Luminaire-Level Lighting vs. Standalone Controls

This guide outlines the competitive advantages of Luminaire-Level Lighting Controls (LLLCs) over standalone controls.

AUDIENCE & INTENDED USE

This guide has been crafted to support the sales process between contractors and their customers.

Contractors:

Supports project proposals by highlighting advantages of LLLC throughout the installation and setup process and promoting life cycle value.

Building & Business Owners:

Informs decision-makers of LLLC advantages and highlights the hidden costs and limitations of code minimum solutions like standalone controls.

UNDERSTANDING THE LIMITATIONS OF STANDALONE CONTROLS:

Standalone controls are the most common example of code-minimum solutions available and purport to meet energy code requirements at the lowest upfront cost.

Standalone controls are designed to be basic. They rely on wired connections, have limited functionality, and are not networked. These limitations complicate installation, increase operations and maintenance costs and decrease user acceptance. As a result, standalone controls are prone to complaints from both tenants living with the system and the contractors who deal with callbacks.

Feature	Standalone Controls	LLLCs
Sensor Coverage	Prone to blind spots that can turn lights off when spaces are still in use	Integrated sensors in every fixture provide robust sensor coverage
Flexibility	Requires an electrician to rewire zones when space use changes	Capable of being rezoned and reconfigured via app-based configuration tools without an electrician
Ease of Use	Limited configuration methods	Range of configuration methods including user friendly app-based tools
Capabilitie	Limited to the most basic control strategies	Integrates basic and advanced control strategies into every fixture
Networked	Hardware is static and not capable of communicating with other devices or receiving firmware updates	Hardware is networked and can receive system updates that increase capabilities and ensure lasting functionality

Advantages of Flexible Lighting Control Solutions

When the average lifespan of a building is 50–60 years, it pays to think about the future.

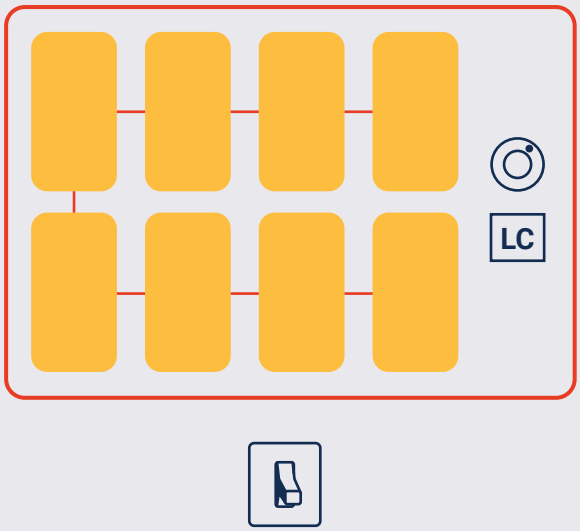
STANDALONE CONTROLS ARE STATIC AND HIDE THEIR TRUE COSTS

Standalone controls rely on wiring to create static zones that cannot be modified without rewiring. On paper, designing with a single load controller and sensor for each zone may appear to reduce installation costs.

The reality is that zone-limited systems that rely on wiring are more prone to cost overruns from as-built scenarios, which add pipe and wire costs and increase labor.

These costs are further multiplied over the lifecycle of the system when space uses change and building owners accommodate tenant improvements.

Standalone controls are zone limited and expensive to reconfigure and rezone.



LLLC SYSTEMS GENERATE SAVINGS OVER THEIR ENTIRE LIFECYCLE

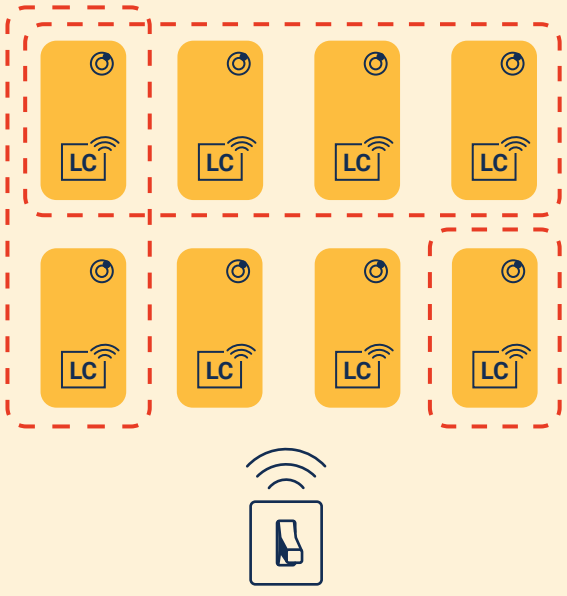
By contrast, LLLC systems are flexible and easy to configure.

Just as smartphones have integrated cameras and GPS, LLLCs integrate sensors and load controllers into every fixture.

These integrated solutions allow spaces to be rezoned in just about every configuration imaginable. The combination of flexibility and ease of use means that LLLC solutions can adapt to as-built scenarios without requiring additional materials or labor.

It also ensures that if space needs change, the lighting system can adapt by opening and adjusting settings in an app instead of hiring an electrician.

LLLCs can be zoned in any configuration without rewiring.



LLLCs outperform the competition throughout the product lifecycle

Contractors should cite the following advantages when proposing LLLCs over code-minimum solutions like standalone controls to achieve desired outcomes throughout different project phases.

	Desired Outcome	Standalone Controls	LLLC Solution
PROJECT PLANNING	Streamline design and code compliance	Requires design plans for each applicable control method	Automatically, meets all control method requirements
	Mitigate value engineering and cost overruns	More susceptible to cost overruns due to as-built changes	System flexibility preserves design intent throughout the installation phase
PROJECT INSTALLATION	Smooth installation	Commonly require conduit and wire, which slows installation and introduces construction variables	LLLC systems have sensors integrated at the factory and make use of reliable wireless communication technology to streamline installation and reduce material costs
OPERATIONS & MAINTENANCE	Ease of use	Standalone control systems are cumbersome to program and often involve manually programming multiple sensors per room	LLLC systems can program entire zones with the click of a button. Modern app-based configuration tools provide confidence in system settings and help document the sequence of operations
CUSTOMER EXPERIENCE	Low operating costs	Offer minimum energy savings	LLLC systems have been proven to reduce energy use from lighting systems by up to 70%
	Space comfort	Challenging and expensive to adjust light levels and control settings	LLLC systems make it easy to adjust light levels and reconfigure control settings

To learn more, email info@mnLLLC.org or visit www.mnLLLC.org.

Luminaire-Level Lighting Control Initiative is a statewide program under Minnesota's Efficient Technology Accelerator (ETA), a partnership funded by the state's participating investor-owned utilities (IOUs) and consumer-owned utilities (COUs), administered by the Minnesota Department of Commerce, Division of Energy Resources (DER), and implemented by Center for Energy and Environment (CEE).