

# LEOLink Intelligent Lighting System (ILS)

## Streetlight Controllers & Management Application

### Specification Data Sheet

- NEMA 7-Pin controller
- NBloT/CAT-M1 communications
- 0-10V Driver
- 0.5% Energy Metering
- Last Gasp
- Secure communications
- 24x7 Monitoring for outages & issues

- Operations & Administration
- Energy Usage Tracking
- Asset Management
- LiSA: LEOTEK Intelligent Service Advisor
- Secure Cloud Hosted
- Mobile Install App
- Adaptive Lighting Schedules

- Embedded controller
- NBloT/CAT-M1 communications
- D4i Driver
- 0.5% Energy Metering
- Last Gasp
- Secure communications
- 24x7 Monitoring for outages & issues

| LEOLink Controller                                                                                                                   | RenAI Management Application                                                                                                                                                                | Network Data Plan                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NB01P10:</b> NB01 Plus w/ 10 YR Warranty<br><b>NB01P05:</b> NB01 Plus w/ 5 YR Warranty<br><b>EB0110:</b> EB01 with 10 YR Warranty | <b>R01:</b> RenAI, One Year SaaS Subscription<br><b>R05:</b> RenAI, Five Year SaaS Subscription<br><b>R10:</b> RenAI, Ten Year SaaS Subscription<br><b>R00:</b> RenAI, No SaaS Subscription | <b>D01:</b> Data Plan, One Year Subscription<br><b>D05:</b> Data Plan, Five Year Subscription<br><b>D10:</b> Data Plan, Ten Year Subscription<br><b>D00:</b> No Data Plan, Zero Years |

**NOTES**    **Example:** [NodeWarranty]-[SaaS Term]-[Data Plan Term] → **NB01P10-R05-D05**

1. For each controller, a RenAI (“Rxx”) subscription and Data Plan (“Dxx”) is required. See the LEOLink Ordering Guide for details
2. EB01 controller is only available with supported LEOTEK fixtures and requires a DALI driver
3. NB01 Plus requires a 0-10v driver
4. NB01 Plus requires the fixture to have a wired seven pin NEMA connector (“PCR7”)
5. “R00” and “D00” require prior approval from LEOTEK

### RenAI Central Management System

- Fixture & Power Anomaly Monitoring
- Outage Alerting & Notification
- LiSA, AI Enabled Advisor
- Lighting Control (On, Off, Dim)
- Lighting Schedules
- Adaptive Lighting Schedules
- Roadway Infrastructure Asset Tracking
- Historical Reporting
- Energy Consumption Analysis

### LEOLink Streetlight Controllers Common Features

- NBloT/CAT-M1 Network
- Inbuilt GPS & Photocell
- eSIM: Remotely Provisioned
- 0.5% Utility Grade Metering
- Tilt Sensor
- MQTT over TLS 1.3 Data Transport
- AES-256 Encryption
- Last Gasp Alerts
- FCC / IC / CE Compliant
- TALQ 2.0 Certified
- UL/ETL Safety Listed
- PTCRB Certified

#### NB01 Plus Controller

Field-installable NEMA controller for rapid smart-lighting deployment across LEOTEK and compatible third-party fixtures.

- NEMA 7-Pin Connector
- 110V - 277V
- ANSI C136.41 Fixture Compatibility
- UV-Stabilized Polycarbonate, IP66
- 0-10V Driver Support
- Field installed
- LEOTEK & Non-LEOTEK Fixtures

#### EB01 Controller

Factory-integrated embedded controller for select LEOTEK fixtures, with DALI D4i support and a sealed IP66 design.

- Embedded into select LEOTEK Fixtures
- 110V - 480V
- Powered via fixture, pre-wired
- Sealed Module, IP66
- DALI D4i Support
- Factory installed

## LEOLink ILS™ Intelligent Lighting System for Tomorrow's Smart & Sustainable Cities

### Smart...Scalable...Effortless

LEOLink ILS is the next evolution in street lighting, integrating AI and IoT to transform a city's traditional outdoor lighting infrastructure into a smart, adaptive network. It empowers municipalities and utilities with real-time control, predictive maintenance, and rapid scalability, all with unmatched simplicity.

Integrating LEOTEK's AI-driven centralized management platform (LEOLink RenAI) with intelligent streetlight controllers, LEOLink ILS provides 24x7 visibility into the status and performance of streetlights enabling efficient energy use, real-time fault detection, and predictive maintenance across city-wide lighting networks. Easy "plug-and-play" deployment and scalability support users in achieving operational excellence, public safety, and long-term sustainability. With LEOLink ILS, cities are creating the backbone of a future-ready smart city.

## Key Functions

### Centralized, Remote Management

Gain complete control of your city's smart lighting infrastructure from a single, intuitive platform.

### Instant Response to Anomalies

Automatically identify and respond to abnormal lighting behavior in real-time.

### AI-Powered Predictive Maintenance

Detect and address faults before they occur, minimizing downtime and maintenance costs.

### Actionable Insights Through Data Visualization

Monitor asset performance and energy trends with clear, interactive dashboards and reports.

### Energy Efficiency & Cost Savings

Optimize energy usage with intelligent scheduling and dimming, reducing operational expenses.

## LEOLink Smart Controllers Key Features & Benefits

The smartest fit for 7-PIN NEMA fixtures. Engineered to deliver seamless performance, trusted security, and plug-and-play simplicity, all in one powerful, next-generation controller.



### Self-Monitoring & Fault Detection

Controllers continuously monitors the luminaire's operational status, identifying power outages, failures, and abnormal energy patterns for fast diagnostics and improved maintenance efficiency.



### AI-Driven Adaptive Dimming

Participates with LEOLink RenAI to enable intelligent dimming strategies, including human-centric lighting adjustments based on real-time traffic, weather, and pedestrian activity.



### Ultra-High Connectivity

Dual-mode cellular communication using the world's most reliable and secure carriers ensures a 99.5% connection success rate, delivering reliable continuous data transmission even in challenging environments.



### Predictive Maintenance & Analytics

Advanced failure analysis and predictive diagnostics move cities from reactive to preventative maintenance strategies that reduce downtime and operational costs.



### Built-In Surge Protection

Advanced surge protection against lightning and voltage spikes safeguards critical streetlight infrastructure.

## LEOLink RenAI Central Management System Key Features & Benefits

An AI-powered cloud-based streetlight Central Management System (CMS), LEOLink RenAI is at the core of the LEOLink Intelligent Lighting System (ILS). Unlike traditional CMS platforms, LEOLink RenAI, leverages a native AI foundation to transform streetlighting into a dynamic, adaptive, and self-optimizing system by analyzing real-time and historical data. Designed to meet the complex demands of modern roadway infrastructure, LEOLink RenAI helps municipalities improve energy efficiency, reduce operational costs, and improve public safety across city-wide lighting networks.



### LISA (LEOTEK intelligent Service Advisor)

LISA, our AI-powered assistant, is available 24/7 to streamline operations, quickly answering questions, generating charts and tables, and assisting with troubleshooting to lighten your team's workload.



### Fault Detection & Notification

Monitor streetlight health and status in real time to detect and receive instant fault alerts.



### Energy Consumption Management

Track usage, identify trends, and forecast energy needs for optimal efficiency.



### Asset Management

Collect and track roadway infrastructure asset information such as streetlight fixtures, poles and controllers. to drive operational efficiencies across from field maintenance to life cycle management.



### Data Analysis & Reporting

Access historical insights, visualize data, and generate reports for informed decision-making.



### Remote Control

Remotely switch lights ON/OFF and adjust brightness via an intuitive user interface.



### Scheduled Dimming

Automatically adjusts brightness levels based on ambient light and pre-set schedules.