

SLM-EAC-ACT Controller

**User & Installation Manual • Environmental &
Access Control Module**

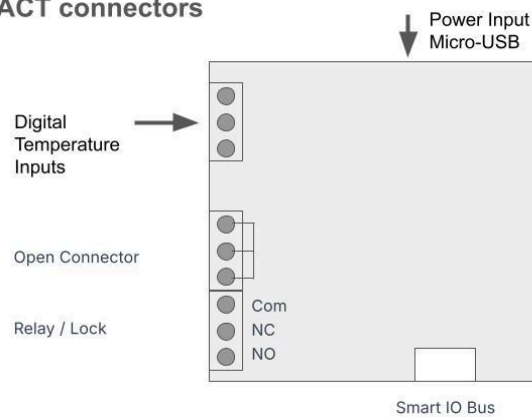
Section 1: Hardware Overview & Terminal Interfaces



The SLM-EAC-ACT is an industrial-grade rack environmental monitoring and electronic access control unit designed for critical infrastructure. It provides a centralized interface for thermal telemetry, leak detection, vibration, movement detection and secure entry management.

Terminal / Component	Type	Description
Power Input	Micro-USB	Main DC Power Supply Input
Relay / Lock Outputs	3-Pin Screw Terminal	Com / NO / NC terminal for internal relay for electronic door strikes/solenoids.
Digital Temperature Inputs	3-Pin Screw Terminal	One wire type digital temperature sensors
Open Connector	3-Pin Screw Terminal	Wire connector.
Smart IO Bus	Grove connector	Connectivity for smart input / output peripherals

S-SLM-EAC-ACT connectors

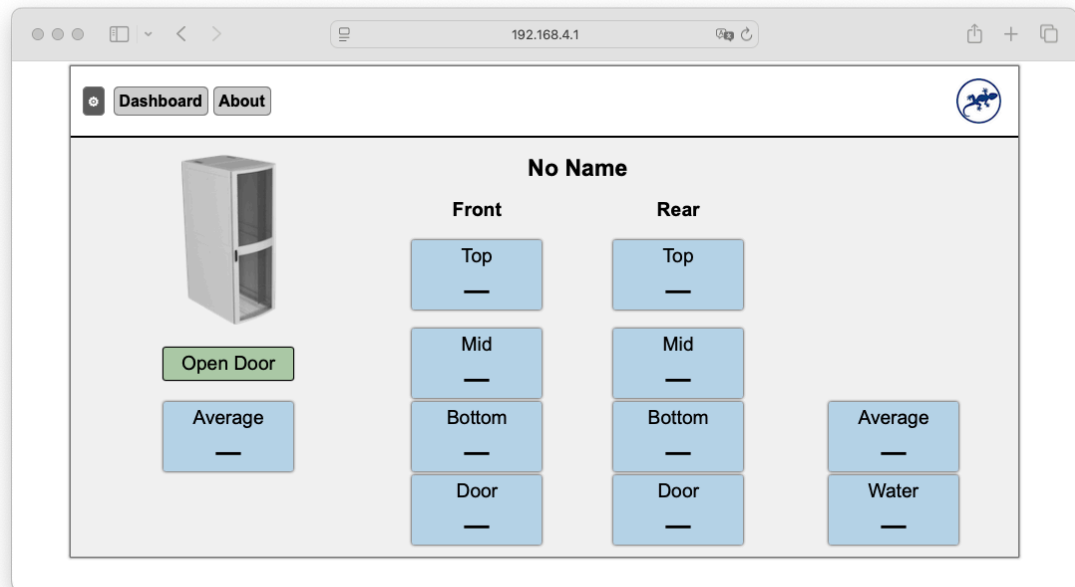


Overview

The SLM-EAC-ACT implements a wifi network for initial setup and configuration.

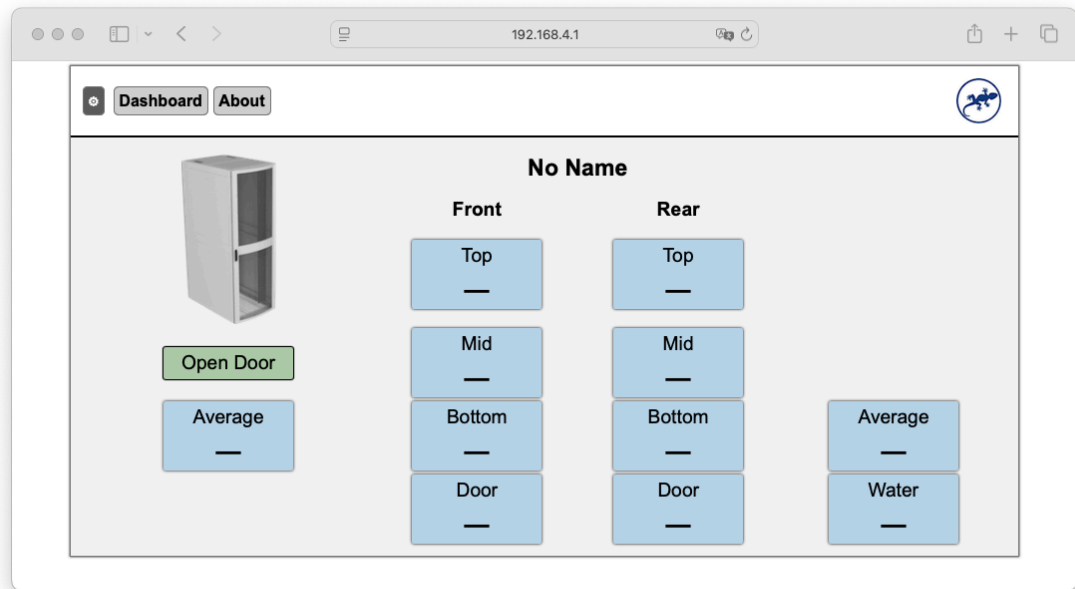
Initial configuration steps:

Connect to the "S-SLM-xxxxx" network. The device has a default IP address 192.168.4.1 and provides DHCP for seamless connectivity. Open a web browser and type "192.168.4.1". The Dashboard screen should show up.



Click the setup button in the top left corner.
Authenticate and proceed with the setup options that better suit your needs.

Section 2: Main Monitoring Dashboard



Rack Temperature Grid

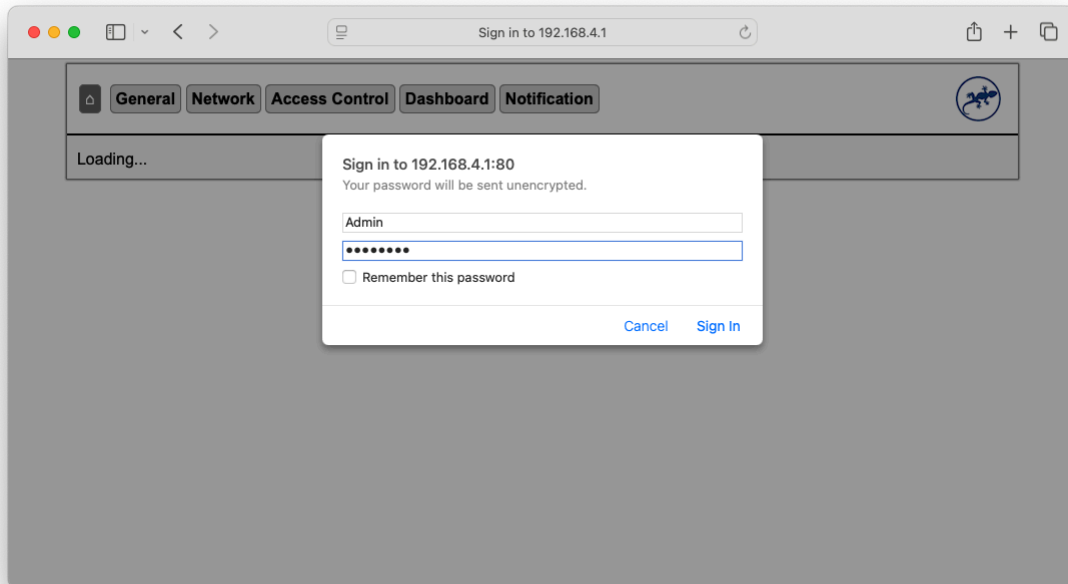
The dashboard provides real-time thermal telemetry across 6 key positions in the server cabinet to identify hotspots:

- **Front:** Top, Mid, Bottom
- **Rear:** Top, Mid, Bottom
- **Water Leak:** real-time water leak status.
- **Calculated Metrics:** Displays average temperature for front and rear.

Access & Door Controls

- **Physical Monitoring:** Real-time visual indicators for door position (Open/Closed) and alarm states.
- **Remote Trigger:** The "Open Door" button provides a one-click remote unlock trigger for using a PIN.

Section 3: Web Interface Sign-In & Authentication



To access the setup / configuration click the setup button in the up left corner.

Initial Connection Setup

- **Default IP Address:** 192.168.4.1
- **Access Method:** Connect a configuration PC via Wi-Fi (look for S-SLM-xxxxx).
- **Browser Compatibility:** Open any modern web browser (Safari, Chrome, Edge, Firefox) and navigate to <http://192.168.4.1>.

Authentication & Security

- **Default Username:** Admin
- **Default Password:** Admin001
- **HTTP Basic Auth:** Users are prompted for credentials upon accessing configuration tabs such as General, Network or Access Control.
- **Security Note:** The device can be connected to an existing wifi network with a static IP address. If accessible by other users, it is critical to change the default admin password to protect against unauthorized access.

Section 4: General Settings & Controller Topology

The screenshot shows a web browser window with the address bar displaying '192.168.4.1'. The interface has a top navigation bar with tabs: 'General' (selected), 'Network', 'Access Control', 'Dashboard', and 'Notification'. A home icon is on the left, and a satellite icon is on the right. The main content area is titled 'General' and contains the following fields:

- Satellite Name:** A text input field.
- Activate relay at:** A dropdown menu currently set to 'HIGH'.
- Sync Time:** A numeric input field set to '50000' with a unit of 'seconds'.
- Sensors:** A section with five rows, each with a label and a checkbox:
 - Input 1 [Switch 1]: ☐ Connected
 - Input 2 [Switch 2]: ☐ Connected
 - Input 3 [Button 1]: ☐ Connected
 - Input 4 [Button 2]: ☐ Connected
 - Water Leak: ☐ Connected

A 'Save' button is located below the sensor settings. Below a horizontal separator, the 'Master and Slave Mode' section contains:

- Connected to:** A text input field with the placeholder 'IP Address' and a note 'Leave empty for Standalone Mode'.
- A 'Connect and Register' button.

Below another horizontal separator, the 'Sensor Calibration' section is visible.

General Controller Parameters

- **Satellite Name:** Assign a unique identifier, such as Rack-A01 (required in Slave mode).
- **Activate Relay At:** Configure activation pulse logic level to either HIGH or LOW depending on the lock hardware requirements (default: High) .
- **Sync Time:** Define the interval timing in seconds for master server synchronization (Only in Slave mode).

Sensors & Input Assignment

Some versions of the S-SLM-EAC satellite controller offer additional input / output features. The system provides live status updates for the following physical connections:

- **Input 1 & 2:** Door status contact switches.
- **Input 3 & 4:** Physical push buttons.
- **Water Leak:** Dedicated leak detection cable circuit status.

Section 5: Multi-Unit Topology & Maintenance

The screenshot shows a web browser window with the address bar displaying '192.168.4.1'. The page is divided into four main sections:

- Master and Slave Mode:** Includes a 'Connected to:' label, an 'IP Address' input field with a placeholder 'Leave empty for Standalone Mode', and a 'Connect and Register' button.
- Sensor Calibration:** Displays 'No temperature sensors connected' and a 'Save Changes' button.
- Change Password:** Features a 'User:' dropdown set to 'Admin', and three input fields for 'Old Password:', 'New Password:', and 'Confirm New Pw:'. A note specifies: 'Password should: min 8 characters, include: numbers and upper and lower case letters and symbols'. A 'Change Password' button is at the bottom.
- Advanced Settings:** Contains links for 'Controller Stat', 'Restart', 'Factory Reset', and 'Update & Register Sensors'. A red warning message states: 'Please do not turn off the controller or disconnect it from power during the update, as this may corrupt the system. This process may take a few minutes, meanwhile, the controller may become unavailable and will restart after update is completed.' Below this is an 'Uploader File' section with a 'Choose File' button, the text 'no file selected', and an 'Update' button.

Master / Slave Mode

- **Connected to (IP Address):** Enter the IP address of the central Master controller for Master / Slave integration.
- **Standalone Mode:** Leave this field empty if deploying as a standalone single-rack unit.

Sensor Calibration

When connected with digital temperature sensors, calibration is possible for each sensor for higher accuracy.

Sensors are automatically discovered during boot. A table listing all discovered temperature sensors would show-up.

Security & Credentials

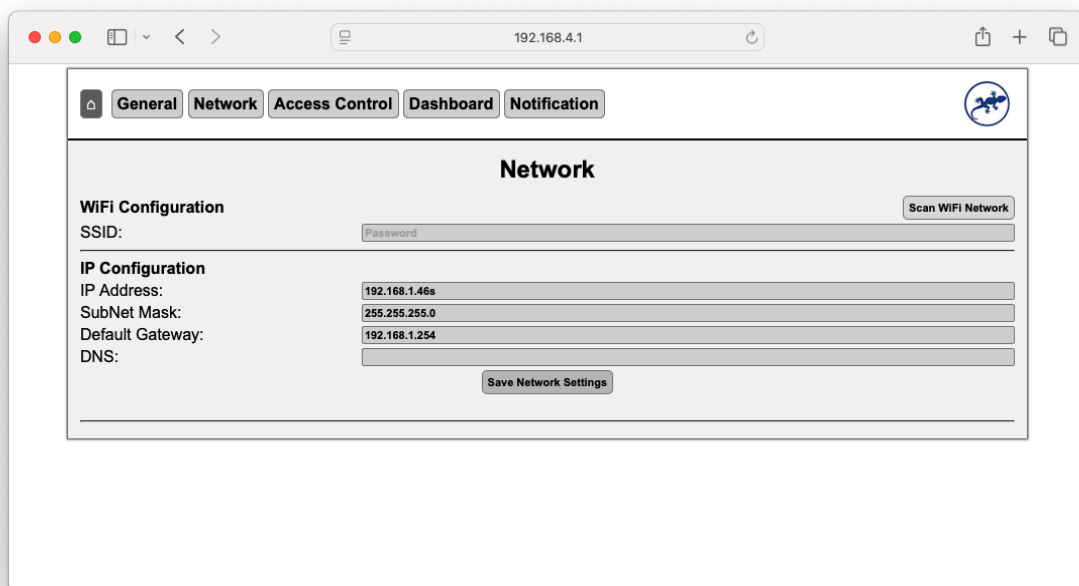
NOTE: There is no recovery for the device password except sending it back for resetting with the factory setup. Make sure you don't forget the new password. Ensure passwords meet the minimum security threshold:

- Minimum 8 characters.
- Combination of numbers, upper & lower case letters, and symbols.

CRITICAL NOTICE - Firmware Update & Maintenance

WARNING: Do not turn off the controller or disconnect power during firmware updates. Interrupting the process may result in system memory corruption and hardware failure.

Section 6: Network & Wi-Fi Configuration



The screenshot shows a web browser window with the address 192.168.4.1. The interface has a top navigation bar with tabs: General, Network (selected), Access Control, Dashboard, and Notification. A logo is visible in the top right corner. The main content area is titled "Network" and contains two sections: "WiFi Configuration" and "IP Configuration".

WiFi Configuration

SSID: Password:

IP Configuration

IP Address:

SubNet Mask:

Default Gateway:

DNS:

Network configuration is only required for connectivity to an existing wifi network.

If using in standalone mode, the SLM-EAC-ACT may use the internet Access Point wifi network to support direct connectivity.

2.4G networks are supported and the unit requires a static IP address. Make sure the static IP address is removed from the DHCP pool.

Wi-Fi Configuration

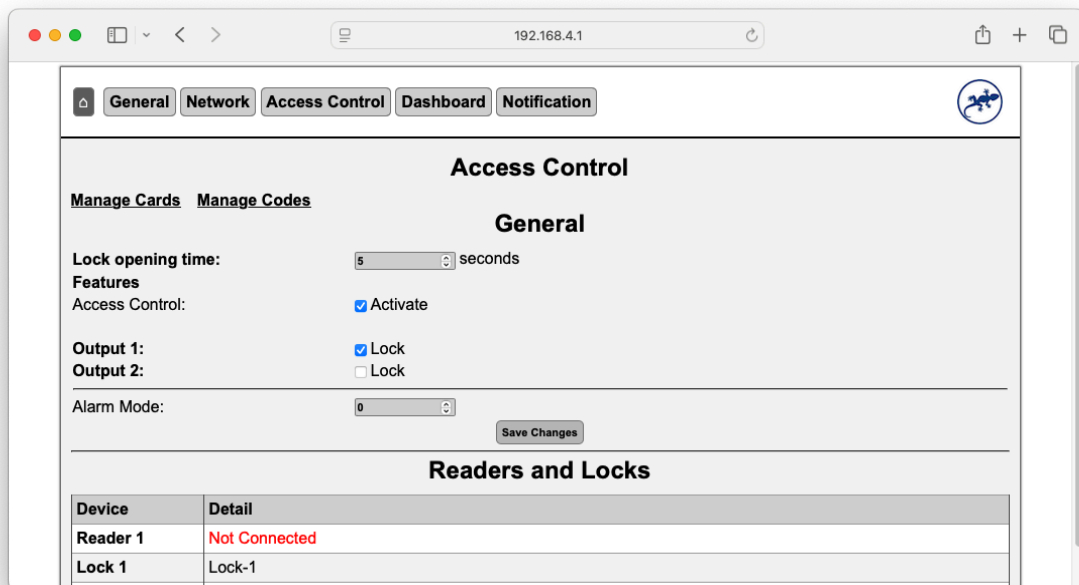
- **Scan Wi-Fi Network:** Use the interface to discover local SSIDs.

- **Credentials:** Enter the SSID and Password for the facility network.

IP Configuration

Setting	Typical Value / sample
Assigned IP	192.168.1.46
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.254
DNS Server	Required for email/SMS alert delivery.

Section 7: Access Control & Lock Management



The SLM-EAC-ACT has integrated access control features that must be activated in this setup section.

Lock & Relay Parameters

- **Lock Opening Time:** Set the pulse duration (default 5 seconds).
- **Access Control:** Activate if access control features are required.
- **Output Activation:** Toggle Output 1 & 2 activation switches. These control the action of the internal relay (Output 1) and external relay (Output 2).
- **User Management:** Use the "Manage Cards" and "Manage Codes" tabs to enroll users.

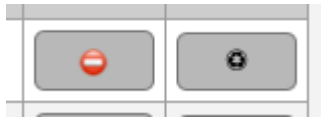
Manage Cards - Control Icons Legend Reference

The Manage Cards option list all cards discovered by the RFID module. To enable access for any card just click the enable button.

New cards should be programed one-by-one so you can keep track on the card order. Note the discovery of cards only displays it's RFID code that you can translate to a name.

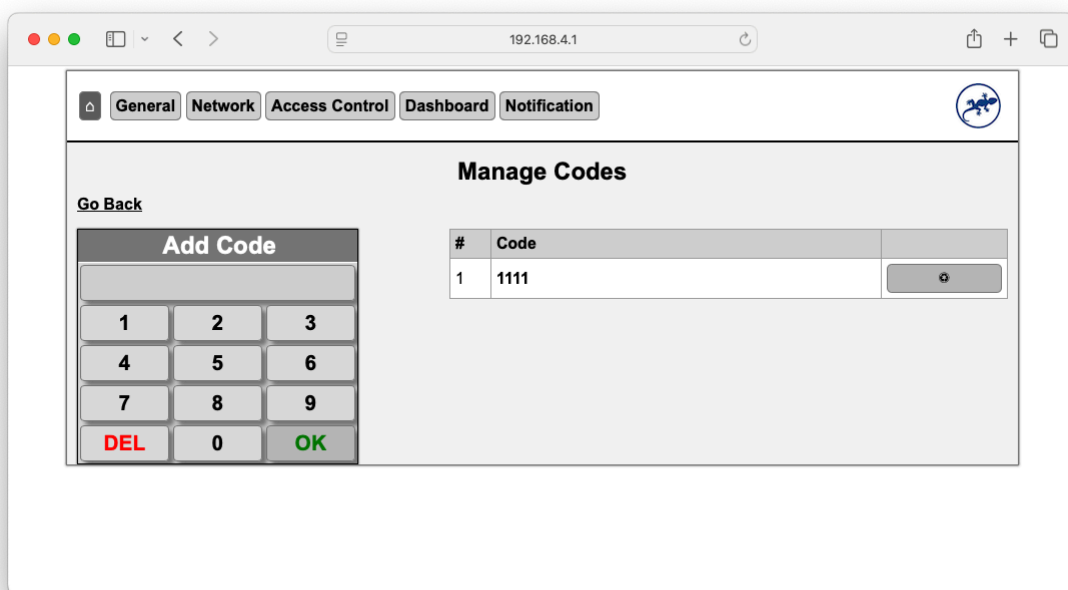
To remove access from a card just click the disable button.

To permanently delete a card from the controller memory, click the delete button



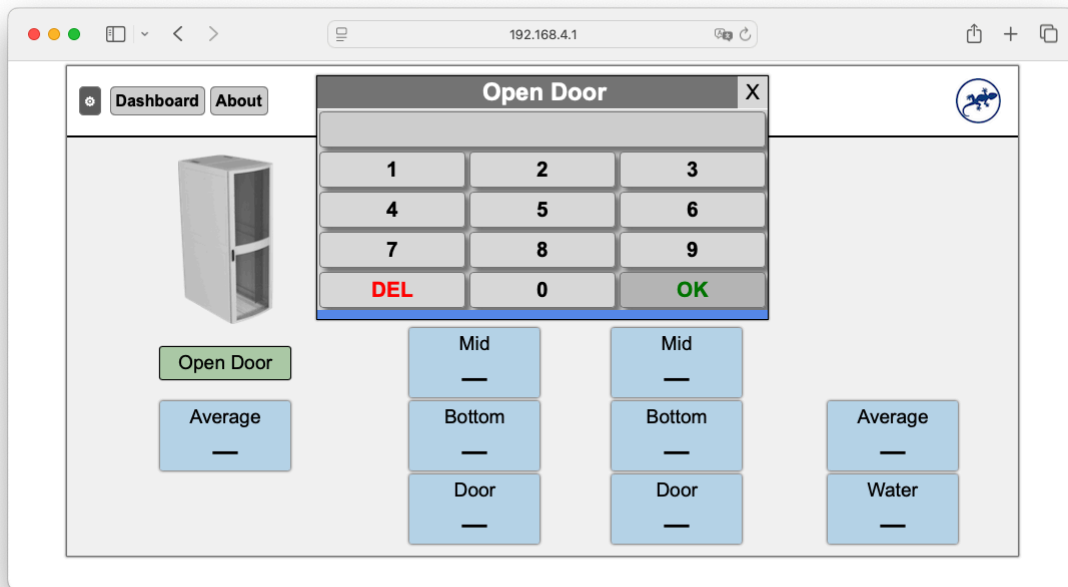
Manage Codes

The Manage Codes feature lists all codes - PIN - that may open the lock.



Users connected to the network where the controller is connected (controller AP mode wifi network / existing customer network) can open the lock by using an available PIN.

The "Open Door" button in the Dashboard screen activates the keypad for PIN introduction.

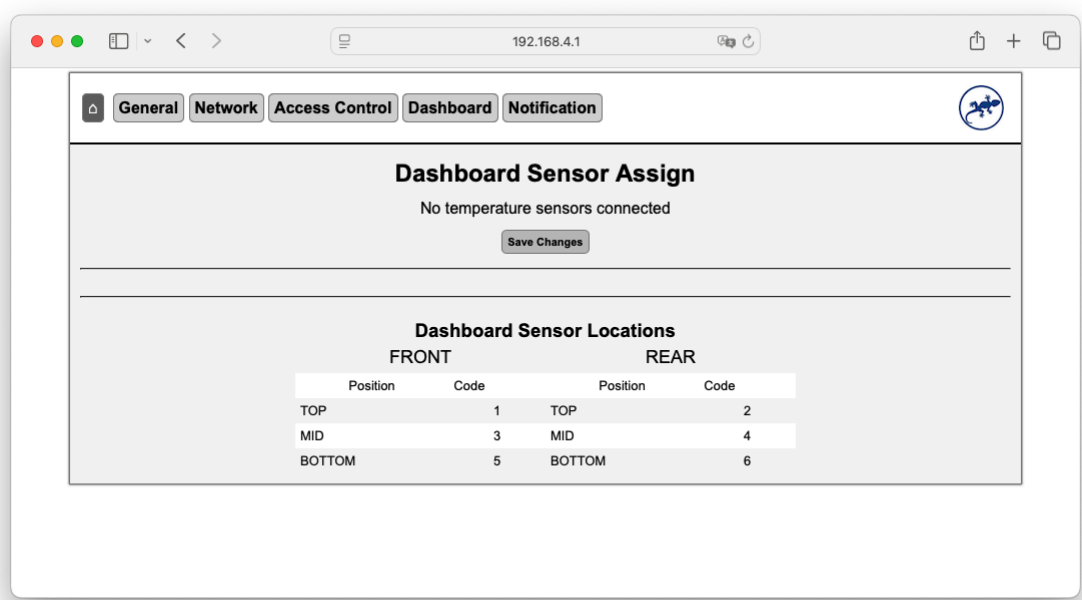


Readers and Locks Status

Reader	Status
Reader 1	Connected / Disconnected
Lock 1	Lock name
Lock 2	Lock name

The Reader 1 is discovered during boot. Make sure it is physically plugged before powering up the controller.

Section 8: Sensor Mapping & Location Assignment



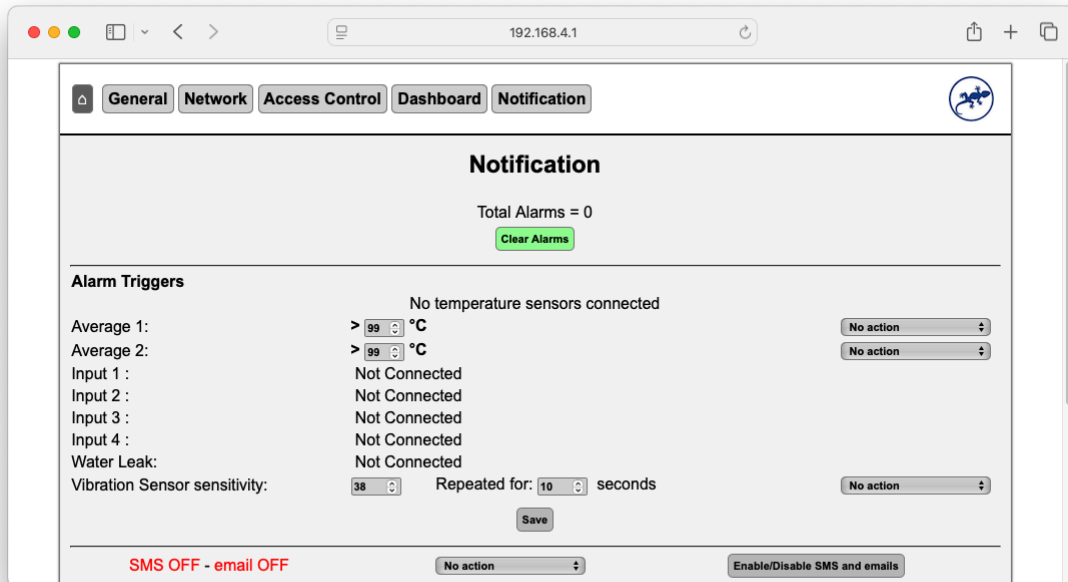
Dashboard Sensor Assign

The controller utilizes dynamic detection of connected 1-Wire or digital temperature probes on the sensor bus. Probes must be mapped to physical locations for accurate dashboard reporting.

Dashboard Sensor Locations Matrix

Position	Positional Code
FRONT TOP	Code 1
REAR TOP	Code 2
FRONT MID	Code 3
REAR MID	Code 4
FRONT BOTTOM	Code 5
REAR BOTTOM	Code 6

Section 9: Alarm Thresholds & Notifications



Thermal & Input Alarm Triggers

- **Temp Limits:** Set thresholds (e.g., > 99°C) to trigger high-temperature alarms.
- **Digital Inputs:** Configure alert actions for door forced open or water leak detection.
- **Vibration Sensor:** Adjust sensitivity (0-100) and duration filters (e.g., repeated movement for 10 seconds).

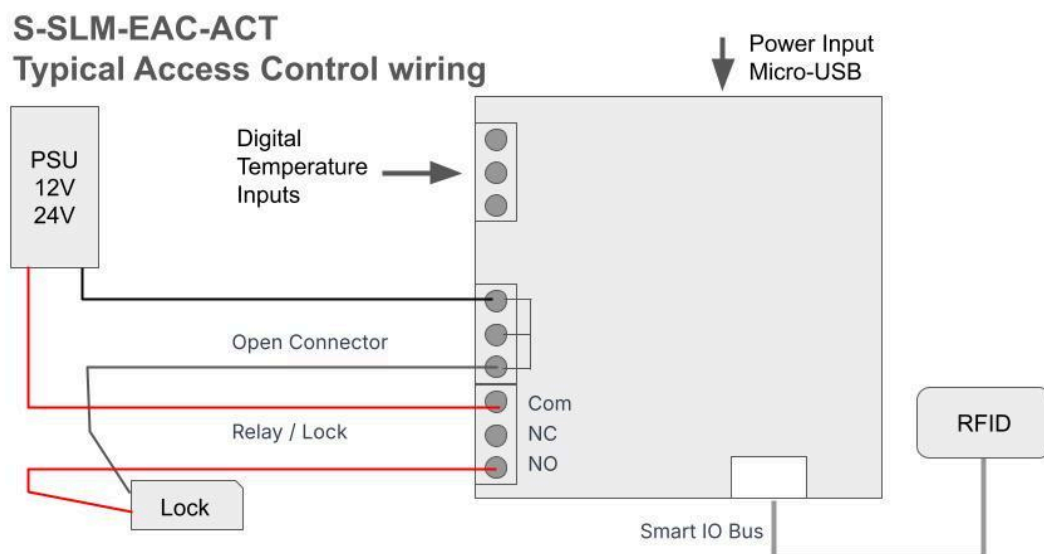
Alert Channels & Monitoring

- **Notification Toggles:** Enable or disable SMS and Email alerts globally.
- **Acknowledge Alarms:** Use the "Clear Alarms" button to reset active latched alarms after an event is investigated.

Section 10: Quick Installation Checklist

1. Look for a suitable position inside the cabinet. The SLM-EAC-ACT module should be within reach for cables from door locks, temperature sensors and power units.
2. Mount the SLM-EAC-ACT module onto the rack chassis using standard screws Velcro or Cable ties.
3. Connect 12V/24V DC power to the Relay screw terminals. This power supply unit specifications depend on the type of locks being used.
4. Wire electronic door lock strikes to Output Relays 1.
5. Connect thermal sensor bus cables and place probes at Front/Rear Top, Mid, and Bottom positions.
6. Power the SLM-EAC-ACT module with the provided micro-usb PSU.
7. Access the web interface at 192.168.4.1, set the network IP, and configure access credentials.

Typical access control use



Revision: Mar26