

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.

### SAFETY INSTRUCTIONS:

- 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  $\mu$ T / 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 DIOPTR 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

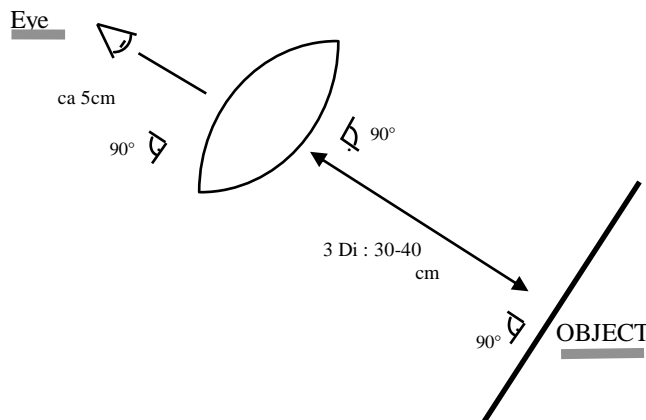


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**SAFETY QUESTIONS AND ANSWERS, TROUBLESHOOTING:**

- 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 bulbintetss 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 “view through” the lens:**



[www.eurolupe.com](http://www.eurolupe.com)

LICO Electronics GmbH, Klederinger Str. 31, A-2320 Kledering, Austria [www.lico.at](http://www.lico.at)  
Tel + 43 1 706 43 000 Fax +43 1 706 41 31 email [office@lico.at](mailto:office@lico.at) [h.miksch@lico.at](mailto:h.miksch@lico.at)

LICO Hungaria Kft, Raba u.4, H-2030 Erd, Hungary [www.lico.hu](http://www.lico.hu)  
Tel + 36 23 520 113 Fax + 36 23 520 115 email [office@lico.hu](mailto:office@lico.hu)

LICO Mecatronic S.R.L., RO-540526 Targu-Mures, Romania, [www.lico.ro](http://www.lico.ro)  
Tel +40 365 807 497, Fax: +40 365 434 999, email [office@lico.ro](mailto:office@lico.ro)

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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 LICO's 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.



### MOUNTING THE MAGNIFIER LAMP: PLEASE NOTE:

The magnifier lamps must be fixed on a stable worktable / workbench which provides stable, reliable position 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 higher than the work table area is. A higher mounting would cause damage/ joint breaks and can shorten the lifetime of 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.



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 buckled and cause serious damage in the lamp and even for the operator.



When using LICO UV light magnifiers, it is as with any UV-emitting light source highly recommended to use different kind of UV protective equipment: UV protective goggles, UV-blocking gloves etc. to avoid any kind of eye- and skin damage during use. Never look directly in to UV-light source !



## DECLARATION OF CONFORMITY 2011, LICO CE11

We, LICO Electronics GmbH,

hereby confirm that the magnifying lamps of the **42400-**, **62400-**, **62500-**, **72400-**, **82400-** series, which are brought into the European market by LICO Electronics GmbH, comply with the "Lamp Standard" IEC 60598-2-24, where applicable, or that the standard is not or only partially applicable, as well as the EN 61000 standard regarding electromagnetic compatibility, where applicable, and, if applicable, partially to the directive 2006/95/EC (Low Voltage Directive). In consideration of BGV A3, where applicable, these lamps are suitable for use in industrial environments and for use by qualified personnel, making them appropriate for industrial and commercial use.

Fire protection markings on lamps: The well-known F-marking on lamps is no longer required following the expiration of the previous standard DIN EN 60598-1 (VDE 0711-1): 2009-09 (or with the end of the transition period) on April 12, 2012.

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However, it is explicitly emphasized that the operating instructions must be understood and followed, and that the lamps must be used properly by qualified or trained personnel. Unqualified or non-expert personnel should NOT operate the magnifying lamps.

The magnifying lamps are excluded from the scope of the "Machinery Directive" 95/16/EC

Warnings and information about potential risks or residual risks are included in the operating manual.

The CE mark is affixed to the power supply unit and confirmed within this scope.

LICO Electronics GmbH  
Hellmut Miksch  
Managing Director  
Kledering, 03.11.2011