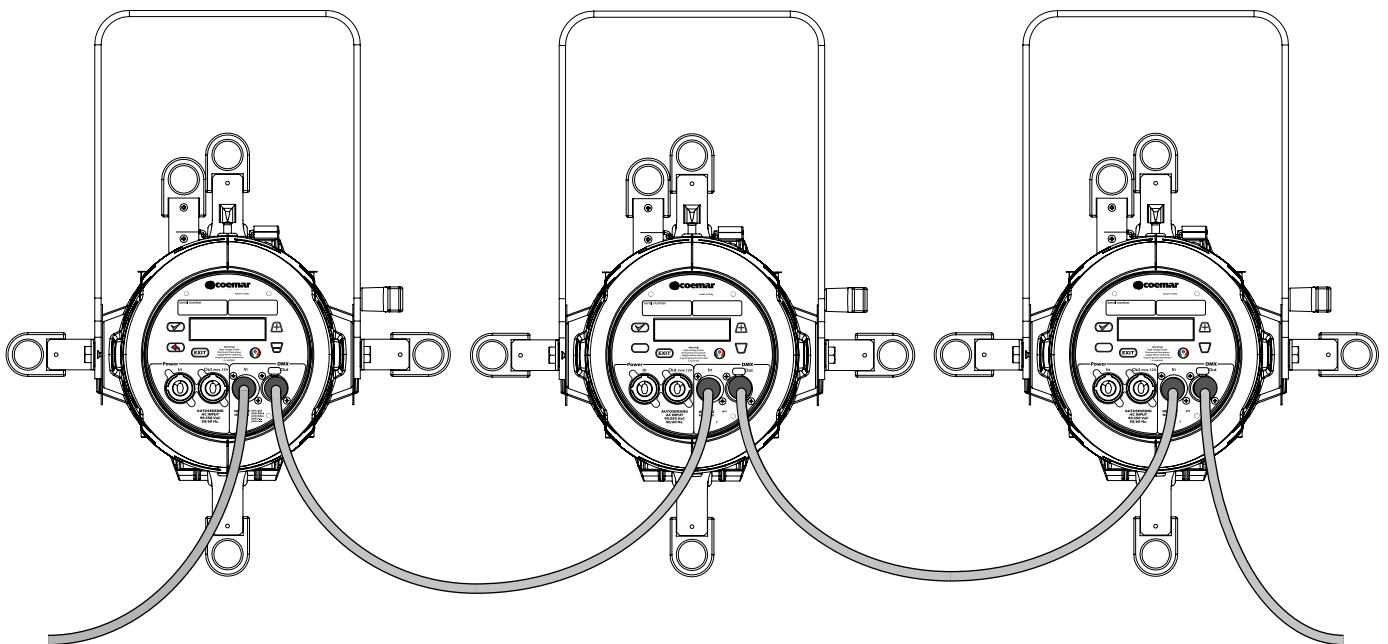
Prior to connecting the device to mains power, ensure that the mains characteristics are within the recommended range for the use of **LEDko FullSpectrum 6 HD**.

All cabling and connections should be carried out by a suitably qualified personnel.

## 6. Control signal connections

### 6.1 Control signal connection by XLR5 plugs

The digital control signal is transmitted to the projector via a two pole cable screened in according to the International standards for DMX 512 data transmission. The connection must be serial, using connectors XLR5 male and female located on the back of **LEDko FullSpectrum 6 HD** labelled DMX512 IN e OUT.



### Warning!

Make sure that screening and conductors are not in contact one another or with the metal housing of the connector.

Pin#1 and housing must never be connected to the power supply unit.

## 7. Turning on the projector

After having followed the preceding steps described, proceed with the power supply and turn on the projector connecting it to the mains power.

The software version installed on the internal microprocessors will be shown on the display, suddenly it will show the current DMX addressing. If the address blinks, it means that the DMX signal has not been received. Check the connection cable and the mixer functioning.

### 7.1 DMX address of the unit

Each projector can use 16/7/1, Studio mode or RGB mode for its complete operation and is controlled by a DMX 512 signal.

#### DMX addressing

When powered up initially, each projector will show A001, which indicates DMX address 001; for example, when set at 16 channels a projector thus addressed will respond to commands of channel 1 to 16 from your DMX 512 controller. A second unit must be addressed as A017, a third one as A033 and so on. The operation must be carried out on every **LEDko FullSpectrum 6 HD** which has an address different from A001.

#### Altering the DMX address:

1. Press the + or – button until the display shows the required DMX address. The digits on the display will blink to indicate that the variation has not been registered.
2. Press the enter key to confirm your selection. The digits on the display panel will cease to blink and the projector will now respond to the new address.

**Note:** by holding the + or – button down the scrolling will be faster; thus allowing a faster selection



#### Warning!!

If you alter the DMX address with no DMX signal connected, the digits on the display panel will continue to flash even after you have pressed ENTER button to confirm the address.

# 8. DMX chart

## 8.1 DMX Chart 16, 7, 1 channels

channel			function	type of control	effect	decimal		percentage	
16	7	1							
1	1	1 <sup>2</sup>	master dimmer	proportional	adjust luminous output intensity from 0 to 100%	0	-	255	0% - 100%
2	2	-	red	proportional	proportional control of the color percentage from 0 % to 100 %	0	-	255	0% - 100%
3	3	-	green	proportional	proportional control of the color percentage from 0 % to 100 %	0	-	255	0% - 100%
4	4	-	blue	proportional	proportional control of the color percentage from 0 % to 100 %	0	-	255	0% - 100%
5	5	-	cyan	proportional	proportional control of the color percentage from 0 % to 100 %	0	-	255	0% - 100%
6	6	-	lime	proportional	proportional control of the color percentage from 0 % to 100 %	0	-	255	0% - 100%
7	7	-	amber	proportional	proportional control of the color percentage from 0 % to 100 %	0	-	255	0% - 100%
8	-	-	strobe effect	step	no effect	0	-	9	0% - 4%
				proportional	variable speed strobing effect, from slow to fast	10	-	57	4% - 22%
				step	stop strobe	58	-	59	23% - 23%
				proportional	sequenced pulse effect, slow closing, fast opening (variable speed pulsing, from slow to fast)	60	-	108	24% - 42%
				step	stop strobe	109	-	110	43% - 43%
				proportional	sequenced pulse effect, fast closing, slow opening (variable speed pulsing, from slow to fast)	111	-	159	44% - 62%
				step	stop strobe	160	-	161	63% - 63%
				proportional	random strobe effect with variable speed from slow to fast	162	-	207	64% - 81%
				step	stop strobe	208	-	209	82% - 82%
				proportional	random strobe effect with variable speed from slow to fast	210	-	255	82% - 100%
9	-	-	dimmer fine	proportional	fine dimmer control 16 bit	0	-	255	0% - 100%
10	-	-	special functions	step	park	0	-	9	0% - 4%
					no effect	10	-	84	4% - 33%
					fan at low-noise speed	85	-	96	33% - 38%
					fan at studio mode	97	-	108	38% - 42%
					fan at auto-silent speed	109	-	120	43% - 47%
				proportional	fan speed control	121	-	133	47% - 52%
				step	enables the automatic display blackout	134	-	185	53% - 73%
					disables the automatic display blackout	186	-	199	73% - 78%
					no effect	200	-	255	78% - 100%

11'	-	-	red tone	step	no effect	0	-	9	0%	-	4%
					COR01 - GELS RED 1	10	-	34	4%	-	13%
					COR02 - GELS RED 2	35	-	59	14%	-	23%
					COR03 - GELS RED 3	60	-	84	24%	-	33%
					COR04 - GELS RED 4	85	-	109	33%	-	43%
					COR05 - GELS RED 5	110	-	134	43%	-	53%
					COR06 - GELS RED 6	135	-	159	53%	-	62%
					COR07 - GELS RED 7	160	-	184	63%	-	72%
					COR08 - GELS RED 8	185	-	209	73%	-	82%
					COR09 - GELS RED 9	210	-	234	82%	-	92%
					COR10 - GELS RED 10	235	-	255	92%	-	100%
12'	-	-	green tone	step	no effect	0	-	9	0%	-	4%
					COG01 - GELS GREEN 1	10	-	34	4%	-	13%
					COG02 - GELS GREEN 2	35	-	59	14%	-	23%
					COG03 - GELS GREEN 3	60	-	84	24%	-	33%
					COG04 - GELS GREEN 4	85	-	109	33%	-	43%
					COG05 - GELS GREEN 5	110	-	134	43%	-	53%
					COG06 - GELS GREEN 6	135	-	159	53%	-	62%
					COG07 - GELS GREEN 7	160	-	184	63%	-	72%
					COG08 - GELS GREEN 8	185	-	209	73%	-	82%
					COG09 - GELS GREEN 9	210	-	234	82%	-	92%
					COG10 - GELS GREEN 10	235	-	255	92%	-	100%
13'	-	-	blue tone	step	no effect	0	-	9	0%	-	4%
					COB01 - GELS BLUE 1	10	-	34	4%	-	13%
					COB02 - GELS BLUE 2	35	-	59	14%	-	23%
					COB03 - GELS BLUE 3	60	-	84	24%	-	33%
					COB04 - GELS BLUE 4	85	-	109	33%	-	43%
					COB05 - GELS BLUE 5	110	-	134	43%	-	53%
					COB06 - GELS BLUE 6	135	-	159	53%	-	62%
					COB07 - GELS BLUE 7	160	-	184	63%	-	72%
					COB08 - GELS BLUE 8	185	-	209	73%	-	82%
					COB09 - GELS BLUE 9	210	-	234	82%	-	92%
					COB10 - GELS BLUE 10	235	-	255	92%	-	100%
14	-	-	white tone	step	no effect	0	-	9	0%	-	4%
					2.700 K	10	-	15	4%	-	6%
				proportional	proportional value from 2.700 K to 3.200 K	16	-	30	6%	-	12%
				step	3.200 K	31	-	45	12%	-	18%
				proportional	proportional value from 3.200 K to 4.000 K	46	-	60	18%	-	24%
				step	4.000 K	61	-	75	24%	-	29%
				proportional	proportional value from 4.000 K to 5.000 K	76	-	90	30%	-	35%
				step	5.000 K	91	-	105	36%	-	41%
				proportional	proportional value from 5.000 K to 5.600 K	106	-	120	42%	-	47%
				step	5.600 K	121	-	135	47%	-	53%
				proportional	proportional value from 5.600 K to 7.000 K	136	-	150	53%	-	59%
				step	7.000 K	151	-	165	59%	-	65%
				proportional	proportional value from 7.000 K to 8.000 K	166	-	180	65%	-	71%
				step	8.000 K	181	-	195	71%	-	76%
				proportional	proportional value from 8.000 K to 9.000 K	196	-	210	77%	-	82%
				step	9.000 K	211	-	225	83%	-	88%
				proportional	proportional value from 9.000 K to 10.000 K	226	-	240	89%	-	94%
				step	10.000 K	241	-	255	95%	-	100%



15 <sup>3</sup>	-	-	green saturation	step	no effect	0			0%		
				proportional	exalts the green color in the mixing and diminishes the presence of magenta	1	-	127	0%	-	20%
				step	no effect	128			50%		
				proportional	diminishes the presence of green in the mixing and exalts the magenta color	129	-	254	51%	-	99%
				step	no effect	255			100%		
16 <sup>4</sup>	-	-	saturation	proportional	the white tone fades to the tone built with the RGBWLA channels	0	-	255	0%	-	100%
<b>Note 1:</b> channels involving 11 - 12 - 13 macro colors can also be obtained by mixing channels 2 - 3 - 4 - 5 - 6 - 7.											
<b>Note 2:</b> the one channel function mode can be selected through the “DMX SETTINGS” menu.											
<b>Note 3:</b> the rest position of the green saturation is 128. Diminishing the DMX value augments the presence of the green color. Increasing the DMX value augments the presence of magenta.											
<b>Note 4:</b> increasing the value of the saturation DMX channel the white tone (channel 14) will fade to the color selected by the channel 2 - 3 - 4 - 5 - 6 - 7.											
<b>Projector:</b> LEDko FullSpectrum 6 HD Studio						<b>Chart name:</b> DMX512 function			<b>software version:</b> 0.79		
<b>Edition:</b> 3						<b>Date:</b> 21.05.2021					

## 8.2 DMX Chart Studio mode

channel	function	type of control	effect	decimal		percentage	
1	master dimmer	proportional	adjust luminous output intensity from 0 to 100%	0	- 255	0%	- 100%
2	white tone	step	2.700 K	0	- 15	0%	- 6%
		proportional	proportional value from 2.700 K to 3.200 K	16	- 30	6%	- 12%
		step	3.200 K	31	- 45	12%	- 18%
		proportional	proportional value from 3.200 K to 4.000 K	46	- 60	18%	- 24%
		step	4.000 K	61	- 75	24%	- 29%
		proportional	proportional value from 4.000 K to 5.000 K	76	- 90	30%	- 35%
		step	5.000 K	91	- 105	36%	- 41%
		proportional	proportional value from 5.600 K to 7.000 K	136	- 150	53%	- 59%
		step	5.600 K	121	- 135	47%	- 53%
		proportional	proportional value from 5.600 K to 7.000 K	136	- 150	53%	- 59%
		step	7.000 K	151	- 165	59%	- 65%
		proportional	proportional value from 7.000 K to 8.000 K	166	- 180	65%	- 71%
		step	8.000 K	181	- 195	71%	- 76%
		proportional	proportional value from 8.000 K to 9.000 K	196	- 210	77%	- 82%
		step	9.000 K	211	- 225	83%	- 88%
		proportional	proportional value from 9.000 K to 10.000 K	226	- 240	89%	- 94%
		step	10.000 K	241	- 255	95%	- 100%
3'	green saturation	step	no effect	0		0%	
		proportional	exalts the green color in the mixing and diminishes the presence of magenta	1	- 127	0%	- 20%
		step	no effect	128		50%	
		proportional	diminishes the presence of green in the mixing and exalts the green color	129	- 254	51%	- 99%
		step	no effect	255		100%	
4	saturation	proportional	the white tone fades to the tone built with the HUE channel	0	- 255	0%	- 100%
5 <sup>2</sup>	hue	proportional	reproduce the color crossfades around the color space	0	- 255	0%	- 100%
6	dimmer fine	proportional	fine dimmer control 16 bit	0	- 255	0%	- 100%
7	special functions	step	park	0	- 9	0%	- 4%
			no effect	10	- 84	4%	- 33%
			fan at low-noise speed	85	- 96	33%	- 38%
			fan at studio mode	97	- 108	38%	- 42%
			fan at auto-silent speed	109	- 120	43%	- 47%
		proportional	fan speed control	121	- 133	47%	- 52%
		step	enables the automatic display blackout	134	- 185	53%	- 73%
			disables the automatic display blackout	186	- 199	73%	- 78%
			no effect	200	- 255	78%	- 100%

**Note 1:** the rest position of the green saturation is 128. Diminishing the DMX value augments the presence of the green color. Increasing the DMX value augments the presence of magenta.

**Note 2:** increasing the value of the saturation DMX channel (channel 4) the white light will fade to the color selected with the HUE channel (channel 5)

**Projector:** LEDko FullSpectrum 6 HD Studio

**Chart name:** DMX512 function

**software version:** 0.79

**Edition:** 3

**Date:** 21.05.2021

## 8.2 DMX Chart RGB mode

channel	function	type of control	effect	decimal		percentage	
<b>1</b>	master dimmer	proportional	adjust luminous output intensity from 0 to 100%	0	- 255	0%	- 100%
<b>2</b>	dimmer fine	proportional	fine dimmer control 16 bit	0	- 255	0%	- 100%
<b>3</b>	red	proportional	proportional control of the color percentage from 0 % to 100 %	0	- 255	0%	- 100%
<b>4</b>	green	proportional	proportional control of the color percentage from 0 % to 100 %	0	- 255	0%	- 100%
<b>5</b>	blue	proportional	proportional control of the color percentage from 0 % to 100 %	0	- 255	0%	- 100%
<b>6</b>	white tone	step	no effect	0	- 9	0%	- 4%
			2.700 K	10	- 15	4%	- 6%
		proportional	proportional value from 2.700 K to 3.200 K	16	- 30	6%	- 12%
		step	3.200 K	31	- 45	12%	- 18%
		proportional	proportional value from 3.200 K to 4.000 K	46	- 60	18%	- 24%
		step	4.000 K	61	- 75	24%	- 29%
		proportional	proportional value from 4.000 K to 5.000 K	76	- 90	30%	- 35%
		step	5.000 K	91	- 105	36%	- 41%
		proportional	proportional value from 5.000 K to 5.600 K	106	- 120	42%	- 47%
		step	5.600 K	121	- 135	47%	- 53%
		proportional	proportional value from 5.600 K to 7.000 K	136	- 150	53%	- 59%
		step	7.000 K	151	- 165	59%	- 65%
		proportional	proportional value from 7.000 K to 8.000 K	166	- 180	65%	- 71%
		step	8.000 K	181	- 195	71%	- 76%
		proportional	proportional value from 8.000 K to 9.000 K	196	- 210	77%	- 82%
		step	9.000 K	211	- 225	83%	- 88%
		proportional	proportional value from 9.000 K to 10.000 K	226	- 240	89%	- 94%
		step	10.000 K	241	- 255	95%	- 100%
<b>7'</b>	saturation	proportional	the white tone fades to the tone built with the RGB channels	0	- 255	0%	- 100%
<b>8</b>	strobe effect	step	no effect	0	- 9	0%	- 4%
		proportional	variable speed strobing effect, from slow to fast	10	- 57	4%	- 22%
		step	stop strobe	58	- 59	23%	- 23%
		proportional	sequenced pulse effect, slow closing, fast opening (variable speed pulsing, from slow to fast)	60	- 108	24%	- 42%
		step	stop strobe	109	- 110	43%	- 43%
		proportional	sequenced pulse effect, fast closing, slow opening (variable speed pulsing, from slow to fast)	111	- 159	44%	- 62%
		step	stop strobe	160	- 161	63%	- 63%
		proportional	random strobe effect with variable speed from slow to fast	162	- 207	64%	- 81%
		step	stop strobe	208	- 209	82%	- 82%
		proportional	random strobe effect with variable speed from slow to fast	210	- 255	82%	- 100%

9	special functions	step	park	0	-	9	0%	-	4%
			no effect	10	-	84	4%	-	33%
			fan at low-noise speed	85	-	96	33%	-	38%
			fan at studio mode	97	-	108	38%	-	42%
			fan at auto-silent speed	109	-	120	43%	-	47%
		proportional	fan speed control	121	-	133	47%	-	52%
		step	enables the automatic display blackout	134	-	185	53%	-	73%
			disables the automatic display blackout	186	-	199	73%	-	78%
			no effect	200	-	255	78%	-	100%

**Note 1:** increasing the value of the saturation DMX channel the white tone (channel 6) will fade to the color selected by the channel 3, 4 or 5

**Projector:** LEDko FullSpectrum 6 HD Studio

**Chart name:** DMX512 function

**software version:** 0.79

**Edition:** 3

**Date:** 21.05.2021

## 8.2 DMX fine RGB mode

channel	function	type of control	effect	decimal		percentage	
<b>1</b>	master dimmer	proportional	adjust luminous output intensity from 0 to 100%	0	- 255	0%	- 100%
<b>2</b>	dimmer fine	step	fine dimmer control 16 bit	0	- 255	0%	- 100%
<b>3</b>	red	proportional	proportional control of the color percentage from 0 % to 100 %	0	- 255	0%	- 100%
<b>4</b>	red fine	step	fine red control 16 bit	0	- 255	0%	- 100%
<b>5</b>	green	proportional	proportional control of the color percentage from 0 % to 100 %	0	- 255	0%	- 100%
<b>6</b>	green fine	step	fine green control 16 bit	0	- 255	0%	- 100%
<b>7</b>	blue	proportional	proportional control of the color percentage from 0 % to 100 %	0	- 255	0%	- 100%
<b>8</b>	blue fine	step	fine blue control 16 bit	0	- 255	0%	- 100%
<b>9</b>	white tone	step	no effect	0	- 9	0%	- 4%
			2.700 K	10	- 15	4%	- 6%
		proportional	proportional value from 2.700 K to 3.200 K	16	- 30	6%	- 12%
		step	3.200 K	31	- 45	12%	- 18%
		proportional	proportional value from 3.200 K to 4.000 K	46	- 60	18%	- 24%
		step	4.000 K	61	- 75	24%	- 29%
		proportional	proportional value from 4.000 K to 5.000 K	76	- 90	30%	- 35%
		step	5.000 K	91	- 105	36%	- 41%
		proportional	proportional value from 5.000 K to 5.600 K	106	- 120	42%	- 47%
		step	5.600 K	121	- 135	47%	- 53%
		proportional	proportional value from 5.600 K to 7.000 K	136	- 150	53%	- 59%
		step	7.000 K	151	- 165	59%	- 65%
		proportional	proportional value from 7.000 K to 8.000 K	166	- 180	65%	- 71%
		step	8.000 K	181	- 195	71%	- 76%
		proportional	proportional value from 8.000 K to 9.000 K	196	- 210	77%	- 82%
		step	9.000 K	211	- 225	83%	- 88%
		proportional	proportional value from 9.000 K to 10.000 K	226	- 240	89%	- 94%
		step	10.000 K	241	- 255	95%	- 100%
<b>10'</b>	saturation	proportional	the white tone fades to the tone built with the RGB channels	0	- 255	0%	- 100%
<b>11</b>	strobe	step	no effect	0	- 9	0%	- 4%
		proportional	variable speed strobing effect, from slow to fast	10	- 57	4%	- 22%
		step	stop strobe	58	- 59	23%	- 23%
		proportional	sequenced pulse effect, slow closing, fast opening (variable speed pulsing, from slow to fast)	60	- 108	24%	- 42%
		step	stop strobe	109	- 110	43%	- 43%
		proportional	sequenced pulse effect, fast closing, slow opening (variable speed pulsing, from slow to fast)	111	- 159	44%	- 62%
		step	stop strobe	160	- 161	63%	- 63%
		proportional	random strobe effect with variable speed from slow to fast	162	- 207	64%	- 81%
		step	stop strobe	208	- 209	82%	- 82%
		proportional	random strobe effect with variable speed from slow to fast	210	- 255	82%	- 100%

12	special functions	step	park	0	-	9	0%	-	4%
			no effect	10	-	84	4%	-	33%
			fan at low-noise speed	85	-	96	33%	-	38%
			fan at studio mode	97	-	108	38%	-	42%
			fan at auto-silent speed	109	-	120	43%	-	47%
		proportional	fan speed control	121	-	133	47%	-	52%
		step	enables the automatic display blackout	134	-	185	53%	-	73%
			disables the automatic display blackout	186	-	199	73%	-	78%
			no effect	200	-	255	78%	-	100%

**Note 1:** increasing the value of the saturation DMX channel the white tone (channel 6) will fade to the color selected by the channel 3, 4 or 5

**Projector:** LEDko FullSpectrum 6 HD Studio

**Chart name:** DMX512 function

**software version:** 0.79

**Edition:** 3

**Date:** 21.05.2021

## 8.2 DMX SUNRISE mode

channel	function	type of control	effect	decimal			percentage		
1	master dimmer	proportional	adjust luminous output intensity from 0 to 100%	0	-	255	0%	-	100%
2	dimmer fine	proportional	fine dimmer control 16 bit	0	-	255	0%	-	100%
3	proportional cct	proportional	2.700 K	0			0%		
		proportional	proportional value from 2.700 K to 4000 K	1	-	44	0%	-	17%
		proportional	4.000 K	45			18%		
		proportional	proportional value from 4.000 to 5.000 K	46	-	79	18%	-	31%
		proportional	5.000K	80			31%		
		proportional	proportional value from 5.000 to 5.600 K	81	-	100	32%	-	39%
		proportional	5.600K	101			40%		
		proportional	proportional value from 5.600 K to 10.000 K	102	-	254	40%	-	100%
		proportional	10.000 K	255			100%		
4	step cct	step	no effect	0	-	9	0%	-	4%
		step	2.700 K	10	-	36	4%	-	14%
		step	3.200K	37	-	63	15%	-	25%
		step	4.000K	64	-	90	25%	-	35%
		step	5.000K	91	-	117	36%	-	46%
		step	5.600K	118	-	144	46%	-	56%
		step	7.000K	145	-	171	57%	-	67%
		step	8.000K	172	-	198	67%	-	78%
		step	9.000K	199	-	225	78%	-	88%
		step	10.000K	226	-	255	89%	-	100%
5	green saturation	step	no effect	0			0%		
		proportional	exalts the green color in the mixing and diminishes the presence of magenta	1	-	127	0%	-	20%
		step	no effect	128			50%		
		proportional	diminishes the presence of green in the mixing and exalts the green color	129	-	254	51%	-	99%
		step	no effect	255			100%		
6	special functions	step	park	0	-	9	0%	-	4%
			no effect	10	-	84	4%	-	33%
			fan at low - noise speed	85	-	96	33%	-	38%
			fan at studio mode	97	-	108	38%	-	42%
			fan at auto - silent speed	109	-	120	43%	-	47%
		proportional	fan speed control	121	-	133	47%	-	52%
		step	enables the automatic display blackout	134	-	185	53%	-	73%
			disables the automatic display blackout	186	-	199	73%	-	78%
			no effect	200	-	255	78%	-	100%

**Note 1:** If channels 3 and 4 are used simultaneously, channel 4 prevails.

**Projector:** LEDko FullSpectrum 6 HD Studio

**Chart name:** DMX512 function

**software version:** 0.79

**Edition:** 3

**Date:** 21.05.2021

## 9. Display panel functions

---

### 9.1 Quick guide to menu

To access the functions menus just press the MENU button. Then press + or – buttons to scroll the pages and press the ENTER button to access to any other function.

By suitably using all the functions of **LEDko FullSpectrum 6 HD**, which can be activated through its display panel, it is possible to change some of the parameters and to add some functions. Changing the preset settings made by **Coemar** can vary the functions of the projector so that it will respond differently to the controller; therefore carefully read about the functions described here before carrying out any possible selection.

---

### 9.2 Rapid count

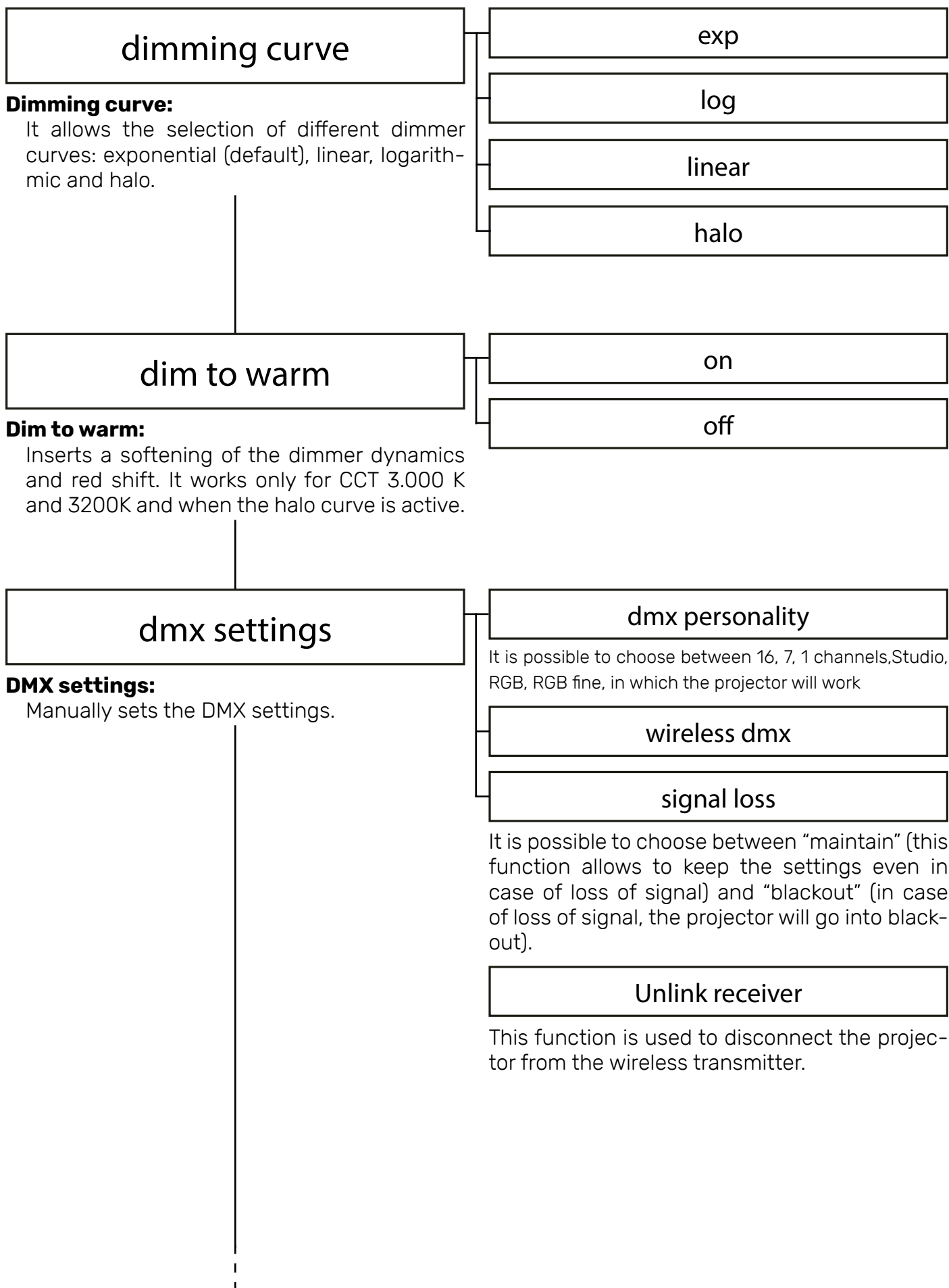
Through the display panel of **LEDko FullSpectrum 6 HD** it is possible to quickly change the various numbers displayed for the different functions in the following 3 manners:

1. Pressing the + or – buttons will cause the count to be quicker.
2. Pressing first + and then – and then holding them down simultaneously will cause the numbers to jump to the highest value.
3. Pressing first – and then + and then holding them down simultaneously will cause the number to jump to the lowest value.



## 9.3 Main functions menu

By pressing the Enter key “✓” you can enter the LEDko FullSpectrum 6 HD’s main menu.



fan mode

**Fan mode:**

Manually sets the fan mode.

automatic

Fan with automatic operating speed to guarantee maximum light output in all conditions of use, ideal for live events, exhibitions and architectural installations.

studio

Fan at automatic operation speed with limited speed to guarantee silent operation of the product (moderately limited light output, will decrease in case of overheat) ideal for broadcast or theatre applications.

low noise

This setting will keep the speed of the fan at the minimum level (moderately limited light output, will decrease in case of overheat) ideal for environments that require maximum silence.

display - keyboard

brightness

Allows to increase or decrease the brightness of the screen (from 0% to 100%).

180° reverse

It allows to turn by 180° the reading of the display.

display timeout

It allows to turn off the display after 10 seconds.

keyboard lock

Locks the keys. Press any key for 5 seconds to unlock.

DEFAULT SETTINGS

**Default Settings:**

Allows to restore the factory default of the fixture, with exception of DMX address and LED alignment.

measures

pag. 22

## 9.4 Measures

### temperature

**Temperature:**

Shows the current temperature values of the fixture.

	LED	BOARD
NOW:	-°C	-°C
MIN:	-°C	-°C
MAX:	-°C	-°C
history		
MIN:	-°C	-°C
MAX:	-°C	-°C

**LED:** shows the LED module temperature.

**Board:** shows the electronic board temperature.

**History:** shows the history temperature of the LED and electronic board temperature.

### PSU VOLTAGE

**PSU Voltage:**

Shows the power supply voltage.

### fan level

**Fan level:**

Shows the percentage fan usage.

Level:	-%
voltage:	-V
rotation:	-rpm

### dmx refresh rate

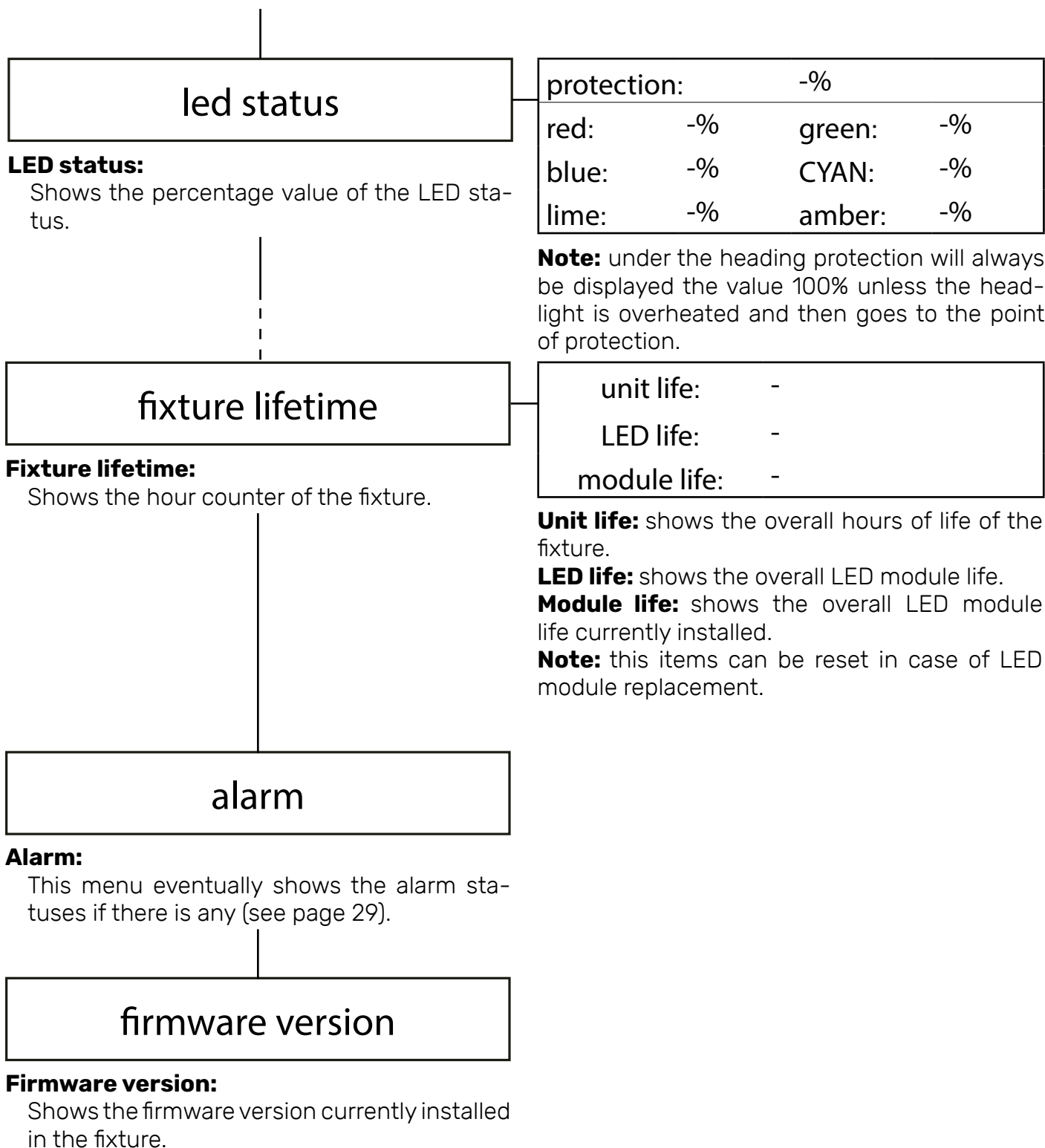
**DMX Refresh Rate:**

Shows the refresh rate of the DMX signal sent by the console.


### dmx input

**DMX Input:**

Shows the value of the DMX channels received by the fixture on every channel that the fixture occupies on the line.



## 9.5 Color presets

By pressing the **color preset** button “”, on the rear panel, it will be possible to enter the menu dedicated to the gels preset in the projector.

intensity

### Intensity:

Allows to adjust the luminous output intensity.

white tone gels

### White tone gels:

This channel offers a preset library of various white CCT with a range that goes from 2700 K and up to 10000 K, manually selectable without the need of a DMX console.

2700 K

3000 K

3200 K

3500 K

4000 K

4500 K

5000 K

5500 K

5600 K

.... K

10000 K

green saturation

### Green saturation:

Once the color temperature is selected, the green saturation function will automatically be activated, which allows to increase or decrease the presence of green and magenta.

## color gels

### Factory gels:

This channel offers a preset library of various color gels.

COR01 - GELS RED 1

COR02 - GELS RED 2

COR03 - GELS RED 3

COR04 - GELS RED 4

COR05 - GELS RED 5

COR06 - GELS RED 6

COR07 - GELS RED 7

COR08 - GELS RED 8

COR09 - GELS RED 9

COR10 - GELS RED 10

COG01 - GELS GREEN 1

COG02 - GELS GREEN 2

COG03 - GELS GREEN 3

COG04 - GELS GREEN 4

COG05 - GELS GREEN 5

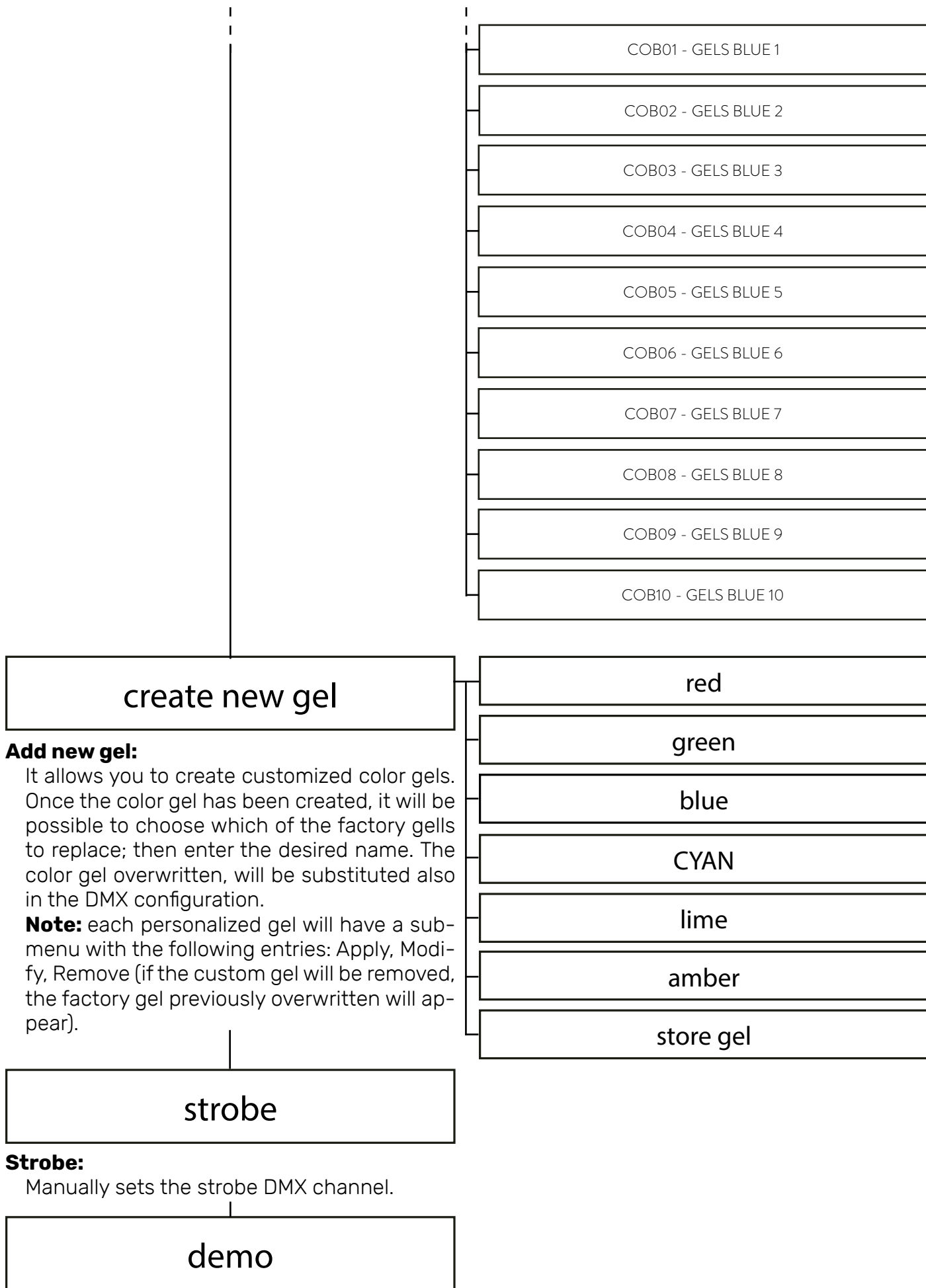
COG06 - GELS GREEN 6

COG07 - GELS GREEN 7

COG08 - GELS GREEN 8

COG09 - GELS GREEN 9

COG10 - GELS GREEN 10



---

## 9.6 Special functions of the fixture

### Storing the DMX signal

To use the fixture without an active DMX console it is possible to store the DMX settings in two ways:

- Through the menu;
- Disconnecting the DMX signal when the fixture is on. When the signal is unconnected the fixtures stores the signal;

### Automatic fan standby

To decrease the noise and the power consumption the cooling fan turns off after 10 minutes of fixture inactivity.

---

## 9.7 Error messages

If a malfunction occurs, **LEDko FullSpectrum 6 HD** has a self-diagnostic system that will show the error message on the display. The following table will explain in detail the most common errors. If, despite of suggested intervention, the problem persists, call the **Coemar** Service Center.

Error code	Description
Data Error	<b>Data error</b> Initial data loading has failed the projector loaded the default data settings: restart the fixture again, and if the error persists contact the <b>Coemar</b> assistance center.
Address Error	<b>Address error</b> The projector does not receive all channels of DMX needs to function properly. Check the DMX address indicated on the display and the number of channels generated by the mixer control. We recall in this connection that some controllers do not generate all the 512 channels.
sensor not detected	<b>Sensor not detected</b> LED temperature sensor missing or damaged.
sensor shorted	<b>Sensor shorted</b> Error of the LED's sensor circuit.
fan not rotating	<b>Fan not rotating</b> Auto diagnostic routine found that the Fan may be damaged, contact Coemar assistance for the module replacement. <b>IMPORTANT:</b> To ensure the sensor is giving correct readings or that the fan rotates correctly, set the fan to the maximum level.



# 10. Accessories and spare parts

is a very versatile fixture, optional accessories for its customization are available under request:

Accessory name	Code
Front barrel for lens tube with burnished blades	BC10011A200
Profile 5°, lens tube	BC10011A041
Profile 10°, lens tube	BC10011A042
Profile 14°, lens tube	BC10011A023
Profile 19°, lens tube	BC10011A012
Profile 26°, lens tube	BC10011A013
Profile 36°, lens tube	BC10011A015
Profile 50°, lens tube	BC10011A016
Profile 70°, lens tube	BC10011A024
Profile 90°, lens tube	BC10011A025
Profile Zoom 15°- 35°	BC10011A017
Profile Zoom 25°- 50°	BC10011A019
Profile Zoom 28°- 40°	BC10011A003
Soft Profile Fresnel Zoom 14°- 40°	BC10011A002
Soft Profile PC Zoom 11°- 38°	BC10011A001
4 leaf barndoor	AC04202
Gobo frame holder	BC10011A006
Iris	BC10011A010
Donut (190.5 mm)	BC10011A028
Half Top Hat (190.5 mm)	BC10011A027
Top Hat (190.5 mm)	BC10011A029
Color Frame Holder (190 mm)	BC10011A040
Donut (185 mm)	BC10011A036
Half Top Hat (185 mm)	BC10011A035
Top Hat (185 mm)	BC10011A037
Color Frame Holder (185 mm)	AC04204

Donut (159 mm)	BC10011A032
Half Top Hat (159 mm)	BC10011A031
Top Hat (159 mm)	BC10011A033
Colour Frame Holder (159 mm)	BC10011A021
(Gobo Slot) Glass template holder (93.6 mm)	BC10011A030
Hook clamp, 48-51 mm, max. load 20 Kg.	BC10011A047
Light clamp silver, 48-51 mm, max. load 75 Kg.	BC10011A045
Light clamp black, 48-51 mm, max. load 75 Kg.	BC10011A046
Clamp silver, flat 13-30 mm/ø 15-50 mm, max. load 20 Kg.	BC10011A043
Clamp black, flat 13-30 mm/ø 15-50 mm, max. load 20 Kg.	BC10011A044

All the components of **LEDko FullSpectrum 6 HD** are available as spare parts from your Coemar dealer or Service. Accurate description of the fixture, model number and type will assist us in providing for your requirements in an efficient and effective manner.

# 11. Maintenance

---

## 11.1 Firmware update

The firmware of **LEDko FullSpectrum 6 HD** can be updated through the RDM protocol (ANSI E1.20). Contact Coemar assistance to receive the software and the device updater.

---

## 11.2 Periodic cleaning

### Lenses

Even a thin layer of dust can reduce the luminous output and alter the consistency of the beam. Regularly clean all filters and lenses using a soft cotton cloth, dampened with a special lens cleaning solution.

### Cleaning of the unit

Use a soft brush or a common vacuum cleaner or a source of compressed air for removing dust. For the cleaning of the housing use a soft cloth and a non-aggressive cleaner. Check that the internal fans and heat exchanger must be perfectly clean.

---

## 11.3 Periodic controls

### Mechanical components

Check the correct working of the mechanical parts and, if needed, replace them. Make sure the projector is not mechanically damaged. If necessary, replace the worn parts.

### Electrical components

Check all electrical connections, in particular for correct grounding and correct attachment of all extractable connectors. Press the connectors if necessary and reposition as before.

---

## 11.4 Fuses

**LEDko FullSpectrum 6 HD** has an automatic fuse that in most cases does not need to be replaced.

## 12. F.A.Q. and answers

The following list shows common issues that may be simply solved. If issues persist, the unit must be repaired by a qualified personnel or just contact your **Coemar** service near you.

Question	Possible solution
<b>LEDko FullSpectrum 6 HD</b> does not emit light	<b>Projector not powered on:</b> <ul style="list-style-type: none"><li>• Make sure the power cord is plugged in or test the input voltage;</li></ul> <b>Wrong DMX address:</b> <ul style="list-style-type: none"><li>• Check the DMX Address setting and the output signal of the controller;</li></ul>
<b>LEDko FullSpectrum 6 HD</b> is not responding to DMX signal	<b>DMX signal may not reach LEDko FullSpectrum 6 HD:</b> <ul style="list-style-type: none"><li>• Inspect the cable connection, correct poor connections or inefficient repair or replace damaged cables;</li><li>• Check DMX address of the unit;</li></ul>

## User notes

This image shows a full page of white paper with horizontal dotted lines. The lines are evenly spaced and run across the width of the page, providing a guide for handwriting practice. There are no margins, text, or other markings on the page.



#### **Information on disposal of the equipment**

The equipment at the end of its useful life must be disposed of at an appropriate recycling center for waste electrical and electronic equipment. The treatment and disposal of environmentally friendly, helps prevent potential negative environmental and health and promote the reuse and / or recycling of materials making up the equipment. Illegal disposal by the user includes the application of administrative sanctions provided by law.



**Coemar Lighting s.r.l.**

Via Carpenedolo 90  
46043 Castiglione delle Stiviere, Mantova, Italy  
phone. +39 0376/1514412 - fax +39 0376/1514380  
[info@coemar.com](mailto:info@coemar.com)

**Coemar** reserves the right to change specifications without prior notice