XLV3 IoT LED Controller

LonWorks - Data Sheet

MADE IN USA

Overview

The XLV3 LED controller is an intelligent networked lighting platform. The XLV3 platform is capable of being utilized as a complete standalone lighting automation system with graphical visualization for central automation tasks like schedules, alarms and trends. The XLV3 platform is also capable of being fully integrated in to an existing facility building automation system (BAS) with common BAS communication protocols like BACnet IP or LonWorks IP. The XLV3 platform can also send IoT data for cloud applications performing data analytics.

The XLV3 LED lighting controller capable is of driving up to 12 LED circuits or 6 LED circuits for color tuning. The circuits can utilize 24 to 48 vdc. The controller can be configured to use up to 10 universal hard-wire sensors and/or switches. The controller also has an integrated watt meter that reports energy usage including Amps, Volts, Watts, Watt-Hours for M&V applications.
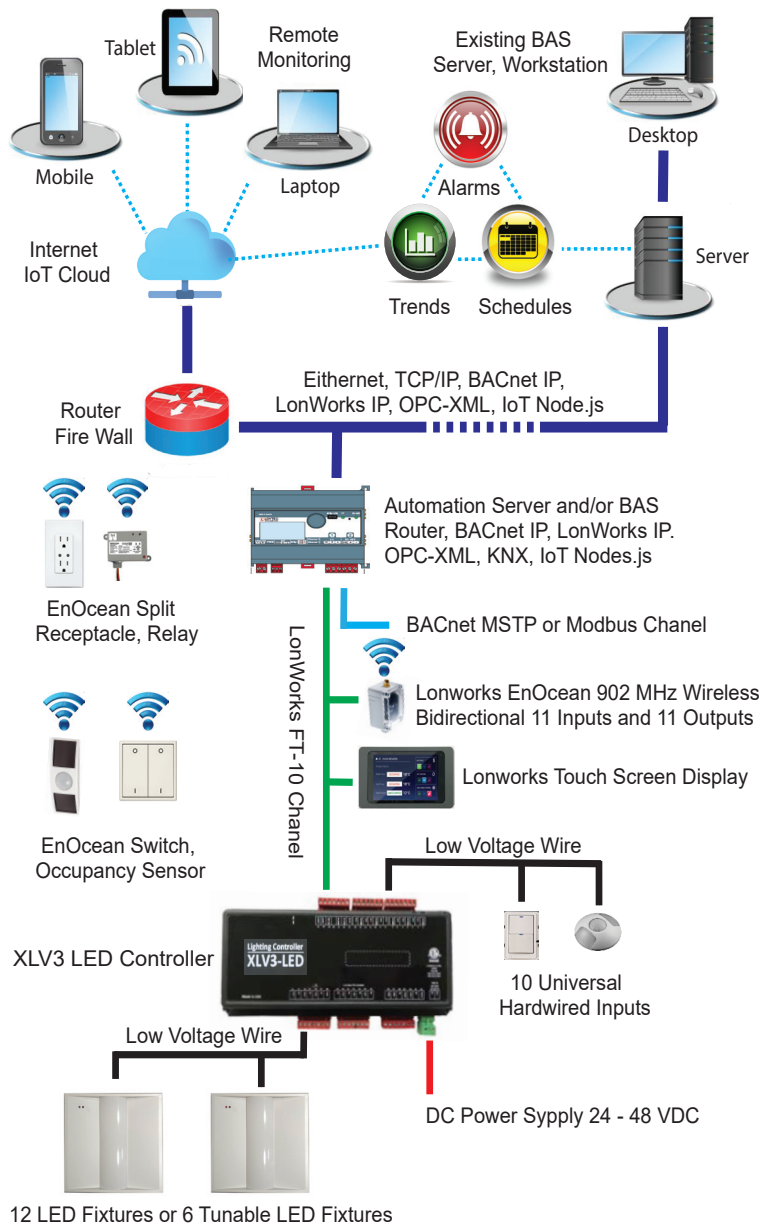
The XLV3 lighting controller is a UL 2108 and UL 916 listed device. This listing allows the controller to provide constant current power to LED fixtures as a class 2 low voltage system. This allows for low voltage cabling to be utilizes to provide power and dimming capabilities to the LED fixtures, reducing the installation cost over a traditional high voltage lighting system.

The XLV3 LED lighting controller utilizes LonWorks BAS communication protocol and is wired to a LonWorks FT-10 wiring topology. This allows other LonWorks devices to be connected to the FT - 10 network. LonWorks EnOcean 902 MHz wireless bi-directional devices can be easily used to turn on/off, dim and change the color temperature of LED fixtures. Additionally, EnOcean receptacles and relays can be used to meet California Title 24 requirements. Other LonWorks devices such as touch screens can be utilized for local visualization and control of system components.

System Architecture

Tablet — Remote Monitoring — Existing BAS Server, Workstation — Desktop

Mobile — Laptop — Alarms — Server

Internet IoT Cloud — Trends — Schedules

Eithernet, TCP/IP, BACnet IP, LonWorks IP, OPC-XML, IoT Node.js

Router Fire Wall

Automation Server and/or BAS Router, BACnet IP, LonWorks IP. OPC-XML, KNX, IoT Nodes.js

EnOcean Split Receptacle, Relay

BACnet MSTP or Modbus Chanel

Lonworks EnOcean 902 MHz Wireless Bidirectional 11 Inputs and 11 Outputs

Lonworks Touch Screen Display

EnOcean Switch, Occupancy Sensor

LonWorks FT-10 Chanel

Low Voltage Wire

XLV3 LED Controller

Lighting Controller XLV3-LED

10 Universal Hardwired Inputs

Low Voltage Wire

DC Power Sypply 24 - 48 VDC

12 LED Fixtures or 6 Tunable LED Fixtures

Automation Server / Programming

The XLV3 LED Controller platform is basically an input/output device. Programming is performed in Automation Server (such as InetSupervisor™ Web-Based Graphical User Interface , the Adesto SmartServer IoT or any Niagara Framework® JACE 8000 controller) or another programmable LON controller on the LonWorks FT-10 network. This provides lighting OEMs and System Integrators a wide range of options for the most economical installation for their customers. Programming consists of processing inputs such as Occupancy sensors, Light Level sensors, switches, scene selectors, etc. Program logic and calculations determine the output of each Constant Current dc channel (12 per XLV3 controller) to directly drive the LED circuit for dimming and/or color tuning. Other functions that need to be programmed include scheduling, zoning, energy monitoring, alarms, trending, etc. The controller does have the ability to go to a per-defined output level in case of loss of communication.

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Product Specification

Power Supply Input

Voltage Range -- 48VDC Nominal, 50V DC max, 24V DC min Class 2
Power Consumption:
Supply Amperage --18A max
Output Amperage --- 1.5A per channel max Class 2

Communications

Communication Bus -- Lon-talk Protocol
Transceiver -- FT 5000 Free Topology Smart Transceiver
Channel --- TP/FT-10; 78Kbps

Hardware

Processor ---ARM M4 Cortex 32bits, 168MHz
CPU Speed ---72MHz
Memory -- 190 application memory
Status Indicator ---Multicolor LED, power, status
Communication Port --- FT-10 Port

Universal Inputs

Input Type -- Universal; software configurable
Input Resolution -- 12-bit analog / digital coveter
Contact
Type -- dry contact
Counter
Type -- Potentiometer with custom scaling
0-10VDC, 1-5VDC
Type --- Range 0-10VDC / 1-5VDC
0-20mA DC, 4-20mA DC
Type - Range -- 0-20mA DC, 4-20mA DC
Resistive
Type ----------------------------------- Potentiometer with custom scaling, Thermistor 10K Ω Type II and Type III (Type II recommended)

LED Driver

Voltage Range -- 48VDC Nominal, 50V DC max, 24V DC min Class 2
Supply Amperage -- 1500 mA Max
Dimming -- 0.1 % Increments
Standard LED --- 12 Circuits
Color Tuning -- 6 Circuits Warm/Cool LED's

Environment

Temperature -- 0°- 49°C (32°-120°F)
Humidity --- 0-90% non condensing
Storage -- -20°- 70°C (-4°- 158°F)

Mechanical

Material --- ABS
Color --- Black
Installation -- 35mm DIN
Connectors -- Removable
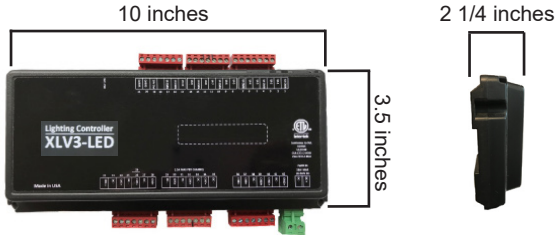
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Product Specification

Dimensions ------------------- (H x W x D) 3.5in x 10in x 2 1/4in

10 inches

2 1/4 inches

3.5 inches

Lighting Controller
XLV3-LED

Made in USA

Agency Approvals

UL Listed (CDN & US) --------------------------------- UL 916 Energy Management Equipment, UL 2108 Low Voltage Lighting Systems
CSA --- C22.2#205, C22.2#9.0

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