

NETWORK 1275 Danner Dr Tel:330-562-7070 TECHNOLOGIES Aurora, OH 44202 Fax:330-562-1999 INC www.networktechinc.com

ENVIROMUX[®] Series

E-MNG-SH

Enterprise Environment Monitoring System Self-Hosted Management Software

Status & Alerts 🗷 Edit 🙁										
Server Room	Alerts	Alerts								
	Sensor	Sensor	Sensor	Sensor	Device	Last		IP Address-	Device Name\$	Status≎
	Name+	Value\$	Status≑		Name\$	Updated\$		10.0.1.16	Furnace Room E-2D	Normal
	E-5D E04 Port 2 ACLM-	0.0 Hz	Alarm	External Sensors	E-5D E04 DDNS	4 sec. ago		147.0.27.197	E-16D Server Rack Monitor	Normal
	Frequency E-5D E04	5.6 V	Alarm	External	Test Unit E-5D E04	4 sec. ago		147.0.27.207	E-2D Lab Room Environment Monitor	Normal
	Port 2 ACLM- Voltage			Sensors	DDNS Test Unit			147.0.27.208	E-5D Server Rack Monitor	Normal
	E-5DEL E07	Lights	Alarm	Digital	E-5DEL-1	1 sec. ago		147.0.27.212	E-5D E04 DDNS Test Unit	Alert
	Light	On	AldIII	Inputs	(E07)	T SEC. ayu		147.0.27.218	E-2D P05	Normal
	Detector (2)							192.168.1.100	E-16D 24V IPMI Rack	Normal
	<u> </u>			Previous	1 Next			192.168.3.100	E-16DEL-1 (Master)	Normal
Server Room Temperature	Server Rack & Lab							192.168.3.101	E-16D S1	Normal
	Server Rack & Lab	5			1			192.168.3.200	E-16D P02	Normal
et s	Sensor Name	•		Sensor Value\$	Sensor Ty	pe¢	Updated \$	192.168.3.213	Oper8 Test Unit	Normal
64.4 81.5 98.6	Computer Lab	Temperature		72.8 °F	External S	ensors	3 sec. ago	192.168.3.217	E-5D-48V	Normal
47.3 115.7	Computer Lab	Humidity		27.4 %	External S	ensors	3 sec. ago	192.168.3.221	E-2DB P02	Normal
	Server Rack Te	emperature		77.4 °F	External S	ensors	3 sec. ago	192.168.3.222	E-2D E12	Normal
30.2 132.8	Server Rack H	umidity		21.2 %	External S	ensors	3 sec. ago	192.168.3.223	E-2DB E11 (RevF)	Normal
13.1 149.9	Equipment Lat	1 Temperatu	re	77.7 °F	External S	ensors	3 sec. ago	192.168.3.225	E-5D E02	Normal
°F	Equipment Lab	0 1 Humidity		21.2 %	External S	ensors	3 sec. ago	192.168.3.227	E-2D P04	Normal
-4.0 167.0	Equipment Lat	2 Temperatu	re	79.6 °F	External S	ensors	3 sec. ago	192.168.3.80	E-16D E100	Normal
▼ 75.2	Equipment Lat	2 Humidity		22.1 %	External S	ensors	3 sec. ago	192.168.3.81	E-5DEL-1 (E07)	Alert
1512	Computer Lab Ter	nperature						192.168.3.82	E-2DB E08	Normal
		y 1 Wk 1	Mo 6 Mo	2 Yr				192.168.3.83	E-5D E01	Normal
Server Rack Main Voltage				Te Min. Com	puter Lab Te	Avg. Com	puter Lab Te	98.27.170.240	Remote E-5D	Normal
	82.00 °F 80.00 °F							-		
Server Rack Main Voltage	78.00 °F									
110 71/	76.00 °F 74.00 °F		~		_					
118.7 V	72.00 °F						~~~~			
	70.00 °F 68.00 °F									
Normal	66.00 °F									
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CHANGES

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VERSION

Release Version 1.6.7.0

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INTRODUCTION

E-MNG-SH is a self-hosted Software program that provides an easy-to-use, unified interface for monitoring and configuring up to 3,000 E-16D, E-5D, E-2D, E-MICRO-TRH(P) and E-1W(P) monitoring systems (Devices) and all connected sensors (internal, external, digital input and IP sensors and output relays via Ethernet. Supported IP sensors (when connected to Devices) include E-MICRO-TRH(P) and E-1W(P). The Software is installed on a Windows-based server or computer (the Server) to actively poll all Devices for status information and alerts. Any computer, smartphone, or tablet with a web browser can be used to access the Software. All enabled users can be kept up to date on sensor statuses and be alerted instantly when a sensor goes out of range of a configurable threshold.

Features:

- Devices may be monitored individually or in a group
- Display values and status for individual sensors or list of sensors.
- Supports HTTP REST API to poll and download sensor data with response in JSON format.
- Unlimited number of users can access the Software program at the same time.
 - o Users can configure their own Dashboards to display the data relevant to them and the window arrangement.
- Customize Dashboards to display Device status, sensor data, gauges, graphs, maps and IP camera snapshots.
- Any computer, smartphone, tablet with a web browser installed can be used to access the Software.
 - o Access is operating system independent through the HTML5 user interface on the computer/smartphone/tablet's web browser.
 - o No clients or special apps to install.
- Sends email and/or SMS alert messages.
 - o Supports all email servers, including Gmail.
 - SMS providers supported: Twilio, Sinch
 - Customize messages for each sensor by creating message templates.
- Self-hosted Software ideal for users in industries that require local Software management solutions for security or data privacy purposes.
- Plot the placement of E-LLDC-xx Liquid Location Detection Sensor Cables on floor plan maps to visually see the specific location of liquid presence when detected.

Software Requirements:

- Windows 7/8/10/11 64-bit, Windows Server 2008/2012/2016/2019/2022 64-bit.
- Requires minimum firmware version 4.15 or later in E-xD Devices. We recommend version 4.19.
- Requires minimum firmware version 3.28 and maximum version 3.32 in E-MICRO-TRH(P) Devices.
- Requires minimum firmware version 3.10 and maximum version 3.15 in E-1W(P) Devices.

Note: We recommend the server/computer is protected by a firewall and anti-virus software if the server /computer is going to be accessed from the internet.

Server Roles and User Access:

One user is assigned as Super Admin to register the license and complete Software setup, plus has access to all Admin privileges.

Users with Admin access have privileges to add/delete E-xD Devices, edit sensors, set up Dashboards, acknowledge/dismiss alerts, simulate alerts, view logs, view sensor data, and monitor Dashboards. Admins can also add/edit/delete users (Administrators and Operators). Any number of users can be assigned as Admin.

Users with Operator access can acknowledge/dismiss alerts, view logs and sensor data, and monitor Dashboards. An unlimited number of users can be assigned as Operator.

Users with Read Only access can view alerts, logs, sensor data and monitor Dashboards. An unlimited number of users can be assigned as Read Only.

Virtual Machines

The E-MNG-SH self-hosted Software program now supports a floating Virtual Machine-friendly license.

Version with Non-Renewing License

To use a version of the self-hosted Software program that does not require monthly license renewal, order E-MNG-SH**NR**. The server still needs to have access to the internet for trial activation but offline activation for this version is explained on page 8.

Hardware Requirements

Below table contains details on recommendation for Minimum Server Hardware requirements for running E-MNG-SH. Storage space required depends on your Log Level, number of ENVIROMUX devices added, IP Camera Recording rate, number of logs retained and Log Rolling Period. For software installation we recommend minimum of 3GB free space. We recommend to start with minimum 250GB total storage space and expand as needed.

Number of ENVIROMUX Devices	Server CPU Core Count Required	RAM size Recommended
10	4	6GB
30	6	8GB
600	8	12GB
1100	8	16GB
1600	12	20GB
2100	12	24GB
2600	14	28GB
3000	14	32GB

NOTE: We strongly recommend SSD for storage instead of HDD

Network Port/Firewall Requirements:

To communicate with devices E-MNG-SH uses HTTP/HTTPS port as set on ENVIROMUX devices added.

To communicate with users E-MNG-SH uses HTTP/HTTPS port as set in Settings -> Network Settings of Server's IP

For License lock renewal and Gmail/Microsoft 365 authorization E-MNG-SH should be able to access https://www.networktechinc.com on port 443

For Gmail and Microsoft 365 emails E-MNG-SH should be able to access respective email server domains

For SMS through Twilio/Sinch E-MNG-SH should be able to access respective SMS server domains

MATERIALS

Materials supplied with this package:

NTI E-MNG-SH ENVIROMUX Self-Hosted Management Software including:

- NTI ENVIROMUX-Management-Software-Installer_Vx.x.x.x _x64.exe (vx.x.x.x = the version number) The current version number is 1.6.7.0.
- Adobe pdf file of this manual

LIMITATIONS

•

- The Management Software:
 - Managing Device sensors on cascaded Devices are not supported currently.
 - Internet Explorer does not work with the E-MNG-SH Software

DOWNLOAD

To get the installer, go to our website .

- If you wish to evaluate the software, click on "Request Server Software Evaluation" and fill out the registration form.
 We will send the files and you can install it as described under "Installation".
- To purchase the software, you can go to our website or contact an authorized representative or NTI sales associate directly at 330-562-7070. NTI will email you links to the software and a link to request a license activation key.

Self-Hosted Enterprise Environment Monitoring System Management Software

Monitor and configure up to 3,000 ENVIROMUX environment monitoring systems and all connected sensors. Access from anywhere using a web browser on a computer, smartphone, or tablet. No clients or special _____ apps to install.

Request Server Software Evaluation

(Requires ENVIROMUX unit)

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		View (NTI			agement Software tion Request Form		Home Contact	Us
		(Does NOT re	quire i	ENVIRO	MOX UNIC)	Products	Applications	Support	Resources	Partners	Where to Buy A	bo
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	Last Updated: now	11.11.11 	1	-		* 11	ENVIROMUX units do]				
			-	-		How many	ENVIRUMUX UNITS DO	o you pian on mar	aging?			
	E-MNG-SH Self-Hoste							1				
	E-MNG-SH Self-Hoste	a Enterprise E	Softw		ionitoring	End User L	License Agreemer	nt				
			301 CW	аге								
						Network Tec	hnologies Incorporated (.	NTI)				
							X Management Software	Soltware				
						End User Lice	ense Agreement					
						You, as the C	ustomer, agree as follows	e.				
											•	

* \bigcirc I Agree to the End User License Agreement \bigcirc I Do Not Agree

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Whether you are evaluating the software, or purchasing it, you will receive an email with links for a download of the software. **NOTE: The download exe files can only be accessed and downloaded once.** Please be sure that you will be able to save the files to a local computer prior to using the links.

Submit

The email will also include the serial number for your copy of the software. Be sure to make note of it as you will need to refer to it when you request the license key or if you call for assistance with the software.

INSTALLATION

To install the Software on a Windows-based server or computer, double-click the ENVIROMUX-Management Software-Installer. (No need for Administrator privileges).



Figure 2- Locate the installation file on your local hard drive

Click to "Agree".	NTI ENVIRCHADX Management Software License Agreement.
	Methodsky Excharge-provided (NTL) EVEX.XDBUK Monogenent Software Software Ind List Listenik Agreement Vou, as the Customer, epres as follows: I. DEFINITIONE I.1 "Application Software", shell mean the ENVIRONX Management Software to fishere ************************************
	Disagree

Figure 3- Agree to terms

Choose whether to install the software as an application or as a service. Installing as a service is **strongly recommended**. As an application, you will need to open the application each time the server it is installed on is powered ON, and only then will you be able to access it from other devices. As a service, the software will open and be ready to access any time your power the server ON. If you click "Cancel", the software will not be installed.

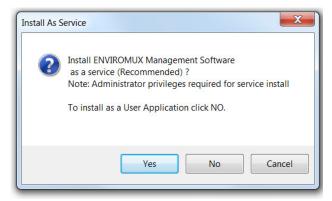


Figure 4- Install software as a service, or an application

The email address needs to be a valid email address. The password will be whatever you want to use to access the E-MNG-SH Software. After entering that information, click "Set Admin".

inter email address of administrator account. This is the em o register for license and to receive software alerts	iil
mail Address	
Email	
assword	
Password	
confirm Password	
Confirm Password	
Set Admin	

Figure 5- Create Admin login account

You will be prompted for a license key. To request a license key, <u>contact NTI</u>. This key will be unique to this Windows user and installation of the management program. You will need the serial number for the software provided on the email that provided the software download. If you already have a license key enter the license key here and click "Activate License".

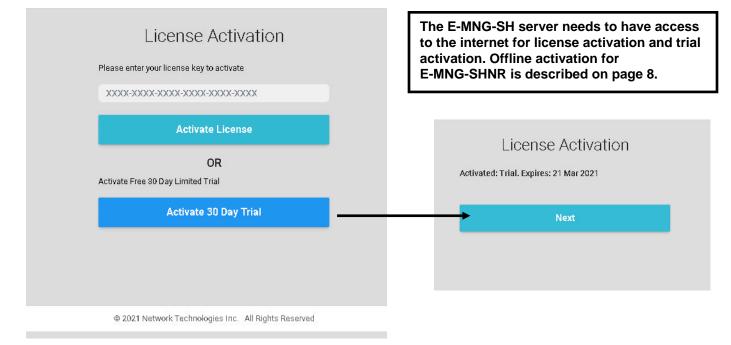


Figure 6- Activation screen

If you choose to just demo the Software at this time, click "Activate 30 Day Trial". You can activate the license later by going to the Settings -> Application Settings page. With a trial activation, the software will be fully functional for 30 days, after which you will need to activate the license to resume operation. None of your settings will be lost.

Note: The 30 Day Trial activation will only work if the computer the ENVIROMUX Management Server is on is connected to the internet during the trial activation.

If the license key you received is for the E-MNG-SHNR and you have installed the ENVIROMUX Management Server to a computer that is offline, when you enter the key you will be prompted for "Offline Activation" and a "License File" (see page 8).

NTI E-MNG-SH Self-Hosted Enterprise Environment Monitoring System Management Software

ENVIROMUX Management Software

Monitor	. •	Application Settings		License	
Events		Application Settings			Current License: Activated: Trial
Devices		Language	English	Upgrade to new License	3000-30
Settings			Display language for server		Enter License Key
plication Settings		Device Poll Rate	5000		Error 1428: Could not connect to NTI servers for license activation WinHttpSendRequest. The server name or address could not be resolved (0x2ce7) 12007
twork Settings			Delay between poling of sensor data for each device in millisecond. Minimum: 1000		Activate New License
er Settings		Date Format	MMIDDYYYY	*	
			Date Format to show values in	Offline Activation	
About	٠	Time Format	hh MM SS TT	~	
	(**		Time formal to display values. HH: 24 hour format, hit: 12 hour formal, TT: AM/PM		Download License Request File
	-	System Log Roll Period	Hourty	~	If you don't have internet on this PC, download "Joanse Request File" to by Offine Astronom through another PC that has internet. Upon
			System logs will be rolled every new period as set above		Requesi File needs to be submitted to https://www.netwsdfdsaforkteching.com/licenasdfasdse-activation.php
		Number of System Logs to Store	168		
			Number of rolled system logs to keep on disk	License File (*Jic)	Choose File No file chosen
		System Log Level	DEBUG	~	
		- TWEEL CONTRACTOR OF THE STREET	System Log Level, Recommended: INFO		Upload License File

Figure 7- Activate later

If using an E-MNG-SH license, once the software license is activated, the software will renew the license lock every 30 days. If the Server is not connected to the internet, the software will continue to function for 30 days after the first attempt to renew the lock. After 5 days of unsuccessful attempts (once each hour), the following screen (right) will replace the standard License Activation screen. Within the next 25 days you will need to connect the Server to the internet and have it autorenew or manually click the "**Try License Renewal**" button.

Notifications will be sent to registered users via email when there is only 14 days, 7 days and 2 days left before expiration.

Failure to successfully renew the license will result in the software becoming unusable.

Note: To access the activation server an exception may be needed in your firewall by domain name with domain www.networktechinc.com port 443

If exception cannot be added by domain name and the IP address is really necessary then allow 65.243.248.0/25 subnet port 443 (this format automatically includes 65.243.248.0 thru 65.243.248.127 in the exception)

License Activation

Your license has been used or we could not reach NTI servers to renew. Please check your network connection and try again.

Try License Renewal

If you wish to try an alternate license key please enter the license key below to activate

XXXX-XXXX-XXXX-XXXX-XXXX-XXXX

Activate License

Figure 8- Manually Renew License

Alternatively, you can purchase <u>E-MNG-SHNR</u> which is a version of the software that can be activated using internet connection or offline and does not require a license lock renewal in order to continue functioning. (Offline activation for E-MNG-SHNR is described on page 8.) Call **NTI at 330-562-7070** or contact your NTI sales representative for more details.

When installed as a service, if the software crashes for any unforeseen reason, it is set to auto restart up to 3 times within a three hour window. If it crashes more than three times, it will not auto restart. Contact NTI for assistance with any crash.

Cloning Software

If the Software is installed on a virtual machine (VM) and this VM needs to be cloned to another computer, this can be done and the Software will continue to work with the same activation license, however only one instance of the activated software will function at a time. When you clone a VM like this, please be sure to shutdown the old software or uninstall it, before the next license renewal. If you continue to run both old and cloned software, with the same license, they will interfere with each other and one of them will get locked out.

7

Offline Activation

If the license key you received is for the E-MNG-SH**NR**, and you are trying to activate the software offline, when you enter the key the activation will fail and you will be prompted for "Offline Activation" and a "License File".

XXXX-XXXX-XXXX-XXXX-XXXX	
Enter License Key Error 1428: Could not connect to NTI servers for license activation WinHttpSendRequest: The server name or address could not be resolved (0x2ee7) 12007 Activate New License	Note: If the "Offline Activation" and "License File" prompts disappear, simply enter the first license key again to cause then
	to re-appear.
Download License Request File	her PC that has internet. License
Choose File No file chosen	
Upload License File If you have received the License File from https://www.networktechinc.com/license-activation.phpfor a licen	
	Enter License Key Error 1428: Could not connect to NTI servers for license activation WinHttpSendRequest: The server name or address could not be resolved (0x2ee7) 12007 Activate New License Download License Request File If you don't have internet on this PC, download "License Request File" to try Offline Activation through anot Request File needs to be submitted to https://www.networktechine.com/license-activation.php Choose File No file chosen Upload License File

Figure 9- Offline Activation prompts

Click once on "**Download License Request File**". The ENVIROMUX Management Software will automatically save a *xxxx.req* (License Request File) to the browser's configured download directory. Transfer that *xxxx.req* file to a computer that has internet access that can connect to the NTI website.

From a browser on the internet-connected computer, go to the Offline Activation URL

<u>https//www.networktechinc.com/license-activation.php</u> and upload the *xxxx.req* file (License Request File). Make sure the computer does not have any internet filters in place that would block a download. You will receive a *xxxx.lic* (License File) in return.



Activate your E-MNG-SHNR license even if your server (where E-MNG-SHNR Management Software is installed) does not have internet access. You should have downloaded a license request file from the management software, after entering the license key there. See page 7 in the <u>manual</u> for details. If you have not received your license key yet, please contact an NTI product consultant. Please note this method of offline activation cannot be used for evaluation licenses or floating virtual machine licenses. * Required Fields License Request File





Transfer this License File back to the ENVIROMUX Management Software server, click "Choose File" and select the License File downloaded. Now click once on "**Upload License File**" to upload and activate the ENVIROMUX Management Software license file.

Note: If the "Offline Activation" and "License File" prompts disappear, simply enter the first license key again to cause them to re-appear.

Using Proxy

If your server needs to use a proxy to reach NTI license server or any ENVIROMUX devices, you can setup WinHTTP proxy and software will use this proxy server to reach the NTI license server.

The *Netsh.exe* tool is used to configure a system-wide static proxy. You can use commands in the netsh winhttp context to configure proxy and tracing settings for Windows HTTP. The Netsh commands for winhttp can be run manually at the netsh prompt or in scripts and batch files.

To configure a proxy server by using the Netsh.exe tool

To use the Netsh.exe tool to configure a proxy server, follow these steps:

- 1. Select **Start** > **Run**, type cmd, and then select **OK**.
- 2. At the command prompt, run the following command and then press <Enter>.

netsh winhttp set proxy <proxyservername>:<portnumber>

In this command, replace <proxyservername> with the fully qualified domain name of the proxy server. Replace <portnumber> with the port number for which you want to configure the proxy server.

For example, replace <proxyservername>:<portnumber> with proxy.domain.example.com:80.

For more on setting up the winhttp proxy, please refer to the below link:

Microsoft Netsh winhttp proxy

Don't forget to restart E-MNG-SH service after setting the proxy

Installation Continued

Once the program is installed, a teal "N" will appear on your desktop and a shortcut on the taskbar. A shortcut will also be added to the "Start Menu"-> All Programs list.



Note: This is a web-based software. The icon is used only for starting the software on a server. Management and monitoring of the software is done through the browser.

Note: Ensure that the server firewall allows TCP port access as set in the application settings (see page 11). This is the protocol used for communication (along with HTTPS).

Any computer, smartphone, or tablet with a web browser installed can be used to access the E-MNG-SH software. Access is operating system independent through the HTML5 user interface on the computer/smartphone/tablet's web browser.

To access the E-MNG-SH, simply enter in the IP address or Server host name of the ENVIROMUX Management System into the URL bar on your browsing computer/smartphone/tablet. If your computer/smartphone/tablet has network access to the E-MNG-SH, you will be presented with the login screen. The server can be configured by anyone with access to it that has administrative privileges (provided the server is ON and the E-MNG-SH is running).

Users with only "Operator" privileges can access the E-MNG-SH and view the monitored Devices, but they cannot change any settings. For more on privileges, see page 23.

The Software will open to two empty lists under the Home page. The Home page will display the IP addresses of the Devices being monitored and a list of any alerts associated with sensors being monitored on those Devices.

C 88 © 127.0.0.1:8001/p./ndex Di Bostmarks Bir (Fire N NTI Network Techn V VFI Schware @ unit conventer @ DuckDuckGo]		This is the address server/Computer (c another computer/s name as set in app server/computer w	lefault is 127 smartphone/t lication settii	.0.0.1) it i tablet the ngs or or	is installe URL to the of the	ed on. If use will I	accessii be either	ng from the host		
Home			•							
Home Status +		Devices Available			Alerts					
Graphs		IP Address-	Device Name\$	Status¢	Sensor Name-	Sensor Value\$	Sensor Status‡	Sensor Type#	Device Name\$	Last Updated\$
Multi-Sensors +			No devices avail	able			No	alerts		
Status & Alerts							Previou	s Next		
IP Cameras										
Camera Tests										
Map 1										
Map 2										
A Events	э									
Devices	- 34									
Settings	•									
About	- 5									
	«			© 2021 Network Technologies Inc. All f	lights Reserved					

Figure 11- View of the Home screen

To configure the E-MNG-SH to manage your devices and sensors, go to the Settings pages. Under Settings you will find three submenus,

- Applications Settings
- Network Settings
- User Settings

Make sure all of the details for operating the E-MNG-SH are as desired.

Application Settings

Language	English	~
	Display language for server	
Device Poll Rate	5000	
	Delay between polling of sensor data for each device in millisecond. Minimum: 1000	
Date Format	MM/DD/YYYY	~
	Date Format to show values in	
Time Format	hh:MM:SS TT	~
	Time format to display values. HH: 24 hour format, hh: 12 hour format, TT: AM/PM	
System Log Roll Period	Hourly	~
	System logs will be rolled every new period as set above	
Number of System Logs to Store	168	
	Number of rolled system logs to keep on disk	
System Log Level	DEBUG	~
	System Log Level. Recommended: INFO	
Send Anonymous Usage Stats		
	Help NTI improve ENVIROMUX Management Software by sending anonymous usage reports	
Upload Crash Reports (Recommended)		
	Upload crash report to request NTI for fix (Restart Required)	
	Save	

Figure 12- Application Settings

Application Setting	Description
Language	Only English is available at this time
Device Poll Rate	Delay time between polling data for each sensor attached to each Device, measured in
	milliseconds (Min. is 1000)
Date Format	Format of how the date will be displayed in the Software- six to choose from
Time Format	Format of how the time will be displayed in the Software- four to choose from
System Log Roll Period	System Logs will be rolled as often as set here- Hourly, Daily, Weekly, Monthly, Quarterly or
	Yearly
Number of System Logs to	Number of system logs to store on disk- There is no limit.
Store	
System Log Level	Select the types of messages that will be logged in the system.log file on Software (see below)
Send Anonymous Usage	Place a checkmark if you approve of sending anonymous usage reports to NTI to help improve
Stats	this Software
Upload Crash Reports	Place a checkmark in the box to have your Software upload crash reports to NTI and to request a
	fix. We strongly recommend enabling upload of crash reports. If disabled, NTI will not be able to
	help with any fixes because of a possible Software crash

System Log Level

- CRITICAL only logs messages that cause Software to exit
- ERROR logs messages with Device, server communication, sensor or user errors including CRITICAL messages
- WARNING will log messages including possible issues with setup or communication including ERROR & CRITICAL
- INFO logs informative messages including WARNING, ERROR & CRITICAL
- FINE logs extra informative messages that logs Device communication including INFO, WARNING, ERROR & CRITICAL
- DEBUG logs all messages which may be too verbose for normal usage but helps with debugging any software issues, including FINE, INFO, WARNING, ERROR & CRITICAL

Don't forget to click "Save" once this is complete.

Network Settings

The Network Settings page provides settings for all of your connectivity options, including General Network Settings, Email/SMTP Settings, LDAP Authentication Settings, SMS Settings and Certificate Settings.

Network Settings
Network Settings
+ General Network Settings
+ Email/SMTP Settings
+ LDAP Authentication Settings
+ SMS Settings
+ Certificate Settings
Save Send Test Email Send Test SMS Sync LDAP Users

Figure 13- Network Settings Page

Network Settings	
Network Settings	
- General Network Settings	
Server Host Name	locathost
	Hostname to use on all unis. This hostname should be associated with atleast one of the IP-Addresses of this server
Restrict to above Host Name	
	Restricts all access to use host name only if host name is incorrect, you will not be able to access the server
HTTP Port	80
	HTTP port on which the software should listen to (Restart Required)
Disable HTTP Access	
	Disable HTTP Access and redbits to HTTPD enly (Restart Required)
HTTPS Port	443
	HTTPS port on which the software should listen to
- Email/SMTP Settingy	

Figure 14- General Network Settings

Network Setting	Description
Server Host Name	If you want to access the server with a specific domain name, please set that domain name here The DB browser can be used to recover from an incorrect host name. (See page 22)
Restrict to Above Host Name	Enable the Host Name assigned to the Server- restricting access to the Server by using the Host Name only.
HTTP Port	Port on which the Server will be connected with . This is the default HTTP port. If you change this, you will need to add ": <port#>" to the end of the IP address. i.e. If you change it to 85, you will need to enter <ip address="">:85 in the URL bar to access the Server.</ip></port#>
Disable HTTP Access	Place a checkmark in this box (default is empty) if you want to restrict access to HTTPS only. If a checkmark is placed in this box, a restart will be required for it to take effect.
HTTPS Port	HTTPS port on which the Server will be connected with.

Note: If HTTP Access is disabled, only then HSTS (HTTP Strict Transport Security) will be enabled. Some other web security headers like Frame Options, CORP and CSP will also be enabled by default.

- Email/SMTP Settings	
SMTP Server Type	Custom
	GMTP Gener Type you want to use for sending emails
SMTP Server	
	EMTP Server address or domain that you want to use to send emails
Email From Address	
	SMTP email address that NTLENVIROMUX Management Software should use to send emails
SMTP Encryption Type	None
	Encyption type to be used with above SMTP Gener
SMTP Server Port	507
	SMTP Port to be used with above encryption setting for server. Usual port #- None: 25, TLS: 465, STARTTLS: 597
SMTP Server Requires Authentication	L
SMTP Username	
Sm1P Username	GMTP authentication username
SMTP Password	
JHIT FOSSWOW	CMTP authentication password
Confirm SMTP Password	0
	Confirm above BMTP authentication password
Use Custom Email Footer	
	Check this box if you want to customize email footer
Email Footer Message	
	NTI ENVIROMUX Management Software You have received this notification because you have enabled email alerts. Please login to change notification preferences or contact your server administrator
	Enter enail botter to use in alerts and notifications

Figure 15- Email/SMTP Settings

Network Setting	Description
SMTP Server Type	Select "Custom" or "Gmail" (Most of the settings that follow are only for a "Custom" SMTP server)
SMTP Server	Enter a valid SMTP server address
Email From Address	Enter email "From" address to be used by E-MNG-SH to send messages from
SMTP Encryption Type	Choose encryption type from dropdown menu: STARTTLS, TLS or None
SMTP Server Port	Enter port used by SMTP Server (default is 587 with STARTLS encryption)
SMTP Server Requires	Place a checkmark in here if the SMTP Server requires authentication to send messages
Authentication	
SMTP Username	Enter the SMTP Username for the E-MNG-SH-if encryption is checked
SMTP Password	Enter the SMTP Password for the E-MNG-SH- if encryption is checked
Confirm SMTP Password	Re-enter the SMTP Password for the E-MNG-SH
Use Custom Email Footer	Place a checkmark in the box if you want to customize the Email footer
Email Footer Message	When a checkmark is in the "Use Custom Email Footer" option, a box appears where you can
	enter a message that will appear in the footer of all alerts and notifications sent out by the
	management software.

Gmail SMTP Server

When "SMTP Server Type" is set to Gmail, a valid Gmail address must be entered into the "Email From Address" field. With that field filled, click the "Authorize with Google" button. Then follow the prompts to get Gmail authorized.

SMTP Server Type	Gmail	
	SMTP Server Type you want to use for sending emails	
mail From Address		
	SMTP email address that NTI ENVIROMUX Management Software should use to send emails	
urrent Auth Status	Not Authorized	

Figure 16- SMTP Server Type- Gmail

NTI E-MNG-SH Self-Hosted Enterprise Environment Monitoring System Management Software

"Current Auth Status" will indicate the Authorization status for Gmail. If Authorization is expired, it will automatically renew unless authorization has been revoked by the user. If not authorized or auto renew of authorization is failing, you have to Reauthorize again by using the below procedure (shown in screenshots). Any email failures and associated reasons will be logged in the *system.log* file

3 Sign in with Google	G Sign in with Google
Choose an account to continue to networktechinc.com	networktechinc.com wants access to your Google Account 🕅 emux.nti@gmail.com
Network Technologies Sigr emux.nti@gmail.com	When you allow this access, networktechinc.com will be able to
② Use another account	Send email on your behalf. Learn more
Befo netw Settings page of ser	rvice. Make sure you trust networktechinc.com You may be sharing sensitive info with this site or app. You can always see or remove access in your Google Account. Learn how Google helps you share data safely. See networktechinc.com's Privacy Policy and Terms of Service.
	Cancel Continue
ENVIROMUX OAUTH Authorizat	
ENVIROMUX OAUTH Authorizat	

Figure 17- Steps in getting Gmail Authorization

LDAP Settings

•	+ Email/SMTP Settings			
	- LDAP Authentication Settings			
	Authentication Server Type	Local Users Only		
		Select the LDAP Server Type to auto load Users. Locally created Users are always	Local Users Only	
	Primary Server		Local Users Only	
		Primary LDAP Server. Ex: example.com	LDAP Microsoft Active Directory	
	Secondary Server	Secondary LDAP Server will be used if Primary LDAP server does not respond	Open LDAP Directory Service	
	17-17-18-18-18-18-18-18-18-18-18-18-18-18-18-	Secondary LDAP Server will be used it Primary LDAP server does not respond	Generic LDAP Server	
	User Base DN	Base Disntinguish Name to search for users and groups(ex: cn=Users,dc=example,d	(c=com)	
Admin Hoomomo/Pind DN	Admin Username/Bind DN			
	Aunin osemane/bitu bit	Users Distinguished Name with Admin Access(ex: First_Name Last_Name OR cn=Na	ame,dc=example,dc=com)	
Bi	Bind DN User's Password			
		Admin users password to login to server		
	Enable LDAPS			
		Enable LDAP Security using LDAPS protocol		
	LDAP Port	389		
•		Port to connect to server. Usual Port#: LDAP: 389, LDAPS:636		
	Username Attribute	sAMAccountName Attribute name to identify unique Username Usual Attributes: Active Directory: sAMAccountName, Open LDAP; uid		
	Attribute for a User's Memberships	memberOf Athribute name to identify all groups a user has membership in. Ex Active Directory; memberOf		
	Attribute for a Group's Members	member		
	Addinate for a Group's members	Attribute name to identify all users that are members of a group. Ex: Active Directory: mi	ember	
	LDAP Status			
		Probe LDAP Server	Click to test your settings are	
			correct. (see below)	
	+ SMS Settings			
	+ Certificate Settings			
		Save		
		Send Test Email Send Test SMS		
		Sync LDAP Users		

Figure 18- LDAP Authentication Settings

LDAP Authentication Settings	Description
Authentication Server Type	Select Local Users Only, LDAP Microsoft Active Directory, Open LDAP Directory Service or Generic LDAP Server
Primary Server	Enter a valid primary LDAP server address (ex. Example.com)
Secondary Server	Enter a valid secondary LDAP server address in case the primary LDAP server does not respond
User Base DN	Enter the Base Distinguished Name to search for users and groups (ex. Cn=users, dc= example, dc=com
Admin Username/Bind DN	User's Distinguished Name with admin access (ex. First_Name Last_Name, OR cn=name, dc=example, dc=com
Bind DN User's Password	Admin user's password to log into LDAP server
Enable LDAPS	Place a checkmark inside to enable the LDAP Security using LDAPS protocol
LDAP Port	Enter the port number to connect to the server. Usual Port for LDAP: 389, LDAPS: 636
Username Attribute	Attribute name to identify unique Username Usual Attributes: Active Directory: sAMAccount Name, Open LDAP: uid
Attribute for a User's Memberships	Attribute name to identify all groups a user has membership in. (ex: Active Directory: memberOf)
Attribute for a Group's Members	Attribute name to identify all users that are members of a group. (ex: Active Directory: member)
LDAP Status	Click on "Probe LDAP Server" to test your settings are correct. Probe will do connection test and provides available Users and Groups. This will not store the available users.

At the bottom of the page is a button for "Sync LDAP Users". Use this to load Users and Groups from LDAP server to E-MNG-SH software to allow authentication. Any LDAP User properties can be set in E-MNG-SH software (Ex mobile number) but it may get overridden by values received from LDAP Server (if set in LDAP server). When changing user properties, we recommend doing so in the LDAP server.

The E-MNG-SH has been tested to work with Microsoft LDAP and Open LDAP. The E-MNG-SH will automatically sync with the configured LDAP server twice each day, starting 10 hours after the last settings were saved.

Note: When LDAP Authentication has over 30 LDAP errors within 8 hours, the management server will block LDAP requests for 3 days.

The E-MNG-SH software does not support two users or groups with the same Name (CN), even if they differ in DN.

All users, Local or LDAP users, should have unique email addresses.

Support for LDAP Groups

When an LDAP user belongs to multiple LDAP groups, the group with highest privilege will be assigned to this user.

When any properties (Ex: Enable Email) change for any LDAP Group, such properties saved on a Group member will be overwritten.

By default, all LDAP users get "Read Only Auth". Admins can edit Auth Level of any LDAP group in the E-MNG-SH software which gets applied to Group members.

- SMS Settings	
SMS Provider	Twilio
	Select your SMS gateway provider to be able to send SMS alerts. Other SMS settings will be given by your SMS Provider
SMS From Number	xxxxxxxxx
	Number to send SMS From. This is usually a phone number assigned to your account
Account SID	AC448ac629d1add1a16fac00892b8abf7c
	SID string is found in Accounts -> Keys & Credentials -> API Keys & Tokens of your Twilio account
Auth Token	
	Auth token string is found in Accounts -> Keys & Credentials -> API Keys & Tokens of your Twilio account

Figure 19- SMS Settings for Twilio

SMS Settings

Network Setting	Description				
SMS Provider	Click the down arrow to select your SMS Provider. Choose between Sinch, Twilio and None.				
SMS From Number	Enter the phone number provided by your SMS Provider.				
Account SID/Service Plan ID	Enter the ID number provided by your SMS Provider.				
Auth Token/Bearer API Token	Enter the API Token provided by your SMS Provider.				

Tips for Twilio SMS Signup:

If asked for Programming Language use "Other", for integration use Own Code and No hosting options is required. You will be assigned a phone number for your account or you have to sign up for a phone number with relevant authorizations for your country of Choice. For example in USA you have to sign up for A2P 10DLS to send SMS to unverified numbers. If you want to use a short code you have to sign up for relevant short code within Twilio

Get your Account SID and Auth Token and enter in E-MNG-SH software You can find these details in your Twilio Console page -> Account Info

By default Twilio allows sending SMS to numbers only in the home country you selected during signup. To send internationally you have to select the desired countries in Geo Permissions by going to Console -> Develop -> Messaging -> Settings -> Geo Permissions

Monitor			
e Numbers	Ahoy Paul, welcome to Twilio!		
aging.			
nview	Get a Twillo phone number		
it out	Many of our products require a Twilio phone number. While your account is in bial, you can get one free USA or Canadian phone number.		
vices	Get a Twilic phone number		
ders			
	To get local phone numbers outside of the USA or Canada, you may need to upgrade your account and meet regulatory requirements. Read the regulatory requirement is		
ider:	To get local phone numbers outside of the USA or Canada, you may need to upgrade your account and meet regulatory requirements. Read the regulatory requirement (d		
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der ings garchives o permissions kd-ons+o [*] Beta udatory	* Account Info Account SID	ľo]

Figure 20- Twilio Console Page

ne Nambers	Filter by country						
anging	q						
erview	1						
it out	North America						
rvices							
es.	Arguille (+1254)	Artigue and Barbude (+1268)	Aruba (+297)	Ascension (+247)	Beharmas (+1242)	Garbedos (+12%)	Belize (+501)
Template	💭 Bermuda (+1441)	Canada (+1)	Cayman Islanda (+1345)	Costa Rica (+50()	Cube (+SJ)	Curação and Caribbean Nethorlands (Bonaise, Sint Eustatius, Sint Maarten, Salia) (+599)	Dominica (+1767)
t sergune	Dominican Republic (+1821)	Dominican Republic (+1841)	Dominican Republic (+1803001)	Dominican Republic (+1809)	El Salvador (+503)	Greenland (~299)	Grenada (+1473)
	Gundeloupe (+590)	Guatemala (+502)	- Helli (+508	Honduras (+504)	🗍 Jamaiga (+1876)	Martinique (+596)	Mexico (+ 52)
	Montserret (+1664)	Nicaragua (+505)	Panama (+507)	Puerto Rico (+1787)	St Kitts and Nevis (+ 1860)	St Lucia (+1758)	St Pierre and Miquelon (+50
	St Vincent Grenadines (+1784)	Trinidad and Tobago (+1858)	Turks and Calcos Islands (+1649)	United States (+1)	Virgin Islands, British (+1294)	Virgin Blands, U.S. (+1.140)	
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	Cambodia (+855)	China (+86)	East Timor (+670)	Georgia (#995)	Hong Kong (+852)	🗌 India (+93)	Dindonesia (+62)
	🗔 Dram (+198)	[Iraq (+964)	Israel (+972) A Hugh Role	Japan (+ 51)	(\$90*) nebrol.	Korea Dem People's Rep (+850)	Korea Republic of (+82)
+	Kinwait (+965)	Kyrgyzsten (+ (98)	Laos PDR (+050)	Lebanon (+964)	[] Macau (+853)	Maleysia (+60)	Maldves (+960)
	Morgolia (+976)	Myarimar (+95)	Nepal [+977]	🖸 Oman (+968) 🔺 High Ros	Pakistan (+92) 🔺 High Risk	Palestinian Territory (+970, +972) A High Trin	Philippines (+63)
	(Qatar (=974)	Russia/Kazakhstan (+7)	Saudi Arabia (+966)	Singapore (+il5)	🗌 Sei Lanka (+94) 🔺 Han Run	🗌 Syria (+963)	Taiwan (+886)
	Tajikistan (< 9927 🔺 Ingh Ros	Theiland (+66)	Turkiye (+90)	Turkmeniatan (+)930	United Arab Emirates (+1/71)	Uzbekistan (+ (99)	Vietnam (+84)
	Verwan (+967)						
	Europe						
	Alberta (+155)	Andorra (+3/6)	Austria (+4))	Belarus (+375)	Belgium (+ 32)	Bosnia and Herzegovina (+ 387)	Bulgaria (+35%)
	Canary Islands (+ 3491)	Croatia (+ 38%)	Cyprus (+357)	Czech Resublic (+4/0)	Denmark (+45)	Estoria (+372)	Feroe Islands (+ 298)
	Finland/Aland Islands (+ 158)	France (+ 33)	Germany (+49)	Gibrelter (+350)	Greece (+ 10)	Guernaeu/Jersey (+44)	Hungery (+ 36)
	Ecelarul (+354)	Feland (+ 353)	lale of Man (+44)	2 2 aly (+ 3%)	Kostvo (+ 363)	C Latvia (~ 37)	Uechtenatein (+423)
	Lithuania (+370)	Luxembourg (+ 152)	Ma/ta (+356)	Moldove (+ 37/0	Monaco (+ 377)	Montenegra (+ 382)	Netherlands (+)()
	Norway (+47)	Poland (+48)	Portugal (+252)	Republic of North Macedonia (+389)	Bomania (+40)	San Marino (+378)	Serbia (+381)
	Slovakia (+421)	Slovenie (+ 385)	Spen (+34)	Sweden (+4t)	Switzerland (+41)	Turkish Republic of Northern Cyprus (+ 10)	Ukraine (+ 380)
	United Kingdom (+44)	Vatican City (+379)					

Figure 21- Twilio- Setting Geo Permissions

- SMS Settings		
SMS Provider	Sinch	~
	Select your SMS gateway provider to be able to send SMS alerts. Other SMS settings will be given by your SMS Provider	
SMS From Number	XXXXXXXXX	
	Number to send SMS From. This is usually a phone number assigned to your account	
Service Plan ID	9d2e810b2da24D62861facb5065546cd	
	Plan ID string is available from Home -> Communication APIs -> SMS -> Service APIs	
Bearer API Token		
	API Token is available from Home -> Communication APIs -> SMS -> Service APIs	

Figure 22- SMS Settings for Sinch

Click "Send Test SMS" after saving your SMS Settings. If there is an SMS delivery failure, reasons for it will be logged in *system.log*. If the SMS delivery failed and it shows successful delivery in *system.log*, please check your SMS Provider account, as it may be held up due to a billing/authorization issue.

Certificate Settings

Menu changes based on the option selected. E-MNG-SH provides several ways to install an x509 certificate to work with HTTPS secure browsing.

a. Self-Signed with Signer Option as E-MNG-SH Signed:

This is the most simple option to setup and is the default. E-MNG-SH will generate the key, CA certificate and Server certificate as needed. Users only have to Download and install the CA certificate provided by E-MNG-SH

- Certificate Settings		8
Certificate Signer	Self Signed	~
	Certificate type to be used with HTTPS Server. Setect Self Signed certificate if you are not using a third party CA service like Digicert, Verisign etc.	
Signer Option	E-MNG-SH Signed	~
	Select "E-MNG-SH" to auto create and sign the certificate. Select "User Signed" if you wish to manually generate and upload keys + certificates	
	Download CA Root Certificate This certificate needs to be installed as a Trusted Root Certificate Authority on every PC that needs to connect	



b. Self Signed with User Signed Certificate:

E-MNG-SH understands you want to generate your own key, server certificate and CA certificate. You can use a procedure similar to <u>How to Create x509 Certificate</u> (Section I) to generate all 3 files and upload them to E-MNG-SH. Here we assume the CA certificate you upload is already set as Root Certificate for the users connecting to server.

- Certificate Settings		
Certificate Signer	Self Signed	~
	Centricate type to be used with HTTPS Server. Select Self Signed certificate if you are not using a third party CA service like Digicent, Verisign etc.	
Signer Option	User Signed	v.
	Select "E-MNG-SH" to auto create and sign the certificate. Select "User Signed" if you wish to manually generate and upload keys + certificates	
Private Key File (*.pem)	Choose File No file chosen	
	Upload Private Key	
Server Certificate File (*.pem)	Choose File No file chosen	
	Upload Server Certificate	
CA Certificate File (*.ca)	Choose File No file chosen	
	Upload CA Certificate	
	Save	
	Send Test Email Send Test SMS	

Figure 24- Self-signed and User Signed Setting Options

c. CA Signed with Generate CSR option:

Here you will be using a third party CA whose certificate will already be uploaded to your user's PC's/Devices like Digicert, Verisign etc. In this case the key file will be generated by E-MNG-SH. These external CA expect only a CSR file, containing server details, to generate the server certificate for you. You can get this CSR file by filling out the required details. You have to upload this CSR file to your CA and get your server certificate as well as their CA certificate. Upload both certificates to E-MNG-SH and you are set.

Please note: You have to upload the server certificate for the same CSR you previously generated meaning you cannot regenerate a CSR after a server certificate has been created. Otherwise the key will mismatch the server certificate.

- Certificate Settings		
Certificate Signer	CA Signed Certificate type to be used with HTTPS Server. Select Self Signed certificate if you are not using a third party CA service like Digicert. Versign etc.	•
Certificate Option	Generate CSR and Upload Certificate Select a procedure to have the server certificate signed by CA	*
Country Name		
State/Province Name		
Locality Name		
Organization		
Organization Unit		
Common Name		
Email Address		
	Generate and Download CSR	
Server Certificate File	Choose File No file chosen	
	Upload Server Certificate for CSR	
CA Certificate File (*.ca)	Choose File No file chosen	
	Uplicad CA Contilicatio	



d. CA Signed with Uploading keypair & Certificate:

This case is same as step C, except you will have to generate the key yourself and also generate the CSR for it using a step similar to <u>How to Create x509 Certificate</u> (Section II). You will have to upload Keypair, server certificate and CA certificate in this case.

- Certificate Settings		
Certificate Signer	CA Signed	*
	Centificate type to be used with HTTPS Server. Belect Belf Signed certificate if you are not using a third party CA service like Digicent, Versign etc.	
Certificate Option	Upload Keypair and Certificate	~ ~
	Belect a procedure to have the server certificate signed by CA	
Private Key File (*.pem)	Choose File No file chosen	
Server Certificate File (*.pem)	Upload Private Koy Choose File: No file chosen	
	Upload Server Certificate	
CA Certificate File (*.ca)	Choose File. No file chosen	
	Upleved CA Certificate	

Figure 26- CA Signed with Upload Keypair and Certificate Setting Options

Please note if any certificate options are changed, it requires the E-MNG-SH server to be restarted to load new certificate details. Please refer to the Shutting Down/Restarting section in this manual

- Certificate Settings		
Certificate Signer	CA Signed	۷
	Certificate type to be used with HTTPS Server. Select Self Signed certificate if you are not using a third party CA service like Digicent. Versign etc.	
Certificate Option	Upload Keypair and Certificate	*
	Select a procedure to have the server certificate signed by CA.	
Private Key File (*.pem)	Choose File No file chosen	
	Upload Private Key	
Server Certificate File (*.pem)	Choose File No file chosen	
	Uplood Server Certificate	
CA Certificate File (*.ca)	Choose File No file chosen	
	Ilpioad CA Certificate	
	Save	
	Seve	
	Send Test Email Send Test SMS	

Figure 27- CA Signed Certificate Setting Options

Network Setting	Description		
Certificate signer	Certificate type to be used with HTTPS Server. Select self-signed certificate (x509) if you are not using a third party CA service like Digicert, Verisign, etc. CA signed certificate will provide more options.		
Signer Option Select between E-MNG-SH Signed and User Signed (If "User Signed" is selected- the fields above will appear)			
Private Key File	Choose and upload a private key file in *.pem format.		
Server Certificate File Choose a server certificate and upload in *.pem format			
CA Certificate File	Choose and upload a CA Certificate file in *.ca / *.crt format.		

Don't forget to click "Save" once this is complete. You can test your settings by clicking "Send Test Email". An email will be sent to any configured users.

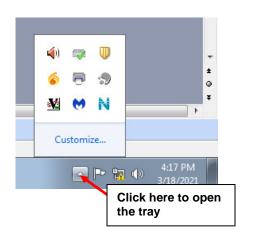
Private Key File (*.pem)	Choose File No file chosen
	Upload Private Key
Server Certificate File (*.pem)	Choose File No file chosen
	Upload Server Certificate
CA Certificate File (*.ca)	Choose File No file chosen
	Upload CA Certificate

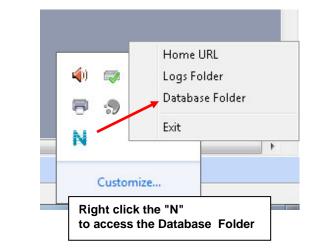
Figure 28- Security Configuration-X509 Certificate

Server Host Name

If you want to access E-MNG-SH with a specific domain name, please set that host + domain name (also referred to as FQDN (Fully Qualified Domain Name)) here (for example "monitor.enviromux.com"). This FQDN should be associated with at least one of the IP Addresses of this server or computer. In the event the FQDN set is incorrect and access is restricted to this FQDN (as set in "Server Host Name" on page 12), you would not be able to login to E-MNG-SH. In this case you can correct the FQDN by following the below procedure.

1. Access the server or computer where E-MNG-SH is installed. Open the database folder and locate the "settings.db" file. (You can right click on the E-MNG-SH icon (teal colored "N") in the system tray to access the database folder.)





- 2. Exit E-MNG-SH software now
- 3. Open "settings.db" with any SQLite editor like DB Browser or DBeaver
- 4. Set the desired FQDN in "HOST_NAME" column of "EMANAGER_SETTINGS" table
- 5. Save these changes and close the file. Restart E-MNG-SH now and you should be able to login with a correct host name.

User Settings

There is a limit of 1000 users that can be configured to access the E-MNG-SH. To add users, go to Settings -> User Settings . Enter the first and last name, email address and password for that user to use to access the E-MNG-SH.

Monitor		User Settinas	User Settings					
Events		Available Users					Add New User	
Devices		Name Email Admin Enabled Edit			Ecit			
Settings	•	Admin	adittigo.com	Yes	Yes	Edit	User First Name	First Name.
Application Settings		TestUser	gymeil.com	No	Yes	Edit Delete	User Last Name	Enter trat name
Network Settings							Use Last Name	Enter last name
User Settings							Email	Empl
About	•							Enter upera ernail addresa
	«						Password	Password
								Enter users password
							Confirm Password	Confirm Paseword
								Confirm user password

Figure 29- User Settings for Adding Users

Once a user has been established, click on "Edit" in the "Available Users" window to bring up the Edit User page and add additional information. You can also, instead, click on "Delete' to remove the user altogether.

First decide what access level this user will have:

Super Admin- This user cannot be deleted and is the same user used in license registration and managing the E-MNG-SH. Admin - User has administrative privileges to make changes to the configuration of the E-MNG-SH

Operator- User only has access to the information provided on the E-MNG-SH. The operator can also change relay settings on the E-xD units being monitored, and acknowledge alerts from the sensors connected to them. Read Only- User can see everything the E-MNG-SH has to offer, but cannot change any settings or add anything.

Note: Only Admin users can edit other user's passwords, the Operator users can edit their own password only

Enter a phone number (or two) if you want messages sent to this user's telephone via SMS (see page 16).

Be sure to check the "User Enable" block to give the listed user access to the E-MNG-SH.

Place a checkmark in "Sound Alerts" to enable the user to hear audible warnings about an alert being sensed while the user is monitoring a Dashboard.

Place a checkmark in "Enable Alerts" so the user can receive emails about sensor alerts or reports generated (page 43).

The Title, Department and Company are optional information that can be provided for reference.

On this page the user's password can also be changed. After entering, click "Set New Password".

When finished, be sure to click "Save User".

it User						
ser First Name	Guest					
	Enter first name					
iser Last Name	Last Name					
	Enter last name					
mail	guest@enviromux.com					
	Enter users email address					
hone Number 1	Phone 1	Phone 1				
	Enter primary phone number to receive Alert	Enter primary shore number to receive Alert SMS				
hone Number 2	Phone 2	Phone 2				
	Enter alternate phone number to receive Ale	t SMS (Optional)				
ccess Level	Admin					
	Access level for this user Admin can edit all settings except settings of other users. Super Admin can edit other us					
iser Enabled						
010000000	Enable this user to login					
ound Alerts						
	Enable the user to logn	Read Only				
iound Alerta	Enable sound all interestioned	Read Only				
meil Alerta						
imeli Alerta	Enable sound all interestioned	Read Only				
mail Alerta MS Alerts	Entitle sound all the search outstand	Read Only				
	Evolution source and advertise resolutionants Evolution ensuit adverts to be remove thin user Evolution (SME) selects to be service that advert	Read Only Operator				
mail Alerta MS Alerts Isle	Enable sound aller the non-thoses Enable enable after to be called this cose Enable (ME) alors to be called this cose Enable (ME) alors to be called to be called 	Read Only				
imail Alerta MS Alerts	Enable sound all the non-thoses Enable enable all altris to be series the union Enable (ME) alors to be series the union Loobe (ME) alors to be series to the union Loob Toto Enter succes job the	Read Only Operator Admin				
mail Alerta MS Alerts Itle	Enable sound all the newboard Enable meal ateris to be send this user Enable meal ateris to be send this user Enable (SME) aters to be send to the cash Job Toto Enter users job the Department	Read Only Operator				

Figure 30- Edit user settings

DEVICES

Under Devices, in the menu, there are four options to select:

- Device Settings
- Sensor Settings
- Add or Remove Device
- Maps

The Device Settings page displays all the Devices you have configured to be monitored and the groups you have established for the management of those Devices. You can click on the IP Address of each to view status and adjust settings of each sensor in each device.

Device Tree	Devices Available		
Home	IP Address+	Device Name≑	Status≑
E-2D Units	10.0.1.16	Furnace Room E-2D	Normal
E-16D Units	10.0.1.17	Compressor Rm. E-5D	Normal
	147.0.27.197	E-16D Server Rack Monitor	Normal
	147.0.27.207	E-2D Lab Room Environment Monitor	Normal
	147.0.27.208	E-5D Server Rack Monitor	Normal
	147.0.27.212	E-5D E04 DDNS Test Unit	Normal
	147.0.27.218	E-2D P05	Normal

Figure 31- My Devices List

Next, under Sensor Settings, you have a "My Sensors" list of all sensors, IP addresses and cameras connected to the Devices being monitored.

or Tree	Sensors Available				
Home	Search Sensors:				
E-2D Units	Sensor Name≑	Sensor Type≑	Device Name≑		
🛖 E-2DB E08 🛖 E-2DB E02 (RevG)	1. E-2DB E08 Input Voltage	Internal Sensor	E-2DB E08		
	1.1. E-2DB E08 Temperature 1	External Sensor	E-2DB E08		
📾 E-2D Lab Room Environment Monitor	1.2. E-2DB E08 Humidity 1	External Sensor	E-2DB E08		
- 🚍 E-2D P04					
🛖 Furnace Room E-2D	1.3. E-2DB E08 Dew Point 1	External Sensor	E-2DB E08		
💼 E-2D E04 (RevG)	2.1. E-2DB E08 ACDCLM Sensor 2-1	External Sensor	E-2DB E08		
🛖 E-2DB P02 🛖 E-2DB E15	2.2. E-2DB E08 ACDCLM Sensor 2-3	External Sensor	E-2DB E08		
- E-20 E15	2.3. E-2DB E08 ACDCLM Sensor 2-2	External Sensor	E-2DB E08		
E-5D Units	2.4. E-2DB E08 ACDCLM Sensor 2-4	External Sensor	E-2DB E08		
🛖 E-5DEL-1 (E07)	1. E-2DB E08 Digital Input 1	Digital Inputs	E-2DB E08		
🛖 E-5D Server Rack Monitor 🛖 E-5D E04 DDNS Test Unit	2. E-2DB E08 Digital Input 2	Digital Inputs	E-2DB E08		
- Remote E-5D		- π 178			
🛖 E-5D E01	1. CPU250 Win Server 2016	IP Devices	E-2DB E08		
	1. E-16D-24V IPMI Rack Memory Free	SNMP Sensors	E-2DB E08		
Compressor Rm. E-5D	2. IPDU Output Relay 1	SNMP Sensors	E-2DB E08		
🛖 E-5D E02	3. NAS (NDATA) System Temperature	SNMP Sensors	E-2DB E08		
E-16D Units	4. NAS (NDATA) Fan 1 Speed (RPM)	SNMP Sensors	E-2DB E08		
E-16D S1	5. NAS (NDATA) Fan 2 Speed (RPM)	SNMP Sensors	E-2DB E08		
E-16D 24V IPMI Rack			5 200 500		
E-16D Server Rack Monitor	1. E-2DB E08 Output Relay 1	Output Relays	E-2DB E08		
📾 Oper8 Test Unit	1. Power Supply 1	Power Supplies	E-2DB E08		
- 📻 E-16D 48V	2. Power Supply 2	Power Supplies	E-2DB E08		
	2. Power Supply 2	Power Supplies	E-2DB E08		

Figure 32- My Sensors List

Next is the "Add Or Remove Devices" page for adding more Devices to be monitored and adding groups to put the Devices into. Groups makes it easier to manage how the sensors and Devices will be monitored. From this page they can also quickly be removed from the list.

Add Or Remo	ve Devices			
Device Groups		+ Add New Device		
Create Group Rename Group Delete Group Delete Device		Domain or IP Address Protocol Port Of Web Server Admin Username Admin Password	Domain or IP Address of your Environmux device HTTP Protocol used to communicate with device	
IP Address+	Device Name¢	Status≑		
10.0.1.16	Furnace Room E-2D	Normal		
10.0 1.17	Compressor Rm. E-5D	Normal		
147.0.27.197	E-16D Server Rack Monitor	Normal		
147.0.27.205	Server Rack E-MICRO	Normal		
147.0.27.206	Server Rack E-1W	Normal		
147.0.27.207	E-2D Lab Room Environment Monitor	Normal		
147.0.27.208	E-5D Server Rack Monitor	Normal		

Figure 33- Add or Remove Devices

Lastly, use the "Maps" page to upload an unlimited number of images of a map, building, or server room (for example). Images must be .jpg or .png format, with a maximum size of 20MB (any resolution). On these images you can place markers for Places, Devices, or individual Sensors that you want to easily monitor the status of. Many map images are pre-loaded for you to choose from.

1. To setup a map, first select either "Floorplan" from the Map Type dropdown, or select a specific location from the pre-loaded maps. If you select "Floorplan", you will have the option to load a custom image. Locate the image file to be uploaded (must be .jpg or .png format). Then click "Upload".

2. Once uploaded, you can click on the map to have it enlarge in the viewing window.

p List					Home / Map La	st
able Maps				Add New Map	p.	
Name	Мар Туре		Edit	Map Name	Server Room	World World
er Room d Sensors	Floor Plan World	Edit	Delete Delete	Map Type Floor Plan	Enter name of this map Floor Plan Select Map Location Type you want to add sensors to Choose File No file chosen Upload a floor plan of your desired location. Allowed file types: .png, .jpg Add New Map	Floor Plan Africa Asia Europe North America Oceania South America Argentina
						Australia
	r	Figur	o 34- M	an Tynos	s to choose from	Austria Austria Bangla Belgiu

L

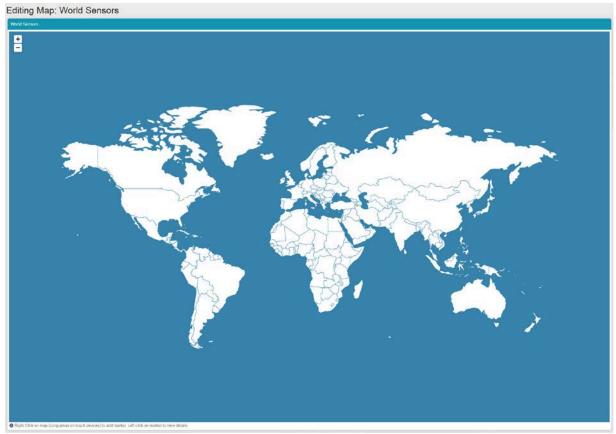


Figure 35- World map provided

3. Right click anywhere in the image to add a marker. A prompt for "Add Marker" will display. Click on that to bring up a list of sensors to be monitored in a Place, from a Device, or individual sensors.

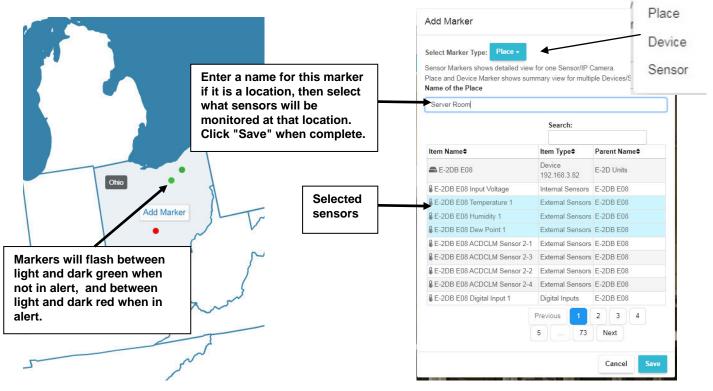


Figure 36- Loading maps and placing markers

elect Marker Type: Device -			Select Marker Type: Sensor +		
ace and Device Marker shows su	mmary view for mu		Sensor Markers shows detailed view	for one Sensor/IP C	Camera.
	Search:		Place and Device Marker shows sum	mary view for multip Search:	ole Devices/Sensors
Device Name≑	IP Address\$	Group Name\$		Search.	
E-2DB E08	Device 192.168.3.82	E-2D Units	Sensor Name\$	Sensor Type\$	Device Name\$
E-2DB E02 (RevG)	Device 192,168,3,222	E-2D Units	E-2DB E08 Input Voltage	Internal Sensors	E-2DB E08
	192.168.3.222 Device		₿ E-2DB E08 Temperature 1	External Sensors	E-2DB E08
E-2DB E01 (RevG/POE)	192.168.3.223	E-2D Units	E-2DB E08 Humidity 1	External Sensors	E-2DB E08
E-2D Lab Room Environment	Device 147.0.27.207	E-2D Units	E-2DB E08 Dew Point 1	External Sensors	E-2DB E08
	Device	E 69 11 3	E-2DB E08 ACDCLM Sensor 2-1	External Sensors	E-2DB E08
E-5DEL-1 (E07)	192.168.3.81	E-5D Units	E-2DB E08 ACDCLM Sensor 2-3	External Sensors	E-2DB E08
E-5D Server Rack Monitor	Device 147.0.27.208	E-5D Units	E-2DB E08 ACDCLM Sensor 2-2	External Sensors	E-2DB E08
E-5D E04 DDNS Test Unit	Device	E-5D Units	E-2DB E08 ACDCLM Sensor 2-4	External Sensors	E-2DB E08
E-30 E04 DDN3 Test Offic	147.0.27.212	E-3D Onits	E-2DB E08 Digital Input 1	Digital Inputs	E-2DB E08
E-16DEL-1 (Master)	Device 192.168.3.100	E-16D Units	E-2DB E08 Digital Input 2	Digital Inputs	E-2DB E08
E-16D S1	Device 192.168.3.101	E-16D Units	1	Previous 1	2 3 4
E-16D 24V IPMI Rack	Device 192.168.1.100	E-16D Units		5 75	Next
	Previous 1	2 3 Next			Cancel Save

Figure 37- Markers for Device or Sensor

With your maps and markers defined, you can create a Dashboard and add your map to it (see page 36) .

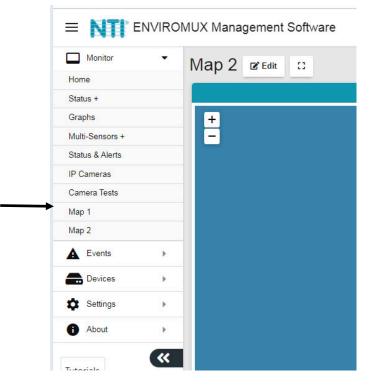


Figure 38- Use a configured map to monitor select sensors

With the map on the screen, click on any marker and the sensor or sensors associated with the Location/Device will be displayed and the status of those sensors will be indicated.

/larker	Search:				
	ltem Name≑	ltem Type ≑	Status≎	Parent Name≑	
	📾 E-2DB E08	Device 192.168.3.82	Normal	E-2D Units	
	E-2DB E08 ACDCLM Sensor 2-2	External Sensors	0.0 %	E-2DB E08	
	E-2DB E08 Dew Point 1	External Sensors	29.4 °F	E-2DB E08	
	E-2DB E08 Temperature 1	External Sensors	81.2 °F	E-2DB E08	
		Previous 1	Next		

Figure 39- Sensor status at location "Basement"

Devices to Monitor

Before adding a Device, select the group under which the Device needs to be added. If no selection is made the Device will be added to the "Home" group.

To add a Device, click on "Devices"-> "Add or Remove Device" in the side menu. A window will open as shown on the next page.

Enter 1) the Domain or IP address for the Device,

- 2) the connection protocol (HTTP or HTTPS),
- 3) the server port number (usually 80 for HTTP and 443 for HTTPS)
- 4) any user with admin privileges on the E-xD can be used
- 5) the user with admin privileges password
- 6) press "Add Device".

If the IP address is valid, the message "Connecting to Device" will be followed by "Device added successfully" and the Device will appear in the "Devices Added" list. The sensors attached to that Device will be sensed and added to the "My Sensors" page.

If the IP address or Domain is not valid or accessible, the message "Error 913: Connection Timeout" will be displayed.

TIP: If you don't know the IP addresses of the Devices to be monitored, you can use the included NTI Discovery Tool (page 32) to identify them (provided they are all connected to the same LAN).

= NTI	ENVIROMUX	Management Softw	are			🖻 Admin 🔔
Monitor		Add Or Remo	ove Devices	Add Devices		Home Add Or Ramove Device
A Events		Device Groups		rida Derrices	+ Add New Device	
B Devices		Home			Domain or IP Address	
My Devices		- E-2D Units				Domain or IP Address of your Environmux device
My Sensors		- E-60 Units			Protocol	HTTP
Add Or Remo	we Device	E 160 Units				Protocol used to communicate with device
Settings	÷.				Port Of Web Server	80
About	2				1742/2010/02/2010/Chi-6440	Port number of web server protocol HTTP or HTTPS
U Abbit	<i>k</i> ,				Admin Username	root
	<*					Username of a user with admin privileges on above Environmux device
					Admin Password	
						Peasword for above uper
		Create Group Ren	Tame Broup Delete Broup Delete De	vice		
						Add Device
_		-				
ices adde	he	Devices Added				
		IP Address+	Device Name\$	Status	•	
		10.0.1.18	Furnace Room E-2D	Norma		
		147.0.27.197	E-16D Server Rack Monitor	Norma	E	
		147.0.27.207	E-2D Lab Room Environment Monr	lor Norma	6	
		147.0.27.208	E-6D Server Rack Monitor	Norma	0	
		147.0.27.212	E-50 E04 DDNS Test Unit	Norma		
		1000000000		60710		

Figure 40- Add Devices to monitor

Continue adding until all Devices to be monitored are listed.

Groups

Groups can be used to organize your Devices as viewed on the Dashboard.

The name of the default group "Home" can be changed. Below it has been changed to "Server Room". Click the name, click on "Rename Group", and enter the new name. Press Enter key to save.

Cereice Groups Server Room Image: E-2D Units Image: E-3D Units Image: E-16D U

Figure 41- Primary group, and New Group added

Click "Create Group" to add an additional group. While the "New Group" name is selected (highlighted), any Device that is entered will fall under that group.

To remove a group, while the group to be removed is selected (highlighted), click "Delete Group".

To move a Device from one group to another group, first select the Device in the group to remove it from, then click "Delete Device".

		+ Add	New Device	
- * Homs = 5:20 Units - * 5:20 Units - * 5:208 E - * 5:208 E	02 2	Protoco	or IP Address xl Web Server	Domain or IP Address of your Enhanced device HTTP Protector used to communicate with device Bo Port number of web serve costocci HTTP or HTTPs
	Room E 20	0.000100	Username Password	Voot Usemame of a user with admin provieges on above Environmus device
- 📾 E-160 P	1 DV IPMI Rack 02 enver Rack Monitor			Patanet for above user Add Device
Create Group Ren	Tame Group Dekke Group Dekke Defr.+			
IP Address+	Device Hame\$	Status‡		
10.01.16	Furnace Room E-2D	Normal		

Figure 42- Select Device to delete

Add Or Remove Devices		Home /	Add Or Remove Devices
Device Groups	+ Add New Device		
	Protocol HTTF Protocol Port Of Web Server 80 Port nun Admin Username root Usernam Admin Password	or IP Address of your Enviromux device	
Create Broup Rename Group Dekete Group Dekete Group Dekete Device			

Figure 43- Device moved/added to New Group

Now select the new group name to add it to (above it is "New Group"), and re-enter the IP address and additional information. Click "Add Device". If successful, the message "Device added successfully" will appear and the Device will be listed under the new group name.

If you do not know the IP address of the Device you want to add, you can use the included NTI Discovery Tool (page 32) to identify them (provided they are all connected to the same LAN).

To reload the configuration for a Device, rename the Device or delete the Device, you can right-click the Device in the list from the Add Or Remove Devices menu.

wice Gr	oups	
- A H		
	E-2D Units	
1	E-5D Units	
	E-16D Units	
_	E-MICRO Units	
	E-1W Units	
	E-1W E02	
	Reload Config	
	Rename Device	
	Delete Device	
	Delete Device	

Figure 44- Additional features from Add Devices menu

The user can access and change configuration settings for a Device by going to the My Devices menu, double-clicking the Group, and then the Device. Accessing the Device this way will open up the list of configuration options for the Device.

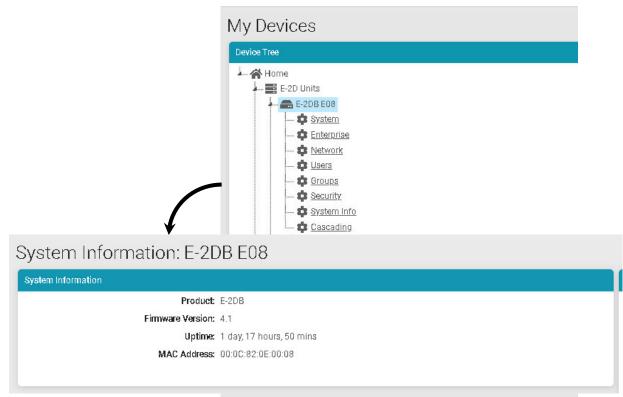


Figure 45- System Info page for the Device

Device Discovery Tool

In order to easily locate the Device on a network, the NTI Device Discovery Tool may be used. The Discovery Tool is available on many of our webpages, including <u>http://www.networktechinc.com/download/d-environment-monitor-16.html</u>. Download the discovery.zip, extract the contents to your PC and click on the file *NTIdiscover.jar*. This will open your browser and display the Device Discovery Tool page.

Note: The Device Discovery Tool requires the Java Runtime Environment to operate.

Note: The computer using the Device Discovery Tool and the ENVIROMUX must be connected to the same physical network in order for the Device Discovery Tool to work.

Network Technologies Inc Device Discovery Tool

START

When you load this page, the NTI Device Discovery Applet should load. Accept the Certificate to allow this
applet access to your network. Press the button entitled **Detect NTI Devices** to start the discovery
process. After a short time, the tool will display all NTI devices on your network, along with their network
settings.

Note: Do not close this page while the NTI Discovery Tool is running. Close the NTI Device Discovery Application first, **then** this webpage.

How To Use the Discovery Tool

- <u>To Change A Device's Settings</u>, within the row of the device whose setting you wish to change, type in a new setting and press the Enter key or the Submit button on that row. You can also press the Submit All button to submit all changes at once.
- To Refresh the list of devices, press the Refresh button.
- To Blink the LEDs of the unit, press the Blink LED button (This feature not supported on all products).
 The Blink LED button will change to a Blinking... button. The LEDs of the unit will blink until the Blinking...
 button is pressed, or the NTI Device Discovery Application is closed. The LEDs will automatically cease blinking after 2 hours.
- <u>To Stop the LEDs of the unit blinking</u>, press the Blinking... button. The Blinking... button will change to a Blink LED button.



Figure 46- Device Discovery Tool page

Use the Device Discovery Tool to display all NTI ENVIROMUX Devices on the network, along with their network settings. Follow the instructions on the Device Discovery Tool page to use the tool and to change the Device settings if so desired.

TI Device Discov	/ery					_ _ _ ×
Device	MAC Address	IP Address	Mask	Gateway		
ENVIROMUX	00:40:9D:24:07:70	65.243.248.18	255.255.255.128	65.243.248.1	Submit	Blink LED
		Submit All	Refresh	Close]	

VIEW SENSORS INDIVIDUALLY

With Devices added, you can now view the sensors connected to those Devices. Select My Sensors from the side menu.

My Sensors

nsor Tree	Sensors Available					
A Home	Search Sensors:					
E-2D Units	Sensor Name≑	Sensor Type≑	Device Name			
	1. E-2DB E08 Input Voltage	Internal Sensor	E-2DB E08			
E-2DB E01 (RevG/POE) E-2D Lab Room Environment Monitor E-2D P04 Furnace Room E-2D	1.1. E-2DB E08 Temperature 1	click on this to see the	E-2DB E08			
	1.2. E-2DB E08 Humidity 1	details for it	E-2DB E08			
	1.3. E-2DB E08 Dew Point 1	External Sensor	E-2DB E08			
	1.3. E-2DB E08 Dew Point 1	External Sensor	E-2DB E08			
E-2D E04 (RevG)	2.1. E-2DB E08 ACDCLM Sensor 2-1	External Sensor	E-2DB E08			
	2.2. E-2DB E08 ACDCLM Sensor 2-3	External Sensor	E-2DB E08			
E-2D P05	2.3. E-2DB E08 ACDCLM Sensor 2-2	External Sensor	E-2DB E08			
- 📰 E-5D Units	2.4. E-2DB E08 ACDCLM Sensor 2-4	External Sensor	E-2DB E08			
	1. E-2DB E08 Digital Input 1	Digital Inputs	E-2DB E08			
E-5D Server Rack Monitor E-5D E04 DDNS Test Unit	2. E-2DB E08 Digital Input 2	Digital Inputs	E-2DB E08			
Remote E-5D						
	1. CPU250 Win Server 2016	IP Devices	E-2DB E08			
	1. E-MICRO E03	IP Sensors	E-2DB E08			
Compressor Rm. E-5D	I.1 E-MICRO E03 Temperature	IP Sensors	E-2DB E08			
=================================	I.2 E-MICRO E03 Humidity	IP Sensors	E-2DB E08			
E-5DB P02 (PLSD Test Unit)	I.3 E-MICRO E03 Humidity Dew Point	IP Sensors	E-2DB E08			
- E-16DEL-1 (Master)	E.1 E-MICRO E03 Temperature 1	IP Sensors	E-2DB E08			
	E.4 E-MICRO E03 Temperature 2	IP Sensors	E-2DB E08			
	E.5 E-MICRO E03 Humidity 2	IP Sensors	E-2DB E08			
	E 6 E-MICRO E03 Dew Point 2	IP Sensors	E-2DB E08			
		IP Sensors	E-2DB E08			
	D.1 E-MICRO E03 Digital Input 1					
	D.2 E-MICRO E03 Digital Input 2	IP Sensors	E-2DB E08			
	1. E-1W P01	IP Sensors	E-2DB E08			
	E.1 E-1W P01 Temperature 1	IP Sensors	E-2DB E08			

Figure 47- Sensors being monitored

The initial list will be all of the sensors, cameras, remote IP Devices and IP Sensors (E-MICRO-TRH(P) and E-1W(P)) that are attached to the Devices and are now being monitored by the E-MNG-SH. To see the details for a specific sensor in that list, click on the blue text for the Sensor Name.

Sensor values, a historical graph, and all settings for that sensor can be viewed. Settings can also be changed if desired.

view		Sensor Settings		
	status Normal	— Sensor Settings		
77.5	Type: Temperature Connector: 1	Description	E-160-24V Internal Temperature	
50.0 72.5 95.0 27.5 117.5	Last Alert Value	Units	Descriptive name for the sensor	
27.5 117.5	Lowest Reading: 78.9 °F Lowest Reading was at: 02/21/2021 10:59:03 AM	Min. Level	Select the units for the sensor -40	
5.0 140.0	Highest Reading 89.4 °F	HILL CARE	Min. supported value for the sensor	
-17.5	Highest Reading was at: 02/18/2021 04:33:30 PM Total Alert Time:	Max. Level	188 Max, supported value for the sensor	
°F	Total Normal Time: 11 days 22 hours 5 minutes	Min. Non-Critical Threshold	60	
-40.0 185.0	Last Updated: 02/22/2021 01:27:02 PM	Max. Non-Critical Threshold	Min. threshold below which indicates a non-critical alert condition	
▼ 872			100	
07.12			Max, threshold above which indicates an non-critical alert condition	
		Min. Critical Threshold	50 Min. threshold below which indicates an alert condition	
			110	
Disable All Alerts for Device	Clear Records Clear Braph	Max. Critical Threshold	Max threshold above which indicates an alert condition	
8 Hr I Day I Wik 1 Mo 6 Mo 2 Yr		Refresh Rate	10	
	🔴 Max. 🌰 Min. 🔵 Avg.		The refresh rate at which the sensor view is updated	
		Refresh Rate Unit	Sec The refresh rate unit at which the sensor wew is updated	2
F		Offset	0 Add/Subtract a value to offset ambient temperature heating	
· · ·		+ Group Settings		
D*F		+ Non-Unitical Alert Settings		
	Feb 22.240 NA	+ Critical Alort Sottings		
Per 21 340 PM PER 21 9 1 3 PM	Feb 22 246 MA Feb 22 8 20 MA	 Tennem with contridu 		

Figure 48- Details for Internal Temperature Sensor

To quickly find a sensor, type all or part of a sensor name or Device name in the "Search Sensors" box.

ensors Available		
		Search Sensors: 16del ×
Devîce Name\$	Sensor Type\$	Sensor Name-
E-16DEL-1 (Master)	Output Relays	1. 16DEL-1 Output Relay 1
E-16DEL-1 (Master)	IP Devices	1. E-16D Web Demo
E-16DEL-1 (Master)	Tac Sensor	1. E-16DEL-1 Digital Input 1 Tach Sensor (In Reserve)
E-16DEL-1 (Master)	Internal Sensor	1. E-16DEL-1 Internal Temperature
E-16DEL-1 (Master)	Power Supplies	1. E-16DEL-1 Power Supply
E-16DEL-1 (Master)	Events	1. Event #1 E-16D-M Internal Temperature
E-16DEL-1 (Master)	SNMP Sensors	1. NAS (NDATA) System Temperature
E-16DEL-1 (Master)	IP Cameras	1. Wanscam HW0041-1
E-16DEL-1 (Master)	External Sensor	1.1. E-16DEL-1 STHS-99 Port 1 Temperature
E-16DEL-1 (Master)	External Sensor	1.2. E-16DEL-1 STHS-99 Port 1 Humidity
E-16DEL-1 (Master)	External Sensor	1.8. E-16DEL-1 STHS-99 Port 1 Dew_Point
E-16DEL-1 (Master)	IP Devices	10. SPLITMUX-HD-4RT Web Demo
E-16DEL-1 (Master)	External Sensor	10.1. E-16DEL-1 RTD Port 10 Temperature 1
E-16DEL-1 (Master)	External Sensor	10.2. E-16DEL-1 RTD Port 10 Temperature 2 (Reserved)
E-16DEL-1 (Master)	IP Devices	11. E-MICRO Web Demo Unit
E-16DEL-1 (Master)	External Sensor	11.1. E-16DEL-1 STHSD Port 11 Temperature

Figure 49- Use Search Sensors box

To see sensors connected to a specific Device, double-click or expand the Device in the group.

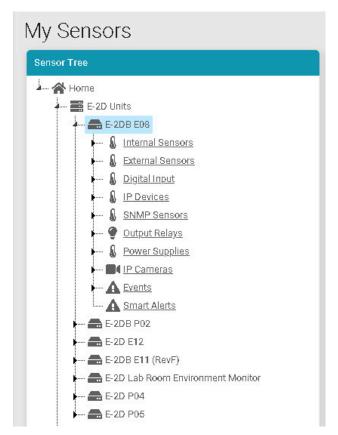


Figure 50- Sensors, relays, IP Cameras etc attached to a specific Device

If you click once on a specific sensor category, the screen format will change and show the status of all sensors in that category.

External Sensors					Sensor Tree
Description	Туре	Value	Status	Action	ноте
1.1. E-2DB E08 Temperature 1	Temperature Combo	79.1 °F	Normal	View Delete	
1.2. E-2DB E08 Humidity 1	Temperature Combo	18.7 %	Normal	View Delete	Internal Sensors
1.3. E-2DB E08 Dew Point 1	Dew Point	32.8 °F	Normal	View Delete	
2.1. E-2DB E08 ACDCLM Sensor 2-1	AC Voltage	0.0 V	Normal	View Delete	E-2DB E08 Humidity 1
2.2. E-2DB E08 ACDCLM Sensor 2-3	DC Voltage	-0.1 V	Normal	View Delete	
2.3. E-2DB E08 ACDCLM Sensor 2-2	AC Current	0.0 %	Normal	View Delete	E-2DB E06 ACDCLM Sensor 2-3
2.4. E-2DB E08 ACDCLM Sensor 2-4	DC Current	0.4 %	Normal	View Delete	

Figure 51- External Sensors connected to specific Device

From that screen you can view each sensor, or delete it from the list.

SETUP A DASHBOARD

Groups of sensors can be monitored in Dashboards containing rows and columns displaying the status of individual sensors. Each of the sensors monitored on each of the Devices can be added to various Dashboards and organized in rows and columns as necessary for easy viewing.

To get started, click the "Edit" button next to "Dashboard1".

Monitor	•	Dashboard 1 🛛 🖬 💠
Home		
Dashboard 1		Each Dashboard will be listed and
Events		selectable for independent viewing from the Monitor menu
Devices	•	
Settings	•	
	•	

Figure 52- Initial Monitoring Dashboard menu

This will open the window into the options available for creating new Dashboards. With the editing window open, you can change the name of the Dashboard, add a new Dashboard, change Auto Scroll settings for the dashboard, or add a new row of monitored sensors to the layout. If you click the Finish Edit button, the editing window will close and the configured Dashboard will remain.

Dashboard 1	C' Finish Edit 🖸 Add New Dashboard 🖬
Enable Auto Scroll: 🗹 🛛 Auto Scroll Start Delay. 🛛	10 Sec 🗸 Auto Scroll Interval: 8 Sec 💌 Auto Scroll Page Percent: 20% 🗸
	≕+ Add New Row



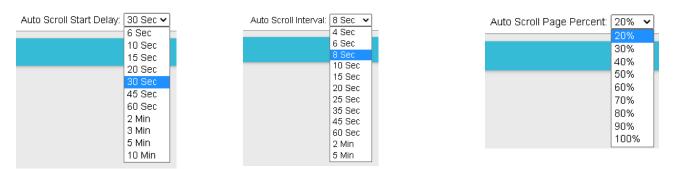


Figure 54- Auto Scroll settings

Auto Scroll is particularly helpful when you have many rows in the Dashboard and the monitor is not capable of displaying all content without scrolling. Auto scroll will start after the configured "Start Delay" period during which keyboard and mouse should be idle. You can set what percentage of page to scroll at a time from 20% to 100% of page. You can repeat to scroll this much of page every few seconds as set in Scroll Interval.

Click "Add New Row" to establish your first row of sensors. Clock the "X" to delete the row and all columns in it.

New Dashboard	🕑 Finish Edit	0	Add New Dashboard	₪		
Row Header						8
=+ Add New Column						1
						Delete the row
					=+ Add New Row	

Figure 55- How to add Columns or delete Rows

Then click the "Add New Column" to create a column in that row. Click it multiple times for multiple columns. We recommend all columns fit in the same row side by side. To resize the columns click on the Decrease or Increase icon, as many times as needed, and that column will resize accordingly after a short delay (see also page 39).

New Dashboard	atit 13 Add New Dashboard
Row Header	
Column Header 🛛 😁 😔	
=+ Add New Window	=+ Add New Column
	=+ Add New Row

Figure 56- Ready to add a sensor window

To add a sensor, in the Column Header, click the "Add New Window". A list of all sensors connected to all of the Devices will appear, 10 at a time. Select which sensor is to be monitored in the column. You can also enter a name to associate with that sensor. Navigate through the many sensors available.

Sensors can be viewed as individual sensors, graphs for single sensors, gauges for single sensors and much more. IP Camera snapshots, an alerts list, or Device status can also be viewed.

	Select window type and sensors to display	
	Window Name	
	Outside Office	
Sensor Value 👻	Display Type: Bingle Sensor Value - Search	
	Device Sensor Name® Value®	Sensor Type‡
Value	E-228 E06 E-228 E06 Input Veltage 8.6 V	Internal Sensors
or Graph	5-238 E08 5-206 E08 Temperature 1 79.8°F	External Sansora
	E-239 E08 E-226 E08 Humidity 1 18.4%	External Sensors
or Card	6-238 E04 6-236 E04 Dew Point 1 82.8 °F	External Serroors
auge	E-238 E06 E-208 E06 ACDCLM 0.0 V Senser 2-1	External Sensors
	E-238 E09 E-228 E09 ACDCLM -0.1 V Sensor 2-3	External Sensore
List	E-208 E08 E-208 E09 ACOCUM 0.0 % Second 2-2	External Sensors
or Graph	5-328 809 5-328 809 ACDLM 0.4.% Sense 2-4	External Sensore
F	E-208 E08 E-208 E08 Digital Input 1 Open	Digital Inputs
	E-208 E06 E-206 E06 Digital Input 2 Open	Digital Inputa
	Previous 1 2	8 4

Figure 57- Select sensors to view

whendow time and appears to display

x

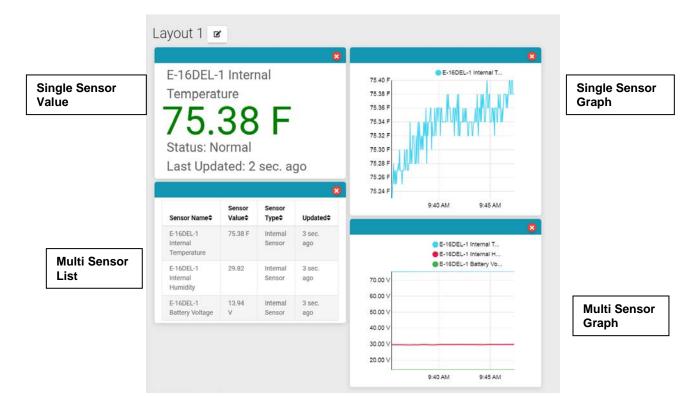


Figure 58- Multiple types of views available

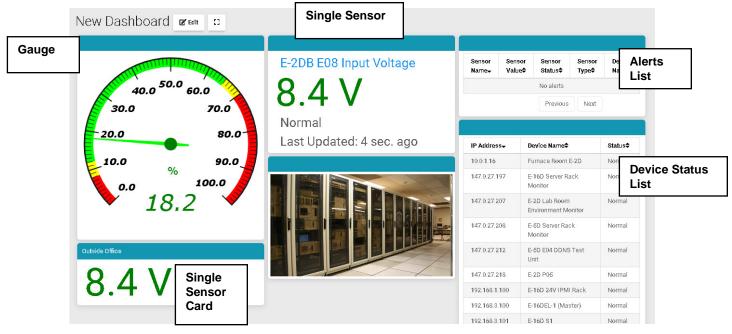


Figure 59- More types of views

To select one sensor, click one listed item and it will turn blue. Click "Save" to enter that in the column.

To select multiple sensors, there is no need to hold the shift key. Clicking one after the other keeps the sensor selected.

To deselect a sensor, click the sensor again.

Once done click "Save" to enter them in the same window.

To quickly locate the sensor you want to display, use the Search box to enter characters in the description to sort the available sensors and display only the ones that include your search parameters.

			Sear	ch	
lay Type:	Single Sensor Value 👻			,	
	Searc	h:			
Devîce Name≎	Sensor Name\$	Sensor Value\$	Sensor Type≎		
E-2DB E08	E-2DB E08 Input Voltage	8.4 V	Internal Sensors		
E-2DB E08	E-2DB E08 Temperature 1	77.1 °F	External Sensors		
E-2DB E08	E-2DB E08 Humidity 1	19.8 %	External Sensors		
E-2DB E08	E-2DB E08 Dew Point 1	32.7 °F	External Sensors		
E-2DB E08	E-2DB E08 ACDCLM Sensor 2-1	0.0 V	External Sensors		
E-2DB E08	E-2DB E08 ACDCLM Sensor 2-3	-0.1 V	External Sensors		
E-2DB E08	E-2DB E08 ACDCLM Sensor 2-2	0.0 %	External Sensors		
E-2DB E08	E-2DB E08 ACDCLM Sensor 2-4	0.4 %	External Sensors		
E-2DB E08	E-2DB E08 Digital Input 1	Ореп	Digital Inputs		
E-2DB E08	E-2DB E08 Digital Input 2	Open	Digital Inputs		
	Previous	1 2	3 4 5		
	75	Next			

Select window type and sensors to display

×



To delete a window in a column, click the red "X" in the upper right corner of Increase width Delete a column **Decrease width** Delete a window 40.0 50.0 60.0 30.0 70.0 20.0 80.0 10.0 90.0 100.0 0.0 9.8 1 Outside Offic

Figure 61- Change the width of a column

If you wish to change the order in which your sensors are viewed, you can move a window from one column to another. First add the column if it doesn't already exist, then simply drag the window by holding the window header bar to the target column. While dropping to the target column, that column will show a white placeholder indicating that the window can be dropped there.

the window.

Use the Increase button to increase the width of a selected column.

Use the Decrease button to decrease the width of a selected column.

39

NTI E-MNG-SH Self-Hosted Enterprise Environment Monitoring System Management Software

To add a new group of sensors to a separate row, Click "Add New Row" and configure the new row in the same fashion.

New Dashboard				
2000 (March 1997)	Crime Balan	000	These second	
	E-16DEL-1 ACLM-3P480 Port 4 Current Phase A		Been Been Been Been Setts Las Remo Valuet Oktot Typid Remot Up	1
	1.7 A		Brokely Pe	dina Hef
40.0 50.0 60.0	Normal Last Updated: 3 hours ago		6	
30.0 70.0	Contractorion and		P Address - Devise Named Okto 1001.14 Fumeric Name 503 Adm 142.047.147 Erick Sever Name Manne Barr	41
	E 16DEL 1 ACLM 3P450 Port 4 Voltage Phase A		147.937.007 Etab kao Atom Bellonewar Abelha Atom 147.937.308 E43 Sanar Balli shukku Atom	at
20.0 80.0	Normal		147.027.019 0-19.004.05.002 0-00 147.027.019 0-00 0-00	47
	Last Updated: 3 hours ago			g Config
10.0 % 90.0	E-16DEL-1 ACLM-SP480 Port 4 Active Power Phase A		112.150.2101 0142.01 1000 112.150.200 0143.00 6399 112.150.2207 0143.900 8499	41
0.0 100.0	171.5 W		182.183.5201 042.6780 800 182.183.5203 614.051 600	41
19.5	Normal Last Updated: 3 hours ago		192.153.5.035 643.9.01 (Bool) 644.9 142.163.5.235 014 014 014 014 014 014 014 014 014 014	al
19.5	0	Lana week	142,163,227 043 Kin kun 142,163,239 0149,050 kun	4
	1000 million (1000 million)		142.148.8.81 D18521 (807) Rom 142.148.8.82 E4282108 Rom	at
Orlein Stree		-	TELINESH FIERE BUT BUT	41
8.6 V			New Row	
C			Added	
The Add Test Street				
By Join Owen Roder	Colore Lines	200		
Seve Rose		The Automations		
E-2DB EDB Digital Input 2	XAS (NDATA) System Temperature 37.0			
Open	S7.0 Normal			
Last Updated: 5 sec. age	Last Updated: 8 sec. ago			
Re anticipation and a second second	Contraction of the second			
	Figure 62- Ac	Click to Add New Row		
To logout of the server without s click on the Root icon in the upp click on "Log Out". Message number (image right) the last alert was viewed or ack	per right corner of the scre indicates the number of al		Admin	
			Edit Profile	
		Indication of New		
	Alert			
			Log Out	
			Log out	
			Figure 63- Lo	og out

There is no limit to the number of Dashboards that can be setup to organize the type of sensor data you want to see. For example, a "Graphs" Dashboard was setup to view only the graphs from specific sensors.

When in full screen mode (see bottom of this page), scrolling the screen is not possible. Please make sure all windows fit inside the screen to be visible on the monitor.



Figure 64- Dashboard setup to display specific content

The data from those graphs can also be downloaded for future reference. Click on "Download Graph Data" to download a text file with the information you need.

Note: Downloading before the graph is loaded using HTTP API will throw an HTTP response code 204.

- Graph data will contain data for all periods in different rows.
- A value of -999999 indicates a value is not available.

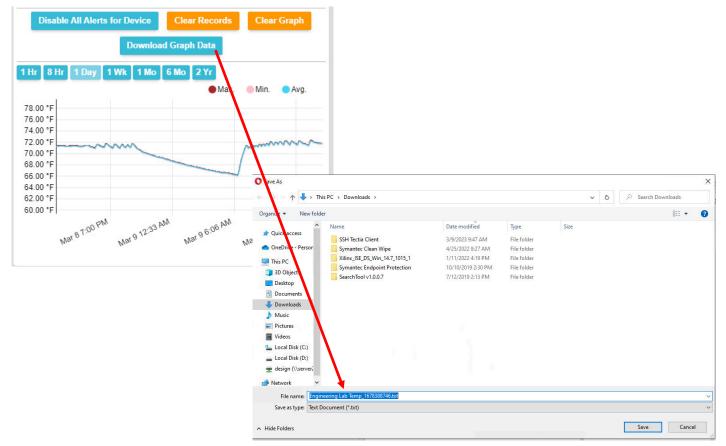


Figure 65- Download Graph Data to text file

Once you are finished editing a Dashboard, click "Finish Edit".

v Dashboard
≓ _∓ Add New Row

While viewing your Dashboard, to make it fill your screen, click on the small box to the right of the Edit button. Press the "Esc" key to return to normal viewing.

\equiv		MUX N	Management Software		Click for full screen mode
	Monitor	•	Dashboard 1 🖻 🖬	t D	
	Home				
	Dashboard 1				
A	Events				
	Devices	•			
\$	Settings	•			
0	About	•			
	(«			

Figure 66- Enable full screen view

EVENTS MENU

The E-MNG-SH can provide information on alerts generated by the devices it is monitoring, and will provide that information in three different forms.

Events Log will provide a list of events that have occurred for each device/sensor the E-MNG-SH is monitoring.

Reports, once configured, will contain event information on selected sensors, devices (and all sensors connected to those devices), or markers assigned to configured maps. The information the reports (pdf format) will provide includes 1) sensor or device summary, 2) the combined number of alerts that have been generated by each selected sensors/device's sensors/markers in the maps and 3) the combined length of time each of those devices/sensors/ markers were in alert. The frequency of reports and the data present in reports can be configured by "Triggers" and "Actions" respectively.

Recordings are a collection of IPCAM snapshot recordings that have been saved as configured in each sensor alert that is set to provide a snapshot recording from a connected IPCAM.

Monitor	· · ·	Home Add New Dashbo	ard
Events	•	Devices Available	
Events Log			
Triggers		IP Address+	
Actions		10.0.1.16	
Reports		10.0.1.17	
Recordings		147.0.27.197	
Devices		147.0.27.207	
		147.0.27.208	
Settings	×	147.0.27.212	
About	÷	147.0.27.218	

Figure 67- Events Menu

Events Log

The Events Logs is where Sensor Events, Smart Alerts and Alert messages are individually recorded. The time of each event, the type of event and the source of each event are recorded.

Alert logs are recorded in red font.

When the alert is Acknowledged or Dismissed, the alert will show up in the Events Log along with the name of the user.

From the link in the message, you can click and go directly to the sensor to see its current state.

Events Log			Home	Events Lo
Eventa Log				
Time	Event Type	Message		
02/23/2021 10 34 36 AM	Info	Sensor 4.1 E-SDEL Port 4 NLS returned to Normal on device E-SDEL-1 (E07)		
02/23/2021 10:23:32 AM	Alert	Sensor 4.1.E-SDEL Port 4 NLS went into Alert on device E-SDEL-1 (E07)		
02/23/2021 10.14.57 AM	Info	Sensor 4.1 E-SDEL Port 4 NLS returned to Normal on device E-SDEL-1 (E07)		
02/23/2021 10:11:33 AM	Alert	Sensor 4.1.E-SOEL Port 4 NLS went into Alert on device E-SDEL-1 (E07)		
02/23/2021 10:00 15 AM	Info	Sensor 4.1 E-SDEL Port 4 NLS returned to Normal on device E-SDEL-1 (E07)		
02/23/2021 09:59:41 AM	Alert	Sensor 4.1.E-SDEL Port-4 NLS went into Alert on device E-SDEL-1 (E07)		
02/23/2021 09:52:04 AM	Info	Sensor 1.1 E-16D-24V IPMI Rack Motion Detector 1 JE/h returned to Normal on device E-16D-24V IPMI Rack		
2/23/2021 09:51:53 AM	Alert	Sensor 1.1 E-16D-24V IPMI Rack Motion Detector 1 JE/Is went into Alert on device E-16D 24V IPMI Rack		
02/23/2021 09:24:43 AM	Info	Smart Alert 2 Smart Alert #2 Beson & Siren Trigger returned to Normal on device E-20 Lab Room Environment Monitor		
02/23/2021 09:24:43 AM	Info	Smart Alert 1. Smart Alert #1 Lab Intrusion returned to Normal on device E-2D Lab Room Environment Monitor		
02/23/2021 09:24:43 AM	Info	Event 4 Event #4 Lab Smoke Detector returned to Normal on device E-2D Lab Room Environment Monitor		
02/23/2021 09:24:43 AM	Info	Event 3.Event #3 Lab Water Sensor returned to Normal on device E-2D Lab Room Environment Monitor		
12/23/2021 09-24-43 AM	info .	Event 2 Event #2 Lab Equipment Door returned to Normal on device E-2D Lab Room Environment Monitor		
02/23/2021 09 24 43 AM	info	Event 1 Event #1 Lab Main Door returned to Normal on device E-2D Lab Room Environment Monitor		
2/23/2021 09:23:35 AM	Infa	Smart Alert 2 Smart Alert 2 Beacon & Siren Alerta returned to Normal on device E-160 Server Rack Monitor		
02/23/2021 09:23:35 AM	Info	Smart Alert 1 Smart Alert 1 Emergenvor UPS Stutidown returned to Normal on device E-16D Server Back Monitor		

Figure 68- Events Log

If a sensor is in alert, you can directly connect to it and Acknowledge or Dismiss the alert.

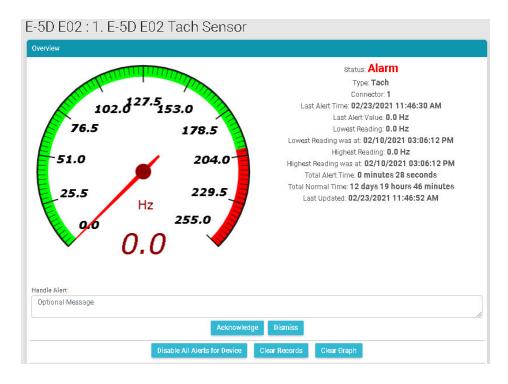
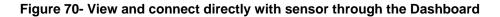


Figure 69- Connect directly to acknowledge or dismiss alert

Whether the Event is viewed on the Events Log page, or from a Dashboard displaying the event, you can click on the sensor in the image and address the event directly.

You can click on the alert to Acknowledge/Dismiss the alert directly from Dashboard.

Sensor Information 🖻 Edit 🙁							
E-16D-24V Outdoor Porch Temperature 15 (STHS-0)	Remote 5D STHS-LSH Port 1 Upper Level Temperature	Alen					
	Remote 5D STHS-LSH Port 1 Upper Level	Sensur Name-	Sensor Value€	Sensor Status≑	Sensor Type¢	Device Name¢	Last Updated\$
50.0 72.5 95.0	Temperature	E-5D E02 Tach Sensor	0.0 Hz	Alarm	Tac Sensors	E-5D E02	5 sec. ago
	74.0 °F			Previous	1 Next		
27.5 117.5	/4.U F				_		
5.0 140.0	Normal	IP Address-	Device Na	ne‡			Status≑
	Last Updated: 14 sec. ago	10.0.1.16	Furnace R	bom E-2D			Normal
-17.5 162.5		147.0.27.197	E-16D Sen	rer Rack Monitor			Normal
•F		147.0.27.207	E-2D Lab F	toom Environment	Monitor		Normal
-40.0 185.0	E-2DB E08 Input Voltage	147.0.27.208	E-5D Serve	r Rack Monitor			Normal
427		147.0.27.212	E-5D E04 I	DDNS Test Unit			Normal
12:7	8.5 V	147.0.27.218	E-2D P05				Normal
		192.168.1.100	E-16D 24V	IPMI Rack			Normal
	Normal	192.168.3.100	E-16DEL-1	(Master)			Normal
E-16D-24V Outdoor Porch Humidity 15 (STHSO)	Last Updated: 1 sec. ago	192.168.3.101	E-16D S1				Normal
	Penguin Encounter	192.168.3.200	E-16D P02				Normal
	rendun ercounter	192.168.3.217	E-5D-48V				Normal



When you click on the alert from the Dashboard, a pop-up will display providing the option to acknowledge or dismiss it.

NTI E-MNG-SH Self-Hosted Enterprise Environment Monitoring System Management Software



Figure 71- Acknowledge or Dismiss alert pop-up

If, at some point, you want to remove all the listed event log entries and start from scratch, you can click on "Clear All Entries" and let the list start over. If you want to save the logs for future reference, click "Download All Entries" first and save the file to a .txt file somewhere on your computer. This file is tab delimited with the first row having column names. Please note messages are in HTML format. You can use this file to filter by devices or sensors.

09/2023 08:24:50 AM	Alert	Sensor	r 16.1.E-16D	EL-1 IMD-0	M Port 16 M	lotion went in	to Alert on device E-	-16DEL-1 (Master
wing 1 to 30 of 7463 entries		Prev	ious 1	2	. 249	Next		
ear All Entries Download All Entri								
Sure As	Figure 72	2- Clear or	Downle	oad Ev	ent Log	J Entries	Search Downloads	×
Organize - New fold	a						Ja •	0
Cuick access OneDrive - Person This PC Dobjects Dostopp Documents Music Pictures Videos Local Disk (C) Local Disk (D) design (Naeversi Network Network Vetwork	Name SH Tectia Client Symante: Clean Wipe Xilinu; (£5,5%, Win; 147, 2015; 1 Symante: Endpoint Protection SearchTeol v1.0.0.7	Date modified 3/9/2023 847 AM 4/25/2022 827 AM 1/11/2022 419 PM 10/10/2019 2:30 PM 7/12/2019 2:13 PM	Type File folder File folder File folder File folder File folder	Size				
	t_log_1678388368.txt							~
Save as type: Text C	vocument (*.txt)						Save Cance	4



Reports

Reports will contain event information on selected sensors and devices individually or in groups as they are assigned to Devices, or markers assigned to configured maps. First you must configure the Actions to be reported on and Triggers for how often to have Reports generated.

First click on "Actions" in the Events menu. Apply a name to the Action you will create. Then click on "Add New Action" and your new Action will appear in the list to the left.

Once the Action is listed, click on "Edit" to configure it.

UX Management S Action Setting					Click h edit	nere t	0	Apply a	name
Available Actions								Add New Action	
Name	Action Type	Entity	Triggers		Enabled		Edit		Name
Sample Report	Generate Report & Email	E-16DEL-1 (Master)	Sample Trigger	Yes		Edit	Delete	Action Name	Enter name for reference
Sensor Report	Generate Report & Email	E-16D-24V Outdoor Porch Temperature 14 (STO)/ A	Sensor Trigger	Yes		Edit	Delete		
Map Report	Generate Report & Email	Ohio	Map Trigger	Yes		Edit	Delete		Add New Action
Map 2 Report	Generate Report & Email	Server Rack	Map 2 Trigger	Yes		Edit	Delete		



1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	t			This Hour
Action				This Hour
t Run Time:	01/25/2022 09:00:03 AM			This Day
on Name	Sample Report			This Week
	Enter name for reference (Optional)			This Month
on Enable				This Quarter
	Select to enable this action			This Year
n Type	Generate Report & Email Select what action to take			Last Hour
rt Period	Last Day			
nt Period	The period for which to generate report. Report Week starts on Sun	day	Sensor Details	Last Day
rt Data Type	Device			Last Week
	Select the type of data this report should have		Sensor List	Last Month
ct Device			Device	Last Quarter
	, 	Search:	Map Markers	Last Year
evice Name≎	IP Address		the neried terwile to	Last X Hours
	Device 192 168 3 100		E-16D Units	Last X Days
	Device 192.168.3.82		E-2D Units	Last X Weeks
	Device 192.168.3.222		E-2D Units	Last X Months
• • • • • • • • • • • • • • • • • • •	Device 192.168.3.223		E-2D Units	Last X Quarters
Devices	Device 147.0.27.207		E-2D Units	Last X Years
	Device 192, 168, 3, 81		E-5D Units	Custom Times
can be	Device 147.0.27.208		E-5D Units	oustoin nines
selected.	Device 147.0.27.212		E-5D Units	
	Device 192.168.3.101		E-16D Units	
à	Device 192 168 1 100		E-16D Units	
t Triggers that activate this Action	Previous	1 2 3 Next	E- Iou Units	
	Trigger Frequency®	Next Trigger 1	lime•	Enabled
gger Name‡	Repeat Daily	01/26/2022 09	MA 00.00	Yes
	Kepeat Dany			
mple Trigger	Repeat Dany Repeat Weekly	01/27/2022 12	00-00 AM	Yes
rigger Name t ample Trigger enser Trigger Jap Trigger		01/27/2022 12 01/25/2022 12		Yes Yes

Figure 75- Action Options

Be sure to enable the "Action Enable" block. Otherwise reports will not be generated.

For Action Type, select from the drop down list.

Generate Report Generate Report Generate Report & Email Operate Relay Send Email Send SMS Record IP Camera Digital Inputs power cycle

Figure 76- More Action Options

Generate Reports & Email

If you select "Generate Report & Email" then all users with "Email Alerts" selected (Figure 30) will receive reports via email. Select "Generate Report" to have generated reports saved in the Report List (page 61). A Report can include sensor details, a sensor list, devices being monitored, or a list of configured map markers.

The Report Period is the data in the time period that reports should include. A long list of time periods is available to select from.

The Report can include a summary of sensors or devices, alerts from multiple specific sensors, alerts from all sensors that are of a specific type.

port Data Type	Sensor Details			
	Select the type of data thi	s report should have		
port Period	Last Hour			
	The period for which to g	enerate report. Report Week starts	on Sunday	
lect Sensor				
		Searc	h:	
Sensor Name≎		Device Name≎	Sensor Value≎	Sensor Type≎
E-2DB E15 Input Voltage		E-2DB E15	8.5 V	Internal Sensors
E-2DB E-15 Port 2 Temperature		E-2DB E15	79.6 °F	External Sensors
E-2DB E-15 Port 2 Humidity		E-2DB E15	53.5 %	External Sensors
E-2DB E-15 Port 2 Dew Point		E-2DB E15	61.2 °F	External Sensors
E-2DB E15 Output Relay 1		E-2DB E15	Off	Output Relays
Power Supply 1		E-2DB E15	ок	Power Supplies
Power Supply 2		E-2DB E15	ок	Power Supplies
E-MICRO P02 Temperature		E-MICRO P02	77.9 °F	Internal Sensors
E-MICRO P02 Temperature 1		E-MICRO P02	76.5 °F	External Sensors
E-MICRO P02 Humidity 1		E-MICRO P02	52.4 %	External Sensors

Figure 77- Report Data Type- Sensor Details

Sensor details will provide a graph of sensor values, alerts trend and sensor records of each selected sensor. A sensor list report will provide a list of the details shown in the image above, as shown on the next page.

Sensor List Report

Report Date: 05/08/2025 04:01:56 PM

No. Description	Value	Type Device	
E.2.E-2DB E-15 Port 2 Temperature 1	77.9 °F	Temperature CoE-2DBE15 mbo	
E.2. E-2DB E-15 Port 2 Humidity 2	42.2 %	Humidity Combo E-2DB E15	
E.2. E-2DB E-15 Port 2 Dew Point	53.1 °F	Dew Point E-2DB E15	
3			
0.1 E-2DB E15 Output Relay 1	off	Output Relay E-2DB E15	
P.1 Power Supply 1	ОК	Power Supply E-2DB E15	
P.2 Power Supply 2	ОК	Power Supply E-2DB E15	
I.1 E-2DB E08 Input Voltage	8.4 V	Voltage E-2DB E08	
E.1.E-2DB E08 Temperature 1 1	80.7 °F	Temperature CoE-2DBE08 mbo	
E.1. E-2DB E08 Humidity 1 2	34.0 %	Humidity Combo E-2DB E08	

NTI ENVIROMUX Management Software

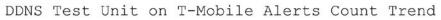
Figure 78- Report for Sensor List

Device Report

Report Period: Last 5 Days Report Date: 05/29/2025 01:53:47 PM



DDNS Test Unit on T-Mobile 1 Week



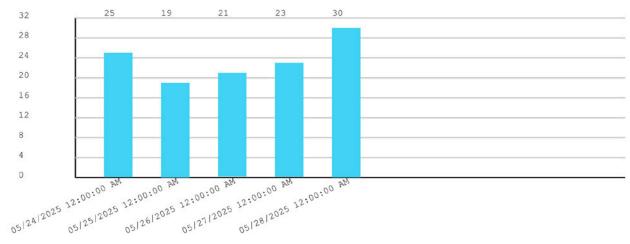
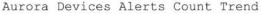
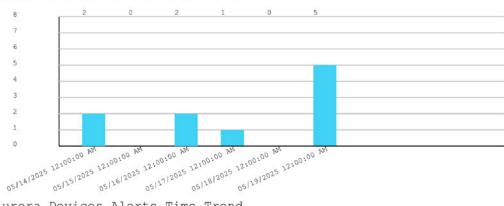


Figure 79- Report for Device

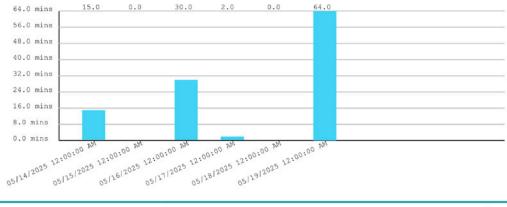
Map Report

Report Period: Last 6 Days Report Date: 05/20/2025 12:00:02 PM





Aurora Devices Alerts Time Trend



NTI ENVIROMUX Management Software

3

Figure 80- Report for Map Markers

Available selections will adjust depending upon what **Report Data Type** you select. Multiple sensors, devices or markers can be selected and reported in a single report.

					Available Actions				
est Run Time:	63/16/2023 05:00:05 AM				Name	Triggers	Entry	Enabled	1
ction Name	Cutdoor Porch Sensor Report				Cubleer Porch Sensor Report	Samaar Taggar	E-16D-34V Outdoor Ponth Temperature 14 (STO)	Yes	filst Dales
	Sittle name by releases (Cotona)						A C-16D-24V Outcoor Parch Temperature 1E (STHS-O)		
ction Enable					Mag Report	Mag Trigger	Dia Chief	Yop	Ett Date
	Delect to enable it is actual								List Delet
ction lype	Generate Report & Ernal			(*)	Mag 2 Frequet	May 2 Trigger	Server Rack	Ves	
	Kelect what action to take				IPW Hara Mitten Detector Report			Van	EII Delet
port Period	Left Quarter The seried for which to generate report. Report Week starts a	kenter		•	Motion Seroor Report	Exercise of the second se	E-16DEL 1 IND CM Part 14 Mation, E-6DEL 1 (MDM Port 5 Mation	Yes	Edit Delet
rpost Data Type	Senecr				Fah	Sample Engger	Server Rack	Ves	Cas Dave
post cata type	Select the type of data this report around have					Sensor Trigger	Contractory.		
lart Sansor						Adap Trigget			
	Sea	de							
Sensor Name4	Device Nam		Sensor Value#	Sensor Type4					
E-160-24V Qualator Parah Temperature	14 (STOY A E-160 24/ 8	M Raix	3487	Esterne Servers					
E-160-24V Outbox Psych Temperature	15 (STHS-C) E-160-24/ #	M Fack	3647	External Sensors					
E-16D-38V Coloner Prich Humidity 15.1	(STHSO) E-160.24V.8	M Rack	035.5	Esterne Senare					
5-208-ECE Your Wilkige	E-708 EIB		88V	Internal Services					
E-308 ECE Temperature 1	E-209 K00		1221	Estarus Sanaora					
E-308 EDE Humday 1	8-209 EDI		17.1.%	External Sensors					
E 208 E05 Daw Point 1	E 209 E08		343.ºF	External Screens					
E 208 E08 ACOCLM Sensor 2-1	E 208 E00		C.0 V	External Bansors					
E 208 E08 ACOCUM Bonser 2-3	E 200 EX		0.1V	Edunat Sessors					
E-208 E00 ACOCLM Denser 2-2	E-208.600		15%	External Sensors					
lact Triggers that activate this Action	Prevena 🧃	•	28 Next						
	Trigger Krequency4	Next Trigger Time®		Enabled®					
Trigger Name#	Repeat Dely	IIST1002310E0000AW		Chen .					
Senser Ingpol		11/12/2022 09:00:00 JAM		No					
Series Inggel Sample Ingget	Repeat Daily								
Server Inggel Sample Inggel Map Toggel	Repeat Daly	03/10/05/23 12 08:00 PM		Yes					
Senser Ingger Sample Ingger				Vee Ym Ne					

Figure 81- Reports can show multiple devices, sensors or markers

Operate Relay

When "Operate Relay" is selected, all relays found on the ENVIROMUX's monitored by the Management Software will be listed. One or more relays can be selected. For Output Relay Status, select the status the relay should switch to once an Action is Triggered.

Output Relays can be used to control beacons(E-BCN), sirens (E-SRN), automatic voice dialers(E-AVDS), electric strikes (E-EDR-SF), etc.

dit Action					
.ast Run Time:	10/22/23 12:00:02 AM				
Action Name	Weekly Alerts Report Enter name for reference	(Dadamont)			
	PARTICIPATION PROVIDE	(opuonar)			
ction Enable	Select to enable this action	0			
action Type	Operate Relay				
ction type	Select what action to take				
elect Output Relays					
			Search:		
Sensor Name≎		Device Name≎		Current Value\$	Sensor Category¢
Siren & Beacon		E-2D Lab Room Environment	Monitor	Inactive	Output Relays
Output Relay #1		E.2D P05		Inactive	Output Relays
Emergency UPS Shutdown		E-5D Server Rack Monitor		Inactive	Output Relays
Auto Dialer Call For Server Room Smoke	E-5D Server Rack Monitor			Inactive	Output Relays
Server 1 Power Relay	tower Relay E-16D Server Rack Monitor			Power On	External Sensors
Computer Lab Emergency UPS Shutdow	Computer Lab Emergency UPS Shuldown E-16D Server Rack Monito			Inactive	Output Relays
Auto Dialer Call for Computer Lab Smok		E-16D Server Rack Monitor		Inactive	Output Relays
Auto Dialer Call for Equipment Lab 1 Sm	oke	E-16D Server Rack Monitor		Inactive	Output Relays
Auto Dialer Call for Equipment Lab 2 Sm	oke	E-16D Server Rack Monitor		Inactive	Output Relays
		Previous 1	Next		
	Active/On				
utput Relay Status	Select the status to chang	e the Output Relay to			
elect Triggers that activate this Action					
			Search:		
Trigger Name\$	Trigger Frequency¢		Next Trigger Time¢		Enabled≑
ingger Hamet	Repeat Weekly		10/29/23 12:00:00 AM		Yes
Weekly Trigger					Yes
	Repeat Hourly		10/26/23 12:00:00 PM		

Figure 82- Action Type "Output Relay"

Send Email

When "Send Email" is selected, a text box is presented to enter an email message to be sent to all registered users of the Management Software with email alerts enabled. The message can be either plain text or a template and can include a variety of template variables to make it easy to identify the Trigger source, device information etc. Available template variables are listed below.

Variable	Description
%triggered_sens_val%	Sensor Value
%triggered_sens_name%	Sensor Name
%triggered_sens_cat_name%	Sensor Category Name
%triggered_sens_pos%	Sensor Position within the Sensor Category
%triggered_dev_name%	Device Name corresponding to sensor triggered
%triggered_dev_loc%	Device Location corresponding to sensor triggered (Available for E-xD only)
%triggered_dev_branch%	Device Branch corresponding to sensor triggered (Available for E-xD only)
%triggered_dev_rack%	Device Rack corresponding to sensor triggered (Available for E-xD only)
%triggered_dev_phone%	Contact Phone Number of Device corresponding to sensor triggered (Available for E-xD only)
%triggered_dev_email%	Contact Email of device corresponding to sensor triggered (Available for E-xD only)
%triggered_dev_mac%	Device MAC address corresponding to sensor triggered
%triggered_dev_ip%	Device IP Address corresponding to sensor triggered
%triggered_dev_model%	Device Model corresponding to sensor triggered
%current_date_time%	Current Date and Time
%sensor_name_ <id>%</id>	Sensor Name of a specific sensor identified by its EMNG Sensor ID. Example %sensor_name_23%
%sensor_val_ <id>%</id>	Sensor Value of a specific sensor identified by its EMNG Sensor ID. Example %sensor_val_23%.
%triggered_root_sens_name%,	These variables are available only if the Trigger is activated by an Event/Smart Alert with OR Logic and refers to Event/Smart Alert's root sensor.
%triggered_root_sens_val%,	
%triggered_root_sens_cat_name%	

EMNG Sensor ID is available on each sensors page within the Management Software

Please note all triggered_* template variables work only if the Trigger Logic is OR. If the logic for Trigger is something else (like AND) then multiple sensors combine to activate a Trigger and no single sensor can be provided for the template. In such case triggered_* variables will be replaced by a "- ".

Example message: %triggered_sens_name% went into alert on device %triggerred_dev_name% . Contact %triggered_dev_phone% to resolve .

Edit Action: Weekly Alerts Report

Action Name Weekly Alerts Report Enter name for reference (Optional) Action Enable Image: Comparison of Compari	Last Run Time:	Never			
Action Enable Image: Select to enable this action Action Type Select themail Message to send Enter the message to send Image: Themail Subject Enter the message to send Action Type Enter the message to send Action Type Enter the message to send Action Type Enter the message to send Available variables: %triggered_sens_name%, %triggered_sens_cal_name%, %triggered_dev_rank%, %triggered_fev_rank%, %triftevit <	Action Name	Weekly Alerts	Report		
Action Type Select to enable this action Message to send Select what action to take Image: The the message to send Enter the message to send Available variables: Wriggered_sens_val%, Miriggered_sens_name%, Miriggered_sens_oat Message to send Available variables: Wriggered_sens_val%, Miriggered_sens_oat Available variables: Wriggered_sens_val%, Miriggered_ex_branch%, Miriggered_ex_mont%, Miriggered_ex_mont% Email Subject Enter the Email Subject to use Repeat Weekly 10/29/23 12/00 00 AM Yes Sample Trigger Unknown Y		Enter name for re	eference (Optional)		
Action Type Select what action to take Ressage to send Enter the message to send Available variables: %kriggered_sens_va%, %kriggered_sens_cat_name%, %kriggered_sens_cat_name%, %kriggered_sens_cat_name%, %kriggered_sens_cat_name%, %kriggered_dev_phor Select what action to take Enter the message to send Available variables: %kriggered_sens_va%, %kriggered_sens_cat_name%, %kriggered_sens_p.ps Wiriggered_dev_mame%, %kriggered_dev_phor %kriggered_dev_mame%, %kriggered_dev_phor %kriggered_dev_mame%, %kriggered_dev_phor %kriggered_dev_mame%, %kriggered_dev_phor %kriggered_dev_mame%, %kriggered_dev_phor %kriggered_dev_mame%, %kriggered_dev_phor %kriggered_dev_mame%, %kriggered_dev_phor %kriggered_forcot_** Note: %kriggered_root_email%, %kriggered_dev_phork %kriggered_root_** Note: %kriggered_root_** %kriggered_root_** Weikly Tigger Trigger Name4 Trigger Frequency4 Next Trigger Time4 Enabled5 Weikly Trigger Unknown Lest Repeat Weekly 10/29/23 12/00 00 PM Yes Sample Trigger Unknown Prevrous <td< td=""><td>Action Enable</td><td></td><td></td><td></td><td></td></td<>	Action Enable				
Select what action to take Message to send Enter the message to send Available variables: %triggered_sens_val%, %triggered_sens_name%, %triggered_sens_pack Available variables: %triggered_dev_loc%, %triggered_dev_loc%, %triggered_dev_mod%, %triggered_dev_phon% %triggered_dev_name%, %triggered_dev_loc%, %triggered_dev_phon%, %triggered_dev_mod%, %triggered_dev_phon%, %triggered_dev_mod%, %triggered_dev_mod%, %triggered_dev_phon%, %triggered_dev_mod%, %triggered_dev_mod%, %triggered_dev_phon% Select trigger Note: %triggered_*% variables are available only if the Trigger is activated by a single sensor/Event/Smart Alert with OR Logic and refer Email Subject Enter the Email Subject to use elect Triggers that activate this Action Search: Trigger Namet Trigger Frequencyt Next Trigger Timet Enabled* Weekky Trigger Repeat Wookly 10/29/23 12:00:00 PM Yes test Repeat Hourly 10/29/23 12:00:00 PM Yes Sample Trigger Unknown Yes Previous Next Next Next		Select to enable	this action		
Ideasage to send Enter the message to send Available variables: %triggered_sens_val%, %triggered_sens_name%, %triggered_sens_cat_name%, %triggered_sens_pa %triggered_root_sens_name%, %triggered_dev_prot_sens_val%, %triggered_dev_name%, %trigered_dev_name%, %triggered_dev_name%, %tr	Action Type	Send Email			
Enter the message to send Available variables: Wriggered_sens_val%, %triggered_sens_name%, %triggered_sens_cat_name%, %triggered_sens_pame%, %triggered_dev_cot_sens_cat_name%, %triggered_dev_model%, %triggered_fev_model%, %triftered_fev_model%, %triggered_fev_model%, %trigered_f		Select what actio	in to take		
Available variables: %triggered_sens_val%, %triggered_sens_name%, %triggered_sens_cat_name%, %triggered_sens_pa% %triggered_rot_sens_name%, %triggered_rot_sens_name%, %triggered_sens_pa% %triggered_rot_sens_name%, %triggered_dev_ma% %triggered_dev_name%, %triggered_dev_mac%, %triggered_dev_pack%, %triggered_dev_model%, %current_date_time%, %sensor_name_1CP>% %triggered_rot_sens_name%, %triggered_dev_pack%, %triggered_dev_model%, %current_date_time%, %sensor_name_1CP>% Note: %triggered_rot_sensor Email Subject Etert the Email Subject to use Select Trigger sthat activate this Action Select X Trigger Frequency* Next Trigger Time* Enabled* Weekly Trigger Repeat Hourty 10/29/23 12 00:00 AM Yes Sample Trigger Unknown Yes Previous Next Next	Message to send				
Available variables: %triggered_sens_val%, %triggered_sens_name%, %triggered_sens_cat_name%, %triggered_sens_pa% %triggered_root_sens_name%, %triggered_root_sens_name%, %triggered_sens_pa% %triggered_root_sens_name%, %triggered_dev_mak%, %triggered_rok, %current_date_time%, %trigered_dev_rondet_k, %current_date_time%, %triggered_dev					
Available variables: %triggered_sens_val%, %triggered_sens_name%, %triggered_sens_cat_name%, %triggered_sens_pa% %triggered_root_sens_name%, %triggered_root_sens_name%, %triggered_sens_pa% %triggered_root_sens_name%, %triggered_dev_mak%, %triggered_rok, %current_date_time%, %trigered_dev_rondet_k, %current_date_time%, %triggered_dev					
Wiriggered_dev_name%, %triggered_dev_branch%, %triggered_dev_rack%, %triggered_dev_model%, %current_date_time%, %sensor_name_rdD>%, %sensor_val_clD>%, %s		2012 - 2		_name%, %triggered_sens_cat_name%, %t	triggered_sens_pos%,
%triggered_dev_email%, %triggered_dev_ip%, %triggered_dev_model%, %current_date_time%, %esnor_name_ <id>%, %sensor_val_<id>%, %sensor_val_<id>%sersor_is activated by a single sensor/Event/Smart Alert with OR Logic and refere Event/Smart Alert's root sensor Email Subject Enter the Email Subject to use select Triggers that activate this Action Search: Trigger Name‡ Trigger Frequency‡ Next Trigger Time‡ Enabled‡ Weekly Trigger Repeat Weekly 10/29/23 12:00:00 AM Yes Sample Trigger Unknown </id></id></id></id></id></id></id></id></id></id></id></id></id></id>					
Note: %triggered_*% variables are available only if the Trigger is activated by a single sensor/Event/Smart Alert with OR Logic and refer "Wiriggered_root_*% variables are available only if the Trigger is activated by an Event/Smart Alert with OR Logic and refer Email Subject Email Subject					
Trigger. %ktriggered_root_*% variables are available only if the Trigger is activated by an Event/Smart Alert with OR Logic and refere Event/Smart Alert's root sensor Email Subject Enter the Email Subject to use elect Triggers that activate this Action Search: Trigger Name‡ Trigger Frequency‡ Next Trigger Time‡ Enabled‡ Weekly Trigger Repeat Weekly 10/29/23 12:00:00 AM Yes Sample Trigger Unknown Yes Sample Trigger Unknown Yes					
Winggered_root_"% variables are available only if the Trigger is activated by an Event/Smart Alert with OR Logic and refer Email Subject Enter the Email Subject to use elect Triggers that activate this Action Search: Trigger Frequency* Next Trigger Time* Repeat Weekly 10/29/23 12:00:00 AM Yes test Repeat Hourly 10/26/23 12:00:00 PM Yes Sample Trigger Unknown Yes Previous Next Next Yes			_"% variables are available only if the Trigger	r is activated by a single sensor/Event/Smar	t Alert with OR Logic
Email Subject Enter the Email Subject to use elect Triggers that activate this Action Trigger Name Trigger Frequency Next Trigger Time Enabled Next Trigger Time Next Trigger Time Yes test Repeat Weekly 10/26/23 12:00:00 PM Yes Sample Trigger Unknown Yes		Iridger			
Enter the Email Subject to use Search: Trigger Name* Trigger Frequency* Next Trigger Time* Enabled* Weekly Trigger Repeat Weekly 10/29/23 12:00:00 AM Yes test Repeat Hourly 10/26/23 12:00:00 PM Yes Sample Trigger Unknown ~ Yes Previous 1 Next		%triggered_root_		is activated by an Event/Smart Alert with OF	R Logic and refers to
Search: Trigger Name* Trigger Frequency* Next Trigger Time* Enabled* Weekly Trigger Repeat Weekly 10/29/23 12:00:00 AM Yes test Repeat Hourly 10/26/23 12:00:00 PM Yes Sample Trigger Unknown Yes Previous 1 Next		%triggered_root_		is activated by an Event/Smart Alert with OF	R Logic and refers to
Trigger Name‡ Trigger Frequency‡ Next Trigger Time‡ Enabled‡ Weekly Trigger Repeat Weekly 10/29/23 12:00:00 AM Yes test Repeat Hourly 10/26/23 12:00:00 PM Yes Sample Trigger Unknown Yes	Email Subject	%triggered_root_ Event/Smart Aler	t's root sensor	is activated by an Event/Smart Alert with OF	R Logic and refers to
Weekly Trigger Repeat Weekly 10/29/23 12:00:00 AM Yes test Repeat Hourly 10/26/23 12:00:00 PM Yes Sample Trigger Unknown Yes		%triggered_root Event/Smart Alert Enter the Email S	t's root sensor	is activated by an Event/Smart Alert with OF	R Logic and refers to
test Repeat Hourly 10/26/23 12:00:00 PM Yes Sample Trigger Unknown Yes		%triggered_root Event/Smart Alert Enter the Email S	t's root sensor		R Logic and refers to
Sample Trigger Unknown Yes Previous 1 Next	elect Triggers that ac	%triggered_root Event/Smart Alert Enter the Email S tivate this Action	t's root sensor Subject to use Searc	sh:	R Logic and refers to
Previous 1 Next	elect Triggers that ac Trigger Name¢	%triggered_root_ Event/Smart Alert Enter the Email S tivate this Action Trigger Frequency¢	t's root sensor subject to use Searc Next Trigger Time≑	sh: Enabled≑	R Logic and refers to
	Trigger Name\$	%triggered_root_ Event/Smart Alert Enter the Email S tivate this Action Trigger Frequency≑ Repeat Weekly	Searce Next Trigger Time\$ 10/29/23 12:00:00 AM	ch: Enabled \$ Yes	R Logic and refers to
	Trigger Name¢ Weekly Trigger	%triggered_root_ Event/Smart Alert Enter the Email S tivate this Action Trigger Frequency\$ Repeat Weekly Repeat Hourty	Searce Next Trigger Time\$ 10/29/23 12:00:00 AM	Enabled¢ Yes Yes	R Logic and refers to
Save Action	Trigger Name¢ Weekly Trigger	%triggered_root_ Event/Smart Alert Enter the Email S tivate this Action Trigger Frequency\$ Repeat Weekly Repeat Hourty	Next Trigger Time Search 10/29/23 12:00:00 AM 10/26/23 12:00:00 PM - -	ch: Enabled‡ Yes Yes Yes	R Logic and refers to
Save Action	Trigger Name¢ Weekly Trigger	%triggered_root_ Event/Smart Alert Enter the Email S tivate this Action Trigger Frequency\$ Repeat Weekly Repeat Hourty	Next Trigger Time Search 10/29/23 12:00:00 AM 10/26/23 12:00:00 PM - -	ch: Enabled‡ Yes Yes Yes	R Logic and refers to
	Trigger Name¢ Weekly Trigger	%triggered_root_ Event/Smart Alert Enter the Email S tivate this Action Trigger Frequency\$ Repeat Weekly Repeat Hourty	Next Trigger Time Search 10/29/23 12:00:00 AM 10/26/23 12:00:00 PM - -	ch: Enabled‡ Yes Yes Yes	R Logic and refers to
Run Action Now	Trigger Name¢ Weekly Trigger	%triggered_root_ Event/Smart Alert Enter the Email S tivate this Action Trigger Frequency\$ Repeat Weekly Repeat Hourty	It's root sensor Subject to use Next Trigger Time¢ 10/29/23 12:00:00 AM 10/26/23 12:00:00 PM Previous 1 N	ch: Enabled Yes Yes Yes lext	R Logic and refers to

Figure 83- Action Type "Send Email"

Send SMS

Selecting "Send SMS" will have the same message format options as "Send Email" except for the "Email Subject" option. All users with configured phone numbers will receive a message when the action is initiated.

Note: Please restrict the SMS length to be under the limit provided by your SMS provider.

Record IP Camera

When "Record IP Camera" is selected, the user is provided with a list of IP cameras that are monitored by the connected ENVIROMUX's. Any of these can be selected to record video as the action taken. The length of time of the recording can be selected from 5 seconds to up to 10 minutes.

EditAction					
Last Run Time:	10/22/23 12:00.02 AM				
Action Name	Weekly Alerts Report				
	Enter name for reference (Optional)				
Action Enable					
	Select to enable this action				
Action Type	Record IP Camera Select what action to take				~
	Select what action to take				
Select IP Cameras		******			
IP Camera Name¢	Device Name¢	Search:	Camera IP¢	URL Type\$	
Airport	E-2D Lab Room Environment Monitor		87 54 59.228	JPEG	
Airport	E-16D Server Rack Monitor		87 54 59 228	JPEG	
Airport	E-10D Server Rack Monitor		87.54.59.228	JPEG	
Airport	Server Rack E-1W		67 204 149 29	JPEG	
Harbor	E-2D P05		70.88 192 254	JPEG	
Airport	Server Rack E-MICRO		67 204 149 29	JPEG	
nipat			07.204.140.20	0100	
	Previous	1 Next	-		
Length of time to record IP Camera	5 Sec		5 Sec		~
	Select how long to record this IP camera on alert. Applie	es only to IP cameras with JPEG URL types			
Select Triggers that activate this Action		8	5 Sec		
		Search:	- 10 Sec		
Trigger Name\$	Trigger Frequency¢	Next Trigger Time\$	15 Sec		
Weekly Trigger	Repeat Weekly	10/26/23 12:00:00 PM			
test	Repeat Hourly	10/26/23 12:00:00 PM	- 30 Sec		
Sample Trigger	Unknown		1 Min		
	Previous	1 Next			
			2 Min		
		Save Action	5 Min		
		Run Action Now	10 Min		

Figure 84-Action Type "Record IP Camera"

Digital Inputs Power Cycle

When "Digital Inputs power cycle" is selected, a list of all digital inputs being monitored by the ENVIROMUX's will be presented. Any of these can be selected to be power cycled by the ENVIROMUX when a trigger occurs.

Note: If the device connected to the Digital Input on the ENVIROMUX is not being powered by that ENVIROMUX, the power cycle action will have no effect on that device. See "Cycle Sensor Power" section in the <u>E-xD product manual</u>.

10/22/23 12:00.02 AM Weekly Alerts Report Enter amee for reference (Optional) Select to enable this action		
Enter name for reference (Optional)		
Select to enable this action		
Select to enable this action		
Digital Inquite nomer curcle		
Digital Inputs power cycle		
Select what action to take		
	Search:	
Device Name\$	Current Value®	Sensor Category≎
E-2D Lab Room Environment Monitor	Open	Digital Inputs
E-2D Lab Room Environment Monitor	Closed	Digital Inputs
E-2D Lab Room Environment Monitor	Closed	Digital Inputs
E-2D Lab Room Environment Monitor	Closed	Digital Inputs
E-20 P05	No Alert	Digital Inputs
E-5D Server Rack Monitor	Open	Digital Inputs
E-5D Server Rack Monitor	Open	Digital Inputs
E-5D Server Rack Monitor	Closed	Digital Inputs
E-5D Server Rack Monitor	Closed	Digital Inputs
E-5D Server Rack Monitor	Closed	Digital Inputs
Previous	1 2 Next Search:	
Trigger Frequency≎	Next Trigger Time≑	Enabled¢
Repeat Weekly	10/29/23 12:00:00 AM	Yes
Repeat Hourly	10/26/23 12:00:00 PM	Yes
	E.2D Lab Room Environment Monitor E.2D Server Rack Monitor E.5D Server Rack Monitor E.5D Server Rack Monitor E.5D Server Rack Monitor Previous	Device Name\$ Current Value\$ E.2D Lab Room Environment Monitor Open E.2D Lab Room Environment Monitor Closed E.2D P05 No Alert E.5D Server Rack Monitor Open E.5D Server Rack Monitor Closed Previous 1 Next Trigger Frequency\$ Mext Trigger Time\$ Repeat Weekly

Figure 85-Action Type "Digital Inputs power cycle"

Once Triggers have been set up, they will appear in the list. Triggers determine how often the Action will be initiated and when. Either select an existing Trigger to cause the Action to occur, or configure a new Trigger first (on the next page).

Be sure to click "Save Action" to retain your changes. To test the result of the action, click "Run Action Now". If the Action selected is a Report, then the Report generated by that action will appear under Reports, and if you have selected it, each user with Email Alerts enabled will also receive a pdf copy of the report. If the Action Type is any other (Operate Relay, Record IP Camera, Digital Inputs power cycle) then watch for the appropriate Action to be executed.

Triggers

Triggers determine when and how often a particular Action will be executed. For example, a Trigger for Report generation Action determines when and how often a Report gets generated. The same Trigger can be used repeatedly for as many Actions as needed.

Click "Triggers" in the Events menu. Apply a name to the Trigger you will create. Then click on "Add New Trigger" and your new Trigger will appear in the list to the left.

Once the Trigger is listed, click on "Edit" to configure it.

Monitor	•	Trigger Settings	3						Home / Trigger Set
Events	•	Available Triggers					Add New Trigger		
vents Log riggers		Name	Last Trigger Time	Next Trigger Time	Enabled	Edit	Tringen Name	Name	
ctions		Sample Trigger	01/24/2022 09:00:01 AM	01/25/2022 09:00:00 AM	Yes	Edit Delete	Trigger Name	Enter name for reference	
eports		Sensor Trigger	01/20/2022 12:00:01 AM	01/27/2022 12:00:00 AM	Yes	Edit Delete			
ecordings		Map Trigger	01/24/2022 12:00:04 PM	01/25/2022 12:00:00 PM	Yes	Edit Delete		Add New Trigger	
Devices	•	Map 2 Trigger	01/24/2022 12:00:03 AM	01/31/2022 12:00:00 AM	Yes	Edit Delete			
Settings	×								
About	Þ								

Figure 86- Trigger List

Edit Trigger			Repeat Weekly	
Last Trigger Time:	10/26/23 09:38:14 AM		Once	
Next Trigger Time:	-		Repeat Hourly	
Trigger Name	Sample Trigger		Repeat Daily	
	Enter name for reference (Optional)		Repeat Weekly	
Trigger Enable	✓		Repeat Monthly	
	Select to enable this trigger		Repeat Quarterly	
Trigger Type	Time Schedule			
	The source of your Trigger which activates the	is Trigger based on conditions	Repeat Yearly	
Trigger Frequency	Once		~	
	Specify how often this trigger should repeate	dly activate		
Select date and time of trigger				
	Select trigger date and time	e Schedule		
	Tin	e Schedule		
	Save Trigger Set	ISORS		

Figure 87- Trigger Options for Time Schedule Type Trigger

If the Trigger had been previously setup, the last trigger time and next trigger time will be indicated.

The name given to the Trigger will be displayed and can be changed.

A checkbox to enable the Trigger is provided so that it can be used.

Choose the type of trigger that will be used, one based on a Time Schedule, or one caused by the status of a sensor.

If Trigger Type is set as Time Schedule, select the Trigger Frequency from a list of options. Depending upon what Trigger Frequency is selected, the option for fine tuning the frequency will change. (See image below)

Trigger Frequency Select date and time of trigger		Once Specify how often this trigger shoul 01/31/2022 12:00:00 AM Select trigger date and time	Trigger Frequency Select Minute	Repeat Hourly Specify how often this trigger should repeatedly activa 48		
				Select minut	te of the hour at which this triggers	
Trigger Frequency	Repeat Daily Specify how often this trigger should repeatedly activate		Trigger Frequency	s	Repeat Monthly specify how often this trigger should repeatedly activate	
elect Hour 12 AM Select hour of the day at which this triggers		Select day of month		1 elect day of the month at which this triggers		

Figure 88- Option detail for Trigger Frequency

When the trigger type is set as "Sensors" (see Figure 89), the options change to sensors that are being monitored by the E-MNG-SH.

In "Select Sensor Type", choose the type of sensor (from the drop down list) to filter the selections in the list below.

				Any Sensor/Event/Smart-Alert in Alert		~		
Edit Trig	gger: Sample Trig	ger		Any Sensor/Event/Smart-Alert in Alert Temperature Humidity Power		<u>^</u>		
Edit Trigger				Voltage		- 11		
Last Trigger Time: 10/26/23 09:38:14 AM Next Trigger Time: - Trigger Name Sample Trigger Enter name for reference (C Trigger Enable Select to enable this trigger Trigger Type Sensors The source of your Trigger Select Sensor Type Any Sensor/Event/Smu		Sample Trigger Enter name for reference (Optional)	Dust Frequency Phase Angle Power Factor Apparent Power Reactive Power Length Continuity					×
ID\$	Sensor Name\$		Device	Search:	Sensor Value‡		Sensor Category≑	
1_1	Lab Temperature			ab Room Environment Monitor	22.4 °C		External Sensors	
2_1	Lab Humidity		E-20 L	Lab Room Environment Monitor 25.8			External Sensors	
3_1	Lab Dew Point		E-2D L	2D Lab Room Environment Monitor 35.3			External Sensors	
4_1	Lab Rack Main Voltage		E-2D Lab Room Environment Monitor		119.4 V		External Sensors	
5_1	Lab Rack UPS Voltage		E-2D Lab Room Environment Monitor		118.8 V		External Sensors	
6_1	Lab Rack Main Frequency		E-2D L	Lab Room Environment Monitor 60.2 Hz			External Sensors	
7_1	Lab Rack UPS Frequency		E-2D L	ab Room Environment Monitor	ironment Monitor 60.2 Hz		External Sensors	
9_2	Lab Smoke Detector		E-2D 1.	ab Room Environment Monitor	No Smoke		Digital Inputs	
10_2	Lab Main Door		E-2D L	ab Room Environment Monitor	Closed		Digital Inputs	
11_2	Lab Equipment Door		E-2D L	ab Room Environment Monitor	Closed		Digital Inputs	
Sensors Trigger Independently No No: To reactivate this Yes. Reactivate Trigg		If multiple Sensors are selected for this 1	Frigger, se sensors t switching	to alert at any time.	Next	OR AND XOR NOR NAND		
				Save Trigger				

Figure 89- Trigger set as Sensor Trigger Type

If Sensor Type selected is "Any Sensor/Event/Smart-Alert in Alert" then appropriate Sensor has to go into Alert (applicable for E-2D/5D/16D only) or appropriate Event/Smart Alert has to go into Alert on the device depending on threshold settings set on the device. If Sensor Type selected is any particular Sensor Type depending on availability on E-xD/E-MICRO-TRH(P)/E-1W, then you can set the threshold for this directly in the Management Software.

With the sensor type selected, an option will be presented to either apply the minimum or maximum value from that sensor that will trigger the action when the sensor has a range of reported values, or an on/off value to trigger the action when the sensor type is a contact sensor type. A delay can be added so that Trigger gets activated only when sensor value crosses the threshold and stays there for the time of Delay. This can be used to avoid spurious alerts when value hovers near the threshold value. A similar Delay is available when Trigger returns to normal with "Trigger Return Delay".

	Sensor Name¢		Device Name‡	Sensor Value≎	Sensor Category¢
2_1	E-2DB E-15 Port 2 Temperature		E-208 E15	80.7 %	External Sensors
4_1	E-208 E-15 Port 2 Dew Point		E-208 E15	58.4 °F	External Sensors
8_200	E-MICRO P02 Temperature		E-MICRO P02	80.0 %	Internal Sensors
9_201	E-MICRO P02 Temperature 1		E-MICRO P02	76.9 F	External Sensors
11_201	E-MICRO P02 Dew Point 1		E-MICRO P02	54.0 T	External Sensors
12_201	E-MICRO P02 Temperature 2		E-MICRO P02	76.8 T	External Sensors
18_201	E-1W P01 Temperature 1		E-1W P01	79.6 °F	External Sensors
20_201	E-1W P01 Dew Point 1		E-1W P01	52.5 °F	External Sensors
22_201	E-1W P01 Temperature 3		E-1W P01	79.9 °F	External Sensors
23_201	E-1W P01 Temperature 4		E-1W P01	75.6 T	External Sensors
ensors Trigger	r Independently	Yes			
rigger Minimu	m Value	No. To reactivate this Trigger, wait for all ensors Yes: Reactivate Trigger with any sensor switchin Note. Applicable only to Triggers with multiple se 99999 Value of sensor below which this Trigger gets so	g to alert al any time. Insors		
rigger Maximı	ım Value	99999 Value of sensor above which this Trigger gets ac	tivated		
		0			
rigger Delay		Delay in seconds for which any sensor value sho	ould hold for Trigger to be activated		

Figure 90- Sensor Type Selected with a Range of Values

			Search:				
D\$	Sensor Name‡		Device Name≑	Sensor Value‡	Sensor Category¢		
9_2	Lab Smoke Detector		E-2D Lab Room Environment Monitor	Open	Digital Inputs		
10_2	Lab Main Door		E-2D Lab Room Environment Monitor	Closed	Digital Inputs		
11_2	Lab Equipment Door		E-2D Lab Room Environment Monitor	Closed	Digital Inputs		
12_2	Lab Motion Detector		E-2D Lab Room Environment Monitor	Closed	Digital Inputs		
46_2	Server Rack Water Sensor		E-5D Server Rack Monitor	Open	Digital Inputs		
47_2	Server Room Motion Detector		E-5D Server Rack Monitor	Closed	Digital Inputs		
48_2	Server Room Door		E-5D Server Rack Monitor	Closed	Digital Inputs		
91_1	Computer Lab Water Sensor		E-16D Server Rack Monitor	No Water Detected	External Sensors		
95_1	Equipment Lab 2 Water Sensor		E-16D Server Rack Monitor	No Water Detected	External Sensors		
128_2	Equipment Lab 1 Smoke Detected	or	E-16D Server Rack Monitor	No Smoke Detected	Digital Inputs		
		Trigger gets Reactivated	Previous 1 2 3 Next				
		If multiple Sensors an	multiple Sensors are selected for this Trigger, select the Logical Function how they combine to activate this Trigger				
		Closed/On	d/On				
		Value of concor of uit	ich this Trigger gets activated				

Figure 91- Selected Sensor Type is Digital Input

With either type of sensor selected, more than one sensor in the list can be selected to trigger the action. When more than one is selected, a Logical Function should be selected to control how the sensor values will impact the trigger. Select between OR, AND, XOR, NOR and NAND logical functions.

- OR a status change in any selected senor will trigger the action
- AND- a trigger will occur only if all selected sensors have a status change
- XOR- a trigger will occur if one selected sensor has a status change, but not more than one sensor
- NOR- a trigger will occur only if more than one selected sensor has a status change
- NAND- a trigger will occur if only one sensor has a status change, or if no sensor has a status change, but it will not occur is more than one sensor has a status change.

Be sure to click "Save Trigger" to retain your changes.

If the Logical Function for the Trigger is OR (see Figure 89), there is another option of "Sensors Trigger Independently". Enable this setting if you like the sensors to Trigger when each and any sensor crosses threshold every time. In this case the Trigger does NOT wait for all sensors to return to normal. If this setting is disabled, the Trigger waits for all sensors to return to Normal to reactivate the trigger for any new sensor alert.

With Triggers and Actions setup, Reports will be generated and added to the Report List.

Pending Reports: 0. Available Reports:					
7. E-16DEL-1 (Master) Device Report	Last Day	Completed	Device	01/08/2022 09:00:02 AM	View Download Delete
6 E-16DEL-1 (Master) Device Report	Last Day	Completed	Device	01/07/2022 09:00:02 AM	View Download Delete
5. E-16DEL-1 (Master) Device Report	Last Day	Completed	Device	01/06/2022 09:00:03 AM	View Download Delete
4. E-16D-24V Outdoor Porch Temperature 14 (STO)/ A Report	Last Week	Completed	Sensor	01/05/2022 11:54:51 AM	View Download Delete
3. E-16DEL-1 (Master) Device Report	Last Day	Completed	Device	01/05/2022 09:00:04 AM	View Download Delete
2. E-16DEL-1 (Master) Device Report	Last Day	Completed	Device	01/04/2022 09:00:06 AM	Mew Download Delete
1 E-16DEL-1 (Master) Device Report	Last Day	Completed	Device	01/03/2022 03:37:16 PM	View Download Delete

Figure 92- Reports list

With a report in the list, you can click "View" to see the content immediately, click "Download" to save it for viewing later, or click "Delete" if you don't want it in the list any longer. To remove all reports at once, click "Clear All Reports"

The sensor report will provide (for one or more sensors) 1) a graph containing minimum, maximum and average sensor values, 2) a bar chart indicating the total number of alerts generated by a sensor and 3) the total length of time that sensor was in alert. The graph will contain data for the time period setup in the Report Period under Actions (page 47).

Maps and device reports provide an alert details summary and its trends (see image on next page). A maximum of 800 reports will be stored before the software automatically deletes the oldest reports.

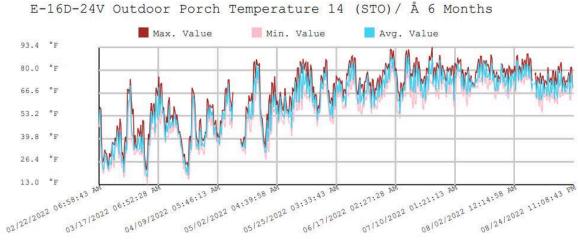
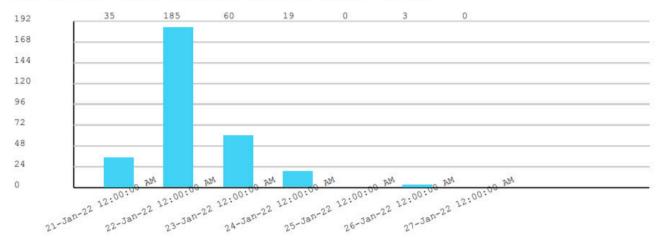
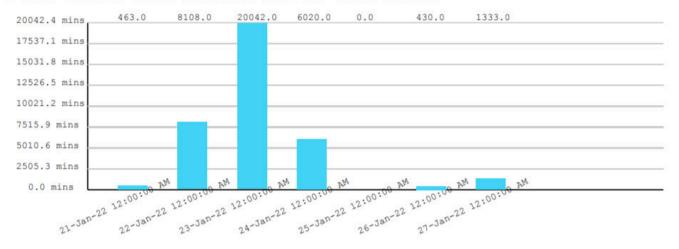


Figure 93- Report graph of an individual sensor



E-16D Server Rack Monitor Alerts Count Trend

E-16D Server Rack Monitor Alerts Time Trend





Current Value:	68.9 °F
Status:	Normal
Device Name:	E-16D 24V IPMI Rack
Last Alert Time:	Never
Last Alert:	
Overall Lowest Reading:	-6.2 °F
Lowest Reading Time:	01/22/2022 05:03:23 AM
Overall Highest Reading:	93.9 °F
Highest Reading Time:	06/29/2021 02:34:22 PM
Total Alert Time:	
Total Normal Time:	1 year 5 months 23 days
Last Update:	08/25/2022 12:00:03 AM

Figure 95- Report summary data for a sensor

Sounds

The E-MNG-SH will let you know when an sensor or device is in alert with a sound that can be heard over any speaker connected to the computer where the E-MNG-SH is being monitored. Alert warning sounds will be heard when the user is at any dashboard page that has alerts or device status windows and will sound every 120 seconds until the alert is cleared or acknowledged.

Warning sounds will not be heard if you are on the home page of the E-MNG-SH or if "Sound Alerts" is disabled in the User Setting page.

If the user has NOT used a dashboard page upon opening the tab, (for example NOT clicking or NOT scrolling on this page,) the browser may not play the alert sound. This is due to a browser restriction to prevent auto sound playback on auto-opened pages. Click on "**Enable Alert Sound**" that shows up on the dashboard page when this happens and sound alert will auto play going forward on this page.

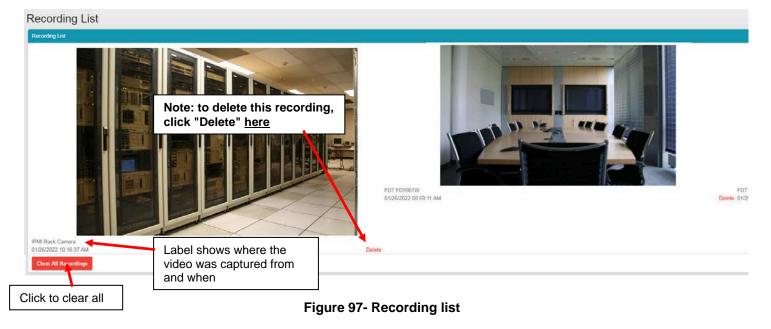
Recordings

Recordings are snapshot recordings from selected IPCAMs when a sensor goes into alert. The IPCAM and the length of time it will record will be selected under critical alert settings for that sensor (below). Recordings are collections of snapshots from the camera, taken as frequently as the refresh rate for the camera is set for.

- Critical Alert Settings			
Disable Alerts	Disable arent notifications for this sensor		
Alert Delay	20 Duration the sensor must be out of thresholds before alert is generated	Sec	•
Notify Again Time	6 Time after which alert notifications will be sent again	Hr	~
Notify on return to normal	Send a notification when this sensor returns to normal status		
Auto acknowledge	Automatically acknowledge alert when sensor returns to normal status		
Enable Syslog Alerts	Send alerts for this sensor via syslog		
Enable SNMP Traps	Send alerts for this sensor via SNMP trape		
Enable E-mail Alerts	Send alerts for this sensor via e-mail		
E-mail Subject	E-16D-24V Screen Room Temperature 3 Alert Subject of e-mails sent for alerts		
Select IP Camera	IPMI Rack Camera Select IP camera for image capture/recording on alert		*
Attach IP camera capture to e-mail	Attach captured image from selected IP camera to alert e-mail		
Save image to USB	Save captured image from selected IP camera to USB Flash		
Length of time to record this IP camera	Disable Record Disable Record Disable Record 5 Sec		×
Enable SMS Alerts	- 5 386 10 Sec 15 Sec 30 Sec		
Send custom SMS	1 Min 2 Min 5 Min		
Customized SMS	10 Min Customized SMB message sent for alerts		
Enable Siren	Turn on the siten when this sensor goes to alert		
Enable Beacon	Turn on the beacon when this sensor goes to alert		
Associated Output Relay	None Name of the output relay that can be controlled by this sensor		v
Output Relay status on alert	Inactive Status of the output relay when going to alert		*
Output Relay status on return from alert	Inactive Status of the output relay when returning from alert.		•

Figure 96- User settings to enable Recording

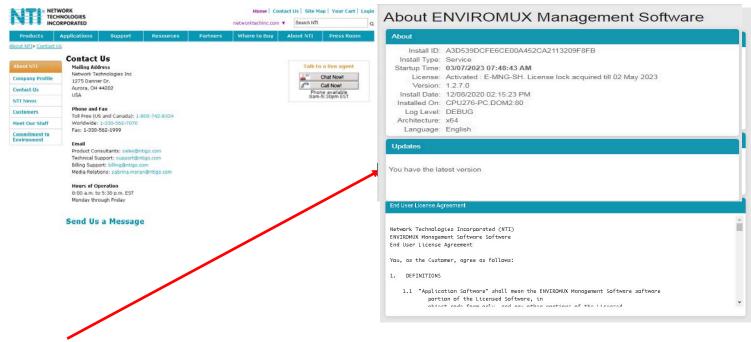
To see your recordings, click on "Recordings" in the Events menu. The camera the recording came from and time it was recorded will be in the bottom left corner of the recording. To delete a recording, click "Delete" in the bottom **right** corner of the recording image. Up to 1000 recordings will be stored before the software automatically deletes the oldest recording. To clear all recordings, click "Clear All Recordings".



THE ABOUT MENU

The About menu includes tools for viewing the firmware version you are using and any details about it, as well as providing a link the this manual and a link to a contacts page should you need to contact NTI. Lastly, it provides a link to the firmware downloads page where you can get access to the most current version of the E-MNG-SH program.

6	About	
	About ENVIROMUX Management Software	
	User Manual	
	Downloads	
	Contact NTI	
	Figure 98- About menu	



From the "About ENVIROMUX Management Software" page you can also, at a glance, see if another more current version of the software is available, without having to actually leave the program and go to the Downloads page.

SHUT DOWN E-MNG-SH SERVER

The following applies only if the software is installed as a User Application.

To shut down the E-MNG-SH completely, left click the tray icon in the bottom right corner of your desktop.



Figure 99- Click on Tray icon

Then right click the E-MNG-SH icon, and select Exit.



Figure 100- Exit the program

If the software is installed as a Service, the following applies.

Please open the Services application on your PC and navigate to "NTI ENVIROMUX Management Software" entry.

Right click on Shutdown or Restart as desired.

The opening and closing Tray Icon Application does not have any effect on the status of the Service in case of a "Service" Install.

OTHER TYPE DEVICES

The E-MNG-SH can be accessed from any network-connected computers/smartphone/tablet (provided the computer/smartphone/tablet has access to the Server the E-MNG-SH is on).

\geq	AA		192.168.3.1	12	C	Û	+	
NI	ENVIRO	MUX Manag	ement Softwar	e		\geq	Admin	
D	evices Available							
	IP Address+	Device	Name \$			Status\$		
	10.0.1.16	Furnace	Room E-2D			Normal		
	147.0.27.197	E-16D S	erver Rack Monitor			Normal		
	147.0.27.207	E-2D La	E-2D Lab Room Environment Monitor		Normal			
	147.0.27.208	E-5D Se	E-5D Server Rack Monitor		Normal			
	147.0.27.212	E-5D E0	E-5D E04 DDNS Test Unit		Normal			
	147.0.27.218	E-2D PC	E-2D P05		Normal			
	192.168.1.100	E-16D 2	E-16D 24V IPMI Rack		Normal			
	192.168.3.100	E-16DE	E-16DEL-1 (Master)		Normal			
	192.168.3.101	E-16D S	E-16D S1		Normal			
	192.168.3.200	E-16D F	202			Normal		
	192.168.3.217	E-5D-48	V			Normal		
	192.168.3.221	E-2DB F	202			Normal		
	192.168.3.222	E-2D E1	2			Normal		
	192.168.3.223	E-2DB E	E11 (RevF)			Normal		
	192.168.3.225		12			Normal		
	192.168.3.227	E-2D PC	E-2D P04		Normal			
	192.168.3.80	E-16D E	E-16D E100		Normal			
	192.168.3.81	E-5DEL-	E-5DEL-1 (E07)		Normal			
	192.168.3.82	E-2DB E	E-2DB E08			Normal		
	192.168.3.83	E-5D E0	E-5D E01			Normal		
	98.27.170.240	Remote	E-5D			Polling F	ailed	
A	lerts							
	Sensor Name ↓	Sensor Value≑	Sensor Status≑	Sensor Type≑	Device Name≎	La	st Update	ed
			No a	lerts				
			Previou	s Next				

Figure 101- Screenshot from an iPad

🗻 37°	* 🖸 🏹 🆛	96% 🔲 1:28 рм
③ 192.168.3.12/	/p/index	0 0 0
	\sim	
Home Home		
Devices Available		
IP Address 、	Device Name≎	Status≑
10.0.1.16	Furnace Room E-2D	Normal
147.0.27.197	E-16D Server Rack Monitor	Normal
147.0.27.207	E-2D Lab Room Environment Monitor	Normal
147.0.27.208	E-5D Server Rack Monitor	Normal
147.0.27.212	E-5D E04 DDNS Test	Normal
$\leftarrow \rightarrow$	† (33) 0

Figure 102- Screenshot from a smartphone

USER PASSWORD RESET

Any user password can be reset following the below procedure. If you are able to login as a Super Admin and want to change the password of any other users, this can be done by the Super Admin user in the User Settings page.

- 1. Navigate to DB folder by clicking on the tray icon for ENVIROMUX Management Software. If you have the Management Software installed in Service mode and do not see a tray icon, then you will have to start the application for the tray icon to show up.
- 2. Right click on the icon and Open the "Database" folder.
- 3. Open the settings.db file in a sqlite editor like "DB Browser"
- 4. Navigate to the "Browse Data" Tab and select Table "EMANAGER_USERS".
- 5. Locate the user you want to update the password for. Set your desired password in the "PASSWORD" column in plain text.
- 6. Set the "PASSWORD_TYPE" column to 0.
- 7. Click on "Write Changes" in the menu bar above. If you are running in Service mode, you may see an error "Unable to write to file". This error is because service writes to a protected folder. Please refer to Step 9 to solve this.
- 8. If you are running in Application mode, please restart the application for the new password to take effect and skip step 9.
- 9. If you are running in Service mode and want to write to the **settings.db** file as above, copy the **settings.db** file to the Documents folder first. Edit this **settings.db** file using steps 3-7 and "Write Changes". Open a command prompt in Administrator mode and use the copy command to copy **settings.db** file from the Documents to the Database folder.
- 10. Now restart the service.
- 11. When the service or software is restarted, it auto encrypts the password in the Database folder and you can login with the new password.

UNINSTALL THE PROGRAM

To uninstall the program: Go to the appropriate programs settings page (i.e. Control Panel -> Programs and Features) and select the "ENVIROMUX Management Software" to uninstall.

Note: Uninstalling the program will also remove any settings and saved sensor values. The license will remain (the license is not transferable)

SOFTWARE UPDATE

From time to time a new version of this program will be available. If you decide to update, follow these steps.

- 1. Download the new software version to the computer/server the E-MNG-SH is installed on.
- 2. Shut down the E-MNG software if running on this computer/server.

3. Double-click on the new installation file to install. Once the update has completed, it will prompt for login from the default browser.

Login to the E-MNG-SH and verify that the update has worked. Click on "About" in the side menu, then click "About ENVIROMUX Management Software". The version number shown there will indicate what version you are running. The Updates section will get refreshed after the next update check.

	•	About ENVIROMUX Management Software
Events	•	About
Devices	Þ	Install ID: A3D539DCFE6CE00A452CA2113209F8FB
Settings	•	Install Type: Service Startup Time: 03/07/2023 07:48:43 AM
About	-	License: Activated : E-MNG-SH. License lock acquired till 02 May 2023 Version: 1.2.7.0
bout ENVIROMUX lanagement Software	9	Install Date: 12/08/2020 02:15:23 PM Installed On: CPU276-PC.DOM2:80 Log Level: DEBUG Architecture: x64
ownloads		Language: English
ontact NTI		Updates

Figure 103-About page

HTTP REST API SUPPORT

Support has been built into the ENVIROMUX firmware to use JSON API to poll sensors using HTTP protocol like cURL command. To automate the interface between servers and the ENVIROMUX and provide data, the following instruction is provided.

E-MNG-SH supports the following API's that can be used to get all relevant data from the E-MNG-SH server instead of each individual device. You have to use the Login API to get the session ID first.

- 1. Login API
- 2. Get Sensor List API
- 3. Get Device List API
- 4. Download Events Log API
- 5. Download Sensor Graph API

Login API

Type: HTTP POST

Endpoint: "/api/u/login"

POST Body: email=<email>&password=<password>

Response on success: NTI session id in "Set-Cookie" HTTP Header and JSON response with code 200 and relevant success message

Response on error: JSON response with non 200 response code and error message in "msg"

Example:

Curl -vk -X POST "https://192.168.1.100/api/u/login" -d "email=guest@enviromux.com&password=guest"

Response:

HTTP/1.1 200 OK

Transfer-Encoding: chunked

Set-Cookie: ntisid=fkal9sjks0kU02js9edjd0Jhals9qj09LSDFG24S98LsAs; Expires=Sat, 02 Dec 2022 14:15:39 GMT; path=/; HttpOnly

Content-Type: application/json

{"code": 200, "msg": "Logged In..", "data": {}}

Get Sensor List API:

Type: HTTP GET

Endpoint: "/api/u/sensor/brieflist"

Requires HTTP "Cookie" header with value "ntisid=<sid>"

Content-Type: application/json

JSON Response code if successful: 200

Response data will have array list as follows

[<Sensor_id>, <sensor_category_ID>, <Device_name>, <Sensor_name>, <current_sensor_value>, <sensor_category_name>]

Example:

curl -vk -X GET "https://192.168.1.100/api/u/sensor/brieflist" -H "Cookie: ntisid=fkal9sjks0kU02js9edjd0Jhals9qj09LSDFG24S98LsAs"

Response:

{

"code": 200,

"data": [

[14, 0, "E-2DB E08", "E-2DB E08 Input Voltage", "8.6 V", "Internal Sensors"],

[20, 1, "E-2DB E08", "E-2DB E08 Temperature 1", "81.7 °F", "External Sensors"],

],

"msg": "request successful"

}

Sensor ID will be unique ID across all sensors of all devices except when sensor category ID is Event or Smart Alert.

Sensor ID will be unique among all Events of all devices

Sensor ID will be unique among all Smart Alerts of all devices

Sensor Category ID List:

NTI_SENSOR_CATEGORY_INVALID = -10,

NTI_SENSOR_CATEGORY_EXD_INTERNAL = 0,

NTI_SENSOR_CATEGORY_EXD_EXTERNAL = 1,

NTI_SENSOR_CATEGORY_EXD_DIGITAL_INPUT = 2,

NTI_SENSOR_CATEGORY_EXD_IP_DEVICE = 3,

NTI_SENSOR_CATEGORY_EXD_SNMP = 4,

NTI_SENSOR_CATEGORY_EXD_IP_SENSOR = 7,

NTI_SENSOR_CATEGORY_EXD_IP_INT_SENSOR = 8,

NTI_SENSOR_CATEGORY_EXD_IP_SENSOR = 8,

NTI_SENSOR_CATEGORY_EXD_IP_EXT_SENSOR = 9,

NTI_SENSOR_CATEGORY_EXD_IP_DIGINP_SENSOR = 10, NTI_SENSOR_CATEGORY_EXD_TAC = 12, NTI_SENSOR_CATEGORY_EXD_OUTPUT_RELAY = 100, NTI_SENSOR_CATEGORY_EXD_POWER = 101, NTI_SENSOR_CATEGORY_IP_CAMERA = 103, NTI_SENSOR_CATEGORY_EXD_EVENTS = 104, NTI_SENSOR_CATEGORY_EXD_SMART_ALERTS = 105, NTI_SENSOR_CATEGORY_EXD_SENSOR_HUB = 106, NTI_SENSOR_CATEGORY_EMICRO_1W_INTERNAL = 200, NTI_SENSOR_CATEGORY_EMICRO_1W_EXTERNAL = 201, NTI_SENSOR_CATEGORY_EMICRO_1W_DIGITAL_INPUT = 202, NTI_SENSOR_CATEGORY_EMICRO_1W_DIGITAL_INPUT = 202, NTI_SENSOR_CATEGORY_EMICRO_1W_IP_DEVICE = 203, NTI_SENSOR_CATEGORY_EMICRO_1W_EVENTS = 204, NTI_SENSOR_CATEGORY_EMICRO_1W_SMART_ALERTS = 205,

NTI_SENSOR_CATEGORY_MAP = 300,

Get Device List API

Type: HTTP GET Endpoint: "/api/u/monitor/getwindeviceslist" Requires HTTP "Cookie" header with value "ntisid=<sid>" Content-Type: application/json JSON Response code if successful: 200 Response "data" will have an "sdata" array list as follows [<Device_IP_Address_in_anchor_tag>, <Device Name>, <Device_Status>]

Example:

curl -vk -X GET "https://192.168.1.100/api/u/monitor/getwindeviceslist" -H "Cookie: ntisid=fkal9sjks0kU02js9edjd0Jhals9qj09LSDFG24S98LsAs"

Response:

{

```
"code": 200,
```

"data": {

"id_window": 0,

"sdata": [

["192.168.1.100", "E-2DB- E08",

"Normal"],

NTI E-MNG-SH Self-Hosted Enterprise Environment Monitoring System Management Software

Download Events Log API

Type: HTTP GET or HTTP HEAD

Endpoint: "/api/u/events/log/download"

Requires HTTP "Cookie" header with value "ntisid=<sid>"

Content-Type: application/octet-stream

Content-Disposition: attachment;filename="event_log_<timestamp>.txt

If successful HTTP Response code: 200 followed by tab delimited event log data:

<Time>\t<Record Type>\t<Message>\t<Log Level>\t<Device>\t<Sensor>\t<Unix Timestamp>

HTTP Response code if error: 401

Example:

curl -vk -X GET "https://192.168.1.100/api/u/events/log/download" -H "Cookie: ntisid=fkal9sjks0kU02js9edjd0Jhals9qj09LSDFG24S98LsAs"

Response:

HTTP/1.1 200 OK

Transfer-Encoding: chunked

Content-Type: application/octet-stream; name="event_log_1688938293.txt"

Content-Disposition: attachment;filename="event_log_1688938293.txt"

Time Record Type Message Log Level Device Sensor

07/05/2022 04:39:55 PM <\t> Alert <\t> Sensor 2. E-16D E100 on 4G went into Alert on device Remote E-5D <\t> 3 <\t>Remote E-5D<\t>E-16D E100 on 4G <\t> 1688928394894<\r\n>

Unix Timestamp

Download Sensor Graph API

Type: HTTP GET or HTTP HEAD

Endpoint: "/api/u/device/sensors/getgraph"

Requires HTTP "Cookie" header with value "ntisid=<sid>"

Requires HTTP GET variables: "period_index =1&cat_type=<Sensor_category_ID>&emng_id_sensor=<Sensor_ID>"

Period Index is the period for which to download this sensor graph for. Period index can be selected from list below:

Graph Periods Available:

PERIOD_1HR = 0, PERIOD_8HR = 1, PERIOD_2D = 2, PERIOD_1WK = 3, PERIOD_1MO = 4,

 $PERIOD_6MO = 5,$

 $PERIOD_2YR = 6$

cat_type is the sensor category ID shown in Get All Sensor List API

emng_id_sensor is the sensor ID that is unique to all sensors

Example response with graph data loaded:

Response Content-Type: application/json

If successful JSON response code will be 200 otherwise it will have appropriate response code along with error message like 401 for invalid credentials

Even if JSON response code is 200, graph data may not have loaded in response.

To confirm if data was loaded please check the response variable ['data']['loaded'].

If this is true, data was available when API was called and ['data']['sdata'] now contains sensor graph data for selected period

If ['data']['loaded'] is false, this sensor's graph data was not loaded to memory at the time of request. However this auto triggers a load request. So please try again in 3-5 seconds by which time graph data would have been loaded.

Format of sensor data is as below. 'sdata' key will have 3 arrays each for Maximum, Minimum and Average values within that period of time slice. As in example below, ['data']['sdata'][0]['values'] will have an array of dictionary of x to timestamp and y to Maximum sensor values

{

"code": 200,

"data": {

"high_label": "Triggered",

"loaded": true,

"low_label": "Normal",

"sdata": [{

"area": false,

"color": "brown", "key": "Max.", "max_val": 114.2, "min_val": 119.4, "unit": " V",

"values": [{"x":1690542680206, "y": 114.2}, {"x":1690542737806, "y": 114.1}]

}, {

"area": false, "color": "pink", "key": "Min.", "max_val": 117.2,

"min_val": 0,

"unit": " V",

"values": [{"x":1690542680206, "y": 117.2}, {"x":1690542737806, "y": 117.0}]

}, {

"area": false, "color": "#42d4f4", "key": "Avg.", "max_val": 121.2, "min_val": 120.4, "unit": " V", "values": [{"x":1690542680206, "y": 121.0}, {"x":1690542737806, "y": 120.9}]

}],

"tick_format": 1,

"valtype": 3

},

"msg": "request successful"

}

Example response with graph NOT loaded:

curl -vk -X GET "https://192.168.1.100/api/u/device/sensors/getgraph?period_index=1&cat_type=2&emng_id_sensor=14" -H "Cookie: ntisid=fkal9sjks0kU02js9edjd0Jhals9qj09LSDFG24S98LsAs"

Response:

HTTP/1.1 200 OK

Content-Type: application/json

{

"code": 200,

"data": {

"high_label": "Triggered",

"loaded": false,

"low_label": "Normal",

"sdata": [{

"area": false,

"color": "brown",

"key": "Max.",

"max_val": -899998.200000001,

"min_val": 899999.10,

"unit": " V",

"values": null

}, {

"area": false, "color": "pink", "key": "Min.", "max_val": -899998.2000000001, "min_val": 899999.10, "unit": " V", "values": null

}, {

"area": false, "color": "#42d4f4", "key": "Avg.",

"max_val": -899998.2000000001, "min_val": 899999.10, "unit": " V",

"values": null

}],

"tick_format": 1,

"valtype": 3

},

"msg": "request successful"

}

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