

UV-BOX-E3/40H-NX-R

AISI 304 Stainless Steel Germicidal UV-BOX with Direct Radiation for STERILISATION

MODEL:

UV-BOX-E3/40H-NX-R



SECURITY WARNING

The Company has ensured that every care is taken in the design and production of its machinery. In order to guarantee, as far as practicable, that the unit is safe when used correctly. However, the laws on accident prevention require all users of the machinery to ensure that whoever is responsible for installation, maintenance, use and sale of these products is shown the instruction provided by our company and is made aware of the precautions to be taken.

According to the circumstances, the appropriate recommendations made in these instructions must be made available, together with any other relative information, to any company or person involved in the installation of LIGHT PRO-GRESS products.

Only use this appliance for its intended purpose as described in this booklet.

If the appliance is wrongly operated for a purpose other than that for which it is intended, no liability can be accepted for any possible damage. The manufacturer cannot be responsible for any damage to people, animals and objects caused by use or operation of the appliance contrary to these instructions.

As with all electrical appliances the safety information and precautions contained in this booklet must be carefully observed, including following:

Before maintenance or cleaning ensure that the appliance is switched off and unplugged from the mains supply.

Should the appliance become faulty please contact our authorized Service Centre direct and in case of repairs ask for genuine parts.

Improper repairs may damage the appliance and place the user at serious risk.

WARNING

- **Avoid exposure to UV-C rays emitted by germicidal lamps, even for few seconds, it may cause severe conjunctivitis and erythema**
- **Plastic or painted surfaces exposed to direct UV-C rays may progressively yellow, similar to long exposure to sunlight.**
- **The intended use is as a germicidal lamp for sterilization, any other use is improper and dangerous**
- **The lamp, as supplied, cannot be modified or designed for use with accessories or tools**

Disclaimer: All responsibilities and warranty will be void due to tampering or lack of maintenance

- **Carefully read the following instruction before use.**
- **Before opening of the UV section, ensure the UVC device is OFF and unplugged in order to avoid exposure to UVC light emitted by the germicidal lamp; It may cause severe conjunctivitis and erythema.**
- **Remove the protection film from the device before light-on the UV-C lamp.**
- **This device cannot be operated children and by persons with reduced physical and sensory capacities.**
- **Ensure all users have the required knowledge and the related instructions about the safe use of the device and the related risks.**

Refer to ARPANSA Radiation Standard: Occupational Exposure to Ultraviolet Radiation for additional requirements: <https://www.arpansa.gov.au/sites/default/files/legacy/pubs/rps/rps12.pdf>

SYMBOLS



DOESN'T DISPOSE THIS PRODUCT ON THE UNDIFFERENTIATED WASTE DISPOSING OF THE SUBSTITUTED ITEMS MUST BE PERFORMED RESPECTING THE LOCAL LAWS.



RECYCLE THE STUFFS THAT COMPOSES THIS PRODUCT.



OBLIGATION TO CONSULT THESE INSTRUCTIONS BEFORE USE THIS PRODUCT



DANGER OF ELECTRICAL SHOCK; REMOVE TENSION TO THE SYSTEM BEFORE PERFORMING ANY OPERATION.



GENERIC DANGER.



DANGER OF EXPOSITION TO ULTRAVIOLET UV-C RAYS.



THIS DEVICE RESPECTS THE ROHS NORMS.



USE PROTECTIVE GLOVES



WEAR PROTECTIVE GLASSES

STORAGE OF THIS MANUAL



ATTENTION!

This instruction manual must be preserved and be at disposal for consultation; it must follow the device in case of passage of property, and accompany the device until its disposal. It's possible to contact Light Progress' technical office to ask for updated instruction manuals and information.

DEMOLITION AND DISPOSAL



Do not dispose of these products as unsorted municipal waste but collect separately as special waste and entrusting them to waste disposal firms specialised. Disposal must be in accordance with the Legislative Decree 151/2005 (WEEE - Italy) or in accordance with the legislation in force in the country where it will be the disposal (WEEE - EEC). In the event of non-compliance or improper disposal are provided for heavy penalties. The apparatus is composed of plastic parts, electronic components, metal, UV lamps containing mercury (dangerous substances to the environment and human health). The dealer is available to the withdrawal of the apparatus used.

DEVICE DESCRIPTION

UV-BOX-E3/40H-NX-R has a stainless steel AISI 304 structure with 2 stainless steel AISI 304 flat grills to support the objects to be disinfected. The grids support the stored items minimizing dead spots and achieving disinfection of 99.99% in very short exposure times.

The box is equipped with three UV-C 40 W lamps, protected by the grid to prevent hits and damages. The steel door is equipped with a transparent anti UV polycarbonate window and a position switch for turning off the UV lamps when the door is opened.

The box is also equipped with a control panel which has an on/off switch and a timer. Irradiation time can be adjusted from 1 second to 500 hours.

APPLICATIONS AND RESULTS

This cabinet can be used for germicidal disinfection and maintenance and sterility of objects and tools for healthcare, pharmaceutical labs, microbiological labs, food industries, etc.

After washing, the objects can be stored inside the germicidal box, in order to maintain the condition of cleanliness in time; objects can thus be used with confidence, even after several hours after washing.

UV-BOX-E3/40H-NX-R is among the few items on the market to offer extreme effectiveness, as it possesses three opposing lamps of high power (40W), which can radiate uniformly in all directions and directly on instruments surface. Furthermore, the internal reflection increases the amount of UV radiation which invests the instrumentation from all directions, reducing to zero the micro-shadows and lowering significantly the exposure times.

Very short exposure times are thus obtained to get a 99.9% sterilization.

OPERATION

The switching on / off of the box is controlled by a programmable cycle of pause / working time intervals.

You can decide on the duration of the irradiation and of the pause interval between two subsequent working periods.

Whenever the door is closed, UV lamps turn on and begin the disinfection of the inside space and surfaces. This will last for the whole programmed working time; the possible opening of the door, during the disinfection action, immediately shuts off the lamps, in order to ensure personnel safety; if you will close the door again, a new disinfection action will begin from the start. At the end of the working period, the lamps will automatically switch off. At the end of the pause period, the lamps will automatically switch on. This sequence allows for the ability to maintain aseptic conditions even at distance in time.

The duration of the working time and of the pause time is manually adjustable before the beginning of the treatment.

BENEFITS AND ADVANTAGES

A. PHYSICAL ACTION AND ENVIRONMENTAL PROTECTION.

Treatment by UV-C rays is purely physical, and always achieves the same response; also, there are no problems with overdose and rooms are always safe and practicable (when devices are turned off).

Rather, many methods of chemical treatment involve the use of dangerous products for the environment, and are difficult to biodegrade, as well as the risk of contamination of foodstuffs. Also, the use of chemicals is likely to develop resistant microbial forms with consequent danger to human health.

B. IMMEDIATE EFFECT.

It takes just a very short time to obtain effective results (99% killing of the bacteria).

C. PRACTICABILITY AND SAVINGS.

The treatment is immediate and ready for use. The maintenance is minimal with low costs of both energy consumption and repairs.

D. NO CONTRAINDICATION FOR EQUIPMENT TO BE TREATED.

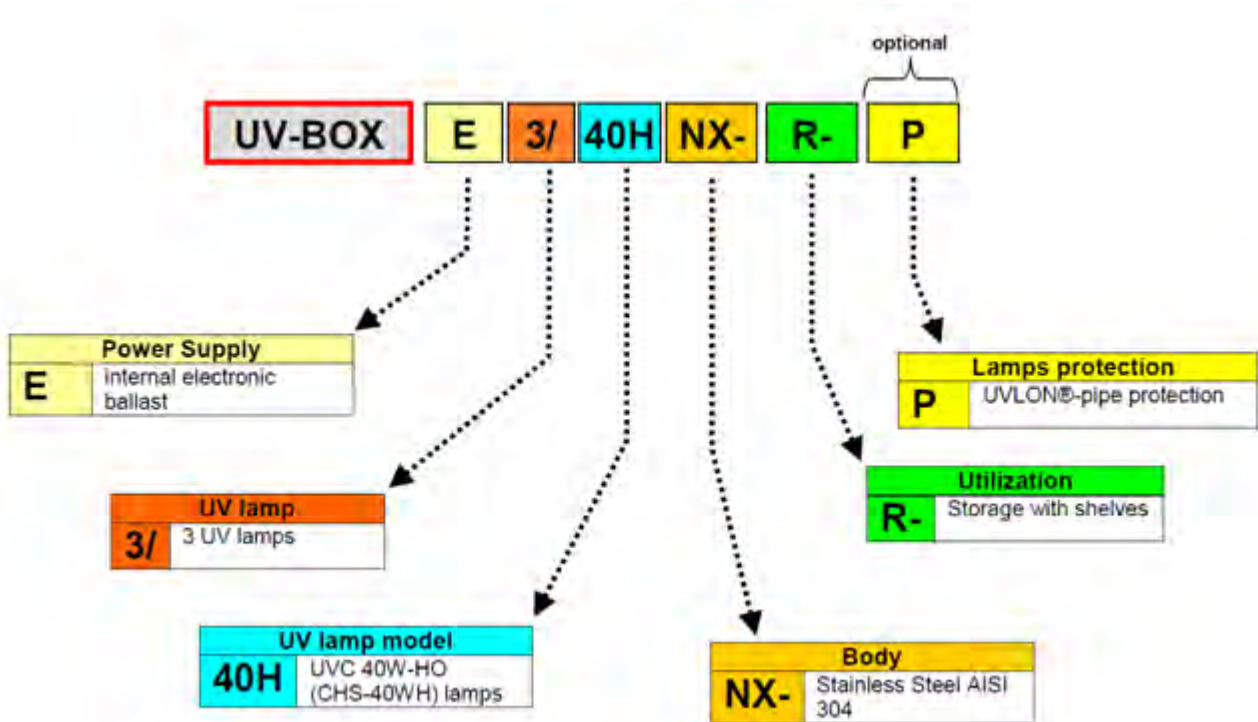
This device provides the ability to maintain a sterile equipment, without the slightest contraindication. Equipment to be disinfected, or previously sterilized, can be preserved for a long time and are ready for use, since the treatment is dry and without heat generation.

E. TOTAL SAFETY.

Ultraviolet rays are confined inside the enclosure and cannot exit due to the UV ray's resistant polycarbonate (LEXAN ®) and the micro-switches that prevent UV irradiation when the door is open. Therefore, it may treat the instruments in the presence of the operators.



DEVICE CODES



RECEPTION

Handle with care. Verify the integrity of the packaging, and be careful not to damage the contents when using sharp blades or cutters to open the box.

Remove the unit from the box, then inspect it immediately to ensure that no damage has occurred during transport. Before installation and using the device please CAREFULLY READ AND FOLLOW THE SECURITY WARNINGS and all others instructions.

INSTALLATION

The **UV-BOX-E3/40H-NX-R** is a wall cabinet and it is fundamental to install it in a secure location accessible to the operator.

Take care not to place the cabinet in hazardous locations for the personnel.

To fix the cabinet to the wall, use two screw anchors (8 -10mm) (not supplied), placed at a mutual distance equal to the distance of the two welded eyelets, behind and at the top on the cabinet.

ELECTRICAL CONNECTION

Make sure that the device will be installed where it will fit with the existing environmental conditions. Before connecting the device to the electrical line, make sure that the labelled data on the device are the same as the ones of the electrical line; we remind you that the electrical supply power of this device is 220-240V, 50/60Hz.

Make sure that the electrical system is suitable to provide the supply current required by the device (please read the label).

The connection to the electrical line needs a multipolar switch.

The connection to the electrical line must be made by the supplied cable 3 x 1 mm².

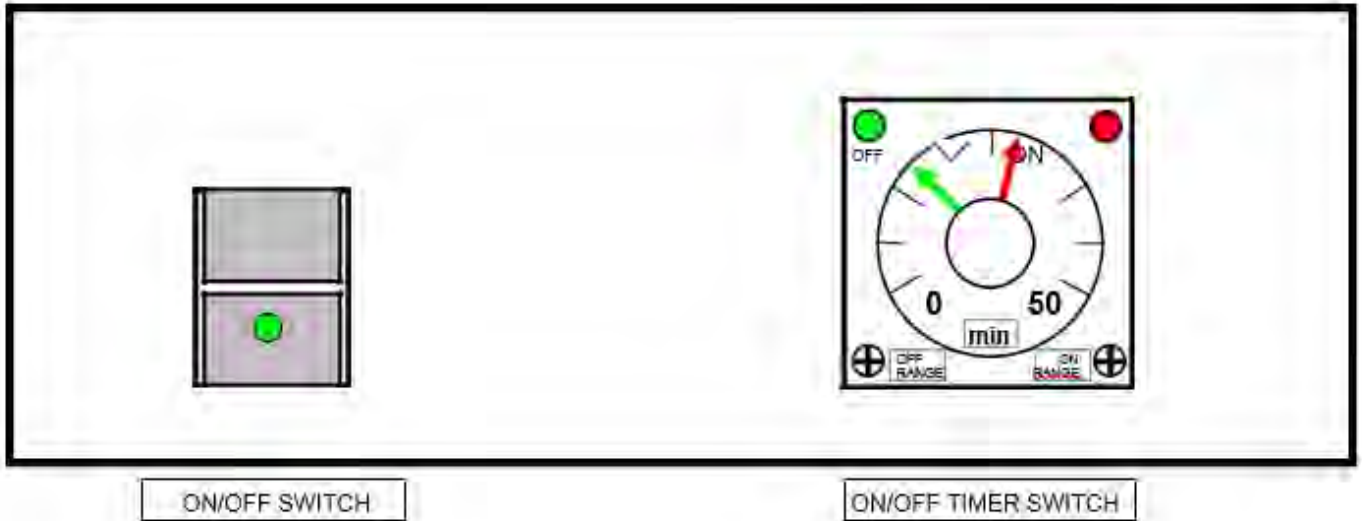
The use of screws, nuts, or other means, is not required to connect the device to the electrical line.

We suggest the use of counters to know exactly the life of UV lamps and to remember when replace them. Protect the power supply cable from high temperature, sharp corners, water, oils.



CONSOLE with timer switch for treatment time setting

USAGE / PROGRAMMING



ON / OFF SWITCH

This is the cabinets main power switch (green led light power on indicator)

TIMER SWITCH

ON/OFF (OMRON model)

The stopwatch and type Pause/Work; two types of time must be set:

- a) The DURATION OF DISINFETION
- b) The DURATION OF THE PAUSE between one disinfection and the next.

Proceed with the following steps:

- 1) First set the desired scale bottom by acting on the cross screws placed on the stopwatch panel:

- For the bottom scale relative the duration of disinfection you have to act on the screw above "OFF". We recommend the bottom "min" scale.
- For the bottom scale for the duration of the pause between one disinfection and the next you have to act on the screw above the inscription "ON". We recommend the bottom scale "hrs." (hours).
- Finally set the bottom scale of the central black quadrant by acting on the screw at the bottom on the left above the word "OMRON". We recommend the bottom scale "12"

- 2) At this point you set the time you want by acting on the two overlapping central dials two arrows, as follows:

- To set the duration of the disinfection you must act on the dial with the indicator Green. We recommend that you set it to at least 4 (4 minutes).
- To set the duration of the break between one disinfection and the next, the red indicator must be acted on the dial.



We recommend that you set it to 6 (6 hours).
You can set from a minimum of 1 sec. 120 hours.

Start:

Turn on the box using the **ON/OFF** switch:

The UV lamps will light up for the chosen time (if the door is closed) and the chronometer will turn on the LED GREEN for the duration of the disinfection phase. Then you will turn on the RED LED that will signal the pause phase (UV lamps off). So cyclically the two phases will alternate.

DISINFECTION TIMES FOR BACTERIA, VIRUS' AND YEASTS

We suggest a treatment on both sides of the item (1 cycle then invert the item and start the 2nd cycle)

2 Log reduction (99%) 1,5 + 1,5 min.
 3 Log reduction (99,9%) 3 + 3 min.
 4 Log reduction (99,99%) 6 + 6 min.

UV DOSE in (µW/cm2 SEC) necessary to get 99% disinfection			
BACTERIA		Virus (generic, DNA and RNA)	
Mycobacterium Tuberculosisn (TBC)	4300	Flu Virus A	4558
Escherichia coli ATCC 11229	4800	Hepatitis A HM175	8000
Legionella pneumophila ATCC 33152	3200	Corona Virus (SARS-CoV1 – MERS-Cov)	1200-1500
Pseudomonas aeruginosa ATCC 9027	6500	Rotavirus	15000
Salmonella ATCC 6539	4500	MOLDS	
Staphylococcus aureus	3200	Aspergillus Amstelodami	66700
Streptococcus hemolyticus	4400	Aspergillus Brasiliensis (Niger)	226000
Vibrio cholerae	4100	YEASTS	
MRSA	6550	Common bakery yeasts	12000
Clostridium Difficile	10000	Brewer's yeasts	20000

MAINTENANCE - UV LAMP

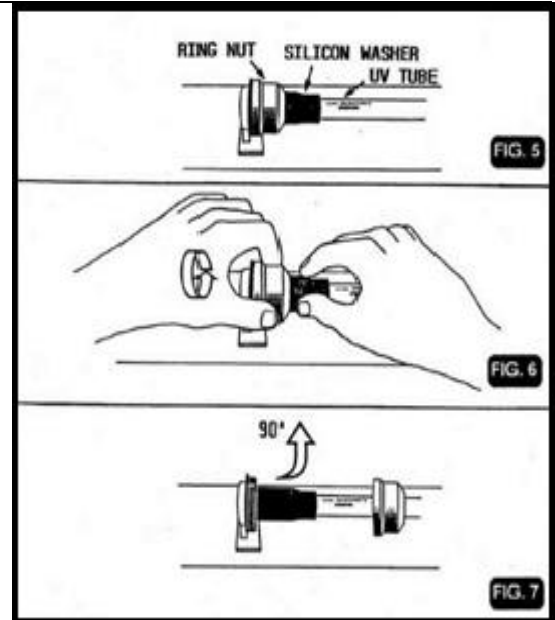


NOTE: Lamp maintenance is very important because the UV-C light emitted by the source is not visible to the naked eye. The eye will detect a bluish glow indicating that the tube itself is on, however without proper maintenance the Germicidal effect may not be sufficient to perform the sterilisation treatment.

- Before reaching the lamp **ALWAYS** switch off power supply.
- If the UV-C lamp is dirty or dusty clean with a clean soft cloth and alcohol, avoid touching the glass part with bare hands (always wear gloves)
- The lamp once it has reached its number of burn hours **MUST be replaced**. Refer to Table 1 for correct product code

Change the lamp by following the procedure below:

- Loosen the nuts on the lamp housing and let them slide along the lamp, grab the lamp at the 2 ends and pull it in a direction parallel to the lamp
- Repeat the above step in reverse to insert the new lamp



TROUBLESHOOTING

UV LAMP

See MAINTENANCE

POWER SUPPLY

This model is supplied with electronic ballast that provides an emission 15% higher than traditional reactors and also the pipes are not affected by the ambient environment (operating down to -20 ° C). Finally, the ignition of the lamps is immediate (without starter) and the duration is more prolonged.

To replace the ballast in the event of failure, ALWAYS remove power to the unit:

- Unscrew the screws on the lid of the timer panel. Now the cover is removable and can be easily accessed inside. Please, note that with this operation the door is set free and must be extracted.
- Disconnect the wires on the right (4 or 7 wires) and the left (3 wires) placed on the power supply by pressing the blade of a screwdriver on the slot corresponding to each input wire, to set it free. Pay attention to the succession of links because each wire will have to occupy again the same position at the end.
- Unstick the circuit board levering by a screwdriver.
- Replace the ballast with a new one, like the original (for code see Table 1), and reconnect the wires paying much attention to the succession of the links.
- Mount the cover again, repeating in reverse.

TECHNICAL SPECIFICATIONS

DIMENSIONS



TABLE 1:

UV-BOX	E3/40H-NX-R
LAMP LIFETIME (h)*	≤ 18.000
SUGGESTED REPLACEMENT	Deduct 1 hour for every lighting (max. 2 Years).
TOTAL CONSUMPTION (W)	120
EXTERNAL DIM. AxBxC (mm.)	750 x 550 x 350
INTERNAL DIM. DxExF (mm.)	600 x 500 x 310
WEIGHT(Kg.)	22
INOX SHELVES	2
SPARE PARTS	
UV LAMP CODE	n.3 CHS-40WH
BALLAST CODE	n.3 EB-55P
TIMER SWITCH CODE	n.1 PM4HW-H-AC240V-J

*Continuous Operation

- Highly efficient selection UV-C lamp (rating 253.7nm) pure quartz
- Stainless Steel AISI 304 Cabinet with UV resistant polycarbonate window (LEXAN ®)
- All materials are tested to resist UV-C rays
- Plastic rack for foods material with 11-16 knife housings
- Timer for treatment duration programming
- Timer for a Pause between the two subsequent programs (irritations)
- Safety switch to automatically turn off the UV light when the door is open
- Electronic Ballast specific for ultraviolet UV-C (220-240V, 50-60Hz) CE Lamps
- UVLON ® PIPE protection (optional)
- Noise: <70dB(A)
- Vibrations: <0.5 m/s²

LABELS AND SYMBOLS

Example:



SYMBOL			CE
MEANING	Warning! Check the attached documentation	GROUND TERMINAL (the unit must always be connected to the ground)	Device with CE certification

WARRANTY

All products made by LIGHT PROGRESS are manufactured using only materials of high quality, and are subjected to rigorous testing, and are guaranteed to be free of factory faults according to current law and regulations.

Minimum requirements for warranty validity

Warranty will be considered valid only in case of possession of the purchase document.

- Warranty limits

Warranty excludes

- Damages caused by not following the instructions that accompany the product at purchase.
- Periodical controls, maintenance, repairs or replacements of parts due to normal wear.

Consumable parts.

- Use of incompatible spare parts or consumables; Compatibility is assured only by use of products purchased from or recommend by **Light Progress**.
- Damages caused by modification of device / system without **Light Progress**' previous consent.
- Improper use of the product, falling or crashes.
- Modifications or repairs made by unauthorized personnel.

For defective materials return, you must request the return merchandise authorization (RMA) sending an email to in-fo@lightprogress.it or calling the number +39.0575.749255.

Once you receive the module, it has to be filled up in every part and sent via email to info@lightprogress.it or via fax to +39.0575 789929 to obtain the RMA number that will authorize the shipments of the goods to Light Progress warehouse. Only authorized goods will be accepted, otherwise it will be refused and sent back to the sender on ex-works conditions. The packages must be sent on DDP (Delivery Duty Paid) with packaging suitable for transport. RMA number is valid up to 10 working days from release date.

Europe:

Loc. San Lorenzo, 40 - 52031 ANGHIARI (AR) - ITALIA

TEL. 0575 / 74.92.55 - FAX 0575 / 78.99.29

Http: www.lightprogress.it

E-mail: info@lightprogress.it

Australia / NZ:

LAF Technologies Pty Ltd

12 Royan Place

Bayswater North VIC 3132

E: sales@laftech.com.au

T: 1300 306 002

MANUFACTURER RESPONSIBILITY AND COMMITMENTS

***Light Progress and associated distributors listed**, do not assume any responsibility for any damage to persons or property, due to failure to follow these instructions. We recommend you to carefully read all the given instructions.

*The manufacturer agrees with the buyer to provide, upon request, schemes of circuits, component parts lists, instructions for calibration of lamps and other information, which are useful to repair those parts that the manufacturer considers repairable.

*The company reserves the right to make changes without prior notification or public notice.



DECLARATION OF COMPLIANCE

We, LIGHT PROGRESS S.r.l., hereby declare under our own responsibility that the following units of own production

UV-BOX-E3-40H-NX series

are in accordance with EEC directive 2014/30/EU (Electromagnetic Compatibility)
 are in accordance with EEC Machinery Directive dispositions 2006/42/EU
 are in accordance with EEC Low Voltage Directive
 2014/35/EU are in accordance with EEC (RoHS) 2011/65/EU

TECHNICAL STANDARDS APPLIED

UNI EN ISO 12100:2010	Safety of Machinery - Basic Concepts. General Principles for Design - Risk assessment and risk reduction
UNI EN ISO 13857:2008	Safety of Machinery - Safety Distances to prevent danger zones being reached by the upper and lower limbs (2008)
ISO 14120:2015	Safety of Machinery - Guards - General Requirements for the Design and construction of fixed and movable guards
UNI EN ISO 13849-1:2016	Safety of Machinery - Parts of the Control System related to the Safety – Part 1. General Design Principles
UNI EN ISO 14119:2013	Safety of Machinery - Interlocking devices associated with guards - Principles for design and selection
CEI EN 60204-1:2016	Safety of Machinery - Electrical Equipment of Machines. Part 1: General Rules (2010)
EN 61439-1:2011	Low-voltage Switchgear and Control Gear Assemblies Part 1: General rules

FURTHER TECHNICAL STANDARDS APPLIED:

IEC EN 60335-1 "Safety of household electrical appliances and similar"
 Electronic Ballasts for the control of the lamps in accordance with the standard EN 60928.
 Germicidal UV-C Lamps in accordance with EN 61199
 Electrical Protective Measures in accordance with IEC 70-1, EN 60229.

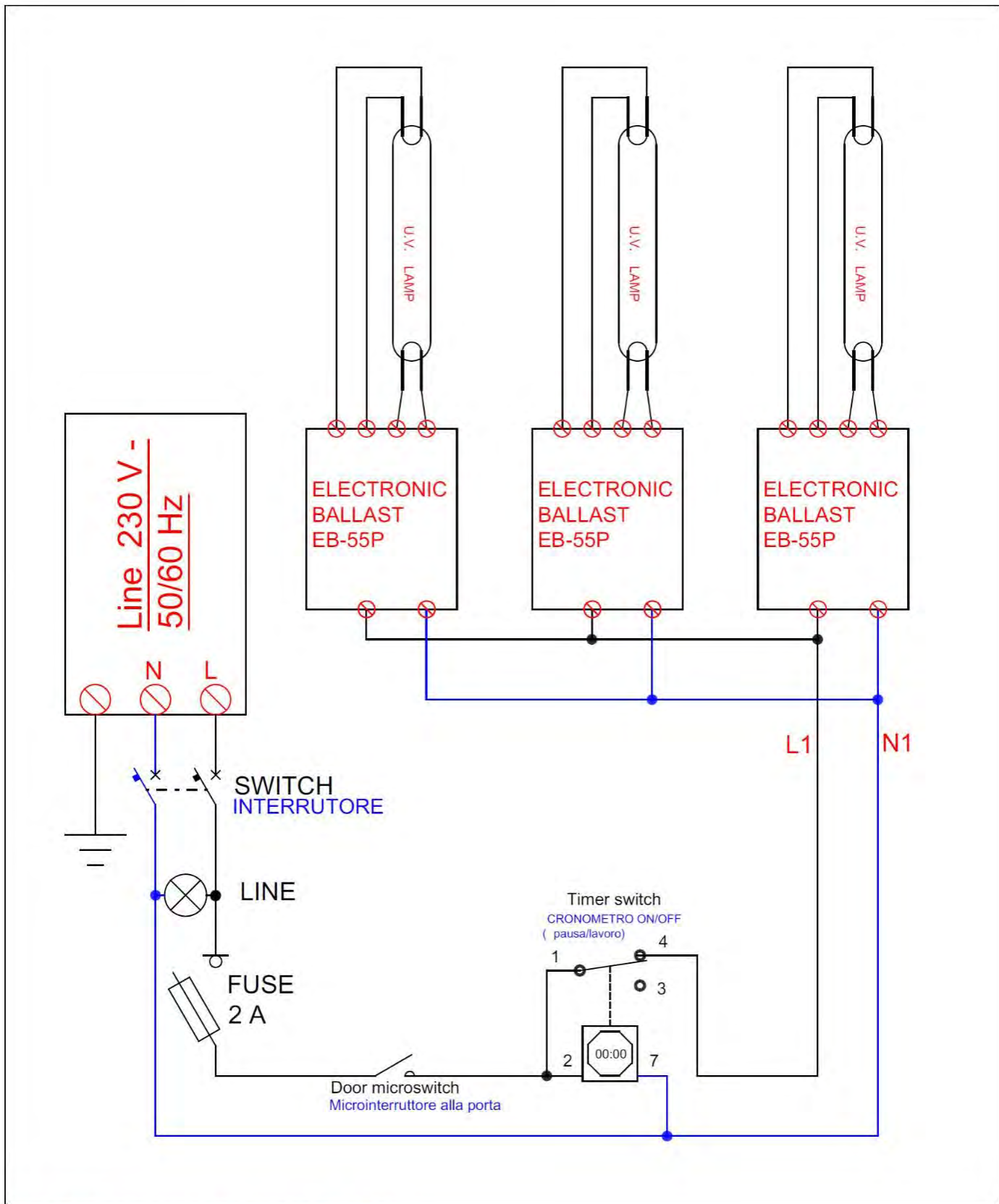
Anghiari, 3.24.2020



Responsible for Standards: Dr. Aldo Santi

LIGHT PROGRESS S.r.l. Loc. San Lorenzo, 40 - 52031 ANGIARI (AR) - ITALY - <http://www.lightprogress.com>

CIRCUIT DIAGRAM



UV-BOX-E3/40H-NX



Call: 1300 306 002 www.laftech.com.au