Instruction Manual

impression
X4

from software version: 1.48 (Instruction version: 1.3)
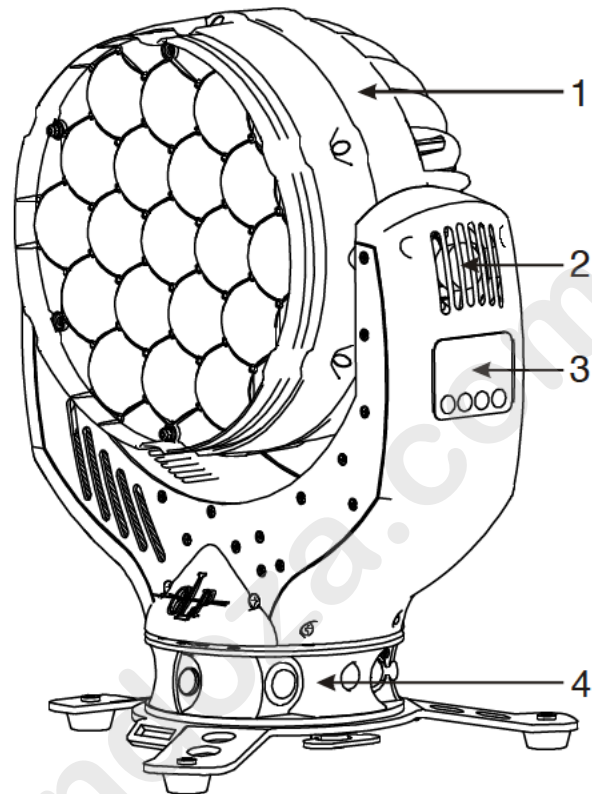

GERMAN LIGHT
PRODUCTS

—— since 1994 ——

Notes:

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1 Description of Device

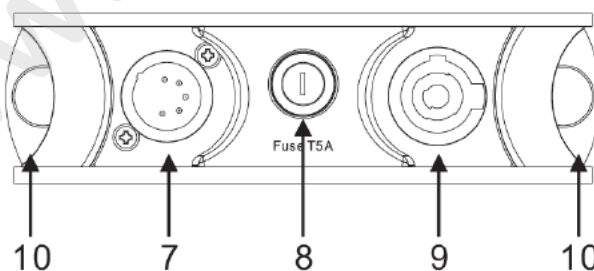1. Moving head (actively and passively cooled)

2. Arm with various cooling vents

3. LCD-Display/Menu (data entry)

4. Base with various connectors and Camlock mounting system

1

2

3

4

Base side 1

5   6

Base side 2

10   7   8   9   10

Fuse T5A
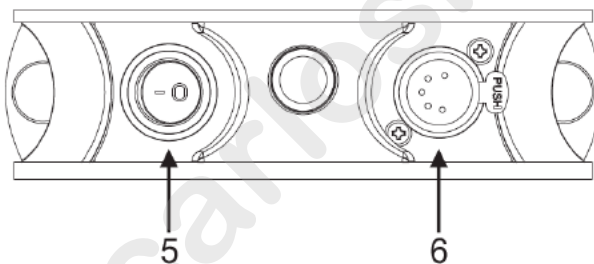
5. Power On/Off

6. DMX- Output (5 pin)

7. DMX- Input (5 pin)

8. Micro-fuse 5x20mm, T5A

9. Mains supply (Powercon)

10. 2 x Safety eyes

2   Safety Instructions

⚠	The **IMPRESSION X4** is a High-Tech Product. To guarantee a smooth operation, it is necessary to respect the following rules. The manufacturer of this device will not take responsibility for damages through any disregard of the information provided in this manual. Warranty claims also will be voided in the case that the fixture housing is opened.
☢	**Never look directly into the beam of light or into one of the LEDs.** **Attention:** LED Class 2M can cause injuries of your eyes even without optical instruments in front of them or within a distance of less than 0.5m and short exposure time. Hence: Avoid direct radiation into your eyes!
⚠	**WARNING:** **Never** let optical parts come in contact with alcohol, solvents or similar cleaners.

1. Before powering on the fixture, make sure that the fixtures fans and air inlets are clean and not blocked.

2. Ensure that the fixture head can rotate unhindered throughout its complete range of pan and tilt movement. A safety distance of at least 0.5 m must be maintained between the fixture and any easily inflammable material (e.g. decoration material).

3. **Attention!** Don't touch the fixture during the operation. This can cause injuries and/or damages.

4. **The fixture doesn't contain any user serviceable parts. Opening the fixture will void all warranties.**

5. It is necessary to wait at least 15 minutes after disconnecting the mains power before handling the fixture.. Pay attention to possible hot parts of the fixture.

6. To ensure safe operation, follow also the Installation guide described in the chapter below. Operating the **IMPRESSION X4** without suitable safety aids like Safety cables or clamps/hooks can increase the risk of an accident and must be avoided.

7. Repair, maintenance, and installation work shall be done by qualified or GLP certified staff only. You need to pay attention to the common rules of technology that are not explicitly mentioned in this manual.

8. Use only original GLP spare parts. Any structural modification of the system will terminate all warranty claims.

9. Please keep this instruction manual for future reference.

⚠️ Important Safety Information

The **IMPRESSION X4** fixture from GLP is fitted with a number of plano-convex lenses in a highly efficient collimator cluster. This type of lens can act as a strong magnifying glass.

If the rays from a strong light source (such as the sun or another lighting fixture) are directed towards the front of any of these fixtures, then internal damage may occur. In a worst case scenario with a high power light source this can happen very quickly, damaging the fixture internally, potentially melting components or causing an internal fire within seconds.

In order to avoid these possible problems please adhere to the following requirements:

- **Do not expose the front of a fixture to direct sunlight or any other strong light sources.**

- **For outdoor applications during daylight make sure that the front face of any fixture is either shielded or points away from the sun, even when fixtures are not in use.**

- **Do not modify the front glass or lenses of any fixture.**

These requirements have to be followed regardless of whether a fixture is powered on or off as the magnifying effect is an optical effect and therefore independent from the (electrical) state of the fixture.

Especially when working with high powered **beam-lights**; extreme caution and observance of these safety instructions is mandatory.
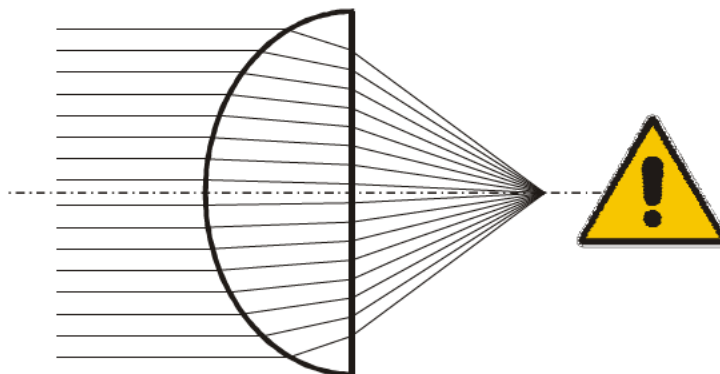
> **Warning:**
>
> This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Should you have any questions about the operation of your fixture then please contact your local GLP office, or their authorized distributor, a list of which can be found at www.glp.de.

3 Mounting

The **IMPRESSION X4** is fully operational whether it hangs or is mounted to the wall. It can also be operated while standing on the floor. Keep a safety distance of min. 0.5 m towards any easily inflammable materials (decoration etc.).
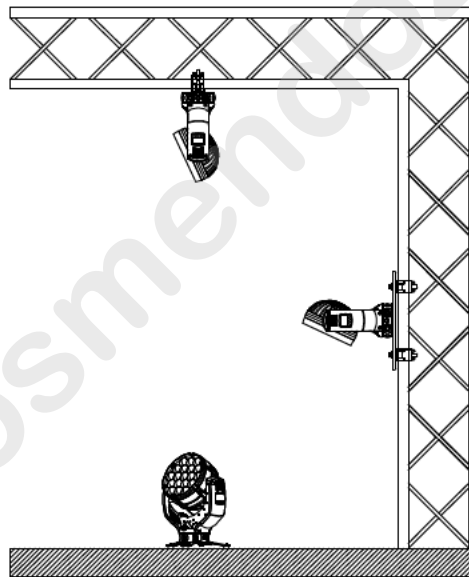
> ⚠️ **Pay attention to the regulations of: BGV C1 (former VBG 70) and DIN VDE 0711-217.**
> **The installation shall be done by qualified staff only.**

For the various mounting positions of the **IMPRESSION X4** (standing on the floor, sideways or hanging) different accessories kits are available. Through this a safe and firm installation is assured. You'll find dedicated connectors on the bottom side of the fixture which should be used. In addition the base is marked with a **FRONT** arrow allowing consistent orientation during installation.

1x M10
(length max. 16mm)

2x Camlock
quick release
fasteners

front side of the fixture
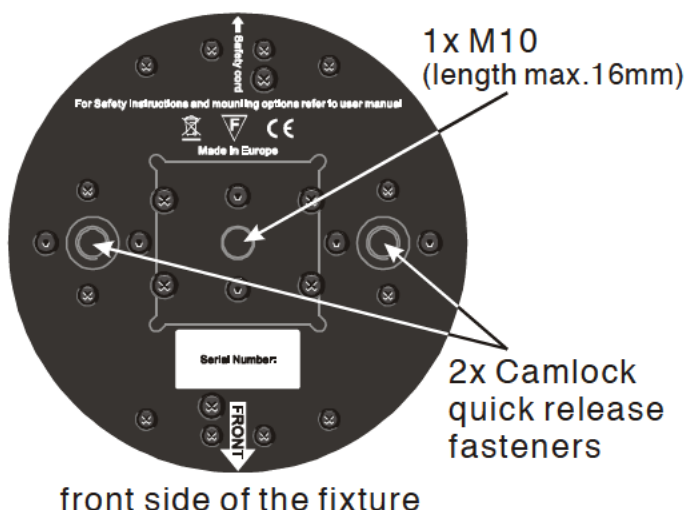
3.1 Mounting on the Floor (Upright)

To operate the **IMPRESSION X4** in an upright position, please use the dedicated tri-legged floor stand supplied with your fixture. It is fixed to the base of the fixture with fasteners called Camlock quick-release connectors. Insert the two fasteners and turn each 90° to lock them. Do the opposite to release them again. On both sides you'll find eyelets to pull though a fixing strap. This allows for additional bracing of the fixture.

2x Camlock

2x Eyelets
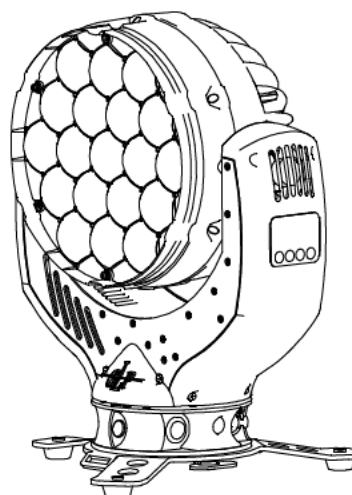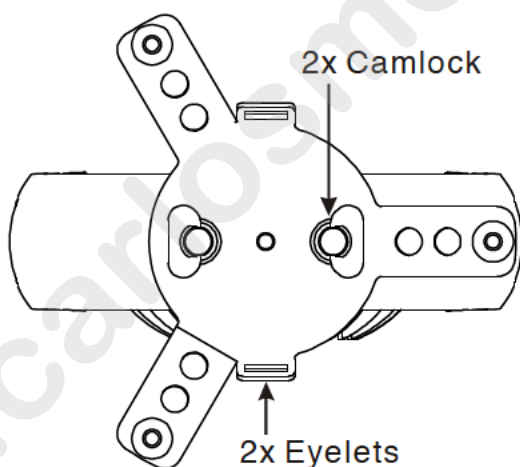
3.2 Mounting in hanging position

To operate the **IMPRESSION X4** in a hanging position please use a half-coupler (clamp). This can be mounted directly to the bottom side of the fixture. It should be attached centrically with a M10x16 mm thread bolt.

Attention: Never use a longer bolt as this may damage the interior of the fixture.

M10x16
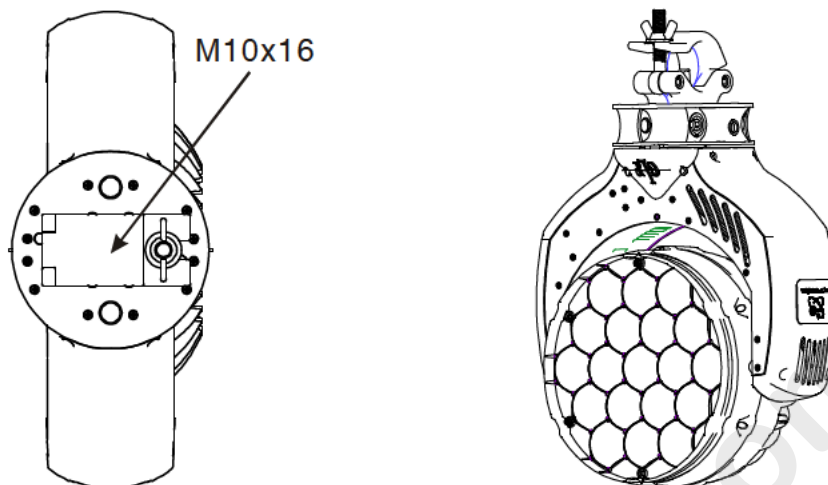
3.3   Mounting in sideways Position

To operate the **IMPRESSION X4** in a sideways position please use an additional mounting bar. This is fixed by two Camlock quick-release connectors. Two half-couplers (clamps) are used to mount the bar to a standard truss bar. This technique is necessary to cope with the torque which accrues in this mounting position. In addition it allows a re-positioning of the couplers to fit between two truss chords. Never use the "Mounting in hanging position" technique described above to fasten the fixture in the sideways position. A safe and sound installation can not be assured in this way. In addition this can damage the fixture base.

Half-coupler (clamp) 1   2x 90°   Half-coupler (clamp) 2

without mounting bar
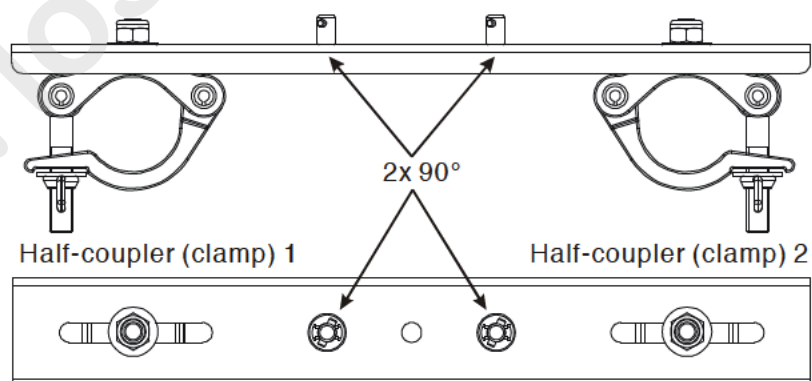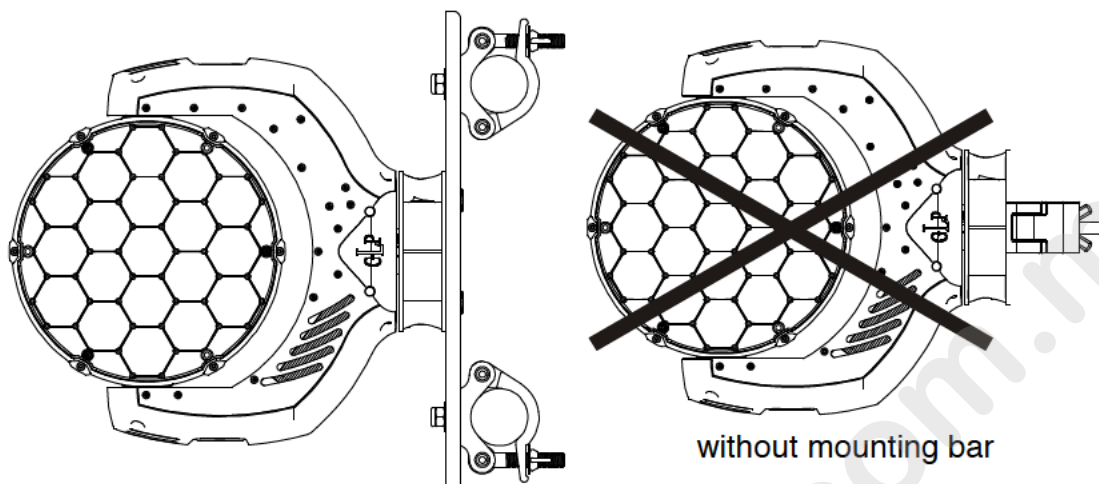
3.4 Securing the Fixture

Regardless of the mounting method of the **IMPRESSION X4** you'll have to use a stipulated safety wire. Attach the safety wire through one of the two holes provided on the base of the fixture and connect it to the primary support structure. Pay attention to a safe and proper fastening. The safety cable must comply with EN 60598-2-17 Section 17.6.6 and be capable of bearing a static suspended load that is ten times the weight of the fixture and all installed accessories.

3.5 Connections

3.5.1 Power Supply

~100-240 Volt AC, 50-60 Hz, earth contact type plug - Powercon

Connected load 350 VA (W) <=> T5A (micro-fuse 5x20mm)

Please see printing on the case for the right electronic supply!

Disconnect from the mains supply for changing the fuse and use only the above described micro-fuse type.

3.5.2 DMX

USITT DMX-512 Standard input/output in 5 pin connectors.

Pin 1 = [Ground] / Pin 2 = [-] / Pin 3 = [+] / Pin 4&5 N.C.

The DMX- Addressing starts at the DMX- Address [001].

4   The Menu Field

You'll find the control board on the side part of the arm. It allows you to make all necessary adjustments of the **IMPRESSION X4.** With the **Mode-**key you get into the main menu. Afterwards you can navigate through the menu with the **Up/Down-**keys. Push the **Enter-**key to get in the next menu level or to confirm your settings. Make them and set functions **ON/OFF** with the **Up/Down-**keys. Confirm and save it with the **Enter-**key (the display shows **OK**). Push the **Mode-**key to cancel the entry and go back to the main menu.

Mode   Enter   Down   Up
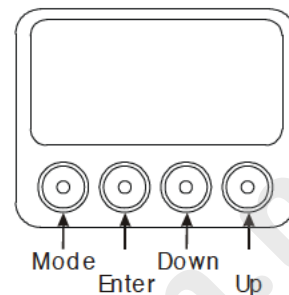
To lock or unlock the keys of the menu field press Mode+Enter+Up simultaneously.

← MODE - ENTER →

← DOWN - UP →

Level1	Level 2	Level 3	Level 4	Remark
DMX Start Address 001				Set the DMX start address
Special	Manual DMX			Manual control of all fixture functions
		Pan		Manual control for Pan (X-movement)
		Pattern Byte 3		Manual control for Pattern Byte 3 LED 17 -19
		Pattern Byte 2		Manual control for Pattern Byte 2 LED 9 - 16
		Pattern Byte 1		Manual control for Pattern Byte 1 LED 1 - 8
		Pattern		Manual control for Pattern channel / bank
		Zoom		Manual control for Zoom
		Speed Movements		Manual control for Pan/Tilt movements
		Pan/Tilt Movements		Manual control for Pan/Tilt movements
		Special		
		White Temperature		Manual control for Color temperature
		Dimmer		Manual control for Dimmer
		Shutter		Manual control for Shutter
		White		Manual control for White
		Blue		Manual control for blue
		Green		Manual control for green
		Red		Manual control for red
		Color Wheel		Manual control for the color wheel
		Tilt		Manual control for Tilt (Y-movement)
	Adjust			
		Key code xxxx		Use the code for entering the calibration menu (for authorized persons only)

← DOWN - UP →

Display Contrast			Adjustment for the Display contrast
PWM - Frequ. Adj.			Changes PMW frequency
Pan Offset			Calibration for Pan-Offset
Tilt Offset			Calibration for Tilt-Offset
LED adjust			
	White adjust red		Adjust intensity for red channel
	White adjust blue		Adjust intensity for blue channel
	White adjust green		Adjust intensity for green channel
Clear EEPROM			Erase EEPROM memory
Diagnose			Diagnose fixture functions
DMX Image			
Set image if DMX off			Activates a stored scene if DMX is off
Save image in memory			Stores the scene currently sent to the unit
DMX input Monitor			Indicates the presently received DMX signal per DMX channel
Pan			Instantaneous value for Pan
Tilt			Instantaneous value for Tilt
Pattern Byte 3			Instantaneous value for Pattern Byte 3
Pattern Byte 2			Instantaneous value for Pattern Byte 2
Pattern Byte 1			Instantaneous value for Pattern Byte 1
Pattern			Instantaneous value for Pattern channel / bank
Zoom			Instantaneous value for Zoom
Speed Movements			Speed adjustment for Pan/Tilt movements → see item below
Pan/Tilt Movements			Instantaneous value for Pan/Tilt movements
Special			Instantaneous value for Special
White Temperature			Adjustment of the color temperature for WHITE
Dimmer			Instantaneous value for Dimmer
Shutter			Instantaneous value for Shutter
White			Instantaneous value for White
Blue			Instantaneous value for Blue
Green			Instantaneous value for Green
Red			Instantaneous value for Red
Color Wheel			Instantaneous value for Color Mixing unit

← DOWN - UP →

			Select the desired DMX Mode
Set DMX Mode			
	Compressed Mode		Fixture works in "Compressed" mode → see also section 5 unterhalb
	Normal Mode		Fixture works in "Normal" mode → see also section 5 unterhalb
	High-Res. Mode		Fixture works in "High Resolution" mode → see also section 5 unterhalb
Position feedback			Switch automatic position feedback ON/OFF
Reverse Pan			Invert Pan movements: ON/OFF
Reverse Tilt			Invert Tilt movements: ON/OFF
Reset			RESET and new calibration for all functions

5 DMX Channel Selection (DMX Protocol)

Normal-Mode 20 DMX channels

Channel	Function	Time and Value	DMX	HEX	%
1) PAN-coarse	0 .. 660°		0..255	00..FF	0..100
2) PAN-fine	High- Pos ... High- Pos + 2.6° (16 Bit)		0..255	00..FF	0..100
3) Tilt-coarse	0 .. 300°		0..255	00..FF	0..100
4) Tilt-fine	High- Pos ... High- Pos + 1.2° (16 Bit)		0..255	00..FF	0..100
5) Color (fixed)	Colors adjustable via RGB		0..7	00..07	0..2.5
	Color 01 - Red [1]		8..15	08..0F	3..5.5
	Color 02 - Amber [1]		16..23	10..17	6..8.5
	Color 03 - Warm Yellow [1]		24..31	18..1F	9..12.5
	Color 04 - Yellow [1]		32..39	20..27	13..15.5
	Color 05 - Green [1]		40..47	28..2F	16..18.5
	Color 06 - Turquoise [1]		48..55	30..37	19..21.5
	Color 07 - Cyan [1]		56..63	38..3F	22..24.5
	Color 08 - Blue [1]		64..71	40..47	25..27.5
	Color 09 - Lavender [1]		72..79	48..4F	28..30.5
	Color 10 - Malve [1]		80..87	50..57	31..34.5
	Color 11 - Magenta [1]		88..95	58..5F	35..37.5
	Color 12 - Pink [1]		96..103	60..67	38..40.5
	White - CTO	3200K	104..111	68..6F	41..43.5
	White	5600K	112..119	70..77	44..46.5
	White - CTB	7200K	120..127	78..7F	47..49.5
	Rainbow Effect Stop [2]		128	80	50
	Rainbow Effect [3]	slow - fast	129..223	81..DF	51..88
	Random colors	slow - fast	224..255	E0..FF	89..100
6) Red	Color mixing system - Red	0 - 100%	0..255	00..FF	0..100
7) Green	Color mixing system - Green	0 - 100%	0..255	00..FF	0..100
8) Blue	Color mixing system - Blue	0 - 100%	0..255	00..FF	0..100
9) White	Color mixing system - White	0 - 100%	0..255	00..FF	0..100
10) Shutter	Shutter closed		0..15	00..0F	0..5.5
	Shutter pulse random	slow – fast	16..47	10..2F	6..18.5
	Up-dimming then Shutter closing (random patterns)	slow – fast	48..79	30..4F	19..31
	Shutter open then down-dimming (random patterns)	slow – fast	80..111	50..6F	32..43
	Up-dimming then down-dimming (random patterns)	slow – fast	112..143	70..8F	44..56
	Strobe effect pause	5s - 0.1s	160..199	A0..C7	63..77
	Strobe effect slow - fast	1 Hz - 10 Hz	200..239	C8..EF	78..94
	Shutter open		240..255	F0..FF	95..100
11) Dimmer	Dimmer	0 - 100%	0..255	0..FF	0..100
12) CTO	No CTO		0..7	0..07	0..2.5
	Continuous color temperature correction	Applicable for ALL colors	8..255	08..FF	3..100
13) Special	Pattern Block 1 → channel 17		0..3	00..03	0..1
	Pattern Block 2 → channel 17		4..7	04..07	1.5..2.5
	Change PWM frequency		100..200	64..C8	40..78
	RESET		250..255	FA..FF	98..100
14) Movement	No macros		0	00	0
	Movement Size Phase	Use "Speed" to adjust			

Channel	Function			Time and Value	DMX	HEX	%
macros	PAN	1	0°		01..01	01..01	0.5
		1	90°		02..03	02..03	1.0
		1	180°		04..05	04..05	1.7
		1	270°		06..07	06..07	2.5
	PAN	2	0°		08..09	08..09	3.3
		2	90°		10..11	0A..0B	4.1
		2	180°		12..13	0C..0D	4.9
		2	270°		14..15	0E..0F	5.7
	PAN	3	0°		16..17	11..11	6.5
		3	90°		18..19	12..13	7.3
		3	180°		20..21	14..15	8.0
		3	270°		22..23	16..17	8.8
	PAN	4	0°		24..25	18..19	9.6
		4	90°		26..27	1A..1B	10.4
		4	180°		28..29	1C..1D	11.2
		4	270°		30..31	1E..1F	12
	TILT		size / phase see PAN		32..63	20..3F	13..25
	PAN / TILT		size / phase see PAN		64..95	40..5F	26..37
	PAN / TILT (inverse)		size / phase see PAN		96..127	60..7F	38..50
	Circle		size / phase see PAN		128..159	80..9F	51..62
	Circle (inverse)		size / phase see PAN		160..191	A0..BF	63..75
	Lying eight		size / phase see PAN		192..223	C0..DF	76..87
	Random movement		size / phase see PAN		224..255	E0..FF	88..100
15) Speed Pan/Tilt	Pan/Tilt movement speed from controller				0..1	00..01	0..0.5
	Pan/Tilt, slow – fast Use this channel also for the speed of the movements (channel 14).				02..255	02..FF	1..100
16) Zoom	Wide - narrow (spot)				0...255	00...FF	0...100
17) Pattern	No pattern				0..2	00..02	0..1
	250 pre-defined patterns (see appendix A)				03..253	03..FD	2..99
	Activates direct access to LED Pattern			See channels 18-20	254..255	FE..FF	100
18) Pattern Byte 1	Direct access to Pattern of LED 1..8				0...255	00...FF	0...100
19) Pattern Byte 2	Direct access to Pattern of LED 9..16				0...255	00...FF	0...100
20) Pattern Byte 3	Direct access to Pattern of LED 17..19				0..07	00...07	0..2.5

Compress-Mode 14 DMX channels

Channel	Function	Time and Value	DMX	HEX	%
1) PAN-coarse	0 .. 660°		0..255	00..FF	0..100
2) PAN-fine	High- Pos ... High- Pos + 2.6° (16 Bit)		0..255	00..FF	0..100
3) Tilt-coarse	0 .. 300°		0..255	00..FF	0..100
4) Tilt-fine	High- Pos … High- Pos + 1.2° (16 Bit)		0..255	00..FF	0..100

Channel	Function	Time and Value	DMX	HEX	%
5) Color (fixed)	Colors adjustable via RGB		0..7	00..07	0..2.5
	Color 01 - Red [1]		8..15	08..0F	3..5.5
	Color 02 - Amber [1]		16..23	10..17	6..8.5
	Color 03 - Warm Yellow [1]		24..31	18..1F	9..12.5
	Color 04 - Yellow [1]		32..39	20..27	13..15.5
	Color 05 - Green [1]		40..47	28..2F	16..18.5
	Color 06 - Turquoise [1]		48..55	30..37	19..21.5
	Color 07 - Cyan [1]		56..63	38..3F	22..24.5
	Color 08 - Blue [1]		64..71	40..47	25..27.5
	Color 09 - Lavender [1]		72..79	48..4F	28..30.5
	Color 10 - Mauve [1]		80..87	50..57	31..34.5
	Color 11 - Magenta [1]		88..95	58..5F	35..37.5
	Color 12 - Pink [1]		96..103	60..67	38..40.5
	White - CTO	Color temperature 3200K	104..111	68..6F	41..43.5
	White	Color temperature 5600K	112..119	70..77	44..46.5
	White - CTB	Color temperature 7200K	120..127	78..7F	47..49.5
	Rainbow Effect Stop [2]		128	80	50
	Rainbow Effect [3]	slow - fast	129..223	81..DF	51..88
	Rainbow Effect, random colors	slow - fast	224..255	E0..FF	89..100
6) Red	Color mixing system - Red	0 - 100%	0..255	00..FF	0..100
7) Green	Color mixing system - Green	0 - 100%	0..255	00..FF	0..100
8) Blue	Color mixing system - Blue	0 - 100%	0..255	00..FF	0..100
9) White	Color mixing system - White	0 - 100%	0..255	00..FF	0..100
10) Shutter	Shutter closed		0..15	00..0F	0..5.5
	Random Pulse effect	slow - fast	16..47	10..2F	6..18.5
	Up-dimming then Shutter closing (random patterns)	slow - fast	48..79	30..4F	19..31.5
	Shutter open then down-dimming (random patterns)	slow - fast	80..111	50..6F	32..43
	Up-dimming then down-dimming (random patterns)	slow - fast	112..143	70..8F	44..56
	Strobe effect pause	5s .. 1s	144..199	A0..C7	57..77
	Strobe effect, slow - fast	1 Hz .. 10 Hz	200..239	C8..EF	78..94
	Shutter open		240...249	F0..F9	95..97.5
	Shutter open		251..255	FB..FF	99..100
11) Dimmer	Dimmer	0 - 100%	0..255	0..FF	0..100
12) Zoom	Wide - narrow (spot)		0…255	00…FF	0…100
13) Special	Pattern Block 1 → channel 14		0..3	00..03	0..1
	Pattern Block 2 → channel 14		4..7	04..07	1.5..2.5
	Change PWM frequency		100..200	64..C8	40..78
	RESET		250..255	FA..FF	98..100
14) Pattern	No pattern		0..2	00..02	0..1
	250 pre-defined patterns (see appendix A)		03..253	03..FD	2..99

High Resolution (Extended) -Mode 21 DMX Channels

Channel	Function	Time and Value	DMX	HEX	%
1) PAN-coarse	0 .. 660°		0..255	00..FF	0..100
2) PAN-fine	High- Pos ... High- Pos + 2.6° (16 Bit)		0..255	00..FF	0..100
3) Tilt-coarse	0 .. 300°		0..255	00..FF	0..100
4) Tilt-fine	High- Pos … High- Pos + 1.2° (16 Bit)		0..255	00..FF	0..100
5) Red-coarse	Color mixing system – Red	0 - 100%	0..255	00..FF	0..100
6) Red-fine	Color mixing system – Red-Low		0..255	00..FF	0..100
7) Green-coarse	Color mixing system – Green	0 - 100%	0..255	00..FF	0..100
8) Green-fine	Color mixing system – Green-Low		0..255	00..FF	0..100
9) Blue-coarse	Color mixing system – Blue	0 - 100%	0..255	00..FF	0..100
10) Blue-fine	Color mixing system – Blue-Low		0..255	00..FF	0..100
11) White-coarse	Color mixing system – White	0 - 100%	0..255	00..FF	0..100
12) White-fine	Color mixing system – White-Low		0..255	00..FF	0..100
13) Shutter	Shutter closed		0..15	00..0F	0..5.5
	Random Pulse effect	slow - fast	16..47	10..2F	6..18.5
	Up-dimming then Shutter closing (random patterns)	slow - fast	48..79	30..4F	19..31.5
	Shutter open then down-dimming (random patterns)	slow - fast	80..111	50..6F	32..43
	Up-dimming then down-dimming (random patterns)	slow - fast	112..143	70..8F	44..56
	Strobe effect pause	5s - 1s	144..199	A0..C7	57..77
	Strobe effect, slow - fast	1 Hz - 10 Hz	200..239	C8..EF	78..94
	Shutter open		240...249	F0..F9	95..97.5
	Shutter open		251..255	FB..FF	99..100
14) Dimmer-coarse	Dimmer	0 - 100%	0..255	0..FF	0..100
15) Dimmer-fine	Dimmer - Low		0..255	0..FF	0..100
16) Zoom	Spot - Flood		0…255	00…FF	0…100
17) Special	Pattern Block 1 → channel 18		0..3	00..03	0..1
	Pattern Block 2 → channel 18		4..7	04..07	1.5..2.5
	Change PWM frequency		100..200	64..C8	40..78
	RESET		250..255	FA..FF	98..100
18) Pattern	No pattern		0..2	00..02	0..1
	250 pre-defined patterns (see appendix A)		03..253	03..FD	2..99
	Activates direct access to LED Pattern	See channels 18-20	254..255	FE..FF	100
19) Pattern Byte 1	Direct access to Pattern of LED 1..8		0…255	00…FF	0…100
20) Pattern Byte 2	Direct access to Pattern of LED 9..16		0…255	00…FF	0…100

Channel	Function	Time and Value	DMX	HEX	%
21) Pattern Byte 3	Direct access to Pattern of LED 17..19		0..07	00…07	0..2.5

[1] The predefined colors can be used as start-colors for the Rainbow effect. Please select first a desired start-color before you activate the rainbow effect. All **IMPRESSION X4** will then start from that color and will execute the rainbow effect synchronously. Different **IMPRESSION X4** can have different start-colors but will still execute the rainbow effect synchronously. If you choose a color different from the ones marked with [1] in the tables above the rainbow start-color will be red.

[2] Rainbow-effect Stop will pause this function. After resuming the rainbow-effect will be continued from the current color.

[3] The Rainbow-effect will run synchronously only if started from one of the predefined colors (see also [1] before).

Locking and unlocking the Control Panel

Please lock and unlock the control panel by pressing the menu keys **MODE & ENTER & UP** at the same time.

Additional Display Indications

As a default you'll find the following additional information in the first row of the LCD display:

Vxx/xx/xx/xx/x

→ N = Normal Mode / C = Compressed Mode / H = High Res. Mode

→ N = Tilt normal / I = Tilt inverted

→ N = Pan normal / I = Pan inverted

→ LED driver version

→ Main CPU version

6   Maintaining and Cleaning the IMPRESSION X4

The **IMPRESSION X4** is a fixture of very low maintenance. It is only necessary to clean the air inlets and outlets as well as the optical LED lenses from time to time. For safe operation it is absolutely essential that the fixture is kept clean and that dust, dirt and smoke-fluid residues must not build up on, or within the fixture. Otherwise the fixture's light-output will be significantly reduced or damages can occur. Regular cleaning will not only ensure the maximum light-output, but will also allow the fixture to operate reliably throughout its life.

A soft lint-free cloth moistened with any good glass cleaning fluid is recommended, under no circumstances should alcohol or solvents be used!

⚠️	**Attention:** **Under no circumstances should alcohol or solvents be used to clean the lenses!**

6.1   Safety regulations

- **Pull out the mains power plug!**

- Wait min. 15 minutes after disconnecting power to allow the fixture to cool down.

6.2   Maintenance and Interval (rule-of-thumb)

The contamination of the fixture depends on the environment details. Hence no general guidelines can be given. The intervals given below are only suggestions from our experience.

| Position	Interval	In this way
LED reflector and optical system	weekly	soft brush /lint-free cloth
Fan and air channel	monthly	vacuum cleaner, airbrush, etc.

Attention:

- **Never let optical parts come into contact with oil, fat, alcohol or similar solvents.**
- **Before running the fixture wait until all parts are dry.**
- **Never touch lenses with bare fingers.**

7   Technical Specifications

Power supply	
Power consumption	350 VA (Watt)
Power Input	~100-240 V AC, 50-60 Hz (wide range input)
Fuse protection	Micro-fuse 5x20 mm, T5A
Operational Parameters	
Max. Ambient Temperature	5° - 45°C (integrated overheating switch)
Mounting Position	Any (see relevant chapter)
Lighting System - Additive Color mixing	
LED Type	19 x Osram Ostar RGBW multi-chip
Lifetime	50,000 h
Wavelength optimized for maximum presentable color space	
Optical System	
Full RGBW / High efficient Collimator cluster	
Shutter / Dimmer (8/16 Bit)	
Strobe- Effect with variable speed between 1 - 10 flashes per second, Random-Strobe, Pulse-Effects	
Continuous Dimmer 0 - 100%	
Zoom	
7 to 50 degree continuous zoom	
Optical Patterns	
Several hundred pre-defined beam patterns with direct access and manipulation	
DMX Control	
Standard USITT DMX-512, 5 pin XLR; [+] = Pin 3 / [-] = Pin 2 / [Ground] = Pin 1 / Pin 4&5 N.C. Die DMX- Addressing starts at the DMX channel [001].	
Pan / Tilt (8/16 Bit)	
Pan- movement	**660° in min. 3,2 seconds (Position Feedback)**
Tilt- movement	**300° in min. 1,5 seconds (Position Feedback)**
Weights and Measures	
Width of the base	**341 mm**
Length of the base	**145 mm**
height (head vertical)	**375 mm (incl. standing foot/tripod)**
Weight (net)	**8.0 kg**

8 Dimensions

341

Ø 235

375 350 297

189

310°

90

338,28

270°

270°

PAN movement range: 540°
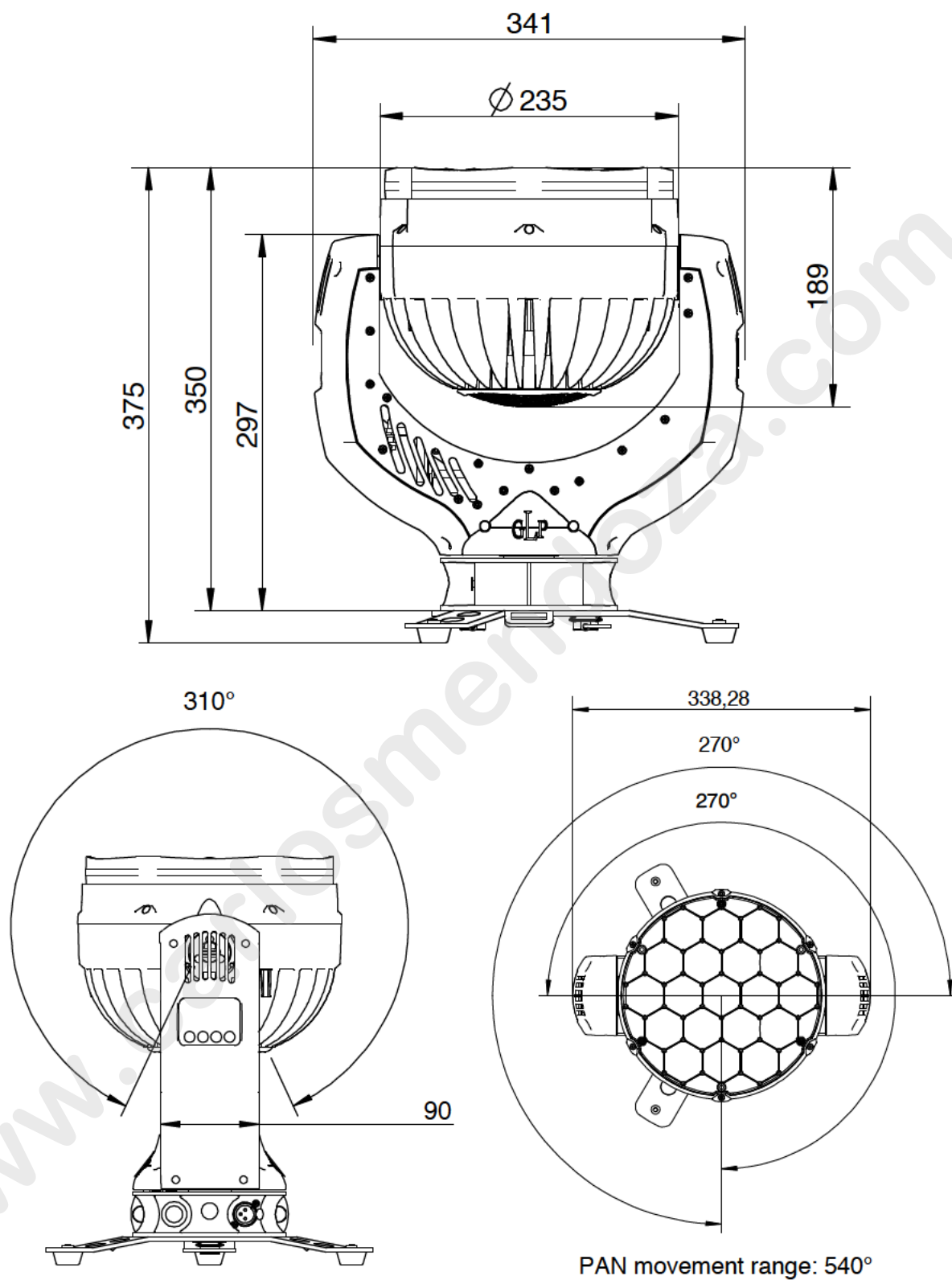
9   Appendix A

Patterns are grouped into two sets which can be activated and selected via the DMX channel "Special". Choose the desired pattern by its corresponding DMX value on channel "Pattern".

Orientation: Patterns are shown when looking at the **front** of a standing fixture; Head faced in direction of fixtures front label: DMX Pan @ 128; Tilt @ 220; Zoom @ 255 (letters are displayed homogenous).
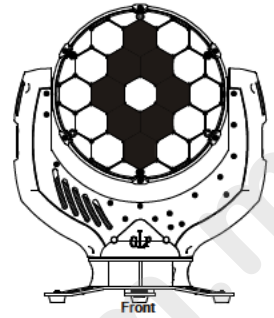
Patterns Set 1

DMX	Pattern	DMX	Pattern	DMX	Pattern	DMX	Pattern
000		017		034		051	
001		018		035		052	
002		019		036		053	
003		020		037		054	
004		021		038		055	
005		022		039		056	
006		023		040		057	
007		024		041		058	
008		025		042		059	
009		026		043		060	
010		027		044		061	
011		028		045		062	
012		029		046		063	
013		030		047		064	
014		031		048		065	
015		032		049		066	
016		033		050		067	

DMX	Pattern	DMX	Pattern	DMX	Pattern	DMX	Pattern
068		085		102		119	
069		086		103		120	
070		087		104		121	
071		088		105		122	
072		089		106		123	
073		090		107		124	
074		091		108		125	
075		092		109		126	
076		093		110		127	
077		094		111		128	
078		095		112		129	
079		096		113		130	
080		097		114		131	
081		098		115		132	
082		099		116		133	
083		100		117		134	
084		101		118		135	

DMX	Pattern	DMX	Pattern	DMX	Pattern	DMX	Pattern
136		153		170		187	
137		154		171		188	
138		155		172		189	
139		156		173		190	
140		157		174		191	
141		158		175		192	
142		159		176		193	
143		160		177		194	
144		161		178		195	
145		162		179		196	
146		163		180		197	
147		164		181		198	
148		165		182		199	
149		166		183		200	
150		167		184		201	
151		168		185		202	
152		169		186		203	

DMX	Pattern	DMX	Pattern	DMX	Pattern	DMX	Pattern
204		217		230		243	
205		218		231		244	
206		219		232		245	
207		220		233		246	
208		221		234		247	
209		222		235		248	
210		223		236		249	
211		224		237		250	
212		225		238		251	
213		226		239		252	
214		227		240		253	reserved
215		228		241		254	reserved
216		229		242		255	reserved

Patterns Set 2

DMX	Pattern	DMX	Pattern	DMX	Pattern	DMX	Pattern
000		002		004		006	
001		003		005		007	

DMX	Pattern	DMX	Pattern	DMX	Pattern
008		025		042	
009		026		043	
010		027		044	
011		028		045	
012		029		046	
013		030		047	
014		031		048	
015		032		049	
016		033		050	
017		034		051	
018		035		052	
019		036		053	
020		037		054	
021		038		055	
022		039		056	
023		040		057	
024		041		058	
				059	-