Project Deployment Guide

Setting up a project with Amatis Controls and X-PoE switches requires a structured approach to ensure a smooth and efficient deployment. This guide outlines the necessary steps, considerations, and best practices for integrating Amatis Controls into your project, from initial planning to full system operation.

Amatis Controls, combined with X-PoE technology, provides a scalable and energy-efficient lighting and control solution. Whether you are configuring a small system or deploying across a large facility, this document will serve as a reference for key onboarding tasks, including network configuration, hardware installation, system calibration, and user management.

Project Deployment Steps:

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Design & Planning:

- ☐ 1a. Project Information & Requirements Gathering

Before beginning the design and deployment of an Amatis Controls and X-PoE lighting system, it is essential to collect the necessary project documents. These documents provide critical details about the lighting layout, fixture specifications, and electrical infrastructure, ensuring that the system is properly planned and configured. Having accurate and complete documentation at this stage helps streamline the design process, reduce installation errors, and ensure compliance with project requirements.

The following documents are required to begin the lighting controls design:

Required Documents List:

- ☐ Floor Plans with Lighting Information
  - A. Provides an overview of the building layout, showing the locations of all light fixtures.
  - B. Identifies fixture types as specified in the fixture schedule, including manufacturer, model number, wattage, and voltage.
  - C. Includes lighting load circuiting, indicating which fixtures are controlled together.

- ☐ Fixture Schedule
  - A. A detailed list of all lighting fixtures used in the project, including manufacturer, model number, wattage, **LED (not fixture) voltage**, and color temperature.

- ☐ Preliminary Programming Scope
  - A. Defines the high-level expected behavior of the lighting system.
  - B. Outlines major control requirements that impact system design.

Design & Planning:

- ☐ 1b. Lighting & Controls System Design

Once the necessary project documents are gathered, the next step is to design the lighting and controls system for integration with Amatis Controls and X-PoE switches. This stage involves defining how lighting fixtures and control devices will be connected, assigned to ports, and mapped to the network. A well-structured lighting and controls design ensures efficient power distribution, control functionality, and network organization.

The following steps outline the key tasks in this phase:

Steps in Lighting & Controls System Design:

- ☐ Determine Fixture Load per X-PoE Port
  - A. Assess how many of each fixture type can be powered and controlled by a single X-PoE switch port.
  - B. Use the specified current draw per fixture, if available. If it is not available, calculate it with the LED wattage and voltage. If the LED voltage is not available, assume 36V.

- ☐ Specify X-PoE Switch and Port Assignments
  - A. Assign each controlled circuit to a specific X-PoE switch and port number (e.g., XS-1 Port 3, noted as XS1-3).
  - B. Assign each IEEE device to a specific X-PoE switch and port number.
  - C. Ensure port assignments align with the circuit design and expected power requirements.

- ☐ Assign Load Numbers to Controlled Circuits
  - A. Each controlled circuit should be given a unique load number to track assignments.
  - B. Load numbers typically follow the format: Room Number + Incrementing Number (e.g., 103-1, 103-2…).

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Design & Planning:

1b. Lighting & Controls System Design Continued

- ☐ Create a Port Map Table
  - A. Develop a table listing all X-PoE switch ports, including load number (from drawings), expected wattage per port, and XPD type or IEEE designation.

- ☐ Determine Controls Device Placements
  - A. Define locations for sensors, wall switches, and other control devices.
  - B. Ensure optimal placement for user accessibility and system efficiency.
  - C. Assign device names to all controls devices. Device names typically follow the format: Device Abbreviation + Room Number + Incrementing Number (e.g., MS-103-1, MS-103-2…).

- ☐ Establish Controls Power Loops
  - A. Identify how control power is distributed to sensors, switches, and other control peripherals.

- ☐ Plan X-PoE Switch Placement
  - A. Decide on a head-end vs. distributed switch architecture based on system layout.
  - B. Optimize switch locations for cable efficiency and ease of maintenance.

- ☐ Determine AMBR Placement and label AMBRs
  - A. Assign locations for AMBR devices based on number of devices and coverage needs.
  - B. AMBR labels typically follow the format: Floor + AM + Incrementing Number (e.g.,1AM1, 1AM2…).

- ☐ Define Wireless Network Groupings (if applicable)
  - A. If multiple AMBRs or more than 100 devices are deployed, establish wireless network groupings to optimize performance and minimize interference.

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Design & Planning:

- ☐ 1c. X-PoE Network Architecture & Power Design

A well-planned X-PoE network architecture and power design ensures that all devices receive stable power and reliable network connectivity. This stage focuses on defining network connections, power supply locations, and infrastructure layout to ensure seamless operation. Proper planning helps prevent installation issues and ensures the system can handle current and future demands.

The following steps outline the key considerations for designing the X-PoE network and power system:

Steps in X-PoE Network Architecture & Power Design:

- ☐ Specify Network Feeds to All X-PoE Switches and AMBRs
  - A. Specify network wiring runs for all X-PoE switches and AMBRs in the project documentation.
  - B. Ensure this information is clearly communicated so that IT teams and installers can plan network infrastructure accordingly.

- ☐ Define X-PoE Power Infrastructure Requirements & Locations
  - A. Determine power supply requirements based on total lighting and IEEE load.
  - B. Identify optimal power supply locations to minimize cabling distance.
  - C. Ensure this information is shown in the project documentation.

Design & Planning:

- [ ] 1d. Load Type Testing & Profiling

To ensure proper dimming performance and system stability, each fixture type must be tested and profiled before deployment. Load type testing helps determine the optimal maximum output (max out), minimum output (min out), and zero setting for each fixture, ensuring smooth and reliable control. This process is particularly important when multiple fixtures are controlled by a single X-PoE port, as different combinations may behave differently.

While it is ideal to perform load profiling before installation using fixture samples, this is not always possible. When samples are unavailable, default load types matching the expected current draw can be used temporarily. However, profiling must be completed at some point in the project to avoid performance issues.

The following steps outline the key tasks in this phase:

Steps in Load Type Testing & Profiling:

- [ ] Request Fixture Samples for Testing
    - A. Obtain samples of each load type listed in the fixture schedule for direct testing.

- [ ] Follow the Fixture Profiling Guide
    - A. Use the fixture profiling guide to determine:
        - a. Max Out – The highest stable dimming level without overdriving the fixture.
        - b. Min Out – The lowest stable dimming level before flickering or dropout occurs.
        - c. Zero Setting – The setting where the fixture is fully off.

- [ ] Ensure Load Profiling is Completed Before Final Commissioning
    - A. Document the final fixture profiles for reference during device configuration.

Pre-Programming & Configuration:

- ☐ 2a. Programming Scope Definition

Before programming begins, it is essential to define the programming scope for each location in the project. This step establishes how the lighting system will function, including light levels, occupancy settings, switch behavior, and any advanced features such as daylight harvesting or scheduling. A well-documented programming scope ensures that the system meets the client's expectations and operates as intended.

The following steps outline the key tasks in this phase:

Steps in Programming Scope Definition:

- ☐ Define Programming Scope for Each Location
    - A. Specify light levels for different areas.
    - B. Specify occupancy timeouts for normal and after-hours operation (if applicable).
    - C. Specify wall switch behavior (e.g., on/off, dimming, or scene selection).
    - D. Specify keypad button behavior (if applicable).
    - E. Determine keypad engravings for clarity (if applicable).
    - F. Specify daylight harvesting where appropriate.
    - G. Specify scheduling for automatic changes in lighting states (if applicable).

- ☐ Review the Programming Scope with the Client
    - A. Present the programming scope document for client approval.
    - B. Confirm that all functional requirements align with user expectations and operational needs.
    - C. Make adjustments as necessary before proceeding to implementation.

Pre-Programming & Configuration:

- ☐ 2b. Pre-Programming & Configuration

Before devices are installed and commissioned, pre-programming is optional but highly encouraged to ensure the system is structured correctly and ready for deployment. This step involves setting up the site in the Amatis system, configuring network profiles, defining location structures, and pre-loading programming settings. While not required, pre-programming significantly reduces setup time during installation and ensures a smoother transition to the testing and commissioning phases.

The following steps outline the key tasks in this phase:

Steps in Pre-Programming & Configuration:

- ☐ Create the Site in the Amatis System
  - A. Use the ID of the main AMBR to create the site in the config app.

- ☐ Set Up Network Profiles
  - A. Create network profiles for any additional AMBRs to use during device and AMBR profile assignments.

- ☐ Define the Location Structure
  - A. Organize the site into locations and sub-locations.

- ☐ Add Placeholder Devices
  - A. Populate all locations with placeholder devices to prepare for future device associations.

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Pre-Programming & Configuration:

2b. Pre-Programming & Configuration Continued

- [ ] Configure Programming Options for Each Location
  - A. Toggle on desired programming options for each location.
  - B. Adjust the pre-configured scenes or create lighting scenes as required.

- [ ] Configure Schedules (If Applicable)
  - A. Set up scheduled scenes based on operational needs.

- [ ] Assign Network Profiles to Wireless Devices
  - A. Ensure all wireless placeholder devices are assigned to the correct network profiles.

- [ ] Configure Device Settings
  - A. Set load types for placeholder X-PoE channels and ports in the config app based on the fixture types and power requirements.

- [ ] Schedule a Programming Review with the Amatis Team
  - A. Conduct a final review of programming settings to confirm accuracy before installation.

- [ ] Stage and Label Real Devices (If Applicable)
  - A. If pre-staging devices, label them with their installation locations.

Installation & Deployment:

- ☐ 3a. Hardware Installation & Network Setup

Proper hardware installation and network setup are essential for ensuring a stable and functional Amatis Controls system. This phase involves powering up and configuring the AMBRs, X-PoE switches, and wireless control devices, as well as coordinating network access with IT teams. Setting up network connectivity correctly from the start prevents communication issues and streamlines the deployment process.

The following steps outline the necessary tasks to prepare the hardware and network infrastructure:

Steps in Hardware Installation & Network Setup:

- ☐ Power Up & Configure the Main AMBR
  - A. Connect the main AMBR to the network and power it on.
  - B. Update firmware to the latest version.
  - C. Configure it as the main site AMBR by setting it to site master and enabling the event bus.

- ☐ Power Up & Configure Child AMBRs (If Applicable)
  - A. Connect and power on all child AMBRs.
  - B. Update firmware to the latest version.

- ☐ Coordinate Network & Firewall Access with IT
  - A. Work with the IT team to ensure proper network access, VLAN assignments, and firewall rules for AMBRs and X-PoE switches.

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Installation & Deployment:

3a. Hardware Installation & Network Setup Continued

- [ ] Install & Configure X-PoE Switches
  - A. Install and power up all X-PoE switches.
  - B. Connect them to the network and verify connectivity.
  - C. Update firmware to the latest version.
  - D. Configure network settings, including static IPs (if applicable).
  - E. Verify that each switch shows a solid green status LED, indicating proper operation.
  - F. Ensure load types are set for all X-PoE ports and channels.
  - G. Connect lighting and IEEE loads to the X-PoE switches.

- [ ] Ensure X-PoE Switches Are Integrated with the Amatis Site
  - A. Confirm that all X-PoE switches are recognized within the Amatis system and properly assigned to the site.

- [ ] Install & Update Wireless Controls Devices
  - A. Install all wireless control devices (sensors, wall switches, etc.).
  - B. Update firmware on all wireless devices to ensure compatibility and reliability.

Installation & Deployment:

- ☐ 3b. MAC Address Capture

MAC address capture is one of the most important steps in the installation process. Accurately recording the MAC addresses of all installed devices ensures that they can be properly identified, associated with the correct locations, and integrated into the Amatis system. This step is critical for system troubleshooting, device replacement, and long-term maintenance.

As devices are installed, the last four digits of the MAC address must be recorded for each wireless device, X-PoE switch, and AMBR. Devices come with stickers that can be placed directly on drawings as an optional tracking method. Additionally, all MAC addresses should be entered into a table for reference.

The following steps outline the key tasks in this phase:

Steps in MAC Address Capture:

- ☐ Record MAC Addresses During Installation
  - A. As each device is installed, document the last four digits of its MAC address.
  - B. Capture MAC addresses for X-PoE switches, AMBRs, and wireless devices.
  - C. Optionally, place the MAC address stickers on a set of drawings.

- ☐ Create a MAC Address Table
  - A. Maintain a structured table listing each installed device and its associated MAC address.
  - B. Use the drawing name (e.g., XS-1, 1AM1, MS-103-1) to identify device locations.

Installation & Deployment:

- ☐ 3c. Device Association

After devices have been installed and their MAC addresses captured, the next step is device association. This process links the physical (live) devices to their corresponding placeholders in the Amatis programming locations. Proper device association ensures that each control device, X-PoE switch, and AMBR is correctly mapped to the intended location in the system.

The MAC address capture process plays a crucial role here, as it provides the necessary information to match each live device with its pre-configured placeholder in the Amatis system.

The following steps outline the key tasks in this phase:

Steps in Device Association:

- ☐ Associate Devices with Their Placeholders
  - A. Using the MAC address records from the installation process, locate the corresponding placeholder for each device in the Amatis system.
  - B. Associate each wireless device, X-PoE switch, and AMBR in the config app to its designated placeholder.
  - C. Ensure all sensor, wall switch, and control assignments align with the original design intent.

- ☐ Verify Associations
  - A. Double-check that all devices are correctly mapped and responding in the system.

Installation & Deployment:

- ☐ 3d. Wireless Network Migration

Wireless network migration ensures that all devices are correctly assigned to their operational network profiles, allowing seamless communication with AMBRs and other system components. Since wireless devices inherit their network profile assignments from placeholders, they only need to be moved to their respective profiles. However, AMBRs must still be assigned and moved to their designated wireless network profiles. This step finalizes network setup, ensuring that all devices communicate correctly within their assigned groups.

The following steps outline the process for moving devices to the correct wireless network profiles and verifying their communication:

Steps in Wireless Network Migration:

- ☐ Move All Wireless Devices to Their Specified Network Profiles
  - A. Using the config app, send all wireless devices to their designated wireless network profiles.

- ☐ Assign and Move All AMBRs to Their Wireless Network Profiles
  - A. Assign each AMBR to its designated wireless network profile.
  - B. Ensure that AMBRs are configured correctly before finalizing migration.

- ☐ Confirm Devices Are Communicating with the Correct AMBRs
  - A. Validate that all devices are communicating with the AMBRs on their assigned network profiles.
  - B. Check for any connection issues and resolve as needed.

Testing & Optimization:

- ☐ 4a. System Validation & Functional Testing

Once the system has been installed and configured, system validation and functional testing ensure that all devices are properly programmed and operating as expected. This step verifies that programming has been applied correctly, that devices are communicating with the network, and that various lighting scenes function as intended. Proper testing helps identify and resolve any issues before final commissioning.

The following steps outline the key tasks in this phase:

Steps in System Validation & Functional Testing:

- ☐ Sync Programming to All Devices
  - A. Sync the finalized programming configurations to all devices in the system.
  - B. Ensure that all settings are applied without errors.

- ☐ Confirm Device Communication & Updates
  - A. Verify that all devices are online, up to date, and properly programmed.
  - B. Check for any missing or unresponsive devices and troubleshoot as needed.

- ☐ Test Various Scenes in Different Locations
  - A. Activate different lighting scenes to confirm they operate correctly.
  - B. Test in multiple locations to verify consistency and expected behavior.

Testing & Optimization:

- ☐ 4b. Performance Optimization & Final Adjustments

After system validation and functional testing, the final step before project completion is performance optimization and final adjustments. This phase ensures that the system is fully dialed in based on real-world conditions and client feedback. Adjustments may be required for device settings, programming configurations, or scene behaviors to meet user expectations. A final review with the client helps ensure satisfaction and a smooth handover.

The following steps outline the key tasks in this phase:

Steps in Performance Optimization & Final Adjustments:

- ☐ Adjust Any Device or Programming Configuration as Needed
  - A. Fine-tune light levels, occupancy settings, and scene behaviors if necessary.
  - B. Resolve any remaining system inconsistencies or performance issues.

- ☐ Review System Operation with the Client
  - A. Walk through the system with the client to demonstrate functionality.
  - B. Address any questions or concerns regarding system behavior.

- ☐ Implement Any Requested Changes
  - A. Apply any final configuration updates based on client feedback.
  - B. Ensure all changes are properly documented for future reference.