NX SITE MANAGER

QUICK START GUIDE

ABOUT THIS DOCUMENT

This document describes how to configure, monitor and control an NX Lighting Control System with the NX Site Manager (Model # NXAC2-120-SM) Web-based Software Application.

IMPORTANT INFORMATION

This document does not cover the initial installation and setup of the NX Site Manager hardware. Please refer to the NX Area Controller with Site Manager Installation Instructions if you are configuring this software for the first time.

The information and procedures in this document assume that:
• An NX Area Controller V2 with Site Manager has already been installed and setup on your site
• You are familiar with the NX Lighting Controls Mobile App
• You have read the NX Area Controller with Site Manager Installation Instructions including the process for accessing the Login Page of the NX Site Manager application.

RELATED VIDEOS AND DOCUMENTATION

Links to videos showing the different functions of NX Site Manager are available in Site Manager's help. Click on the '?' button for help information.

NX Area Controller with Site Manager Installation Instructions
This guide covers the initial installation and setup of the NX Area Controller V2 and how to access the Login Page.

NX Area Controller V2 with Site Manager Specification Sheet
This guide describes key features, ordering instructions and typical NX Site Manager network wiring diagrams.

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IMPORTANT: Do not attempt to commission any devices using the NX Site Manager without following the specific steps outlined in this document. It is highly recommended that the rooms be configured and devices named using the NX Lighting Controls Mobile App prior to discovery by NX Site Manager.

NX SYSTEM ARCHITECTURE

Understanding the architecture of the NX Lighting Controls System is key to a successful installation. While NX is a distributed system, there are some unique features that greatly shorten the discovery process and simplify the setup procedure. NX Site Manager is the central component on the network which communicates to all connected devices. During the setup process, Site Manager creates a database containing system devices and device configuration settings. Since the settings, programming, schedules, etc. are stored in the NX devices, the Site Manager does not need to be online for basic control functions to operate. One exception is when integrating to a Building Automation System (BAS) via BACnet.

Most control functions take place within the logical construct of a Zone. Sensors, switches, relays and dimmers establish relationships within a Zone to interact and perform a sequence of operation. The link between these components is made through inclusion in a Group. Each Zone includes up to 16 Groups providing a great deal of flexibility. Typically, an occupancy sensor will be included in all the Groups that are created in the associated Zone assuring that all lighting in the Zone will be turned OFF when unoccupied. And a button on a switch can control a relay in the Zone simply by including the switch in the same Group within the Zone.

A Zone is analogous to a room or contiguous space in a building. See the Key Terms section.

Zones will typically be associated together within the logical construct of an Area. This association not only provides a way to organize a building or site, but also establishes a layer of control that can span multiple Zones. For instance, ten rooms on the floor of a building can each have a unique local sequence of operation as individual Zones. By associating these ten rooms with an Area, they are automatically made children to the Area (floor) when viewed in the Navigation Tree within the Site Manager's Graphical User Interface (GUI), making it possible to perform local control functions that span all or part of the Zones on the floor (Area). An example is a master ON/OFF switch for the floor. See Area Level Switch in the Key Terms section.

An NX system may include one or more room controllers, fixture modules or lighting control panels. These parent objects contain resources that will be associated with Zones during the commissioning process. These parent objects can contain relays, dimmers, low voltage inputs, and low voltage outputs. Low voltage switches and sensors connected to the parent objects will appear as available resources during the discovery and commissioning process. Resources from parent objects are individually commissioned into Zones making them usable for control. Groups are the mechanism used for linking inputs to outputs.

INTRODUCTION

The NX Area Controller V2 with Site Manager (NXAC2-120-SM) is a web server which employs a standard browser as the user interface. No software is required other than a standard web browser to access the features of the Graphical User Interface. Before attempting to use the NX Site Manager with your NX Lighting Controls System, be sure that the NX Area Controller V2 with Site Manager has been installed and configured as defined in the Installation Instructions shipped with the unit.

KEY TERMS

Area - A virtual segmentation that defines a portion of the site. This could be a floor, a wing, or a building on a site that has a cluster of buildings. A project may have up to 128 Areas.

Area Level Button - A button on a programmable switch station that is configured to control lighting in multiple Zones.

Area Level Switch - A specialty switch station that is configured to control lighting in multiple Zones.

BACnet®- A Data Communication Protocol for Building Automation and Control Networks (ANSI/ASHRAE Standard 135-2020)

Commissioning - The process of moving discovered devices into Areas and Zones where they will be programmed and made operational.

Decommissioning - The process of removing a device from a Zone back to its uncommissioned factory default state. This erases all programming associated with the device(s).

Discovery - The process of querying the NX Network to find connected NX devices. This process will generate a list of NX devices in the Discovered Navigation Tree in the user interface.

NX Network - The building wide network that interconnects the primary network components of the NX Lighting Control System.

Manual Configuration - The process by which a Room Controller Zone is reconfigured using the buttons and LED indicators provided on the room controller and switches.

Navigation Tree – displays all the NX system components and hierarchy.

Resource - An individual switch, relay, dimmer, input, output, or sensor that is discovered by nature of it being contained in, or connected to, a network level device such as a panel.

Room Devices - Switches, occupancy sensors, daylight sensors or other accessory devices that are physically connected to a Room Controller's SmartPORTs via Cat5 cables.

Self-Configuration - The process by which a Room Controller Zone is configured automatically to perform a prescribed sequence of operation as room devices are plugged into the SmartPORTs.

Uncommissioned Devices - NX devices displayed in the Discovered Navigation Tree that do not have a checked commissioned icon. For the devices to be usable, they must first be commissioned into an Area and Zone.

Zone - A room or contiguous space within an Area. Each Area may have up to 128 Zones.

STEP BY STEP CHECK LIST

1. Read this entire document
2. Have a plan for organizing the site
3. Make provision for identifying Areas and Zones
4. Setup the system
5. Discover the network and confirm that all devices are found and appear in the Discovered Navigation Tree.
6. Commission the devices by assigning them to the desired Zone in the Commissioned Navigation Tree.
7. Configure the devices
8. Backup the database

STEP 1 - READ THIS DOCUMENT

It is extremely important to follow the procedures described in this document, especially for when commissioning devices and for creating Zones. A successful project requires that the Commissioned Navigation Tree be properly constructed during the commissioning process.

STEP 2 - PLANNING

Before attempting to do any commissioning or programming, you should plan the organization of the site. While the system may be configured with all Zones residing in a single Area, it may be beneficial to divide the site into logical Areas, each with the appropriate Zones that are physically located in that Area. This will organize the Commissioned Navigation Tree and make navigating the site easier. For instance, a school with an East and West classroom wing, a core area, and exterior lighting might be setup with four Areas:

1. East Classroom Wing
2. West Classroom Wing
3. Core Area
4. Exterior Lighting

Each Area will then contain the appropriate Zones. For instance, the Core Area might contain:

1. Principal's office
2. Entry lobby
3. Gymnasium
4. Cafeteria
5. Auditorium

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TIP: If there will be a need to have a master switch to control multiple Zones, these Zones must be located within a single Area. An Area level switch or Area level button cannot control lighting in multiple Areas.

STEP 3 - IDENTIFYING THE AREAS AND ZONES

It is highly recommended that the Areas and Zones (rooms) be created prior to discovery by the NX Site Manager. This procedure requires a Bluetooth® radio module or Bluetooth® enabled device and the NX Lighting Controls Mobile App running on a smart device. If this is not possible, it will be necessary to know the MAC address of the NX Network Bridge Modules (NXHNB2) associated with each Zone. This is the number directly below the bar code beginning with a zero. Extra stickers are provided on the NXHNB2 housing as a convenience. Make sure the sticker is visible after the NXHNB2 is installed.


3.1 LOGGING INTO THE NX SITE MANAGER WEB BASED SOFTWARE APPLICATION

IMPORTANT: Users must adhere to the recommended browser requirements for their machine, for successful access:

Google Chrome: 83.0.4103.106 (64-bit) and up
Mozilla Firefox: 77.0.1 (64-bit) and up
Microsoft Edge: 44.18362.449.0 and up
Microsoft Chromium: Any version

Follow the steps below to login to NX Site Manager:

1. Connect your PC/Laptop to RJ45 Port 1 on the Site Manager Controller (Refer to the NX Area Controller V2 with Site Manager Installation Instructions for details on connecting to and configuring the network settings on your computer).

2. Login using the following: User name: 'sysadmin'; Password: 'Sa!1234'

3. See Login screen below

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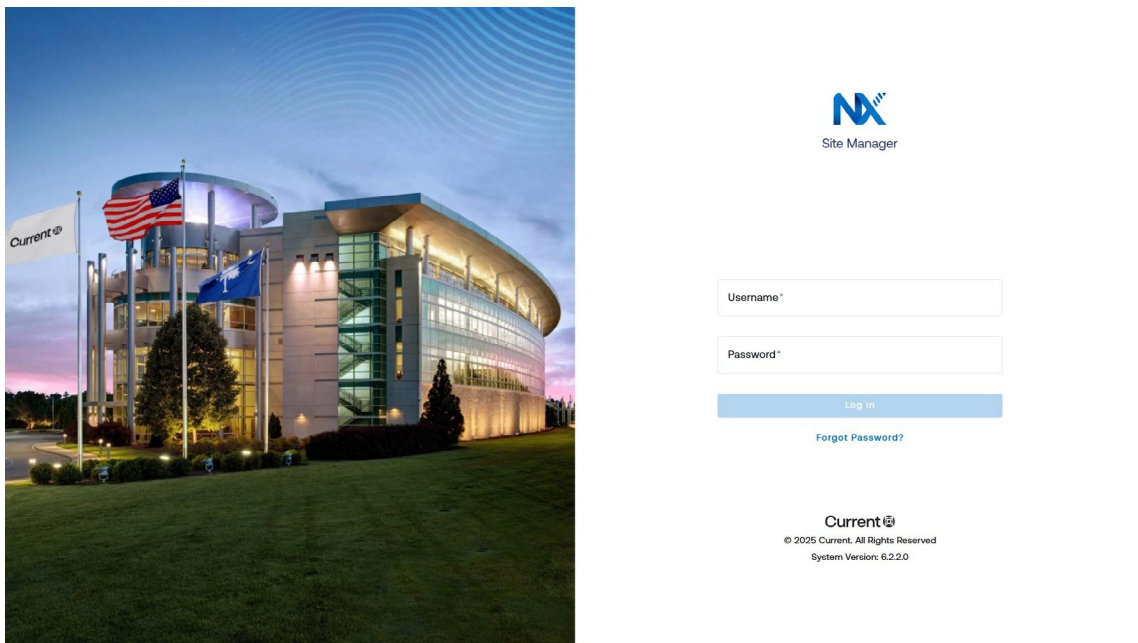
STEP 4 - SYSTEM SETUP

The Setup Dashboard is displayed by clicking on the Setup gear icon.
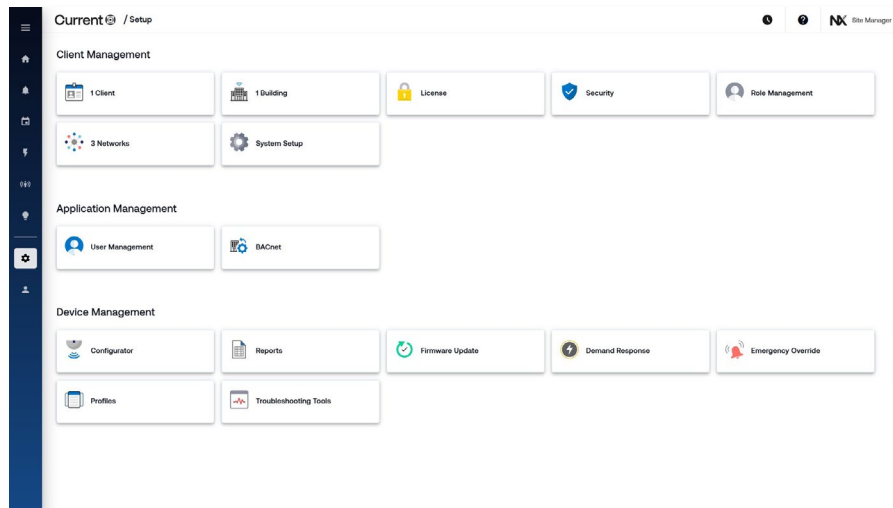
The Setup tiles are used to configure the following:

Client Management
- Client Information
- Building Information
- Software License Keys
- Security Information
- Role Management
- Networks
- System Setup

Application Management
- User Management
- BACnet Configuration

Device Management
- Device Commissioning and Configuration
- Report Generation
- Firmware Update
- Demand Response Configuration
- Emergency Override Configuration
- Profiles/Clone
- Device & Schedule Profiles
- Troubleshooting Tools

STEP 4.1 – CLIENT INFORMATION
Click on the Client Information tile to display the Client Information page which is used to configure the General Client Information, Holidays and Custom Holidays.

STEP 4.2 – BUILDINGS
Click on the Buildings tile to display the building currently configured. Click on a building's tile to display the Building's Information page, which is used to configure the building's name, address, longitude/latitude, contact information, electricity cost per Kilowatt, building image and building hours. To add a new building click on the +Add Building button.

STEP 4.3 – LICENSE
Click on the License tile to import software licenses to unlock optional software features.

STEP 4.4 – SECURITY
Click on the Security tile to configure the number of password reset question, the inactive user session timeout, and the security certificate mode.

STEP 4.5 – ROLE MANAGMENT
Click on the Role Management tile to add, view, change and delete roles. Click on the +Add Role button to add a role and assign permissions and buildingassignments to the role.

STEP 4.6 – NETWORKS
Click on the Networks tile to add and configure NX Site Manager Adapters which are used to expand the NX Network.

STEP 4.7– SYSTEM SETUP
Click on the System Setup tile Management tile to configure the NX Site Manager's IP address, DNS servers, NTP server, system date & time, perform database management and software updates, manage log files, check state of scheduled jobs, restart processes and configure system wide facility rates (e.g. override duration time).

STEP 4.8 – USER MANAGMENT
Click on the User Management tile to add, view, change, and delete users. Click on the +Add User button to add a user and assign the user roles and permissions.

STEP 4.9 – BACNET
Click on the BACnet tile to configure BACnet general settings (including object to export), and virtual device ID information.

STEP 4.10 – CONFIGURATOR
Click on the Configurator tile to add, view, change, and delete Areas, Zones, Groups, Presets, Schedules. Discover, commission, program and control devices using the Configurator.

STEP 4.11 – REPORTS
Click on the Reports tile to view and export zone and device summary reports.

STEP 4.12 – FIRMWARE UPDATE
Click on the Firmware Update tile to select device firmware files and to update one or more devices based on the selected firmware files.

STEP 4.13 – DEMAND RESPONSE
Click on the Demand Response tile to configure up to 10 demand response levels per zone. For each level, relay states, dimming levels and CCT temperatures can be configure for individual devices or all devices.

STEP 4.14 - EMERGENCY OVERRIDE
Click on the Emergency Override tile to configure the emergency device settings per zone. For each zone, relay states, dimming levels and CCT temperatures can be configured for individual devices or all devices.

STEP 4.15 - PROFILES
Click on the Profiles tile to create/apply device & zone schedule profiles

STEP 5 - DISCOVER THE NETWORK
Once you are logged in, you can now start the device discovery process.

1. Click on the Configurator tile
2. Select a Building and Adapter
3. Click on the Discover button
4. Select the Discover type and click on the associated Discover button

If there are additional adapters that have devices that need to be discovered, you can select another adapter and start another discovery at the same time another adapter's discovery process in in progress.

The time required to complete the discovery process will be dependent upon the number of devices on the network.

After discovery completes, a message will be displayed indicating successful discovery. To see the discovered devices, click on the Setup gear icon and reselect the Configurator tile. After selecting a building and adapter, the devices associated with that adapter will be displayed.

STEP 6 - COMMISSION DEVICES
The first step in commissioning is to create at least one Area. Smaller systems will likely use a single Area to contain all the Zones. The system can support up to 128 Areas.

6.1 CREATING AN AREA
Areas must be created manually prior to creating any Zones. To add Area(s) perform the following steps:

1. Click on the Configurator tile
2. Select a Building and Adapter
3. On the Commissioned Navigation Tree, click on the "+" button to add a new Area.
4. Name the Area
5. Click on the Add button to add the Area to the Commissioned Navigation Tree.
6. Create additional Areas as needed

6.2 ADDING ZONES TO AN AREA

Each Area can have up to 128 Zones which can be easily added to an Area by performing the following steps:

1. On the Commissioned Navigation Tree, click on the Area's "+ zone" button (located to the right of the Area name)
2. Name the Zone
3. Click on the Save button to add the Zone to the Area
4. Create additional Zones as needed

6.3 ADDING DEVICES TO ZONES

Devices can be added to a Zone by performing the following steps:

1. On the Discovered Navigation Tree, select one or more devices
2. Commission the devices into a Zone by:
    Method 1: Drag and drop the devices into a Zone, or
    Method 2: Select the Commission button on a device's details page and use the Area and Zone drop downs to select the Area and Zone the device should be placed into
3. Device(s) will be placed into that Area and Zone

6.4 ADDING GROUPS TO ZONES

Groups are the mechanism used for linking inputs to outputs. Up to 16 Groups can be created for a Zone and devices can belong to 1 or more Groups. To create a Group, perform the following steps:

1. On the Commissioned Navigation Tree, select a Zone
2. Select the Groups tab
3. Click on the "+ Group" button
4. On the Add Group window – name the Group, select Devices for the Group and control/test the Group
5. Click on the Save button to save the Group
6. Create additional Groups (up to 16) as needed

6.5 ADDING PRESETS TO ZONES

Presets are scenes that can be used by devices such as relays, dimmers and switches. Up to 16 individual presets can be configured per Zone and can set fade, CCT, dim levels and relay states. To create a Preset, perform the following steps:

1. On the Commissioned Navigation Tree, select a Zone
2. Select the Presets tab
3. Click on the "+ Preset" button
4. On the Add Preset window – name the Preset, enable/disable the Preset, specify the Fade Time, and select the devices and their settings for the Preset
5. Click on the Save button to save the Preset
6. Create additional Presets (up to 16) as needed

6.6 ADDING SCHEDULES TO ZONES

Schedules are programmed timed events that can affect a Group state or activate Presets throughout the day. Up to 99 individual Schedules can be configured per Zone. To create a Schedule, perform the following steps:

1. On the Commissioned Navigation Tree, select a Zone
2. Select the Schedules tab
3. Click on the "+ Schedule" button
4. On the Add Schedule window – name the Schedule, enable/disable the Schedule, specify the Schedule Type, Offset, Occurrence, and the Action that should occur at the scheduled time.
5. Click on the Save button to save the Schedule
6. Create additional Schedules (up to 99) as needed

STEP 7 - CONFIGURING (PROGRAMMING) THE DEVICES

Once devices have been assigned to their respective Areas and Zones and the Commissioned Navigation Tree is finalized, the next step typically is to start configuring the devices. Configuring devices means selecting a device from either the Discovered or Commissioned Navigation Trees which will then display that device's detail page. Configure the device's parameters to meet the control intent. Configuration also involves creating/adding Groups, assigning devices to those Groups, creating Presets (if applicable) and Schedules.

STEP 8 – BACKUP THE DATABASE

Once the system has been fully programmed, it is recommended to make a copy of the Site Manager's databases. To back-up the databases, perform the following steps:

1. Click on the Setup gear icon
2. Click on the System Setup tile
3. Click on the General Data Management tab
4. Backup the Configuration Database by clicking on its Backup button
5. Backup the Time Series Database by clicking on its Backup button