ULTRAVIOLET GERMICIDAL IRRADIATION UV-C

HB35A-6UVC24

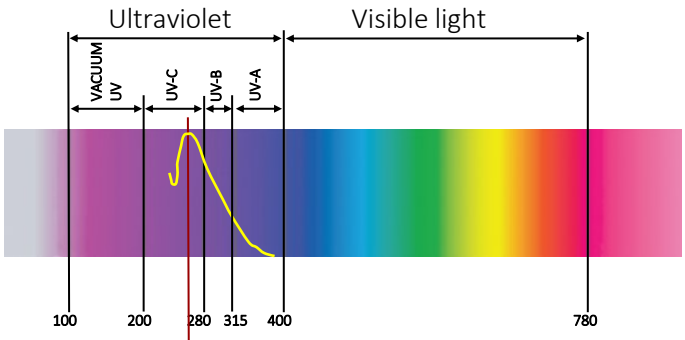
Description

It is a sterilization method that uses ultraviolet (UV) light at the UV-C wavelength which damages the DNA and RNA strands of microorganisms such as bacteria, viruses and spores, thus preventing them from reproducing or being harmful. A UVGI (Ultraviolet Germicidal Irradiation) device therefore creates a deadly effect on microorganisms.

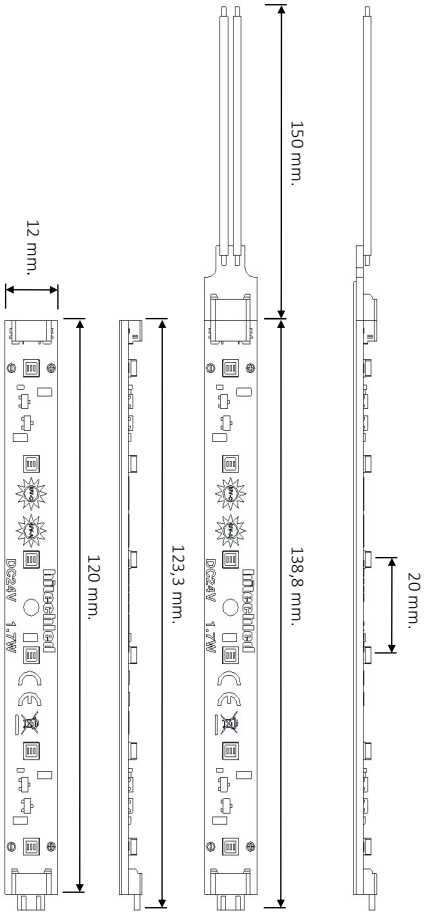
UV-C light is not visible to the human eye and for this reason the particular LEDs present on the HB35A-6UVC24 module also generate UV-A light that is visible, appears purplish in color and serves to highlight the area exposed to the action. sanitizer of this device.

UV-C light harms
the strands of DNA and RNA
of microorganisms.

The UV-C wavelength generated by the module is calibrated on 275/280 nm. which is the point of maximum sterilization efficiency.



UV-C 275/280 nm. STERILIZATION



+39 0422 895477
Info@hitechled.it
hitechled.it
HITECHLED s.r.l. Via Galileo Galilei 31 - 31049 S. Biagio di Callalta (TV) Italy

ULTRAVIOLET GERMICIDAL IRRADIATION UV-C

HB35A-6UVC24

Feature

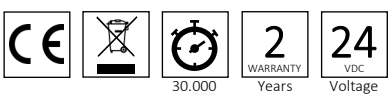
Module operating voltage	DC 24V
Wattage (W/Module)	1,7 W
Radiation intensity at distance of 50 mm	638 µW/cm²
International protection level	IP20
UV-C wavelength	275/280 nm.
UV-A wavelength	345/400 nm.
Max. No. of modules connected to eachother,s	15 pcs modules
Operating temperature range	-30 C° ~ +50 C°
Storage temperature range	+10 C° ~ +40 C°
Storage enviroment humidity	RH < 60%
LED pitch	20 mm.
Viewing angle	120°
Life time (temperature T_c = 75 °C)	30.000h
Warranty (See terms and contitions)	2 Years

Code	Model	Description
HTL 000818	HB35A-6UVC24	Bar with 6 LED UV-C UV-A
HTL 000819	HB35A-6UVC-WIRE	Wires terminal connector
HTL 000820	HB35A-6UVC-CABLE	Cable terminal connector

Safety

The UV-C light module must be used correctly in accordance with IEC 62741 and ISO 15858.

WARNING !!! UV-C radiation can seriously harm eyes and skin, so people or animals must never be exposed to the light emitted by this module.



Application

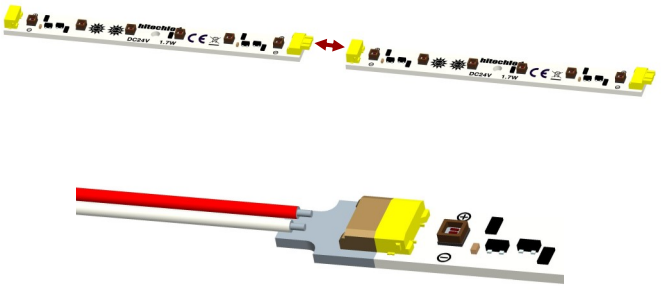
The HB35A-6UVC24 module can be used in a wide variety of applications, for example the disinfection of water and air or the sterilization of objects and surfaces or even the reduction of bad odors.

The application is very simple each module can be connected to each other with a quick coupling system and at the end of the line the head can be inserted with the wires for connection to a 24 VDC power supply.

No glass or transparent protective plexiglass must be placed in front of the LEDs, although these protections are transparent, they determine a screen that almost completely blocks the passage of UV-C light, canceling the sterilizing process.

The module and the terminal connector with wire 150 mm lenght or cable 500 mm. lenght are provided with adhesive for quick fixing after removing the protection. If necessary, a screw can be added in the central hole of the module.

The connection must be carried out gently keeping the modules aligned avoiding forcing or bending in order not to damage the connectors.



+39 0422 895477
Info@hitechled.it
hitechled.it
HITECHLED s.r.l. Via Galileo Galilei 31 - 31049 S. Biagio di Callalta (TV) Italy

ULTRAVIOLET GERMICIDAL IRRADIATION UV-C

HB35A-6UVC24

Efficacy of the module

The efficacy of this module was verified following some tests performed at the "Guandong Detection Center of Microbiology", the result showed that **99.95% of these 3 types of microorganisms were inactivated.**

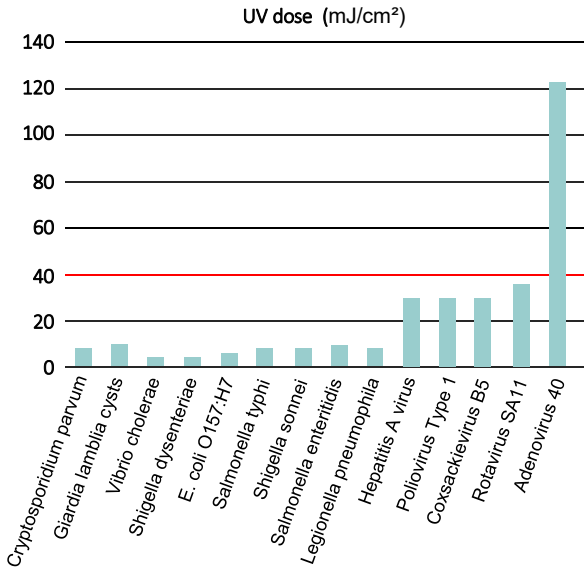
ANALYSIS AND TEST RESULT
Report N°. 2020FM17009R01E

Sample pretreatment: The glass was used as the carrier of the microbial sheet. The microbial sheet was placed 5 cm away from the lamp for 180s.

Test Organisms	Test groups	Average number of positive controls (cfu/PCS)	Average number of testing groups (cfu/PCS)	Killing rate (%)	Sterilization logarithm
Escherichia coli 8099	1	$5,0x10^6$	$2,4x10^3$	99,95	3,32
	2	$5,1x10^6$	$2,5x10^3$	99,95	3,31
	3	$4,9x10^6$	$2,4x10^3$	99,95	3,31
Staphylococcus aureus ATCC 6538	1	$4,9x10^6$	$2,3x10^3$	99,95	3,33
	2	$4,8x10^6$	$2,2x10^3$	99,95	3,34
	3	$4,8x10^6$	$2,3x10^3$	99,95	3,32
Candida albicans ATCC 10231	1	$2,5x10^6$	$1,3x10^3$	99,95	3,39
	2	$2,6x10^6$	$1,4x10^3$	99,95	3,27
	3	$2,4x10^6$	$1,3x10^3$	99,95	3,27

Dosage requirements

The list of dosage requirements for the inactivation of some microorganisms is published in this review by IUVA (International Ultraviolet Association).



Download: 60s 180s Power

Operation

The sterilizing action ocur by irradiating the area of a surface with a sufficient amount of UVC light called UV "DOSE" and is measured in **µJoule / cm²**. The radiant power that affects the area of the affected surface is measured in **µWatt / cm².**

UV "DOSE" = µWatt / cm² x Exposure seconds = µJoule / cm²

For example: a 50mm HB35A-6UVC24 module. distance generates a typical **radiant power of 638 µW / cm²**, multiplying this value by an exposure time of 64 Seconds, a **UV DOSE of 40.932 µJ / cm²** (about 40mJ / cm²) is obtained.

Conclusion

The efficacy of UV light in practice depends on factors such as exposure time and the ability of UV light to reach viruses in water, air and in the creases and cracks of materials and surfaces.
The University of Milan and the National Institute of Astrophysics claim that a very small dose **(3.7 mJ / cm2)** is sufficient to deactivate the SARS-COV-2 coronavirus.

Surely the use of this UVC module is an efficient system for implementing an effective disinfection strategy against microorganisms, including Coronavirus.

+39 0422 895477
Info@hitechled.it
hitechled.it
HITECHLED s.r.l. Via Galileo Galilei 31 - 31049 S. Biagio di Callalta (TV) Italy