

Extreme Disinfection Robot XDA300

Designed to be used in tight spaces with a small footprint of only 450 mm x 450 mm, XDA300 can disinfect surfaces up to 3m in height. The robot has an electrostatic sprayer with 3D depth camera mounted on a pan-tilt arm for precision spraying of high touchpoints such as handrails, doorknobs, and switches

3D camera
for precision
spray

Disinfectant
sprayer with
electrostatic

- 0.8m effective spray distance
- Maximum 3m spray height
- 80 mL per minute spray discharge

Pan-tilt manipulator
for human-wrist like
motion

- -90° to 90° pan angle
- -45° to 45° tilt angle



Android application

- Teleoperation
- Autonomous operation

Sensors

- 1 x Lidar (25m range)
- 4 x bump sensors
- 4 x ultrasonic sensors
- 2 x 3D cameras

2 x 5 Litre
disinfectant
tank

24V, 52Ah battery

- 2h charging time
- 10h+ standby time
- 4h+ running time

Speed and Performance

- Max 0.4 m/s
- 2 independent driven hub-wheel
- $\leq 5^\circ$ climb angle

450 x 450 mm
~70 kg (without battery and
disinfectant)

SIZE AND WEIGHT	
EXTERNAL DIMENSIONS	450 x 450 x 1725 mm (L x W x H)
TOTAL WEIGHT	~70kg (without battery and disinfectant)
GROUND CLEARANCE	27.5 mm
SPEED AND PERFORMANCE	
MAX SPEED	0.4 m/s
DRIVE CONFIGURATION	2-Independently driven hub wheels
CLIMBING ANGLE	≤5°
OPERATING ENVIRONMENT	Indoor
BATTERY AND POWER SYSTEM	
BATTERY CHEMISTRY	LiFePO4
POWER SUPPLY	24 VDC
RUNTIME - STANDBY	10 Hours max
RUNTIME - NOMINAL	4 Hours approximate
CHARGE TIME	≤ 2 Hours
CHARGING METHOD	External battery charging
BATTERY CAPACITY	24V 52AH
SENSORS	
LIDAR	1 at center of mobile base (range of 25 m)
BUMPER	4 (Front, Back, Left, Right)
3D CAMERA	2 (1 at mobile base, 1 at sprayer)
ULTRASONIC SENSORS	4 on mobile base (2 facing front, 2 facing 45 degrees left and right)
SPRAYER SYSTEM	
PAN ANGLE	-90 deg to 90 deg
TILT ANGLE	-45 deg to 45 deg
EFFECTIVE SPRAY DISTANCE	0.8 m
SPRAY HEIGHT COVERAGE	Maximum 3000 mm
DROPLET SIZE	40 microns
SPRAYER DISCHARGE RATE	80 mL per minute
SPRAY TANK CAPACITY	2 x 5L
APPLICATION INTERFACE	
USER MODE	User interface via mobile app: Teleoperation Full-autonomous
MAP BUILDING	Yes (Manual teaching)
MAXIMUM MAP BUILDING AREA	200m x 200m
MAP DEFINITION	5cm
AUTONOMOUS MODE MOTION AND SPRAY TEACHING	Offline programming through web interface (assuming map is available)
HUMAN-ROBOT INTERFACE (HRI)	
SOFTWARE INTERFACE	Android application

Project Reference

Robot as a Service



Lee Kong Chian Sch of Medicine Hospital Wards



NTU RRC Corridors



Suntec Shopping Malls

Sales

- 1) EBA Machinery Services Pte Ltd (Singapore)
- 2) Leben Wasser (S) Pte Ltd (Singapore)
- 3) Light House Associates LLC (USA)