LUMISYS

BUILT FOR INTEGRATION

Integrate Without the Risk of Failure

The design and building automation community is beginning to realize that integrating lighting control into the building automation system is the most efficient way of managing energy throughout the building life cycle. Products, technology and open protocols are widely available; however, the implementation of this ideal has proven to be a rocky road through inherent uncertainties in the current design, bid, procurement and construction processes.

For over two decades lighting control has typically been implemented as a stand-alone system because Division 16 integration predictably fails. Just ask anyone in the design or building automation community about their attempts to integrate lighting control. Some common responses you might hear are: “It was a nightmare,” “We just keep lighting controls stand-alone” or “Integrating lighting control is too expensive.” According to an industry survey of building automation control contractors, less than 5% of Building Automation Systems (BAS) control lighting. This is in spite of the fact that; building owners want an integrated system, open protocols have been widely available for over a decade and lighting is the single largest electrical load in most commercial buildings. Fortunately, the problem is not the technology, the lack of demand or the people involved; rather it is the process.

Some History

The history of the lighting industry is one of both technological innovation and lagging modes of implementation. In the 1970s, lighting controls were in the domain of the skillful electrical contractor (EC), an expert in wiring, switches, and relays. In the ’80s, control manufacturers put these items in a box with a processor to provide “pre-engineered” lighting controls with the capability of “soft wiring” lighting zones on site. Installation of the new lighting controls was still in the domain of the electrical contractor, yet responsibility for on-site programming of the processor was uncertain.

In the ’90s more degrees of complexity were added. The relay boxes could be networked into a stand-alone system with a computer. Advanced “integrated” lighting controls could become part of the BAS along with HVAC controls. ECs found themselves contractually responsible for systems that were increasingly beyond their implementation capabilities raising the risk of project failure. Uncertainty grew as the technology advanced. The responsibility to procure and install, configure and integrate the lighting control system fragmented into separate camps. The EC was contractually responsible for purchasing and installing the system, yet cooperation from other non-accountable parties were required to make the system work.

The Problem

Along with the fragmentation in the field, uncertainty grew in the design and bid process. While the EC developed their bid, lighting controls that integrated into the BAS became part of their bid. Yet, it was unlikely that the EC would know in advance which BAS would be awarded the controls contract. Risk of a lighting control brand’s failure to live up to its interoperability claims forced the EC to raise his price to cover integration uncertainty costs. Add to this the “who does what?” on-site and everyone lost: the specifier, the EC, the lighting control manufacturer, the BAS control contractor, and the facility manager. In this bid and procurement model no one has a stake in maintaining these uncertainties and the inherent integration uncertainties that accompany this outdated approach.

A No Brainer

There is a simple solution. When lighting controls are to be integrated into the building automation system, lighting controls should be provided by the BAS control contractor. This fundamentally moves the expertise and accountability back to those that are in the best position to deliver a sustainable, integrated solution. Simply put: The BAS control contractor provides the lighting control and the electrical contractor installs it.

Using this methodology of specification, the BAS control contractor chooses a lighting control system proven to interoperate with their equipment and includes that system in their bid effectively eliminating integration uncertainty. Likewise, the electrical contractor develops their bid knowing that they are clearly responsible for installing the lighting control system and ensuring electrical power and connectivity to the lighting. The designer can easily, confidently and clearly specify that the lighting control system is provided by the BAS control contractor and is installed by the electrical contractor. The owner gets an integrated energy management system that is sustainable and maximizes the return on their investment.

Article by Ron Poskevich, General Manager Lumisys - Reprinted with permission AutomatedBuildings.com August 2007