



American Energy Management is a systems integrator specializing in Building Automation. The company is based in Marlborough Massachusetts, and since 1978 has installed over one thousand systems that control over one hundred million square feet of space.

The computerized control systems that we install will monitor the building's environment and make intelligent decisions about ventilation, heating, cooling, lighting and occupancy control. They track actual conditions and automatically make changes to deliver measured comfort at minimum operating cost.



The benefits of Building Automation are....

- **Lowers utility costs** – AEM typically saves 20% of the operating costs of the equipment that we control. For most buildings this results in savings that range from ***\$0.20 to \$0.40/square foot***.
- **Maintains measured comfort** – Computerized controls help to maintain even temperatures and lighting levels within the facility to provide measured comfort. Maintaining consistent temperature and lighting levels ***cuts down on wasted energy***.
- **Enhances property value** – The value of most commercial buildings is related to the net operating income. Lowering utility costs increases the net operating income on a dollar for dollar basis. Every \$0.10/square foot saved in energy could increase the market value of the property by \$0.80/square foot. A 150,000 square foot building could ***increase in value by \$240,000*** by reducing energy costs \$0.20/square foot
- **Reduces maintenance costs** - Running the equipment less and controlling it better reduces wear-and-tear and keeps maintenance costs down.
- **Is a great investment** – Most systems pay for themselves in two years or less from energy cost savings alone. Typical numbers for a 150,000 square foot building would be as follows:
 - annual energy savings = \$ 30,000/year
 - property value increase = \$240,000
 - 5-year financial benefit = \$390,000
 - one-time system cost = \$ 60,000
 - 1-year return = 450%
 - 2-year return = 500%
 - 3-year return = 550%
 - 4-year return = 600%
 - 5-year return = 650%



How does Building Automation work?

- **HVAC and Lighting Controls** – Stand alone computerized controllers are installed to take over the control of building HVAC (heating, ventilation, and air conditioning) systems and lighting. The building is not only scheduled more closely but it is also operated more intelligently and efficiently.
- **Outside Air Optimization** - Proper control of outside air provides necessary inside air changes for occupant comfort and health, minimizes energy costs by space pre-conditioning, allows for enthalpy based free cooling, and reduces the use of outside air when it is not needed.
- **Coordinating Equipment** – Making sure that equipment works together, saves energy and improves comfort. Individual control systems that are not centrally monitored and coordinated can fight each other or malfunction, causing comfort problems and wasting considerable energy.
- **DDC Controls** - We upgrade older existing equipment to DDC controls to match new equipment functionality. These controllers come standard on most new mechanical equipment and are more reliable, require less maintenance, provide more sophisticated control, and are less expensive to purchase and operate.
- **Tighter Scheduling** - Conventional controls, such as time clocks, are inaccurate and are typically setup to run equipment longer than the actual need. By automating this function with computerized controls, the computer can predict the optimum time to start/stop equipment and eliminate waste caused by excessive runtime.
- **Smarter Control** - HVAC equipment is typically sized to handle the building load under worst case conditions. Most stand-alone controls are set up to meet these design criteria at all times. With the automation system, control set points and strategies are adjusted and balanced to meet the actual load, eliminating unnecessary waste.



Project Experience

Since 1978 AEM has installed over one thousand (1000) systems that control over one hundred million square feet (100,000,000sqft.) of conditioned space. The buildings we control range in size from twenty thousand square feet (20,000sqft.) to three million square feet (3,000,000sqft.) Some of the types of buildings we control are:

Office Buildings..... Shopping centers..... Retail stores..... Convention and meeting Facilities..... Laboratories..... Hospitals..... Schools..... College Campuses Medical Centers..... Manufacturing Facilities..... Warehouse and Storage Facilities And more

Chances are we have a system installed in a building like yours.

In a nutshell.....

We are experts - We specialize in building automation. The expertise you need resides with us, the people that actually implement your system. We have developed efficient methods and systems to program, test, and install projects so things work right.

Off-the-shelf products - We are systems integrators. All our products are available competitively. You're not locked in to us, or to a particular manufacturer. Our systems and products can be supported by thousands of system integrators worldwide.

Low cost and proven - The range of available product solutions is always up-to-date and very cost competitive. Our systems are widely used which makes them cost effective and are very well tested.

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