UVC Disinfection and Sterilization Robot kills germs in the environment by decomposing their DNA structures, thus preventing and reducing the spread of viruses, bacteria and other harmful microorganisms. This robot has two working modes: Air Circulating Disinfection and Sterilization, and UV disinfection and sterilization, and applies to a variety of complicated scenarios. It is able to move autonomously for timed, fixed-point and multi-track mobile disinfection and sterilization in large areas.
Advantages

Powered by Technology Made by Craftsmanship

**Strong Disinfection and Sterilization Capacity**
This robot has two working modes: Air Circulating Disinfection and Sterilization, and UV disinfection and Sterilization. In the mode of UV disinfection and sterilization, condensed ultraviolet beams are emitted to kill bacteria and other harmful microorganisms, with a disinfection rate of 99.99%, which effectively prevents cross infection in high-risk areas.

**Large Working Space**
The Two Working modes, i.e. Air circulating disinfection and sterilization, and UV disinfection and sterilization can efficiently guarantee the effect of disinfection and sterilization in areas. A large space can be fully covered in disinfection and sterilization using the chassis for autonomous movement.

**Wide Range of Sterilization**
The robot is capable of effectively killing microorganisms in the air, such as fungi, bacteria and viruses, and has significant effects on harmful microorganisms in aerosols and the like. At the same time, PM2.5, formaldehyde, TOVC and other harmful substances in the air can be eliminated due to HEPA filtration.

**Unmanned Operation**
The robot features autonomous operation and realizes timed, fixed-point and multi-track mobile disinfection and sterilization in a large space, according to the preset route and time requirements. It reduces the investment in human resources and helps promote the working efficiency and quality.

**Autonomous Charging**
The Robot is capable of autonomous charging, continuous operation, low power early warning and automatic recharging, thus effectively ensuring the endurance of this mobile device.
Features

Unprecedented Cutting-Edge Technologies

**Autonomous navigation**
The navigation solution integrating multiple sensors ensures accurate spatial positioning and dynamic path planning.

**Sterilization and disinfection**
There are two disinfection methods of robot; air circulation filtration and UV light. The disinfection efficiency could reach up to 99.99% under a specific exposure time.

**Smart obstacle avoidance**
Carry the latest lidar, ultrasonic sensor and air collision sensor to provide multiple protections and effectively deal with different complex environments.

**Internet of Everything**
Support the information exchange and communication between human and thing, and between things, and realize environmental interaction and collaboration.

**Multi-robot interconnection**
Multiple robots or IoT devices can realize interaction and collaboration, thus promoting working efficiency and applicability.

**Open source technology**
The open robotic technical platform provides a complete set of SDK (Software Development Kit) and enable the fusion and expansion of applications for different sectors.

**Customization**
Provide personalized and customized services and support the customization of color, appearance and function.
Application Scenario

Transportation hub: airport, railway station, bus station, subway station.
Consumption place: Hotel, restaurant, shopping mall, cinema.
Administrative organ: prison, court, procuratorate, traffic control bureau.
Medical institution: isolation ward, operating room, waiting area.
Business unit: office, production workshop, pharmaceutical factory, laboratory.
Residential community: Community Service center, public corridor.
Specifications

Appearance Design
1. The shell is made of engineering plastics and aluminum alloy. It is antibacterial and easy to wipe.
2. Dimensions: 54cm Length, 58cm Width and 174cm Height.

Hardware Parameters
2. Autonomous navigation: multi-sensor fusion navigation scheme based on at least 3 types of sensors (laser ray/speedometer/gyroscope).
3. Intelligent obstacle avoidance: The robot can flexibly avoid any obstacles. It is able to avoid any obstacles under low light condition.
4. Motor torque: 8.1Nm (high load but low power consumption).
5. The chassis has a suspension system, which can stabilize the robot while it traverses a threshold.

Operating Parameters
1. Moving speed: 0.45m/s (in the navigation mode)
2. High-precision laser positioning, laser measuring precision: 2cm
3. Turning performance: 360° zero-radius turning
4. Routine operating time: ≥ 4 hours
5. It achieves autonomous movement, autonomous navigation and smart obstacle avoidance.
6. You can pause the robot while it is working. It can continue its mission after the pause mode is disabled.
7. The robot is capable of controlling the automatic opening/closing of electric doors via the Internet of Things.
8. The robot is compatible with the extension of elevator control solutions, achieving floor-to-floor operations in different areas.
9. It does not need to rebuild the environment and add path and positioning marks. The robot realizes autonomous navigation in the whole process.
10. The robot supports autonomous recharging. When the power is low, it returns for charging, thus ensuring continuous operation.
11. Automatically detect the personnel in the working area, and automatically stop the irradiation of ultraviolet lamp when there is a person.
Specifications

Disinfection Mode
1. The robot can automatically patrol for sterilization and disinfection in the predetermined area. In addition, two disinfection modes can be set:
   Mode 1: Air circulating sterilization and disinfection.
   The sterilization and disinfection is equipped with high-power UV lamps. Air flows into the UV sterilization channel through the purification and circulation system. The robot is capable of killing microorganisms in the air, such as fungi, bacteria, and viruses, and has significant effects on harmful microorganisms in aerosols and the like. At the same time, PM2.5, formaldehyde, TOVC and other harmful substances in the air can be eliminated due to HEPA filtration. The robot can work continuously in 24h, and the personal safety of staff in the working area is protected through infrared induction.
   Mode 2: UV sterilization and disinfection.
   The robot is turned on in an unmanned state through infrared induction, and the sterilization and disinfection center will emit the condensed UV beams to kill bacteria and other harmful microorganisms, which prevents cross infection in high-risk areas and makes air purified.
2. The working time can be set automatically based on the disinfection scenario.
3. Multi-point and 360-degree surface disinfection can be performed around the disinfection target in the disinfection process.

Disinfection performance:
Condensed UV beams can effectively kill bacteria and other harmful microorganisms, with a maximum disinfection rate of 99.99%.

After-Sales Service
Quality Warranty. 12 months. During the 12 months’ maintenance period, for the problem that caused by our design, manufacture and the material quality, we are responsible for offering the relevant parts and effective services for free for above reason. We will offer a widely and favorable technical support, after-sales service all the time after guarantee period.
Professional sterilization and disinfection robot platform
Carry the medical sterilization and disinfection system, provide the open technical platform and support customizations

Attachment: Table of Disinfection Parameter Comparison

<table>
<thead>
<tr>
<th></th>
<th>Influenza A virus</th>
<th>Influenza A virus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>_subtype H7N9</td>
<td>subtype H1N1</td>
</tr>
<tr>
<td>UV disinfection dose</td>
<td>UV disinfection dose</td>
<td>UV disinfection dose</td>
</tr>
<tr>
<td>Log1(90%)=55J/m²</td>
<td>Log1(90%)=34J/m²</td>
<td>Log1(90%)=34J/m²</td>
</tr>
<tr>
<td>Log2(99%)=110J/m²</td>
<td>Log2(99%)=68J/m²</td>
<td>Log2(99%)=68J/m²</td>
</tr>
<tr>
<td>Log3(99.9%)=185J/m³</td>
<td>Log3(99.9%)=102J/m³</td>
<td>Log3(99.9%)=102J/m³</td>
</tr>
<tr>
<td>Log4(99.99%)=220J/m⁴</td>
<td>Log4(99.99%)=136J/m⁴</td>
<td>Log4(99.99%)=136J/m⁴</td>
</tr>
<tr>
<td></td>
<td>Novel Coronavirus(2019-nCoV)</td>
<td>SARS-CoV</td>
</tr>
<tr>
<td>UV disinfection dose</td>
<td>UV disinfection dose (estimate)</td>
<td>UV disinfection dose</td>
</tr>
<tr>
<td>Log1(90%)=21J/m²</td>
<td>Log1(90%)=21J/m²</td>
<td>Log1(90%)=21J/m²</td>
</tr>
<tr>
<td>Log2(99%)=42J/m²</td>
<td>Log2(99%)=42J/m²</td>
<td>Log2(99%)=42J/m²</td>
</tr>
<tr>
<td>Log3(99.9%)=63J/m³</td>
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</tr>
<tr>
<td>Log4(99.99%)=84J/m⁴</td>
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<td>Log4(99.99%)=84J/m⁴</td>
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</tbody>
</table>