How to reduce air conditioning running costs in the healthcare sector

How HVAC controls are making energy efficiency possible in healthcare

With budgets becoming tighter and pressures mounting to become more energy efficient, the UK's healthcare sector is increasingly looking towards energy controls as a means of ensuring building compliance and reducing operational expenditure. Neil Baldwin, of CP Electronics, examines what electrical contractors can do to overcome energy waste in hospitals from air conditioning systems.

According to the Carbon Trust, the UK's healthcare sector spends more than £400million a year on energy. Unfortunately a significant portion of this is wasted, meaning that money is being lost, which could otherwise be spent on patient care. At the same time, The Department of Health has set stringent energy targets to reduce the NHS' contribution to carbon emissions by 2025, with many Trusts citing energy reduction as the first step towards achieving these goals. For electrical contractors, this brings several opportunities to work with health organisations to install energy control technology. However, when working with such complex buildings as hospitals and surgeries, traditional solutions can be difficult to implement.

An integrated approach to energy

One of the challenges associated with controlling air conditioning units in hopitals is the fact that many buildings have multiple different units installed. Controlling these disparate systems is not an easy task when you consider the requirements of individual thermal comfort zones within a hospital. While server rooms will require almost constant cooling, back-of-house rooms and in particular, individual wards, will only require air conditioning at certain times.

It is also important to consider changing staff, patient, and visitor behaviour, as the way occupants use a building plays a role in how the air conditioning unit should

perform. For example, there are many meeting rooms and other areas in hospitals that are not occupied all the time, resulting in unecessary energy use and cost. Instead, a more effective use of energy would be to have the air conditioning switched on, only when somebody is present in these rooms, automatically switching off again as they leave or after an appropriate timeout period. Such a method would require the installation of occupancy sensors.

Installation issues

Controlling air conditioning units with occupancy sensors is possible, but generally requires a professional electrical engineer to install them. For hospitals with more than one type of system installed, this becomes even more complex.

When budgets are stretched and time is limited, the purchase and installation of several ocupancy sensors for multiple air conditioning units can become an expensive and time consuming exercise. Furthermore, when electrical installations take place in public spaces such as hospitals, you often need to isolate large areas of the building as work is carried out, creating disruption.

This is why CP Electronics has developed a new battery powered surface mounted air conditioning controller, minimising installation time. The GESM-AC learns the infrared code of an infrared enabled air conditioning unit and overrides the on/off commands to regulate the use based on room occupancy. This overcomes the challenge of integrating mulitiple disparate air conditioning unit systems as no wiring is required. It also ensures that air conditioning is only being powered when a room is occupied rather than running all day and wasting energy.

CP’s new HVAC control can be installed with minimal tools and time, enabling contractors to complete more jobs, more quickly. It also means that potential disruption in public places is kept to a minimum, and contractors benefit from a relatively stress-free installation.

This could be the start of more regulated air conditioning usage for UK hospitals, without the need for extended periods of installation work and rewiring on site. Facilities Managers will regularly carry out maintenance on air conditioning systems to keep them running efficiently. Simple energy saving solutions such as CP's air conditioning controller make it easier for Facilities Managers to ensure a building is running efficiently and with minimum energy waste.

If the UK healthcare sector is to reduce its running costs and achieve some of the carbon reductions that the Department of Health is demanding, then a greater use of energy controls should be considered. By installing HVAC controls, not only can health organisations better meet sustainability targets, but contractors can manage several different systems with the same, single solution.