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Ask the Electrician: Six elements to consider when designing a lighting control system

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Lighting control systems can significantly enhance the functionality, aesthetics, and safety of a building. While offering a variety of benefits such as energy savings, improved comfort, and increased safety, these systems require careful design considerations to ensure they meet the specific needs of each project. Consider these six key elements when designing a lighting control system for your building:

Lighting needs: What are the specific lighting needs of the space? Every space has specific lighting needs based on key factors including: the amount of light required, the desired quality of light, and the desired level of lighting control. Additionally, some spaces might have mandated requirements to ensure effective and optimal use of the area by occupants. This is why a classroom, for instance, will have different lighting needs compared to a warehouse.

Budget: Lighting control systems can range in price from relatively inexpensive to very expensive. It is important to set a budget before beginning the design process. The budget will help to determine the type of system that can be installed and the features that are available.

Existing infrastructure: When designing a new lighting control system, it’s crucial to consider your existing lighting infrastructure to ensure compatibility and achieve desired performance. This is because existing systems may not be easily compatible with newer technologies. For instance, TRIAC dimmers from the past might not function well with many LED lamps. Additionally, if your

space is currently wired for fluorescent lighting, you'll need to select a lighting control system that specifically works with fluorescents. By carefully considering your existing infrastructure, you can ensure a smooth transition to a new and efficient lighting control system.

Integration with other systems: The lighting control system may need to be integrated with other systems, such as HVAC systems or security systems. For example, a lighting control system can be programmed to turn off the lights when the HVAC system is in energy saving mode.

Ease of use: The lighting control system should be easy to use for both occupants and maintenance staff. The system should be intuitive and easy to navigate, with clear and concise labeling. A current trend in "ease of use" is the integration of lighting controls directly into the light fixtures themselves. These fixtures often have built-in Wi-Fi or Bluetooth-enabled nodes, allowing them to communicate with each other if they are from manufacturers using the same architecture.

Scalability: The lighting control system should be scalable to meet the future needs of the space. For example, if the space is expected to expand in the future, a lighting control system that can be easily expanded should be selected.

When designing a lighting control system, it is important to consider the specific needs of the space such as code requirements, energy efficiency goals, and aesthetics. There is no one-size-fits-all approach, but by considering the elements listed above, you can design a system that meets your needs.

To learn more about how Interstate Electrical Services can assist your lighting control system needs, visit www.iesc1.com.

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