

**UNAC**

UNI ARC CO.,LTD.

**USR**

**UNIARC SERVICE ROBOT**

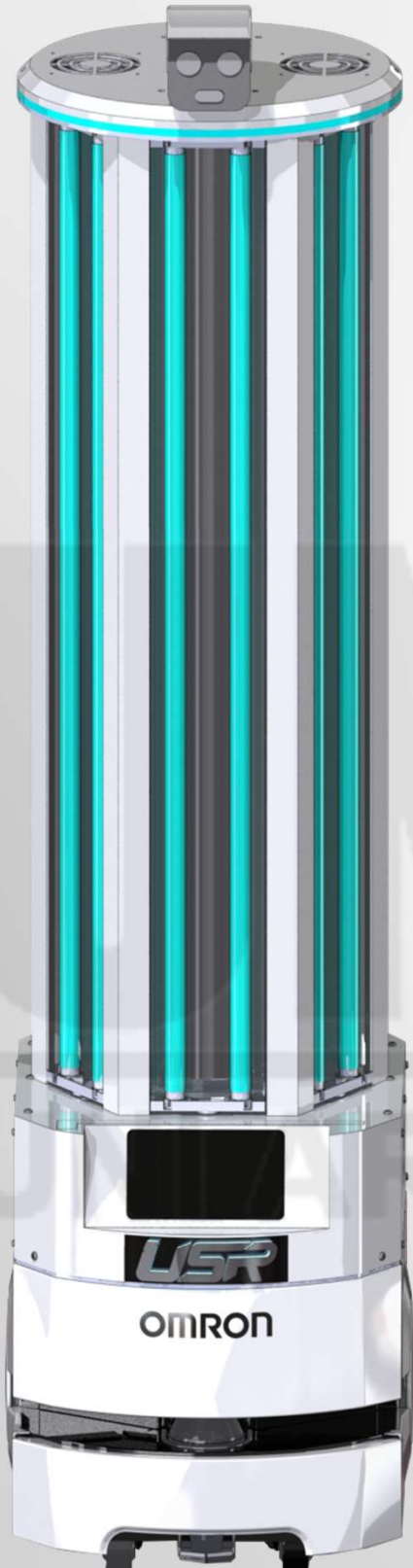
# AP SERIES

Intelligent Patrol Robot for New Normal



**AP-90**

**USR**  
**UNIARC SERVICE ROBOT**



**AP-90A/B**

**Intelligent Patrol Robot for New Normal**

- Ultraviolet Germicidal Irradiation
- Large power efficiency killing, cumulative UV dose up to  $2640 \text{ uW/cm}^2$
- 360° degree disinfection coverage
- Disinfection Liquid Spray
- Disinfection Liquid Dispenser
- Ai Detection and thermal imaging camera checks body temperature, notify to the operator screen and sending via Line
- Video Surveillance System (Option B)
- Fully Autonomous mobile robot by Omron technology

# Function

# USR

## UNIARC SERVICE ROBOT

### AP-90A/B

### Intelligent Patrol Robot for New Normal



UVGI  
Antivirus

Liquid  
Spray

Liquid  
Dispenser

360° Radiation

Thermal  
Camera

Visible Light  
Camera

Navigation  
Lidar

Wireless  
transmission

3G/4G

Speaker  
and Light

TFT LCD  
Panel 7"

Automatic  
Charging

# Specification



Category	Item	Model AP-90A	Model AP-90B
1. Material of body	Material of body	Polycarbonate,Aluminium	Polycarbonate,Aluminium
2. Size	LxWxH	699 x 500 x 1980 mm	699 x 500 x 1980 mm
3. Weight	Weight (including battery)	150 kg	150 kg
4.Environmental conditions	Ambient temperature	5 to 40 °C	5 to 40 °C
	Ambient humidity	5 to 95 % (non-condensing)	5 to 95 % (non-condensing)
	Runnig environment	Indoor use only, no excessive dust, no corrosive gas	Indoor use only, no excessive dust, no corrosive gas
	Protection level	IP20	IP20
5.Ground conditions	Floor environment	Linoleum, epoxy, or concrete (no water, no oil, no dirt)	Linoleum, epoxy, or concrete (no water, no oil, no dirt)
	Climbing ability	Flat floor only	Flat floor only
6.Navigation	Navigation system	Autonomous routing by localizing with safety scanning laser based on environment mapping	Autonomous routing by localizing with safety scanning laser based on environment mapping
	Navigation mode	Laser landmark navigation	Laser landmark navigation
	Rendering of environmental map	Scan by walking the mobile robot through the environment, and upload the scan data in the Mobile Planner	Scan by walking the mobile robot through the environment, and upload the scan data in the Mobile Planner
7. Running speed	Maximum speed	1300 mm/s	1300 mm/s
	Rotation speed	180°/s	180°/s
8. Drive wheel	2 wheels,	200 dia. × 50 mm nominal	200 dia. × 50 mm nominal
	4 casters	75 dia. × 41 mm nominal	75 dia. × 41 mm nominal
9. Battery Robot	Capacity	22-30 VDC, 72 Ah Battery cell nominal capacity	22-30 VDC, 72 Ah Battery cell nominal capacity
	Running time	15 hours (continuous)	15 hours (continuous)
	Charging time	Recharge time 4 hours	Recharge time 4 hours
10. Battery UVC	Capacity	3.5 kWh	3.5 kWh
	Running time	4 hours	4 hours
	Charging time	5 hours	5 hours
11. Speaker	Speaker	3.5 in., 80 W x2	3.5 in., 80 W x2

# Specification



Category	Item	Model AP-90A	Model AP-90B
12. Other Equipments	Wireless signal receiver	Secure encryption, low delay, high bandwidth for image transmission	Secure encryption, low delay, high bandwidth for image transmission
	Mobile phone 3G/4G	Two-ways communication between operator and person standing in the way	Two-ways communication between operator and person standing in the way
	Guided gyroscope	Auxiliary inertial navigation system for Complex Pavement	Auxiliary inertial navigation system for Complex Pavement
13. Ultraviolet germicidal irradiation (UVGI)	UV Lamp Power	75w x 12 units total 900W	75w x 12 units total 900W
	UV Lamp	UV-C x 12 units, cover 360° Disinfection	UV-C x 12 units, cover 360° Disinfection
	UV Wavelength	Short-wave UV radiation with a peak at 253.7nm	Short-wave UV radiation with a peak at 253.7nm
	UV Radiated power	25.5W at 100hr	25.5W at 100hr
	UV Dose	220 $\mu\text{W}/\text{cm}^2$ x12 units = 2640 $\mu\text{W}/\text{cm}^2$	220 $\mu\text{W}/\text{cm}^2$ x12 units = 2640 $\mu\text{W}/\text{cm}^2$
	Lifetime	9000 hr	9000 hr
14. Liquid Spray	Arrival Length of Spray	1 m range	1 m range
	Chemical tank capacity	3 L	3 L
	Chemical Discharge Rate (Max)	9 L / hr	9 L / hr
	Particle Size	10 $\mu\text{m}$	10 $\mu\text{m}$
	Body Material	Brass,Stainless	Brass,Stainless
	Dimension Nozzle spray	0.1 mm x 5	0.1 mm x 5
15. Liquid Dispenser	Arrival Length of Spray	10 cm range	10 cm range
	Chemical tank capacity	0.8 L	0.8 L
16. Body Thermal Camera	Measurement type	Non-contact, AI face detection, Multi-face detection simultaneously	Non-contact, AI face detection, Multi-face detection simultaneously
	Thermal sensor	400x300 uncooled VOx thermal sensor	400x300 uncooled VOx thermal sensor
	High thermal sensitivity	<40mK	<40mK
	Temperature Range	30°C ~ 45°C	30°C ~ 45°C
	Temperature Accuracy	$\pm 0.5^\circ\text{C}$	$\pm 0.5^\circ\text{C}$
	Thermal Resolution	1280x960 pixel	1280x960 pixel
	Image sensor	1/2.8" 2M CMOS	1/2.8" 2M CMOS
	Image Resolution	1920x1080 pixel	1920x1080 pixel



# Specification



Category	Item	Model AP-90A	Model AP-90B
17. Security function	Safety lidar	Detection distance: 15 m Detection angle: 240 °	Detection distance: 15 m Detection angle: 240 °
	Emergency stop button	1 at the rear of the robot shell	1 at the rear of the robot shell
	Front Bumper	1 at front of platform, 2 pairs of sensors	1 at front of platform, 2 pairs of sensors
	Rear Sonar	2 at rear, 2 m range	2 at rear, 2 m range
	Status indicator lamp	RGB colors of status indicators, which located in the robot shell.	RGB colors of status indicators, which located in the robot shell.
18. Operation panel and interface	Start button	1 at the rear of the robot shell	1 at the rear of the robot shell
	Wireless network	IEEE 802.11 a/b/g, 2.4GHz/5GHz	IEEE 802.11 a/b/g, 2.4GHz/5GHz
19. System	Robot Control Program	MobilePlanner	MobilePlanner
	Remote assistant patrol intelligent system	Robot system scheduling, remote control, patrol plan, data query	Robot system scheduling, remote control, patrol plan, data query
20. Network Video Recorder (NVR)	Face Recognition		24 face pictures /sec processing Up to 20 face databases with 100,000 face images in total
	Metadata		Gender, age, glasses, beard, mask. Vehicle color, vehicle model, vehicle logo, plate color, vehicle decorations
	Video Detection and Alarm		Alarm Out, Video Push, Email, Recording, Tour, Snapshot, Voice Prompt, Buzzer and Screen Tips
	Recording		Smart H.265+/H.265/Smart H.264+/H.264/MJPEG
21. Temperature Measurement (Blackbody)	Working temperature Factory settings		35.0°C, 37.0°C, 40.0°C (Environment temperature +5.0 50.0 adjustable)
	Effective radiant surface		70mm×70mm
	Temperature resolution		0.1°C
	Temperature accuracy		±0.2°C(single point)
	Temperature stability		±( 0.1~0.2 )°C/30min
	Effective emissivity		0.97
	Temperature sensor		Pt100
	Ambient temperature/humidity		0°C~40°C / ≤80%RH



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