SIMPLWINDOWS NAME: Honeywell Enviracom

CATEGORY: HVAC

VERSION: 1.0

SUMMARY: Controls 9 zones of setpoints/system mode/fan/current temperature

GENERAL NOTES:

This module will control a Honeywell EnviraCOM HVAC system. It will control a system consisting of anywhere from one to nine zones. It allows control and true feedback of heat/cool setpoints per zone, fan on/auto per zone, hold/program mode per zone, and system operating mode (heat/cool/etc.) for the entire system. It also provides status of the room temperature per zone, the outdoor temperature, outdor humidity, and ambient humidity for the entire system.

The system tested at Crestron consisted of:

- 3 Chronotherm IV Plus thermostats (part #T8635L1013)
- 1 EnviraCOM Serial Adapter (part #W8735A1005)
- 1 Equipment Interface Module (Conventional) (part #W8635A1006)
- 1 Equipment Interface Module (Heat Pump) (part #W8635B1004)
- 1 Damper Interface Module (part #W8703A1003)
- 1 Discharge Temperature Sensor (part #C7835A1009)

The EnviraCOM system can be set to operate in either Celsius or Farenheit mode. This module will work in either mode, however, you must change the format in which the temperatures are displayed on touch panels, based upon which mode is being used. In Farenheit mode, the module will send out whole number temperatures, so your touch panel should use digital gauges with 3-digits, and no decimal places (xxx) to display the temperatures. In Celsius mode, the module will send out temperatures accurate to within a tenth of a degree, so your touch panel should use digital gauges with 3-digit accuracy, and a 1-digit decimal point (xx.x) to display the temperatures.

The EnviraCOM system will automatically notify the Crestron system when any of it's operating parameters change. Therefore it is not necessary to continuously poll the system. However, upon startup of the Crestron system, in order to synch up with the Honeywell system, you should pulse the Poll input. This will cause all zones and all parameters to be polled. Depending on the size of the system, this could take a minute or more. The Poll_Busy output of the module will be high while the poll is in progress. After polling the system upon startup, you should not need to poll it again.

The EnviraCOM system has five possible operating modes - heat/cool/auto/emergency heat/off. The mode selected applies to the entire system, it is not assignable per zone. Also note that some modes are not valid in certain situations. For example, the Auto mode is only valid in a system with a single zone.

When you adjust a heat or cool setpoint, if the

	scheduled program was running, temporary hold mode will be activated. The new setpoint will then remain in effect until the next scheduled temperature change occurs. At this point the temporary setpoint will be canceled, and the scheduled program will resume. If you want to hold the temperature indefinitely, you should adjust the setpoint to the desired setting, and the press the Hold input. The new setpoint will then remain active until you pulse the Run_Program input. This is the same functionality as the thermostat uses.
CRESTRON HARDWARE REQUIRED:	CNX-COM C2-COM ST-COM - X-Gen and 2-Series Only
SETUP OF CRESTRON HARDWARE:	Baud Rate - 19200 Parity - None Data Bits - 8 Stop Bits - 1
VENDOR FIRMWARE:	The EnviraCOM serial adapter needs firmware version 2.0 or later
VENDOR SETUP:	None
CABLE NUMBER:	CNSP-121

CONTROL:

Poll	D	Pulse to poll the EnviraCOM system. Depending on the size of the system, this may take a minute or more. The Poll_Busy output will be high while polling is in progress. This should only need to be done once, upon startup of the Crestron system
Mode_Off	D	Pulse to put the system into off mode. This applies to all zones
Mode_Heat	D	Pulse to put the system into heat mode. This applies to all zones
Mode_Cool	D	Pulse to put the system into cool mode. This applies to all zones
Mode_Emergency	D	Pulse to put the system into emergency heat mode. This applies to all zones
Mode_Auto	D	Pulse to put the system into auto mode. This mode is only valid in a single zone system
Zone_1-9_Heat_Up/Down	D	Press and hold to adjust the heat setpoint up or down. This will automatically activate the temporary hold mode
Zone_1-9_Cool_Up/Down	D	Press and hold to adjust the cool setpoint up or down. This will automatically activate the temporary hold mode
Zone_1-9_Temp_Hold	D	Pulse to activate the temporary hold mode for the seected zone. This setpoint will stay active until the next scheduled temperature change occurs
Zone_1-9_Hold	D	Pulse to activate the full hold mode for the selected zone. This setpoint will stay active until the hold is cleared, such as by pressing Run_Program
Zone_1-9_Run_Program	D	Pulse to clear the temporary or full hold settings, and cause the scheduled program to run

Zone_1-9_Fan_On	D	Pulse to cause the fan to operate continuously for the selected zone
Zone_1-9_Fan_Auto	D	Pulse to put the fan into auto mode for the selected zone
From_Device$	S	Serial signal to be routed to a 2-way RS232 port

FEEDBACK:

Poll_Busy	D	High while polling is in progress
Outdoor_Temperature	A	Indicates the current outdoor temperature
Outdoor_Temperature_Neg	D	Indicates if the outdoor temperature is negative
Outdoor_Humidity	A	Indicates the current outdoor humidity (0-100)%
Ambient_Humidity	A	Indicates the current ambien humidity (0-100)%
Scale_Farenheit	D	Indicates if the EnviraCOM system is in Farenheit mode
Scale_Celsius	D	Indicates if the EnviraCOM system is in Celsius mode
Mode_*_Fb	D	Indicates the current operating mode of the system (off/heat/cool/emergency/auto)
Zone_1-9_Heat_Setpoint	A	Indicates the current heat setpoint for each zone
Zone_1-9_Cool_Setpoint	A	Indicates the current cool setpoint for each zone
Zone_1-9_Temp_Hold_Fb	D	Indicates if the temporary hold is active for each zone
Zone_1-9_Hold_Fb	D	Indicates if the full hold is active for each zone
Zone_1-9_Run_Program_Fb	D	Indicates if the scheduled program is running for each zone
Zone_1-9_Fan_On_Fb	D	Indicates if the fan is continuously on for each zone
Zone_1-9_Fan_Auto_Fb	D	Indicates if the fan is in auto mode for each zone
Zone_1-9_Room_Temperature	A	Indicates the current room temperature for each zone
To_Device$	S	Serial signal to be routed to a 2-way RS232 port

OPS USED FOR TESTING:	v2.004.cuz, 5.12.63x.upz
COMPILER USED FOR TESTING:	SimplWindows Version 2.02.11
SAMPLE PROGRAM:	Honeywell EnviraCOM Demo
REVISION HISTORY:	None