

SIMPLWINDOWS NAME: Aprilaire 8870 Remote Temperature Monitor

MANUFACTURER: Aprileaire

MODEL: 8870

CATEGORY: HVAC

VERSION: 1.1

SUMMARY: Monitors the remote temperature on an Aprilaire system

GENERAL NOTES: This macro allows the remote temperature to be monitored on an Aprilaire system. Typically, an outside temperature monitor will be attached to one of the 64 zones in the system. You must tell the macro which zone the monitor is attached to. This is done using the Outside Ten Hex and Outside Unit Hex inputs. You must put the hex representation of the zone number in these fields. For zone 1, use 30 for Outside Ten Hex and 31 for Outside Unit Hex. For zone 21, use 32 for Outside Ten Hex and 31 for Outside Unit Hex.

NOTE: The Aprilaire 8870 Menu Parser and the Aprilaire 8870 Command Queue are not necessary if (and only if) the only Aprilaire module being used is one copy of the Aprilaire 8870 64 Zone Full Control module. If that is the case, the To_Command_Queue\$ output should be routed to the RS-422 comport and the From_Parser\$ input should be routed from the RS-422 comport. If more than one copy of the Aprilaire 8870 64 Zone Full Control module is being used or the Aprilaire 8870 Inside Temperature Monitor or the Aprilaire 8870 Remote Temperature Monitor or the Aprilaire 8870 Menu modules are being used the Aprilaire 8870 Menu Parser and the Aprilaire 8870 Command Queue MUST be used.

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
Request_Update	D	Pulse to manually request an update of the remote temperature. Typically should only be needed on start up of the system, since any further changes will be updated automatically.
From_Parser\$	S	Serial data string to be routed from the Aprilaire 8870 Menu Parser module
Outside Ten Hex	P	Parameter to specify the tens digit of the zone which the outside temperature monitor is attached to. Use the hex representation. For 0, use 30. For 1 use 31, etc.
Outside Unit Hex	P	Parameter to specify the units digit of the zone which the outside temperature monitor is attached to. Use the hex representation. For 0, use 30. For 1 use 31, etc.

OUTPUT DESCRIPTIONS:

Name	Type	Description
Remote_Temperature	A	Analog signal representing the current remote temperature. Should be routed to a digital panel meter on a touch panel
Remote_Negative	D	High if the remote temperature is negative. Should be routed to a legend button displaying a negative sign before the temperature.
To_Command_Queue\$	S	Serial data string to be routed to the Aprilaire 8870 Command Queue module

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.