

Blom Brothers retail furniture store receives quick payback with Watt Stopper occupancy sensors

Blom Brothers & Co., Inc., a retail furniture store located in Vineland, NJ, was looking for a way to slash high overhead costs. Scott Blom, the company's vice-president, recognized the opportunity of reducing these costs through energy conservation. Lighting for the 46,000 sq ft facility was identified as a source of significant energy savings.



Blom Brothers is open six days per week. The typical business day lasts twelve hours from approximately 9a.m. to 9p.m. Before occupancy sensors were installed, lighting for the entire facility was turned on in the morning by the first employee to arrive at work and left on throughout the day until the last employee left the building.

Occupancy sensors were chosen to control lights because they would keep lighting on only in spaces that were occupied and would save hours of energy use each day. Blom Brothers' two warehouses were outfitted first with eleven CI-100-1 ceiling sensors manufactured by The Watt Stopper. The CI-100-1 is a full-featured, PIR occupancy sensor that has a coverage pattern designed specifically for aisles-ways. This sensor's coverage can be tightly defined so that lights are on only in areas that are needed. Each warehouse aisle was treated as an individual zone with one CI-100-1 mounted in the center of the ceiling joist.

The furniture showroom was recognized as another potential area for

energy savings. The showroom's open and partitioned areas were a major source of wasted energy. Lighting was typically left on in these large spaces when only one small area was occupied. At first, Scott Blom was apprehensive of using occupancy sensors in the showroom. Blom was concerned that changes to the lighting system might negatively affect sales. As a retail space, Blom was worried that if the storefront's lights turned off due to a lack of occupancy, potential customers would think the business was closed. Also, if lighting is turned off in individual furniture scenes, customers would be more hesitant to walk into them due to darkness.

With Blom's concerns in mind, The Watt Stopper was able to provide an effective method for reducing the energy waste in this type of situation without affecting the customer's perception or convenience. The Watt Stopper suggested maintaining a low level of lighting throughout the furniture store by illuminating each furniture scene with either a table lamp or one circuit overhead track lighting. A sensor was then placed in each scene so that as customers approached, a second level of lighting illuminated to invite customers into the space.

Ultrasonic sensors were chosen because generally, ultrasonic sensors perform more effectively in areas with partitions and furniture. In spaces where the coverage area needed to be tightly controlled or where heavy air flow, vibration, or partitions were present, The Watt Stopper's Dual Technology sensors, combining ultrasonic and passive infrared technologies, were installed. No occupancy sensors were installed within the first 20 to 30 feet of the storefront to indicate that the entire store is fully lit and open for business.

Blom has since been pleased with the resourceful lighting system and the energy savings that it provides. Shoppers are also comfortable with the

occupancy sensors and no problems or complaints have been reported.

The project started in September 1993 and was completed six months later in February 1994. The total project cost, including installation costs and taxes, was approximately \$4,500. A total of 29 ultrasonic sensors, 8 dual technology sensors and 15 passive infrared sensors were used to provide lighting coverage for the 46,000 sq ft facility.

Significant savings were realized for the furniture showroom and warehouse applications at Blom Brothers & Co. The payback on the installation for the two warehouses was 2.14 years. The payback for the furniture showroom was even shorter at 1.44 years. For both warehouses, approximately \$500 is saved annually in lighting costs alone while the showroom saves approximately \$3000 annually.

The success at Blom Brothers show that occupancy sensors can provide energy savings in retail building spaces as well as in large corporations. Warehouses also happen to be one of the most overlooked applications for occupancy sensors, yet the potential to save real dollars prove occupancy sensors to be a valuable tool.

