

# Instruction Manual

# VOLKS|LICHT<sub>Z</sub>

## R-G-B / Zoom



from software version 1.06  
(Instruction version 1.6)



— since 1994 —

e-mail: [service@glp.de](mailto:service@glp.de)  
Internet: <http://www.glp.de>

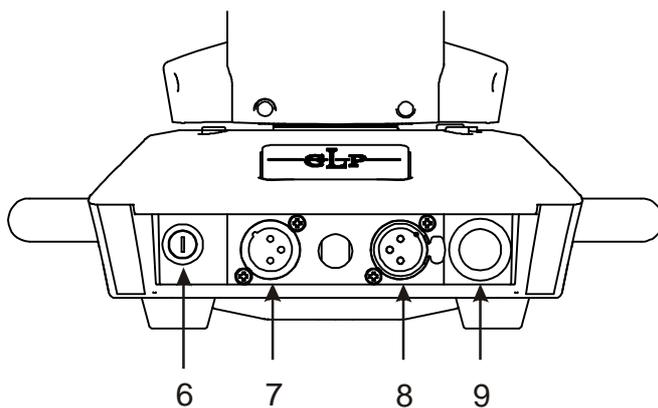
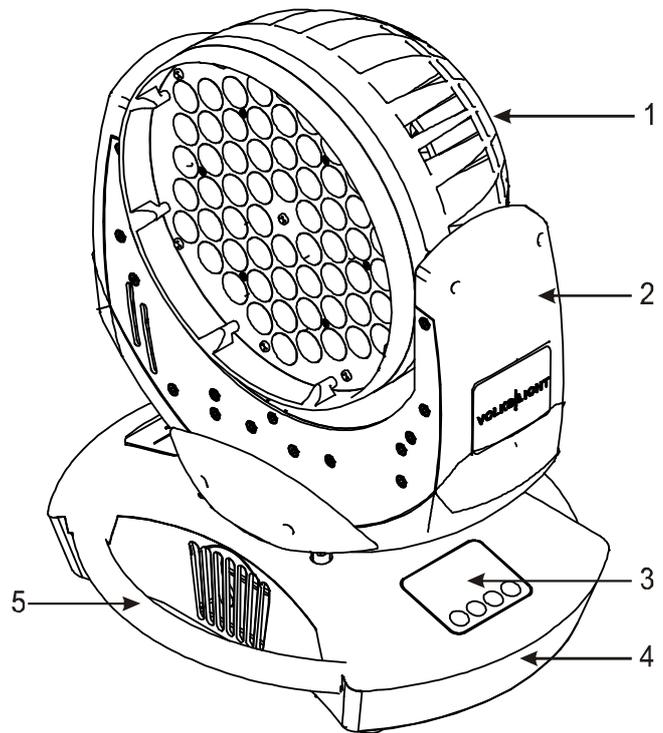


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## 1 Description of Device

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
5. Carrying handle. It is also used to attach the safety cable



6. Micro-fuse 5x20mm, T2A
7. DMX- Input (3 pole)
8. DMX- Output (3 pole)
9. Power On-/Off

## 1.1 Safety Instructions



The **VOLKSLICHT ZOOM** is an advanced technology product. To guarantee smooth operation, it is necessary to follow the following instructions.

The manufacturer of this device will not take responsibility of damages through any disregard of the information in this user manual. Warranty claims will also be cancelled in the event of the system casing being opened.



If the external cable of this lighting is damaged, it should be replaced by the manufacturer or its service agent or a qualified person, to avoid danger.

1. Make sure that before powering up the fixture, the fans and air inlets are clean and not blocked by anything.
2. Before powering up the fixture, ensure that the moving head part of the fixture can rotate unhindered through its full range of movement.
3. A safety distance of at least 0.5 m to any easily flammable material (e.g. decoration material) must be adhered to.
4. **Attention!** Don't touch the device during operation. Parts of the fixture can become hot and can cause injuries and / or damages.
5. The system doesn't contain any user serviceable parts. Opening the fixture will void the manufacturers warranty.
6. Danger of burning. Wait at least 15 minutes after disconnecting the AC power before changing the optical carrier on the fixture. Pay attention to possible hot parts of the system.
7. **Never look directly into the beam of light or one of the LEDs.** Never use optical apertures with a distance less than 0.5 m to observe the beam of light. **LED Class 2M.** Not following these precautions can result in serious injury to your eyes and in particular, your retina.



**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.

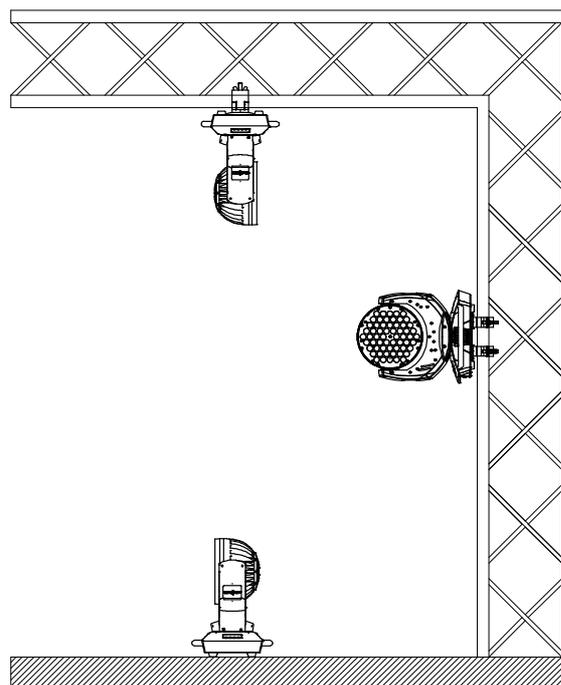
**Avoid direct radiation to your eyes!**

8. To ensure proper operation, you must also follow the installation guide described in chapter 0 of this manual. Operating the **VOLKSLICHT ZOOM** without suitable mounting devices can increase the risk of an accident.
9. The **VOLKSLICHT ZOOM** features a unique small and lightweight design with no specific carrying handles. Care needs to be shown when handling the fixture to ensure that no unnecessary damage should occur. Fragile areas include the LCD display and cover on one side arm and the front bezel. Pressure in these areas could result in damages which will not be covered by the standard warranty.
10. Repair-, maintenance- and installation work should only be performed by qualified or GLP certified staff. You need to pay attention to the common rules of technology that are not explicit mentioned in this manual.
11. Use only original spare parts. Any structural modification on the system will terminate all warranty claims.
12. Please keep this instruction manual for future reference.
- 13.

## 2 Preparation and Installation

### 2.1 Mounting

The **VOLKSLICHT ZOOM** 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 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.**

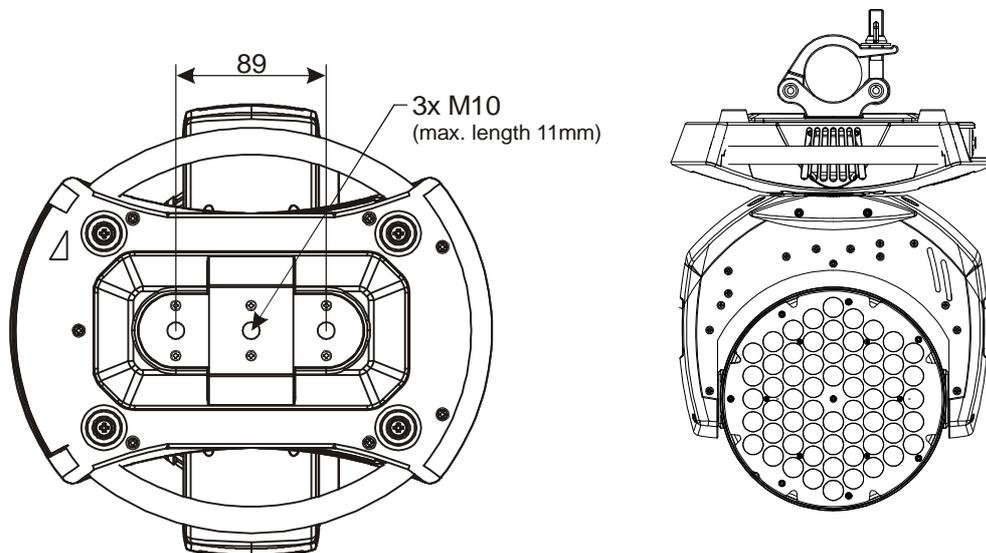
For the various mounting positions of the **VOLKSLICHT** (standing on the floor, sideways or hanging) different accessories kits are available. Using any required kits, along with the standard mounting connectors on the base of the fixture, will ensure a safe and firm installation.

### 2.1.1 Mounting on the floor (upright)

The **VOLKSLICHT** is equipped with four robust rubber feet. This allows a firm and safe stand on even surfaces.

### 2.1.2 Mounting in hanging position (Head down)

To operate the **VOLKSLICHT** in an hanging position, please use a half-coupler (clamp) which is mounted directly onto the bottom side of the system. It is fixed centrally with a M10 thread bolt (max. length 11 mm).

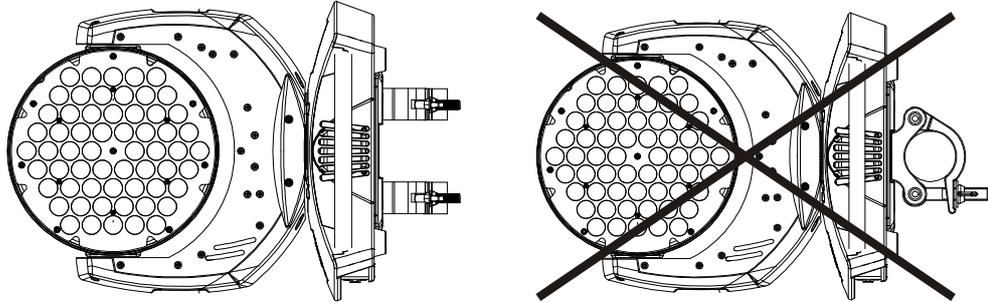


### 2.1.3 Mounting in sideways position

To operate the **VOLKSLICHT ZOOM** in an sidewise position, please use **two** half-couplers (clamps) which are mounted directly onto the bottom side of the system. They are fixed with two M10 thread bolts (max. length 11 mm).

This technique is necessary to cope with the torque which accrues in this mounting position. In addition it allows a concentrically position between

two truss belts. Never use the "Mounting in hanging position" technique described above to secure the fixture in a sideways position, as the fixtures base can become damaged, and a secure installation cannot be assured.



## 2.2 Securing the Device

Regardless of the mounting method of the **VOLKSLICHT** you'll have to use a secondary safety wire. This safety wire can be attached to the fixture by threading it through one of the two holes provided on the base of the fixture. Ensure that the safety wire is securely fastened through the fixture and the fixtures mounting support. Install a safety wire that can hold at least 10 times the weight of the fixture.

## 2.3 Connections

### 2.3.1 Power Supply

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

Connected load 180 VA (W)  $\Leftrightarrow$  T2A (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.**

### 2.3.2 DMX

USITT DMX-512 Standard input/output in 3 pole connectors.

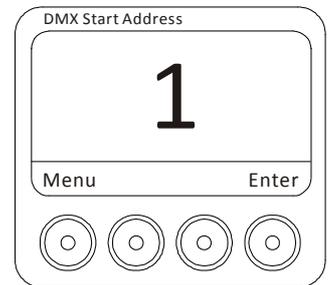
3 pole: Pin 1 = [Ground] / Pin 2 = [-] / Pin 3 = [+]

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

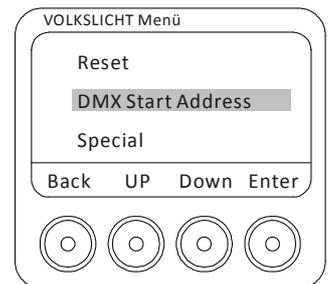
### 3 The Menu Field

You'll find the illuminated control board on the upper side of the base. It allows you to make all necessary adjustments of the system.

The current DMX address will be shown on the top level of the menu. Use the **Enter**-key to adjust the DMX address or press the **Menu**-key to reach the next level of the menu where other settings can be made.



With the **Enter**-key you reach 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. Adjust them and set functions **ON/OFF** with the **Up/Down**-keys. Confirm and save it with the **Enter**-key (the display shows **OK**). Use the **Back**-key to cancel the entry and to go back to the main menu.



← BACK - ENTER →

← DOWN - UP →

Level1	Level 2	Level 3	Level 4	Remark
DMX Start Address				Define the DMX start address
Special	Manual DMX			Manual control of all system functions
		Pan		Manual control for Pan (X-movement)
		Tilt		Manual control for Tilt (Y-movement)
		Speed		Speed adjustment for Pan/Tilt movements → see also item below
		P/T		Manual control for Pan/Tilt movement
		Color Wheel		Manual control for the color wheel
		Red		Manual control for red
		Green		Manual control for green
		Blue		Manual control for blue
		Special		Manual control for special
		Dimmer		Manual control for the dimmer
		Shutter		Manual control for the shutter
		Zoom		Manual control for the zoom
	Contrast			Adjustment for the Display contrast
	Default Set			Resetting all functions to original values
	Versions			Reads out the current LED dimmer (software) version
	Adjust	Key code xxxx		Use the code for entering the calibration menu (for authorized persons only)

← DOWN - UP →

	<b>Diagnose</b>
	<b>Pan Offset</b>
	<b>Tilt Offset</b>
	<b>Clear EEPROM</b>
<b>P/T Speed</b>	
<b>Temperatures</b>	
<b>Testmode</b>	
<b>DMX Hold</b>	
<b>Position Feedback</b>	
<b>Adjust White</b>	
	<b>Red</b>
	<b>Green</b>
	<b>Blue</b>
<b>DMX Monitor</b>	
	<b>Pan</b>
	<b>Tilt</b>
	<b>Speed</b>
	<b>P/T</b>
	<b>Color Wheel</b>
	<b>Red</b>
	<b>Green</b>
	<b>Blue</b>
	<b>Special</b>
	<b>Dimmer</b>
	<b>Shutter</b>
	<b>Zoom</b>

<b>Live time</b>	
<b>Display</b>	
	<b>Blackout</b>
<b>Reverse Pan</b>	
<b>Reverse Tilt</b>	
<b>Reset</b>	

Diagnose functions
Calibration for Pan-Offset
Calibration for Tilt-Offset
Erase EEPROM memory
Normal Speed and Fast Speed
Indicates the head and base temperature
Performs an automatic self-test
Defines whether the last DMX signal is stored or the lamp is switched OFF in case of signal interruption
Automatically position feedback (correction) for Pan/Tilt movement. ON/OFF
Adjustments for a uniform white color (white balance); only in white-mode
Input for red adjustments
Input for blue adjustments
Input for green adjustments
Indicates the presently received DMX signal per DMX channel
Instantaneous value for Pan
Instantaneous value for Tilt
Instantaneous value for Speed
Instantaneous value for Pan/Tilt movements
Instantaneous value for Colors
Instantaneous value for Red
Instantaneous value for Green
Instantaneous value for Blue
Instantaneous value for Special
Instantaneous value for the Dimmer
Instantaneous value for the Shutter
Instantaneous value for the Zoom
Indicates the overall operation time of the system
Adjust the display
ON/OFF: Display OFF
ON/OFF: Invert Pan movements
ON/OFF: Invert Tilt movements
RESET and new calibration for all functions

#### 4 DMX Channel Selection (DMX Protocol)

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 <sup>1)</sup>		8..15	08..0F	3..5,5
	Color 02 - Amber <sup>1)</sup>		16..23	10..17	6..8,5
	Color 03 - Warm Yellow <sup>1)</sup>		24..31	18..1F	9..12,5
	Color 04 - Yellow <sup>1)</sup>		32..39	20..27	13..15,5
	Color 05 - Green <sup>1)</sup>		40..47	28..2F	16..18,5
	Color 06 - Turquoise <sup>1)</sup>		48..55	30..37	19..21,5
	Color 07 - Cyan <sup>1)</sup>		56..63	38..3F	22..24,5
	Color 08 - Blue <sup>1)</sup>		64..71	40..47	25..27,5
	Color 09 - Lavender <sup>1)</sup>		72..79	48..4F	28..30,5
	Color 10 - Mauve <sup>1)</sup>		80..87	50..57	31..34,5
	Color 11 - Magenta <sup>1)</sup>		88..95	58..5F	35..37,5
	Color 12 - Pink <sup>1)</sup>		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 <sup>2)</sup>		128	80	50	
Rainbow Effect <sup>3)</sup>	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) 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
	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 <sup>4)</sup>	1 Hz .. 10 Hz	200..239	C8..EF	78..94
	Strobe effect <sup>4)</sup>	25 Hz	240	F0	94,4
	Strobe effect <sup>4)</sup>	50 Hz	241	F1	94,8
	Shutter open		242..255	F3..FF	95..100
10) Dimmer	Dimmer	0 - 100%	0..255	0..FF	0..100
11) Color Temperature	Continuous color temperature correction in the range 3200K - 7200K	Applies only to white <sup>5)</sup>	0..255	0..FF	0..100
12) Special	RESET		250..255	FA..FF	98..100
13) Movement	No Movement		0	0	0
	Movement	Size	Phase		
	PAN	1	0°	01..01	01..01

Channel	Function	Time and Value	DMX	HEX	%
	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	3,3
		2	90°	10..11	4,1
		2	180°	12..13	4,9
		2	270°	14..15	5,7
	PAN	3	0°	16..17	6,5
		3	90°	18..19	7,3
		3	180°	20..21	8,0
		3	270°	22..23	8,8
	PAN	4	0°	24..25	9,6
		4	90°	26..27	10,4
		4	180°	28..29	11,2
		4	270°	30..31	12
	TILT	size / phase see also PAN	32..63	20..3F	13..25
	PAN / TILT	size / phase see also PAN	64..95	40..5F	26..37
	PAN / TILT (inverse)	size / phase see also PAN	96..127	60..7F	38..50
	Circle	size / phase see also PAN	128..159	80..9F	51..62
	Circle (inverse)	size / phase see also PAN	160..191	A0..BF	63..75
	Lying eight	size / phase see also PAN	192..223	C0..DF	76..87
	Random movement	size see also PAN	224..255	E0..FF	88..100
<b>14) Speed Pan/Tilt</b>	This channel is only for the SPEED of the movements not for Pan/Tilt		0..255	00..FF	0..100
<b>15) Zoom</b>	Zoom 0% - 100%	10° - 26°	0..255	0..FF	0..100

<sup>1)</sup> The predefined colors can be used as start colors for the Rainbow effect. First select a desired start color, then activate the rainbow effect. All **VOLKSLICHT ZOOM** will then begin from that color and execute the rainbow effect synchronously. Different **VOLKSLICHT ZOOM** can have different start colors but will still execute the rainbow effect synchronously. If you choose a color different from the ones marked with <sup>1)</sup> in the tables above the rainbow start-color will be red.

<sup>2)</sup> Rainbow-effect Stop will pause this function. After resuming the rainbow-effect will be continued with the current color.

<sup>3)</sup> The Rainbow-effect will run synchronously only if it is started from one of the predefined colors (see also <sup>1)</sup> before).

<sup>4)</sup> **Attention:** Please note that shutter frequencies over 10 Hz are prohibited in some countries. Especially frequencies in the range of 5 - 12 Hz can possibly cause epileptic seizures → continuous blink irritation with a latency period of min. 70 ms. Please also refer to the relevant legislation of each country (For Germany for example: BGI 810-4 (Anhang 2) "Sicherheit bei Produktionen und Veranstaltungen - Scheinwerfer").

<sup>5)</sup> The continuous color temperature correction applies only to white i.e. if this function is activated (DMX ≥ 001) the **VOLKSLICHT Zoom** changes to white and can then be controlled in a range of 3200K - 7200K. A color temperature correction for other colors is therefore not foreseen.

## 5 Maintaining and Cleaning the VOLKSLICHT ZOOM

The **VOLKSLICHT ZOOM** is a low maintenance fixture. 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. If they do, the fixture's light output will be significantly reduced, and damages to the fixture may occur. Regular cleaning will not only ensure the maximum light output, but will also allow the fixture to operate reliably throughout its entire life.

**A soft lint-free cloth moistened with any good glass cleaning fluid is recommended. Under no circumstances should alcohol or solvents be used to clean the fixture or its lenses!**

### 5.1 Safety regulations

- **Disconnect the fixture from the mains power before commencing any maintenance work!**
- Wait minimum 15 minutes after removing the power to allow the fixture to cool down.

### 5.2 Circumference 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 practice experience.

Maintenance Task	Interval	How
Cleaning of LED lenses and optical system	weekly	soft brush /lint-free cloth
Cleaning of fans and air channels	monthly	vacuum cleaner, airbrush, etc.

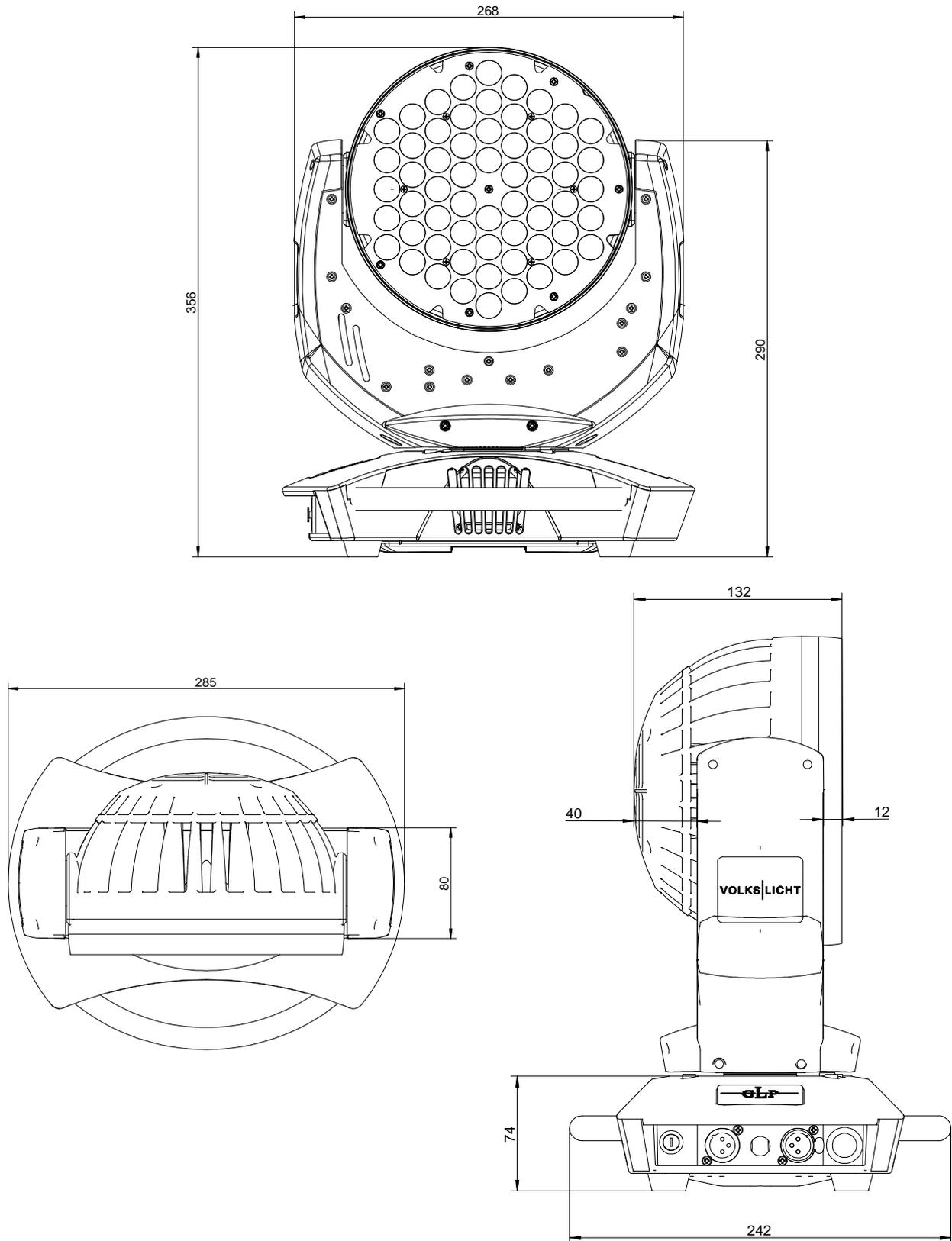
#### **Attention:**

- **Never let optical parts come into contact with oil or fat.**
- **Before running the fixture wait until all parts are dried up.**
- **Never touch lenses with bare fingers.**

## 6 Technical Specifications

<b>Power supply</b>	
<b>Power consumption</b>	180 VA (Watt)
<b>Power Input</b>	~100-240 V AC, 50-60 Hz (auto sensing input)
<b>Fuse protection</b>	Micro-fuse 5x20 mm, T2A
<b>Operational Parameters</b>	
<b>Max. Ambient Temperature</b>	45°C / 113°F (integrated overheating switch)
<b>Mounting Position</b>	Any (see chapter mounting)
<b>Lighting System - Additive Color mixing</b>	
<b>LED Type</b>	60x Luxeon Rebel High-power- LEDs
<b>Lifetime</b>	50.000 h
21x LEDs blue, 21x LEDs green and 18x LEDs red Wavelength optimized for maximum presentable color space	
<b>Optical System</b>	
High efficient Collimator cluster	
Fix optical carrier with light distribution angle from 10° - 26°	
Scattering light aperture	
<b>Shutter / Dimmer (8 Bit)</b>	
Strobe- Effect with variable speed between 1 - 10 flashes per second, Random-Strobe, Pulse-Effects	
Continuous Dimmer 0 - 100%	
<b>DMX Control</b>	
Standard USITT DMX-512, 3 pole XLR; [+] = Pin 3 [-] = Pin 2 [Ground] = Pin 1. Die DMX- Addressing starts at the DMX channel [001].	
<b>Pan/Tilt (8/16 Bit)</b>	
<b>Pan- movement</b>	<b>660° in min. 2 seconds, with position feedback</b>
<b>Tilt- movement</b>	<b>300° in min. 1 seconds, with position feedback</b>
<b>Weights and Measures</b>	
<b>Width of the base</b>	<b>285 mm</b>
<b>Length of the base</b>	<b>242 mm</b>
<b>Height (head vertical)</b>	<b>356 mm</b>
<b>Weight (net)</b>	<b>7,8 kg</b>

7 System dimensions (in mm)



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