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## Instructions for Use AKELUX LED Light Emitter

### 1 Safety

#### 1.1 General Information

Please read the Instruction for Use for your device carefully before using it for the first time. It provides important information on the use and safety of your device and its components.

#### 1.2 Safety Instructions

**CAUTION DANGER:** The following points can lead to injuries or damage to property!

- **Electromagnetic interference**  
Malfunctions of implanted, electronic devices (e.g. pacemakers)
  - Do not use the device in the vicinity of a pacemaker or other implanted electronic device.
  
- **Light of the LED light source**  
There is a risk of explosion in rooms with highly flammable air conditions
  - Do not operate the device in rooms where there is a risk of explosion.
  - Risk of injury to the eyes due to direct light radiation.
  - Do not look directly into the LED light source.
  - Only use the device with the light protection shield in place and in good working order.
  - Always ensure that the light protection shield is correctly fitted.
  - Never direct the light beam of the LED light source directly into the eyes.
  - Always direct the light beam of the LED light source directly towards the surface to be polymerized.
  
- **Defective device**  
Risk of injury from non-functioning device parts. Before each use check the following points:
  - Functionality of the device and its components
  - Correct fit of the light protection shield
  - Free access to the ventilation slots.
  
- **Influence of water on the device**  
Exposure to water may cause damage to the device.
  - Do not hold under running water or immerse in water.
  - Keep out of reach of children.
  - Only use original accessories from the manufacturer.
  - In case of malfunctions, immediately request assistance from the authorized customer service or AKEMI®.
  
- **Intended use may only be carried out by trained personnel and with light protection!**

#### 1.3 Standards and Classifications

The device complies with the following standards and classifications:

- EC Norm: EN 6060-1
- Classification according to IEC 60825-1:2001: LED Product Class 2
- Classification according to CIE S009: Risk Group 2

## Instructions for Use AKELUX LED Light Emitter

### 1.4 Identification Data of the Light Emitter

The following identification data are located on the device and power supply unit:

- Model
- Serial number
- Supply voltage
- Power consumption

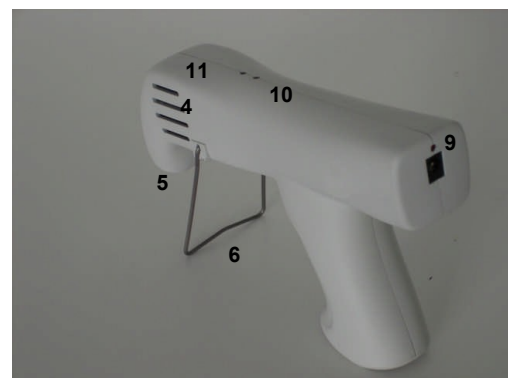
To ensure fast and efficient problem solving, please always provide this data when contacting an authorized customer service or AKEMI® directly.

## 2. Device Description

The AKELUX LED light source is used for polymerization of light-curing materials for repairs on natural and artificial stone as well as ceramics in the craft or industrial sector.

Two highly efficient monochromatic LED diodes with a wavelength spectrum of 440nm - 480nm and a peak value of 460nm serve as the light source. The entire light emitted by the AKELUX LED light source is used to activate the photoinitiator. This enables excellent polymerization results with low energy consumption and minimal heat emission.

- 1 Plug of the power supply unit
- 2 Power connector
- 3 Power supply unit
- 4 Overheating protection
- 5 LED light source
- 6 Adjusting bracket
- 7 Function button
- 8 Light protection shield
- 9 Power supply indicator
- 10 Charge level indicator
- 11 Exposure time indicator



### Plug of the power supply unit (1)

### Power connector (2)

### Power supply unit (3)

The AKELUX LED spotlight is powered by the rechargeable batteries installed in the device. The batteries can be charged with the supplied power supply unit.

### Overheating protection (4)

During intensive use and continuous operation, the overheating protection with ventilation slots prevents overheating. If the temperature rises above 40°C, the overheating protection switches on automatically. After the temperature drops below 40°C, it switches off again automatically.

## Instructions for Use AKELUX LED Light Emitter

### LED light source (5)

The LED light source (5) contains two LEDs behind a Plexiglas protection.

### CAUTION: Light from the LED light source

- Risk of injury to the eyes due to direct light radiation.
- Do not look directly into the LED light source.
- Only use the device with the light protection shield in place and in good working order
- Always ensure that the light protection shield is correctly fitted.
- Never direct the light beam of the LED light source directly into the eyes.
- Always direct the light beam of the LED light source directly towards the surface to be polymerized.

### Adjusting bracket (6)

Setting up the correct distance for exposure.

### Function button (7)

Switching the LED light source on and off. Different exposure times can be selected depending on how the key is pressed. As soon as the function button is pressed and the LED light source is activated, the exposure time display starts to light up or flash.

### Light protection shield (8)

By attaching the light protection shield, uncontrolled light emission from the LED light source is prevented.

### Power supply indicator (9)

Indication of the status of the power supply by red LED on the back of the device

Power supply indicator	AKELUX LED
• LED off	No power supply
• Continuous flash	Battery is charging

### Charge level indicator (10)

Indication of the battery charge level by red LED on the top of the device. You will get a more accurate indication of the charge level if you carry out 2-3 light exposures each with 30 seconds.

### Exposure time indicator (11)

The selected exposure time is indicated by a green LED (11) on the top of the device. The device switches off automatically after the selected exposure times (except for continuous operation).

Status of exposure time indicator (11)	Light exposure time
Fast blinking	30 seconds
Slow blinking	60 seconds
Continuous flashing	Continuous light emission

## Instructions for Use AKELUX LED Light Emitter

### 3. Operating Time

The times are only valid at room temperature (approx. 18 - 25°C) and after approx. five minutes of continuous operation.

Status of the device	Status of the battery	Capacity of the battery
Battery charge indicator (10) blinks 1x	full	approx. 30 minutes left
Battery charge indicator (10) blinks 2-3x	2/3 full	approx. 20 minutes left
Battery charge indicator (10) blinks 4-5x	1/3 full	approx. 15 minutes left
Battery charge indicator (10) blinks continuously	Battery almost empty	approx. 10 minutes left
		Following light exposure cycles are possible: > 10-20 light exposures with 30 sec each > 5-10 light exposures with 60 sec each
Exposure no longer takes place when the button is pressed	Battery empty	Connect with power supply unit and recharge battery for 7-12 hours
The device turns off automatically	Battery defect	Have the device checked by an authorized service centre or directly by AKEMI®.

### 4. Recharging the battery

The battery is not fully charged when delivered.

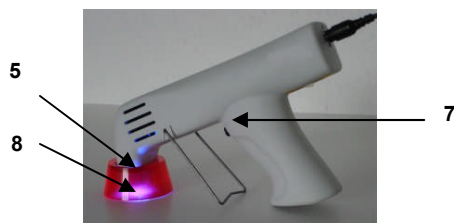
- Fully charge the battery for 12-14 hours before first use.
- Always fully charge the battery for 7-12 hours after the first discharge.
- Place the device on a horizontal surface.
- Connect the plug of the power supply unit (1) to the power connector (2) on the unit.
- Connect the power supply unit (3) to the electricity supply.

Fully charging and then fully discharging again increases the life of the battery.

### 5. Operation

When operating the AKELUX LED emitter, the safety instructions from point 1.2 must be observed!

#### 5.1 Realisation of the light exposure



5 LED light source  
7 Function button  
8 Light protection shield

Place the light protection shield (8) over the LED light source (5) and select the appropriate exposure time by pressing the function button (7):

Function button (7)	Light exposure time	Status of exposure time indicator (11)
Short tap (< 1sec)	30s	Fast blinking
Short tap (approx. 2sec)	60s	Slow blinking
Long tap (> 2sec)	Continuous light	Continuous blinking

To stop the exposure, briefly press the function button (7) again during the exposure.

### 5.2 Increasing exposure time during operation

The exposure time can be increased one level at a time during the light exposure:

- To increase the exposure time to 60 seconds, press the function button (7) for two seconds during a selected exposure time of 30 seconds.
- To increase the exposure time to continuous light, press the function button (7) for longer than two seconds during a selected exposure time of 60 seconds.

## 6. Maintenance and Cleaning

If the surface of the unit or the LED light source (5) is dirty, switch off the unit, unplug the power supply unit (1) and clean the surface.

If the ventilation slots (4) are very dirty, switch off the unit, unplug the power supply unit (1) and clean the ventilation slots (4), e.g. with compressed air.

In case of damage to the unit due to the influence of water

- Do not hold the unit under running water or immerse it in water.
- Do not get any liquid into the ventilation slots (4).
- Allow the device to dry for at least five minutes after cleaning.
- Clean the surface with a damp cloth (cleaning agent containing methylated spirits).

## 7. Help in case of problems

Disturbance	Possible reason	Solution
Light emitter switches off automatically	Battery damaged	Unit has to be checked by authorized service centre or directly by AKEMI®

## 8. Technical Data

### 8.1 Device Data

Light source:	2 LED
Wave length:	440nm - 480nm
Duration of emission:	No limitations

### 8.2 Battery

Initial charging:	12 – 14 hours
Recharging:	7 – 12 hours
Cells:	6
Types:	NiMH, HHR-210AAB2B
Voltage:	7,2V
Power supply unit:	12,6A

### 8.3 Electricity supply

Power supply unit:	90 – 260 VAC / 50 – 60 Hz
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**Instructions for Use AKELUX LED Light Emitter****8.4 Environmental Conditions**

Temperature: +10°C to +40°C  
Relative air humidity: 30% to 85%

**8.5 Storage Conditions**

Temperature: -10°C to +70°C  
Relative air humidity: from 10% to 90%  
Air pressure: 500hPa - 1060hPa

**8.6 Weight**

394g (without power supply unit)

**9. Scope of delivery and spare parts**

- AKELUX LED Light Emitter 1x
- Power Supply Unit 1x
- Light Protection Shield 1x
- Electric cable 1x

**10. EC Declaration of Conformity**

**AKEMI - chemisch technische Spezialfabrik GmbH**  
**Lechstraße 28**  
**90451 Nürnberg - Germany**

hereby declares under its sole responsibility that the product

**AKELUX – LED Light Emitter**

have been developed, designed and manufactured in accordance with the following EC directives, as well as with the corresponding legal decree for the implementation of the EC directive into national law.

- EN 61010-1
- EN 50081-2
- EN 50082-2
- 73/23 EWG
- 89/336/EWG



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Dr. Dirk C. Hamann (Managing Director)