hitechled®
DIFFERENT LIGHTING

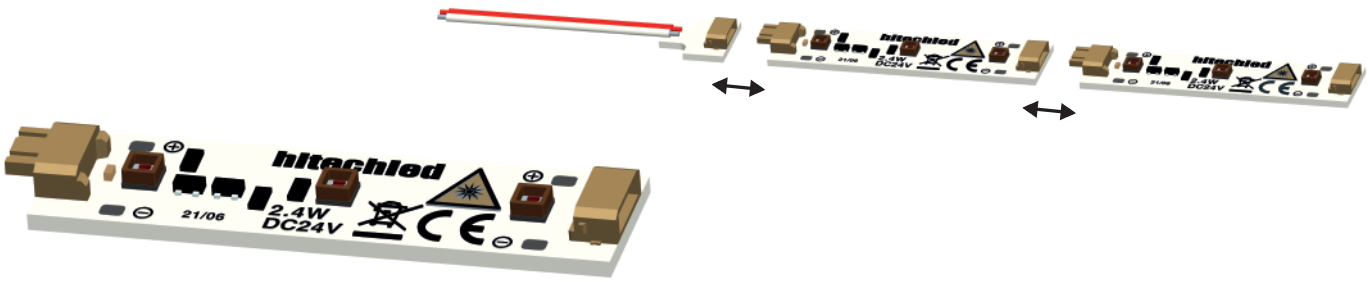
LED MODULE UVC 2,4W

The modular UVC light solution for air disinfection

LED MODULE WITH 3 UV-C HB35AP-3UVC24

Data sheet

hitechled®
DIFFERENT LIGHTING



Technical Features

Model	HB35AP-3UVC24
Product code	HTL 000829
Module operating Voltage	DC 24 V (toll. +/- 1V)
Wattage	2,4 W
LED quantity	3
LED pitch	20 mm.
LED type	UV-C 275nm (toll. +/- 5nm.)
Radiant power of each single LED	14 mW (toll. +/- 2mW.)
Total radiant power	48 mW
Viewing angle	120°
Modules connectable in succession	20 pz. maximun
International protection level	IP20
Operating temperature range	-20 C° ~ +60 C°
Storage temperature range	+5 C°~ +50 C°
Life time (temperaturae Tc = 65 °C)	10.000h

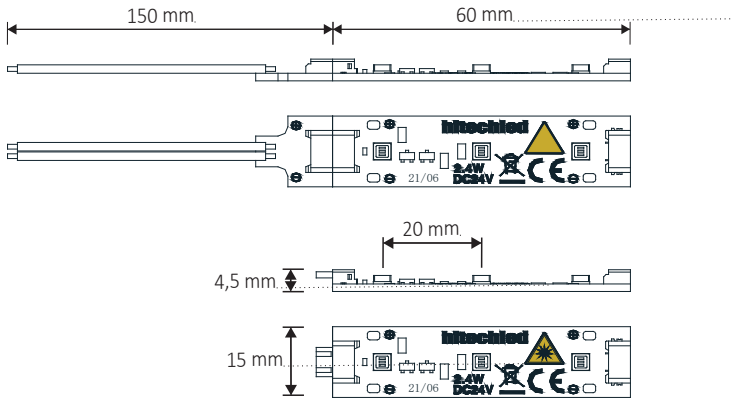
Terminal head with wires

Model	HB35A-6UVC-WIRE
Product code	HTL 000819

⚠ WARNING !!! UVC radiation can seriously hurt eyes and skin, so you should never expose people or animals to the UVC light emitted by this device.
The radiation is not visible to the human eye !!

Description

The HB35AP-3UVC24 module is equipped with 3 Ultraviolet light LEDs at UV-C wavelength which inactivates viruses, bacteria, molds and other microorganisms when exposed to this radiation. The action of this module also favors the reduction of bad odors.
The small size of the module makes it suitable for insertion in the ventilation ducts or near the filters of air conditioners, or for the construction of air treatment devices, but also to sterilize surfaces with results of over 99.9 %.
the application is very simple the modules can be connect to each other by male/female connectors and at the end of the row of modules the terminal head with the wires for connection to a 24 VDC power supply can be inserted.
There is no need to interpose any glass or transparent plastic protection 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.
Both the module and the terminal head with wires. they are provided with thermal adhesive for fixing to a metal surface to favor heat dissipation and for a 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.



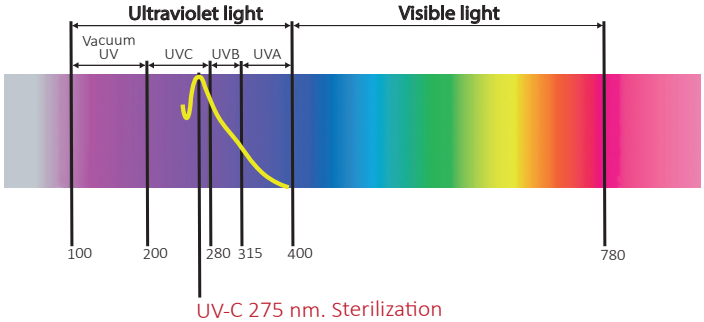
10.000 h | 2 Years Warranty | 24 VDC

RoHS CE

HITECHLED s.r.l. Via Galileo Galilei, 31 - 31048 S. Biagio di Callalta (TV) Italy + 39 0422 895477 info@hitechled.it www. hitechled.it

WHAT UVC RAYS ARE AND HOW CAN THEY INACTIVE MICROORGANISMS

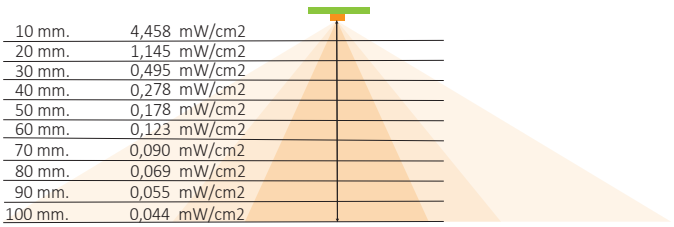
Ultraviolet light is a part of electromagnetic radiation range and it is located before visible light in the electromagnetic spectrum, this part of radiation range also includes type C ultraviolet light (UVC).
The light generated by the module's UVC LEDs has a wavelength of 275 nm. this radiation can damages the DNA and RNA strands of microorganisms such as bacteria, viruses and spores, thus preventing them from reproducing or being harmful.



Efficacy

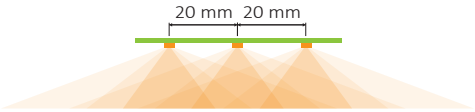
The efficacy of this UVC module for some applications can exceed 99.9% of inactivated microorganisms, It depends on many factors: the duration of exposure time, the presence of dust particles that can protect microorganisms from UVC radiation and the resistence of microorganisms to radiation during exposure. In many systems the efficacy is increased by the repeated circulation of the air, to increase the probability that the ultraviolet radiation hits the microorganisms and to irradiate them several times thus increasing the "DOSE".
The efficacy of this sterilization method also depends on the configuration of the environment: an environment in which there are obstacles to the light of the UVC module is not efficient. In these cases, the efficacy depends on where the UVC module is positioned. It is also very useful to clean the module at regular intervals and possibly replace it annually, in any case no later than 2 years if 10,000 hours of work are not exceeded at Ta. 40 C °.
Even the material of which the container where the UVC module is placed is made can contribute to the absorption of germicidal rays. An increase in effeciency can be achieved by using reflection. Aluminum has the highest reflection rate compared to other metals, and is very useful for reflecting UVC rays.
To determine the effeciency of an air treatment product, we recommend performing a test in accordance with ISO 15714.

Irradiance of each individual LED at different distances



10 mm.	4,458 mW/cm2
20 mm.	1,145 mW/cm2
30 mm.	0,495 mW/cm2
40 mm.	0,278 mW/cm2
50 mm.	0,178 mW/cm2
60 mm.	0,123 mW/cm2
70 mm.	0,090 mW/cm2
80 mm.	0,069 mW/cm2
90 mm.	0,055 mW/cm2
100 mm.	0,044 mW/cm2

The UVC light cones overlap, making the active area uniform



The DOSE (mJ / cm2) is the quantity of UVC radiation needed to inactivate the microorganisms: DOSE = mW / cm2 multiplied for exposure time S.

This product complies with the following European directives:

EMC - Directive 2014/30/EU
EN 55015:2013/A1:2015
EN 61547:2009
RoHS - Directive 2011/65/EU
IEC 62031

Safety of luminaires
EN 60598-2-20:2015 Used in conjunction with EN 60598-1:2015+A1:2018
EN 62031:2020. IEC TR 62778:2014

HITECHLED s.r.l. Via Galileo Galilei, 31 - 31048 S. Biagio di Callalta (TV) Italy + 39 0422 895477 info@hitechled.it www. hitechled.it


hitechled®
DIFFERENT LIGHTING