

Ledelite

Phone: 604.888.6811

Fax: 800.665.5223

Web: www.ledalite.com



LEDALITE



FAQs

Version 2.0

APPENDIX C - FAQs

How the Technology Works

If there are no batteries and no wires, how does this technology work?

ANSWER: The devices get their power from energy sources which naturally occur in the space. For example, just the simple motion of pushing the Airwave Switch creates enough kinetic energy to send wireless signals to luminaires allowing on/off control and full range dimming. Similarly, the solar-powered Airwave Photosensor gets its operating energy from internal photovoltaic cells which are charged by exposure to light.

What wireless technology does Airwave use?

ANSWER: The core technology is based on miniaturized energy harvesting modules with ultra-low-power radio transmission (315 MHz). The developer of this award-winning and patented battery-free wireless technology is EnOcean, a spin-off of Siemens Corporation. Visit www.enocean.com to learn more.

Installation

How do I install the Airwave Transceiver?

ANSWER: The Airwave Transceiver is wired directly to a junction box that controls a lighting 'zone' that may contain a single fixture or a group of fixtures. The Transceiver is then an intelligence center that controls the lighting zone based on the information or commands that it receives from connected devices, such as an Airwave Switch, Handheld Remote or Photosensor.

How do you link an Airwave Switch to an Airwave Transceiver?

ANSWER: There are 2 primary methods of linking a Switch to a Transceiver: (1) manually and (2) remotely. Remote linking is available so that reconfiguration and addition of devices can occur easily after the initial commissioning has occurred.

What is the maximum electrical load that can be controlled by an Airwave Transceiver?

ANSWER: Airwave Transceivers are certified to control up to a 20A circuit at 120/277V and 15A at 347V.

Switching & Dimming

Can one Airwave Switch control multiple Airwave Transceivers?

ANSWER: Yes, any one Switch can control as many Transceivers that are within range and linked to that Switch.

Can Airwave Switches be used with standard metal electrical switch box?

ANSWER: Yes. The Airwave Switch recesses into the Switch box allowing a standard wall plate to remain flush with wall surface.

How often do Airwave Switches and sensors require maintenance?

ANSWER: There is never a need to service these devices or replace batteries. The Airwave switches are self-powered with kinetic energy and the photosensors solar powered.

Can Airwave Switches be surface mounted?

ANSWER: Yes. Airwave Switches can be surface mounted using the optional back plate. Airwave back plates are available in 1, 2 and 3-gang configurations.

Can I use a metal face plate with an Airwave Switch?

ANSWER: It is not recommended to use a metal face plate with an Airwave Switch as it will decrease the transmission range.

How will my Airwave devices and settings be affected during a power outage?

ANSWER: When power is restored after an outage or failure, lights will come on at the same level they were prior to the outage.

Can a wireless Airwave Switch be used with a conventional wired Switch?

ANSWER: Yes. However, the Switches will not function as 3-way Switching; the conventional Switch will function as an in-series interrupt to the wireless Transceiver.

Compatibility & Interoperability

Does Airwave work with occupancy sensors?

ANSWER: Yes. Airwave is compatible with 24V wired occupancy sensors and other EnOcean-enabled 315MHz wireless occupancy sensors.

Does Airwave work with Ledalite's fixture integrated Response Daylight Sensor?

ANSWER: Yes, Airwave is compatible with Response Daylight Sensors. Using this combination of technologies, the fixture integrated Response Daylight sensor determines the maximum available luminaire output based on the detected light levels in the space. Just like using Response with a typical wired Switch/dimmer, the Airwave Switch/dimmer can further reduce luminaire output or turn it off, but cannot override the fixture integrated Response Daylight sensor.

Range Planning

What is the range of the Airwave wireless transmission?

ANSWER: On average, transmission range indoors is approximately 100 feet (30 meters). The range of the transmission depends on the environment around the Transceiver. Range planning is very important when applying this technology. Placing Transceivers behind metal (i.e., ductwork) can limit or block signals from being received.

What happens if the transmission distance is greater than 100 feet?

ANSWER: One option is to move the Switch closer to the Transceiver. The other option is to set a Transceiver that is within range into a "Repeater" mode to propagate the wireless signal. Setting a Transceiver to "Repeater" mode does not reduce any of its original functionality.

Can Airwave transmit through walls?

ANSWER: Yes. Airwave can transmit through brick, concrete, wood, glass, steel studs, acoustic tile ceilings, plaster, and drywall.

What spacing should be maintained between Airwave devices and other wireless transmitters?

ANSWER: Airwave Switches and Photosensors can be installed next to other wireless transmitters. However, it is suggested that Airwave Transceivers be positioned at least 20 inches (50 cm) away from other transmitters such as wireless routers, computers, audio and video equipment.

What do I do if there is a metal door or metal wall obstructing the wireless transmission?

ANSWER: One option is to move the Switch away from the metal obstruction and/or closer to the Transceiver. The other option is to set a Transceiver that is within range into a "Repeater" mode to propagate the wireless signal further and/or around the metal obstruction.

Photosensor Technology

How does the Airwave Photosensor work?

ANSWER: The Airwave solar powered, wireless and battery-free Photosensor detects ambient daylight levels and then transmits wireless signals to the Transceiver which then automatically and gradually adjusts luminaire output to save energy.

What is the minimum light level required for the Airwave Photosensor to remain charged?

ANSWER: The Photosensor will charge at very low light levels. The design is such that, when there is enough light to warrant daylight harvesting, there is enough solar energy to power the Airwave Photosensor.

Does the Airwave Photosensor need to be fully charged before it will work?

ANSWER: No. The Photosensor will begin transmitting information when it begins charging, which is only minutes after being exposed to light. It takes approximately 6 hours for the Photosensor to become fully charged.

How often does the Airwave Photosensor transmit the light level to the Airwave Transceiver?

ANSWER: The Photosensor monitors light levels every 10 seconds and transmits if there has been a change. If there has not been a change, the Photosensor will automatically transmit the light level approximately every 100 seconds.

What is the measurable light range of the Airwave Photosensor?

ANSWER: The measurable light range is 0-50 footcandles (0-510 lux)

Safety, Security, & Regulatory Compliance

Is Airwave safe?

ANSWER: Yes. Airwave Switches produce 100 times less intensive high-frequency fields than traditional light Switches, making Airwave a very safe technology. Airwave Switches and Photosensors allow for use in a wide array of applications including transmission-sensitive areas.

How secure is Airwave?

ANSWER: Each Airwave Photosensor, Switch, and Transceiver has its own unique 32-bit identification address ensuring that settings cannot be manipulated or unintentionally changed by other wireless devices.

Does Airwave wireless technology interfere with other wireless frequencies?

ANSWER: No. Airwave operates at 315Mhz which is a unique radio frequency that does not interfere with other common wireless devices such as mobile phones, Wi-Fi networks, and AM/FM radio.

Does Airwave meet regulatory standards?

ANSWER: Yes. Airwave is FCC and UL approved for use in the United States, and IC and CSA approved for use in Canada.