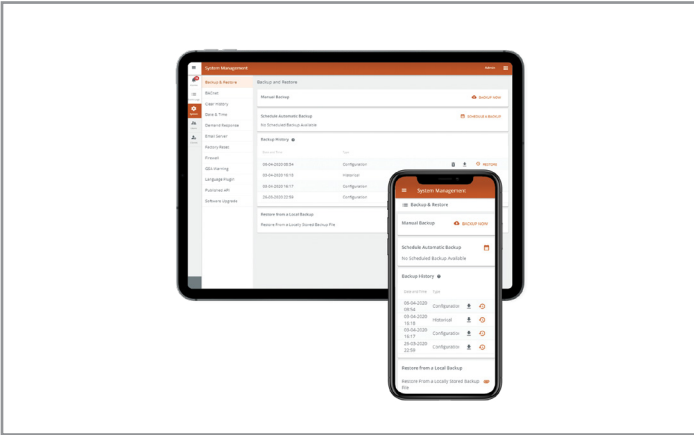


Project		Catalog #		Type	
Prepared by		Notes		Date	



WaveLinx

CORE - Admin

Enterprise Lighting Management Application

Typical Applications
Office • Education • Healthcare • Industrial

Interactive Menu

- Order Information page 2
- Additional Resources page 3
- Connected Systems page 5
- Product Warranty

Supported HTML 5/Javascript compatible browser:

- Microsoft Edge 80+
- Google® Chrome 75+
- Safari 11+

Product Features



Compatibility



Overview

The CORE Admin is a web-based application that allows system administrators to perform administrative tasks such as software upgrades, database backups, user and user role management, and enabling/disabling data exchange interfaces (BACnet/IP, OpenADR, REST APIs). CORE Admin is hosted on WaveLinx CORE (Pro, Enterprise and Virtual) appliances.

Product Features & Benefits

- **System Management** – Easily perform system maintenance tasks such as software updates of the WaveLinx CORE platform or devices connected to WaveLinx CORE, manual or schedule backup of the system configuration file and historical data, language selection, email configuration.
- **Alarm Management** – Monitor alarms generated by the system and applications hosted by the platform. Filter the alarms based on the alarm tags such as source, type, date and time.
- **Users and Roles Management** – Provide tenant and function level access to the applications by managing users, user roles and users' areas/department of responsibility.
- **Applications/Features management** – Manage the software licenses that manage the applications and interfaces hosted on the WaveLinx CORE platform.

Order Information

There is no catalog number for the WaveLinx CORE Admin application.

The WaveLinx CORE (Pro, Enterprise, Virtual) platforms are preloaded with the WaveLinx Admin application at no extra cost.

Notes

1. All WaveLinx CORE platforms are shipped with a base software license which enables all the Lighting features for 250 devices except for Occupancy dashboard, API, BACnet and OpenADR.
2. WaveLinx CORE Locate App is not available with the base software license.
3. For a system with more than 250 devices, the users must order software license adders for the applications and interfaces that they are planning to use. Please refer to WaveLinx Lighting App, WaveLinx Locate App, WaveLinx BACnet, WaveLinx Public API, WaveLinx OpenADR datasheets to learn more about the software license catalog numbers.
4. Please refer to the WaveLinx CORE datasheet to learn more about the capability of each platform, i.e. WaveLinx CORE Pro (TRX-TCPR02), WaveLinx CORE Enterprise (TRX-TCENT2) and WaveLinx CORE Virtual Enterprise (TRX-TCVRT2).

Product Specifications

Key Features

Manage the Smart Spaces Platform – Easily manage the WaveLinx Smart Spaces Platform and its core services. Using the WaveLinx CORE Admin application you would configure the general settings such as time, network address and email server, manage the various interfaces, enable/disable and test Demand Response, perform system upgrades, backups and restore for WaveLinx CORE system manually or at a specified time.

Manager users and user roles – Let you to create, edit, and delete user accounts and associate an account to an application specific role and areas of responsibility. The CORE Admin allows you to create a custom role for each application (Lighting, Locate) based on pre-defined permissions.

Manage the Open Standard based Interfaces – Manage the BACnet/IP and Public (REST) APIs that allows data exchange between your connected lighting system and your other systems such as Building Automation Systems and Smart Building platforms hence unlocking the value of the data gathered by your lighting system.

- Please refer to the WaveLinx CORE's Published API, BACnet/IP datasheets for more information as well as CORE BACnet Protocol Implementation Conformance Statement (PICS).
- The OpenADR interface that allows system integrator to easily integrate a networked WaveLinx PRO system with a utility company's OpenADR Demand Response Automation Server (DRAS) and retrieve live power demand information from that company. Please refer to the CORE's OpenADR Datasheet for more information.

Designed for Touch and Mobility – You are no longer tied to your desktop to view and manage your connected lighting system. Our responsive applications are designed for touch. You can interact with the applications from any device with a web browser, i.e. smartphones, tablets and desktop computers.

Software Specifications

Software Version: 12

Supported HTML 5/Javascript compatible browser:

- Microsoft Edge 80+
- Google® Chrome 75+
- Safari 11+

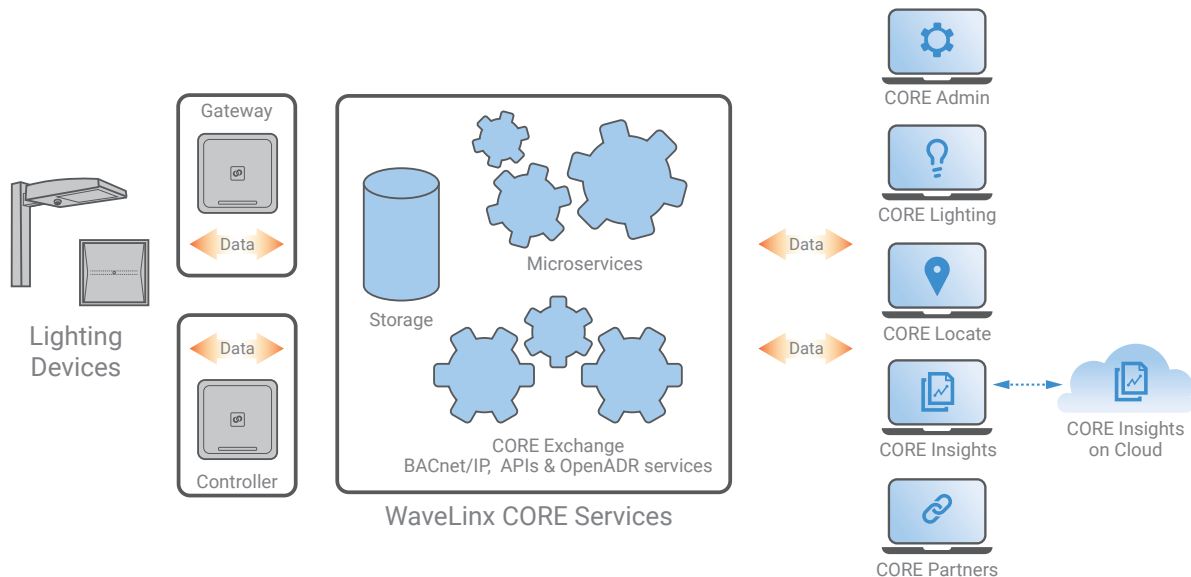
Supported Screen Resolution: 1024 x 768 or higher

Compatibility

- Please refer to the WaveLinx PRO System Release Notes for firmware compatibility matrix.

Warranty

- Consult website for warranty information.



WaveLinx CORE Smart Spaces Overview

WaveLinx CORE is an on-premises smart spaces platform that moves real-time monitoring and processing to the edge to allow you gain faster insights of their buildings operations and business processes and drive efficiencies and effective decisions using CORE apps and partners apps.

The platform manages the trellis of digital sensors embedded in your connected LED lighting, collects the data gathered by the sensors and analyzes the data to provide meaningful insights to users.

This on-premises platform hosts WaveLinx CORE Services, a set of microservices required for fully functional smart spaces solutions, CORE Exchange, a set of interfaces to allow data exchange with third party apps and CORE Apps, a set of Cooper Lighting Solutions developed applications designed to serve the Connected Spaces.

WaveLinx CORE enterprise platform simplifies day-to-day operations as well as integrations with the other sub-systems operating a building. Once the WaveLinx CORE is connected to the connected lighting system, WaveLinx CORE platform assumes the roles of the system's supervisory manager, historian, gateway and security.

As a supervisory manager, WaveLinx CORE allows users to perform high-level lighting supervisory management tasks, i.e. monitoring of the connected lighting system, making changes to the lighting schedule as well as issuing control commands such as changing a room's lighting level. User performs these tasks using the CORE Lighting application.

As a historian, WaveLinx CORE aggregates the data received from the connected lighting system and stores it in the time-series database. The data can then be visualized using the CORE Dashboards.

As a system gateway, WaveLinx CORE aggregates the data received from the connected lighting system. It then handles the data exchange between the WaveLinx PRO system and third party systems such as Building Automation Systems, A/V systems, Shade control systems through the BACnet/IP and REST API services.

As a security system, WaveLinx CORE manages and authenticates users and third-party clients that can access the applications and the data using OAuth2, the industry standard for authentication. Once authenticated, users and clients have access to specific features based on their permissions.

WaveLinx CORE Services Overview

WaveLinx CORE Services consist of:

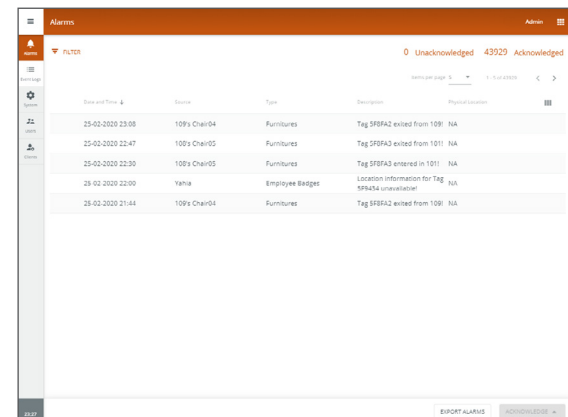
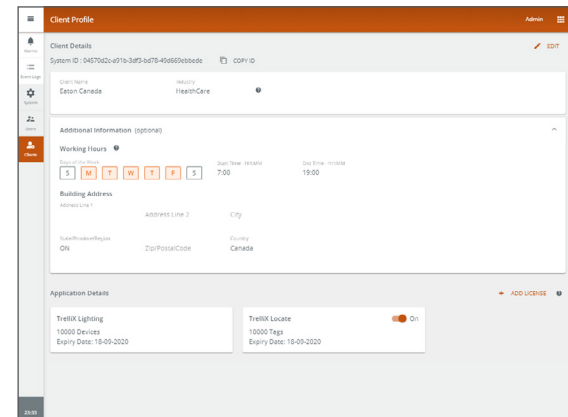
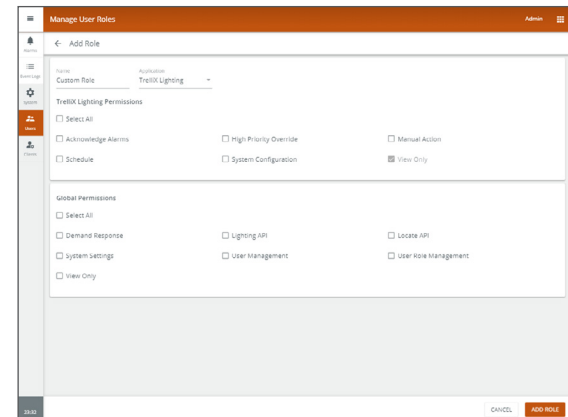
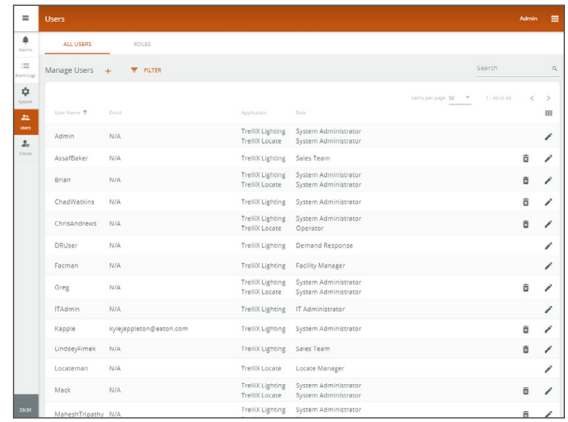
- **Connectivity service** – Manages data exchange with WaveLinx area controllers and gateways using Cooper Lighting Solutions API.
- **Message Routing service** – Manages the routing of the received data to the other WaveLinx CORE microservices.
- **Data Management service** – Manages the real-time data received from the various sources as well as aggregated data for data analytics.
- **Device and Spatial Object Management service** – Manages (add, edit, remove) devices connecting the platform as well as spatial objects, such as clients, buildings, floors and areas, defined within the platform.
- **Event Management service** – Manages the events generated by the devices and spatial objects.
- **Location service** – Computes the location of the assets based on received BLE data.
- **Security service** – Ensure secure data exchanges between the various Core components/ microservices.
- **Authentication and Authorization service** – Manages the users that can safely connect to the WaveLinx CORE platform and applications as well as the roles/permissions/areas of responsibility for each user.
- **OS and Applications Management service** – Manages the operating system and applications hosted on the WaveLinx CORE platform.
- **Interfaces service** – Manages the various interfaces, REST API and BACnet/IP, OpenADR used for data exchange between the WaveLinx PRO system (energy, occupancy, daylight, location) and building automation systems, smart building and Cloud based IoT platforms.

Web Based User Interface

WaveLinx CORE platform offers web-based applications that allow users to configure and manage the connected lighting system from any computing devices with one of the supported web browser (refer to specification section). The user interface has been designed to allow system integrators and facility managers to easily configure the connected lighting system, i.e. discover the area controller, import the real-time control logic data from the area controller, establish data exchange between the area controller and the WaveLinx CORE, and expose the data to third party systems.

The user interface has been carefully divided into four sections: the WaveLinx CORE bar, Navigation toolbar, the Explorer, the main panel and property panel.

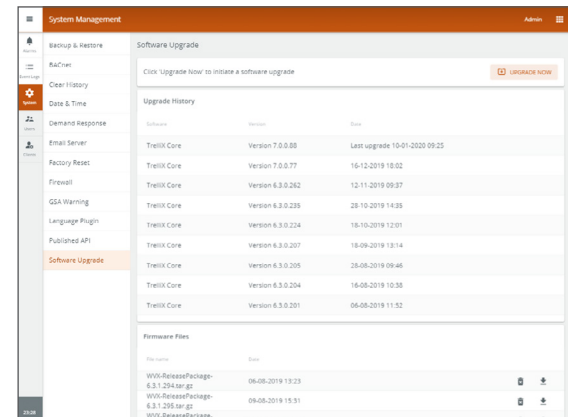
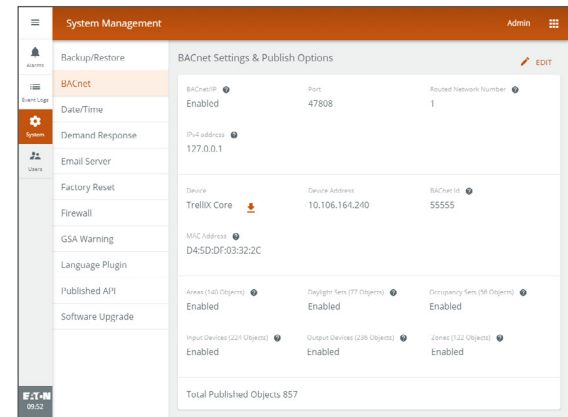
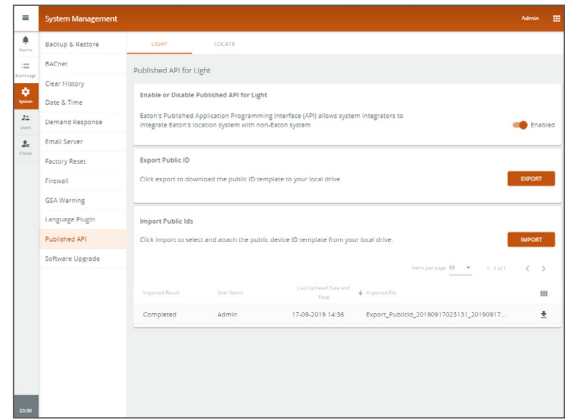
The **CORE App Selector** is how users switch between applications, i.e. Admin, Lighting and Locate). The **Navigation Toolbar** is how users navigate between the application's key modules. The **Explorer** allows users to navigate through the building's hierarchy (client, building, floor, area, zone) and system hierarchy (area controllers, devices). The **Property** panel allows users to view the properties of the various assets managed by the system such as floors, areas, sensors as well as initiate device specific actions.



WaveLinx CORE Admin

Using a toolbar, users can access the various programming and management modules. The toolbar is comprised of the following main modules:

- **Alarms** – View the health of the platform, the devices connected to the platform and any notifications generated by the CORE applications. All faults are displayed as alarms. Alarms come with troubleshooting tips that allow users to troubleshoot the fault. The alarms can be exported as a pdf report or csv output.
- **Event Logs** – View all system notifications (alarms and notifications) occurred in the past. The notifications can be exported for analysis as csv output.
- **System** – Configure the systems general settings such as time, network address and email server. They can also manage the various interfaces used by third party systems, i.e. BACnet/IP, Public API, OpenADR. They can also enable/disable and test Demand Response. Finally, they can backup/restore the WaveLinx CORE database and upgrade the WaveLinx CORE software and area controllers connected to it manually or at a specified time. The application now supports audit logs. User sessions along with user activity like schedule changes, network changes, manual actions, data sync etc. This information can be downloaded in an excel file format.
- **Users** – Manage users that can access the applications as well as roles with their associated permissions. For CORE Lighting application, each user will have an area of responsibility, i.e. spaces that they have access to. For CORE Admin, each user will have a department of responsibility, i.e. assets associated to the department that they have access to. Finally users can also create custom roles based on pre-defined permissions to meet their organization needs.
- **Organizations** – Easily manage your product licenses and get real-time notifications when your system is non-compliant.



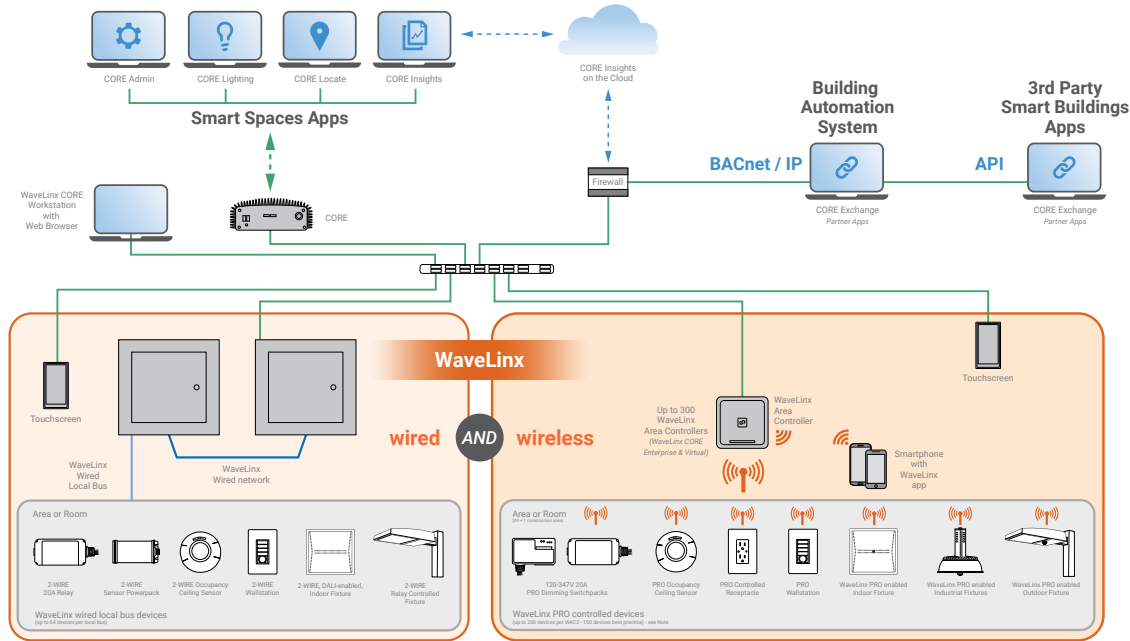
Sample System Topology:

This diagram shows the main components of the WaveLinx wired and PRO wireless connected lighting system.

The **WaveLinx PRO wireless system** communicates using wireless mesh technology based on the IEEE 802.15.4 standard. A PoE LAN connection for each WaveLinx Area Controller (WAC) is required for power and data access to the building lighting network. The **WaveLinx wired system** controls the devices using relay, 0-10V, DMX and the WaveLinx wired digital local bus. The WaveLinx wired system connects to the building LAN using the EG2 module. Each WaveLinx wired area controller communicates on the WaveLinx wired network.

WaveLinx Area Controllers (WAC) and WaveLinx Ethernet Gateways (EG2) communicate with WaveLinx CORE over the Ethernet network. Please refer to the WaveLinx PRO Wireless Network and IT Guidance Technical Guide and WaveLinx Wired Network and IT Guidance Technical Guide for more information.

[View WaveLinx PRO Network and IT Guidance Technical Guide](#)



Note: Performance based on current generation WaveLinx Area Controller (WAC2)

	WaveLinx wired	WaveLinx PRO/CAT/Panel
WaveLinx CORE		
Connects to WaveLinx CORE (Pro, Enterprise, Virtual)	●	●
# of WAC or EG2-S-NA / # of devices per WaveLinx CORE Pro	2 / 3000	20 / 3000
# of WAC or EG2-S-NA / # of devices per WaveLinx CORE Enterprise	10 / 32,500*	300 / 32,500*
# of WAC or EG2-S-NA / # of devices per WaveLinx CORE Virtual Enterprise	10 / 32,500*	300 / 32,500*
Connecting device	EG2-S-NA	WAC2-POE
CORE Lighting		
Alarms	○	●
Events	●	●
Operate (floorplan control)	●	●
Operate - area control	●	●
Operate - zone control	●	●
Operate - device control	●	●
Scheduling	○	●
Energy Dashboard		●
Occupancy Dashboard		●
CORE Exchange		
BACnet/IP	○	10,000 objects with WaveLinx CORE Pro up to 30,000 with Enterprise/Virtual
Public (REST) API	○	●
OpenADR		●
Demand Response		●
CORE Admin		
Manage Users	●	●
Manage roles	●	●
Manage clients	●	●
Manage licenses	●	●
System settings (backup/restore, network etc)	●	●
CORE Insights		
Occupancy Trends and Comparison		●
Average Occupancy		●
Occupancy on Floor Plan		●
Generate and Export Reports to pdf		●
Hierarchical Navigation		●
Quick Search		●
Department Filter		●
Historical View		●
Popular Spaces		●

* For larger number of gateways and devices, please contact Cooper Lighting Solutions Sales representatives. Recommend designing the system at 70-80% of maximum capacity. Specifications based on WAC2-POE. The number of gateways and devices mentioned above are the total for a single system or the combination (Wired + Wireless) that can be used with a server.

● = All features ○ = Subset of features

Control Systems

- WaveLinx
- Greengate