Operation & User manual for LICO Illuminated Magnifier Lamp Series
BIG EYE 62400 EU-CE, 62500 EU-CE & BIG EYE2, 72400 EU-CE

Our dimmable illuminated magnifier lamps are designed and manufactured for use in professional commerce and industry and are equipped with exclusive “Glare-Free” bulbs, having extremely high energy-density (approximately 500 mW / cm). These bulbs need some attention when connecting to mains in order to run the unit in perfect function. High or Low voltages or repeated switch on / off can impair the starting of the bulb or even prevent function, respectively can reduce the life expectation of the bulb dramatically. Too frequent operating of the main switch may lead to the premature aging or destruction of the helix in the bulb as each switching applies the full ignition-voltage.

In accordance with the CE-sign on the lamp this instruction comprises also a rest-risk-consideration. Such consideration has to be done also from the commercial / industrial user prior to installation & use. Repairs, changes or rebuildings are only allowed to the producer or an authorized partner.

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SAFETY INSTRUCTIONS:

1947 - 2022

1., THE LAMP MUST BE GROUNDED FOR OPERATION. PROTECTION AGAINST ELECTRICAL-SHOCK! CONNECT TO GROUNDING BOX OF THE ESD-WORK-BENCH FOR RIGHT ESD-SETTING.

2., THE LAMP MUST BE OPERATED ACCORDING TO ITS DESIGN. IT IS CONSTRUCTED FOR THE USE IN INDUSTRY AND TRADES AND MUST BE OPERATED BY TRAINED PERSONS ONLY. TARGETED APPLICATION: TESTING AND INSPECTING OF PC-BOARDS, FINEMECHANICAL PARTS ETC

3., THE LAMP MUST BE PROTECTED FROM GETTING WET AND DIRTY.

4., START THE LAMP BY OPERATING THE MAINS-SWITCH ONLY.

5., USING STATE-OF-THE-ART MICROCHIP CONTROLLED HIGH FREQUENCY BALLAST TECHNOLOGY, THE LAMP IS THEREFORE CONSIDERED TO BE FREE OF FLUORESCENT FLICKERING – DESPITE, IT IS NECESSARY TO CHECK ROTATING PARTS VERSUS FLICKERING.

6., SUN LIGHT MAY NOT SHINE THROUGH LENS – FOCUSING OF LIGHT MAY RESULT IN FIRE, USE THE DUSTCOVER IF LENS NOT IN USE.

7., PAY ATTENTION TO INDUCTIVE RADIATION OF THE COILS IN THE POWER SUPPLY, SOME INFLUENCE ON ELECTRONIC DEVICES MAY OCCUR IN A DISTANCE OF 30 CM. THE EMC - MEASURED IN LABORATORY – YIELDED MERELY < 0,5 µT / 30 CM DISTANCE.

8., THE CABLE IS TO BE EXAMINED FOR DAMAGES FREQUENTLY, A MONTHLY CHECKING IS A GOOD IDEA.

9., IN ORDER TO AVOID STRONGER EYE-BURDEN OR EVEN EYE-DAMAGES THE VIEW THROUGH THE LENS HAS TO BE STRAIGHT AT AN ANGLE OF 90 DEGREES.
THE LENS MUST BE CLEANED ON A REGULAR BASIS WITH A VERY SOFT LENS CLEANER USING A VERY SOFT CLOTH. (BEST IS PRESATURATED MICROFIBRE ONLY). PAPER TOWELS CERTAINLY DAMAGE THE LENS.

10., PLEASE MIND THE DISTANCE LENS – WORK PLATE OF AT LEAST 10 CM.

11., REPLACEMENT OF THE BULB: MANDATORY TO DISCONNECT FROM MAINS AND DO NOT USE ANY TOOLS BEFORE MAKING SURE THE LAMP IS DISCONNECTED. FOR FS-BULB REPLACEMENT NO TOOLS ARE NEEDED

12., ANY SERVICING IS ALLOWED ONLY IN THE FACTORY OR BY A QUALIFIED TECHNICIAN

13., NEVER COVER THE LAMP DURING OPERATION, COVER ONLY IF PLUG IS OUT OF THE SOCKET

14., COVER THE LENS WITH DUST COVER 11501 WHEN LAMP IS NOT IN OPERATION.

15., USED BULBS HAVE TO BE DISPOSED ACC. TO LOCAL LAWS.

16., **NEVER LOOK DIRECTLY INTO THE LIGHTSOURCE**, ESPECIALLY OUR LED-LIGHT IS EXTREMELY BRIGHT (CA. 4500-5000 LUX), IT IS TOO BRIGHT FOR DIRECT EYE-CONTACT AND CAN CAUSE IRREVOCABLE EYE-DAMAGE!

17., SUCH MAGNIFIER IS A HIGHLY EFFECTIVE AND PROFESSIONAL OPTICAL TOOL, LET CHECK YOUR EYES ANNUALLY

18., 4 AND 5 DIOPTRE LENSES CAN BE TIRING AT LONG TERM USE, CHECK WITH YOUR QM FOR REGULAR BREAKS, DO NOT OVERUSE YOUR EYES (COMPARE WITH REGULATIONS OF MONITORS ETC)

19. IN CASE OF REPACKING THE LAMP, USE ONLY THE ORIGINAL CARTON AND MAKE SURE **ALL FIXED JOINTS** ARE **LOOSE** AND LAMP IS PACKED IN FOAM TO AVOID BREAKAGE DURING TRANSPORT

SAFETY QUESTIONS AND ANSWERS, TROUBLESHOOTING:

PROBLEM: Electronics, dimmer, switch or cable is broken **SOLUTION:** Send for repair to LICO.

PROBLEM: bulb is flickering and/or works on low light level only.
SOLUTION
a., try again to turn off and on,
b., replace bulb, if the problem is still there, send lamp to LICO for adjustment of electronic setting

PROBLEM: bulb will not light after turning on..
SOLUTION:
a., check power supply/connector; replace bulb
b., turn on again,
c., Check Bulb with Ohmmeter, both bulbinletss must show a low resistance, if not replace bulb - if bulb is ok, please send lamp to LICO.

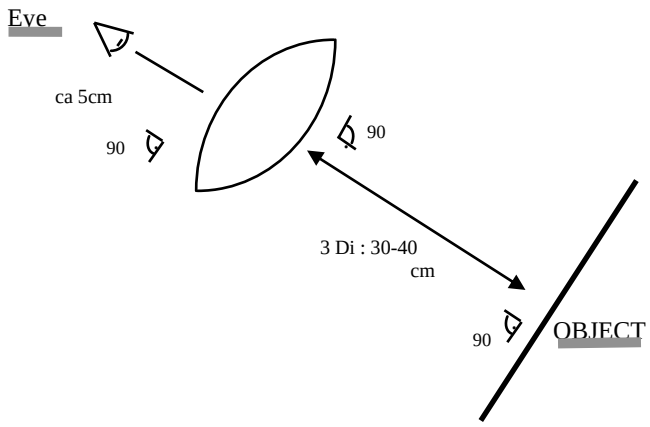
PROBLEM: Bulb is flickering at full or low power.
SOLUTION
a., Check power for irregularities
b., Turn off, let cool down, turn on again,
c., if still not working, change bulb

PROBLEM: Very short lifetime of bulb.
SOLUTION
a., Check power for irregularities, peaks etc..
b., Has the bulb been "overstarted"? Has the lamp been hit or suffered strong vibrations or shocks?
c., if no local solution found: send lamp to LICO for checking

-- avoid hits and strong vibration during transportation and use!.

PROBLEM: Lamps turns off quickly after turning on,
SOLUTION
a., Measure the main-voltage, too low main voltage will shut down the lamp for safety

The right way to look through the lens:



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FAQ:

Reflexions on the lens due to Room-illumination:

If a direct illumination of the room-illumination cannot be avoided, an “anti-reflective coated lens” – LICO AR-Lens – is recommended. With this lens the reflections can be reduced by good 2/3. Usually these lenses are supplied with LICOs original AR-option magnifiers. Ask LICO for retrofit. The coating is quite hard and valuable like on expensive Photo camera lenses and it has to be protected from damages and scratches.

ESD, Antistatic, Static Drainage:

Electrostatic covers static charges, potential charges may occur at a working place in many ways. At ESD-working places it is wished to avoid them and if they occur to drain them safely.

It is being distinguished between: grounded, static conductive and static dissipative.

All 3 variations may be found at an electronic workplace. Therefore special attention is given to individual dissipation and grounding. It might be useful to use special “conductive grounding boxes where all equipment and user is grounded by one or more grounding resistors.

The LICO arm and lens-housing is a full metal construction, coated with paint with high resistance. i.e. the LICO blue paint contains metal oxides and can be considered as low resistant. The shadow white painting is higher resistant.

It is highly recommended to apply on a regular basis a permanent ESD coating spray.

However, all metal parts itself are connected on bare metal and are grounded (as long as the IEC-connector is grounded properly. Therefore every metal part IS Ground. For proper Antistatic grounding an appropriate static conductive box has to be connected between the Schuko-connector and the work-bench supply.

The magnifier mandatory in all cases has to be grounded this way or that way!

Handle electronics very carefully under the lens when voltage is applied. Shortcuts may occur when touching the frame of the lens or metal parts of the lamp.
(In case of doubt ask the workplace security manager)
The quality of the grounding has to be measured at least once a year.

If cables of the magnifiers are damaged visibly, stop use immediately, disconnect power cord and get a professional replacement of wiring. DO NOT USE THE MAGNIFIER WHEN CABLES ARE DAMAGED.

Cleaning of lens and maintain antistatic:

Disconnect lamp prior to cleaning, reconnect only after lamp has been fully dried. To blow off first the lens with any kind of “duster” prior using a cleaning cloth is a good idea to prolong lens life. Even the smallest dust particles will leave traces by time. Mineral and metal dust is quite hard and sharp.

Glass lenses are to be cleaned with a nonaggressive glass cleaner using soft and clean microfiber cloths. Dirty Microfibers or other cloth will scratch and damage the lens resp the coating. Presaturated lens cleaner might be also used as long as they are wet, do not used dry cloth on the lens, such may / will result in scratches. Regular application of cleaner with antistatic compound will result in good maintenance of antistatic properties.

Using tools on the lens will result in scratches.

ESD-trial on the lens:

Rubbing dry cloth on the lens will result in scratches, especially on Antireflective coated lenses. Scratches generally are not covered by warranty.

Exchange of lens:

After many years of hard industrial use, often in 3 shifts, even at best care, scratches may occur.

Lenses are a spare part and can be bought even after many years. The magnifier after a lens change then is almost new again and “fit or use” for the next years.

Anti-reflective coated lenses:

These lenses „eat up“ good 2/3 of disturbing room illumination.
The cleaning has to be very carefully to avoid scratches. AR-coating cannot be repaired after scratching.
It is recommended not to use the swing away magnifier at AR-lenses, since the lifting up of the object might result in contact with lens and pinning of i.e. cut wires leave damages.

Re-packaging for shipment:

It is important the magnifier is packed really properly. All joints have to be “open”, therefore loose and not fixed. The upper and the lower arm have to fixed to each other, then wrap with blister foil and fix with rubber band. The lens head has to packed in a carton with soft foam. Keep the packaging, it is expensive and useful.

Correct packaging

MOUNTING THE MAGNIFIER LAMP: PLEASE NOTE:

The magnifer lamps must be fixed on a stable worktable / workbrench which provides stable, reliable postion for the lamps. Mobile and „thin" event tables are NOT suitable for fixing!

The position of the fixture and the place of application must be on the same horizontal level, otherwise the arm can get too much load on. In other words, the lamp SHALL NOT BE mounted higer than the work table area is. A higer mounting would cause damage/ joint breaks and can shorten the lifetime ot the arm construction because bending the arm OVER the end-stop will definitely result in mechanical damage of the arm construction

Please see a picture below as sample of correct mounting.

Chosen Fixture

Place of application

If you are not sure how to mount your magnifier lamp safe and secure. Please feel free to contact us.

Please spend some time with your magnifier lamp before use, to know its mechanical limits and construction.

The joints have a movement limit. Do NOT use excessive force to move the arm and the joints of the lamps. In case of overuse the joints can break, the arm can get buckeld and cause serious damage in the lamp and even for the operator.

Warning for lamps equipped with UV Light:

WARNING: UV RADIATION!

The device contains a high-intensity UV-A light source (365nm-400nm).

- **Never look directly into the light source!** Direct UV radiation can cause permanent eye damage.
- Before using the device, **always consult with your local health and safety officer** regarding the current safety regulations applicable to your workplace and the permitted daily exposure limits.
- The manufacturer does not specify a particular brand of protective equipment; however, the use of **appropriate personal protective equipment (UV-filtering goggles and protective gloves) is mandatory** during operation.
- Compliance with occupational safety regulations and the selection of suitable protective equipment is the sole responsibility of the user/operator.

LIMITATION OF LIABILITY: The manufacturer (LICO Electronics GmbH) and the production site (LICO Mechatronic Kft.) **assume no liability** for any personal injury, health impairment, or permanent health damage resulting from improper use of the device, disregard of safety instructions, or the lack of appropriate protective equipment.

By putting the device into operation, the user acknowledges that they have read and understood the safety warnings, and that the user or the operator is responsible for establishing a safe working environment and ensuring compliance with local occupational health and safety rules. The manufacturer shall not be held liable for any long-term physiological effects resulting from UV radiation if the user fails to apply the prescribed protective equipment or exceeds the recommended exposure limits.

Specific Information regarding UV-emitting Models: The UV-equipped models utilize a multi-wavelength LED array (365nm to 400nm range). According to **EN 62471:2008**, the integrated light source is assessed for photobiological safety. Due to the mechanical design (downward-facing lamp head, protective glass diffuser, and metal shielding), the risk of direct exposure is minimized.

Risk Group Classification: The finished product is classified as **Risk Group 1 (Low Risk)** under normal operating conditions, provided that the safety instructions regarding personal protective equipment (PPE) and exposure limits outlined in the user manual are followed.

MultiWhite Model – Light Settings

When the lamp is switched on, it starts in **color temperature adjustment mode** by default.

Press the **"+"** button to increase the color temperature (cooler light).
Press the **"–"** button to decrease the color temperature (warmer light).

After approximately 10 seconds of inactivity, the lamp will flash to confirm that the selected color temperature has been saved to memory. The lamp will retain this setting after being switched off and on.

Switching to Brightness Adjustment Mode

Press and hold the **"+"** and **"–"** buttons simultaneously for approximately 2 seconds. The lamp will flash to indicate that it has switched to **brightness adjustment mode**.

In brightness adjustment mode:

Press the **"+"** button to increase brightness.
Press the **"–"** button to decrease brightness.

After approximately 10 seconds, the lamp will automatically switch back to color temperature mode. The lamp will flash to confirm that both brightness and color temperature settings have been saved to memory and will be retained after power cycling.

Multicolor Model – Color Settings

When the lamp is switched on, it starts in **color adjustment mode** by default.
Press the **"+"/ "–"** buttons to switch between the colors.

After approximately 10 seconds of inactivity, the lamp will flash to confirm that the selected color temperature has been saved to memory. The lamp will retain this setting after being switched off and on.

Switching to Brightness Adjustment Mode

Press and hold the **"+"** and **"–"** buttons simultaneously for approximately 2 seconds. The lamp will flash to indicate that it has switched to **brightness adjustment mode**.

In brightness adjustment mode:

Press the **"+"** button to increase brightness.
Press the **"–"** button to decrease brightness.

After approximately 10 seconds, the lamp will automatically switch back to color temperature mode. The lamp will flash to confirm that both brightness and color temperature settings have been saved to memory and will be retained after power cycling.