Des Moines Area Community College (DMACC), Ankeny, IA • Completed in September 1991

The Watt Stopper's Dual Technology Occupancy Sensors Save $11,500/year at Des Moines Area Community College

The lighting in the classrooms at Des Moines Area Community College was being left on for long periods of time while the rooms were unoccupied. Despite attempts to have individuals turn the lights off as they leave the classrooms, the problem persisted and the college experienced wasted energy and money.

Working with National Energy Products, Cedar Rapids and Shive Hattery Engineers, Des Moines, DMACC decided to use occupancy sensors to stop this energy waste. Occupancy sensors control lights by turning lighting on only when the building space is occupied and turning lighting off after a space is vacated. This decision to use sensors was based on the fact that occupancy sensors would perform to save energy without requiring any manual actions by occupants. Their function is completely automatic and this would ensure that the electricity for lighting in the classrooms would not be wasted.

The sensor chosen to be installed in the college's 114 classrooms was the DT-100 Dual Technology occupancy sensor manufactured by The Watt Stopper, Santa Clara, CA. This sensor was designed specifically for control of classrooms. It combines both Passive Infrared and Ultrasonic technologies into one unit so that it's sensitivity is great. The sensor choice was critical because of relatively small amount of activity that may be present in classrooms. The DT-100L can cover classrooms effectively because the combined technologies enable detection of smaller amounts of motion.

A total of 118 DT-100L occupancy sensors were used to cover 114 classrooms totaling 295,000 square feet. All but four of the classrooms received one sensor each. The remaining four were larger and required two sensors to achieve proper occupancy detection.

The occupancy sensor installation (accompanied with a lighting retrofit of T-8 lamps and electronic ballasts) was accomplished more than two years ago. The total cost of the job was $18,000 for materials and $5,800 for labor. The occupancy sensor installation alone has provided DMACC with approximately $11,500 in energy savings per year. Adding in the utility rebate of $9,074 that was received, the payback for the project was 1.3 years.