

# Small building energy management system

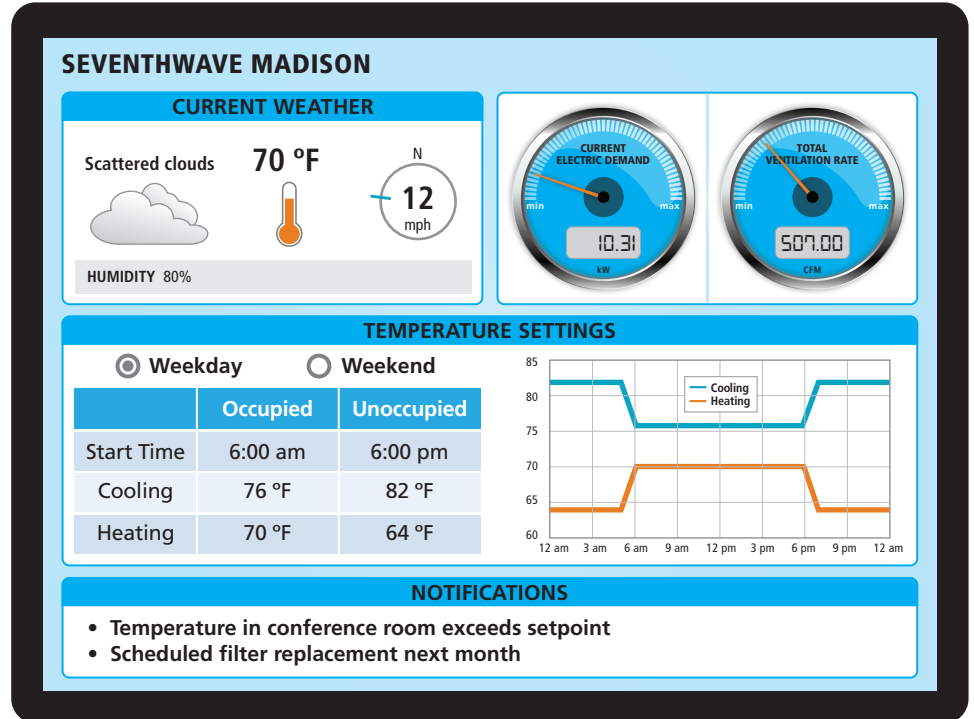
## DESCRIPTION

Energy management systems track energy use and provide programmable electronic control of a commercial facility's equipment (HVAC, lighting, production equipment, etc.). Energy management systems for large facilities are common and advances in the technology are now making them cost-effective for smaller facilities. The unique characteristics of small- to medium-sized businesses require low-cost, easy to use systems and while there are an increasing number of vendors that can provide EMS solutions for smaller facilities, this market could benefit from a packaged solution.

## DEMONSTRATING THE TECHNOLOGY

Energy management systems for small- to medium-sized facilities are applicable to commercial buildings ranging from 1,000 square feet (small) up to about 50,000 square feet (medium). These facilities could house various types of businesses, from health clinics to retail; lodging to warehouses; food service to public assembly.

Participants in small business programs could be good candidates for testing and demonstrating this technology. Testing and demonstration sites could also be recruited through programs targeting HVAC equipment replacement. Currently there are products on the market that are suitable for retail stores, health clinics, hotels, schools, and restaurants.



CRITERIA	VALUE
Electricity savings	1.33 kWh/ft <sup>2</sup>
Gas savings	0.05 therm/ft <sup>2</sup>
Cost savings	\$0.16/ft <sup>2</sup>
Measure life	8 years
2017 simple payback	1 year
Carbon emissions avoided	1.3E-03 CO <sub>2</sub> /ft <sup>2</sup>
How it saves energy	Provides feedback on energy use and allows occupants to electronically manage schedules for turning equipment on and off, adjusting temperature and lighting and identifying malfunctioning equipment
Non-energy benefits	Improved occupant comfort
Barriers to adoption	Hard to reach market sector; high cost; neither the personnel available nor the skill needed for energy management; may not have much control of the building if they are tenants and little incentive to invest in efficiency; not many packaged solutions available; education and training needed to operate the systems

## FOR MORE INFORMATION

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