MICRONVIEW

EMC Robot

Environmental Monitor & Control Robot

APC Robot

Aerosol Particle Counter Robot

Capabilities & Features

- Autonomous navigation - Fully automated environmental sampling
- Intelligent charging system - Wireless charging station
- Multi-task scheduling - Unattended operation
- Environmental Monitoring - Interface with different sampling modules

* EMC Robots are shown with APC and Remote Particle Sensor modules
* Compatible with BAMS and VHP modules

Product Introduction

The Environmental Monitor & Control Robot (EMC Robot) enables the automated sampling of cleanroom environments using a SLAM* algorithm and LiDAR to ensure accurate site arrival and object avoidance.

The unit can traverse designated areas, automatically open and close doors, autonomously ride elevators, and automatically return to home base for charging. Through automated sampling, the environmental impact of operators and potential for human error can be minimized.

Product Feature

Network and Data Transmission
- Multiple networking, data storage and report export options
- USB interface
- IoT card and WAN connection
- Built-in wireless network module (Facility network connection not required)

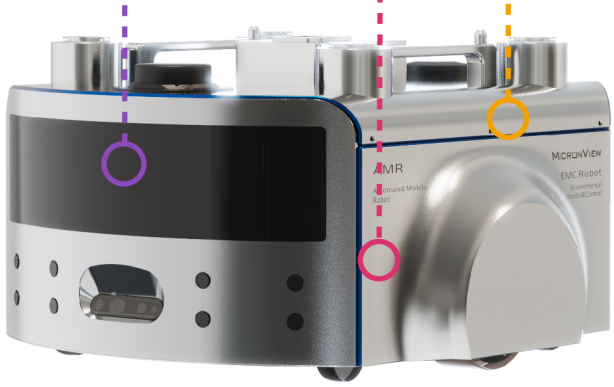
Precise Positioning
- Ensures accurate positioning at sampling locations

Autonomous Navigation
- Automated environmental sampling

Scheduled Tasks
- Complete unattended operations

Flexible Deployment
- Rapid sampling module replacement

Automatic Charging
- Operate for up to 18-hours on a single charge
- Automated return to recharging station



*SLAM is an acronym for Simultabeous Localization And Mapping, which supports localization and map construction for EMC Robots in unknown environments.

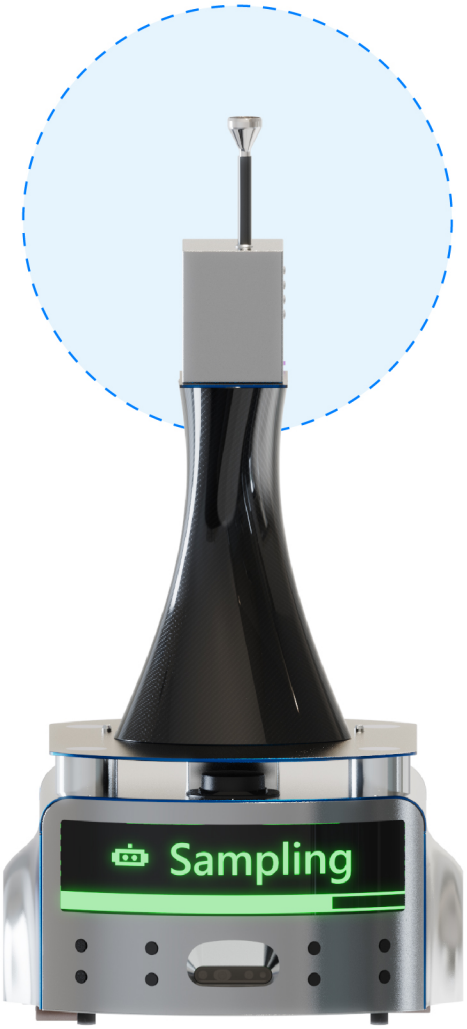
Product Application

The EMC Robot is compatible with the portable Aerosol Particle Counter (APC) and Remote Particle Sensor modules. With the particle counting module attached, the robot will automatically arrive at user defined locations and complete sampling according to a set sampling scheme. The unit's automated navigation and sampling lower the risk of contamination by reducing human presence in critical areas, and reduce the potential for error in sampling location and time. Resource allocation can also be optimized by automating routine functions and assigning personnel to other critical tasks.

The APC Robot can realize remote sample control and central data management, ensuring continuous real-time monitoring and data storage in dynamic and challenging manufacturing environments. All detection data is stored on the robot's monitoring management system, and data can be uploaded to the specified server or cloud via WIFI/LTE network according to customer requirements. The EMC Robot can also be equipped with a temperature and humidity sensor to collect and store ambient temperature and humidity information.

Aerosol Particle Counter

Remote Particle Sensor



Specification Sheet

Specification		Environmental Monitor & Control Robot Base
Mass and Volume	Diameter	608mm
	Height	306mm
	Net weight	30kg
	Maximum load	40kg
Battery performance	Battery capacity	960Wh (24V)
	Working power	50W (With full power, it can work continuously for 18h)
	Charging time	4h (100-240 VAC, 5A)
	Battery life	> 3 years (Discharge capacity not less than 60% of initial capacity)
Material	Chassis	316L stainless steel
	Wheels	Polyurethane
Cleaning		Sealed chassis, resists corrosivity of disinfectant wiping
Maximum map area		500m×500m
Ground resolution		5cm
Vehicle performance	Cruising speed	0.5m/s (Modifiable, up to 1.2m/s)
	Passable width	710mm

Specification	Functional Module Parameters	
	Portable Aerosol Particle Counter	Remote Particle Sensor
Flow rate	100LPM±3%; 50LPM±3%; 28.3LPM±3%	28.3LPM±3%
Power	AC 48W; AC 36W; AC 34W	AC 40W
Sample quantity	Not restricted(In liters)	N/A
Sampling cycles	Not restricted	N/A
Sampling interval	Not restricted (In seconds)	N/A
Sampling delay	Not restricted (In seconds)	N/A
Other parameters	For detailed performance parameters, see functional module specification document.	

Ordering Information

Name	Model	Order No.
Environmental Monitor & Control Robot Base | EMC Robot Base	S1101	MACHS1101
Aerosol Particle Counter Robot | APC Robot	SA110	MACHSA110
Aerosol Particle Counter Robot | APC Robot	SA5101	MACHSA5101

* SA110= Portable Aerosol Particle Counter module; SA5101=Remote Particle Sensor module

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