Facility Automation

EMERSON™
Climate Technologies

All buildings need control.

Control of conditions, control of systems, and control of costs. CPC offers the complete solution in the E2 control system. Advanced technology refined through evolution, CPC combines high performance Direct Digital Control (DDC), rapid points scanning, and lightening fast communications-all in one system that's truly easy to use. With the E2, one technology serves rooftop package units, lighting control, and numerous other building systems. The same basic components bring energy management to small buildings, and facility management to large chains.

Developed to provide a low installed cost, CPC's systems are engineered, manufactured, and tested for the highest reliability possible. Combined with ease of expansion, and exceptionally easy to use displays and remote communications software, CPC will reduce operational costs. This will assist you in maintaining the long term serviceability and value of your property.

CPC's facility management system allows centralized access to remote locations, providing the ability to remotely adjust temperature set points, modify lighting schedules, send and receive alarm notifications, view real-time environmental temperatures, and perform remote system diagnostics. Remote accessibility assists chains in managing the operation of multiple locations as well as minimizing the number of unnecessary service calls.
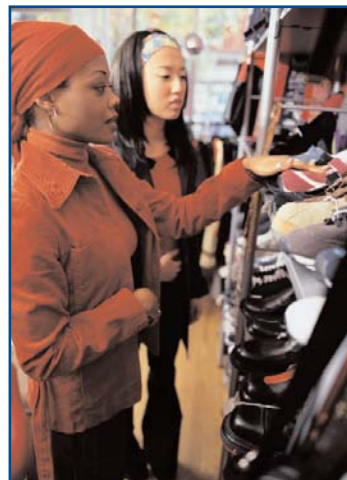
Advantages of the E2 System:

- **Replaces electro-mechanical controls at a lower cost for improved efficiency**

- **Reduce energy costs (an average of 10% or more) by operating equipment and lighting more efficiently**

- **Interface with current LAN's and WAN's to provide alarm notification locally or remotely**

- **Identify warning indicators before critical equipment fails, which minimizes down time and replacement costs**

- **Reduce maintenance costs by using our powerful remote access and diagnostic capabilities**

- **Take advantage of CPC's 24-hour state-of-the-art monitoring facility, which often resolves problems remotely and saves both time and money**

- **Develop a scalable and flexible base for future capabilities**

- **Monitor power consumption to minimize real demand through advanced load shedding and demand limiting algorithms.**

Designed specifically for building automation, the E2 control system replaces existing electro-mechanical controls with a more cost-effective and reliable digital control system. The system was designed specifically for ease of use by facility personnel, technicians, and management personnel. Since the equipment comes with preprogrammed defaults, setup and programming time is greatly reduced when compared to older mechanical controls that require technicians to spend hours manually adjusting valves and thermostat settings.

The E2 system was designed and built with flexibility in mind. Developed from the most advanced control algorithms available, the E2 controller has the scalibility to meet the control requirements of the most complex installations. Should special conditions or applications arise, a complete line of input and output boards and peripheral devices are available to accommodate any application from a 500 square foot store to facilties over 250,000 square feet. Integrating the unit into your specific building type is made even easier through the use of CPC's in-house custom panel shop or though an integrated electrical package from your electrical distribution panel supplier.

Better control and management of store systems helps you minimize the cost of store operations, increase equipment life, and reduce down time for:

- **Store Lighting**
- **HVAC systems**
- **Car Washes**
- **Custom Applications**
- **Irrigation Systems**

Facility Management System - Annual Estimated Energy Savings*

Average Monthly Energy Cost (Per Site)	Estimated Savings Over 1 Year (Per Site)
$3,000	$3,600
$7,000	$8,400
$12,000	$14,400
$18,000	$21,600
$25,000	$30,000

* These values are average savings experienced by our customers with HVAC, lighting, and refrigeration controls.

Lighting Control

"Use schedules and input capabilities to effectively control lighting loads while minimizing power peaks."

As energy costs increase, accurate control of lighting significantly reduces your overall power bill. The lighting loads associated with lighted glass sales cases, parking lot lights and signage represent a substantial cost for retail operators. The E2 is able to control parking lot lighting, interior lights and exterior signage loads via a schedule, a light lever sensor, or a combination of both. Inadvertant operation of only 40kw of exterior lighting for just one additional hour per day costs nearly $1200 per year at 8 cents per kWh–a very visible drain on your profits.

HVAC Control

"Maintain building environment while minimizing energy usage"

Tenant comfort has been sighted as the number one reason for changing landlords. Accurate control of HVAC equipment significantly affect several areas of tenant comfort. Effectively maintaining a building's temperature and humidity is one of the best ways to maintain comfortable occupancy. Incorporating CO_2 sensors into a building is a fantastic way to both save energy and guarantee compliance with ASHRAE standard 62-2001. CPC's E2 easily incorporates all these sensors into your building's environmental control system.

The E2 gives you the ability to control and operate up to eight HVAC units from a single controller. These units range from simple cooling only units to complete heating and cooling split systems or single package systems with multiple stages of heating and cooling. These systems also incorporate night setback programs to minimize the operational cost of HVAC equipment by reducing run times and energy consumption.

Refrigeration Control

"Maintain optimum product temperatures and improve equipment life."

The E2 adds the additional benefit of refrigeration control to your facility management system. Refrigeration systems have been shown to account for as much as 37% of the electrical usage in a typical retail store. As sales of prepared food become more important your industry and more refrigerated cases are added to store prototypes, this cost will only rise. With energy costs on the rise, the ability to control and maintain refrigeration temperatures, monitor for open doors in walk-in boxes, and maintain defrost times will become even more critical.

Glass Door Anti-Condensate Control

"Minimize power loads for increased energy savings"

One of the largest untapped opportunities for controlling power consumption in a store is the precise control of heaters contained in glass front cooler doors. The E2 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 span from 0% to 40% or more. This is equivalent to turning the heaters off for almost 5 months a year while maintaining the merchandising quality of the doors!

"The new E2 provides complete control of lighting, HVAC, and refrigeration systems."

Remote Communication

"Communicate anytime, from anywhere"

Today, more than ever, remote communications provides several benefits to your operation. Remote communications will allow you to view and change equipment set points, manage lighting and HVAC schedules, as well as enhance the day-to-day operations of individual stores.

Site Monitoring

"Around-the-clock monitoring ensures efficient operations"

CPC also assists you by providing a "state of the art" call center for 24/7 monitoring and service dispatch. Our trained technicians assist you with set point verification, remote alarm investigation, and remote correction if possible. With site monitoring, technicians track alarms and notify the appropriate personnel through a protocol of alarm escalations. This escalation process allows us to dispatch the appropriate contractors at the appropriate time per your specific preferences. Whether the alarm is a critical refrigeration alarm or a plumbing issue, CPC is always ready to take action to correct the problem. At the end of every month, CPC even generates site and enterprise reports that drive costs out of your operation by identifying sites with the most alarms or highest energy usage.

Equipment Monitoring

Power Monitoring

"Understand your power needs for improved energy management"

Energy is part of the cost of doing business. However many companies do not realize the ability they have to impact this expense. Accurate, unbiased information on specifics like consumption, peak usage, and efficiency help you improve your consumption habits. This information allows you to negotiate power rates with confidence and secure a provider with the most effective programs for your business.

Gaining access to important information is easy with CPC. In fact, we make it so simple that your entire enterprise is able to be evaluated across utility boundaries, stores, or operating regions in seconds – all without the need for additional IT staff or additional capital investments. Whether you are evaluating one store or hundreds of stores, our Energy Profiler software makes power analysis so simple that even the most novice u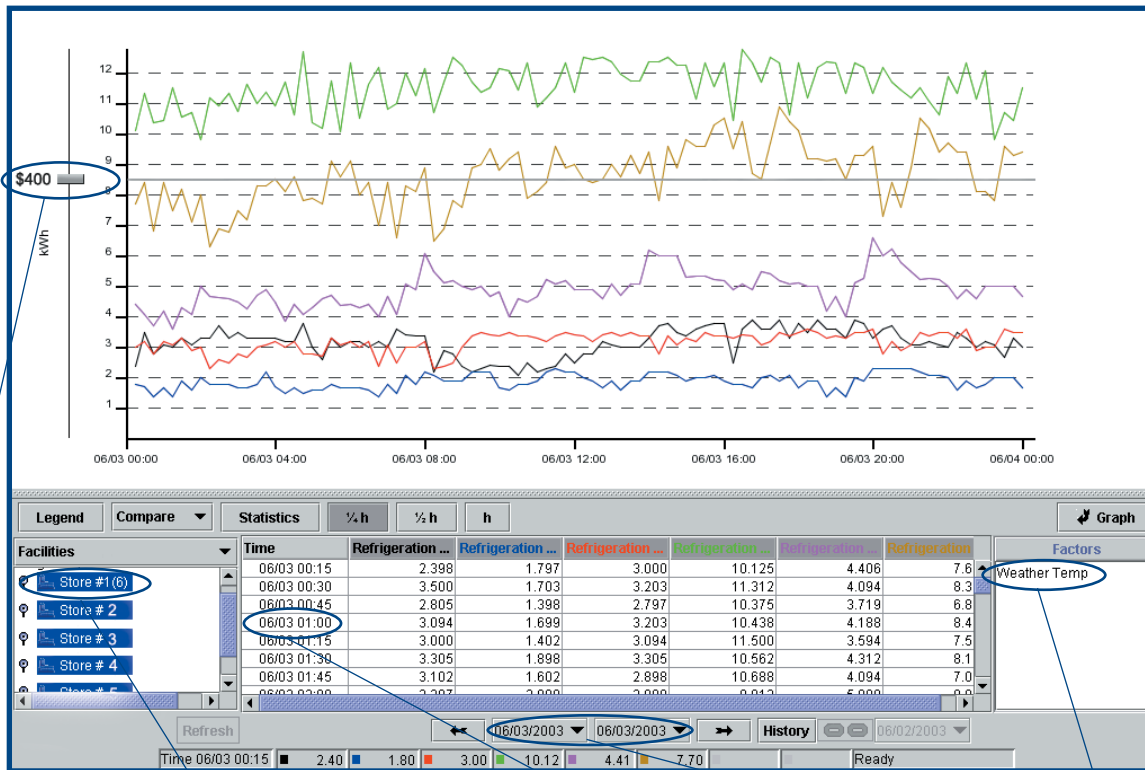ser looks like a seasoned pro. You do not need an in-house host system, because your information is secure and available from anywhere in the world – provided you have Internet access.

Estimate the savings of energy projects before their release with our built-in rate engine.

Develop energy reports for individual or multiple sites, operating regions, the aggregate of all meters, or anything in between.

Review load profiles in intervals as small as five minutes.

Generate reports and load profiles for any date range you choose.

Correlate power loads to weather patterns or other factors.

Global Reach

With a global presence spanning 150 countries, Emerson is positioned with the infrastructure, knowledge and experience to provide integrated product solutions around the world.

With each of the Emerson brands in industry-leading positions, Emerson is the one company emerging economies can go to for all their infrastructure solutions, including: process automation, plant optimization, telecom-munications infrastructure, reliable network power, climate control, and more. Additionally, established companies looking to develop overseas industry benefit from Emerson's geographic and capability advantages.

As we continue to invest in our global development, we are better able to serve our customers, as well as enhance Emerson's position as a company of extraordinary financial promise for our shareholders.

CPC operates sales offices throughout the world. Contact any one of our offices for more information about our products or services.

Emerson Climate Technologies

Emerson Climate Technologies is the leading manufacturer of HVAC and refrigeration components in the world, delivering comprehensive solutions for temperature-critical applications across numerous industrial and residential applications.

Emerson Climate Technologies offers its broad range of customers access to the most sophisticated climate control technology available. Our products are used throughout the world in commercial and transport refrigeration, residential and commercial air conditioning, and industrial and residential ventilation systems.

Our commercial refrigeration products help ensure the integrity of our food supply by keeping food products at safe temperatures as they move from the farmer's field to our kitchen table. Our air conditioning products make the environment we live and work in comfortable and environmentally safe. Our ventilation products keep the air circulating for maximum comfort and productivity in our home or at work.

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The Emerson Climate companies:

- **Air Comfort Products Division**
- **Air Moving Motors**
- **Computer Process Controls**
- **Copeland Corporation**
- **Design Services Network**
- **Emerson Power Transmission**
- **Emerson Retail Services**
- **Emerson Ventilation Products**
- **Flow Controls**
- **Fusite**
- **Hermetic Motors**
- **Therm-O-Disc, Inc.**
- **White-Rodgers**

Computer Process Controls

Computer Process Controls (CPC) has over 20 years of experience in designing and manufacturing the leading refrigeration and HVAC monitoring and control systems for the supermarket and retail industries. These systems are operating in over 20,000 locations throughout the world, providing accurate and reliable energy management, temperature control, and comfortable store environments while reducing operating costs for many of the leading supermarket, retail, and convenience store operators.

CPC is at the forefront of developing new trends in monitoring systems by focusing on integrating technologies such as wireless sensing devices, web based information systems, and advanced predictive algorithms. Our ongoing research and development efforts allow CPC to continue to offer stores enhanced control
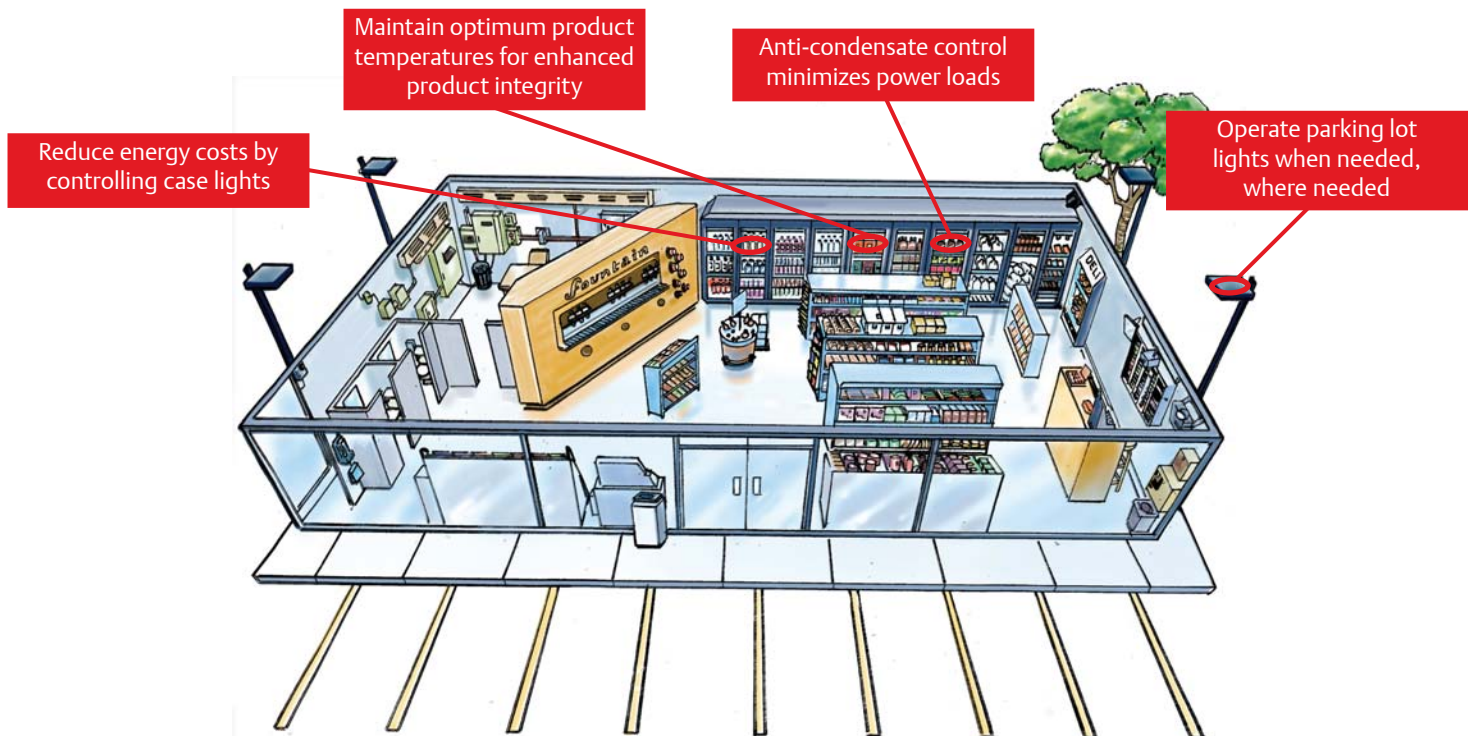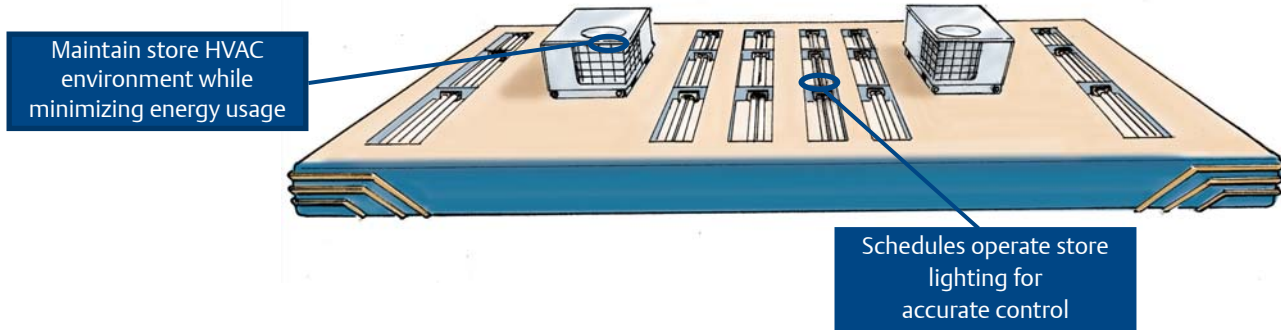
systems and leading edge technologies. As a business partner, it is CPC's goal to deliver the most advanced and cost effective solutions to effectively and efficiently service our customers.

As a part of Emerson, CPC brings our customers the opportunity to integrate many more services and products offered by the Climate Technologies group of companies. From monitoring to selecting energy saving product components, CPC brings you new levels of efficiency, and assists you in continuously reducing your operating costs from year to year. Contact your CPC sales representative to learn how you can start your savings by calling 770-425-2724 or visiting www.cpcus.com.

System Highlights

Maintain store HVAC environment while minimizing energy usage

Schedules operate store lighting for accurate control

Maintain optimum product temperatures for enhanced product integrity

Anti-condensate control minimizes power loads

Reduce energy costs by controlling case lights

Operate parking lot lights when needed, where needed

System Control and Monitoring Capabilities

AHUs/RTUs Control Capabilities	8
Defrost Control Zones	40
Humidity Control	✓
CO_2 Control	✓
Night Setback & Warmup	✓
Lighting Control via Photocell and/or Schedules	48 Circuits
Dispenser Error Code Monitoring and Alarming	✓
Power Monitoring	All Circuits
Irrigation Control via rain gauge	✓

System Inputs & Outputs

Maximum Inputs Per System	246 Universal
Maximum Outputs per System	128 Relays

Programming Options

Windows™ Based Remote Software	✓
Front Panel (menu driven)	✓

Communication Options

Ethernet	✓
Modem	✓
Direct	✓

User Interface Design

Keys available on Interface	Full Qwerty Keyboard
TFT Color Screen	✓

Memory & Data Logging

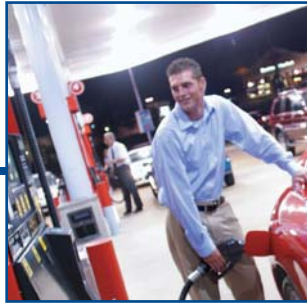|	
Memory Available for Additional Control Strategies	✓
Data Points for Logging	8000 (Nearly 3 months of storage for a typical configuration)
Utility Logs	✓
Password Protection	✓
Non-volatile Memory	✓

Alarm Capabilities

Alarm Storage	200 Unique Events
Alarm Dial-Out	✓
Remote Annunciation	✓
Remote Monitoring	✓

Dimensions & Power Specifications

Size	13" H x 12" W x 3.66"D
Supply Voltage	24 VAC
Alarm Contact Rating	240 VAC, Pilot

Integrated Facility Management System

Store/Outside Lighting

HVAC Systems

Refrigeration Systems

Optional Enterprise Data
Aggregation for Decision
Analysis Call/Center Support

1640 Airport Road NW, Suite 104, Kennesaw, GA 30144
1.800.829.2724
cpcus.com
EmersonClimate.com

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COMPUTER PROCESS CONTROLS

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