

BLUETOOTH MESH VS. SimplySnap

Where does your application fall on the lighting controls spectrum?

Like light itself, lighting controls exist on a spectrum each offering varying levels of control and adaptability.

For decades, if discussing lighting controls, you would be talking about fixture-based controls — modules put in place at time of installation that gave the user fixed benefits. Many of these functioned as simple occupancy sensors, motion controls, and switches.

Importantly, these lights couldn't be treated as a group and would all operate separate from each other.

With a transition to LEDs these controls can save on your energy costs but will still be limited by the functionality offered upon installation and lack the transformational benefits of a true networked lighting controls system.

On this spectrum of lighting controls, fixture-controls offer set-and-forget simplicity but lack the ability to reveal the vital, cost-saving insights networked controls provide.

WHEN LIGHTS COMBINE: WIRELESS NETWORKED LIGHTING CONTROLS

As you move along this spectrum of lighting controls, you begin to add features, small groups and app-based controls give you more control of your lighting. They remain tethered to onsite networks and require the user to be physically present at the facility to make adjustments.

These simple systems may be achieved through the addition of Bluetooth Mesh connectivity to your lights. If you find yourself saying "Bluetooth, isn't that in my phone?" You aren't alone.

Bluetooth has become synonymous with wireless systems, it facilitates headphones, car audio and short-range communication between devices. Users are familiar with its applications, and limitations. This familiarity with the technology has driven both consumers and lighting controls providers to adopt the technology, but Bluetooth Mesh systems were not designed for outdoor or large-scale industrial applications.

THE LIMITATION OF BLUETOOTH

The benefits of Bluetooth are meaningful for many applications that need room based controls and want to replace older fixed-based controls. The ability to configure and control groups of lights locally is great for certain applications, but not all lighting applications are a good fit for Bluetooth Mesh based controls.

Scale and range are both significant challenges for Bluetooth Mesh systems. Large Bluetooth Mesh systems claim hundreds or even thousands of end points in case studies and success stories, but in reality they are many many smaller groups of lights and sensors that are isolated into more manageable size groups, areas, or rooms.

Many Bluetooth Mesh control systems claim that they do not require gateways, but this limits remote connectivity and control, energy reporting capabilities, and integration options with BMS or Demand Response systems. That type of control system may be fine for some smaller lighting applications, but gateways provide very important and valuable features for larger commercial and industrial lighting applications.

The limitations of the technology mean that it lacks the ability to scale beyond small, largely commercial applications or limited high bay installations.

By the numbers, Bluetooth can't go the distance for industrial applications.



BLUETOOTH MESH CONTROLS

COMPARISON WITH SIMPLYSNAP

FEATURE OR CAPABILITY	BLUETOOTH MESH CONTROL SYSTEMS	SIMPLYSNAP	ADVANTAGE ?
Distance/Range Between Nodes	Distance is limited to 100ft or less in most Bluetooth Mesh systems	For controllers with external antennas the maximum range is approximately 1 mile line of sight. For controllers with internal antennas the maximum range is approximately 500 ft line of sight	Synapse 
Scale	Area/Room sizes are configured into small groups of devices or nodes that only communicate with each other. Most BT systems are limited to a few hundred devices in each area/room.	One Gateway can support up to 1000 lights and multiple gateways can be aggregated together using cloud capabilities to support a single site with up to 10,000 lights or systems with multiple locations, with an unlimited number of zones with instantaneous control.	Synapse 
Gateway	Optional- Bluetooth mesh systems without a gateway have extremely limited system capabilities such as the inability to support scheduling, energy reporting, demand response, and BMS integrations.	Yes, gateway supports local wi-fi access, wired ethernet, and cellular network options for remote access and cloud connectivity options. Supports system-wide scheduling, energy reporting, demand response, and BMS integrations.	Synapse 
Cloud Capabilities	Very limited- mostly for remote access	Used to support larger systems with multiple gateways, detailed energy reporting, and other system capabilities.	Synapse 
Schedules	Optional on some systems with Gateways or requires additional hardware components configured as a Timekeeper	Supports up to a 5-year calendar to schedule events or behaviors for a single light or across groups of lights.	Synapse 
Demand Response	Limited capabilities- Optional on some systems that have a gateway	Yes, multiple methods to support demand response	Synapse 
Daylight Harvesting	Supports closed loop in small office areas using a photocell sensor	Supports open loop using a photocell sensor in larger spaces with skylights, large windows, or openings to the outdoors	Synapse 
BMS Integration	Limited capabilities- Optional on some systems that have a gateway	Yes, BMS gateway hardware allows BMS integration with most BMS systems that support the BACnet and MODBUS protocols	Synapse 
Energy Reporting	Limited capabilities- Optional on some systems that have a gateway	Detailed energy reporting for multiple years of data and comparison capabilities across groups of lights.	Synapse 
DLC Certification	A few have certifications for Interior systems	DLC Certified for both interior and exterior systems	Synapse 



TRANSFORMATIONAL LIGHTING CONTROLS

Many lighting controls providers utilizing Bluetooth have attempted to add many of the features standard with the SimplySnap mesh-based control system from Synapse. These have manifested in costly add-ons or custom integrations but rarely provide the same integration that a true IIoT application can.

With Bluetooth, much of this additional control requires proprietary mobile applications and lacks the full user-friendly ability to control your lights from multiple locations, and you can forget about multi-site applications.

The connectivity offered by the Synapse mesh network in SimplySnap wouldn't mean anything if the system didn't utilize it properly.

SimplySnap takes advantage of the increased range, node density and logical channels to offer benefits that give you the insights necessary to gain more control of your energy use.

Our mesh can go beyond your lighting. Through our controls platform, you gain access to additional tools to save energy, providing insight into equipment health and more advanced insights into your lighting usage.

All, while allowing you to manage your facility's lighting from anywhere in the world, without the need to forgo the security your facility requires.

