CPI-H3000 Controller

The **CPI-H3000 Controller** provides a modular, state-of-the-art control system to fully automate your building. As a result of the modularity of the system, you pay for and use only the components needed for your particular application and yet the system allows for future expansion should your needs change.

All **CPI-H3000 Controllers** are equipped with a battery backed internal clock that maintains the correct time/date during power outages and automatically adjusts for daylight savings/standard time where applicable.

The control program is stored on EEPROM and as a result is not susceptible to power outages.

The **CPI-H3000 Controller** utilizes three modes of operation for lighting controls.

INTERIOR/EXTERIOR LIGHTING CONTROL

> **Time-of-Day Schedule** - accomplished through the use of precise time controls with multiple on/off times available.

> **Light Level Control** - allows for the staging on of lights based on an ambient light level reading from our solid state light sensor. Control set points are easily adjusted on site or via remote communications.

> **Combination Control** - allows for control based on time-of-day scheduling and light sensor set points. Both criteria must be met for control output to turn on.

This type of control can be further utilized to stage interior lights on as customer/employee traffic dictates as well as turning off or dimming lighting near exterior windows which are subject to natural light (**Daylight Harvesting**).

DIMMER SYSTEM INTERFACE

The **CPI-H3000 Controller** can interface with various dimmer systems to automatically set scenes based on time-of-day schedules and/or light level. The dimmer system interface provides real-time status showing the active dimmer scene as well as access to the schedule area for setting up the scene transitions and time schedules.

HVAC SYSTEM CONTROL

The **CPI-H3000 Controller** has software routines that can control all types of heating and air conditioning equipment. Two basic methods used for controlling HVAC equipment are as follows:

> **Method 1** - This method utilizes control of the hot ("R" or red) wire from the conventional thermostat and establishes high/low limits under which it allows the thermostat to operate and control the ambient temperature. The high/low limits are established for both occupied and unoccupied modes and the space temperature is obtained via a solid state sensor placed near the thermostat.
> **Method 2** - This method eliminates the need for the conventional thermostat and replaces it with a solid state temperature sensor. The control set points reside in the **CPI-H3000 Controller** memory and are password protected to avoid unauthorized changes. Set points are available for each stage of control as well as occupied and unoccupied modes of operation.

The **CPI-H3000** can directly communicate with most major Packaged HVAC manufacturers equipment and can be easily interfaced with web based thermostats.

The HVAC system control can easily be combined with the CPI energy management controls in an effort to control overall power consumption and operating costs.

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MONITORING & ALARMING

The **CPI-H3000 Controller** has routines for monitoring and alarming of several criteria including temperature and air quality (carbon monoxide and/or carbon dioxide levels). The system continually monitors solid state sensors and gives both a visual and audible alarm when a threshold value is exceeded. Alarms can also be sent to numeric/text pagers, SMS messages to cell phones, and/or emailed to specified recipients when the communications option is added to the controls package.

DOOR HEATER CONTROL

The **CPI-H3000 Controller** is capable of controlling cooler and freezer door heaters based on ambient air conditions. Solid state sensors are continually monitored by the controller and the heaters are cycled on/off based on ambient air conditions which results in lower operating costs and extended heater and refrigeration system component life cycles.

REMOTE ACCESS & COMMUNICATIONS

The **CPI-H3000 Controller** can be accessed locally via an user interface (i.e. Touch Screen) or remotely through the use of either a dial-up modem or the internet.

User Interface - Provides the local user with the ability to access and/or change schedules, set points, system status, etc. Available user interfaces range from a simple pushbutton design to a color touch screen.

Dial-up Modem - Provides secure remote access through a dedicated analog phone line. Real-time data can be viewed and manipulated using the CPI OPC Server software and an Excel Spread sheet (developed by CPI and provided with OPC software).

Internet - Provides secure remote access through the internet. The system supports TCP/IP and MAC address formats and is accessed using any standard web browser. The web inter face is developed by CPI, included with the system and is fully password protected. The controller has the ability to FTP files out and/or email out messages when properly con figured on an existing network.

ENERGY MANAGEMENT

The **CPI-H3000 Controller** is capable of full energy management of your building. The system has routines for continually monitoring energy usage and using that data against set points in the system to manage peak demand and shed load when necessary. CPI works with the customer to review past usage and establish the best method for effectively managing the energy usage of the building and lowering the overall operating costs.

CPI is dedicated to providing our customers with a quality, cost-effective solution that maximizes their return on investment.