

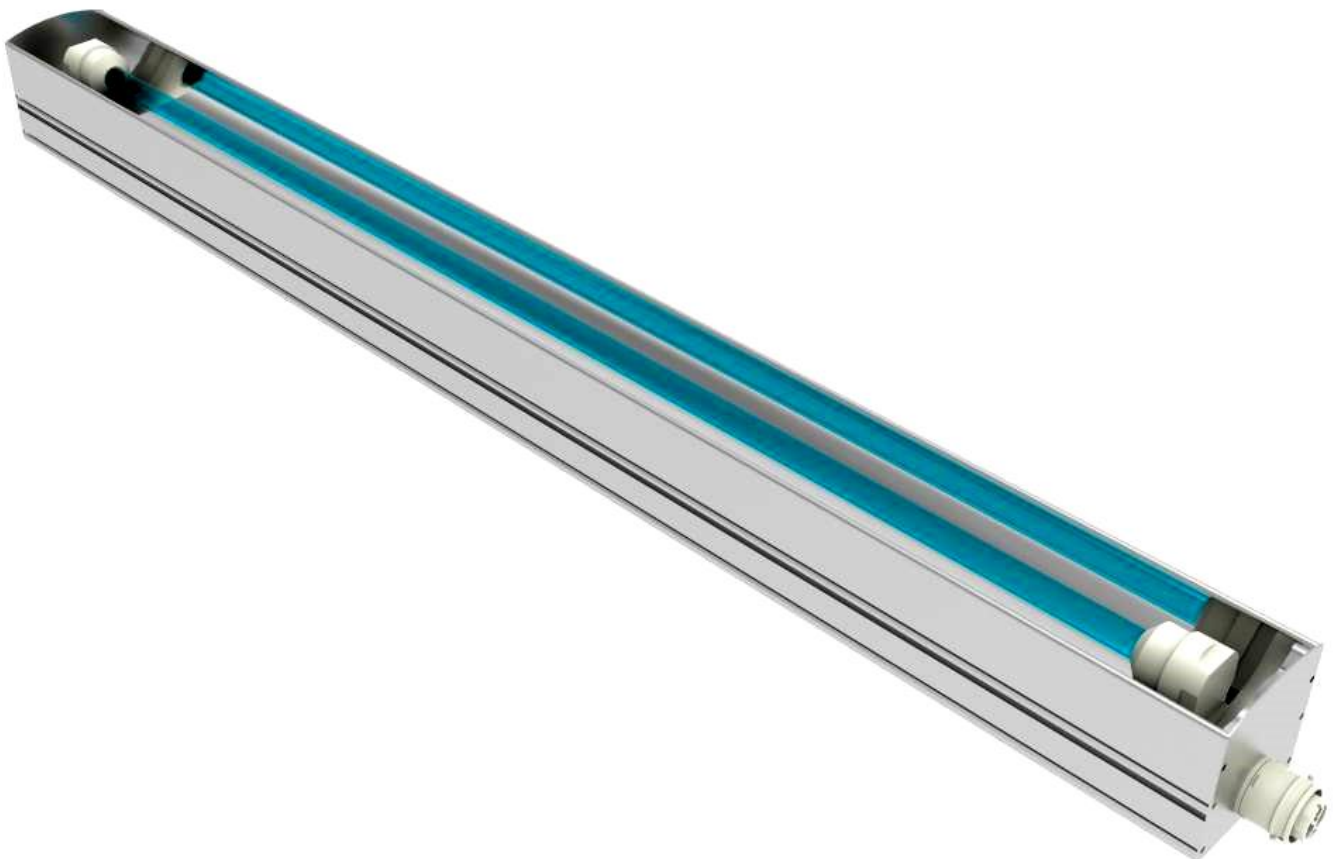
INSTRUCTIONS

UV-STICK...AL

Germicidal UV-C Device with serial connection for AHU Disinfection

MODELS:

UV-STICK-E40H-AL
UV-STICK-E60H-AL
UV-STICK-E75H-AL
UV-STICK-E100H-AL
UV-STICK-E150-AL
UV-STICK-E150H-AL



SECURITY WARNINGS

◆ The Company has ensured that every care is taken in the design and production of its machinery. In order to guarantee, as far as possible, that it 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 PROGRESS 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 exposition 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 turn yellow with time, and show an aspect of aging-waving bright as if exposed to sunlight for long periods.**

◆ **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**

◆ **We disclaim all responsibilities and void the warranty in case of tampering or lack of maintenance**

- Read carefully the following instruction before use
- In case of opening of the UV section, switch off the UV-C devices in order to avoid exposures to UV-C light; It may cause severe conjunctivitis and erythema.
- Remove the protection film from the device before switching-on the UV-C lamp.
- This device can be used by children with no less than 8 years and by persons with reduced physical, sensory or mental capacities or with no experience or knowledge, as long as under supervision or often they have received the related instructions about the safe use of the device and the related risks. Kids do not have to play with this device.

CONVENTIONAL SYMBOLS NOTICED ON DEVICES



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 ever at disposal to consultation; it must follow the device in case of passage of property, and accompany the device until its demolition. 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 them separately as a special waste and entrust them to specialized waste disposal companies. Disposal should be in accordance with Legislative Decree No. 151/2005 (WEEE - Italy), or the law of the country where disposal will occur (WEEE - EC). In case of failure to comply with laws or illegal disposal, heavy penalties are provided. The apparatus consists of plastic parts, electronic components, metal, UV lamps containing mercury (substances dangerous for the environment and human health). The dealer is available to the withdrawal of the apparatus used.

DEVICE DESCRIPTION

UV-STICK...AL device includes a series of UV-C reglette of reduced size and different lengths.

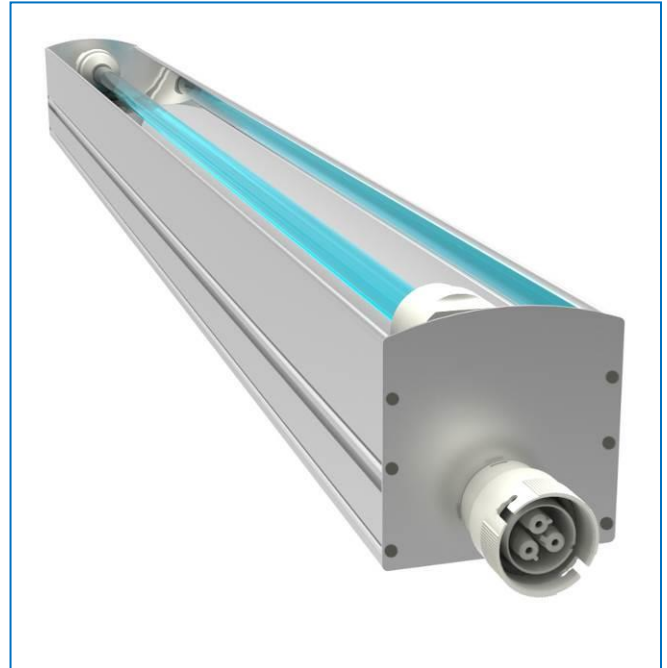
The device is a reglette built entirely in extruded anodized aluminum, IP55 protection and fitted with a reflecting screen in mirror bright aluminum, to increase the power of radiation, through the reflection of UV-C proportion that would otherwise be wasted in the opposite direction to the useful ones.

The extruded aluminum case, contains special electronic ballasts to maximize yield and duration of UV-C lamp.

To avoid flying splinters of glass after the collapse of the UV lamp, a protection of the UV lamp by means of the special thermo-retracted sheath UVLON®-PIPE (Tetrafluoroethylene), with UV-C transparency >85%. can be provided, always as an option UVLON®-PIPE is a patented system to withstand the wear and tear; it has low adhesion to any product or substance, is resistant to any aggressive chemical at high or low temperatures. It is a polymer conforms to F.D.A. tests for use with foodstuffs.

The constituent materials of UV-STICK...AL allow its use even in harsh operating conditions (high humidity, low temperatures, etc.), or where conditions require a high resistance to chemicals and weathering.

UV-STICK is built with high quality, extremely resistant components, it works perfectly in difficult operative conditions (high Humidity, low temperatures, etc.).



OPERATING

UV-STICK produces direct radiation by UV-C ultraviolet rays. When activated, it generates a strong reduction of microbes in the air and on the irradiated surfaces. For instance, with the model UV-STICK E75H NX, in 2 ÷ 3 seconds a reduction of 99% of bacteria (Bacillus, E. coli, Clostridium, Legionella, Vibrio, Salmonella, Pseudomonas, Staphylococcus, Streptococcus, etc..) is obtained, at the distance of 10 cm.

UV-STICK can be installed in any type of environment, to obtain a deep disinfection of air and surfaces, even those difficult to reach with traditional cleaning systems. The use of this device is allowed only in the absence of personnel; otherwise, the device should be contained within adequately screened boxes or protections. In case of use for the disinfection of work environments, the device must be turned on for 2 ÷ 3 hours during the time of absence of staff workers. For example, by means of a time switch, you can manage the switching-on of the lamps in the hours immediately before the entry of operators, so as to start a new working cycle inside a disinfected environment.

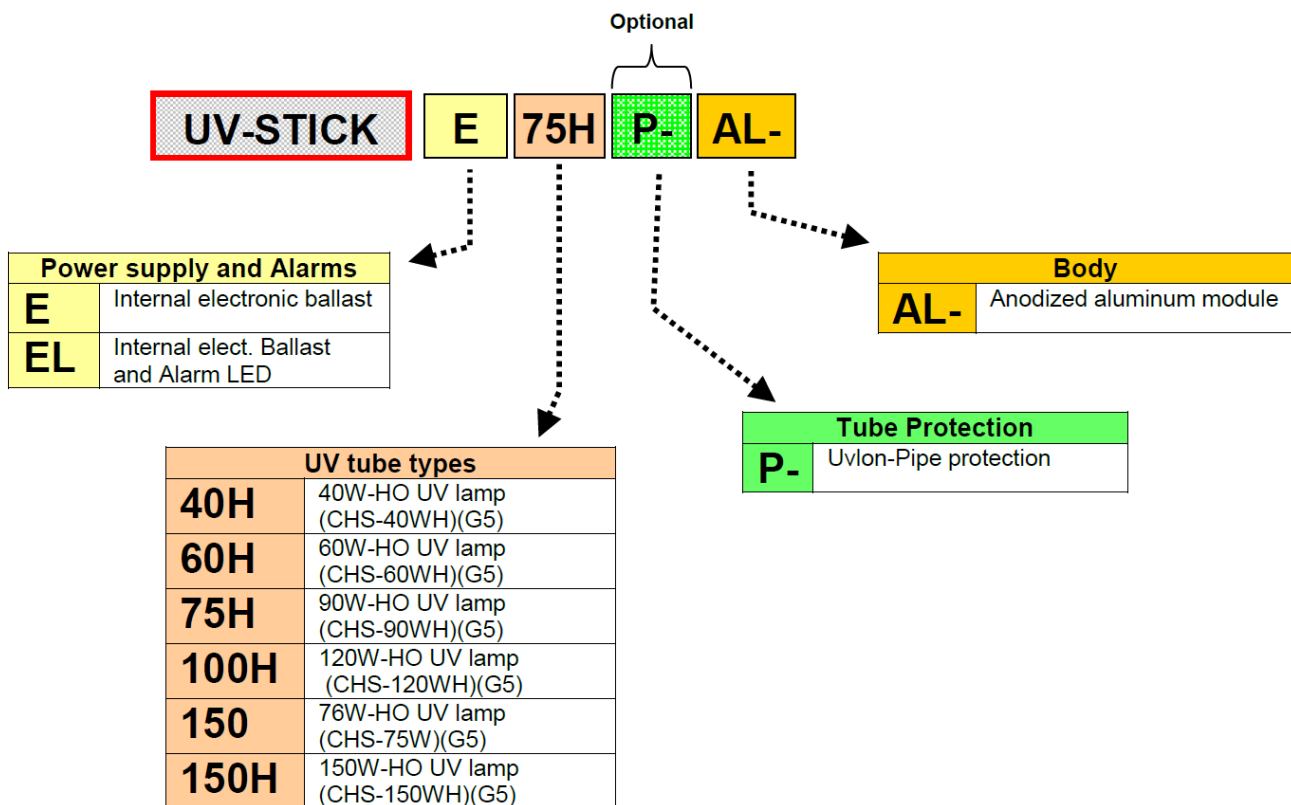
The schedule of the irradiation time can be made by a MASTER-ST series electronic control unit, which can manages several operations, like:

- **Programmed switching on.** It is possible to program the duration of the irradiation by means of an adjustable timer..
- **Personnel entry detector.** A safety system switches off the lamps in case of intrusion of personnel.
- **Failure alarm.** In case of failure of one or more lamps of the device, a warning light will turn on to enable the identification of the lamp/lamps off, and an electric contact will open to signal the failure.
- **Hour counter.** To manage the correct replacement for exhausted lamps.

BENEFITS AND ADVANTAGES

- a) DEEP AND ONGOING DISINFECTION. This unit can stay lit continuously in the absence of people (for example during the night, at least for 2-3 hours). The disinfection of air, equipments, and of all that is contained within a room, allows to start the working day in ideal hygienic conditions. Therefore, the level of microbial load of a room remains constantly low .
- b) PHYSICAL ACTION AND ENVIRONMENTAL PROTECTION. Treatment by UV-C rays is purely physical, and achieves always the same effect; also, there are no problems of overdose and rooms are always safe and practicable (when devices are off). Rather, many methods of chemical treatment involve the use of dangerous products for the environment, and difficult to biodegrade, as well as the risk of contamination of foodstuffs. Also, by the use of chemicals it is likely to develop resistant microbial forms with consequent danger to human health.
- c) ELIMINATION OF MICROBIAL LOAD. The food and its container can be irradiated by UV-C rays to significantly reduce the level of microbial load, increasing the shelf-life of the products, without any contra-indication.
- d) IMMEDIATE EFFECT. It takes just a very short time to obtain effective results (99% killing of the bacteria), comparably to volumes / surfaces to be treated, and the installation is easy and not invasive, so that modules can be applied even all along a production line, with no interference.
- e) NO DANGER OF LAUNCH OF GLASS FRAGMENTS. With the special protection UVLON (optional), no danger of dispersion of glass fragments due to possible breaking of the lamps UV-C.
- f) PRACTICABILITY AND SAVINGS. The treatment is immediate and ready for use. The maintenance is minimal with low costs of both energy consumption and repairs.
- g) NO CHEMICAL / PHYSICAL ALTERATION. The cold and dry treatment of the UV-C rays does not cause any alteration in the organoleptic quality of the food.

DEVICE CODES



RECEPTION

Handle with care as fragile material. Verify the integrity of the packaging, and please 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 READ CAREFULLY THE SECURITY WARNINGS and all others instructions that follows.

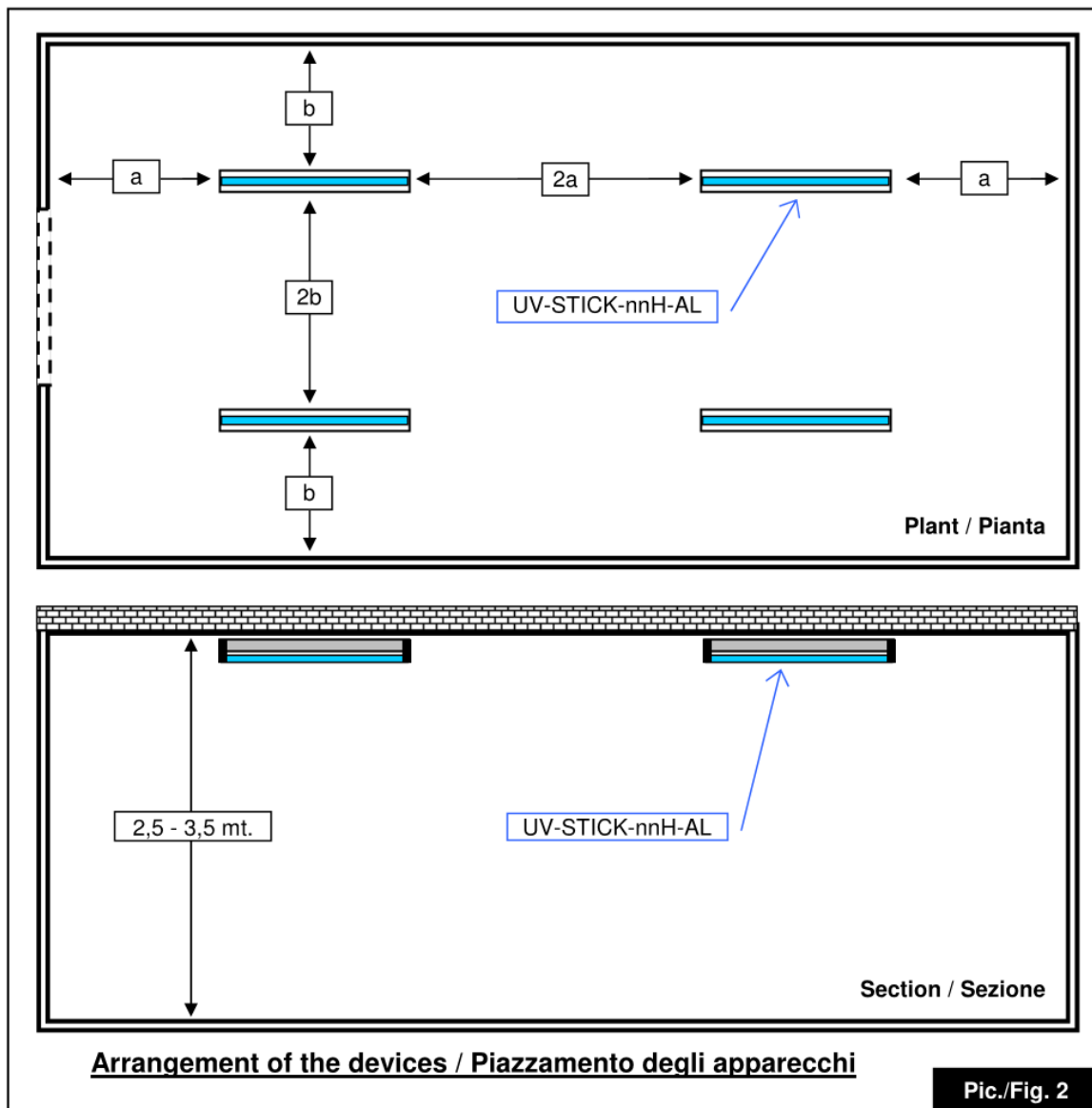
INSTALLATION

In the case of application of UV-STICK for direct irradiation of the environment, the device should be positioned on the ceiling almost in central position. The installation of several units should be carried out so as to distribute them uniformly in the environment (to avoid the hidden areas, such as the corners; it should allow all the air to be treated). These models can be mounted on the wall and still comply with the regular distribution (Fig. 2).

The area/space covered by the UV STICKS devices is shown in Table 1. The final result of the disinfection will still be made dependent on the amount of germs coming in from the external environment.

To fit the model of UV-STICK using the two aluminum brackets supplied, anchoring them to the ceiling by screw anchors ($\varnothing 8 \div \varnothing 10$ mm.) or by self-tapping screws (not supplied).

After inserting the anchors onto the ceiling, you should tighten (by supplied stainless steel screws M4x6) the device to the two brackets.





WARNING!!!

To avoid exposition to UV-C rays please provide a total shielding of the modules, or automatic turning OFF disposals at the entry doors in the environment treated. There must be no direct irradiation of the personnel.

To shield the devices you can use materials with opaque surfaces such as stainless steel or aluminum, but also transparent materials such as glass or Lexan®; to have further information please contact us.

To improve safety we suggest you to add light signs or signboards to report the potential danger.

Remember to switch on the device ONLY IF there is a concrete shield and nobody will be irradiated by the UV-rays. The indications given are indicative and not intended to be exhaustive. It's always advisable to check the compatibility of the plant where the device must be inserted and the characteristics of the unit while respecting the laws and / or regulations in the country of use. This verification, and the eventual preparation as may be necessary for the proper use of the device , is always charged and under the full responsibility of the buyer. The company. disclaims any responsibility for damage to property, persons or animals caused by the failed observation of the due liability.

ELECTRICAL CONNECTIONS

- ⇒ We suggest you to let a qualified electrician to install this device, following these instructions and electrical scheme, and following the CE norms.
- ⇒ Before connecting the device to the electrical line, be sure that the label data are the same as the one on the supply line; we remind you that the electrical supply of this device is 220-240V, 50/60Hz.
- ⇒ The connection required an interruption through a multipolar switch
- ⇒ Be sure that the electrical system fits the supply required by the device (please see the label).
- ⇒ The connection to the electrical line must be made by a 3 x 1 mm² supplied cable (See fig.).
- ⇒ Be sure that the device will be installed where it will fit with the existing environmental conditions
- ⇒ **To avoid accidental exposition to UV-C rays, please dispose automatic lamps switch off in case of personnel access. In any case provide warning lights and signals at the entry.**
- ⇒ We suggest the use of hour-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

INPUT POWER LINE / PRESA DI INGRESSO LINEA	
Colour / Colore	Connection / Connessione
Brown / Marrone	Phase / Fase
Blue / Blu	Neutral / Neutro
Yellow-Green / Giallo-verde	Ground / Terra

► UV-STICK-EL

In model **-EL** you get the possibility to remote control the functionality of UV lamp.
 Connected to the device there is a cable with 7 poles: a couple of poles carrying output signal to turn on LED indicating the UV lamp (when it's lighting); another couple of poles triggers a voltage-free contact to be activated when a lamp stops working (alarm function: open contact if at least one lamp UV is not working); in addition, there are two input wires to power the device (phase and neutral) + ground.
 The faulty lamp alarm contact can be powered by max. 500mA of current and 24V of tension, and can be connected to an electronic panel as "MASTER-ST" control unit.
 For this models see the numbering of the wires on the table below.

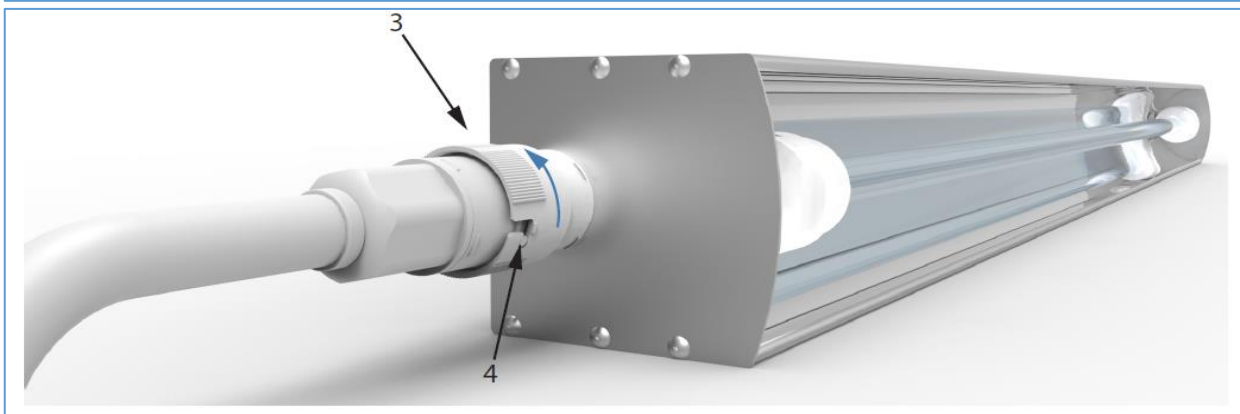
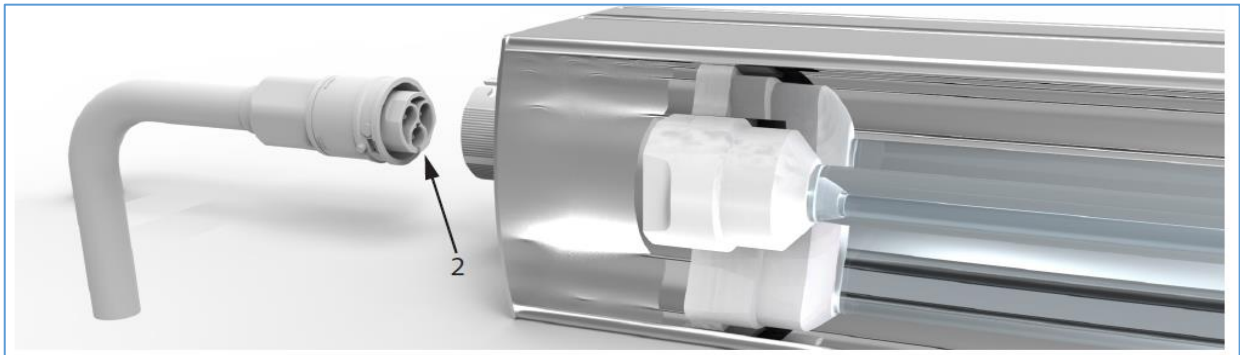
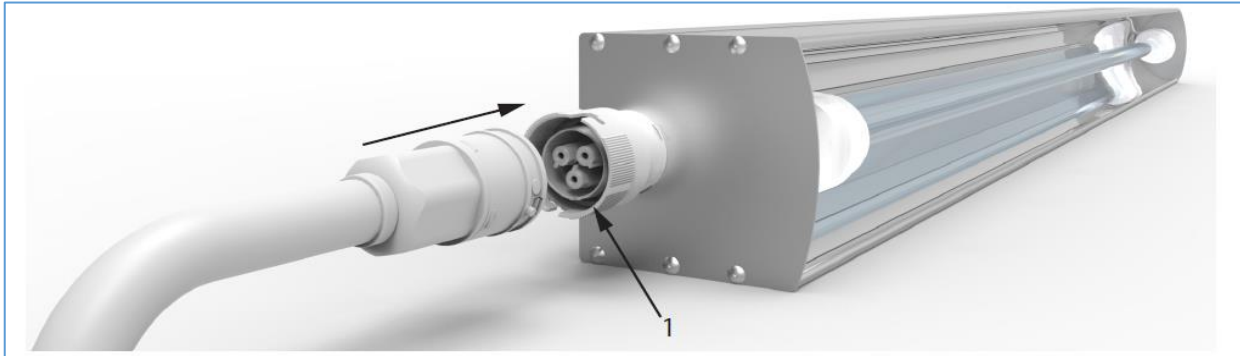
In the device UV-STICK-ELnn-AL	Multi-pole plug and socket	Wire	Meaning
Black wire for LED	terminal n° 1	Wire n°1	1- anode LED } for synoptic 2- cathode LED } MASTER-ST.....
Red wire for LED	terminal n° 2	Wire n°2	
Power line 230V-50Hz - phase	terminal n° 3	Wire n°3	3- Line 230V-50Hz (Phase)
Power line 230V-50Hz - Neutral	terminal n° 4	Wire n°4	4- Line 230V-50Hz (Neutral)
Electrical ground	terminal n° 9	Wire Y/G	Y/G- Ground terminal
Alarm board faulty lamp	terminal n° 5	Wire n°5	5-6- open contact = faulty lamp (free contact without tension, max 500 mA-24V)
	terminal n° 6	Wire n°6	

UV-STICK-AL POWER SUPPLY CABLE - DEVICE INSTRUCTIONS

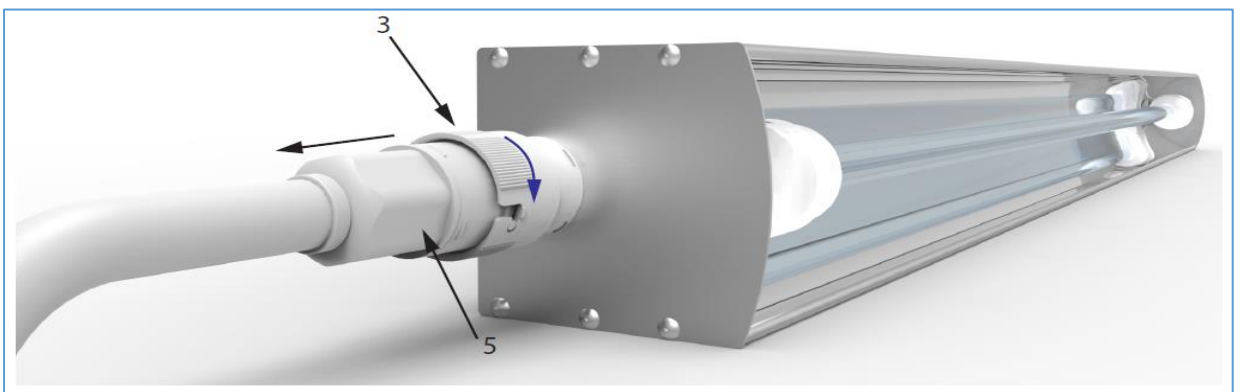
The UV-STICK must be connected to the power supply line through a specific cable supplied (cod. **In-Cable-3.0-AL**).

- 1) For the correct coupling, insert the connector on the cable (cod. **In-Cable-3.0-AL**) into the connector on the device, always checking that the pins are positioned in a way that pin (1) engages perfectly in pin (2).

Be careful that an excessive effort in the coupling is indicative of an incorrect installation!

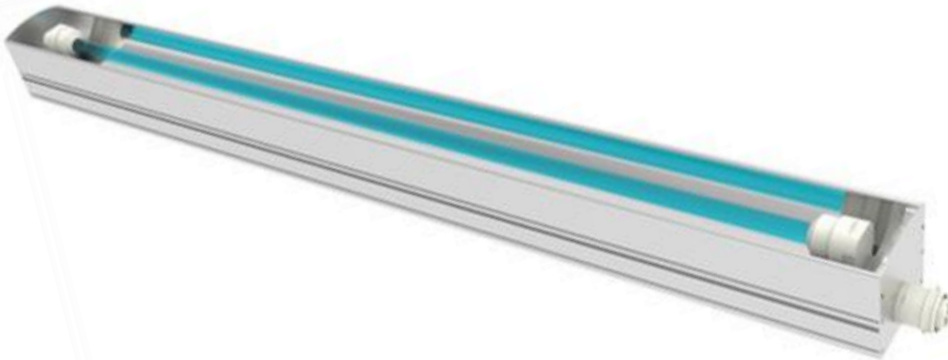


- 2) Turn the ring nut (3) so that the retainers (4) on the connector body fit perfectly into the openings on the ring.
 - 3) To properly disconnect the connectors, turn the ring nut (3) and take out the connector by pulling it to the body (5).
- CAUTION:** Do not remove the connector by pulling the cable.



SCHEDULING

Provide electric power to the devices. The light lamp will turn on. Remember not to expose people to UV-C rays.



MAINTENANCE

UV LAMP



USE
PROTECTIVE
GLOVES

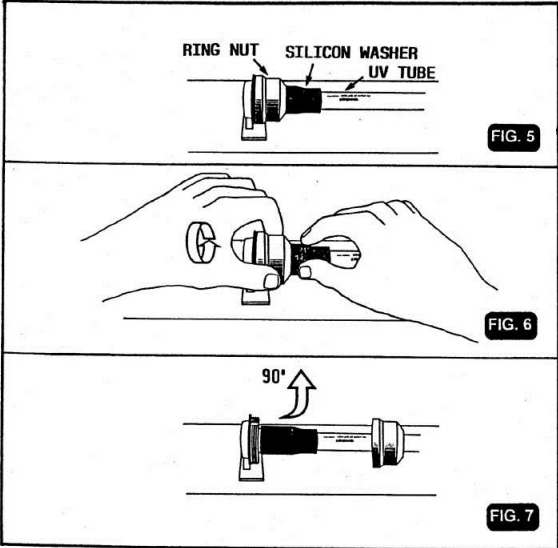


WEAR
PROTECTIVE
GLASSES

Lamp maintenance is very important because UV-C light emitted by the source is not visible to the eye, so, although you see the lamp ON, its germicidal effect may not be sufficient to perform disinfection treatment.

Before reaching the lamp, **ALWAYS** switch off power supply. If UV-C lamp gets dirty (or gets dusty) clean it with a clean cloth and alcohol, and avoid touching the glass part with hands. To check UVC lamp life number of hours, correct product code of the spare UV lamp please refer to table 1. The lamp, once reached the timing for replacement, **must be replaced**, this operation is carried out as follows:

- 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 tube.
- Repeat the steps in reverse to insert the new lamp.



TROUBLESHOOTING

UV LAMP

See MAINTENANCE.

BALLAST

All UV-STICK models are supplied with electronic ballasts which guarantees an emission of 15% more if compared with traditional ballasts. Furthermore, lamps are not influenced by environment temperature that can go until -20°C. Finally, the switching on is immediate, with no starter, and for this reason lamps last longer.

To preserve the original features of original IP protection and isolation class, and to maintain all the characteristics that guarantee a long lasting life of this product, the ballast replacement must be done by qualified technicians verified by Light Progress. In case of necessity, please, send the device back to our facility for any kind of repairs.

If this is not possible you can order the electronic ballast for replacement (for code see Table 1).

TECHNICAL FEATURES

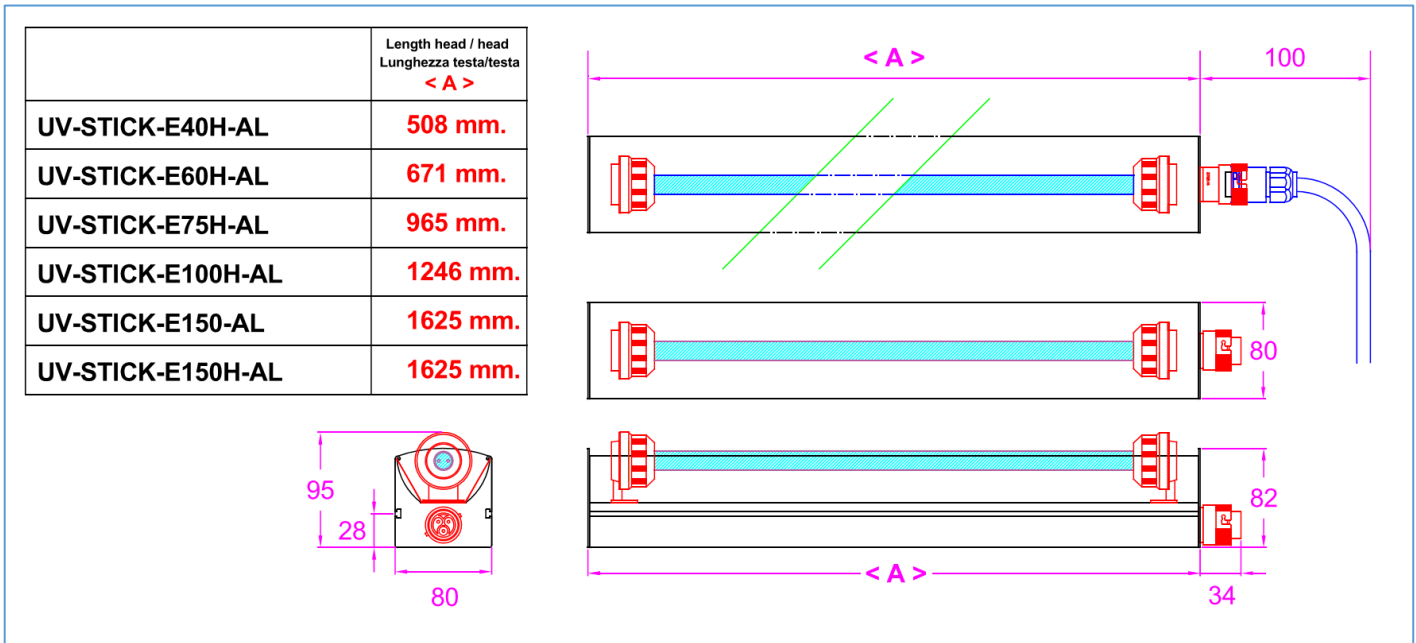


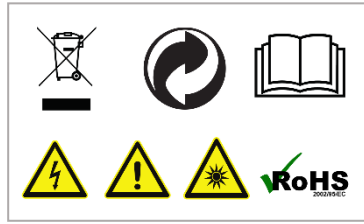
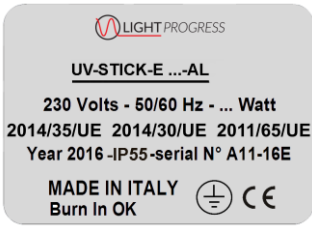
TABLE N°1

UV-STICK	E40H-AL	E60H-AL	E75H-AL	E100H-AL	E150-AL	E150H-AL
LAMP AVERAGE LIFETIME (hour)*	≤ 18.000	≤ 18.000	≤ 18.000	≤ 18.000	≤ 18.000	≤ 18.000
POWER max (W)	40 W	60 W	90 W	120 W	76 W	150 W
DIMENSIONS (LxWxP) (mm.)	542x80x95	705x80x95	999x80x95	1280x80x95	1659x80x95	1659x80x95
DIMENSIONS Length (A) (mm)	508	671	965	1246	1625	1625
TREATED volume (m ³)	from 20 to 40	from 30 to 50	from 40 to 65	from 50 to 80	from 50 to 80	from 60 to 100
TREATED SURFACE (m ²)	from 7 to 13	from 10 to 17	from 14 to 25	from 17 to 27	from 17 to 27	from 20 to 38
WEIGHT (Kg.)	1,4	1,7	2,2	2,7	3,1	3,4
SPARES PART						
UV LAMP Code	CHS-40WH	CHS-60WH	CHS-90WH	CHS-120WH	CHS-75W	CHS-150WH
BALLAST Code	EB-55P	EB-50H	EB-55P	EB-108-277V	EB-55P	EB-155H

* continuous operation

- ⇒ Selective UV-C lamp (at 253.7 nm.) with high efficiency lighting.
- ⇒ Body in anodized Aluminum
- ⇒ All the used materials are tested for resistance to intense UV-C rays.
- ⇒ Waterproof and dust-proof (IP 55).
- ⇒ Powered by electronic ballasts specific for UV-C rays lamps
- ⇒ Reflector in extremely pure mirror bright aluminum.
- ⇒ CE mark (LVD - EMC - MD - RoHS).
- ⇒ Noise: under 70 dB(A).
- ⇒ Vibration: under 0.5 m/s².

LABEL AND SYMBOLS



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 the higher 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 info@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.

MANUFACTURER RESPONSABILITY AND COMMITMENTS

◆ **Light Progress** 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-STICK-E nn-AL

- ⇒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 (D.Lgs 4 Marzo 2014, n.27)

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, 15.11.2019



Responsible for Standards: Dr. Aldo Santi



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