SIMPLWINDOWS NAME: Aprilaire 8870 Inside Temperature Monitor

MANUFACTURER: Aprilaire
MODEL: 8870

CATEGORY: HVAC

VERSION: 1.1

SUMMARY: Monitors the inside temperature of any zone on an Aprilaire system

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

Typically this macro would only be used if it was desired to have a floor
plan layout on a touch panel, which has a display in each room showing
the current temperature in each room. A seperate macro would be used for
each zone that is to be monitored. All temperature changes would be
reported and updated automatically, provided the Aprilaire system was
properly initialized using the Aprilaire 8870 64 Zone Control v1.1 macro.

There is a MANUAL-UPDATE input which will request the status of the
specific zone. This should only be needed on start up of the system,
since all subsequent updates should be performed automatically.

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 insde
                   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
Inside 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.
Inside 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
Inside_Temperature S Serial data signal representing the current
                   inside temperature. Should be routed to the serial
                   portion of a touch panel definition
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.