

FORIS WASH 1960

MANUAL



19 × 60W
RGBL LED ENGINE



INDIVIDUAL
PIXEL CONTROL



IP65
PROFESSIONAL BUILD



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THANK YOU FOR PURCHASING OUR PRODUCTS

Every unit has been thoroughly tested and has been shipped in perfect operating condition. Carefully check the outer and inner packaging for damage that may have occurred during shipping. If the carton appears to be damaged, carefully inspect your fixture for any damage and make sure all accessories necessary to operate the unit have arrived intact. In case damage has been found or parts are missing, please contact the distributor or your dealer for further instructions. Do not return this unit to your dealer without first contacting them.

1. SAFETY INFORMATION

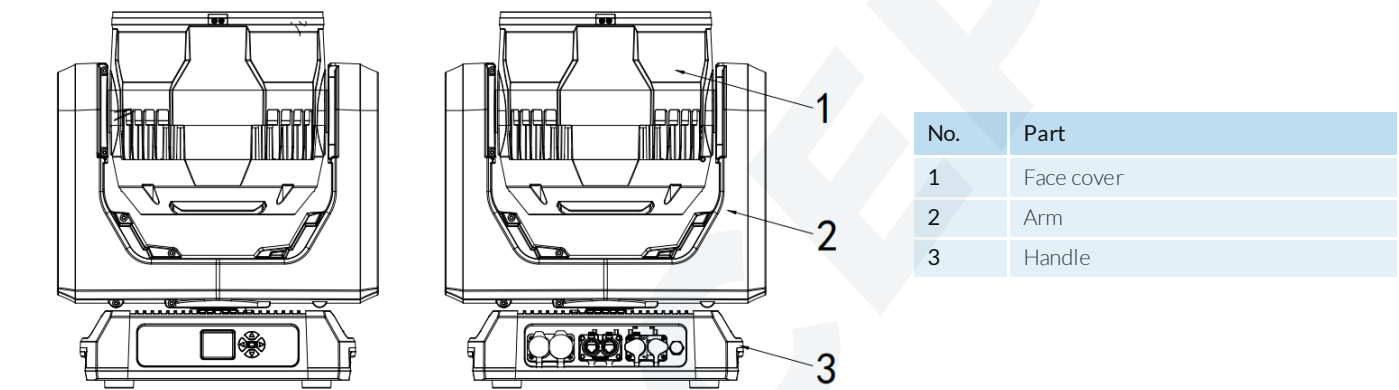
WARNING! To reduce the risk of fire, electric shock or injury to persons, follow these important safety instructions.

	Before operating this unit, carefully read this manual and keep it for future reference. Installation and operation must be performed by qualified personnel.
	Check before use. Before operation, inspect the fixture for transportation damage. Do not use it if damaged. Unauthorised modification or improper use is not covered by warranty.
IP65	Environment. The fixture is IP65-rated, suitable for indoor and outdoor use, and can operate in humid or dusty areas. Keep it away from excessive heat, fire, vibration, electrical surges and strong light.
	Personnel & operation. Ensure all covers are securely in place and wear protective gear. Do not open the housing or attempt self-maintenance.
	Optical safety. Do not look directly into the light source. Do not use with dimmer packs. Maintain a minimum distance of 20 m from illuminated surfaces and replace damaged optical components immediately.
	Electrical safety. The fixture operates on AC 100–240 V, 50/60 Hz. Use compliant power cords only and never damaged cables; unplug by holding the plug. Avoid operating under heavy rain or extreme humidity and avoid frequent on/off switching.
	Protection class I device – the fixture must be properly earthed.
	Installation. When the fixture is rigged, always attach a safety cord through the provided safety holes.
	Keep at least 50 cm ventilation clearance. Do not mount on flammable surfaces and do not aim the beam at combustible objects (minimum 20 m).
-10°C +45°C	Temperature. Working temperature – 10 °C to +45 °C. The housing may reach 45–75 °C during operation. Slight smoke or odour at first ignition is normal.
	Disposal of the device after its life cycle can damage the environment. Take it to a recycling company or return it to the authorised dealer.
	If possible, recycle all packaging material.

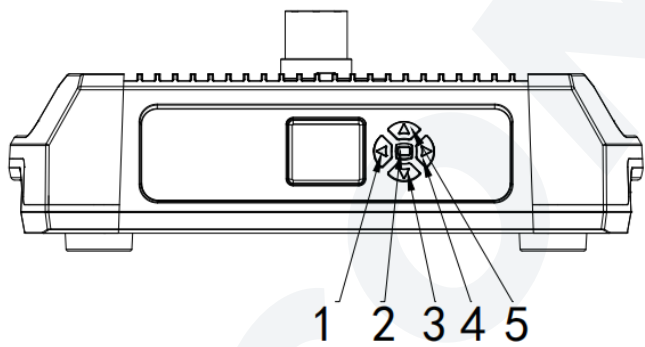
2. PRODUCT OVERVIEW



HOUSING

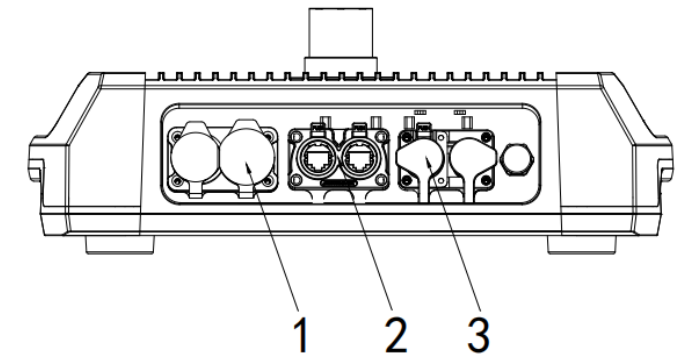


FRONT PANEL OF THE BASE



No.	Key
1	Left
2	Enter
3	Down
4	Right
5	Up

REAR PANEL OF THE BASE



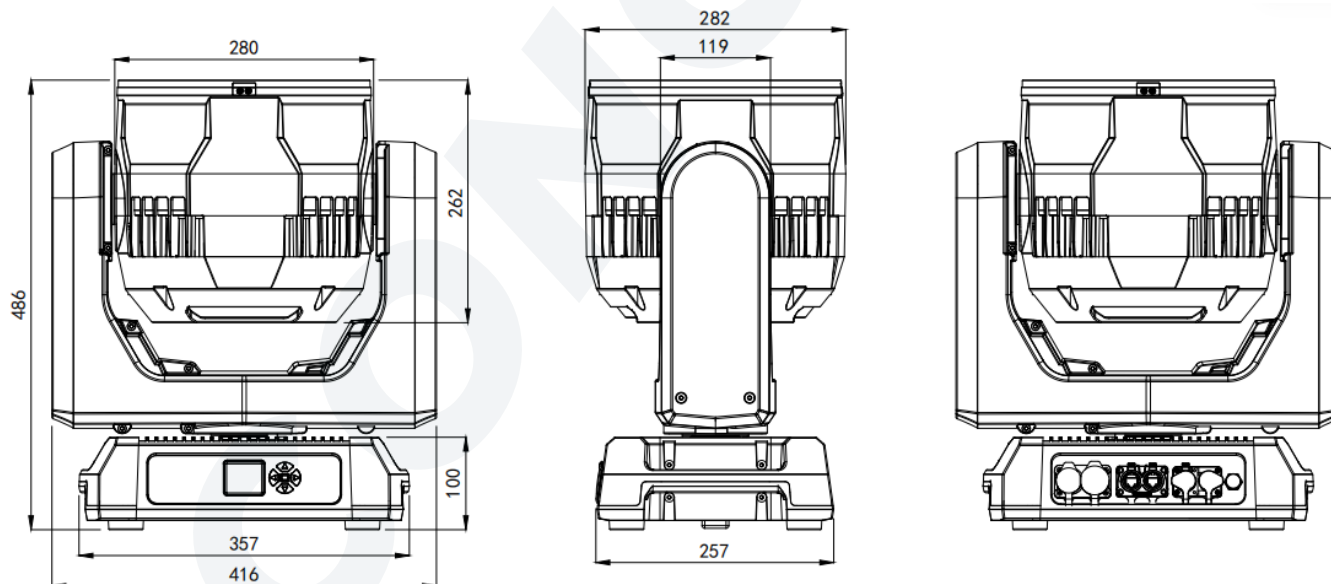
No.	Connection
1	Waterproof True1 power IN / OUT
2	Waterproof Art-Net IN / OUT
3	Waterproof 3-pin and 5-pin DMX IN / OUT

3. SPECIFICATIONS

Input voltage	AC 100–240 V, 50/60 Hz
Power consumption	1100 W
Light source	19 × 60 W RGBL LEDs
LED ring	80 × 0.12 W RGB 3-in-1 LEDs
Colour temperature	6700 K
CRI	68
Life expectancy	20,000 h (factory rated)
Beam angle	3.7°–31.3°
Field angle	5.5°–50.4°
Zoom	Motorised
Lens rotation	0–60° indexed, continuous CW / CCW
Pan	540°, 16-bit
Tilt	270°, 16-bit

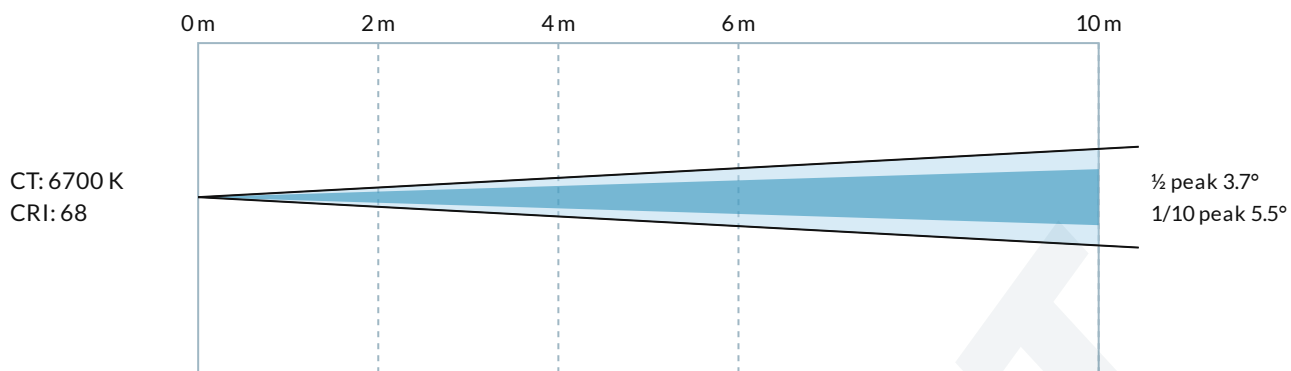
Control	DMX512, RDM, Art-Net, sACN, master/slave, auto (sound)
DMX channels	28 / 30 / 42 / 85 / 99 / 104 / 106 ch
Dimmer	0–100% linear, 16-bit
Dimmer curves	Linear, Square, Square root, S-curve
PWM frequency	1 / 4 / 8 / 12 / 16 / 20 / 25 / 32 kHz
Strobe	1–20 Hz, variable speed
Display	LCD display with 5 buttons
Housing	Die-cast aluminium, nylon, glass fibre
IP rating	IP65
Working temperature	–10 °C to +45 °C
Power connector	True1 in/out (waterproof)
Data	3-pin and 5-pin XLR DMX in/out, Art-Net in/out
Dimensions	416 × 282 × 486 mm
Net weight	20 kg

DIMENSIONS (MM)



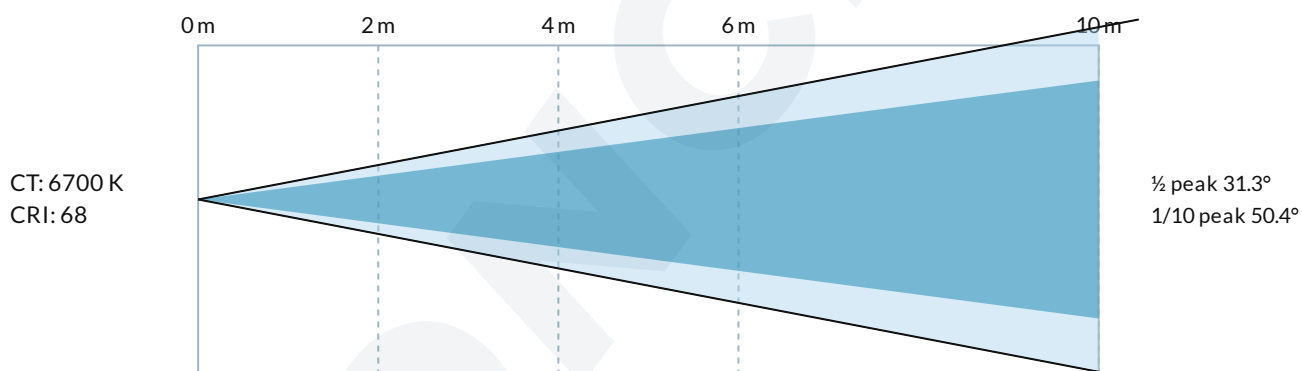
ILLUMINANCE

MINIMUM ZOOM · 3.7°



	2 m	4 m	6 m	10 m
3.7° diameter (m)	0.13	0.26	0.38	0.64
5.5° diameter (m)	0.19	0.38	0.57	0.95
Red (lux)	30617	10456	4712	859
Green (lux)	78048	27267	12479	2184
Blue (lux)	12190	4764	2014	380
Lime (lux)	102503	36423	16401	2946
RGBL (lux)	172694	61485	27261	4467

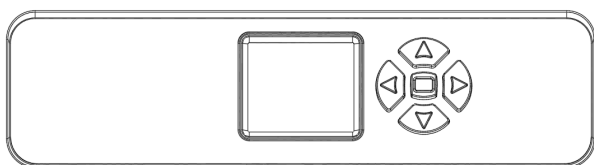
MAXIMUM ZOOM · 31.3°



	2 m	4 m	6 m	10 m
31.3° diameter (m)	1.12	2.24	3.36	5.60
50.4° diameter (m)	1.88	3.76	5.64	9.40
Red (lux)	2019	573	287	128
Green (lux)	5873	1437	698	293
Blue (lux)	1007	265	145	82
Lime (lux)	7545	1877	881	366
RGBL (lux)	12613	3116	1432	595

4. OPERATION

4.1 FRONT PANEL OPERATION



Key	Function
ENTER	Enter a menu, confirm a selection or leave the menu
UP	Move up in the menu
DOWN	Move down in the menu
LEFT	Go back to the previous level
RIGHT	Go to the next level / next option

Pressing any button from the home screen shows the selectable items of the menu map. When a menu function is selected, the display immediately shows the first available option for that function. Use the UP, DOWN, LEFT and RIGHT keys to navigate the menu options and press ENTER to select the function currently displayed or to enable an option.

4.2 MENU STRUCTURE

Menu	Function	Value
ADDR	Address	001–512
Signal source	Source	DMX512 · Auto · sACN · Artnet
Art-Net IP setting	Mask	255.000.000.000
	GW	002.000.000.001
	Net	000–127
	Sub net	00–15
	Universe	00–15
sACN setting	Universe	00001
Channel mode	DMX channel mode	28 / 30 / 42 / 85 / 99 / 104 / 106 CH
Run mode	Run mode	DMX / Auto
Reset motor	Reset	Light path / Reset all
Setting	Master	Master / Slave
	Fan control	Auto / High / Silent
	Dim speed	Fast / Slow
	Dim curve	Linear / Square root / S-curve / Square
	Dim frequency	1 / 4 / 8 / 12 / 16 / 20 / 25 / 32 kHz
	Pan reverse	Yes / No
	Tilt reverse	Yes / No
	Pan range	Start 000 · End 255
	Tilt range	Start 000 · End 255
	P/T speed RLT	Yes / No
	Boot no DMX	DMX512 / Auto / Middle
	Lost signal	Dim off / Keep
	1. Pan	000–255
DMX manual	2. Tilt	000–255
	3. Focus	000–255

4.2 MENU STRUCTURE (CONTINUED)

Menu	Function	Value
DMX manual	4. Revolve	000–255
	5. Shutter	000–255
	6. Dimmer	000–255
	7. Red	000–255
	8. Green	000–255
	9. Blue	000–255
	10. Lime	000–255
	11. Temperature	000–255
	12. Color effect	000–255
	13. Macro	000–255
	14. Macro speed	000–255
	15. Auxiliary shutter	000–255
	16. Aura red	000–255
	17. Aura green	000–255
	18. Aura blue	000–255
	19. Aura macro	000–255
	20. Aura speed	000–255
	21. Auto exit	Never / 300 / 180 / 120 / 90 / 60 / 40 / 30 / 20 s
	22. Keep	Yes / No
Advanced setting	Fine adjustment	
	Fine adjustment assist	
	Display setting	Sleep · Invert: Yes / No · Display: On / Off
	Language	English / Chinese
	Recover settings	
Factory setting	Input password	
Info	DMX monitor	DMX value (raw) 001–028 · FPS · Total channels
	Test	
	LED usage time	Current / Total / Clear
	Error	
	Product code	Model name, firmware versions and UDI

4.3 DMX CHANNEL SHEETS

The FORIS WASH 1960 offers seven DMX personalities, selected under **Channel mode** in the menu. Functions with long value tables (CTO, colour macro, function, ring effect and the pattern tables) are listed once in section 4.4 and referenced from each sheet.

Mode	Contents
28 CH	RGBL 16-bit, CTO, colour macro, strobe, dimmer 16-bit, pan/tilt 16-bit, function, zoom, lens rotation, ring
30 CH	Pan/tilt first, RGBL 8-bit, CTO, colour macro, static / dynamic effects with background colour, ring
42 CH	28 CH + pattern engine (pattern selection, colour, transition, angle, background), ring
85 CH	28 CH core + 19 individual RGB pixels, ring
99 CH	42 CH pattern engine + 19 individual RGB pixels, ring
104 CH	28 CH core + 19 individual RGBL pixels, ring
106 CH	30 CH layout + 19 individual RGBL pixels, ring

DMX CHANNEL SHEET · 28 CH

28 CH	Function	DMX value	Description
1	Red	0–255	Red dimmer 0–100%
2	Red fine	0–255	Red fine 16 bit
3	Green	0–255	Green dimmer 0–100%
4	Green fine	0–255	Green fine 16 bit
5	Blue	0–255	Blue dimmer 0–100%
6	Blue fine	0–255	Blue fine 16 bit
7	Lime	0–255	Lime dimmer 0–100%
8	Lime fine	0–255	Lime fine 16 bit
9	CTO adjust	0–255	See table A · CTO
10	Color Macro	0–255	See table B · Color macro
11	Strobe	0–3	Closed
		4–103	Synchronous strobe speed from slow to fast
		104–107	Open
		108–207	Equal strobe speed from slow to fast
		208–212	Open
		213–225	Low-speed random Strobe
		226–238	Medium-speed random Strobe
		239–251	High-speed random Strobe
		252–255	Open
12	Total dimmer	0–255	Dimmer 0–100%
13	Dimmer fine	0–255	Dimmer fine 16 bit
14	Pan	0–255	Pan movement range 540°
15	Pan fine	0–255	Pan movement 16 bit
16	Tilt	0–255	Tilt movement range 270°
17	Tilt fine	0–255	Tilt fine 16 bit
18	Function	0–255	See table C · Function
19	Reset	0–219	No function
		220–239	Zoom reset valid for 5 seconds
		240–255	Lamp reset for 5 seconds
20	Zoom	0–255	Angle from small to large
21	Lens rotation	0–127	0–60°
		128–191	Counter-clockwise continuous rotation
		192–255	Clockwise continuous rotation
22	Ring dimmer	0–255	Ring dimmer from dark to bright
23	Ring strobe	0–4	Open
		5–250	Synchronous strobe from slow to fast
		251–255	Open
24	Ring red	0–255	Ring red 0–100%
25	Ring green	0–255	Ring green 0–100%
26	Ring blue	0–255	Ring blue 0–100%
27	Ring effect	0–255	See table D · Ring effect
28	Ring effect speed	0–255	Ring effect speed from slow to fast

DMX CHANNEL SHEET · 30 CH

30CH	Function	DMX value	Description
1	Pan	0–255	Pan movement range 540°
2	Pan fine	0–255	Pan fine 16 bit
3	Tilt	0–255	Tilt movement range 270°
4	Tilt fine	0–255	Tilt fine 16 bit
5	X/Y speed	0–255	Speed from fast to slow
6	Zoom	0–255	Angle from small to large
7	Rotation	0–127	0–60°
		128–191	Counter-clockwise continuous rotation
		200–255	Clockwise continuous rotation
8	Total dimmer	0–255	Total dimmer 0–100%
9	Strobe	0–3	Open
		4–200	Synchronized strobe speed (slow to fast)
		201–215	Low-speed random strobe
		216–234	Medium-speed random strobe
		235–255	High-speed random strobe
10	Red	0–255	Red dimmer 0–100%
11	Green	0–255	Green dimmer 0–100%
12	Blue	0–255	Blue dimmer 0–100%
13	Lime	0–255	Lime dimmer 0–100%
14	CTO	0–255	See table A · CTO
15	Color macro	0–255	See table B · Color macro
16	Static effects	0–255	Static frames and mixed colours – see table G
17	Dynamic effects	0–255	One effect for 5 numbers
18	Dynamic effects speed	0–127	Positive effect from fast to slow
		128–255	Negative effect from slow to fast
19	Background Red	0–255	Linear dimming from dark to bright
20	Background Green	0–255	Linear dimming from dark to bright
21	Background Blue	0–255	Linear dimming from dark to bright
22	Background Lime	0–255	Linear dimming from dark to bright
23	Reset	0–219	No function
		220–239	Zoom reset valid for 5 seconds
		240–255	Lamp reset for 5 seconds
24	Ring dimmer	0–255	Ring dimmer from dark to bright
25	Ring strobe	0–4	Open
		5–250	Synchronous strobe from slow to fast
		251–255	Open
26	Ring red	0–255	Ring red 0–100%
27	Ring green	0–255	Ring green 0–100%
28	Ring blue	0–255	Ring blue 0–100%
29	Ring effect	0–255	See table D · Ring effect
30	Ring effect speed	0–255	Ring effect speed from slow to fast

DMX CHANNEL SHEET · 42 CH

42 CH	Function	DMX value	Description
1	Red	0–255	Red dimmer 0–100%
2	Red fine	0–255	Red fine 16 bit
3	Green	0–255	Green dimmer 0–100%
4	Green fine	0–255	Green fine 16 bit
5	Blue	0–255	Blue dimmer 0–100%
6	Blue fine	0–255	Blue fine 16 bit
7	Lime	0–255	Lime dimmer 0–100%
8	Lime fine	0–255	Lime fine 16 bit
9	CTO	0–255	See table A · CTO
10	Color Macro	0–255	See table B · Color macro
11	Strobe	0–3	Closed
		4–103	Synchronous strobe speed from slow to fast
		104–107	Open
		108–207	Equal strobe speed from slow to fast
		208–212	Open
		213–225	Low-speed random Strobe
		226–238	Medium-speed random Strobe
		239–251	High-speed random Strobe
		252–255	Open
12	Total dimmer	0–255	Dimmer 0–100%
13	Dimmer fine	0–255	Dimmer fine 16 bit
14	Pan	0–255	Pan movement range 540°
15	Pan fine	0–255	Pan movement 16 bit
16	Tilt	0–255	Tilt movement range 270°
17	Tilt fine	0–255	Tilt fine 16 bit
18	Function	0–255	See table C · Function
19	Reset	0–219	No function
		220–239	Zoom reset valid for 5 seconds
		240–255	Lamp reset for 5 seconds
20	Zoom	0–255	Angle from small to large

DMX CHANNEL SHEET · 42 CH (CONTINUED)

42 CH	Function	DMX value	Description
21	Lens rotation	0–127	0–60°
		128–191	Counter-clockwise continuous rotation
		192–255	Clockwise continuous rotation
22	Pattern selection	0–255	Pattern selection – see table E
23	Pattern effect speed	0–255	Pattern effect speed control
24	Pattern effect faded	0–255	Pattern effect faded
25	Pattern Effect R	0–255	Pattern effect in red
26	Pattern Effect G	0–255	Pattern effect in green
27	Pattern Effect B	0–255	Pattern effect in blue
28	Pattern Effect L	0–255	Pattern effect in lime
29	Pattern dimmer	0–255	Pattern dimmer 0–100%
30	Background dimmer	0–255	Background dimmer 0–100%
31	Pattern transition	0–255	Pattern variation control
32	Pattern angle adjustment	0–255	Sub-effect selection – see table F
33	Pattern strobe	0–255	Foreground strobe (same as channel 11)
34	Background strobe	0–255	Background strobe (same as channel 11)
35	Background selection	0–255	Background pattern – see table H
36	Ring dimmer	0–255	Ring dimmer from dark to bright
37	Ring strobe	0–4	Open
		5–250	Synchronous strobe from slow to fast
		251–255	Open
38	Ring red	0–255	Ring red from dark to bright
39	Ring green	0–255	Ring green from dark to bright
40	Ring blue	0–255	Ring blue from dark to bright
41	Ring effect	0–255	See table D · Ring effect
42	Ring effect speed	0–255	Ring effect speed from slow to fast

DMX CHANNEL SHEET · 85 CH

85 CH	Function	DMX value	Description
1	Red	0–255	Red dimmer 0–100%
2	Red fine	0–255	Red fine 16 bit
3	Green	0–255	Green dimmer 0–100%
4	Green fine	0–255	Green fine 16 bit
5	Blue	0–255	Blue dimmer 0–100%
6	Blue fine	0–255	Blue fine 16 bit
7	Lime	0–255	Lime dimmer 0–100%
8	Lime fine	0–255	Lime fine 16 bit
9	CTO	0–255	See table A · CTO
10	Color Macro	0–255	See table B · Color macro
11	Strobe	0–3	Closed
		4–103	Synchronous strobe speed from slow to fast
		104–107	Open
		108–207	Pulsed stroboscopic effect accelerating from slow to fast
		208–212	Open
		213–225	Low-speed random Strobe
		226–238	Medium-speed random Strobe
		239–251	High-speed random Strobe
		252–255	Open
12	Total dimmer	0–255	Dimmer 0–100%
13	Dimmer fine	0–255	Dimmer fine 16 bit
14	Pan	0–255	Pan movement range 540°
15	Pan fine	0–255	Pan movement 16 bit
16	Tilt	0–255	Tilt movement range 270°
17	Tilt fine	0–255	Tilt fine 16 bit
18	Function	0–255	See table C · Function
19	Reset	0–219	No function
		220–239	Zoom reset valid for 5 seconds
		240–255	Lamp reset for 5 seconds
20	Zoom	0–255	Angle from small to large
21	Lens rotation	0–127	0–60°
		128–191	Counter-clockwise continuous rotation
		192–255	Clockwise continuous rotation
22–78	Pixel 1–19 R / G / B	0–255	Individual pixel dimmers, 3 channels per pixel (R1 dimmer = 22 · G1 dimmer = 23 · B1 dimmer = 24... up to 78)
79	Ring dimmer	0–255	Ring dimmer from dark to bright
80	Ring strobe	0–4	Open
		5–250	Synchronous strobe from slow to fast
		251–255	Open
81	Ring red	0–255	Ring red from dark to bright
82	Ring green	0–255	Ring green from dark to bright
83	Ring blue	0–255	Ring blue from dark to bright
84	Ring effect	0–255	See table D · Ring effect
85	Ring effect speed	0–255	Ring effect speed from slow to fast

DMX CHANNEL SHEET · 99 CH

99CH	Function	DMX value	Description
1	Red	0–255	Red dimmer 0–100%
2	Red fine	0–255	Red fine 16 bit
3	Green	0–255	Green dimmer 0–100%
4	Green fine	0–255	Green fine 16 bit
5	Blue	0–255	Blue dimmer 0–100%
6	Blue fine	0–255	Blue fine 16 bit
7	Lime	0–255	Lime dimmer 0–100%
8	Lime fine	0–255	Lime fine 16 bit
9	CTO	0–255	See table A · CTO
10	Color Macro	0–255	See table B · Color macro
11	Strobe	0–3	Closed
		4–103	Synchronous strobe speed from slow to fast
		104–107	Open
		108–207	Equal strobe speed from slow to fast
		208–212	Open
		213–225	Low-speed random Strobe
		226–238	Medium-speed random Strobe
		239–251	High-speed random Strobe
		252–255	Open
12	Total dimmer	0–255	Dimmer 0–100%
13	Dimmer fine	0–255	Dimmer fine 16 bit
14	Pan	0–255	Pan movement range 540°
15	Pan fine	0–255	Pan movement 16 bit
16	Tilt	0–255	Tilt movement range 270°
17	Tilt fine	0–255	Tilt fine 16 bit
18	Function	0–255	See table C · Function
19	Reset	0–219	No function
		220–239	Zoom reset valid for 5 seconds
		240–255	Lamp reset for 5 seconds
20	Zoom	0–255	Angle from small to large

DMX CHANNEL SHEET · 99 CH (CONTINUED)

99CH	Function	DMX value	Description
21	Lens rotation	0-127	0-60°
		128-191	Counter-clockwise continuous rotation
		192-255	Clockwise continuous rotation
22	Pattern selection	0-255	Pattern selection – see table E
23	Pattern effect speed	0-255	Pattern effect speed control
24	Pattern effect faded	0-255	Pattern effect faded
25	Pattern Effect R	0-255	Pattern effect in red
26	Pattern Effect G	0-255	Pattern effect in green
27	Pattern Effect B	0-255	Pattern effect in blue
28	Pattern Effect L	0-255	Pattern effect in lime
29	Pattern dimmer	0-255	Pattern dimmer 0-100%
30	Background dimmer	0-255	Background dimmer 0-100%
31	Pattern transition	0-255	Pattern variation control
32	Pattern angle adjustment	0-255	Sub-effect selection – see table F
33	Pattern strobe	0-255	Foreground strobe (same as channel 11)
34	Background strobe	0-255	Background strobe (same as channel 11)
35	Background selection	0-255	Background pattern – see table H
36-92	Pixel 1-19 R/G/B	0-255	Individual pixel dimmers, 3 channels per pixel (LED1 red = 36 · LED1 green = 37 · LED1 blue = 38 ... up to 92)
93	Ring dimmer	0-255	Ring dimmer from dark to bright
94	Ring strobe	0-4	Open
		5-250	Synchronous strobe from slow to fast
		251-255	Open
95	Ring red	0-255	Ring red from dark to bright
96	Ring green	0-255	Ring green from dark to bright
97	Ring blue	0-255	Ring blue from dark to bright
98	Ring effect	0-255	See table D · Ring effect
99	Ring effect speed	0-255	Ring effect speed from slow to fast

DMX CHANNEL SHEET · 104 CH

104 CH	Function	DMX value	Description
1	Red	0–255	Red dimmer 0–100%
2	Red fine	0–255	Red fine 16 bit
3	Green	0–255	Green dimmer 0–100%
4	Green fine	0–255	Green fine 16 bit
5	Blue	0–255	Blue dimmer 0–100%
6	Blue fine	0–255	Blue fine 16 bit
7	Lime	0–255	Lime dimmer 0–100%
8	Lime fine	0–255	Lime fine 16 bit
9	CTO	0–255	See table A · CTO
10	Color Macro	0–255	See table B · Color macro
11	Strobe	0–3	Closed
		4–103	Synchronous strobe speed from slow to fast
		104–107	Open
		108–207	Equal strobe speed from slow to fast
		208–212	Open
		213–225	Low-speed random Strobe
		226–238	Medium-speed random Strobe
		239–251	High-speed random Strobe
		252–255	Open
12	Total dimmer	0–255	Dimmer 0–100%
13	Dimmer fine	0–255	Dimmer fine 16 bit
14	Pan	0–255	Pan movement range 540°
15	Pan fine	0–255	Pan movement 16 bit
16	Tilt	0–255	Tilt movement range 270°
17	Tilt fine	0–255	Tilt fine 16 bit
18	Function	0–255	See table C · Function
19	Reset	0–219	No function
		220–239	Zoom reset valid for 5 seconds
		240–255	Lamp reset for 5 seconds
20	Zoom	0–255	Angle from small to large
21	Lens rotation	0–127	0–60°
		128–191	Counter-clockwise continuous rotation
		192–255	Clockwise continuous rotation
22–97	Pixel 1–19 R/G/B/L	0–255	Individual pixel dimmers, 4 channels per pixel (R1 dimmer = 22 · G1 dimmer = 23 · B1 dimmer = 24 · L1 dimmer = 25 ... up to 97)
98	Ring dimmer	0–255	Ring dimmer from dark to bright
99	Ring strobe	0–4	Open
		5–250	Synchronous strobe from slow to fast
		251–255	Open
100	Ring red	0–255	Ring red from dark to bright
101	Ring green	0–255	Ring green from dark to bright
102	Ring blue	0–255	Ring blue from dark to bright
103	Ring effect	0–255	See table D · Ring effect
104	Ring effect speed	0–255	Ring effect speed from slow to fast

DMX CHANNEL SHEET · 106 CH

106 CH	Function	DMX value	Description
1	Pan	0–255	Pan movement range 540°
2	Pan fine	0–255	Pan fine 16 bit
3	Tilt	0–255	Tilt movement range 270°
4	Tilt fine	0–255	Tilt fine 16 bit
5	X/Y speed	0–255	Speed from fast to slow
6	Zoom	0–255	Angle from small to large
7	Rotation	0–127	0–60°
		128–191	Counter-clockwise continuous rotation
		200–255	Clockwise continuous rotation
8	Total dimmer	0–255	Total dimmer 0–100%
9	Strobe	0–3	Open
		4–200	Synchronous strobe speed from slow to fast
		201–215	Low-speed random Strobe
		216–234	Medium-speed random Strobe
		235–255	High-speed random Strobe
10	Red	0–255	Red dimmer 0–100%
11	Green	0–255	Green dimmer 0–100%
12	Blue	0–255	Blue dimmer 0–100%
13	Lime	0–255	Lime dimmer 0–100%
14	CTO	0–255	See table A · CTO
15	Color macro	0–255	See table B · Color macro
16	Static effects	0–255	Static frames and mixed colours – see table G
17	Dynamic effects	0–255	One effect for 5 numbers
18	Dynamic effects speed	0–127	Positive effect from fast to slow
		128–255	Negative effect from slow to fast
19	Background Red	0–255	Linear dimming from dark to bright
20	Background Green	0–255	Linear dimming from dark to bright
21	Background Blue	0–255	Linear dimming from dark to bright
22	Background Lime	0–255	Linear dimming from dark to bright
23	Reset	0–219	No function
		220–239	Zoom reset valid for 5 seconds
		240–255	Lamp reset for 5 seconds
24–99	Pixel 1–19 R/G/B/L	0–255	Individual pixel dimmers, 4 channels per pixel (R1 LED = 24 · G1 LED = 25 · B1 LED = 26 · L1 LED = 27 ... up to 99)
100	Ring dimmer	0–255	Ring dimmer from dark to bright
101	Ring strobe	0–4	Open
		5–250	Synchronous strobe from slow to fast
		251–255	Open
102	Ring red	0–255	Ring red 0–100%
103	Ring green	0–255	Ring green 0–100%
104	Ring blue	0–255	Ring blue 0–100%
105	Ring effect	0–255	See table D · Ring effect
106	Ring effect speed	0–255	Ring effect speed from slow to fast

4.4 FUNCTION REFERENCE TABLES

TABLE A · CTO

DMX value	Description
0–11	No function
12–24	2700K
25–37	3000K
38–50	3300K
51–63	3600K
64–76	3900K
77–89	4200K
90–102	4500K
103–115	4800K
116–128	5100K
129–141	5400K
142–154	5700K
155–167	6000K
168–180	6300K
181–193	6600K
194–206	6900K
207–219	7200K
220–232	7500K
233–245	7800K
246–255	8000K

TABLE C · FUNCTION

DMX value	Description
0–19	Blank
20–39	1 kHz
40–59	4 kHz
60–79	8 kHz
80–99	12 kHz
100–119	16 kHz
120–139	20 kHz
140–159	25 kHz
160–179	32 kHz
180–189	Linear
190–199	Square
200–209	Square root
210–219	S-curve
220–223	Fan control: Auto
224–227	Fan control: High speed
228–231	Fan control: Silent
232–234	Fan control: Super silent
235–239	Signal: Hold
240–244	Signal: Light Off
245–249	Dimming Speed: Slow
250–255	Dimming Speed: Fast

TABLE D · RING EFFECT

DMX value	Description
0–10	Closed
11–20	Red
21–30	Green
31–40	Blue
41–50	Orange
51–60	Cyan
61–70	Yellow
71–80	Purple
81–90	White
91–100	Marco1
101–110	Marco2
111–120	Marco3
121–130	Marco4
131–140	Marco5
141–150	Marco6
151–160	Marco7
161–170	Marco8
171–180	Marco9
181–190	Marco10
191–200	Marco11
201–210	Marco12
211–220	Marco13
221–255	Marco14

TABLE B · COLOR MACRO

DMX value	Description	DMX value	Description
0–9	No function	119	Light Salmon
10	Red	120	Middle Rose
11	Green	121–122	Dark Pink
12	Blue	123–124	Magenta
13	Cyan	125	Peacock Blue
14	Yellow	126	Medium Blue-Green
15	Magenta	127	Steel Blue
16	C7000K	128	Light Blue
17	C3700K	129–130	Dark Blue
18	C5000K	131–133	Leaf Green
19–22	Medium Yellow	134–135	Dark Green
23–25	Straw Tint	136–137	Mauve
26–28	Surprise Peach	138–141	Bright Pink
29	Fire	142–144	Medium Blue
30	Medium Amber	145	Deep Amber
31	Gold Amber	146	Pale Lavender
32–34	Dark Amber	147–148	Special Lavender
35–44	Sunrise Red	149–150	Primary Green
45	Light Pink	151–156	Bright Blue
46–48	Medium Pink	157–161	Apricot
49–61	Pink Carnation	162–167	Pale Gold
62–67	Light Lavender	168–171	Deep Orange
68–77	Lavender	172–173	Bastard Amber
78–88	Sky Blue	174	Flame Red
89–99	Just Blue	175–178	Daylight Blue
100–109	Deep Yellow	179	Lilac Tint
110–111	Spring Yellow	180–183	Deep Lavender
112	Light Amber	184–190	Dark Steel Blue
113	Straw	191–206	Congo Blue
114	Deep Amber	207	Alice Blue
115–116	Orange	208	Dirty White
117	Light Rose	209–255	White
118	English Rose		

TABLE H · BACKGROUND SELECTION · 42 CH CH 35, 99 CH CH 35

Value range 0–255; selects the background pattern displayed while a pattern macro runs.

DMX value	Background macro ID	Background effect
0–7	MACRO_M79_00	Full on (default)
8	MACRO_M125_0	Full off
9	MACRO_M01_00	Inner ring
10	MACRO_M02_00	Middle ring
11	MACRO_M03_00	Outer ring
12	MACRO_M05_00	Inner/Outer ring
13	MACRO_M04_00	Inner/Middle ring
14	MACRO_M79_00	Full on
15	MACRO_M126_0	Middle/Outer full on
16–254	MACRO_M79_00	Full on (default)
255	–	Follows the foreground macro (symmetry); where elements overlap, the foreground pattern is displayed

TABLE E · PATTERN SELECTION (PARENT MACROS) · 42 CH CH 22, 99 CH CH 22

The number is the macro effect ID; the DMX value is the channel value. Effects with sub-effects list the corresponding entry of table F.

No.	DMX	Effect	Sub
1	8	Inner ring	–
2	9	Middle ring	–
3	10	Outer ring	–
4	12	Inner ring+Middle ring	–
5	13	Inner ring+Outer ring	–
6	15	Inner-Middle-Outer,single switch	–
7	16	Inner-Middle-Outer,full switch	–
8	17	Inner-Middle-Outer,single switch,on/off switch	–
9	18	Inner-Middle-Outer,full switch,on/off switch	–
10	19	Single-item randomization	–
11	20	Paired-item randomization	–
12	21	Rainbow 1 (adjustable dynamic speed)	–
13	22	Rainbow 2 (Fixed dynamic speed + adjustable color-changing speed)	–
14	23	Sector	–
15	24	Rod-shaped 1	–
16	25	Half-moon shape	–
17	26	Large triangle	–
18	27	Split Form 1	–
19	28	Arc 1	–
20	29	Arc 2	–
21	30	Rod 2 (Size Transformation)	F 1
22	32	Split Form 2	F 2
23	35	Small triangle toggle	–
24	36	Diagonal 6 unit	F 3
25	37	Diagonal 4 unit	F 4
26	38	Rod-shaped(left and right)	F 5
27	39	Rod-shaped(up/down)	F 6
28	40	Rod-shaped 3(Spiral switching)	–
29	42	Arc-shaped left/right switching	–
30	44	Arc-shaped up/down switching	–
31	45	Mirror-like shape	–
32	46	Pixel Animation 1	F 7
33	47	Pixel Animation 2	F 8
34	48	Pixel Animation 3	F 9
35	49	Pixel Animation 4	F 10
36	50	Pixel Animation 5	F 11
37	51	Semi-arched shape	F 12
38	52	Concave-convex curved shape	–
39	53	Pixel Animation 6	–
40	54	Vertical dual-unit switching	F 13
41	55	Double-ball staggered hopping	F 14
42	56	Outer ring: pairs; middle ring: single stones; staggered arrangement.	–
43	57	Concave-convex shape 1	–
44	58	Concave-convex shape 2	–
45	59	Concave-convex shape 3	–
46	60	Single vertical jump	F 15
47	61	Vertical random jump	–
48	62	Horizontal random jump	–
49	63	Random jumps on the outer ring	–
50	65	Random selection from outer and middle rings	–
51	67	Single-unit switching in the middle ring	F 16
52	68	Single-unit switching on the outer ring	F 17
53	70	Single-spiral switching between outer, middle, and inner rings	F 18

TABLE F · PATTERN ANGLE ADJUSTMENT (CHILD MACROS) · 42 CH CH 32, 99 CH CH 32

For effects with sub-effects, the parent effect is used when the DMX value is 0–64; the sub-effects are assigned in the 65–255 range as listed below.

ID	Parent effect	DMX value: effect
F1	Rod 2 (Size Transformation)	65–191: Effect 1 · 192–255: Effect 3
F2	Split Form 2	65–127: Effect 1 · 128–191: Effect 2 · 192–255: Effect 3
F3	Diagonal 6 unit	65–127: Effect 1 · 128–255: Effect 2
F4	Diagonal 4 unit	65–255: Effect 1
F5	Rod-shaped(left and right)	65–127: Effect 1 · 128–191: Effect 2 · 192–255: Effect 3
F6	Rod-shaped(up/down)	65–255: Effect 1
F7	Pixel Animation 1	65–127: Effect 1 · 128–191: Effect 2 · 192–255: Effect 3
F8	Pixel Animation 2	65–127: Effect 1 · 128–191: Effect 2 · 192–255: Effect 3
F9	Pixel Animation 3	65–127: Effect 1 · 128–191: Effect 2 · 192–255: Effect 3
F10	Pixel Animation 4	65–127: Effect 1 · 128–191: Effect 2 · 192–255: Effect 3
F11	Pixel Animation 5	65–127: Effect 1 · 128–191: Effect 2 · 192–255: Effect 3
F12	Semi-arched shape	65–127: Effect 1 · 128–191: Effect 2 · 192–255: Effect 3
F13	Vertical dual-unit switching	65–127: Effect 1 · 128–191: Effect 2 · 192–255: Effect 3
F14	Double-ball staggered hopping	65–127: Effect 1 · 128–191: Effect 2 · 192–255: Effect 3
F15	Single vertical jump	65–127: Effect 1 · 128–191: Effect 2 · 192–255: Effect 3
F16	Single-unit switching in the middle ring	65–127: Effect 1 · 128–191: Effect 2 · 192–255: Effect 3
F17	Single-unit switching on the outer ring	65–127: Effect 1 · 128–191: Effect 2 · 192–255: Effect 3
F18	Single-spiral switching between outer, middle, and inner rings	65–127: Effect 1 · 128–191: Effect 2 · 192–255: Effect 3

TABLE G · STATIC EFFECTS · 30 CH CH 16, 106 CH CH 16

Each index corresponds to a DMX value range and displays a fixed frame or mixed colour.

No.	DMX value	Static frame	No.	DMX value	Mixed colour
55	10–14	Static Frame 1	1	130–134	Mixed Color 1
56	15–19	Static Frame 2	2	135–139	Mixed Color 2
57	20–24	Static Frame 3	3	140–144	Mixed Color 3
58	25–29	Static Frame 4	4	145–149	Mixed Color 4
59	30–34	Static Frame 5	5	150–154	Mixed Color 5
60	35–39	Static Frame 6	6	155–159	Mixed Color 6
61	40–44	Static Frame 7	7	160–164	Mixed Color 7
62	45–49	Static Frame 8	8	165–169	Mixed Color 8
63	50–54	Static Frame 9	9	170–174	Mixed Color 9
64	55–59	Static Frame 10	10	175–179	Mixed Color 10
65	60–64	Static Frame 11	11	180–184	Mixed Color 11
66	65–69	Static Frame 12	12	185–189	Mixed Color 12
67	70–74	Static Frame 13	13	190–194	Mixed Color 13
68	75–79	Static Frame 14	14	195–199	Mixed Color 14
69	80–84	Static Frame 15	15	200–204	Mixed Color 15
70	85–89	Static Frame 16	16	205–209	Mixed Color 16
71	90–94	Static Frame 17	17	210–214	Mixed Color 17
72	95–99	Static Frame 18	18	215–219	Mixed Color 18
73	100–104	Static Frame 19	19	220–224	Mixed Color 19
74	105–109	Static Frame 20	20	225–229	Mixed Color 20
75	110–114	Static Frame 21	21	230–234	Mixed Color 21
76	115–119	Static Frame 22	22	235–239	Mixed Color 22
77	120–124	Static Frame 23	23	240–244	Mixed Color 23
78	125–129	Static Frame 24	24	245–249	Mixed Color 24
			25	250–255	Mixed Color 25

4.5 RDM SUPPORT

The fixture supports RDM (Remote Device Management). The following RDM functions are supported:

Function	PID
Supported Parameters	0x0050
Parameter Description	0x0051
Device Info	0x0060
Device Model Description	0x0080
Manufacturer Label	0x0081
Device Label	0x0082
Software Version Label	0x00C0
DMX Personality	0x00E0
DMX Personality Description	0x00E1
DMX Start Address	0x00F0
Pan Invert	0x0600
Tilt Invert	0x0601
Identify Device	0x1000

5. INSTALLATION

ACCESSORIES

Item	Quantity	Remark
User manual	1 pc	
Power cable	1 pc	
DMX signal cable	1 pc	
Folding clamp		Optional
Safety cord		Optional

5.1 MOUNTING & RIGGING

Keep the fixture away from flammable objects. Maintain at least 50 cm ventilation clearance and never mount it on a flammable surface. The mounting point must be able to carry the full weight of the fixture (20 kg) with an adequate safety margin.

- **Attach mounting hardware.** Fit the clamps to the base and always install a secondary safety cord through the provided safety holes.
- **Lock / unlock pan & tilt.** Lock pan and tilt before moving the fixture and unlock them before powering on. Never operate the fixture while pan/tilt is locked.
- **Final stability check.** Ensure all clamps, screws and safety cable connections are firmly secured, and confirm the mounting structure can support the fixture's weight.

5.2 POWER CONNECTION

Check that the supply matches the fixture (AC 100–240 V, 50/60 Hz) and connect the power cable to the mains as follows:

Wire (EU)	Wire (US)	Direction	Mark
Brown	Black	Live	L
Light blue	White	Neutral	N
Yellow / Green	Green	Earth	⊕

5.3 DMX CONTROL CONNECTION

The fixture supports DMX512 and is equipped with waterproof 3-pin and 5-pin XLR connectors for data input and output. Use a twin-screened DMX cable with conductors of at least 0.5 mm².

- Connect the controller's DMX OUT to the first fixture's DMX IN, then link fixtures DMX OUT → DMX IN in a daisy chain. Install a DMX terminator on the DMX OUT of the last fixture.
- Ensure no pin touches the connector housing or other pins. Test cables with an ohm meter before use to verify polarity and that no pin or shield is shorted to ground.
- For convenience, connect fixtures in the physical order they are installed rather than by DMX address.

OPERATIONAL SAFETY PRECAUTIONS

- **Power off.** Disconnect the mains supply before any work on the fixture to avoid the risk of electric shock.
- **Hot surfaces.** After use, wait until the housing has cooled down before handling the fixture.
- **Handle with care.** Avoid impact on the optics and the front lens; handle modules steadily to prevent damage to parts.
- **Connectors.** Align connectors when plugging in; never force a plug in or out, as this may cause poor contact or damage.

6. MAINTENANCE & CLEANING

Regular maintenance is essential to ensure optimal performance and extend the service life of the fixture.

6.1 CLEANING

- Disconnect the unit from power before any cleaning work.
- Use a soft, lint-free cloth slightly dampened with mild detergent to clean the exterior surfaces.
- Gently remove dust from ventilation slots, optical lenses and cooling components using compressed air or a soft brush.
- Avoid solvents, alcohol or abrasive materials that may damage the housing or optical elements.

6.2 LUBRICATION

The fixture is designed with sealed, maintenance-free moving parts. Under normal operating conditions no lubrication is required. If abnormal noise or movement resistance is observed, contact qualified service personnel before applying any lubricant.

6.3 TROUBLESHOOTING

Symptom	Check
No power	Verify the power supply, cables and connectors.
No or unstable control	Check DMX addressing, the selected channel mode, cable integrity and the XLR connections.
Overheating or shutdown	Ventilation may be blocked – inspect and clean air inlets and outlets.
Problem persists	Discontinue use and contact an authorised service technician.

ACCEPT

CONCEPT

ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

BSL B.V.

SPAARPOT 19 | 5667 KV GELDROP | THE NETHERLANDS | +31 (0)40 750 24 95

WWW.BSL-LIGHTING.COM | WWW.LIGHT-INC.NL

