Network Requirements Guide

INTRODUCTION

About This Guide

This guide describes the network requirements for a Luum lighting control system. It is written for the IT and network teams that provide the LAN used by X-PoE switches, AMBRs, and other Luum devices for local communication, cloud connectivity, firmware updates, and building-system integration.

NETWORK TOPOLOGY

The lighting control network should operate on a single flat subnet. Size the subnet for every networked lighting device, and leave capacity for growth beyond the count expected at startup so the address plan does not have to be redesigned as the system expands.

- Multicast and mDNS/Avahi traffic must flow freely between all devices on the subnet.
- All devices must have unrestricted peer-to-peer communication across the subnet.
- Internet access is required for all devices so they can receive firmware updates and reach Luum cloud services.
- Do not apply firewall rules that block multicast, broadcast, or peer-discovery traffic on the LAN.

DHCP SERVER REQUIREMENTS

MAC-based DHCP reservations are preferred. Reserve an address for each networked device, including X-PoE switches and AMBRs, and keep a MAC address list with the preferred IP address for each device.

A logical addressing scheme is recommended, though not required. One useful pattern is to assign lower addresses to lower floors and increment upward by floor, so a device's address indicates where it is installed. A consistent scheme is easier to operate and maintain than static addresses assigned ad hoc, or than leases with no reservation.

MAC-based reservations take more effort up front. They provide clearer, more stable addressing over the life of the system.

The DHCP server must provide an NTP server option in the leases issued to Luum devices. Publishing the NTP server through DHCP lets it be changed in one place, without configuring each device individually.

FIREWALL RULES

If outbound traffic is restricted, open the following destinations so Luum devices on the LAN — including X-PoE switches and AMBRs — can reach the Luum cloud for configuration, data logging, remote troubleshooting, and scene control.

Traffic	Destination	Purpose
Outbound HTTPS (TCP 443)	mqtt.amatiscontrols.com	Configuration, control, and system monitoring
Outbound VPN (UDP 1195)	vpn.amatiscontrols.com	Maintenance and configuration
Outbound HTTPS (TCP 443)	api.amatiscontrols.com	Integrating cloud resources with local configuration
Outbound HTTPS (TCP 443)	static.amatiscontrols.com	Firmware downloads from the Amatis firmware server
Outbound NTP (UDP 123)	ntp-b.nist.gov, or the site NTP server	Time synchronization

> **NTP**
> Many sites use one external NTP server for IoT devices. When that server is already reachable from the lighting subnet, a separate rule for ntp-b.nist.gov is not required. Outbound NTP to the chosen server must still be allowed if that traffic would otherwise be blocked.

BMS INTEGRATION

The building management system (BMS) must be able to reach at least one IP address on the lighting subnet.

Integration is typically handled by a single aggregation server on the lighting subnet. That server collects site lighting data and forwards a limited subset to the BMS for monitoring or control. Additional connections can be added later if needed.

RELATED INFORMATION

Technical Support

Questions about these requirements can be sent to support@luum.io. Include a short description of the site network and the question.

Document Feedback

While we have taken great care to ensure the accuracy and completeness of this document, we welcome your feedback and suggestions. If you notice any errors or omissions, or feel a topic could benefit from further explanation, please email your feedback to support@luum.io.

Revision History

Date	Revision	Notes
9/29/2026	A	Initial release

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