

Remote EMC System

Environment Monitoring & Control System for Remote Devices

CAPABILITIES & FEATURES

Built for Efficiency: Integrates with remote devices to provides real-time monitoring, automated workflows, and centralized data management for effective contamination trending and control.

Real-Time Monitoring: Enables centralized monitoring of key cleanroom parameters such as airborne particles, microorganisms, temperature, humidity, pressure differentials, and air velocity, with data displayed in real time.

Advanced Analytics: Integrates industry-approved frameworks for data analysis and trending to proactively identify contamination risks.

Data integrity: Compliant with data integrity requirements, such as 21 CFR Part-11, featuring multi-level access privileges and audit trail.

Multi-Protocol Interconnectivity: Supports extensible interfaces for various standard protocols (including Modbus, OPC, HTTP, MQTT), enabling cross-system data exchange and integration.

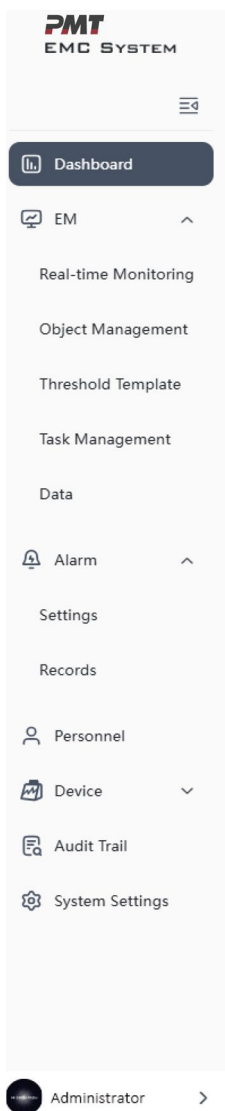
Support & Services: Backed by comprehensive after-sales support and ongoing upgrade services.

INTRODUCTION

The Environmental Monitoring & Control (EMC) System is a powerful, browser-hosted, and locally installed software platform. It supports flexible deployment of both portable and remote devices to enable integrated management of equipment, facilities, tasks, and real-time data.

The EMC system for remote devices specializes in monitoring airborne particles, microorganisms, temperature, humidity, pressure differentials, and air velocity, while providing integrated data collection and analysis capabilities. Through real-time monitoring and intelligent task management, it ensures traceability, simplifies root cause investigation, and enhances compliance across facilities, personnel, equipment, and processes. The EMC System extends beyond environmental monitoring to include location, zone, and device management, as well as task control, and personnel/material tracking.

The EMC System includes eight main functional modules: Dashboard, EM, Alarm, Personnel, Device, Audit Trail, System Settings, and Personal Center.



Dashboard: Customize your personal view with "My To-Do," "My Finished," "My initiated," and "My Participated" task lists.

IEM: Monitor device status, progress, and real-time data. Create monitoring areas, assign tasks, upload data, and view alarms.

Real-time Monitoring: View equipment status and progress, control devices, and access real-time maps, data, and alarms.

Object Management: Create and manage environmental monitoring locations and related objects.

Threshold Template: Set and manage device count threshold limits and templates.

Task Management: Assign and schedule tasks, export to devices, upload data, and manage the full monitoring lifecycle.

Data: Access full data management functions including data viewing/export, contamination maps, statistical reports, and trend analysis.

Alarm: Receive alerts for data overlimit or device anomalies via sound, light, email, SMS, or phone call.

Personnel: Manage personnel, departments, positions, and responsibilities.

Device: Add, configure, back up, and maintain remote devices.

Audit Trail: Automatically record user operations, including who performed the action, when, and from which IP address.

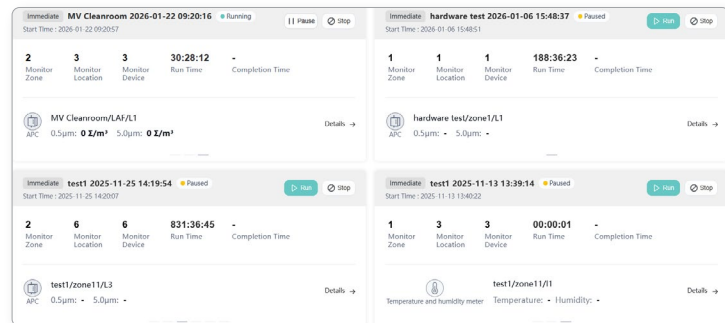
System Settings: Manage accounts, user permissions, expiration reminders, data settings, etc.

Personal Center: Access personal information, language settings, password management, and logout options.

CORE FUNCTIONS

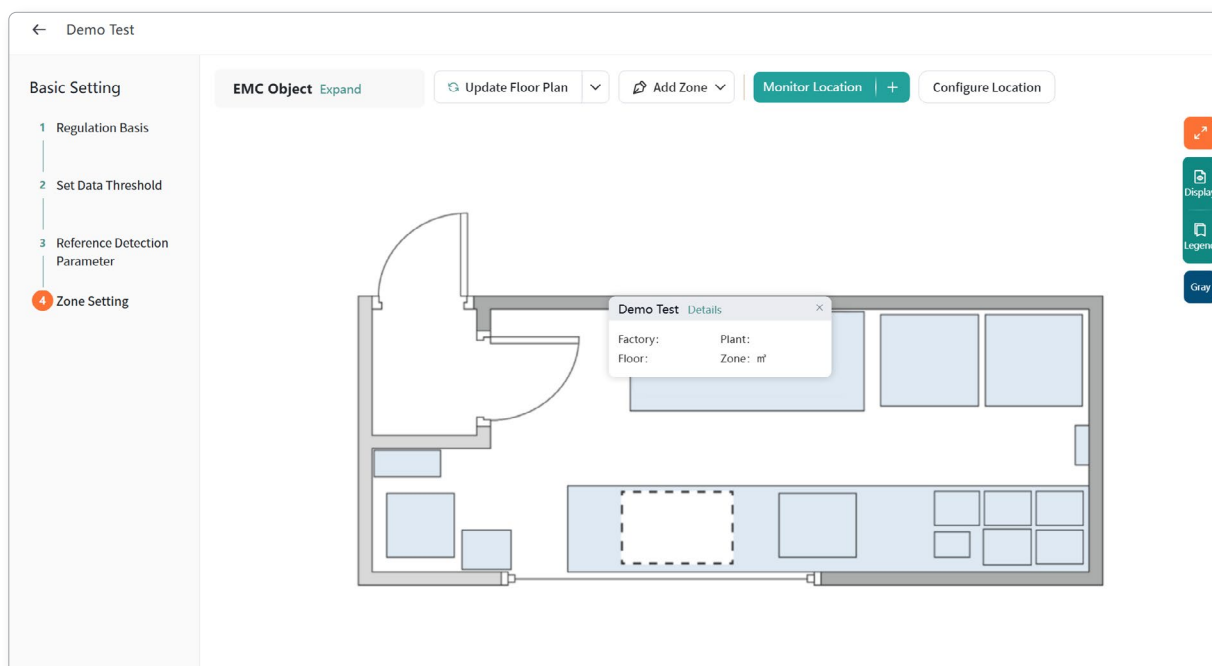
Real-time Monitoring

- Sample Status & Progress
- Monitoring Map
- Continuous Real-time Data
- Device Control
- Live Alerts & Alarm Management



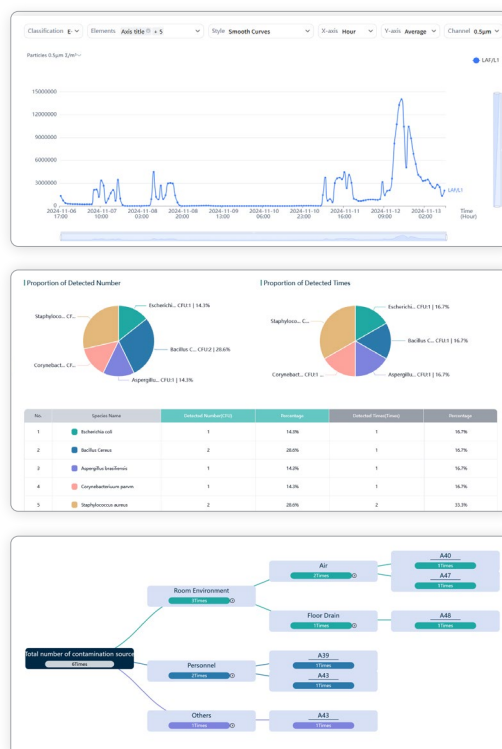
Monitoring Object & Task Management

- Create and manage environmental monitoring objects based on CCS process standards
- Supports full life cycle task management



Data Management

- Powerful capabilities for data storage and analysis
- Supports data export in multiple formats, including PDF, Excel and CSV
- In-depth data analysis to identify contamination risks:
 - Statistical analysis
 - Trend analysis
 - Contamination map
 - Detected counts/frequency
 - Microbial taxonomy
 - Zone distribution
 - Sample source
 - Contamination source



Alarm

- Built-in alarm mechanism with customizable user rules
- Three types of alarms: data alarm, device alarm, system alarm
- Multi-channel notifications with a full resolution history

Quick Search

Key Words

Environmental Monitoring

Airborne Particles

Air Sample

Settle Plates

Temperature

Humidity

Differential Pressure

Air Velocity

BioAerosol Monitoring

Data Alarm

Device Alarm

System Alarm

Alarm Rating

+ Add Template

Use Template

Manage Templates

Edit

Alarm Rating	Verification Needed?	Alarm Form	Repeat Frequency	Repeat Interval	Processing Result Notification Form
Urgent/Serious	Yes	☒ Sound and Light Alarm ☒ Email ☒ Message ☒ Telephone	Repeat 1 time Repeat 1 time Repeat 1 time Repeat 1 time	12h 12h 12h 12h	☒ Sound and Light Alarm ☒ Email ☒ Message ☒ Telephone
Urgent/Not Serious	Yes	☒ Sound and Light Alarm ☒ Email ☒ Message ☒ Telephone	Repeat 1 time Repeat 1 time Repeat 1 time Repeat 1 time	12h 12h 12h 12h	☒ Sound and Light Alarm ☒ Email ☒ Message ☒ Telephone
Serious/Not Urgent	Yes	☒ Sound and Light Alarm ☒ Email ☒ Message ☒ Telephone	Repeat 1 time Repeat 1 time Repeat 1 time Repeat 1 time	12h 12h 12h 12h	☒ Sound and Light Alarm ☒ Email ☒ Message ☒ Telephone

Personnel & Device

- Management of personnel, departments, positions and responsibilities
- Supports viewing and exporting of organizational charts
- Centralized management and maintenance of multiple device information
- Supports one-click device software upgrades

Airborne Particle Counter					Device details			
No.	Serial Number	Name	Type	Model	Serial Number	Name	Type	Model
☐ 1	A53010079	Remote APC 2.0	Remote APC	A5301 • With External Blower Unit	A53010079	Remote APC 2.0	Remote APC	A5301 • With External Blower Unit
☐ 2	A53010160	Remote APC 2.0	Remote APC	A5301 • With External Blower Unit	Remote APC	Model	Flow Rate	28.3LPM
☐ 3	A53010157	Remote APC 2.0	Remote APC	A5301 • With External Blower Unit	With External Blower Unit ID	66	Current Location	L1
☐ 4	A53010159	Remote APC 2.0	Remote APC	A5301 • With External Blower Unit	Zone	MV Cleanroom/LAF/	IP Address	192.168.3.79
☐ 5	A53010155	Remote APC 2.0	Remote APC	A5301 • With External Blower Unit	Manufacturer	MicronView	MAC	54:55:58:10:00:24
☐ 6	A53010081	Remote APC 2.0	Remote APC	A5301 • With External Blower Unit	Device Status	On-line	Work Status	Free
☐ 7	A530100035	11	Remote APC	A5301 • With External Blower Unit	Activation Date	-	Manufacturer Date	2025-01-01
☐ 8	A53010058	Remote APC 2.0	Remote APC	A5301 • With External Blower Unit	Warranty Period	2 years	Calibration Date	2025-10-31
☐ 9	A53010135	Remote APC 2.0	Remote APC	A5301 • With External Blower Unit	Maintenance State	-	Warranty Expiry Date	-
☐ 10	A53010130	rqw	Remote APC	A5301 • Using Central Pump	System Software Version	1.3.06.0	Firmware Version	T2
					Device CUM Running	-	Other File	-
					Laser Hours	-	Blower Hours	-
							Has Disinfection Pathway Control	No

EMC System Architecture

User Interface



Database



Sensor



Vacuum pump



BioAerosol
Sampler-Remote



BioAerosol
Monitor-Remote



Temp/RH



Sound and light
alarm



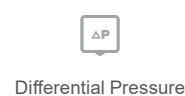
BioAerosol
Sampler-Remote



BioAerosol
Sampler-Remote



BioAerosol
Monitor-Remote



Differential Pressure



CO₂



Airflow

Airborne Particle
Counter-Remote

SOFTWARE INSTALLATION

Module	Configuration Requirement
Operating System	Windows® 7 or higher (32-bit or 64-bit)
Processor	2.6GHz or faster processor with 8 or more cores
Memory	16GB or higher
Storage Hard Disk	500GB or higher
USB Interface	2 USB 2.0 interfaces
Network Interface	At least 1 Gigabit network interface

Note: Disk space required depends on end user data backup requirements and protocols.

Generally, it is only necessary to increase the local disk capacity if storage needs increase. For scenarios with high redundancy requirements, it is generally required that the storage can support independent disk redundant arrays, such as Raid 1 (eg:2×1T hard disk | RAID1) or to adopt a remote backup option.

SUPPORTED REMOTE DEVICES & ORDERING INFORMATION

Name	Model	Order No.	Flow Rate
Airborne Particle Counter-Remote Remote APC	A5301	MACHA5301	28.3LPM ± 5%
Airborne Particle Counter-Remote Remote APC	A530B	MACHA530B	
Airborne Particle Counter-Remote Remote APC	A530BS	MACHA530BS	
BioAerosol Sampler-Remote Remote BAS	C5301	MACHC5301	28.3LPM ± 4%
BioAerosol Sampler-Remote Remote BAS	C530B	MACHC530B	
BioAerosol Sampler-Remote Remote BAS	C530BS	MACHC530BS	
BioAerosol Monitor-Remote Remote BAMS	M520	MACHM520	2.83LPM ± 3%
BioAerosol Monitor-Remote Remote BAMS	M520S	MACHM520S	
External Blower Unit	N/A	U1.M002	N/A
Remote Sensor Protective Enclosure	PA510	U2.0001	
Remote Sensor Protective Enclosure	PA510S	U2.S001	

Note: In the model number, the letters following the numbers have the following definitions: B represents the model is equipped with a blower, and S represents the model is equipped with a screen.