

Transformational IoT Digital Integrated Network Connected Lighting System >

Business Challenge

Commercial buildings are rapidly becoming more efficient, comfortable, flexible and, in general, adaptive to their use and to the occupants' needs. The evolution of Internet of Things (IoT) technologies is booming with the purpose of delivering a smarter, more automated and better-connected system in new and existing buildings. Large-scale deployment continues to present a challenge for the industry because systems and practices remain highly siloed from the design to operation perspectives. Poor and costly integration between different systems, unclear ownership of IoT infrastructure and process gaps represent three substantial obstacles for large-scale adoption.



Solution

Ethernet-based network-connected systems offer the opportunity to bridge and converge different functions with a single infrastructure that becomes the foundation for highly integrated buildings. In particular, network-connected lighting solutions, driven by mass LED adoption, are an ideal candidate for digital building infrastructure deployment because they can pay for themselves by delivering more efficient, productive and better control. More importantly, these systems represent a granular digital grid in support of sensors and data-harvesting devices for new and existing IoT applications.

Molex developed the IoT/Digital Building Network Connected Lighting System to help customers address the challenges of designing cost-

effective and energy efficient lighting for modern offices. Integrating gateways, sensors, cables and software proven in other connected enterprise platforms, the intelligent, low voltage Molex IoT/Digital Building Network Connected Lighting System uses a native Internet Protocol (IP)-based technology to transform commercial buildings and workspace designs through continuous sensor feedback.

Building trends are moving toward scalable densification by incorporating flexible workspaces such as ergonomic workstations for focused tasks, larger conference rooms, small group and huddle rooms to promote teamwork and inviting public areas. Many building owners, developers and renovators are exploring ways to optimize

workspace lighting to energize their employees and boost productivity. Advances in Molex digital network and lighting technologies make that possible by providing ways to continuously adapt lighting and a host of other environmental elements in commercial buildings. The IoT/Digital Building Network Connected Lighting System makes highly innovative building concepts possible and transforms the concept of lighting into an intelligent asset for building owners and operators.

The ability to integrate connected technology with already-existing product offerings from various collaborators such as Hew, Spectrum, DecoLighting, Waldmann, Axis, Newstar and many more is a key element to accelerating the Molex network solution into new and existing spaces.

KEY FEATURES

- DC power ideal for low-voltage LED and sensor applications
- Power and data over a single-layer infrastructure using category cable
- Ethernet standards are proven, future-ready and scalable
- Intelligent data collection by granular and distributed sensors integrated with the lighting network infrastructure
- Digital and zoning
- Advanced control of tunable LED luminaries and dynamic/bio-adaptive controls
- Rest application programming interface (API) and building automation and control network (BACnet) interface for seamless integration with building automation systems (BAS) and third-party systems

KEY BENEFITS

- Significant energy savings and improved efficiency
- Building usage optimization and enhanced occupant comfort, productivity and performance
- New building designs or legacy lighting fixtures readily retrofitted with LEDs and sensors
- Creates value by transforming lighting into a building asset
- Granular sensor array deployment supports data harvesting and integration with other building functions
- Total solution and system integration from design to execution and maintenance
- System operating management service



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