NB

NEXUS BMS

End User Guide

Building Management System

Automata Controls

Version 1.0 | December 2025

For End Users (Non-Admin)

Table of Contents

1. Introduction to NexusBMS

Welcome to **NexusBMS** (Neural Building Management System) by Automata Controls. This guide will help you navigate and use the system effectively to monitor and control your building's HVAC equipment.

What is NexusBMS?

NexusBMS is a comprehensive building automation platform that allows you to:

- Monitor real-time equipment status and temperatures
- Control HVAC equipment settings
- View and manage system alarms
- Track equipment performance metrics
- Request support when needed

> **Tip:** This guide is designed for end users who have been assigned to one or more facility locations. Administrative features are not covered in this guide.

System Requirements

Requirement	Specification
Web Browser	Chrome, Firefox, Safari, or Edge (latest versions)

Internet Connection	Stable broadband connection
Screen Resolution	1280x720 or higher recommended
Mobile Device	iOS 14+ or Android 10+ for mobile access

2. Getting Started

Accessing the System

1. Open your web browser and navigate to `https://neuralbms.automatacontrols.com`
2. You will see the NexusBMS login page with the Automata Controls branding
3. Enter your **username** and **password** provided by your administrator
4. Click the **"Sign In"** button
5. You will be redirected to your assigned location's dashboard

> **Security Notice:** Never share your login credentials with others. If you suspect unauthorized access to your account, contact your administrator immediately.

First-Time Login

When you log in for the first time:

- The system will automatically load your assigned location(s)
- If you have access to multiple locations, the first one will be selected by default
- Your session will remain active until you log out or after a period of inactivity

Session Information

Your login session includes:

- Your name displayed in the header
- Your role badge (User)
- Current date and time in Eastern Time (EST)
- Firebase connection status indicator

3. Your Dashboard

Dashboard Overview

Once logged in, you'll see your main dashboard which consists of:

Header Bar

Shows Automata Controls logo, current location, weather, date/time, and your user information.

Sidebar Navigation

Located on the left side, provides access to all available pages and equipment.

Main Content Area

Displays equipment cards, metrics, and controls based on your current view.

Action Buttons

Refresh, Support, and other action buttons in the upper right area.

Header Information

The header at the top of every page displays:

- **Automata Controls Logo:** Click to return to the main dashboard (admin users only)
- **Current Location:** Shows your currently selected facility location
- **Weather:** Current outdoor temperature for your location
- **Date & Time:** Current date and time in Eastern Time zone
- **Connection Status:** Green "Connected" badge indicates active Firebase connection

- **Your Name:** Displayed in the upper right corner
- **Refresh Button:** Click to refresh all dashboard data

> **Tip:** The dashboard automatically refreshes equipment data every 3 minutes. Use the Refresh button for immediate updates.

4. Sidebar Navigation

Sidebar Components

The sidebar is your main navigation tool and contains:

User Profile Section

At the top of the sidebar, you'll see:

- Your avatar with initials
- Your full name
- Your role badge (User)

Current Location Display

Shows the currently selected location name with a location pin icon.

Location Selector

If you have access to multiple locations:

- Click the dropdown to see available locations
- Select a different location to switch views
- The dashboard will update to show equipment for the selected location

> **Note:** If you only have access to one location, the selector will be disabled and your assigned location will be automatically selected.

Navigation Menu

As an end user, you have access to:

Menu Item	Icon	Description
Overview	Home	Your location's main dashboard with all equipment
Alarms	Bell	View and manage active alarms for your location

Equipment Section

Below the navigation menu, you'll find the **Equipment** section which shows:

- Equipment types available at your location (e.g., Boilers, Air Handlers, Fan Coils)
- Number badge showing count of each equipment type
- Expandable lists to see individual equipment
- Click any equipment name to go directly to its control page

Sign Out

At the bottom of the sidebar, click **"Sign Out"** to securely log out of the system.

5. Location Overview Page

Overview Layout

When you click "Overview" or select a location, you'll see your facility's main dashboard showing:

Page Header

- **Location Name:** Displayed prominently at the top
- **Last Updated:** Timestamp of the most recent data refresh
- **Action Buttons:** Refresh, Support, and (if available) Nexus AI Analysis

Zone Controls Section (if applicable)

Some facilities have equipment grouped into zones. If your location has zone controls:

- Click **"Show Zone Controls"** to expand the zone section
- Zone cards show grouped equipment for areas like "Lobby", "Executive", "Server Room", etc.
- Each zone card displays average temperatures and status
- Click a zone card to control all equipment in that zone together

Equipment Grid

Below any zone controls, you'll see all equipment displayed as individual cards in a responsive grid layout.

Tip: Equipment cards are sorted alphabetically by name for easy navigation. Use the sidebar's equipment section to jump directly to a specific piece of equipment.

6. Understanding Equipment Cards

Equipment Card Layout

Each equipment card provides a quick summary of that equipment's status:

Card Header

- **Equipment Icon:** Visual representation based on equipment type
- **Equipment Name:** The name of the equipment
- **Status Badge:** Shows "Online" (green) or "Offline" (red)

Status Indicators

Indicator	Color	Meaning
Online	Green/Teal	Equipment is communicating and operational
Offline	Red	Equipment is not responding or has communication issues
Lead	Orange/Amber	Equipment is designated as the lead unit in a lead/lag pair

Alarm	Red with warning icon	Equipment has an active alarm condition

Equipment Types

You may see various equipment types at your facility:

B Boilers

Heating equipment that heats water for the building's heating system.

A Air Handlers

Units that circulate and condition air throughout the building.

F Fan Coils

Terminal units that provide heating or cooling to specific zones.

C Chillers

Cooling equipment that produces chilled water for air conditioning.

P Pumps

Circulate hot or chilled water through the building.

T Cooling Towers

Reject heat from the chilled water system to the atmosphere.

Clicking an Equipment Card

Click any equipment card to open its detailed control page where you can:

- View real-time metrics and readings
- Adjust setpoints and settings
- Enable or disable equipment
- View historical data

7. Equipment Controls

Control Page Layout

When you click an equipment card, you're taken to that equipment's control page:

Header Section

- **Back Button:** Returns you to the location overview
- **Equipment Icon & Name:** Large display of the equipment being controlled
- **Equipment Type Badge:** Shows the type (Boiler, Air Handler, etc.)
- **Status Badge:** Online/Offline status with visual indicator
- **Equipment ID:** Unique identifier for this equipment
- **Location Logo:** Your facility's logo (if configured)

Action Buttons

- **Nexus AI Analysis:** Get AI-powered analysis of this equipment (subscription feature)
- **Refresh:** Update all data for this equipment

Common Control Elements

Most equipment control pages include these elements:

Temperature Setpoints

Slider controls to adjust target temperatures:

- Drag the slider left or right to adjust the setpoint
- The current value is displayed above the slider
- Typical ranges: Supply water (100-180F), Space temperature (60-80F)

Enable/Disable Toggle

Master switch to turn equipment on or off:

- Green/On position: Equipment is enabled and will operate automatically
- Gray/Off position: Equipment is disabled and will not run

> **Important:** Disabling equipment may affect building comfort. Only disable equipment when necessary and be aware of the impact on other systems.

Lead/Lag Control

For systems with multiple units (e.g., two boilers):

- **Lead:** The primary unit that runs first
- **Lag:** The backup unit that runs when needed
- Toggle to designate which unit is lead

Control Type Selection

Some equipment offers different control modes:

- **Supply Control:** Controls based on supply water/air temperature
- **Space Control:** Controls based on zone/room temperature

Outdoor Air Reset (OAR)

When enabled, the system automatically adjusts setpoints based on outdoor temperature:

- Toggle OAR on/off as needed
- When active, the current OAR-adjusted setpoint is displayed

Saving Changes

After making adjustments:

1. Make your desired changes using the controls
2. A "PIN Confirmation" dialog will appear for security
3. Enter your 4-digit PIN to confirm the changes
4. Wait for the "Settings Applied" confirmation message
5. The equipment will begin operating with the new settings

> **Tip:** The system shows an "Unsaved Changes" indicator when you have pending modifications. Always apply your changes before navigating away.

Real-Time Metrics

The control page displays live data including:

- **Current Temperatures:** Supply, return, and space temperatures
- **Equipment Status:** Running, idle, or fault conditions
- **Valve/Damper Positions:** Current position percentage
- **Fan/Pump Status:** Running or stopped

8. Alarms Page

Accessing Alarms

Click "Alarms" in the sidebar to view all alarms for your assigned location(s).

Alarm Dashboard Overview

The alarms page shows:

Summary Cards

Six status cards at the top showing:

Card	Description
Total	Total number of active alarms
Active	Currently active alarm conditions
Critical	High-priority alarms requiring immediate attention
Warning	Medium-priority alerts
Acknowledged	Alarms that have been acknowledged by a user
Unacknowledged	Alarms that need attention

Connection Status

A WiFi icon indicates real-time WebSocket connection:

- **Green WiFi:** Connected - receiving live alarm updates
- **Red WiFi:** Disconnected - using fallback mode

Alarm Filters

Use the filter bar to narrow down alarms:

- **Search:** Type to search by alarm name, equipment, or location
- **Status:** Filter by Active, Acknowledged, Unacknowledged, or Resolved
- **Severity:** Filter by Critical, Warning, or Info
- **Location:** Filter by specific location (if you have multiple)
- **Clear Filters:** Reset all filters to default

Alarm Cards

Each alarm is displayed as a card showing:

- **Severity Badge:** Critical (red), Warning (amber), or Info (blue)
- **Alarm Name:** Description of the alarm condition
- **Message:** Detailed information about the alarm
- **Equipment Name:** Which equipment triggered the alarm
- **Location:** Where the alarm occurred
- **Timestamp:** When the alarm was triggered

Managing Alarms

Acknowledging an Alarm

1. Find the alarm you want to acknowledge
2. Click the **"Acknowledge"** button on the alarm card
3. The alarm will show an "Acknowledged" badge
4. This indicates someone is aware of the issue

Viewing Alarm Details

1. Click the **"Details"** button on any alarm card
2. A dialog opens with full alarm information
3. You can add notes about the alarm
4. Acknowledge or resolve the alarm from this view

Adding Notes

In the alarm details dialog:

- Type your note in the text area
- Click "Add Note" to save it
- Notes help track troubleshooting steps and communication

Resolving an Alarm

Once the issue is fixed:

1. Open the alarm details
2. Optionally add a resolution note
3. Click **"Resolve"**
4. The alarm will be marked as resolved

Important: Only resolve alarms when the underlying issue has been truly addressed. Prematurely resolving alarms may mask ongoing problems.

Alarm Severity Levels

Severity	Color	Action Required
Critical	Red	Immediate attention required - may affect building operation
Warning	Amber/Orange	Should be addressed soon - potential issue developing
Info	Blue	Informational - monitor but no immediate action needed

9. Getting Support

Support Button

On your location overview page, you'll find a **Support** button in the upper right area. This allows you to submit support requests directly to the Automata Controls team.

Submitting a Support Request

1. Click the **Support** button (blue with a question mark icon)
2. A dialog will appear titled "Submit Support Request"
3. Select a **Support Type**:
    - 4. **Service:** For equipment issues, maintenance requests, or on-site support
    - 5. **Frontend/Programming:** For software issues, display problems, or feature requests
6. Enter a detailed **Message** describing your issue or request
7. Review the summary showing your location and email
8. Click **Submit Request**

> **Tip:** The more detail you provide in your support message, the faster we can assist you. Include specific equipment names, error messages, and when the issue started.

What Happens After Submission

- You'll see a confirmation message that your request was submitted
- The appropriate team is automatically notified via email
- You should expect a response within 24 hours
- For urgent issues, follow up with a phone call to your service contact

Contact Information

Contact Type	Details
Support Email	support@automatacontrols.com
DevOps Team	devops@automatacontrols.com
Website	https://neuralbms.automatacontrols.com

10. Nexus AI Analysis (Subscription Feature)

> **Note:** Nexus AI Analysis is a premium feature available with Automata Controls' subscription and preventative maintenance (PM) plans. Contact your administrator or Automata Controls for more information about enabling this feature.

What is Nexus AI Analysis?

Nexus AI is an advanced artificial intelligence system that analyzes your building's equipment and provides:

- Comprehensive facility health assessments
- Equipment performance analysis
- Predictive maintenance recommendations
- Energy optimization suggestions
- Anomaly detection and alerts

Facility Analysis

If enabled, you'll see a purple **"Nexus AI Facility Analysis"** button on your location overview page:

1. Click the **Nexus AI Facility Analysis** button
2. Wait while the AI analyzes your facility (may take 30-60 seconds)
3. A dialog will display the comprehensive analysis report

4. Review insights about all equipment at your location
5. Click **Close** when finished

Equipment Analysis

On individual equipment control pages, you may see a **"Nexus AI Analysis"** button:

1. Navigate to an equipment control page
2. Click the **Nexus AI Analysis** button
3. The AI analyzes that specific equipment
4. Review the detailed report about equipment status and recommendations

Analysis Reports Include

- **Current Status:** Overall health of the equipment
- **Performance Metrics:** How efficiently equipment is operating
- **Potential Issues:** Problems that may need attention
- **Recommendations:** Suggested actions to improve performance
- **Maintenance Notes:** Upcoming or recommended maintenance tasks

11. Understanding Thresholds

What Are Thresholds?

Thresholds are pre-configured limits that define normal operating ranges for your equipment. When values exceed these limits, the system generates alarms.

Common Threshold Types

Threshold	Description	Typical Range
High Temperature	Maximum acceptable temperature before alarm	Varies by equipment type
Low Temperature	Minimum acceptable temperature before alarm	Varies by equipment type
Space Temperature	Acceptable zone temperature range	Typically 65-78F
Communication	Time before equipment is marked offline	Usually 5-15 minutes

> **Note:** Thresholds are typically configured by your administrator or Automata Controls during system setup. If you believe a threshold needs adjustment, submit a support request.

How Thresholds Affect Alarms

When a monitored value crosses a threshold:

1. The system detects the threshold violation
2. An alarm is generated with appropriate severity
3. The alarm appears on your Alarms page
4. Configured personnel may receive email notifications
5. The alarm remains active until the condition clears and is resolved

Viewing Current Values vs Thresholds

On equipment control pages, you can often see:

- Current reading values in the metrics display
- Setpoint values that indicate target operating points
- Color-coded indicators when values are out of range

12. Troubleshooting

Common Issues and Solutions

Can't Log In

- Verify you're using the correct username and password
- Check that Caps Lock is not enabled
- Clear your browser cache and cookies
- Try a different browser
- Contact your administrator if problems persist

Dashboard Shows "No Equipment"

- Ensure you have a location selected in the sidebar
- Click the Refresh button to reload data
- Check the Firebase connection status in the header
- Wait a moment - data may still be loading

Equipment Shows "Offline"

- This may indicate a communication issue with the equipment
- Check if other equipment at the same location is also offline
- If multiple equipment is offline, there may be a network issue
- Submit a support request if the issue persists

Changes Won't Save

- Ensure you're entering the correct PIN
- Check your internet connection

- Refresh the page and try again
- The equipment may have gone offline during your session

Alarms Not Loading

- Check the WebSocket connection indicator (WiFi icon)
- If disconnected, the system will use fallback mode
- Click "Refresh Data" to manually reload alarms
- Clear browser cache if issues persist

Page Loading Slowly

- Check your internet connection speed
- Try closing other browser tabs
- Clear browser cache and reload
- Use a wired connection if possible

> **Tip:** If you encounter persistent issues, take a screenshot of any error messages and include them in your support request for faster resolution.

13. Glossary

Term	Definition
AHU	Air Handling Unit - equipment that circulates and conditions air
BMS	Building Management System - software to monitor and control building systems
Chiller	Equipment that produces chilled water for cooling
DOAS	Dedicated Outdoor Air System - provides fresh outdoor air
Fan Coil	Terminal unit that provides local heating or cooling
HVAC	Heating, Ventilation, and Air Conditioning
Lead/Lag	Control strategy where one unit (lead) runs primarily, another (lag) provides backup
OAR	Outdoor Air Reset - automatically adjusts setpoints based on outdoor temperature
RTU	Roof Top Unit - packaged HVAC unit typically on building roof

Setpoint	The target value that a control system tries to maintain
Supply Temperature	Temperature of water or air leaving equipment
Return Temperature	Temperature of water or air returning to equipment
Space Temperature	The actual temperature in a zone or room
Threshold	A limit value that triggers an alarm when exceeded
VAV	Variable Air Volume - system that varies airflow to zones
WebSocket	Technology for real-time two-way communication
Zone	An area of the building served by specific equipment