



## EX-OR DRIVES £50,000 ANNUAL SAVINGS AT UNIVERSITY CAR PARKS

The University of Warwick has reduced its annual lighting energy bill for one of its multi-storey car parks by £13,000 following the installation of LED luminaires coupled with lighting controls from Ex-Or, a Honeywell company.

Ex-Or controls have also been fitted to its three other multi-storey car parks on the campus, meaning the University is on course to make energy cost savings of more than £50,000 per year.



In addition to the cost savings, the University says the car parks are now safer and more secure places as a result of the lighting installations. And the work has brought the University closer to achieving the coveted Park Mark Award for one of its multi-storey car parks granted by Secured by Design, the Police/Home Office crime prevention initiative.

The University's four-storey central campus car park (Car Park No 7) has 400 parking spaces and is used by University staff and members of the public attending events at the adjacent Warwick Arts Centre. Originally lit by Holophane Europe Ltd 'park pack sodium units' which cast an orange light, the car park was brightly lit 24 hours a day, seven days a week regardless of car and pedestrian movements.

“ **We knew there had to be potential for a massive saving in energy use if we could cut out the unnecessary use of lighting,** ”

said Gary Price (I Eng. MIET), Electrical Services Design Engineer in the University of Warwick Estates Office.

“ **The solution we designed with Ex-Or & Holophane Europe Ltd not only achieved the savings, but also allowed us to improve the quality of the lighting, and to create a safer and more secure environment in our multi-storey car parks.** ”



There was a need to retain the existing luminaire bodies as these were in good condition. So electrical contractors DrakeSet Ltd of Brierley Hill replaced the existing SON gear trays with new retro-fit 56 watt LED units complete with programmable LED drivers. Lighting control was achieved by the installation of Ex-Or BattenFit batten-mounted detectors within each luminaire. These hold the light output of the luminaires to 10 per cent, brighten to full output when presence is detected, then dim back down to 10 per cent when the area is vacated, after a 2 minute delay.

The DSI and DALI-compatible BattenFit sensors specified provide reliable presence detection and also monitor levels of natural light to further eliminate unnecessary use of energy. The IP65 versions protect against the ingress of dust and moisture.



A further 81 new LED luminaires, also controlled by Ex-Or BattenFit sensors, were installed to provide illumination of the internal driveways. These areas of the car park had previously been unlit. In addition, lighting on three staircases and the top roof level were replaced with LED lanterns, so making the car park the first on the University campus to be lit entirely by LEDs.

Mr Price said:

“ **We have ended up with a lighting system in this car park which provides more widespread illumination, delivers white light, and provides a safer environment - yet manages to save us more than £13,000 off our annual energy bill.** ”

The original consumption on Car Park No 7 was 19.7 kW/h, giving an annual electricity consumption of 172,572 kW/h. Now, the consumption is 4.62 kW/h, giving an annual electricity consumption of 40,471 kW/h. This equates to financial savings of £13,210 per annum, based on typical current electricity costs of 10p per kW/h. In addition, the CO<sup>2</sup> emissions have been reduced by 72 tonnes per annum. This is a significant achievement for us.

**Clearly, for safety reasons, the University couldn't consider turning the lighting off completely. However, it didn't make sense to have the lights burning at full output 24/7, consuming vast amounts of energy and adding pressure on the University's carbon reduction plans.**

**This project has been really well received and became the template in our roll-out of lighting improvements/control for our other car parks. It has also made a significant contribution to us achieving the Secured by Design Park Mark Award for security.** ”