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Unified Lighting Control Made Possible by BACnet

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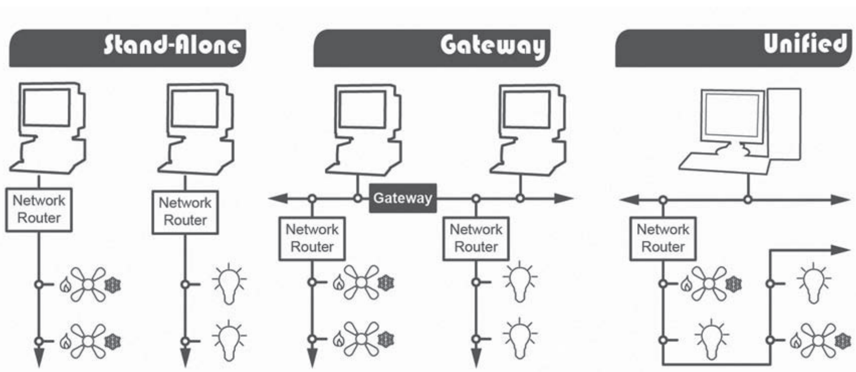
Before BACnet and its global adoption, integrating lighting and HVAC controls within the Building Automation System (BAS) was expensive and uncertain. Because the risks and costs associated with pre-BACnet integration did not outweigh the benefits, most engineers and owners were forced to settle for stand-alone systems. The results of the past are clear; according to industry surveys less than 10 % of existing BAS include the control of lighting.

Today, with BACnet, consistently integrating lighting and HVAC together inside a BAS is easy. BACnet lighting control is native to the BAS, residing on the same BACnet MS/TP network as the HVAC/DDC controllers. The result is unified lighting control that delivers substantial infrastructure and maintenance savings, as well as better energy savings.



Unified lighting control eliminates the complexities and limitations that accompany stand-alone or gateway lighting control.

Better energy savings

U.S. Department of Energy data indicates that light and HVAC consume over 60 % of the energy in commercial buildings. Both stand-alone and unified lighting control can achieve basic energy savings and typically payback in less than 3 years. Unlike stand-alone, unified lighting control can employ more advanced control sequences to achieve better savings, often accomplished through simple programming changes.

One example being employed is extending the use of occupancy sensors to automatically control lights and HVAC in unoccupied classrooms. For example; when an area goes unoccupied and the BAS is in occupied mode the lights automatically switch off and the temperature is changed to its reset value. Depending upon the application, additional energy saving measures can be taken by decreasing airflow or deciding to bring in less outside air.

Common classroom complaints with occupancy sensors can also be addressed by utilizing the BAS mode, occupied or unoccupied, to automatically adjust occupancy sensors time-out values. Increasing the value when the BAS is in occupied mode can reduce false-off complaints, while decreasing the value in the unoccupied mode can lower energy usage.

In addition, classrooms can employ a manual-on control strategy for lighting and HVAC to save energy between the occupied start time of the BAS, and the time when the room is actually occupied. Instead of the lights switching on at 6am when the BAS changes to occupied mode, activation of the override switch turns the lights on and initiates a temperature change from reset to set point.

The bottom line

Enabled by BACnet, unified lighting control provides better energy savings and it eliminates the complexities and limitations that accompany stand-alone or gateway lighting control. Compared to the choices of the past unified lighting control is a no-brainer.

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