

Direct digital control (building automation)



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The Importance and Understanding of having a Building Automation System

Herbert Cuthbertson UAE210 -- DIRECT DIGITAL CONTROLS In the past, there was little worry about energy consumption and costs associated with keeping Heating, Ventilation, Air Conditioning (HVAC), lighting and mechanical machines running at all hours of the day and night possibly. But due to the energy crises of the 1970's and the last decade of rising costs of oil, the costs of energy not has forced not only families to conserve energy but companies, schools and businesses as well.

In comes Direct Digital Controls (DDC) and/or Building Automation System (BAS) Basically a BAS/DDC system is a system that uses microprocessors, digital controls, to control not only hvac, but security, lighting, paging, and telecommunications if necessary. I recently spoke with a neighbor of mine who in the 1970's worked for facilities management company representing various building in Cincinnati, Ohio. He explained to me that in the past, he and others, at the end of the day/night would have to go to every floor of these buildings and physically switch off the lights and hvac systems to try to conserve energy.

With a BAS system, a lot of that time could be eliminated. A BAS system can now turn on a particular set of lights based time, occupancy indicators, or an outside light sensor. It can turn on and off a hvac system in a certain area of the building based on occupancy, provide additional heating or cooling based on a afterhours switch on a thermostat, send out alarms to a facility technician, security, police and fire personnel, and allow trained personnel to remotely access the system and change certain parameters instead of making a possible trip to the building.

Preventive Maintenance (PM) on hvac equipment can also be integrated in the BAS. Instead of predicting the amount of run time hours, the BAS can show the correct amount of run time hours and notify personnel when equipment is due for its preventive maintenance. This ensures the equipment is routinely serviced according to the equipment manufacturers schedule.

If a building does not have any BAS installed and management personnel is ready to invest in its installation, then this will take a well thought out plan. This plan will need to be constructed by trained personnel who will do the job correctly. This will enable both the building owners and the occupants of the building to enjoy the benefits of future financial gains and a more comfortable building.