

The UCC is a commercial controller designed to control a variety of building HVAC systems. It can handle up to 2 heating and 3 cooling stages for a conventional system, or up to 4 stages of compressors in a heat pump system. The UCC can precisely control heating and cooling stages, employ economizer control for energy savings, and is programmed with a 365-day calendar for both weekly and date-specific events. It is equipped with a variety of auxiliary inputs and outputs to better interface with your entire system, and can communicate via MODBUS for better system integration. The UCC can also utilize a variety of sensors to further improve its capabilities.

Features and Benefits:

- 2H/3C Control for Heat Cool systems
- 4 Stage Compressors or 3 Stage with 1 Aux Heat Control for Heat Pump or Hybrid systems
- 1 Customizable Auxiliary Relay Output
- 2 Customizable Auxiliary Relay Inputs
- 1 Customizable Analog 0-10V Inputs
- 2 Customizable Analog 0-10V Outputs
- Modbus Communications
- Basic and Full Enthalpy Economizer Control
- 7-Day Programming with up to 2 Events per Day
- 365-Day Calendar
- 30 Perpetual or One Time Holiday Events
- After Hours Control



Add-Ons

2-wire:	T-S1 (Typically used for Multi-stage Controller and Calendar Control where humidity is not important) T-S2 (Typically used for temperature averaging)
4-wire:	UCC-TH (Typically used for Full-Enthalpy Economizer as a Room Sensor) UCC-DTH (Typically used for Full-Enthalpy Economizer as a Room Sensor where an interactive display is required) UCC-OTH (Typically used for Full-Enthalpy Economizer as an Outdoor Sensor)



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## Economizer Benefits

<b>Economizer Control:</b>	The Economizer Control is used to maximize the use of “free cooling” from the outdoor air when it is cooler than the indoor air, while also considering factors such as humidity levels, air quality, and occupant comfort. The control system may modulate dampers or vents to regulate the flow of outdoor air into the building and coordinate with mechanical cooling equipment as needed.
<b>Full Enthalpy Economizer Control Capable:</b>	The SC-UCC is equipped with sensors and controls that can monitor both temperature (2-wire) and humidity levels in the outdoor air (4-wire), as well as within the building. Based on these measurements, the system can determine whether it is more energy-efficient to bring in outdoor air for cooling purposes or to continue using mechanical cooling methods. This capability allows for more precise and efficient control of the HVAC system, leading to potential energy savings and improved indoor air quality.
<b>Night Purge:</b>	During the night purge process, the economizer system brings in cool outdoor air to replace indoor air, flushing out indoor pollutants, odors, and excess heat. This is accomplished by opening dampers or vents that allow outdoor air to enter the building and exhaust indoor air to the outside.

## Multi-stage Customizable Controller Benefits

<b>Smart Staging:</b>	The UCC is designed with precise staging in mind, you are able to determine the staging on and off limits between each stage respectively. It is also equipped with a smart staging feature that gives a chance by waiting for a time when the differential is met to reduce wear on your equipment and reduce energy consumption. In case your compressor is struggling or failing, the UCC can bring on additional compressors regardless of the differential after waiting for a set time.
<b>Compressor Lead/Lag:</b>	The UCC can do Lead/Lag with up to 4 compressors. It attempts to even the wear by cycling the compressor assignment so that each of them are being used every time the system begins a new compressor call.
<b>Customizable Input/Output:</b>	Anticipating commercial controlling, the UCC holds a host of relays and 0-10V inputs and outputs. The auxiliary relay can be used for a number of settings as: 4th stage compressor, auxiliary heat, 2nd stage heat, humidifier relay, high or low alarm, or even as a time clock. The relay inputs can command the UCC to do a variety of things when it detect a contact closure or opening, such as forcing on the controller, soft shut down when a Fault is detected, or a total shutdown in case of Fire detection. The 0-10V input is typically used for the IAQ sensor. The 0-10V output can be used to control and modulate Cooling or Heating valves, or Fresh and Return air dampers for economizer, and may even be set for 2-10V control instead.

## Scheduling Control Benefits

<b>7 Day Programmer:</b>	The UCC is equipped with a time clock and a weekly programmer, configure for the weekly schedule of your office, shop, or business. Save yourself money and wear on the equipment for when people are out at lunch or when they leave for the day.
<b>365 Day Calendar with Holiday:</b>	During the most wonderful times of the year, we are all spending a bit extra on gifts for our loved ones, so why not cut back on unnecessary expenses paying for heating for your business when you won't be in for a week. The UCC also holds a 365 day calendar that can turn off the equipment or move to a holiday temperature for longer term events that overrides the weekly programmer. These events can be for a one off holiday event, like a bonus employee retreat, or ones that happen every year, like the Christmas through New Years week.
<b>After Hours:</b>	Some hard-workers you just can't keep from leaving later, or sometimes you may have cleaning crew coming in during the holidays. The UCC can be configured for that exact purpose with after hours, to provide a few extra hours of normal equipment operation overriding that of the weekly programmer and the holiday events.