

SIMPLWINDOWS NAME: Aprilaire 8870 Thermostat Emulator

MANUFACTURER: Aprilaire

MODEL: 8870

CATEGORY: HVAC

VERSION: 1.1

SUMMARY: Emulates an 8870 Thermostat

GENERAL NOTES: This macro is used to emulate an Aprilaire 8870 thermostat. It is used with the macro Aprilaire 8870 64 Zone Control v1.1, and converts all the individual controls from Aprilaire 8870 64 Zone Control v1.1 to the six button control of an 8870 thermostat.

It is not recommended to use this method to control the Aprilaire system. It provides less flexibility, and it is less clear what is being adjusted/displayed. Much greater functionality can be achieved by using just the macro Aprilaire 8870 64 Zone Control v1.1.

NOTE: When the thermostat is in Network Override(Hold On) changes made from the Crestron will be ignored by the thermostat. Also, when the menus are on, the Hold_On/Off will not operate.

CRESTRON HARDWARE REQUIRED: CNCOMH-2, ST-COM, CNXCOM

SETUP OF CRESTRON HARDWARE:

RS-422

Baud Rate - 9600

Parity - None

Data Bits - 8

Stop Bits - 1

VENDOR FIRMWARE: P0.7 - RPC 2001

VENDOR SETUP: There is a setting in the Aprilaire menus for the maximum number of thermostats on the system. All thermostats on the Aprilaire system should be addressed sequentially. The setting for the maximum number of thermostats should be set to the highest thermostat number. This will allow better response times. If the maximum number is set to 64, it could take up to 17 seconds to get an update.

CABLE NUMBER:

Crestron	Aprilaire
DB9F	Bare Wire

Pin 1	B-
Pin 4	A+
Pin 5	REF
Pin 6	B+
Pin 9	A-

INPUT DESCRIPTIONS:

Name	Type	Description
Mode	D	Emulate the mode button on the 8870
Fan	D	Emulate the fan button on the 8870
Remote	D	Emulate the remote button on the 8870
Hold	D	Emulate the hold button on the 8870
Up	D	Emulate the up button on the 8870
Down	D	Emulate the down button on the 8870
Current_Temperature	A	Should be connected to the corresponding signal on the output of Aprilaire 8870 64 Zone Control v1.1
Heat_Setpoint	A	Should be connected to the corresponding signal on the output of Aprilaire 8870 64 Zone Control v1.1
Cool_Setpoint	A	Should be connected to the corresponding signal on the output of Aprilaire 8870 64 Zone Control v1.1
Mode_*_Fb	D	Should be connected to the corresponding signals on the output of Aprilaire 8870 64 Zone Control v1.1
Fan_*_Fb	D	Should be connected to the corresponding signals on the output of Aprilaire 8870 64 Zone Control v1.1
Hold_*_Fb	D	Should be connected to the corresponding signals on the output of Aprilaire 8870 64 Zone Control v1.1
Remote_Temperature	A	Should be connected to the corresponding signal on Aprilaire 8870 Remote Temperature Monitor v1.1
Remote_Negative	D	Should be connected to the corresponding signal on Aprilaire 8870 Remote Temperature Monitor v1.1

OUTPUT DESCRIPTIONS:

Name	Type	Description
Display	A	Analog signal to be used as the display on the 8870. Should be routed to a digital meter on a touch panel
Display_Negative	D	Connect to a legend button. Can be used to light up a negative sign placed before the temperature display
Adjusting_Heat	D	Route to a legend button. Indicates that the heat setpoint is being adjusted while in Auto mode
Adjusting_Cool	D	Route to a legend button. Indicates that the cool setpoint is being adjusted while in Auto mode
Heat_Up	D	Connect to the corresponding signal on the Aprilaire 8870 64 Zone Control v1.1 macro
Heat_Down	D	Connect to the corresponding signal on the Aprilaire 8870 64 Zone Control v1.1 macro
Cool_Up	D	Connect to the corresponding signal on the Aprilaire 8870 64 Zone Control v1.1 macro

Cool_Down D Connect to the corresponding signal on the
Aprilaire 8870 64 Zone Control v1.1 macro
Mode_* D Connect to the corresponding signal on the
Aprilaire 8870 64 Zone Control v1.1 macro
Fan_* D Connect to the corresponding signal on the
Aprilaire 8870 64 Zone Control v1.1 macro
Hold_* D Connect to the corresponding signal on the
Aprilaire 8870 64 Zone Control v1.1 macro

X-Gen OPS USED FOR TESTING: 5.12.26x
2 Series OPS USED FOR TESTING: 1.014

COMPILER USED FOR TESTING: SimplWindows 4.03.20

SAMPLE PROGRAM: Aprilaire 8870 v1.1 Demo PRO3

REVISION HISTORY:

version 1.1: Incorporated 3-series best practices to all Simpl+
modules.