# FREQUENTLY ASKED QUESTIONS

## Q1: WHAT IS LEDVANCE LINK™?

LEDVANCE LINK™ is a Networked Lighting Control Solution based on Bluetooth® Low Energy Mesh. We have two offerings:

1. Bluetooth® Mesh Enabled Connected Luminaires LLLC
2. Field Installable Control Nodes
   - Hardwired
   - Plug and Play

## Q2: HOW DOES LEDVANCE LINK™ WORK?

The LEDVANCE LINK™ Networked Lighting Control system communicates via Bluetooth® Low Energy Mesh. Installation is made easy with LEDVANCE'S Control Ready products, or the system can be hardwired, allowing it to virtually work with any 0-10V dimming luminaire. The entire system can be as simple as using fixture controllers and the free LEDVANCE LINK™ app, compatible with both iOS and Android. There are also a number of additional options including the wireless controllers, sensors and even plug load controllers. Together all the devices form a mesh network via Bluetooth® Low Energy, where each device (commonly referred to as a 'node') can send and relay messages to its neighbors, allowing communication over a long distance beyond what many other wireless protocols offer. Additionally, there are no gateways or hubs required and the system is never connected to the internet making it extremely safe and secure. Internet is only required when initially downloading the free LEDVANCE LINK™ app.

Commissioning is also made easy as installers or end users can add LINK™ devices to the network and group them to define which wireless controllers and/or sensors control which groups of luminaires. This configuration is adjusted on-site using the intuitive free LEDVANCE LINK™ app. Changes can easily be made even after the initial installation. In the event an installer commissions the system, they can share a QR code with users, making it easy for users to make changes after installation.

The LEDVANCE LINK™ System provides multiple Lighting Control Strategies, going beyond simple on/off switches and basic motion sensing. Users can tailor settings for maximum energy savings while enhancing occupant comfort and productivity. Configuration options include continuous dimming, daylight harvesting, individual fixture addressability, high/low-end trim, occupancy/vacancy sensing, time delay adjustability, personal control, scheduling, Plug load controls, scenes, and zones. All settings are commissioned on-site via phone or tablet using the free LEDVANCE LINK™ app; settings can then be given or shared via QR codes to essential managing personnel.

**LEDVANCE**

## 1. INSTALLATION
Very simple with multiple installation methods that meet any project requirement: LLLC, hardwired, plug and play.

LINK™

## 3. CONTROL
Intuitively either via LEDVANCE LINK™ app or dedicated wireless controller.

## 2. COMMISSIONING
Quick and straightforward through the free LEDVANCE LINK™ app, compatible with both iOS and Android.

**Q3: DOES LEDVANCE LINK™ REQUIRE A GATEWAY?**
No, this aids in having an extremely reliable, safe and secure system.

**Q4: CAN I USE DAYLIGHT HARVESTING WITH LEDVANCE LINK™?**
Yes, you can achieve Daylight Harvesting.

**Q5: WHAT IS THE COVERAGE AND COMMUNICATION RANGE OF THE LEDVANCE LINK™ OCCUPANCY/VACANCY SENSOR?**
Occupancy/vacancy sensor range varies based on the mounting height while communication range is based on the specification outlined in the spec sheet. Please refer to the sensor spec sheets for these technical details.

**Q6: WHAT HAPPENS TO THE OCCUPANCY/VACANCY SETTINGS IN CASE OF A POWER OUTAGE? DO I NEED TO REPROGRAM THE SENSORS?**
No, you don't! Once properly commissioned, the settings are saved to the flash memory of the microcontroller embedded in the sensor. In the case of a power outage, the sensor retains its prior settings after the power is restored.

**Q7: HOW MANY NODES CAN YOU ADD IN A ZONE?**
Up to 100 nodes in a zone. Please divide to different zones if you have more than 100 nodes.

## Q8: HOW MANY NODES CAN BE CONTROLLED IN A GROUP?

A node can be a member of up to 32 groups. It will exit from the first group if you add it to the 33rd group.

## Q9: HOW MANY SCENES CAN YOU ADD TO A NODE?

Up to 32 scenes can be set to a node. The first scene will be removed if you add it to the 33rd scene.
Up to 127 scenes can be set to a zone. You can also program the wall switch to control up-to 3 scenes.

## Q10: HOW MANY SCHEDULES CAN YOU RUN IN A ZONE?

Up to 32 schedules can be set to a zone.

## Q11: HOW MANY WALL CONTROLLERS CAN YOU ADD PER ZONE?

Up to 10 wall controllers can be set to a zone. Note: wall controller and node are calculated separately.
Adding wall controllers to a zone does not reduce the number of nodes.

## Q12: WHAT'S THE MAX DISTANCE PER NODE?

All LINK™ nodes have a specified communication range found on the spec sheet.

## Q13: HOW TO RESET A DEVICE TO FACTORY SETTINGS?

Here are the 3 methods to reset LEDVANCE LINK™ nodes back to factory default settings:

1. Using the App:
   - Go to the "Lights" page in the app
   - Tap the "-" symbol on the top right
   - Select the light(s) you want to reset by checking the circle at the bottom right corner of the light icon
   - Tap "Delete" on the top right
   - Confirm you want to delete the light(s)

   This will remove the lights from the "Lights" page and put them back on the "Not Added" page to be re-commissioned.

2. Manual Reset:
   - Locate the reset button on the back of the sensor or load controller
   - Press and hold the reset button for 3+ seconds until the LED blinks
   - This will clear all settings and revert the sensor back to factory defaults
   - You can now re-commission the sensor through the app like new

   The key is to either remove the device from the app or perform a manual reset via the button to wipe its programmed settings. This allows the device to be set up again as if it was new.

3. Power recycling:
   Follow the steps:
   1. Power ON and wait for 1 second, then power OFF and wait for 10 seconds.
   2. Power ON and wait for 1 second, then power OFF and wait for 10 seconds.
   3. Power ON and wait for 1 second, then power OFF and wait for 10 seconds.
   4. Power ON and wait for 10 seconds, then power OFF and wait for 10 seconds.
   5. Power ON and wait for 10 seconds, then power OFF and wait for 10 seconds.
   6. Turn on the luminaire, the device will be restored to factory Settings and displayed on searching page.

   After following the above steps, the luminaire will blink 3 times to indicate that the device has been successfully reset and the factory settings have been restored.

**Q14: CAN THE SETTINGS BE SHARED WITH OTHER USERS OR GUESTS?**
Using the LEDVANCE LINK™ app, Admin and Guest QR codes for each zone can be generated. This allows copying the settings to other phones by scanning the generated QR code.

**Q15: HOW SAFE IS LEDVANCE LINK™?**
Safe & Secure: UL1376 Gold Security Level 3 ensures cybersecurity capabilities of the connected products. Internet connection is only required to download the app.

**Q16: IS LEDVANCE LINK™ DLC CERTIFIED?**
Yes, LEDVANCE LINK™ is NLC 5.0 certified.

**Q17: HOW TO COMMISSION AND CONFIGURE THE LEDVANCE LINK™ CONTROLS?**
The LEDVANCE LINK™ app, which is available on both iOS and Android platforms, can be utilized for commissioning and choosing from a variety of options.

**Q18: WHY DO THE LIGHT LEVEL AND CCT OF THE LUMINAIRES CHANGE WHEN THE LIGHTS ARE TURNED OFF USING A CONTROL FUNCTION, SUCH AS DURING NON-OCCUPANCY OR A POWER INTERRUPTION?**
To maintain the same light level and CCT, adjust the dimming level and CCT settings on the Lights settings page, then press the 'A' button on the lower-right corner to save the configuration.

**Q19: WHAT IS RSSI?**
RSSI stands for Received Signal Strength Indicator. RSSI is a measurement of the power level present in a received radio signal. RSSI is used to determine wireless signal strength and quality. It can help troubleshoot connectivity issues.

RSSI is measured in dBm (decibels relative to one milliwatt). Typical values range from -30 dBm (excellent signal) to -90 dBm (very weak signal). The higher the dBm value, the stronger the signal. -30 dBm is a much stronger signal than -90 dBm for example. RSSI measurements fluctuate rapidly, so values typically need to be averaged over time for accuracy. Factors like distance, obstacles, interference, weather, and network traffic can affect RSSI.

Thus, when a RSSI value is represented in a negative form (e.g. –100), the closer the value is to 0, the stronger the received signal has been.

In the LINK system, when RSSI <= -60 dBm the signal is considered GOOD. When RSSI <= -80dbm the signal is considered ACCEPTABLE.

**Q20: HOW TO ADD AND LOCATE NODES IN LARGE PROJECTS (WITH MORE THAN 100 NODES)?**
Here are some tips for installing and configuring large projects with 100+ nodes:
    Planning:
- Divide the installation area into smaller sections based on room layout and lighting design. Keep each section under 100 Nodes.
- Plan lighting circuits based on load capacities and room divisions. Luminaires on the same circuit should be in the same section. Large sections can have multiple circuits.

Installation:
- Turn-on power separately to each circuit as you commission. This simplifies the commissioning process.
- Only power on one section at a time when configuring in the app. Complete all programming for that section before moving to the next. Avoid powering everything on at once.
- Use the "Sort by Signal" option when adding lights. This arranges them by distance to your mobile device, which helps locating.
- Create the necessary zones, groups, scenes, etc. in the app ahead of time to save on-site time.
- Name everything logically based on room names/numbers to keep organized.

By dividing into smaller sections, configuring one section at a time, installing large projects with hundreds of lights is manageable. Just take it one step at a time.

**LEDVANCE**

Free iOS or Android LEDVANCE LINK™ App

Share QR Codes

Individual Luminaire Addressability

Scheduling

Occupancy Sensing or Vacancy Sensing

Pre-set and Custom Profiles with Scenes

Daylight Harvesting or Ambient Threshold

Continuous Dimming

Time Delay Field Adjustable

Plug Load Control

CCT *Selected Luminaires

Local Control

High-end and Low-end Trim Adjustability

Zoning/ Grouping

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COMMISSIONING GUIDE

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