

Emerson Climate Technologies™

Supermarket Solutions



Control Your Operations – Maximize Your Opportunities



Emerson Climate Technologies has a clear-cut mission: to help you build a better business. That means focusing on performance – ours and yours. Let us show you how to improve the management and operating performance of your equipment and building systems, while at the same time cutting your operating expenses and improving your financial results.

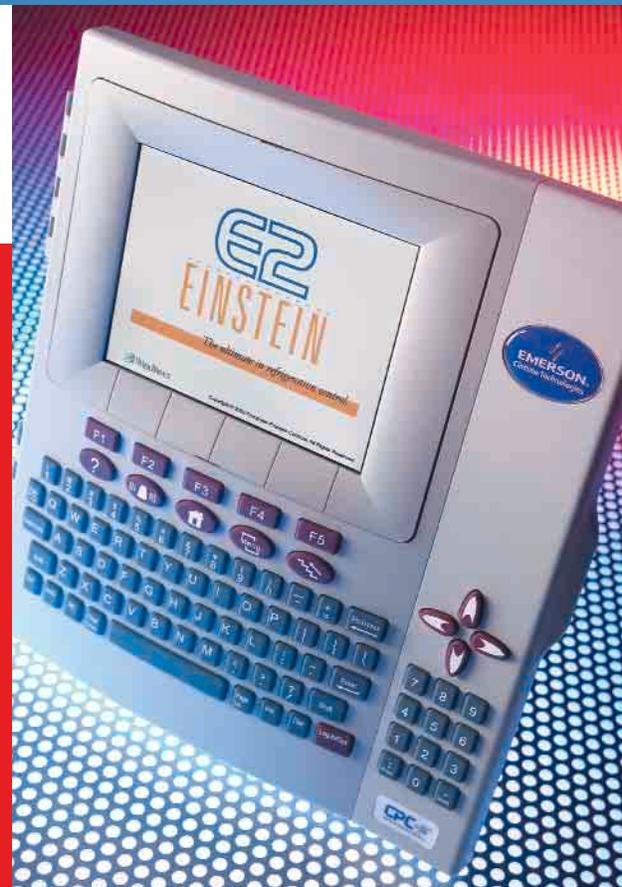
How do we do all that? By bringing industry-leading solutions to energy management controls, commissioning, facilities monitoring and management, and project management. First, we take advantage of new technologies to achieve and maintain energy savings. Then we augment your maintenance and engineering staff or serve as your single-point solutions provider. The result? A targeted approach to reducing cost and effort for your company. Whether you choose an Emerson component or a complete solution, we can help you cut costs from your operations. In fact, the systems and technologies and facility management services featured in the brochure are just part of Emerson’s integrated retail solutions.





Running a supermarket has never been more challenging. Emerson Climate Technologies understands the complex issues you face every day. That's why we continue to bring you insight and innovation designed to improve efficiencies and let your employees put their focus where it belongs – on customers. How do we do that? By offering an array of supermarket automation products and services that help you conserve energy – and energy expense – protect food, monitor equipment, and lower your overall operating costs.

Traditionally, it's been up to your managers to keep track of your supermarkets' lighting, HVAC and refrigeration systems, then place and supervise any necessary service calls. Emerson Climate Technologies' supermarket automation products and services allow managers to do what's important – focus on selling groceries. Our supermarket automation system, the E2, combined with ProAct® around-the-clock facility monitoring, helps improve your operational efficiencies.



The Result?

Emerson Climate Technologies, with our capabilities and support programs, provides you and your operations with significant day-in and day-out savings – and long-term opportunities to build a better business.



Take Control of your Business.

To bring you the kind of fast, flexible, and cost-effective controls you need to compete, Emerson's CPC division has developed the E2. It's a significant step up from traditional electro-mechanical controls – more reliable, more efficient, and easier to use. Designed and built for flexibility, the E2 has the power to meet your most complex control challenges. In fact, it's the right choice to better control and manage all your systems.

For starters, the E2 minimizes the cost of supermarket operations, increases equipment life, and reduces equipment downtime for:

- **Refrigeration systems including reach-in cases and freezers**
- **HVAC systems**
- **Lighting systems**
- **Third-party devices**
- **Custom applications**

The E2 also comes with a complete line of input boards, output boards, and peripheral devices that provide the necessary information to the controller. Whether it's a 500-square-foot facility or an operation of 200,000 square feet or more, integrating the E2 into your supermarket is easy. Our in-house panel shop and many leading electrical panel suppliers have the expertise to develop a custom controls package that meets your unique space and control requirements for faster installations.

Add Up the Savings

The unique blend of features found in the E2 brings you a long list of built-in benefits, including one of the best ROI's in the industry. There's more. The E2 reduces energy costs – at an average of 10% or more – by helping you operate your equipment and lighting more efficiently. Other key advantages include:

- Identifying critical equipment failures – and minimizing downtime and replacement costs
- Reducing maintenance costs through remote access and diagnostics
- Integrating third-party devices
- Developing a flexible base for future enhancements



HVAC

Need a reason to control your HVAC equipment? Here are two of them. High temperatures in your supermarket cause uncomfortable customers – and the potential for loss of business. High temperatures in your store also threaten the safety of the food you sell and lower the productivity of your employees. Again, the E2 can help. It controls relative humidity (RH) to keep your customers comfortable and protect the life span of valuable equipment by minimizing the RH.

Incorporating CO₂ sensors into your facilities is a powerful way to save energy. It's a critical step in minimizing the amount of outside air that is introduced into your supermarket. Less outside air means a lower load on your HVAC and refrigeration equipment.



Turn the Heat Down.

The E2 gives you the ability to control and operate up to 31 packaged HVAC units from a single controller.

These range from simple cooling-only units to complete heating and cooling split systems, or single package systems with multiple stages of heating and cooling. The system also includes optimum start and stop programs to intelligently pre-condition your store's environment prior to the beginning or ending of your peak occupancy hours. This ensures your customers' comfort at all times and minimizes your energy usage.

Refrigeration

The E2 provides much more than HVAC control; it also offers you control for multi-rack refrigeration systems. The E2 uses its advanced control algorithms to optimize rack operation and maximize compressor

lifespans. Predictive maintenance algorithms are also enabled through E2 to notify you of problems before they occur, which allows you to schedule maintenance when it's convenient for you – not in the middle of the night.

One of the largest untapped opportunities for energy savings in a supermarket is the precise control of heaters contained in glass front cooler doors. The E2, combined with our PMAC, provides proven patented algorithms to pulse the electrical power to heated cooler doors. This allows you to maintain the merchandising quality of glass front doors while reducing their operational cost. In a typical installation with anti-condensate heat controls, OFF times may be as high as 60%. This is equivalent to turning the heaters off for almost 7 months a year while maintaining the merchandising quality of the doors!

Energy Savings



Lighten your Load.

As energy costs increase, you need new and better ways to control and cut your overall power bill. The lighting loads associated with interior lights, parking lights and signage offer a substantial opportunity for additional savings. That's where the E2 comes in. It can control any lighting load via a time schedule, light level sensor or a combination of both. The savings? Significant. For example, inadvertent operation of just 35kw of lighting and HVAC for only one additional hour per day costs you nearly \$1,000 per year at eight cents per kwh – a visible drain on your supermarket's profits. An average savings of 10% allows you to virtually shut off your store's systems for almost a month each year – not a bad proposition considering today's tight profit margins.

Average Monthly Energy Cost (Per Site)	\$15,000	\$20,000	\$25,000	\$30,000	\$35,000
Estimate Savings Over One Year (Per Site)*	\$18,000	\$24,000	\$30,000	\$36,000	\$42,000

*These numbers are typical of savings experienced by our customers employing our lighting, HVAC and refrigeration controls. Actual savings may vary based upon each location.

ProAct® Service Center

Grow Your Business, Not Your Support Centers

Retail Services, another division of Emerson Climate Technologies, brings a unique blend of experience, technology and data analysis expertise to monitoring and facilities management. It's a proven combination that lets you more effectively monitor and manage your stores.

Our monitoring and facilities management services are designed specifically to help cut your energy and maintenance costs, while providing you with an enterprise view of your operations, making it easy to connect to and access vital information.

We deliver monitoring and facilities management services through our ProAct® service center. We offer everything from full-service monitoring with remote equipment interrogation and resolution to call management of your maintenance and dispatch requests, with custom solutions to ensure your specific needs are met.

SetPoint provides system alerts that let you manage setpoint changes that cost you energy dollars. This service helps guard against efficiency losses through unapproved setpoint changes.

Condition-Based Maintenance uses our patent pending software to continually collect, analyze and monitor data from your equipment and systems to create electronic notifications alerting you or your third-party providers of service needs. These service needs are then optimized and bundled in work lists, in an effort to reduce travel expenses and increase technician productivity.

Condition-Based Maintenance modules for:

- Compressor Performance Management
- Compressor Fault Detection
- Return Gas Superheat Monitoring

Energy is used to produce an “energy target” that predicts each store’s total energy usage under various conditions. Armed with that model, we can compare actual usage with the energy target and provide you with reports that you can use to analyze costly increases or decreases in energy usage. This information can also be used to identify service/maintenance issues for more targeted maintenance efforts.

Alarm provides custom responses to building, refrigeration, HVAC and environmental alarm conditions, allowing facility operations to focus on customers, while alerting service personnel to impending failures.

Food Quality It's important for food retailers to implement systems and procedures for delivering high-quality, safe-food products. Our program gives supermarkets and other retailers assurance that the perishable food products they sell are of the highest quality while maximizing the shelf life of inventory through our patented bacterial growth algorithms.



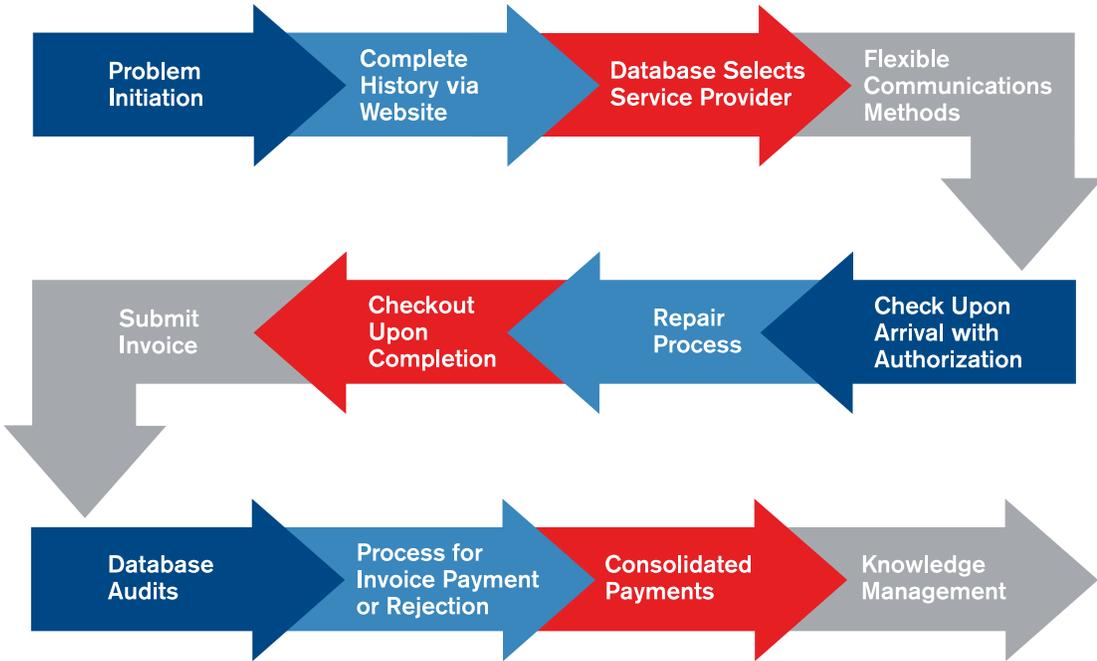


Dispatch

Retail Services' Call Dispatch provides you with a centralized response center for all your facility service needs – tapping into technology to help you minimize the total cost of maintaining your facilities and providing added cost predictability for your maintenance budget. We provide everything from call receipt and dispatching to service provider performance management, invoice processing, and management reporting.

Retail Services provides 24 hour call center service but we can also provide call center support to supplement your existing call centers or tie into any of our ProAct® services. This allows you to have 24 hour uptime in addition to ensuring that you will have someone watching over your stores at all times to reduce maintenance expense and effort.

Call Dispatch Process



E-Commissioning

Our patented E-Commissioning™ service has been designed with one goal in mind: optimizing the energy efficiency of your HVAC, refrigeration and lighting systems within your existing facilities.

E-Commissioning helps you make swift, sound business decisions. It lets you clearly see and understand current operating conditions, then provides the necessary knowledge to make the right changes at the right time.

As part of our E-Commissioning services, we provide you with complete program planning, implementation, technical teams, training and management. In addition, we document step-by-step procedures to reset your building and equipment controls to their optimum setpoints and uncover the problems that lead to excessive energy usage, equipment failures and costly maintenance calls.

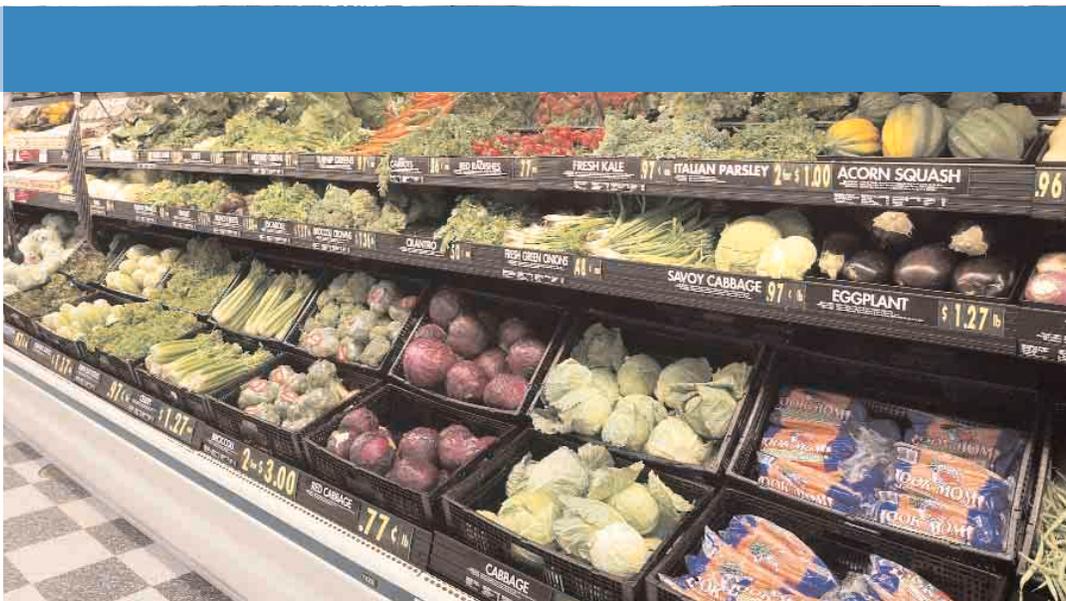
We'll keep you up to date with regular reports and complete work list items, so you more accurately monitor your maintenance methods. All the information gathered at your facility is available to you in less than 48 hours on a custom website designed for your use.

The bottom line? Our E-Commissioning capabilities let you get a better grip on your energy usage, a grip that helps you hold on to a higher return on your investment – and to additional profit potential.

N-Commissioning

Retail Services' N-Commissioning™ service for new or remodeled facilities carefully inspects MEP, refrigeration and building control systems to make sure they're ready for service.

As you already know, maintenance costs are a continuous focus for operations. By ensuring your stores are operating as designed even before your new facility opens, you help avoid future costs and maintenance nightmares.





Project Development and Management

Identify and Implement Equipment Upgrade Projects

Retail Services' commitment to helping you optimize your energy usage and expense continues with our comprehensive Project Development and Management services. We provide you with energy and maintenance project development and design support so you can quickly move beyond baseline performance levels. We partner with our customers to identify projects that will cut costs and provide true savings.

We have a proven track record of success, ranging from condenser fan control upgrades to anti-condensate heater controls, VSD air handler installations, and DDC refrigerated fixture temperature controls. These are by no means the extent of our capabilities. Retail Services prides itself in tackling unique projects that are tailored to your needs.

Our Project Development and Management services are as flexible as they are comprehensive. You can select from complete turnkey support or choose options for installation, design, or equipment-only solutions. There's more. We can even provide store-by-store and chain-wide support. Whatever your need, Retail Services delivers timely project implementation – and faster paybacks on your investment.



The Emerson Advantage



The array of Supermarket Automation Services available from CPC and Retail Services is one more example of the integrated offerings from Emerson Climate Technologies, the recognized leader in advanced HVAC and refrigeration, controls – as well as energy and maintenance services solutions. Together, the businesses of Emerson Climate Technologies provide broad engineering expertise, innovative product design and testing capabilities and deep retail experience.

Emerson Climate Technologies is a vital part of Emerson's eight brands that also include Process Management, Network Power, Industrial Automation, Appliance Solutions, Motor Technologies, Storage Solutions and Professional Tools.

We also have the strength and stability of Emerson (NYSE: EMR) behind us. Founded in 1890, Emerson, a Fortune 200 corporation has more than 109,000 employees in 320 locations around the world.

It's a combination of resources that allows us to deliver industry-leading support and solutions today – and promise even more innovation tomorrow.

E M E R S O N C L I M A T E T E C H N O L O G I E S

Control Solutions

Computer Process Controls (CPC)

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CPCUS.com

EmersonClimate.com

Monitoring, Commissioning and Project Management Services

Retail Services

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