UVeco

Gi

TEST Result

 Radiation ntensity
 3.95
 1.08
 0.49
 0.28
 0.18
 0.14
 0.1
 (3535 10mW)

Distance 10 20 30 40 50 60

Intensity of Illumination (mW/cm²)

(mm)

(mW/cm²)

UVeco EV-1 has proven sterilizing power!

Sterilization Test – COVID-19 test results and sterilizing power

- ① Test Light Source UVC LED 275nm 10mW / same module as UVECO EV-1 UVC LED ② Test Distance 200m between light source and virus (Approx. 50mm or less between UVECO EV-1 and elevator button) (3) Test Results • Sterilize 30 seconds – 90% / 90 seconds – 99.9% Sterilization ④ UVECO EV-1 • 99.9% sterilizing power in 12.5-15 seconds confirmed when the distance
 - to the sterilization location is within 50mm • Our product repeats sterilization every time motion is sensed lasting



Sterilization Test - colon bacillus, salmonella, bacillus pyocyaneus, staphylococcus aureus

1 Test Light Source	• UVC LED - 275nm 10mW (12)		(Paster)
② Test Distance	 150mm or less between light source and culture / Investigated Distance: 11mm 	0	- Andrew -
③ Test Conditions	 Product Size : 150mm(W) X 330mm(L) Culture was divided into Point 1 and Point 2 for sterilization check / Investigated Time (40 sec. / 60 sec. / 75 sec. / 90 sec.) 	L : 330mm	1point
$\textcircled{\textbf{4}} \textbf{Testing Institution}$	Point Engineering Co., Ltd. (manufacturer of UVON UVC LED) / Daesung Elec Co., Ltd.		
	: 18mm	W:150mm	C 2point
Test of Front	Side 1 Test of Front Side 2 Interior lateral	Sterilizing product	Sterilization test

5 Test Results • Immediately after exposure to light source: 45 sec - 98% / 60 sec -99.9% / 75 sec - 99.9% sterilization / 90 sec - 99.9% sterilization



Safety - Measurement Results of UV Light Illumination Intensity

① Test Light Source • UVC LED - 270nm 10mW (12)

④ UVECO EV-1

- 2 Test Distance • 10mm / 20mm / 30mm from bottom of button panel
- 3 Test Results
 - UV light illumination intensity burst size 10mm (0.01 mJ/cm²) / 20mm (0.01 mJ/cm²) / 30mm (0.01 mJ/cm²) • UV light illumination intensity cannot be measured beyond approx. 10 mm (0.01 mJ/cm² – margin of error
 - due to environment) from front side of product





20mm from the floo

30mm from the floo



Product's center zone not measured illumination intensity 0.01 is the margir of error due to environment

UVeco



Elevator button UV LED sterilizer

When using this product, please do not look at the product or expose your eyes to the product for a long period of time when it is in operation to protect the eyes from the UV light.

Product Specs.

Movement sensor	PIR sensor IRA-S210ST01
Movement sensor distance	3m in all directions
• Sensor lens	IML-0685
• Display	LED diffusion window
• UV-C LED	275nm / 10mw / 12EA (standard: 300mm
• UV-C LED Bar	300mm / 100mm Connector EXT.
• Upper/lower socket material	ABS
• Frame material	Aluminum
• Length of main frame	310mm (Tailored to the site)
• Main frame weight	250g
• Side frame length	1,000mm (Tailored to the site)
 Side frame weight 	200g
• Lower frame length	310mm
• Lower frame weight	100g
• Voltage	DC 12~24V
Power cord length	500mm (Raw cable open type)



Headquarters / Factory

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UVeco

UVeco EV-1 **Elevator UV LED Sterilize**

The world's only proximity sterilization structure!



" Preparing for the Post Corona! "

S DAESUNG ELEC Co.,Ltd.

Brand Introduction



· Trademark (English / Korean) : UVeco / 유베코

Trademark Meaning :

It was developed by combining "UV," which means ultraviolet, and "eco," which means ecology (ecosystem/environmental preservation). The significance of the name is to symbolize a brand that utilizes UV sterilization LEDs to create eco-friendly sterilizing and air-purifying products.

Applicant : Daesung Elec Co., Ltd.

• Specified Goods : UV sterilizers, ion sterilization devices, sterilizers, sterilization devices, disinfection devices, hand sterilizers. hand piece sterilizers, portable air purifiers, phone sterilization devices, mask sterilizers, air deodorization devices, household ultrasonic wave sterilizers, air sterilizing disinfection devices, air sterilization filters, air cleaners, food sterilization devices, car sterilization devices, phone UV sterilizers, air sterilizers





Company Introduction

Company History

- 2012 · Established Daesung Elec
- 2015 Transitioned Daesung Elec Co., Ltd. into a corporate body
- 2016 · Acquired ISO 9001 / ISO 14001 certification
- **2018** Released character (DDotty, Sleepground) license lights
- 2020 · Acquired IATF 16949:2016 certification
- Venture business certification/Korea Technology Finance
- UVECO EV-1 Corporation
- 2021 · Signed MOU with Harmony System and OHSUNG (K-quarantine)
 - UVECO EV-1 Production



- **Domestic Applications** Patent application (** ** ** UV LED Sterilization Device) / Application number 10-2020-1500**
 - Design(UV LED sterilization device) / Application number 30-2020-544**
 Trademark application (** ** ** UV LED Sterilization Device) /
 - Application number 40-2020-2021**
- **Overseas Applications** Patent application (** ** ** UV LED Sterilization Device) /
 - Application number PCT22020-0** Singapore design application (UV LED sterilization device) /
 - Application number 3020200858**
 - Singapore trademark application (UVECO) Application number 4020202366*

 - Application number 210262T*

communications equipment / R-R dSc-UVECO-EV-1 Suitability Certification

CE-EMC Certification • EMC Diretive2014/30(EU) Certification / SNS-NCE-21505

• RoHS Directive (EU) 2015/863 Certification / RoHS-N2101001



nternational PCT patent application

estic trademark applicatior Domestic design application

Domestic patent application



An essential item in the post-COVID era!

Sterilization Device

UVECO EV-1 is a device that sterilizes and protects users from pathogenic bacteria and viruses on elevator buttons (OPB and indicator button components) that have a high probability of infection through touch (COVID-19, flu, colon bacillus, etc.).

Simple Installation

UVECO EV-1 can be installed after reducing the length of the top / bottom / left / right according to the elevator's interior/exterior console size (even if the number of floors and the manufacturer of the elevators is different).



YTN Press Release (10/13/2019) in the event of infection, on all devices

Through the wear and tear...what are the effects of COVID-19 antibacterial film?

Yonhap News TV (10/14/2020)

Why is a sterilization device necessary for a touch button?

Comparison with Anti-bacterial Film

UVECO EV-1 can make up for the drawbacks of antibacterial film (copper film), which are survival of the COVID-19 virus for 4 hours or more (press coverage), need for frequent replacements (wear and tear), and difficulty with Braille for the disabled.

Excellent Sterilizing Power

Through testing, UVECO EV-1 has been proved to sterilize 99% or more of COVID-19 viruses and colon bacillus when 12 UVC LEDs (275nm 10mW) were placed within a distance of 300mm.

Infrared Sensors

PIR infrared sensors (movement) are used to convert automatically to sterilization mode when movement is sensed

30 seconds of sterilization takes place before transitioning to standby mode. If standby mode lasts 10 minutes, sterilization is performed again for 2 minutes to maintain a clean environment for use.

Convenient Distribution Network and Post-servicing

Sole distributors all over the country (elevator management firms) form a system for sales, installation, and maintenance, allowing for quick response times.

Prevention of Secondary Infection

This product prevents secondary infection of viruses and harmful germs in facilities such as apartments, shopping malls, hospitals, businesses, etc. where an unspecified number of people come into contact.

www.daesung-elec.com

 Japan design application (UV LED sterilization device) / KC Electromagnetic Wave • Conformity registration and certification for broadcasting

RoHS Certification

and Registrations

UVeco

Promotional Effect

By installing EV-1 in elevators of complex facilities, secondary infection of COVID-19 can be prevented and owners can enjoy business benefits through the promotional effects and facility safety provided by this device, which is useful for attracting customers.

The Best Cost Efficiency

UVECO EV-1 is a proximity sterilization product that adds a button sterilization functionality to existing elevators without the need for the expensive replacement of elevators.

Elevator buttons and smartphones "full of pathogenic bacteria"... beware of infection at your fingertips

A Korean research team has investigated approx. 40 smartphones, 140 elevator buttons, and 30 ATMs. The results revealed pathogenic microorganisms, or germs that can cause septicemia, cerebral meningitis, etc.

Research does indicate that the copper in antibacterial film sterilizes COVID-19, but this is a matter of debate. Even if it does sterilize, the copper enclosed in the film does not come into actual contact with viruses on its surface.



After UV-1 installation (standby)

After UV-1 installation (sterilizing)

How does installing UVeco EV-1 change things?

Construction and Installation Method

Daesung Elec Co., Ltd. requires that installation and maintenance of UVECO EV-1 be performed by an elevator management firm with certified safety qualifications.

Inspection of Site / Quotations

1. Checking of elevator button status 2. Evaluation of location of power and construction method 3. Product suggestion & calculatio



Examples of Installation

Elevator in Lotte Cinema (Gojan)

Installation Inside

Elevator



L. SMPS connection of power device

2. Securing and drilling of power line

3. Product installation & attachment

Installation on Outer Wall of Elevator

1. SMPS connection of power device 2. Securing and drilling of power line 3 Product installation & attachment





Check and Inspection of Operation

1. Power supply check 2. PIR sensor activity check 3. Installation safety evaluation & wrap ur





External call button Prior to installation

Product Name and Function

(after installatio

Main frame Our Lower left socket 2 PIR motion sensor 0 Lower right socket 8 Motion display 🕕 UV-C LED left light source 4 Main left socket 😢 UV-C LED right light source **6** Main right socket **18** PCB frame cover 6 Left frame 14 Main bracket Right frame Lower bracket Power cable (DC12-24V)





Interior button (standby) Interior button (sterilizing)



External call button

Interior butto

- **Sensing of Movement** : When movement is sensed within 3m in standby mode, UV-C LED will activate and begin sterilization. (30-second sterilization lighting) LED stops and transitions to standby mode.
- L Movement Display : Displays the current sterilization status visually (though LED lights).
- © Left (single) LED Light Component : UV-C LED and white LED light show when sterilizing or in standby mode
- Right LED Light Component : UV-C LED and White LED light turn on / off and blink simultaneously
- Power Connection Component : Connects to power inside the elevator.



Interior button sterilizer High-end call button sterilizer Normal call button steriliz

Front Back

€ UV-C LED light source

H Power cable (DC12-24V)

Indicator sterilizer







