

Control Type: EcoSystem

EcoSystem is an advanced and flexible communications protocol for Lutron devices, allowing it to be used in many applications. It facilitates individual ballast addressing, connection of multiple control devices, and control of ballasts individually or in groups. The digital communication wires are polarity insensitive and may be wired in any topology. They may be run with the mains voltage (Class 1) or isolated from mains (Class 2). EcoSystem control allows for the quick connection and re-configurability of devices.

Control Type Basics

EcoSystem is a digital communications protocol that allows digitally addressable ballasts and modules to listen, think, decide, and remember. It is used primarily in commercial spaces to control fluorescent lights, but can also be used to control LED loads, as well as other load types via interfaces. It is closely based off of the international DALI standard (IEC 60929), with proprietary extensions to allow additional functionality. Up to 64 devices can be connected to a single EcoSystem "bus". Each bus requires one bus supply to power the bus and enable communications between devices. Once connected, devices can be configured to operate as individual fixtures or groups of fixtures via simple programming procedures. Daylight sensors, occupancy sensors, and personal controls can be connected to devices on the EcoSystem link to maximize system flexibility and energy savings. The devices on a bus can then be assigned to listen to one or more sensors connected to any other device on the same bus. Multiple links can be programmed to work together using the appropriate control system. Additionally, the EcoSystem protocol is bi-directional, allowing the devices connected to the bus to report their status back to a central controller if required.

Control Type Applications

- Basic Applications
 - One EcoSystem link can be used in a classroom to integrate occupancy and daylight sensors to save energy, while providing the instructor with control of the lights when necessary.
 - Multiple EcoSystem links and sensors can be used to maximize energy savings in an open office environment.
 - EcoSystem modules and sensors can be used to quickly add daylight harvesting and occupancy detection to an existing switching or 3-wire dimming application.
- Complex Applications
 - Multiple EcoSystem links can be connected via contact closures to a building management system to allow intelligent and automatic load shedding when peak demand conditions exist.
 - Using Quantum, EcoSystem busses throughout a building can be combined with other load types, including motorized window treatments, to allow intelligent and continuous energy monitoring and savings.

- EcoSystem busses throughout a building can be wired to a central system, such as Quantum, to allow intelligent and continuous energy monitoring and savings.

Product Solutions

- Basic Applications
 - EcoSystem Ballasts and Modules
 - Hi-lume 3D Ballasts
 - Hi-lume LED Drivers

EcoSystem digitally addressable dimming ballasts employ revolutionary technology, allowing each device to listen, think, decide, and remember. EcoSystem fluorescent lighting control solutions are built on a simple building block architecture of EcoSystem fluorescent dimming ballasts, EcoSystem sensors, and EcoSystem controls, free from interfaces and power packs. For more information, see www.lutron.com/ballasts.

- Complex Applications
 - Grafik Eye QS

A Grafik Eye QS main unit combines EcoSystem ballasts and drivers with other load types to allow simple control of shade and light zones in a single area at the touch of a button. For more information, see www.lutron.com/gq.

- Quantum

Quantum manages both electric light and daylight throughout a building, not only to save energy and simplify operations, but also to improve the comfort and productivity of the building occupants. Quantum automatically dims or switches all electric lighting, and controls daylight using automated window shades. It manages, monitors, and reports on all the lighting usage in a building for optimal energy performance and productivity, while minimizing maintenance and operating costs. For more information, see www.lutron.com/quantum.