

Partner: Aprilaire
Model: 8700/8800
Device Type: HVAC



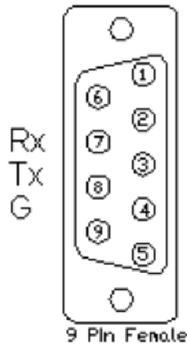
GENERAL INFORMATION

SIMPLWINDOWS NAME:	Aprilaire 64 Zone Control v1.1
CATEGORY:	HVAC
VERSION:	1.1
SUMMARY:	Provides control of all standard functions in all 64 zones.
GENERAL NOTES:	<p>This module will allow control of all standard functions on all 64 zones of an Aprilaire HVAC system. Parameters that can be set are heat setpoint, cool setpoint, mode, fan, permanent hold, vacation hold, temporary hold, and scheduling. True feedback from the Aprilaire will be reflected at the output of the module. This feedback will also include the current room temperature. Model 8800 will function as either a thermostat or a humidistat.</p> <p>The module functions as follow:</p> <ol style="list-style-type: none"> 1. Select zone to be controlled. 2. Settings for that zone will be requested automatically and reflected at the output of the module. 3. Make desired zone adjustments 4. Any changes made on the thermostat for the selected zone will be reflected by the module. <p><u>Note:</u> When the thermostat/humidistat is in Network Override(Hold On) changes made from the Crestron control system will be ignored.</p>
CRESTRON HARDWARE REQUIRED:	2 or 3-Series Processor.
SETUP OF CRESTRON HARDWARE:	Baud Rate - 9600 Parity - None Data Bits - 8 Stop Bits - 1
VENDOR FIRMWARE:	N/A
VENDOR SETUP:	<p>Multiple thermostats require Aprilaire Model 8811 RS485 to RS232 protocol adapter, and Model 8819 Distribution Panel.</p> <p>Each thermostat needs to be assigned a unique network address from the installer setup menu. Each thermostat must also have the total number of thermostats/support modules on the network set installer menu, the number of nodes must be the same on all thermostats. The system default baud rate is 9600, however this can be changed to 19,200 in the installer menu.</p> <p>For model 8800 devices, a selection for thermostat or humidistat must be selected in the installer menu. The model 8800 default controller type is thermostat.</p>
CABLE DIAGRAM:	

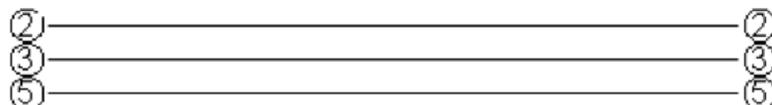
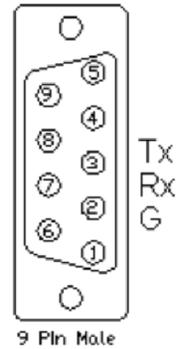
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Rear View of Connector



Rear View of Connector



CONTROL:

Zone_<1-64>	D	Pulse to select which zone will be controlled.
Heat_<Up/Down>	D	Press/Hold to raise/lower heat set-point. If schedule is currently running adjusting setpoint will automatically put the thermostat into temporary hold.
Cool_<Up/Down>	D	Press/Hold to raise/lower cool set-point.
Humidifier_<Up/Down>	D	Press/Hold to raise/lower humidifier set-point.
Dehumidifier_<Up/Down>	D	Press/Hold to raise/lower dehumidifier set-point.
Mode_<Off/Heat/Cool/Auto/Emer/Humid/Dehuid>	D	Pulse to select the desired mode for the selected zone. All modes are not available on all models. Please reference Aprilaire installation manual specific to your model.
Fan<On/Auto/Circ>	D	Pulse select desired fan mode for the selected zone. All modes are not available on all models. Please reference Aprilaire installation manual specific to your model.
Perm_Hold<On/Off>	D	Pulse to turn permanent hold on/off.
Vacation/Temporary_Hold_Set	D	Pulse to set vacation hold. To configure vacation/temporary hold select month, day, year, set-points, fan mode, and pulse Vacation/Temporary_Hold_Set. Temporary hold does not require fan mode setting.
Vacation/Temporary_Hold_Month	S	Serial string representing the month for the vacation hold setting. Valid range 01-

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Vacation_Hold_Day	S	Serial string representing the day of the month for the vacation hold setting. Valid range 01-31.
Vacation_Hold_Year	S	Serial string representing the year for the vacation hold setting. Valid range 14 – 99.
Vacation_Hold_<Heat/Cool>_Setpoint	S	Serial string representing the heat/cool setpoint for the vacation hold setting. Valid range 00-99.
Vacation Hold_Fan_Mode	A	Analog signal representing the vacation hold fan mode: 1-Auto, 2-On, 3-Circulate
Hold_Cancel	D	Pulse to cancel current hold. Returns to the previously running schedule if running.
Scheduler_Off	D	Pulse to turn off thermostat scheduler.
Weekdays&Weekends_PGM(5-2_PGM)	D	Pulse to select 5-2 Program Mode. Allows scheduling of discrete events for Weekdays & Weekends.
Weekdays&Saturday-Sunday_PGM(5-1-1_PGM)	D	Pulse to select 5-1-1 Program Mode. Allows scheduling of discrete events for Weekdays, Saturday, & Sunday.
Daily_PGM(7-Days)	D	Pulse to select 7 Day Program Mode. Allows scheduling of discrete events for Monday-Sunday.
Two_Events_Per_Day	D	Pulse to select scheduling of (2) discrete events per day.
Four_Events_Per_Day	D	Pulse to select scheduling of (4) discrete events per day.
Scheduler_Day	A	Analog value representing the day for scheduled event. Valid range of 0-9. 0-Monday, 1-Tuesday, 2-Wednesday, 3-Thursday, 4-Friday, 5-Saturday, 6-Sunday, 7-Weekdays, 8-Weekends, 9-Everyday
Scheduler_Event_Number	A	Analog value representing the event name for the scheduled event. Valid range of 0-3. Results are contingent upon events per day selection. <u>Two Events Per Day</u> 0-Wake, 1-Sleep <u>Four Events Per Day</u> 0-Wake, 1-Leave, 2-Return, 3-Sleep
Scheduler_Event_Time	S	Serial string representing the time of the selected event in 24 hour format. Valid range 0000-2400.
Scheduler_Event_Heat Setpoint	S	Serial string representing the heat set-point. Valid range 00-99.
Scheduler_Event_Cool Setpoint	S	Serial string representing the cool set-point. Valid range 00-99.

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Scheduler_Event_Fan_Mode	A	Analog signal representing the vacation hold fan mode: 1-Auto, 2-On, 3-Circulate
Scheduler_Event_Set	D	Pulse to set scheduled event. <u>To configure the scheduler:</u> <ol style="list-style-type: none"> 1- Select scheduler mode. 2- Select number of events per day. 3- Select event. 4- Select day. 5- Set time of event 6- Set heat/cool setpoints. 7- Select fan mode.
Set_Up_Aprilaire	D	Pulse to send out initialization strings to the Aprilaire system. This may take several seconds to complete.
Auto_Update_Enable	D	For 2-series place a 1 on this signal to enable automatic update For 3-series connect signal to the Program#_Start_F from the associated program slot.
Manual_Update	D	Pulse this input to request a status update for the selected zone if auto update is not enabled.
From_Parser\$	S	Serial string to be routed from the Aprilaire Menu Parser.

FEEDBACK:

Zone_<1-64>_Fb	D	High to indicate zone selected.
Thermostat_Mode	D	High to indicate Thermostat Mode selected.
Humidistat_Mode	D	High to indicate Humidistat Mode selected.
Current_Temperature	A	Analog value representing the current temperature for the selected zone.
Current_Humidity	A	Analog value representing the current humidity for the selected zone.
Heat_Setpoint	A	Analog value representing the current heat set-point for the selected zone.
Cool_Setpoint	A	Analog value representing the current cool set-point for the selected zone.
Humidifier_Setpoint	A	Analog value representing the current humidifier for the selected zone.
Dehumidifier_Setpoint	A	Analog value representing the current dehumidifier for the selected zone.
Mode_Off_Fb	D	High to indicate selected zone is off.

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Mode_Heat_Fb	D	High to indicate selected zone is in heat mode.
Mode_Cool_Fb	D	High to indicate selected zone is in cool mode.
Mode_Auto_Fb	D	High to indicate selected zone is in auto mode. All modes are not available on all models. Please reference Aprilaire installation manual specific to your model
Mode_Emer_Fb	D	High to indicate selected zone is in emergency heat mode. All modes are not available on all models. Please reference Aprilaire installation manual specific to your model
Mode_Humid_Fb	D	High to indicate selected zone is in humidifier mode. All modes are not available on all models. Please reference Aprilaire installation manual specific to your model.
Mode_DeHumid_Fb	D	High to indicate selected zone is in dehumidifier mode. All modes are not available on all models. Please reference Aprilaire installation manual specific to your model.
Fan_On_Fb	D	High to indicate fan mode is set to on.
Fan_Auto_Fb	D	High to indicate fan mode is set to auto.
Fan_Circulate_Fb	D	High to indicate fan mode is set to circulate.
Perm_Hold_On_Fb	D	High to indicate permanent hold is on.
Perm_Hold_Off_Fb	D	High to indicate permanent hold is off.
Vacation_Hold_On_Fb	D	High to indicate vacation hold is on.
Temporary_Hold_On_Fb	D	High to indicate temporary hold is on.
Scheduler_Off_Fb	D	High to indicate scheduler is on.
Weekdays&Weekends_PGM_Fb	D	High to indicate scheduler is in 5-2 mode.
Weekdays&Saturday-Sunday_PGM_Fb	D	High to indicate scheduler is in 5-1-1 mode.
Daily_PGM_Fb	D	High to indicate scheduler is in 7 day mode.
Two_Events_Per_Day_Fb	D	High to indicate scheduler is configured for two events per day.
Four_Events_Per_Day_Fb	D	High to indicate scheduler is configured for four events per day.
Scheduler_Day-Fb	S	Serial string containing scheduler day name for the selected zone.
Scheduler_Event-Fb	S	Serial string containing scheduler event name for the selected zone.

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Schedular_Event_Time-Fb	S	Serial string containing scheduler time for the selected zone.
Schedular_Event_Heat_Setpoint-Fb	S	Serial string containing the heat set-point for the selected zone.
Schedular_Event_Cool_Setpoint-Fb	S	Serial string containing the cool set-point for the selected zone.
Schedular_Event_Fan_Mode-Fb	S	Serial string containing the fan mode for the selected zone.
System_Message_Text\$	S	Serial string containing the scheduler/hold state for the selected zone.
System_Alarm_Text\$	S	Serial string containing any alarm state for the selected zone.
Filter_Alarm_On	D	High to indicate the filter alarm is on for the selected zone.
Water_Panel_Alarm_On	D	High to indicate the water panel alarm is on for the selected zone.
Dehumidifier_Alarm_On	D	High to indicate the dehumidifier alarm is on for the selected zone.
System_Alarm_On	D	High to indicate the system alarm is on for the selected zone.
Update_Busy	D	High to indicate the Aprilaire system is being polled for status.
To_Command_Queue\$	S	Serial data string to be routed to the Aprilaire Command Queue

TESTING:

OPS USED FOR TESTING:	1.008.0040
SIMPL WINDOWS USED FOR TESTING:	4.02.53
CRES DB USED FOR TESTING:	47.05.002.01
SYMBOL LIBRARY USED FOR TESTING:	906
SAMPLE PROGRAM:	Aprilaire MC3 Demo.smw
REVISION HISTORY:	V. 1.1 – Updated October 27, 2014