

# Data Alarm Processor-III DAP™ III Operation Manual



Unit Mounted DAP III



Wall Mounted DAP III

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# Data Aire Data Alarm Processor III (DAP™ III)



**Data Aire's Data Alarm Processor III (DAP III)** continues the tradition of advanced electronic devices from Data Aire for monitor and control of computer room air conditioning units which began in 1977, over thirty years ago. Each generation of these devices has provided more accurate monitoring information and flexibility in controlling the unit. The DAP III, microprocessor, based on the popular non-proprietary protocol, Modbus RTU, is equipped with flash memory and along with the standard USB port permits fast and easy software updates. The modular design offer installation and upgrades flexibility. Should you need to upgrade your unit simply pop in a new board. As in the past the DAP III communicates directly with all major building management system (BMS). Just add a communications card and you are connected. One new exciting feature of the DAP III is a real time clock allowing you to pinpoint problems, precisely knowing what occurred and when. A new hierarchal menu structure permits easy and fast access making programming simple.

The DAP III is the latest in microprocessor design and will keep your computer room air conditioning unit running efficiently for a long time.



The unit mounted DAP III panel, shown to the left, comes standard on all floor mount Data Aire units.



The wall mounted DAP III panel, shown to the right, is standard on all Mini-Plus, LCS, and Shelf units. It can also be an option on the Mini and floor mounted units.

While the DAP III has two distinct looks they are identical as far as program and function. This Operation Manual covers both the unit and wall mount.

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**Modes of Operation** - The DAP III has two modes of operation. The **Operation mode** is the prevalent mode and occurs when the unit is in normal operation. During this mode the top row of the display shows the current operation which the unit is in, such as: humidification, dehumidification, reheat stage - either 1,2 or 3 depending on how the unit is configured; cooling stage - either 1 or 2 again depending on the configuration of the unit; and energy saver. If none of these conditions exist a display of "Data Aire System Ready" will be shown. The lower row will continuously scroll through the following displays: date and time set in the DAP III program; unit number and zone number (Providing the unit is connected to a network. If not connected to a network it will display "N/A.") as programmed; current temperature and humidity detected by the return air sensors or if the optional remote sensors are used it will be the conditions the remote sensors record; then any alarm conditions currently active. (A listing of these alarm conditions are shown on page 11.) If your unit uses chilled water DAP III will display the percentage of chilled water flow as well.

In the upper right-hand corner of the DAP III display you should find a blinking form in the shape of a heart. The blinking indicates that the processor is functional.

The second mode of the DAP III is the **Menu Mode** which is described in the balance of this manual. To enter the **Menu Mode** depress either of the MENU buttons.

**DAP III Buttons** - On the front of the DAP III there are seven buttons: an ON/OFF, MENU UP (▲) and MENU DOWN (▼) button; SELECT UP (▲) and SELECT DOWN (▼) button; SILENCE / ALARM button and an EXIT button.

The **ON/OFF** button is a soft power on/power off button. The hard power ON/OFF switch is located on the DAP III Control Module circuit board and will be explained in the next section of this manual.

**SILENCE /ALARM** button only function is to mute audio alarms, the button is sparingly used in programming.

**EXIT** button has no function in the operation mode, however, it is used in the menu mode. Once in the menu mode when the EXIT button is depressed the values programmed are saved and takes you up one level. For example if you are in the Menu Groups, as shown on the top of page 13, depressing the EXIT button will take you to the operation mode. However, if you are in a Sub-Menus, shown on pages 13-15, depressing the EXIT button will take you to the Menu Group for that sub group. For example if you were in sub-menu group 4-6 Firestat Temperature Alarm Limit, depressing the EXIT button will take you to Menu Group 4 - Alarms .

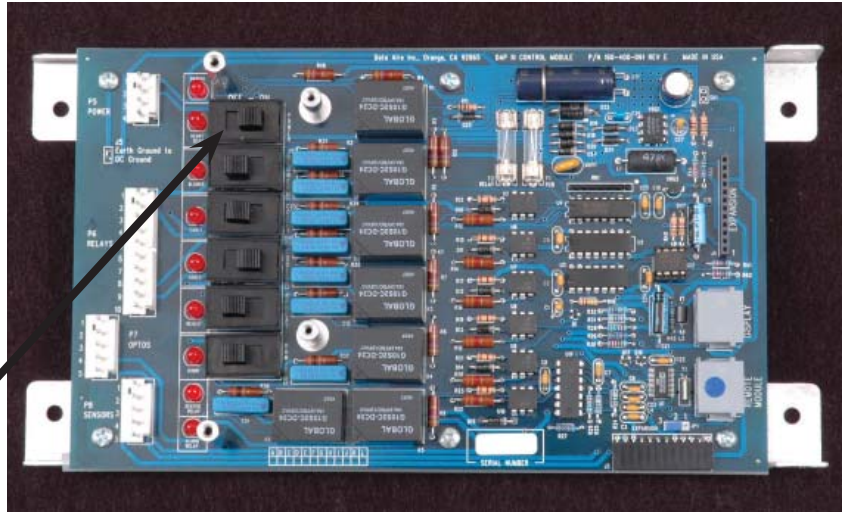
**MENU ▲ / MENU ▼** these buttons primarily allow you the scroll up or down in the menu grouping that you are in currently. If you are in the Group menus depressing the MENU ▲ button will take you to the next higher menu, from Group1 - Status & History to Group 2 - Setpoints. Conversely pressing the MENU ▼ button will take you to the next lower menu in that grouping, from sub group 8-5 Set-Back Reheat depressing the MENU ▼ button would take you to sub group 8-4 Set Up Cool. (All menu grouping continuously scroll, once you reach the last menu option and you depress the MENU ▲ button you will return to the first menu option.) These buttons have other specialized functions depending on the subgroup menu you are addressing. These functions are described in the body of this manual in the section where they apply. If the MENU buttons are held down they will advance at a rapid rate. If there is no button activity for three minutes the DAP III will return to the Operation Mode.

**SELECT ▲ /SELECT ▼** these buttons, as the name implies, allows you to select a menu once you have located it using the menu buttons. For example if you wanted to select the sub group menus for "Group 3 - Operation," once you scrolled to the group using menu buttons - depress the SELECT ▲ button will take you to "3-1 - Set Time and Date," the SELECT ▼ button would take you to sub menu "3-16 - Humidification Desaturation Cycle" the last menu option in sub-menu group 3. Once in sub group menus the SELECT ▲ and SELECT ▼ buttons permit you to scroll through that menu's options..



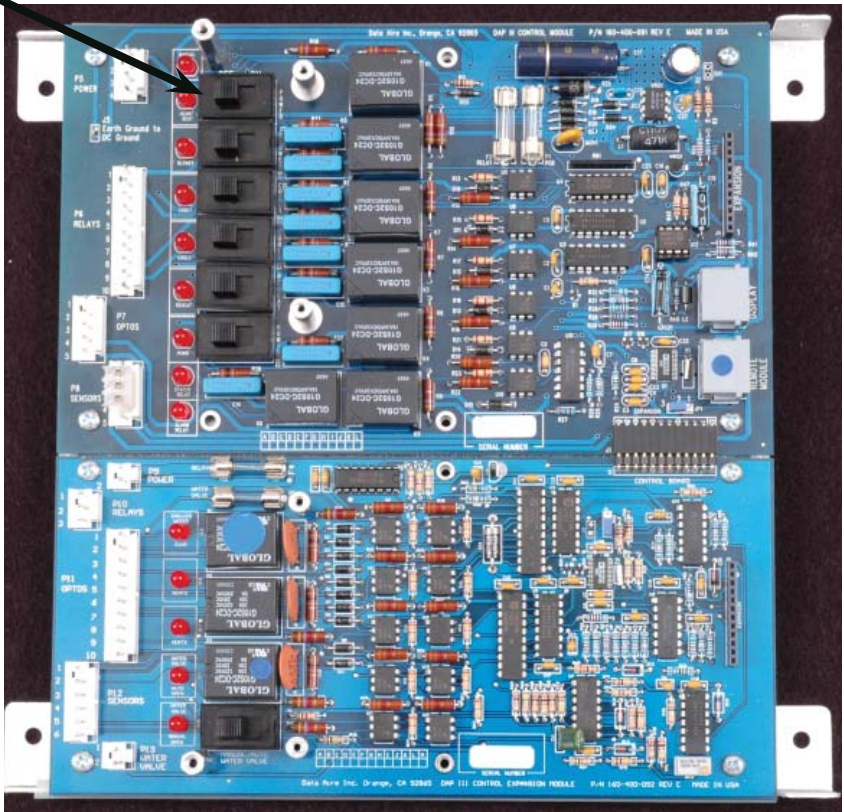
**Hard Power ON/OFF Switch** - After supplying power to the unit, if the DAP III does not come on when you press the soft ON/OFF button on the cover of the DAP III it will be necessary for you to open the cover of the DAP III. The DAP III can be shipped in three different configuration of circuit boards; the basic DAP III board; the DAP III with the relay board; and DAP III with the relay and analog boards. Each of these configurations are shown below and on the following page. The configuration in your unit is dependent on the type of cooling and options that was selected. One of these photos will match the circuit board that is in your unit. However the hard ON/OFF switch is in the same position on all boards

**DAP III Circuit Board  
Control Module**



DAP III Control Module

Hard power ON/OFF Switch  
Shown in the ON position  
on the upper panel and OFF  
position in the lower panel.



Control Expansion Module

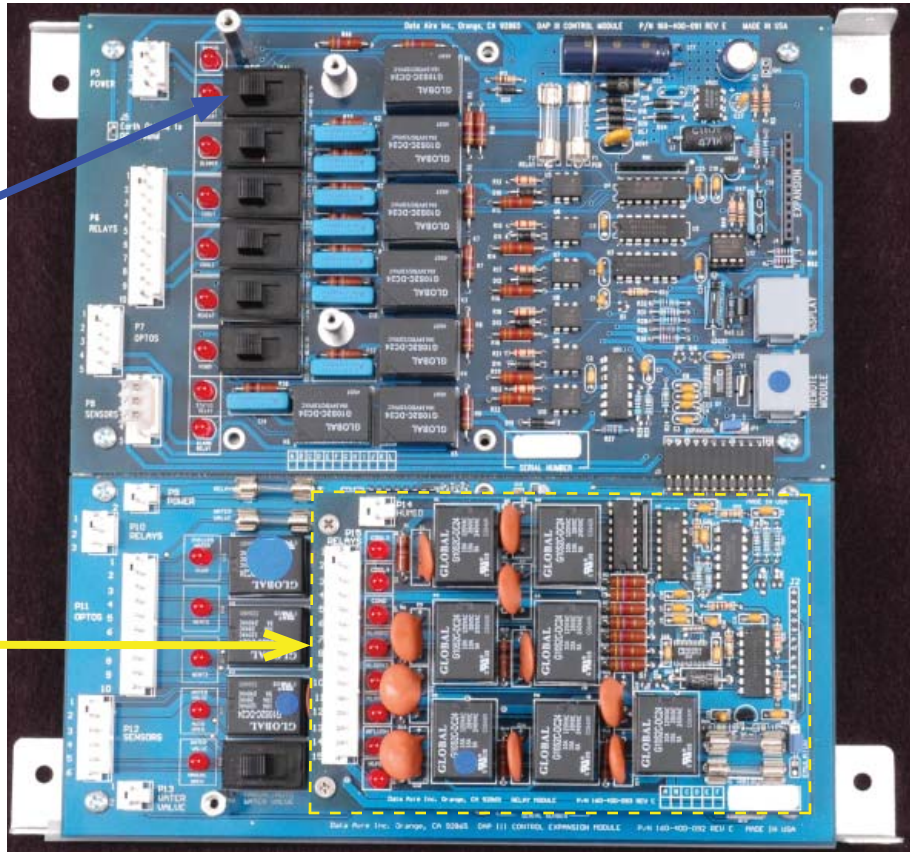
The use of the additional switches on the circuit boards will be discussed on page 78 of this manual.



**DAP III Circuit Board with Relay Module installed**

Hard power ON/OFF Switch shown here in the OFF position

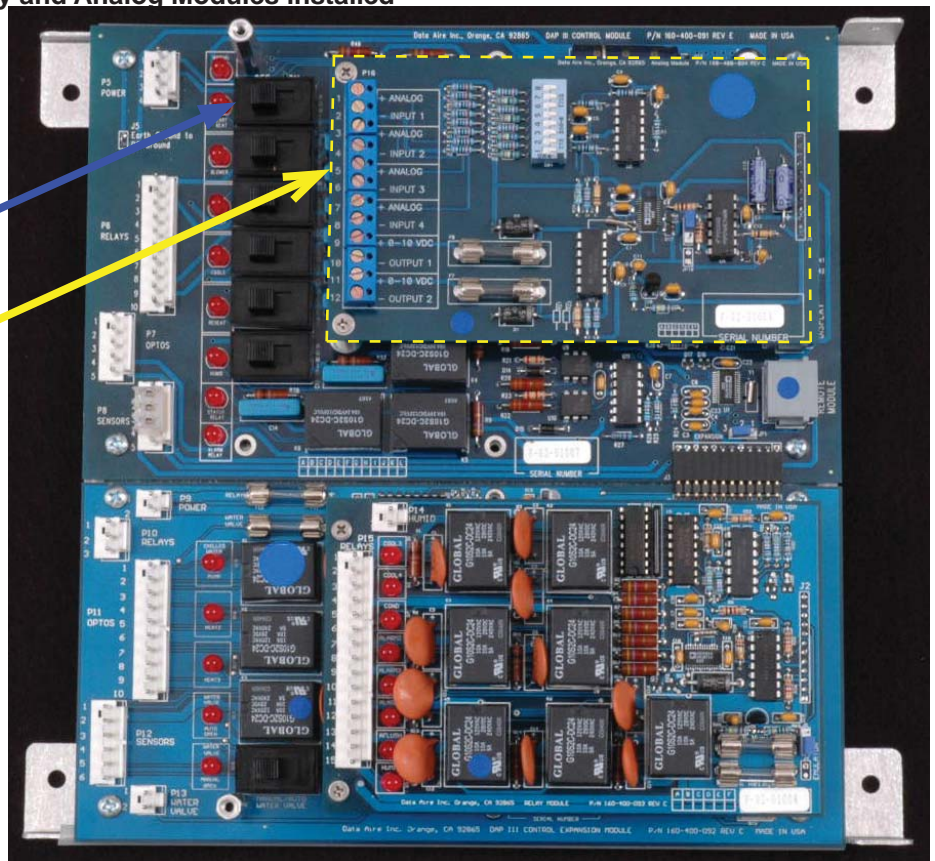
Relay Module



**DAP III Circuit Board with Relay and Analog Modules installed**

Hard Power ON/OFF Switch shown here in the OFF position

Analog Module



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# DATA ALARM PROCESSOR – III

The Data Alarm Processor-III (DAP-III) offers the definite answer for precision environmental control. The DAP-III control system not only controls and monitors temperature, humidity, airflow and cleanliness, it provides component run times, alarm history and an automatic self-test of the microprocessor. All messages are presented in a clear simple English and sequentially displayed on a backlit, liquid crystal display (LCD). The DAP-III can interface with a variety of building management systems (BMS).

## STANDARD FEATURES

**Stand Alone Panel** – Service terminals or additional devices are not required for programming or monitoring functions.

**Microprocessor Based** – State-of-the-art technology and reliability in a programmable solid-state control panel.

**Smooth Keyboard Type Switches** – High reliability, flat, sealed switches with tactile feedback.

**Two Row, 80 Character, Backlit Supertwist Liquid Crystal Display (LCD)** – information is displayed and presented in a format that is easily viewed and understood.

**All Settings are Programmable from the face of the Panel** – Expedient and user-friendly.

**Layered Forward and Backward Menu Access** – Facilitates programming with flexible operation.

**Multi-level Password Access**– Controls any unauthorized changes to settings and system functions.

**Database of Unit and Room Conditions** – Historical data that facilitates service, apparatus setup and fine tuning of setpoints.

**Battery Backup for Historical Data** – Extensive historical data is preserved by integral battery backup in case of power failure.

**Menus Factory Programmed** – Menus that pertain to the type and method of cooling, reheat and humidification based on the unit's components and options.

**Programmed Settings Saved in Flash Memory** – Non-volatile memory stored so all control settings and operational parameters are secured indefinitely even during power outage.

**Factory Calibrated Temperature and Humidity Sensors** – Accurate and consistent regulation especially in multiple unit applications.

**Automatic Self-Test Diagnostics** – Verifies the processor and selected components are functioning properly at power on and continuously during operation.

## OPERATIONAL FEATURES

(Optional feature may require additional components and/or sensors.)

**Sequential Load Activation** – Time and temperature based logic that sequentially starts and stops stages of cooling and reheat.

**Compressor Short Cycle Control** – Prevents excessive compressor wear by using restart and anti-cycle limits.

**Automatic or Manual Restart** – Restart methods are programmable in the event of a power failure.



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**Supplemental Compressor Operation during Energy Save Mode** – Extends the savings from Energy Saver by allowing one or two compressors to supplement cooling as needed when Energy Saver cooling is not sufficient.

**Temperature Anticipation** – Responds to varying rates of temperature change.

**Humidity Anticipation** – Modifies the humidity setpoint to diminish excess humidification and dehumidification.

**Dehumidification Mode Lockout** – Inhibits dehumidification if not required for system performance.

**Start Time Delay** – Programmable time delay staggers the start-up of multiple units to prevent high power demand peaks.

**Chilled Water, Energy Saver and Hot Water Coil Flush Cycle** – Periodically circulates fluid in the coil to reduce deposit buildup in system.

**Automatic Compressor Rotation** – Periodically rotates the lead/lag sequence to balance compressor run times.

**Automatic Reheat Element Rotation** – Rotates the staging sequence to balance the run times of the heating elements.

**Energy Saver (Glycol) or Auxiliary Chilled Water Operation** – Two types of Energy Saver Systems are available.

**Programmable Water Under Floor Alarm** - Can shut down unit or just compressors.

## DIAGNOSTIC AND SERVICE FEATURES

**Alarms Displayed in Order of Occurrence** – Sequence with time of occurrence assist in diagnosing the cause of alarms.

**Programmable Delays for Optional Alarms** – Reduces nuisance and false alarms caused by temporary or transient conditions.

**Manual Diagnostic Program** – Provides accessible procedures to test the processor and major system components.

**Manual Override for Blower, Cool 1 and 2, Heat 1, Humidification and Water Valve** – The control circuit is operable even if the processor is not functioning properly.

**Adjustable Alarm Limits** – Threshold levels for temperature and humidity alarms are programmable.

**Four Programmable Optional Alarms** – In addition to the standard alarms, four additional alarms are programmable.

**Select Alarms Optionally Disabled** – Nonessential alarms can be turned off.

**Audio Alarm Tone** – Four programmable alarm tones.

## PROTECTIVE AND SAFETY FEATURES

**Metal Shell Enclosure with Sealed Front Control Panel** – Provides electromagnetic interference (EMI) protection and general protection against environmental contamination and handling damage.

**Watch Dog Timer** – Automatically resets the circuit board, clears any corrupted memory and restarts the system with minimal interruption in case of an unfiltered transient signal.

**Opto-Signal Inputs** – Isolates the circuit board from electrical noise or static from contactors, compressors and motors that can contaminate the power at the circuit board.

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**Protected 24 VAC Power Input** – Fused metal oxide varistor (MOV) and transient voltage suppressor react to interrupt the power from the circuit board if excessive amperage or over voltage condition is detected.

**Isolation Transformer** – Protection against ground loops, ground shorts, wiring errors and conducted electrical interference.

**Heavy Ground Planes and Power Foils** – Large ground plane areas and wide power runs minimize disturbances caused by EMI and other types of electrical interference.

**Switching Power Supply** – Allows for wide AC input voltage fluctuation to reduce the effects of a power blackout while still maintaining circuit board operation.

**Fused RS-485 Network Lines on Network Communication Card** – Disconnects the circuit board from the source of current to protect the circuit board components.

**Modulating Humidifier Control** – Proportional control of steam generator humidifier provides additional refinements in performance. (Optional Relay Module required.)

**Humidifier Autoflush Cycle** – An adjustable flush cycle for infrared humidifiers to reduce deposit build-up. (Optional Relay Module required.)

**Three Additional Remote Alarms** – Group or specific alarm selection for remote alarm contact. (Optional Relay Module required.)

**Analog Inputs** – Output values of four external analog sensors can be read on the processor display. (Optional Analog board required.)

**Underfloor Water Detection Cable** – Provides continuous water detection cable to encircle the entire unit.

## Display Panel

### CONDITIONS and DATA DISPLAYED

TEMPERATURE SETPOINT – °F or °C

CURRENT TEMPERATURE – °F or °C

HUMIDITY SETPOINT – Percent of relative humidity

CURRENT HUMIDITY – Percent of relative humidity

CURRENT DISCHARGE AIR or CHILLED WATER TEMPERATURE\* - °F or °C

### FUNCTIONS DISPLAYED

COOLING – 1<sup>st</sup> stage, 2<sup>nd</sup> stage, 3<sup>rd</sup> stage\*, 4<sup>th</sup> stage\*

REHEAT – 1<sup>st</sup> stage, 2<sup>nd</sup> stage, 3<sup>rd</sup> stage, hot water\*

CHILLED WATER FLOW – 10 to 100% (based on VDC output)

ENERGY SAVER\* - hours of operation

DEHUMIDIFICATION - hours of operation

HUMIDIFICATION - hours of operation

\* This optional feature or data display may require additional components and/or sensors.

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## WARNING AND ALARMS DISPLAYED

HIGH TEMPERATURE WARNING – (Current temperature) <sup>o</sup> F/C	HIGH HUMIDITY WARNING – (Current RH)%
LOW TEMPERATURE WARNING – (Current temperature) <sup>o</sup> F/C	LOW HUMIDITY WARNING – (Current RH)%
LOW PRESSURE COMPRESSOR: 1 – (Automatic reset)	NO AIRFLOW – CHECK BELT AND MOTOR
UNDER FLOOR WATER DETECTION – CHECK PROBE	DIRTY FILTER – CHECK FILTERS
LOW PRESSURE COMPRESSOR: 2 – (Automatic reset)	POWER FAILURE RESTART
MANUAL OVERRIDE – CHECK BYPASS SWITCHES	FIRESTAT TRIPPED – Unit shutdown
HUMIDIFIER PROBLEM – CHECK WATER PRESSURE	LOW VOLTAGE WARNING – CHECK VOLTAGE
TEMPERATURE SENSOR ERROR – SENSOR PROBLEM	COMPRESSOR SHORT CYCLE – WARNING
MAINTENANCE REQUIRED	LOCAL ALARM – SEE TAG INSIDE
HUMIDITY SENSOR FAILURE – SENSOR PROBLEM	NO WATER FLOW* - CHECK WATER PUMP
CUSTOM MESSAGE – (Factory programmed custom message)	SMOKE DETECTOR* - Unit shutdown
DISCHARGE AIR SENSOR ERROR*	HIGH CONDENSATE WATER LEVEL*
FAN MOTOR OVERLOAD* – CHECK MOTOR AMPERAGE	
STANDBY PUMP ON* - CHECK PRIMARY WATER PUMP	
PERSON TO CONTACT ON ALARM* - (Programmable message)	
HIGH PRESSURE/INTERNAL OVERLOAD COMPRESSOR: 1 - Manual reset required	
HIGH PRESSURE/INTERNAL OVERLOAD COMPRESSOR: 2 - Manual reset required	

## HISTORICAL DATA DISPLAYED

EQUIPMENT RUNTIMES – Blower, compressor 1 and 2, reheat strip 1, 2, and 3, dehumidification, Energy Saver\*, humidifier, condenser and chilled water

ALARM HISTORY – Last 10 alarms with time and date of occurrence

LAST 24 HOURS – High and low temperature, high and low humidity

AVERAGE PERCENT OF CAPACITY LAST HOUR – Compressor(s), humidifier, reheat strips and water valve

\* This optional feature or data display may require additional components and/or sensors.

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## **PROGRAMMABLE SELECTIONS**

Temperature setpoint	Temperature deadband
High temperature alarm limit	Low temperature alarm limit
Humidity setpoint	Humidity deadband
High humidity alarm limit	Low humidity alarm limit
Mode and stage response time	Compressor lead/lag sequence
Reset equipment runtimes	Audio alarm mode
Automatic self-test acknowledgement	Manual diagnosis
Humidity anticipation	Compressor short cycle alarm
Dehumidification mode	Low discharge temperature alarm limit*
Power problem or restart mode	System start delay
Message for optional alarm 1, 2, 3, and 4*	Delay for optional alarm 1, 2, 3, and 4
Compressor supplements to energy saver*	Remote alarm 1, 2, 3 and 4 selection*
Person to contact on alarm	Define password
Humidifier autoflush timer*	Firestat temperature alarm limit
Scheduled normal maintenance	Temperature scale
Calibrate temperature sensor	Calibrate humidity sensor
Compressor(s)	Reheat states
Humidifier	Water valve mode
Water valve voltage range	Reverse acting water valve
Network protocol*	Analog module sensor setups*
Fan speed control module*	
Calibrate discharge air sensor or chilled water temperature sensor*	

\* - May require optional modules



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## **MENU GROUPS**

Group 1 – Status and History  
Group 2 – Setpoints  
Group 3 – Operation  
Group 4 – Alarms  
Group 5 – Configuration

Group 6 – Network  
Group 7 – Calibration  
Group 8 – Set-back\*\*  
Group 9 – Diagnostics  
Group 10 – Analog\*  
Group 11 – Zone Control

## **SUB-MENUS**

### Group 1 – Status and History

1-1 Temperature and humidity setpoints  
1-2 Last 24 hours temperature and humidity  
1-3 Percent capacity and average last hour  
1-4 Equipment runtimes  
1-5 Alarm history-clear alarm history

### MENU GROUPS 2 THROUGH 11 REQUIRE A PASSWORD ENTRY

### Group 2 – Setpoints

2-1 Change temperature setpoints  
2-2 Change temperature deadband  
2-3 Change humidity setpoint  
2-4 Change humidity deadband  
2-5 Change cooling stage-to-stage DB (deadband)  
2-6 Change E-Saver CW (chilled water) temperature SP (setpoint)  
2-7 Change E-Saver CW temperature DB

### Group 3 – Operation

3-1 Set time and date  
3-2 Mode and stage response time  
3-3 Compressor lead/lag sequence  
3-4 System start delay  
3-5 Reset equipment run time  
3-6 Automatic self-test acknowledge  
3-7 Compressor supplements to E-Saver  
3-8 Energy Saver lock-out time  
3-9 Dehumidification mode  
3-10 Power problem or restart mode  
3-11 Scheduled normal maintenance  
3-12 Temperature scale  
3-13 Fan mode\*  
3-14 Override request  
3-15 Humidity anticipation  
3-16 Humidification desaturation cycle  
3-17 Energy Saver to DX change over deadband  
3-18 Constant fan speed for DX cooling  
3-19 Constant fan speed for CW cooling  
3-20 Fan speed control for DX cooling  
3-21 Fan speed control for CW cooling  
3-22 Maximum fan speed  
3-23 Minimum fan speed  
3-24 Differential pressure setpoint  
3-25 Differential pressure deadband  
3-26 Fan speed response rate

\* Only displays when analog module is connected.

\*\* Only displays when DAP III is in RFM (reduced function mode) ceiling systems.

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## **SUB-MENUS- continued**

### Group 4 – Alarms

- 4-1 Audio alarm mode
- 4-2 Change high temperature alarm limit
- 4-3 Change low temperature alarm limit
- 4-4 Change hi humidity alarm limit
- 4-5 Change lo humidity alarm limit
- 4-6 Firestat temperature alarm limit
- 4-7 Low discharge temp alarm limit
- 4-8 Compressor short-cycle alarm
- 4-9 Water under floor alarm action
- 4-10 No water flow alarm action
- 4-11 Person to contact on alarm
- 4-12 Message for optional alarm input 1
- 4-13 Delay for opt. alarm input 1
- 4-14 Message for opt. alarm input 2
- 4-15 Delay for opt. alarm input 2
- 4-16 Message for opt. alarm input 3
- 4-17 Delay for opt. alarm input 3
- 4-18 Message for opt. alarm input 4
- 4-19 Delay for opt. alarm input 4
- 4-20 Remote alarm number 1 selection
- 4-21 Remote alarm number 2 selection
- 4-22 Remote alarm number 3 selection
- 4-23 Remote alarm number 4 selection
- 4-24 No airflow alarm time delay
- 4-25 No water flow alarm time delay (locked)

## ***MENU GROUP 5 IS LOCKED – NO CHANGES CAN BE MADE UNTIL MENU IS UNLOCKED***

### Group 5 – Configuration

- 5-1 Sensor location
- 5-2 Define password
- 5-3 Reduced Function Mode (RFM) active
- 5-4 Compressor(s)
- 5-5 Reheat stage
- 5-6 Humidifier
- 5-7 Water valve mode
- 5-8 Water valve voltage control range
- 5-9 Reverse acting water valve
- 5-10 Humidifier autoflush timer Only displays when infared humidifier installed

### Group 6 – Network

- 6-1 Unit and network ID
- 6-2 Network protocol
- 6-3 IP address
- 6-4 Netmask address
- 6-5 Router address
- 6-6 UDP port
- 6-7 Ethernet TCP port
- 6-8 Baudrate (Only appear when ModBusRTU, Modbus ASCII, BACnet MS/TP and Johnson Control N2 protocol is selected. Requires RS-485 communications card.)
- 6-9 Network ID
- 6-10 Device ID (this menu only shows when BACnet MS/TP or BACnet Master is selected)
- 6-11 Max Master (This menu only shows when BACnet MS/TP is selected.)

Shaded menus only displayed when Ethernet card is installed and configured for Bacnet IP, MODBUS TCP or SNMP

***Menus 6-12 through 6-15 only appear when SNMPv1/v2 is selected.***

- 6-12 SNMPv2 Manager 1 Address
- 6-13 SNMPv2 Manager 1 Notifications
- 6-14 SNMPv2 Manager 2 Address
- 6-15 SNMPv2 2 Notifications

Group 7 – Calibration

- 7-1 Calibrate temperature sensor
- 7-2 Calibrate humidity sensor
- 7-3 Calibrate discharge air temperature sensor
- 7-4 Calibrate CW temperature sensor

Group 8 – Setback (Only displayed when RFM mode is active.)

- 8-1 Day schedule
- 8-2 Override enable
- 8-3 Override time
- 8-4 Setup cool
- 8-5 Setback reheat
- 8-6 Setup dehumidification
- 8-7 Setback humidification
- 8-8 Monday schedule
- 8-9 Tuesday schedule
- 8-10 Wednesday schedule
- 8-11 Thursday schedule
- 8-12 Friday schedule
- 8-13 Saturday schedule
- 8-14 Sunday schedule

Group 9 – Diagnostic

- 9-1 Test buttons
- 9-2 Check power supply
- 9-3 Test relays
- 9-4 Test analog outputs
- 9-5 Test digital inputs
- 9-6 Test environmental sensors
- 9-7 View anticipation humidity setpoint
- 9-8 Test audio alarm
- 9-9 Test RS-485 network card
- 9-10 Test watchdog reset circuit

Group 10 – Analog Group 10 - (Only appears when an Analog Module is connected.)

- 10-1 Select sensor 1 name
- 10-2 Specify sensor 1 units of measure
- 10-3 Specify sensor 1 signal range
- 10-4 Specify sensor 1 minimum value
- 10-5 Specify sensor 1 maximum value
- 10-6 Set Sensor 1 calibration
- 10-7 Select sensor 2 name
- 10-8 Specify sensor 2 units of measure
- 10-9 Specify sensor 2 signal range
- 10-10 Specify sensor 2 minimum value
- 10-11 Specify sensor 2 maximum value
- 10-12 Set sensor 2 calibration
- 10-13 Select sensor 3 name
- 10-14 Specify sensor 3 units of measure
- 10-15 Specify sensor 3 signal range
- 10-16 Specify sensor 3 minimum value

- 
- 10-17 Specify sensor 3 maximum value
  - 10-18 Set sensor 3 calibrations
  - 10-19 Select sensor 4 name
  - 10-20 Specify sensor 4 units of measure
  - 10-21 Specify sensor 4 signal range
  - 10-22 Specify sensor 4 minimum value
  - 10-23 Specify sensor 4 maximum value
  - 10-24 Set sensor 4 calibration
  - 10-25 Select output 1 configuration
  - 10-26 Select output 2 configuration

Group 11 - Zone Control

- 11-1 Zone mast enable
- 11-2 Zone ID
- 11-3 Unit IDs in this zone
- 11-4 Primary unit status
- 11-5 Secondary unit status
- 11-6 Zone override request
- 11-7 Unit rotation day
- 11-8 Unit rotation time
- 11-9 Standby alarms
- 11-10 Off alarm
- 11-11 Temperature standby
- 11-12 Zone inhibits
- 11-13 Secondary schedule
- 11-14 Secondary schedule start day
- 11-15 Secondary schedule start time
- 11-16 Secondary schedule stop day
- 11-17 Secondary schedule stop time



## PUSH BUTTON FUNCTIONS

The Data Alarm Processor-III panel has seven pressure sensitive feedback-type buttons on the face of the panel. All programming functions and/or settings are done from the face of the panel. Their functions are as follows:

**Menu ▲** - Advances the menus in ascending order from 1 to 10

**Select ▲** - Selects an option or value in ascending order.

**ALARM SILENCE**  
Silences the audio alarm

**ON/OFF** - Soft switch that turns the power on or off to the micro-processor



**Menu ▼** - Advances the menus in descending order from 10 to 1.

**Select ▼** - Selects an option or value in descending order

**EXIT** - Saves the new settings, exits the menu function and returns the panel to its normal operating mode

### **IMPORTANT NOTE:**

The RAM SIGNATURE test often displays "FAIL" on initial start-up because the RAM does not have any stored data. Simply press "SELECT" ▲ to bypass the "FAIL" message. Once the processor is on-line and operating, the RAM will collect data and the test should pass on future restarts. On start-up, remember to remove the protective paper on the battery before turning the unit on. Otherwise, the RAM SIGNATURE will fail on future restarts.

Each time a MENU or SELECT button is pressed, it will advance to the next menu, sub-menu, or selection. If the button is held down, the menus or selections will advance at a rapid rate. If there is no button activity for three (3) minutes the panel will return to its normal operating mode.

When a menu first appears, it will have a menu number and title. The first time a SELECT button is pressed, the current value or option in memory is displayed. Additional pressing of a SELECT button will cause alternate values, options or selections to be displayed. The SELECT button should be pressed until the desired value, option or selection is displayed. After the desired value, option or selection has been chosen, the MENU button is pressed to save the last displayed entry into memory and to advance to the next menu display. The EXIT button can be pressed at any time to return the panel to its normal operating mode. In this mode, the panel will scroll and display the current system functions, temperature, humidity and ID number. If an alarm is present it will also be displayed.

## AUTOMATIC DIAGNOSTIC SELF-TEST - ON START UP

Press the power ON button to energize the panel. The following messages will be displayed as the panel proceeds through the Automatic Diagnostic Self-Test. The Automatic Diagnostic Self-Test takes approximately 30 seconds.

Display Message 1	DATA ALARM PROCESSOR III MODEL xxx-xxx-xxx BOOTLOADER REV x.xx
Display Message 2	DATA ALARM PROCESSOR III MODEL nnn-xxx-xxx SOFTWARE REV; n.nn
Display Message 3*	DATA ALARM PROCESSOR III MODEL nnn-xxx-xxx CONTROL MODULE
Display Message 4*	DATA ALARM PROCESSOR III MODEL nnn-xxx-xxx EXPANSION MODULE
Display Message 5*	DATA ALARM PROCESSOR III MODEL nnn-xxx-xxx RELAY MODULE
Display Message 6*	DATA ALARM PROCESSOR III MODEL nnn-xxx-xxx ANALOG MODULE
Display Message 7*	DATA ALARM PROCESSOR III MODEL nnn-xxx-xxx (Comm Card) MODULE
Display Message 8	DATA ALARM PROCESSOR III SELF-TEST FLASH: PASS
Display Message 9	DATA ALARM PROCESSOR III SELF-TEST STATIC RAM: PASS
Display Message 10	DATA ALARM PROCESSOR III SELF-TEST PARAMETERS: PASS
Display Message 11	DATA ALARM PROCESSOR III SELF TEST RAM SIGNATURE: PASS
Display Message 12	DATA ALARM PROCESSOR III SELF-TEST ANALOG: PASS
Display Message 13	DATA ALARM PROCESSOR III SELF-TEST 12 VDC REGULATED: nn.n PASS
Display Message 14	DATA ALARM PROCESSOR III SELF-TEST 5VDC REGULATED: nn.n PASS
Display Message 15	DATA ALARM PROCESSOR III SELF-TEST BATTERY VOLTAGE: n.n PASS
Display Message 16	DATA ALARM PROCESSOR III SELF-TEST RETURN TEMP SENSOR: PASS
Display Message 17	DATA ALARM PROCESSOR III SELF-TEST DISCHARGE TEMP SENSOR: PASS
Display Message 18	DATA ALARM PROCESSOR III SELF-TEST HUMIDITY SENSOR: PASS
Display Message 19	DATA ALARM PROCESSOR III SELF-TEST BUTTONS: PASS

If there is a failure during the Automatic Self-Test, the display will stop scrolling and only the message with the failure will be displayed. To allow the processor to continue the self-test after a failure has been displayed, press the MENU ▲ button. See Menu 3-6 Automatic Self-Test Acknowledge toggle. When the self-test is complete, the timed Start Delay will be displayed.

Display Message

DATA ALARM PROCESSOR III

START DELAY: mm:ss

After the timed start delay is complete, the unit will start and the processor will be in operating mode. The following pages are typical displays for each menu, with available selections, options and/or values. Factory settings are also listed.

\* Only displays when these modules or communication cards are connected.

## MENUS

There are 10 MENU groups. Each group has a sub-set (SUB-MENUS). The following describes how to navigate through the MENUS and SUB-MENUS:

### Group 1

 **NOTE:** GROUP 1 SUB-MENUS ARE READ ONLY. CHANGES CANNOT BE MADE.

To Access:

**MENU ▲** - The display will read **GROUP 1 – STATUS & HISTORY**

**SELECT ▲** - **1-1 TEMPERATURE & HUMIDITY SETPOINTS**

**SELECT ▲** - Display will read: **TEMPERATURE SEPOINT IS: xxF** (or C)

**SELECT ▲** - Display will read: **HUMIDITY SEPOINT IS: xx%**

*(Pressing the SELECT ▲ or ▼ button will alternately change the display reading from TEMPERATURE to HUMIDITY, HUMIDITY to TEMPERATURE )*

**MENU ▲** - Display will read: **1-2 LAST 24 HRS TEMPERATURE & HUMIDITY**

**SELECT ▲** - To read current temperature and range over the last 24 hours

Display will read: **TEMPERATURE: xxF** (or C) **LAST 24 HOURS: xx-xxF** (or C)

**SELECT ▲** - To read current humidity and range over the last 24 hours

Display will read: **HUMIDITY: xx% LAST 24 HOURS: xx-xx%**

**MENU ▲** - Display will read: **1-3 PERCENT CAPACITY & AVERAGE LAST HR**

**SELECT ▲** - Display will read: **COMPRESSOR: xxx% LAST HR AVERAGE: xxx%**

**SELECT ▲** - Display will read: **REHEAT: xxx% LAST HR AVERAGE: xxx%**

**SELECT ▲** - Display will read: **HUMIDIFIER: xxx% LAST HR AVERAGE: xxx%**

**SELECT ▲** - Display will read: **WATER VALVE: xxx% LAST HR AVERAGE: xxx%**

**MENU ▲** - Display will read: **1-4 EQUIPMENT RUNTIMES**

**SELECT ▲** - Display will read: **BLOWER: xxxx HOURS**

**SELECT ▲** - Display will read: **HEAT EXCHANGER: xxxx HOURS**

**SELECT ▲** - Display will read: **COMPRESSOR 1: xxxx HOURS**

**SELECT ▲** - Display will read: **COMPRESSOR 2: xxxx HOURS**

**SELECT ▲** - Display will read: **COMPRESSOR 3:**                    **xxxx HOURS**

**SELECT ▲** - Display will read: **COMPRESSOR 4:**                    **xxxx HOURS**

**SELECT ▲** - Display will read: **REHEAT STRIP 1:**                    **xxxx HOURS**

**SELECT ▲** - Display will read: **REHEAT STRIP 2:**                    **xxxx HOURS**

**SELECT ▲** - Display will read: **REHEAT STRIP 3:**                    **xxxx HOURS**

**SELECT ▲** - Display will read: **HUMIDIFIER:**                        **xxxx HOURS**

**SELECT ▲** - Display will read: **DEHUMIDIFICATION:**                    **xxxx HOURS**

**SELECT ▲** - Display will read: **ENERGY SAVER COOLING:** **xxxx HOURS**

**SELECT ▲** - Display will read: **CHILLED WATER COOLING:** **xxxx HOURS**

**MENU ▲** - Display will read: **1-5 ALARM HISTORY-CLEAR ALARM HISTORY**


**SELECT ▲** - Display will read:  
**ALARM HISTORY hh:mm mm-dd-yy**                    *(time and date of alarm)*  
**ALARM MESSAGE**

*(Alarm messages are displayed in order of occurrence: last alarm first then other alarms in most recent sequence. Up to 10 messages are stored in memory)*

Alarm history can be cleared. Press **SELECT ▲** button until the display shows  
**USE SILENCE BUTTON TO CLEAR HISTORIES**  
Pressing the **SILENCE/ALARM** button will clear alarms.

**SELECT ▲** - To view the past ten alarm messages.

**EXIT** - Display will read: **GROUP 1 – STATUS & HISTORY**

 **NOTE:** MENU groups 2 thru 11 require password entry, once a password has been set.

The correct password will allow the user to set/change all sub-menus in Groups 2 through 11. It will also allow the user to view all factory locked menus (Sub menu 4-24, Group 5 – Configuration and portions of Group 6 - Network). To access the factory locked menus, a specific button sequence is required. Neither the password nor the button sequence will be required again until the user has exited from the menus to operation mode, either by pressing the EXIT button or by allowing three (3) minutes to elapse with no button activity. FOR LOCKED MENU ACCESS – SEE PROCEDURES TO UNLOCK GROUP 5 MENUS. DAP-III panels are shipped with the password set at 00, indicating no password set. If a password has been set and is unknown, the number 40 can be entered to allow viewing access to sub-menus 2-10. 40 should never be used as a defined password. This is a temporary bypass to allow verification of the programmed password and will be deleted when the EXIT button is pressed or when three (3) minutes has elapsed without button activity.

**MENU ▲** Display will read: **ENTER PASSWORD FOR ADDITIONAL MENUS**  
**PASSWORD: nn**

**SELECT ▲** or **▼** - To select password to proper value (00 to 99)





**NOTE:** If the wrong password is entered, the display will read  
**WRONG PASSWORD DELAY 60 SECONDS**

The message will continue to display for 60 seconds. At the end of 60 seconds the display will return to CURRENT OPERATING FUNCTIONS & STATUS DISPLAY.

Display will read: **GROUP 1 – STATUS & HISTORY**

**Group 2**

**MENU ▲** - Display will read: **GROUP 2 – SETPOINTS**


**SELECT ▲** - To see SUB-MENU 2-1: CHANGE TEMPERATURE SETPOINT

Display will read: **2-1 CHANGE TEMPERATURE SETPOINT**

**SELECT ▲** or **▼** - To display current temperature setpoint

Display will read: **2-1 CHANGE TEMPERATURE SETPOINT**  
**SET AT: nnF**

**SELECT ▲** or **▼** - To scroll to desired temperature setpoint in 1° increments.

*(Temperature setpoint is adjustable from 65 to 85° F/18.3 to 29.4° C.  Factory setting is 72° F / 22.2° C)*

To save setting and return to Menu Group 2 depress **EXIT** button or


**MENU ▲** - To display SUB-MENU 2-2: CHANGE TEMPERATURE DEADBAND

Display will read: **2-2 CHANGE TEMPERATURE DEADBAND**

**SELECT ▲** or **▼** - To display current temperature deadband.

Display will read: **2-2 CHANGE TEMPERATURE DEADBAND**  
**SET AT: n.nF**

**SELECT ▲** or **▼** - To scroll to desired setting.

*(Temperature deadband is adjustable  $\pm 1$  to 5° F/C in 0.1° increments.  Factory setting is 2.0° F. / -16.7° C)*

To save setting and return to Menu Group 2 depress **EXIT** button or...


**MENU ▲** - To display SUB-MENU 2-3: CHANGE HUMIDITY SETPOINT

Display will read: **2-3 CHANGE HUMIDITY SETPOINT**

**SELECT ▲** or **▼** - To display current humidity setpoint.

Display will read: **2-3 CHANGE HUMIDITY SETPOINT**  
**SET AT: nn%**

**SELECT ▲** or **▼** - Scroll to desired setting in 1% increments.

*(Humidity setpoint is adjustable from 25 to 70% RH.  Factory setting is 50%.)*

**MENU ▲** - To display SUB-MENU 2-4: CHANGE HUMIDITY DEADBAND


Display will read: **2-4 – CHANGE HUMIDITY DEADBAND**

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**SELECT ▲ or ▼** - To display humidity deadband.

Display will read: **2-4 CHANGE HUMIDITY DEADBAND**  
**SET AT: nn.n%**

**SELECT ▲ or ▼** - Scroll to desired setting, in 0.1% increments.

*(Humidity deadband is adjustable from 1.0 – 15.0% relative humidity.  Factory setting is 3.0%.)*


**MENU ▲** - To display SUB-MENU 2-5: CHANGE COOLING STAGE-TO-STAGE DB

Display will read: **2-5 CHANGE COOLING STAGE-TO-STAGE DB**

**SELECT ▲ or ▼** - To view cooling stage-to-stage deadband.

Display will read: **2-5 CHANGE COOLING STAGE-TO-STAGE DB**  
**SET AT: n.nF**

**SELECT ▲ or ▼** - Scroll to desired setting, in 0.1° increments.

*(Cooling stage-to-stage deadband is adjustable from 0.3 to 3.0°F / -17.6 to -16.1°C.  Factory setting is 0.3° F/C.)*

**MENU ▲** - To display SUB-MENU 2-6: CHANGE E-SAVER CW TEMPERATURE SETPOINT

Display will read: **2-6 – CHANGE E-SAVER CW TEMPERATURE SP**

**SELECT ▲ or ▼** - To view current E-SAVER CW temperature setpoint.

Display will read: **2-6 – CHANGE E-SAVER CW TEMPERATURE SP**  
**ENERGY SAVER AVAILABLE AT nn F**

**SELECT ▲ or ▼** - Scroll to desired setting, in 1° increments.

*(Energy Saver CW temperature setpoint is adjustable from 40 to 60°F / 4.4 to 15.6°C.  Factory setting is 50°F/C)*


**MENU ▲** - To display SUB-MENU 2-7: CHANGE E-SAVER CW TEMPERATURE DEADBAND

Display will read: **2-7 – CHANGE E-SAVER CW TEMPERATURE DB**

**SELECT ▲ or ▼** - To view E-SAVER CW temperature deadband.

Display will read: **2-7 – CHANGE E-SAVER CW TEMPERATURE DB**  
**SET AT n.nF**

**SELECT ▲ or ▼** - To scroll to desired setting, in 1° increments.

*(Energy Saver CW temperature deadband is adjustable 1.0 to 5.0°F / -17.2 to -15°C.  Factory setting is 1.0°F/C)*

**EXIT** - Press EXIT to return to **GROUP 2 - Setpoints**

**EXIT** - Press EXIT again to return to operational mode.

**OR**

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### Group 3

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**MENU ▲** - Display will read: **GROUP 3 - OPERATION**

**SELECT ▲** - Display will read: **SET TIME AND DATE**

**SELECT ▲** - To change time and date

Display will read: **3-1 SET TIME AND DATE**  
**SET WEEKDAY: *day*** mm-dd-yy hh:mm

**SELECT ▲** or **▼** - To change current weekday.

**MENU ▲** - To change month.

Display will read: **3-1 SET TIME AND DATE**  
**SET MONTH: *day*** ***mm***-dd-yy hh:mm

**SELECT ▲** or **▼** - To change the month.

**MENU ▲** - To change day.

Display will read: **3-1 SET TIME AND DATE**  
**SET DAY: *day*** mm-***dd***-yy hh:mm

**SELECT ▲** or **▼** - To change day.

**MENU ▲** - To change year

Display will read: **3-1 SET TIME AND DATE**  
**SET YEAR: *day*** mm-dd-***yy*** hh:mm

**SELECT ▲** or **▼** - To change year.

**MENU ▲** - To change hour.

Display will read: **3-1 SET TIME AND DATE**  
**SET HOUR: *day*** mm-dd-yy ***hh***:mm

**SELECT ▲** or **▼** - To change the hour.

**MENU ▲** - To change minute.

Display will read: **3-1 SET TIME AND DATE**  
**SET MINUTE: *day*** mm-dd-yy hh:***mm***

**SELECT ▲** or **▼** - To change the minutes.

**EXIT** - Display will read: **3-1 SET TIME AND DATE SETTING TIME – PLEASE WAIT**

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**MENU ▲** - To display SUB-MENU 3-2: MODE AND STAGE RESPONSE TIME

Display will read: **3-2 MODE & STAGE RESPONSE TIME**


The MODE AND STAGE RESPONSE TIME is a time-based differential over which the processor does not respond to any changes in temperature or humidity. This includes different functions as well as staging of individual functions.

**SELECT ▲** - To display current setting

Display will read:

**3-2 MODE & STAGE RESPONSE TIME**  
**RESPONSE TIME: n MINUTE**

**SELECT ▲ or ▼** - To change current setting

*(Mode and Stage Response Time is adjustable 1 to 5 minutes, in 1 minute increments.  Factory setting is 1 minute. Test mode is also an available setting. Test mode allows immediate movement from one function to another without delay. This should only be used during testing and not left as a operational setting)*

**MENU ▲** - To view SUB-MENU 3-3: COMPRESSOR LEAD/LAG SEQUENCE

Display will read: **3-3 COMPRESSOR LEAD/LAG SEQUENCE**

**SELECT ▲** - To display current setting


Display will read:

**3-3 COMPRESSOR LEAD/LAG SEQUENCE**  
**LEAD/LAG SEQUENCE: AUTOMATIC**

For the menu item there are three selections:

**AUTOMATIC** - Changes lead compressors every 168 hours.  
**1 LEAD**  
**2 LEAD**

**SELECT ▲ or ▼** - To change current setting

 Factory setting is AUTOMATIC on dual compressor units. In Automatic mode the compressor lead/lag sequence will change lead compressor every 168 hours of operation.

**MENU ▲** - To view SUB-MENU 3-4: SYSTEM START DELAY


System Start Delay provides programmable start delay to minimize total in rush current with multiple unit applications.

Display will read: **3-4 SYSTEM START DELAY**

**SELECT ▲ or ▼** - To change current setting

Display will read:

**3-4 SYSTEM START DELAY**  
**UNIT STARTS mm:ss AFTER POWER ON**

Start delay ranges from 5 seconds to 10 minutes in 5 second intervals. Each time the select button is pressed the delay will change by 5 seconds.  Factory setting is: 00:05



**MENU ▲** - To view SUB-MENU

**3-5: RESET EQUIPMENT RUNTIMES**


**SELECT ▲** - Display will read:

**3-5 RESET EQUIPMENT RUNTIME**

**BLOWER: nnnn HOURS**

Continue to press **SELECT ▲** button to scroll thru the list. The following can be viewed:

CONDENSER:	REHEAT STRIP 3:
COMPRESSOR 1:	HUMIDIFIER:
COMPRESSOR 2:	DEHUMIDIFICATION:
COMPRESSOR 3:	ENERGY SAVER COOLING:
COMPRESSOR 4:	CHILLED WATER COOLING:
REHEAT STRIP 1:	RESET ALL TO ZERO RUNTIMES
REHEAT STRIP 2:	

 **NOTE:** Any component can be changed to zero hours. When viewing, press the **SILENCE** button to reset a selection to zero hours. To reset all values scroll to the, “RESET ALL TO ZERO RUNTIMES” menu selection and press the **MENU ▲** or **▼**.

**MENU ▲** - To view SUB-MENU 3-6: AUTOMATIC SELF-TEST ACKNOWLEDGMENT

If the Self-Test Acknowledge is programmed to “ON”, it will permit the processor to proceed through the Diagnostic Self-Test even if a failure is detected without pressing the **MENU ▲** button. It will allow the unit to start.

**SELECT ▲** - To view current mode

Display will read: **AUTOMATIC SELF-TEST ACKNOWLEDGE: ON**

*OR*

**AUTOMATIC SELF-TEST ACKNOWLEDGE: OFF**

**SELECT ▲** or **▼** - To change the setting from ON to OFF or OFF to ON.

 Factory setting is: OFF

**NOTE:** After startup, the service technician should set sub-menu 3-6 to ON.

**MENU ▲** - To view SUB-MENU 3-7 COMPRESSOR SUPPLEMENTS TO E-SAVER

Allows selection of simultaneous Energy Saver and compressor operation. (Optional discharge air sensor is required.)

**SELECT ▲** - To view current mode

Display will read: **3-7 COMPRESSOR SUPPLEMENTS TO E-SAVER**

**ENERGY SAVER NOT AVAILABLE**

*or* **SUPPLEMENT E-SAVER WITH 1 COMPRESSOR**

*or* **SUPPLEMENT E-SAVER WITH 2 COMPRESSORS**

*or* **SUPPLEMENT ENERGY SAVER WITH NO COMPRESSORS**

**SELECT ▲** or **▼** - To change current setting

 Factory setting is: SUPPLEMENT ENERGY SAVER WITH TWO COMPRESSORS



**NOTE:** If the optional discharge air sensor is not installed, the display will read:  
**DISCHARGE TEMP SENSOR NOT INSTALLED**

**MENU ▲** - To view SUB-MENU 3-8 ENERGY SAVER LOCK-OUT TIME

Display will read: **3-8 ENERGY SAVER LOCK-OUT TIME**

**SELECT ▲** - To view current mode

Display will read: **3-8 ENERGY SAVER LOCK-OUT TIME**  
**LOCKOUT TIME: nn MINUTES**

**SELECT ▲ or ▼** - To change current setting

 Factory setting is 15 minutes. Lockout time is adjustable from 15 to 60 minutes in 15 minute increments.

**MENU ▲** - To view SUB-MENU 3-9 DEHUMIDIFICATION MODE

Allows selection for number of compressors to be used in dehumidification mode and temperature or dehumidification controlled priority.

Display will read: **3-9 DEHUMIDIFICATION MODE**

**SELECT ▲ or ▼** - To view current setting

Display will read: **3-9 DEHUMIDIFICATION MODE** and one of the following messages:  
**DEHUMIDIFICATION OFF**

*or* **1 COMPRESSOR & WITHIN REHEAT LIMITS**  
*or* **2 COMPRESSORS & WITHIN REHEAT LIMITS**  
*or* **1 COMPRESSOR & NO REHEAT LIMITS**  
*or* **2 COMPRESSORS & NO REHEAT LIMITS**



**NOTE:** Unit supplied without reheat will display the following message:

**NO REHEAT, DEHUMIDIFICATION NOT ALLOWED**

**SELECT ▲ or ▼** - To change current setting.

 Factory setting is: DEHUMIDIFICATION MODE IS:

**1 COMPRESSOR & WITHIN REHEAT LIMITS**

**MENU ▲** - To view SUB-MENU 3-10: POWER PROBLEM OR RESTART MODE

Display will read: **3-10 POWER PROBLEM OR RESTART MODE**

**SELECT ▲ or ▼** - To view current setting

Display will read: **3-10 POWER PROBLEM OR RESTART MODE**  
**AUTOMATIC: NO MESSAGE OR ALARM**

*or* **AUTOMATIC: MESSAGE, AUDIO ALARM & RELAY**  
*or* **MANUAL: MESSAGE, AUDIO ALARM & RELAY**

 Factory setting is: AUTOMATIC: NO MESSAGE OR ALARM



**NOTE:** If set for MANUAL, the unit must be *MANUALLY RESTARTED* after a power outage.

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**MENU ▲** - To view SUB-MENU 3-11: SCHEDULED NORMAL MAINTENANCE

Display will read: **3 - 11 SCHEDULED NORMAL MAINTENANCE**

**SELECT ▲** or **▼** - To view current setting

Display will read: **3 - 11 SCHEDULED NORMAL MAINTENANCE  
MAINTENANCE DUE MESSAGE: OFF**

or **MAINTENANCE DUE MESSAGE EVERY: nnn HRS**

Maintenance can be scheduled from 1 to 1000 hours in 1 hour increments.

**SELECT ▲** or **▼** - To entry number of hours.

 Factory setting is: MAINTENANCE DUE MESSAGE: OFF

**MENU ▲** - To view SUB-MENU 3-12: TEMPERATURE SCALE

Display will read: **3 - 12 TEMPERATURE SCALE**

**SELECT ▲** or **▼** - To view current setting

Display will read: **3 - 12 TEMPERATURE SCALE  
DISPLAY TEMPERATURE IN: FAHRENHEIT**

**SELECT ▲** or **▼** - To change current setting

There are two choices: Fahrenheit and Centigrade

 Factory setting is: Fahrenheit

**MENU ▲** - To view SUB-MENU 3-13: FAN MODE - *This submenu does not display when RFM is OFF*

Display will read: **3 - 13 FAN MODE**


**SELECT ▲** or **▼** - To view current setting

Display will read: **3- 13 FAN MODE  
FAN MODE: CONTINUOUS**

**SELECT ▲** or **▼** - Change setting, options are:

**CONTINUOUS** (Fan runs continuously.)

or **AUTO** (Fan runs only when there is a call for cooling, heating, humidification or dehumidification. Auto is only used in RFM mode, primarily ceiling applications.)

 Factory setting is: CONTINUOUS

**MENU ▲** - To view SUB-MENU 3-14: OVERRIDE REQUEST (When unit is in night setback mode and you want the unit operating.)

Display will read: **3- 14 OVERRIDE REQUEST**

**SELECT ▲** or **▼** - To view current setting

Display will read: **3 - 14 OVERRIDE REQUEST  
OVERRIDE REQUEST: NO**

**MENU ▲** - To view SUB-MENU 3-15: HUMIDITY ANTICIPATION

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Display will read: **3 - 15 HUMIDITY ANTICIPATION**


**SELECT ▲ or ▼** - To view current setting

Display will read: **3 - 15 HUMIDITY ANTICIPATION  
HUMIDITY ANTICIPATION: OFF**

The two choices: OFF or ON

In the “ON” mode, the DAP III changes setpoints to minimize humidification and dehumidification cycles. See page 64 for complete explanation.

**SELECT ▲ or ▼** - To change current setting

 Factory setting is: OFF

**MENU ▲** - To view SUB-MENU 3-16: HUMIDIFICATION DESATURATION CYCLE

Display will read: **3-16 HUMIDIFICATION DESATURATION CYCLE**

**SELECT ▲ or ▼** - To see current setting

Display will read: **3-16 HUMIDIFICATION DESATURATION CYCLE  
DUTY CYCLE: NOT USED**

**SELECT ▲ or ▼** - To view current setting

There are 19 choices:

DUTY CYCLE: NOT USED *or*  
2 MIN OFF EVERY 5 MIN ON *or* 3 MIN OFF EVERY 5 MIN ON *or* 5 MIN OFF EVERY 5 MIN ON  
2 MIN OFF EVERY 10 MIN ON *or* 3 MIN OFF EVERY 10 MIN ON *or* 5 MIN OFF EVERY 10 MIN ON  
2 MIN OFF EVERY 15 MIN ON *or* 3 MIN OFF EVERY 15 MIN ON *or* 5 MIN OFF EVERY 15 MIN ON  
2 MIN OFF EVERY 20 MIN ON *or* 3 MIN OFF EVERY 20 MIN ON *or* 5 MIN OFF EVERY 20 MIN ON  
2 MIN OFF EVERY 25 MIN ON *or* 3 MIN OFF EVERY 25 MIN ON *or* 5 MIN OFF EVERY 25 MIN ON  
2 MIN OFF EVERY 30 MIN ON *or* 3 MIN OFF EVERY 30 MIN ON *or* 5 MIN OFF EVERY 30 MIN ON

If “DUTY CYCLE: NOT USED” is selected, the standard humidification logic is used. If one of the time OFF every time ON duty cycles are selected and the unit is in the cooling mode, the humidifier will cycle ON and then OFF based on that selected duty cycle.

During the time the humidifier is OFF, a status message HUMIDIFICATION OFF BY DESATURATION CYCLE will be displayed as the current status message that cycle on the lower line of the LCD display.

**SELECT ▲ or ▼** - To change current setting

 Factory setting is: DUTY CYCLE: NOT USED

**MENU ▲** - To view SUB-MENU 3-17: E-SAVER TO DX CHANGEVER DEADBAND

Display will read: **3-17 E-SAVER TO DX CHANGEVER DEADBAND**

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**SELECT ▲ or ▼** - To view current setting.

Display will read **3-17 E-SAVER TO DX CHANGEOVER DEADBAND  
SET AT: 2.0F**

**SELECT ▲ or ▼** - To change setting.

(E-Saver to DX changeover deadband is adjustable from 2 to 5°F.  Factory setting is 2° F. )

**MENU ▲** - To view Sub-Menu 3-18: CONSTATN FAN SPEED FOR DX COOLING

Display will read **3-18 CONSTANT FAN SPEED FOR DX COOLING**

**SELECT ▲ or ▼** - To view current setting.

Display will read **3-18 CONSTANT FAN SPEED FOR DX COOLING  
FAN SPEED: XX%**

Constant fan speed for DX cooling is adjustable from 70 to 100%.

 Factory setting is 100%.

**SELECT ▲ or ▼** - To view current setting.

**MENU ▲** - To view Sub-Menu 3-19: CONSTATN FAN SPEED FOR CW COOLING

Display will read **3-19 CONSTANT FAN SPEED FOR CW COOLING**

**SELECT ▲ or ▼** - To view current setting.

Display will read **3-19 CONSTANT FAN SPEED FOR CW COOLING  
FAN SPEED: 100%**

Constant fan speed for CW cooling is adjustable from 60 to 100%.

 Factory setting is 100%.

**SELECT ▲ or ▼** - To view current setting.

**MENU ▲** - To view Sub-Menu 3-20: FAN SPEED CONTROL FOR DX COOLING

Display will read **3-20 FAN SPEED FOR DX COOLING**

**SELECT ▲ or ▼** - To view current setting

Display will read **3-20 FAN SPEED CONTROL FOR DX COOLING  
FAN SPEED: CONSTANT SPEED**

*or*

**CONSTANT STATIC PRESSURE**

**SELECT ▲ or ▼** - To change current setting.



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**MENU ▲** - To view Sub-Menu 3-21: FAN SPEED CONTROL FOR CW COOLING

Display will read **3-21 FAN SPEED FOR CW COOLING**

**SELECT ▲** or **▼** - To view current setting

Display will read **3-21 FAN SPEED CONTROL FOR CW COOLING**  
**FAN SPEED: CONSTANT SPEED**

*or one of the following*

**CONSTANT STATIC PRESSURE**  
**PROPORTIONAL TO VALVE**  
**CONTROLLED BY BMS**

**SELECT ▲** or **▼** - To change current setting.

**MENU ▲** - To view Sub-Menu 3-22: MAXIMUM FAN SPEED

Display will read **3-22 MAXIMUM FAN SPEED**

**SELECT ▲** or **▼** - To view current setting.

Display will read **3-22 MAXIMUM FAN SPEED**  
**FAN SPEED: 100%**

Maximum fan speed is adjustable from 70 to 100%.

 Factory setting is 100%.

**MENU ▲** - To view Sub-Menu 3-23: MINIMUM FAN SPEED

Display will read **3-23 MINIMUM FAN SPEED**

**SELECT ▲** or **▼** - To view current setting

Display will read **3-23 MINIMUM FAN SPEED**  
**FAN SPEED: 70%**

Minimum fan speed is adjustable from 40 to 100%.

 Factory setting is 70%.

**SELECT ▲** or **▼** - To change current setting.

**MENU ▲** - To view Sub-Menu 3-24: DIFFERENTIAL PRESSURE SETPOINT

Display will read **3-24 DIFFERENTIAL PRESSURE SETPOINT**

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**SELECT ▲** or **▼** - To view current setting

Display will read     **3-24 DIFFERENTIAL PRESSURE SETPOINT**  
                                  **SET AT: 0.00" H2O**

Differential pressure setpoint is adjustable from 0.00 TO 1.00" H2O.

 Factory setting is 0.00" H2O.

**SELECT ▲** or **▼** - To change current setting.

**MENU ▲** - To view Sub-Menu 3-25: DIFFERENTIAL PRESSURE DEADBAND

Display will read     **3-25 DIFFERENTIAL PRESSURE DEADBAND**

**SELECT ▲** or **▼** - To view current setting.

Display will read     **3-25 DIFFERENTIAL PRESSURE DEADBAND**  
                                  **SET AT: 0.00" H2O**

Differential pressure setpoint is adjustable from 0.05 to 0.10" H2O.

 Factory setting is 0.05" H2O.

**MENU ▲** - To view Sub-Menu 3-26: FAN SPEED RESPONSE RATE

Display will read     **3-26 FAN SPEED RESPONSE RATE**

**SELECT ▲** or **▼** - To view current setting

Display will read     **3-26 FAN SPEED RESPONSE RATE**  
                                  **RESPONSE TIME: 05 SECONDS**

Fan speed response time is adjustable from 6 to 60 seconds.

 Factory setting is 5 seconds.

**SELECT ▲** or **▼** - To change current setting.

or

**EXIT** - Press EXIT to return to **Group 3 - OPERATION**

**EXIT** - Press EXIT again to return to Current Operating Functions & Status Display

OR

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## Group 4

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**MENU ▲** - To proceed to Group 4 - ALARMS

Display will read: **GROUP 4 – ALARMS**

**SELECT ▲** - To view Group 4 - ALARMS

Display will read: **4-1 AUDIO ALARM MODE**

**SELECT ▲** or **▼** - To display current setting

Display will read: **4-1 AUDIO ALARM MODE**  
**AUDIO ALARM: LONG BEEP**

**SELECT ▲** or **▼** - to scroll through the available selections.  
The following can be viewed, audio alarm will also sound:

**NONE**  
**SHORT BEEP**  
**LONG BEEP**  
**FULL ON**

 Factory setting is: LONG BEEP

**MENU ▲** - To view next sub-menu

Display will read: **4-2 CHANGE HI TEMPERATURE ALARM LIMIT**

**SELECT ▲** or **▼** - To view current setting

Display will read: **4-2 CHANGE HI TEMPERATURE ALARM LIMIT**  
**SET AT: xxF (C)**

**SELECT ▲** or **▼** - To change current setting

(High temperature alarm can be adjusted from 70 to 90°F (21 to 32°C) in 1° increments. There is also a disable function. When the disable function is set the display will read:

**4-2 CHANGE HI TEMPERATURE ALARM LIMIT**  
**DISABLE HI TEMPERATURE ALARM**

 Factory setting is: 80F (C)

**MENU ▲** - To view next sub-menu

Display will read: **4-3 CHANGE LO TEMPERATURE ALARM LIMIT**

**SELECT ▲** or **▼** - To view current setting

Display will read: **4-3 CHANGE LO TEMPERATURE ALARM LIMIT**  
**SET AT: xxF (C)**

**SELECT ▲** or **▼** - To change current setting

Low temperature alarm can be adjusted from 55 to 75°F (12.8 to 23.9°C) in 1° increments. There is also a disable function.

When the disable function is set the display will read:

---

**4-3 CHANGE LO TEMPERATURE ALARM LIMIT  
DISABLE LOW TEMPERATURE ALARM**

 Factory setting is: 60F (C)

**MENU ▲** - To view next sub-menu

Display will read: **4-4 CHANGE HI HUMIDITY ALARM LIMIT**

**SELECT ▲** To view current setting

Display will read: **4-4 CHANGE HI HUMIDITY ALARM LIMIT  
SET AT: nn%**

**SELECT ▲ or ▼** - To change current setting

High humidity alarm can be adjusted from 35 to 90% RH in 1% increments. There is also a disable function. When the disable function is set the display will read:

**4-4 CHANGE HI HUMIDITY ALARM LIMIT  
DISABLE HIGH HUMIDITY ALARM**

 Factory setting is: 60%

**MENU ▲** - To view next sub-menu

Display will read: **4-5 CHANGE LO HUMIDITY ALARM LIMIT**

**SELECT ▲ or ▼** - To view current setting

Display will read: **4-5 CHANGE LO HUMIDITY ALARM LIMIT  
SET AT: nn%**

**SELECT ▲ or ▼** - To change current setting

Low humidity alarm can be adjusted from 10 to 65% RH in 1% increments. There is also a disable function. When the disable function is set the display will read:

**4-5 CHANGE LO HUMIDITY ALARM LIMIT  
DISABLE LO HUMIDITY ALARM**

 Factory setting is: 40%

**MENU ▲** - To view next sub-menu

Display will read: **4-6 FIRESTAT TEMPERATURE ALARM LIMIT**

**SELECT ▲ or ▼** - To view current setting

Display will read: **4-6 FIRESTAT TEMPERATURE ALARM LIMIT  
UNIT SHUTDOWN & ALARM AT: nnnF (C)**

Firestat temperature can be adjusted from 10 to 150° F (37 to 65° C) in 1° increments.

**SELECT ▲ or ▼** - To change current setting

 Factory setting is: 100° F (C)


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**MENU ▲** - Press MENU ▲ button to view next sub-menu

Display will read: **4-7 LOW DISCHARGE TEMP ALARM LIMIT**

**SELECT ▲ or ▼** - Press SELECT button to view current setting

Display will read: **4-7 LOW DISCHARGE TEMP ALARM LIMIT**  
**SET AT: nnF (C)**

 **NOTE:** Low discharge temperature alarm limit requires an optional discharge air sensor. Sensor is factory installed if ordered with unit. If sensor is not installed, the following message will be displayed:

**SENSOR NOT INSTALLED ON THIS UNIT**

If sensor is installed the temperature alarm limit has a range of 45 to 60°F (7.2 to 15.6°C). Low discharge temperature alarm can also be disabled through Sub-Menu 4-7. If disabled, the following message will displayed:

**DISABLE LOW DISCHARGE TEMP ALARM**

**SELECT ▲ or ▼** - To change current setting

 Factory setting is: 52° F (C)


**MENU ▲** - To view next sub-menu

Display will read: **4-8 COMPRESSOR SHORT-CYCLE ALARM**

**SELECT ▲ or ▼** - To view current setting

Display will read: **4-8 COMPRESSOR SHORT-CYCLE ALARM**  
**COMPRESSOR SHORT-CYCLE ALARM: ON**

**SELECT ▲ or ▼** - To change current setting

 **NOTE:** There are two settings available ON or OFF. A compressor short-cycle alarm will activate if the compressor has been energized ten (10) times in a one (1) hour period.

Compressor life can be shortened by allowing frequent cycling. On-going short-cycle alarm problems should be analyzed before selecting "OFF."

 Factory setting is: ON

**MENU ▲** - To view next sub-menu

Display will read: **4-9 WATER UNDER FLOOR ALARM ACTION**

**SELECT ▲ or ▼** - To view current setting

Display will read: **4-9 WATER UNDER FLOOR ALARM ACTION**  
**ACTION: aaaa**

There are three available selections:

**NONE** - Audio alarm only.

---

**UNIT SHUTDOWN** - All functions cease until condition is corrected.

**COMPRESSOR LOCKOUT** - Compressors are locked out, other functions continue.

**SELECT ▲ or ▼** - To change current setting

 Factory setting is: **NONE**

**MENU ▲** - To view next sub-menu

Display will read: **4-10 NO WATER FLOW ALARM ACTION**

**SELECT ▲ or ▼** - To view current setting

Display will read: **4-10 NO WATER FLOW ALARM ACTION  
ACTION: NONE**

There are two available selections:

**NONE**

**COMPRESSOR LOCKOUT** - Compressors are locked out, other functions continue.

**SELECT ▲ or ▼** - To change current setting

 Factory setting is: **NONE**

**MENU ▲** - To view next sub-menu

Display will read: **4-11 PERSON TO CONTACT ON ALARM**

**SELECT ▲ or ▼** - To view current setting

Display will read: **4-11 PERSON TO CONTACT ON ALARM  
CONTACT MESSAGE NOT USED**

There are five available selections:

**CONTACT MESSAGE NOT USED**

**ALARM: CONTACT DATA PROCESSING MANAGER**

**ALARM: CONTACT MAINTENANCE ENGINEER**

**ALARM: CONTACT SERVICE COMPANY**

**ALARM: CUSTOM MESSAGE** - Requires programming at Data Aire factory.



**NOTE:** Custom message is optional and requires programming at the Data Aire factory.

**SELECT ▲ or ▼** - To change current setting

 Factory setting is: **CONTACT MESSAGE NOT USED**

**MENU ▲** - To view next sub-menu

Display will read: **4-12 MESSAGE FOR OPT. ALARM INPUT 1**

**SELECT ▲ or ▼** - To view current setting

Display will read: **4-12 MESSAGE FOR OPT. ALARM INPUT 1  
aaaa**



The following selections are available:

**LOCAL ALARM 1: SEE TAG INSIDE DOOR  
REHEAT AND HUMIDIFICATION INHIBITED  
REHEAT INHIBITED  
STANDBY PUMP ON: CHECK PRIMARY PUMP  
UPS/ALTERNATE POWER ON: CHECK MAIN POWER  
UNIT IN STANDBY, ALL FUNCTIONS HELD OFF  
HUMIDIFIER PROBLEM: CHECK WATER PRESSURE  
HIGH PRESSURE/INTERNAL OVERLOAD: COMP1  
HIGH PRESSURE/INTERNAL OVERLOAD: COMP2  
LOW PRESSURE C1: AUTOMATIC RESET  
DIRTY FILTER: CHECK FILTERS  
SMOKE DETECTOR: UNIT SHUTDOWN  
NO WATER FLOW: CHECK PUMP  
CHECK HUMIDIFIER CYLINDER  
CUSTOM MESSAGE ALARM - Requires programming at Data Aire factory.  
FAN MOTOR OVERLOAD: CHECK MOTOR AMPERAGE  
HUMIDIFICATION INHIBITED**

Messages in shaded area only display when the DAP III is in RFM mode

**SELECT ▲ or ▼** - To change current setting

 Factory setting is: **LOCAL ALARM 1: SEE TAG INSIDE DOOR**

**MENU ▲** - To view next sub-menu

Display will read: **4-13 DELAY FOR OPT. ALARM INPUT 1**


**SELECT ▲ or ▼** - to view current setting

Display will read: **4-13 DELAY FOR OPT. ALARM INPUT 1  
ALARM DELAY: nnn SECONDS**

**SELECT ▲ or ▼** - to change current setting

Alarm delay can be set from 1 to 900 seconds in one second increments. The delay can also be set to OFF. When set to OFF, the display will read:

**4-13 DELAY FOR OPT. ALARM INPUT 1  
ALARM DELAY: OFF**

 Factory setting is: **5 SECONDS**

**MENU ▲** - To view next sub-menu

Display will read: **4-14 MESSAGE FOR OPT. ALARM INPUT 2**

**SELECT ▲ or ▼** - To view current setting

Display will read: **4-14 MESSAGE FOR OPT. ALARM INPUT 2  
aaaa**

The following selections are available:

**LOCAL ALARM 2: SEE TAG INSIDE DOOR  
REHEAT AND HUMIDIFICATION INHIBITED  
REHEAT INHIBITED  
STANDBY PUMP ON: CHECK PRIMARY PUMP  
UPS/ALTERNATE POWER ON: CHECK MAIN POWER**

**HUMIDIFIER PROBLEM: CHECK WATER PRESSURE  
HIGH PRESSURE/INTERNAL OVERLOAD: COMP1  
HIGH PRESSURE/INTERNAL OVERLOAD: COMP2  
LOW PRESSURE C1: AUTOMATIC RESET  
DIRTY FILTER: CHECK FILTERS  
SMOKE DETECTOR: UNIT SHUTDOWN  
NO WATER FLOW: CHECK PUMP**

Messages in shaded area only display when the DAP III is in RFM mode.

**CHECK HUMIDIFIER CYLINDER  
CUSTOM MESSAGE ALARM - Requires programming at Data Aire factory.  
FAN MOTOR OVERLOAD: CHECK MOTOR AMPERAGE  
HUMIDIFICATION INHIBITED**

**SELECT ▲ or ▼ - To change current setting**

 Factory setting is: **LOCAL ALARM 2: SEE TAG INSIDE DOOR**

**MENU ▲ - To view next sub-menu**

Display will read: **4-15 DELAY FOR OPT. ALARM INPUT 2**


**SELECT ▲ or ▼ - To view current setting**

Display will read: **4-15 DELAY FOR OPT. ALARM INPUT 2  
ALARM DELAY: nnn SECONDS**

**SELECT ▲ or ▼ - To change current setting**

Alarm delay can be set from 1 to 900 seconds in one second increments. The delay can also be set to OFF. When set to OFF, the display will read:

**4-15 DELAY FOR OPT. ALARM INPUT 2  
ALARM DELAY: OFF**

 Factory setting is: **5 SECONDS**

**MENU ▲ - to view next sub-menu**

Display will read: **4-16 MESSAGE FOR OPT. ALARM INPUT 3**

**SELECT ▲ or ▼ - To view current setting**

Display will read: **4-16 MESSAGE FOR OPT. ALARM INPUT 3  
aaaa**

The following selections are available:

**LOCAL ALARM 3: SEE TAG INSIDE DOOR  
REHEAT AND HUMIDIFICATION INHIBITED  
REHEAT INHIBITED  
STANDBY PUMP ON: CHECK PRIMARY PUMP  
UPS/ALTERNATE POWER ON: CHECK MAIN POWER**

**HUMIDIFIER PROBLEM: CHECK WATER PRESSURE**  
**HIGH PRESSURE/INTERNAL OVERLOAD: COMP 1**  
**HIGH PRESSURE/INTERNAL OVERLOAD: COMP 2**  
**LOW PRESSURE C1: AUTOMATIC RESET**  
**DIRTY FILTER: CHECK FILTERS**  
**SMOKE DETECTOR: UNIT SHUTDOWN**  
**NO WATER FLOW: CHECK PUMP**

Messages in shaded area only display when the DAP III is in RFM mode.

**CHECK HUMIDIFIER CYLINDER**  
**CUSTOM MESSAGE ALARM** - Requires programming at Data Aire factory.  
**FAN MOTOR OVERLOAD: CHECK MOTOR AMPERAGE**  
**HUMIDIFICATION INHIBITED**

**SELECT ▲ or ▼** - To change current setting

 Factory setting is: **LOCAL ALARM 3: SEE TAG INSIDE DOOR**

**MENU ▲** - To view next sub-menu

Display will read: **4-17 DELAY FOR OPT. ALARM INPUT 3**

**SELECT ▲ or ▼** - To view current setting

Display will read: **4-17 DELAY FOR OPT. ALARM INPUT 3**  
**ALARM DELAY: nnn SECONDS**

Alarm delay can be set from 1 to 900 seconds by pressing the **SELECT ▲/SELECT ▼** button. The delay can also be set to OFF. When set to OFF, the display will read:

**4-17 DELAY FOR OPT. ALARM INPUT 3**  
**ALARM DELAY: OFF**

 Factory setting is: **5 SECONDS**

**MENU ▲** - To view next sub-menu

Display will read: **4-18 MESSAGE FOR OPT. ALARM INPUT 4**

**SELECT ▲ or ▼** - To view current setting

Display will read: **4-18 MESSAGE FOR OPT. ALARM INPUT 4**  
**aaaaaaaaaaaa**

The following selections are available:

**LOCAL ALARM 4: SEE TAG INSIDE DOOR**  
**REHEAT AND HUMIDIFICATION INHIBITED**  
**REHEAT INHIBITED**  
**STANDBY PUMP ON: CHECK PRIMARY PUMP**  
**UPS/ALTERNATE POWER ON: CHECK MAIN POWER\**  
**HIGH CONDENSATE WATER LEVEL**  
**CHECK HUMIDIFIER CYLINDER**  
**CUSTOM MESSAGE ALARM** - Requires programming at Data Aire factory.  
**FAN MOTOR OVERLOAD: CHECK MOTOR AMPERAGE**  
**HUMIDIFICATION INHIBITED**

**SELECT ▲ or ▼** - to change current setting

---

 Factory setting is: **LOCAL ALARM 4: SEE TAG INSIDE DOOR**

**MENU ▲** - To view next sub-menu

Display will read: **4-19 DELAY FOR OPT. ALARM INPUT 4**


**SELECT ▲** or **▼** - To view current setting

Display will read: **4-19 DELAY FOR OPT. ALARM INPUT 4  
ALARM DELAY: nnn SECONDS**

**SELECT ▲** or **▼** - To change current setting

Alarm delay can be set from 1 to 900 seconds in one second increments. The delay can also be set to OFF. When set to OFF, the display will read:

**4-19 DELAY FOR OPT. ALARM INPUT 4  
ALARM DELAY: OFF**

 Factory setting is: **5 SECONDS**

**MENU ▲** - To view next sub-menu

Display will read: **4-20 REMOTE ALARM 1 SELECTION**

**SELECT ▲** or **▼** - To view current setting

Display will read: **4-20 REMOTE ALARM 1 SELECTION  
aaaaaaaaaa**

Remote alarms may be grouped. To add or remove alarms press the SILENCE button. The added alarm will be designated by an asterisk (\*). Only those alarms with the asterisk (\*) will be included in REMOTE ALARM 1.

**SELECT ▲** or **▼** - To scroll through available alarms.

Available alarms for group 1:

- |   |  |
|---|--|
| CHECK HUMIDIFIER CYLINDER               | LOCAL ALARM 3                          |
| CHILLED WATER SENSOR PROBLEM ALARM      | LOCAL ALARM 4                          |
| COMPRESSOR SHORT-CYCLE                  | LOW DISCHARGE AIR TEMPERATURE ALARM    |
| CUSTOM MESSAGE ALARM, OPT INPUT 1       | LOW HUMIDITY ALARM                     |
| CUSTOM MESSAGE ALARM, OPT INPUT 2       | LOW PRESSURE COMPRESSOR 1 ALARM        |
| CUSTOM MESSAGE ALARM, OPT INPUT 3       | LOW PRESSURE COMPRESSOR 2 ALARM        |
| CUSTOM MESSAGE ALARM, OPT INPUT 4       | LOW TEMPERATURE ALARM                  |
| DIRTY FILTER ALARM                      | LOW VOLTAGE ALARM                      |
| DISCHARGE AIR SENSOR PROBLEM ALARM      | MAINTENANCE REQUIRED ALARM             |
| FAN MOTOR OVERLOAD ALARM                | MANUAL OVERRIDE ALARM                  |
| FIRE STAT ALARM                         | NO AIR FLOW ALARM                      |
| HIGH CONDENSATE WATER LEVEL             | NO WATER FLOW ALARM                    |
| HIGH HUMIDITY ALARM                     | POWER PROBLEM, RESTART ALARM           |
| HIGH PRESSURE/INTERNAL OVERLOAD: COMP 1 | REHEAT & HUMIDIFICATION INHIBITED      |
| HIGH PRESSURE/INTERNAL OVERLOAD: COMP 2 | REHEAT INHIBITED                       |
| HIGH TEMPERATURE ALARM                  | SMOKE DETECTOR ALARM                   |
| HUMIDIFICATION INHIBITED                | STANDBY PUMP ON ALARM                  |
| HUMIDIFIER PROBLEM ALARM                | TEMPERATURE SENSOR PROBLEM ALARM       |
| HUMIDITY SENSOR PROBLEM ALARM           | UNIT IN STANDBY, ALL FUNCTIONS ARE OFF |
| LOCAL ALARM 1                           | UPS/ALTERNATE POWER ON ALARM           |
| LOCAL ALARM 2                           | WATER DETECTION PROBE ALARM            |

Once selections have been made,


**MENU ▲** - To view next sub-menu

Display will read: **4-21 REMOTE ALARM 2 SELECTION**

**SELECT ▲ or ▼** - To view current setting

Display will read: **4-21 REMOTE ALARM 2 SELECTION**  
**aaaaaaaa**

Remote alarms may be grouped. To add or remove alarms press the SILENCE button. The added alarm will be designated by an asterisk (\*). Only those alarms with the asterisk (\*) will be included in REMOTE ALARM 2.

 **NOTE:** Remote alarm group 2 requires an optional Relay Module. If unit does not have a Relay Module, the following message will be displayed:

**4-21 – REMOTE ALARM 2 SELECTION**  
**RELAY MODULE REQUIRED**

Available alarms for group 2:

CHECK HUMIDIFIER CYLINDER	LOCAL ALARM 3
CHILLED WATER SENSOR PROBLEM ALARM	LOCAL ALARM 4
COMPRESSOR SHORT-CYCLE	LOW DISCHARGE AIR TEMPERATURE ALARM
CUSTOM MESSAGE ALARM, OPT INPUT 1	LOW HUMIDITY ALARM
CUSTOM MESSAGE ALARM, OPT INPUT 2	LOW PRESSURE COMPRESSOR 1 ALARM
CUSTOM MESSAGE ALARM, OPT INPUT 3	LOW PRESSURE COMPRESSOR 2 ALARM
CUSTOM MESSAGE ALARM, OPT INPUT 4	LOW TEMPERATURE ALARM
DIRTY FILTER ALARM	LOW VOLTAGE ALARM
DISCHARGE AIR SENSOR PROBLEM ALARM	MAINTENANCE REQUIRED ALARM
FAN MOTOR OVERLOAD ALARM	MANUAL OVERRIDE ALARM
FIRE STAT ALARM	NO AIR FLOW ALARM
HIGH CONDENSATE WATER LEVEL	NO WATER FLOW ALARM
HIGH HUMIDITY ALARM	POWER PROBLEM, RESTART ALARM
HIGH PRESSURE/INTERNAL OVERLOAD: COMP 1	REHEAT & HUMIDIFICATION INHIBITED
HIGH PRESSURE/INTERNAL OVERLOAD: COMP 2	REHEAT INHIBITED
HIGH TEMPERATURE ALARM	SMOKE DETECTOR ALARM
HUMIDIFICATION INHIBITED	STANDBY PUMP ON ALARM
HUMIDIFIER PROBLEM ALARM	TEMPERATURE SENSOR PROBLEM ALARM
HUMIDITY SENSOR PROBLEM ALARM	UNIT IN STANDBY, ALL FUNCTIONS ARE OFF
LOCAL ALARM 1	UPS/ALTERNATE POWER ON ALARM
LOCAL ALARM 2	WATER DETECTION PROBE ALARM

Once selections have been made,


**MENU ▲** - To view next sub-menu

Display will read: **4-22 REMOTE ALARM 3 SELECTION**

**SELECT ▲ or ▼** - To view current setting

Display will read: **4-22 REMOTE ALARM 3 SELECTION**  
**aaaaaaaa**

Remote alarms may be grouped. To add or remove alarms press the SILENCE button. The added alarm will be designated by an asterisk (\*). Only those alarms with the asterisk (\*) will be included in REMOTE ALARM 3.

 **NOTE:** Remote alarm group 3 requires an optional Relay Module. If unit does not have a Relay Module, the following message will be displayed:

### 4-22 – REMOTE ALARM 3 SELECTION RELAY MODULE REQUIRED

Available alarms for group 3:

CHECK HUMIDIFIER CYLINDER	LOCAL ALARM 3
CHILLED WATER SENSOR PROBLEM ALARM	LOCAL ALARM 4
COMPRESSOR SHORT-CYCLE	LOW DISCHARGE AIR TEMPERATURE ALARM
CUSTOM MESSAGE ALARM, OPT INPUT 1	LOW HUMIDITY ALARM
CUSTOM MESSAGE ALARM, OPT INPUT 2	LOW PRESSURE COMPRESSOR 1 ALARM
CUSTOM MESSAGE ALARM, OPT INPUT 3	LOW PRESSURE COMPRESSOR 2 ALARM
CUSTOM MESSAGE ALARM, OPT INPUT 4	LOW TEMPERATURE ALARM
DIRTY FILTER ALARM	LOW VOLTAGE ALARM
DISCHARGE AIR SENSOR PROBLEM ALARM	MAINTENANCE REQUIRED ALARM
FAN MOTOR OVERLOAD ALARM	MANUAL OVERRIDE ALARM
FIRE STAT ALARM	NO AIR FLOW ALARM
HIGH CONDENSATE WATER LEVEL	NO WATER FLOW ALARM
HIGH HUMIDITY ALARM	POWER PROBLEM, RESTART ALARM
HIGH PRESSURE/INTERNAL OVERLOAD: COMP 1	REHEAT & HUMIDIFICATION INHIBITED
HIGH PRESSURE/INTERNAL OVERLOAD: COMP 2	REHEAT INHIBITED
HIGH TEMPERATURE ALARM	SMOKE DETECTOR ALARM
HUMIDIFICATION INHIBITED	STANDBY PUMP ON ALARM
HUMIDIFIER PROBLEM ALARM	TEMPERATURE SENSOR PROBLEM ALARM
HUMIDITY SENSOR PROBLEM ALARM	UNIT IN STANDBY, ALL FUNCTIONS ARE OFF
LOCAL ALARM 1	UPS/ALTERNATE POWER ON ALARM
LOCAL ALARM 2	WATER DETECTION PROBE ALARM

Once selections have been made,


**MENU ▲** - To view next sub-menu

Display will read: **4-23 REMOTE ALARM 4 SELECTION**

**SELECT ▲ or ▼** - To view current setting

Display will read: **4-23 REMOTE ALARM 4 SELECTION**  
**aaaaaaa**

Remote alarms may be grouped. To add or remove alarms press the SILENCE button. The added alarm will be designated by an asterisk (\*). Only those alarms with the asterisk (\*) will be included in ALARM 4.

 **NOTE:** Remote alarm group 4 requires an optional Relay Module. If unit does not have a Relay Module, the following message will be displayed:

### 4-23 REMOTE ALARM 4 SELECTION RELAY MODULE REQUIRED

Available alarms for group 4:

CHECK HUMIDIFIER CYLINDER	LOCAL ALARM 3
CHILLED WATER SENSOR PROBLEM ALARM	LOCAL ALARM 4



COMPRESSOR SHORT-CYCLE  
CUSTOM MESSAGE ALARM, OPT INPUT 1  
CUSTOM MESSAGE ALARM, OPT INPUT 2  
CUSTOM MESSAGE ALARM, OPT INPUT 3  
CUSTOM MESSAGE ALARM, OPT INPUT 4  
DIRTY FILTER ALARM  
DISCHARGE AIR SENSOR PROBLEM ALARM  
FAN MOTOR OVERLOAD ALARM  
FIRE STAT ALARM  
HIGH CONDENSATE WATER LEVEL  
HIGH HUMIDITY ALARM  
HIGH PRESSURE/INTERNAL OVERLOAD: COMP 1  
HIGH PRESSURE/INTERNAL OVERLOAD: COMP 2  
HIGH TEMPERATURE ALARM  
HUMIDIFICATION INHIBITED  
HUMIDIFIER PROBLEM ALARM  
HUMIDITY SENSOR PROBLEM ALARM  
LOCAL ALARM 1  
LOCAL ALARM 2

LOW DISCHARGE AIR TEMPERATURE ALARM  
LOW HUMIDITY ALARM  
LOW PRESSURE COMPRESSOR 1 ALARM  
LOW PRESSURE COMPRESSOR 2 ALARM  
LOW TEMPERATURE ALARM  
LOW VOLTAGE ALARM  
MAINTENANCE REQUIRED ALARM  
MANUAL OVERRIDE ALARM  
NO AIR FLOW ALARM  
NO WATER FLOW ALARM  
POWER PROBLEM, RESTART ALARM  
REHEAT & HUMIDIFICATION INHIBITED  
REHEAT INHIBITED  
SMOKE DETECTOR ALARM  
STANDBY PUMP ON ALARM  
TEMPERATURE SENSOR PROBLEM ALARM  
UNIT IN STANDBY, ALL FUNCTIONS ARE OFF  
UPS/ALTERNATE POWER ON ALARM  
WATER DETECTION PROBE ALARM

**MENU ▲** - To view next sub-menu

Display will read: **4-24 NO AIR FLOW ALARM TIME DELAY** (Locked menu)

**SELECT ▲ or ▼** - To view current setting

Display will read: **4-24 NO AIR FLOW ALARM TIME DELAY**  
**ALARM DELAY: nnn SECONDS**

**SELECT ▲ or ▼** - To change alarm delay from 60 to 180 seconds in 1 second increments.

 Factory setting is: **5 SECONDS**

**MENU ▲** - To view next sub-menu

Display will read: **4-25 NO WATER FLOW ALARM TIME DELAY** (Locked menu)

**SELECT ▲ or ▼** - To view current setting

Display will read: **4-25 NO WATER FLOW ALARM TIME DELAY**  
**ALARM DELAY: nnn SECONDS**

**SELECT ▲ or ▼** - To change alarm delay from 60 to 180 seconds in 1 second increments.

 Factory setting is: **60 SECONDS**

**EXIT** - Press EXIT to return to Group 4 - ALARMS

**EXIT** - Press EXIT again to return to Current Operating Functions & Status Display

OR

## Group 5



Menu Group 5 is a locked menu. Only trained technicians should modify these settings. Changes in settings can **severely** impact the performance of the unit and/or site.

**MENU ▲** - To Group 5 - CONFIGURATION

Display will read: **GROUP 5 – CONFIGURATION**

**SELECT ▲** or **▼** - To view Sub-Menus

Display will read: **5-1 SENSOR CONNECTED LOCATION**

**SELECT ▲** or **▼** - To view current setting

Display will read: **5-1 SENSOR CONNECTED LOCATION  
CONNECTED TO: CONTROL MODULE**

Sub menu 5-1 allows one to indicate whether the temperature and humidity sensors are connected in the display module or in the control module.

**SELECT ▲** or **▼** - To view alternate setting

**CONNECTED TO: DISPLAY MODULE**

 Factory setting is: **CONTROL MODULE**

Use DISPLAY MODULE only when sensors are located in the REMOTE DISPLAY MODULE.

**MENU ▲** - To view next sub-menu

Display will read: **5-2 DEFINE PASSWORD**

**SELECT ▲** or **▼** - To view current setting

Display will read: **5-2 DEFINE PASSWORD  
CHANGE PASSWORD TO: nn**

See page 19 for explanation of passwords.

**MENU ▲** - To view next sub-menu

Display will read: **5-3 RFM ACTIVE**

**SELECT ▲** or **▼** - To view current setting

Display will read: **5-3 RFM ACTIVE  
SHOW MENUS: OFF**

This menu option is set at the factory and cannot be changed. For DAP III's with only a standard control module (ceiling units) it will read:  
SHOW MENUS: ON.  
For DAP III's with expanded control modules (floor units) it will read:  
SHOW MENUS: OFF

**MENU ▲** - To view next sub-menu

Display will read: **5-4 COMPRESSOR(S)**

**SELECT ▲** or **▼** - To view current setting

Display will read: **5-4 COMPRESSOR(S)  
PRIMARY**

**SELECT ▲** or **▼** - To view alternate settings

**PRIMARY/PRIMARY  
PRIMARY/SECONDARY**

**PRIMARY/SECONDARY PRIMARY/SECONDARY  
FOUR TANDEM COMPRESSORS  
NONE**

**MENU ▲** - To view next sub-menu


Display will read: **5-5 REHEAT STAGES**

**SELECT ▲ or ▼** - To view current setting

Display will read: **5-5 REHEAT STAGES  
REHEAT STAGES: 1 HOT WATER**

**SELECT ▲ or ▼** - To view alternate setting

**NONE  
1  
2  
3 (OR VALUE ON P15-16, P15-17)**

 Factory setting for 5-5 is dependent on the equipment and options selected. If reheat has been deleted the factory setting is **NONE**. If the unit is a floor mount or LCS unit without additional reheat the factory setting is **3**. If the unit is a ceiling, non LCS, the factory setting is **1**.

**MENU ▲** - To view next sub-menu


Display will read: **5-6 HUMIDIFIER**

**SELECT ▲ or ▼** - To view current setting

Display will read: **5-6 HUMIDIFIER  
HUMIDIFIER: COMPUTER, NON-MODULATING**

**SELECT ▲ or ▼** - To view alternate setting

**COMPUTER, MODULATING  
COMFORT, NON-MODULATING  
COMFORT, MODULATING  
NONE**

 Factory setting for 5-6 is also dependent on the equipment and options selected. If humidification has been deleted the factory setting is **NONE**. If the unit does not have optional humidification the setting is: **COMPUTER, NON-MODULATING**. If the unit has optional humidification the setting is: **COMPUTER, MODULATING**.

**MENU ▲** - To view next sub-menu

Display will read: **5-7 WATER VALVE MODE**

**SELECT ▲ or ▼** - To view current setting

Display will read: **5-7 WATER VALVE MODE  
WATER VALVE: NONE**

**SELECT ▲ or ▼** - To view alternate setting

**WATER VALVE: CHILLED WATER COOLING  
WATER VALVE: ENERGY SAVER COOLING  
WATER VALVE: AUX CHILLED WATER COOLING  
WATER VALVE: CHILLED WATER DISC REG**

 Factory setting is: **NONE**

**MENU ▲** - To view next sub-menu

---

Display will read: **5-8 WATER VALVE VOLTAGE CONTROL RANGE**

**SELECT ▲ or ▼** - To view current setting

Display will read: **5-8 WATER VALVE VOLTAGE CONTROL RANGE  
WATER VALVE CONTROL RANGE: 2-10 DC**

**SELECT ▲ or ▼** - To view alternate setting

**0-10 DC  
4-7 DC  
6-9 DC  
7-10 DC**

 Factory setting is: **2-10 DC**

**MENU ▲** - To view next sub-menu

Display will read: **5-9 REVERSE ACTING WATER VALVE**

**SELECT ▲ or ▼** - To view current setting

Display will read: **5-9 REVERSE ACTING WATER VALVE  
REVERSE ACTING WATER VALVE: NO  
OR  
REVERSE ACTING WATER VALVE: YES**

 Factory setting is: **NO**

**SELECT ▲ or ▼** - To change setting

**MENU ▲** - To view next sub-menu

Display will read: **5-10 HUMIDIFIER AUTOFLUSH TIMER** - (Requires Relay Module)

**SELECT ▲ or ▼** - To view current setting

Display will read: **5-10 HUMIDIFIER AUTOFLUSH TIMER  
HUMIDIFIER AUTOFLUSH TIMER NOT USED**

**SELECT ▲ or ▼** - To view alternate setting

**FLUSH HUMIDIFIER EVERY 06 HOUR  
FLUSH HUMIDIFIER EVERY 12 HOUR  
FLUSH HUMIDIFIER EVERY 24 HOUR**

**- to -**

**FLUSH HUMIDIFIER EVERY 96 HOUR** - in 12 hour increments

 Factory setting is: **HUMIDIFIER AUTOFLUSH TIMER NOT USED**

**EXIT** - Press EXIT to return to **GROUP 5 - CONFIGURATION**

**EXIT** - Press EXIT again to return to Current Operating Functions & Status Display

*OR*

## Group 6

### MENU ▲ - To Group 6 - NETWORK

**SELECT ▲** - To view Group 6 sub-menus

Display will read: **6-1 UNIT & NETWORK ID**

**SELECT ▲** or **▼** - To view current setting

Display will read: **6-1 UNIT & NETWORK ID**  
**UNIT & NETWORK ID: nnn**

**SELECT ▲** or **▼** - To change current setting

Units may given a numerical ID from 001 to 260. Units cannot share the same ID. Units will not respond to a network unless a separate ID is entered for each unit.

 Factory setting is: **UNIT & NETWORK ID: 001**

### MENU ▲ - To view next sub-menu

Display will read: **6-2 NETWORK PROTOCOL**

**SELECT ▲** or **▼** - To view current setting

Display will read: **6-2 NETWORK PROTOCOL**  
aaaaaaaaaaaaaaaaaaaaa

Menus 6-2 to 6-15 are locked. To modify you have to unlock the DAP III.

If protocol is changed the DAP III panel needs to be reset. Turn panel OFF then ON.

Data Aire offers protocols to interface with a number of building management systems (BMS). Units must be provided with optional communication cards.

The following choices are available:

BACNET IP	BACNET MS/TP MASTER	BACKNET MS/TP SALVE
LONWORKS	JOHNSON CONTROLS	MODBUS TCP
MODBUS RTU	MODBUS ASCII	METASYS N2
		SNMPv1/v2c

 Factory setting is based on protocol ordered. The appropriate protocol will be factory set.

### MENU ▲ - To view next sub-menu

Display will read: **6-3 IP ADDRESS**

**SELECT ▲** or **▼** - To view current setting

Display will read: **6-3 IP ADDRESS**  
**IP ADDRESS OCTET 1: 0. 0. 0. 0**

**SELECT ▲** or **▼** - To change current setting - *This applies to all OCTET settings*

### MENU ▲ - To view OCTET 2

Display will read: **6-3 IP ADDRESS**  
**IP ADDRESS OCTET 2: 0. 0. 0. 0**

---

**MENU ▲** - To view OCTET 3

Display will read: **6-3 IP ADDRESS**  
**IP ADDRESS OCTET 3:** 0. 0. 0. 0

**MENU ▲** - To view OCTET 4

Display will read: **6-3 IP ADDRESS**  
**IP ADDRESS OCTET 4:** 0. 0. 0. 0

**MENU ▲** - To advance to next sub-menu

Display will read: **6-4 NETMASK**

**SELECT ▲** or **▼** - To view current setting

Display will read: **6-4 NETMASK**  
**NETMASK OCTET 1:** 0. 0. 0. 0

**MENU ▲** - To view OCTET 2

Display will read: **6-4 NETMASK**  
**NETMASK OCTET 2:** 0. 0. 0. 0

**MENU ▲** - To view OCTET 3

Display will read: **6-4 NETMASK**  
**NETMASK OCTET 3:** 0. 0. 0. 0

**MENU ▲** - To view OCTET 4

Display will read: **6-4 NETMASK**  
**NETMASK OCTET 4:** 0. 0. 0. 0

**MENU ▲** - To advance to next sub-menu

Display will read: **6-5 ROUTER ADDRESS**

**SELECT ▲** or **▼** - To view current setting

Display will read: **6-5 ROUTER ADDRESS**  
**ROUTER ADDRESS OCTET 1:** 0. 0. 0. 0

**MENU ▲** - To view OCTET 2

Display will read: **6-5 ROUTER ADDRESS**  
**ROUTER ADDRESS OCTET 2:** 0. 0. 0. 0

**MENU ▲** - To view OCTET 3

Display will read: **6-5 ROUTER ADDRESS**  
**ROUTER ADDRESS OCTET 3:** 0. 0. 0. 0



---

**MENU ▲** - To view OCTET 4

Display will read: **6-5 ROUTER ADDRESS**  
**ROUTER ADDRESS OCTET 4: 0. 0. 0. 0**

**MENU ▲** - To advance to next sub-menu.

Only displays when protocol (6-2) is set to BACNET

Display will read: **6-6 UDP PORT**

Sub menu 6-6 only displays when protocol is BACnet or MODbus TCP/IP.

**SELECT ▲ or ▼** - To view current setting

**6-6 UDP PORT** (UDP- User Datagram Protocol)

**UDP LISTEN PORT: nnnn**

The UDP PORT has a range from 0 to 65535. Hold the **SELECT ▲** or **SELECT ▼** button to advance to desired setting.

 Factory setting is: **47808**


**MENU ▲** - To advance to next sub-menu - Only displays when protocol (6-2) is set to MODBUS TCP/IP.

Display will read: **6-7 TCP PORT**

**SELECT ▲ or ▼** - To view current setting

Display will read: **6-7 TCP PORT** **TCP LISTEN PORT: nnn**

The TCP PORT has a range from 0 to 65535. Hold the **SELECT ▲** or **SELECT ▼** button to advance to desired setting.

 Factory setting is: **502**

**MENU ▲** - To advance to sub-menu 6-8 BAUD RATE.

Display will read: **6-8 BAUD RATE**

**SELECT ▲ or ▼** - To view current setting

**6-6 BAUD RATE**  
**SET AT: 9600**

**SELECT ▲ or ▼** - To change setting

Selections are: 9600, 19200, 38400, 57600, 76800, and 115200.

 Factory setting is: **9600**

**MENU ▲** - To advance to next sub-menu 6-9 NETWORK ID (BACnet MAC address)

Display will read: **6-9 NETWORK ID**

**SELECT ▲ or ▼** - To view current setting

Display will read: **6-9 NETWORK ID**  
**NETWORK ID: 001**

---

**SELECT ▲ or ▼** - To change setting  
Network ID has a range from 001 to 260.

 Factory setting is: **000**

**MENU ▲** - To advance to next sub-menu 6-10 DEVICE ID. (BACnet device instance)

**NOTE:** Sub-menu 6-10 only appears when BACNET IP or BACNET MS/TP MASTER is selected.

Display will read: **6-10 DEVICE ID**

**SELECT ▲ or ▼** - To view current setting

**6-6 DEVICE ID**  
**DEVICE ID: 000001**

Press the **SILENCE** button to move the cursor from one digit (space) to the next to enter or change device ID number.

Device ID has a range from 0000000 to 49999999.

 Factory setting is: **0000000**

**MENU ▲** - To advance to sub-menu 6-11 MAX MASTER

**NOTE:** Sub menu 6-11 only appears when BACNET MS/TP MASTER is selected.

Display will read: **6-11 MAX MASTER**

**SELECT ▲ or ▼** - To view current setting

Display will read: **6-11 MAX MASTER**  
**SET AT: 127**

The Max Master has a range from 1 to 127.

 Factory setting is: **127**

**NOTE:** Sub menus 6-12 through 6-15 only appears when SNMPv1/v2c is the selected.

**MENU ▲** - To advance to sub-menu 6-12 SNMPv2 MANAGER 1 ADDRESS.

Display will read: **6-12 SNMPv2 MANAGER 1 ADDRESS**

**SELECT ▲ or ▼** - To view current setting

**6-12 SNMPv2 MANAGER 1 ADDRESS**  
**IP ADDRESS OCTET: 0.0.0.0**

**MENU ▲** to move the the next octet. Press the **SELECT** buttons to change the octet number.

---

**MENU ▲** - To advance to next sub-menu 6-13 SNMPv2 MANAGER 1 NOTIFICATIONS

Display will read: **6-13 SNMPv2 MANAGER 1 NOTIFICATIONS**

**SELECT ▲** or **▼** - To view current setting

Display will read: **6-13 SNMPv2 MANAGER 1 NOTIFICATIONS**  
**XXXXXXX**

**SELECT ▲** or **▼** to move to the next alarm. Press the **SILENCE** button to select (\*) or deselect (-) the alarm.

**MENU ▲** - To advance to sub-menu 6-14 SNMPv2 MANAGER 2 NOTIFICATIONS.

Display will read: **6-14 SNMPv2 MANAGER 2 ADDRESS**

**SELECT ▲** or **▼** - To view current setting

Display will read: **6-14 SNMPv2 MANAGER 2 ADDRESS**  
**IP ADDRESS OCTET: 0.0.0.0**

**MENU ▲** - To advance to next sub-menu 6-15 SNMPv2 MANAGER 2 NOTIFICATIONS

Display will read: **6-15 SNMPv2 MANAGER 2 NOTIFICATIONS**

**SELECT ▲** or **▼** - To view current setting

Display will read: **6-15 SNMPv2 MANAGER 2 NOTIFICATIONS**  
**XXXXXXX**

**SELECT ▲** or **▼** to move to the next alarm. Press the **SILENCE** button to select (\*) or deselect (-) the alarm.

**EXIT** - Press EXIT to return to **GROUP - 6 NETWORK**

**EXIT** - Press EXIT again to return to Current Operating Functions & Status Display

*OR*

## Group 7

**MENU ▲** -To view group 7

Display will read: **GROUP 7 – CALIBRATION**

**SELECT ▲** - To view sub menu 7-1:

Display will read: **GROUP 7 -1 CALIBRATE TEMPERATURE SENSOR**

**SELECT ▲** or **▼** - To view current setting

Display will read: **7-1 CALIBRATE TEMPERATURE SENSOR**  
**RETURN TEMP: nn.n + n.n = nn.n F (C)**

The temperature sensor is CALIBRATED and the offset is entered at the factory. Each sensor is tagged with the calibration offset. This should be verified with the setting that appears on the display.

**SELECT ▲** or **▼** - To change the offset. Offset ranges from -20.0 to 20.0 in .01 degree increments.

**MENU ▲** - To advance to next sub-menu

Display will read: **7 - 2 CALIBRATE HUMIDITY SENSOR**

**SELECT ▲** or **▼** - To view current setting

Display will read: **7-2 CALIBRATE HUMIDITY SENSOR**  
**HUMIDITY: nn.n + nn.n = nn.n %**

The humidity sensor is CALIBRATED and the offset is entered at the factory. Each sensor is tagged with the calibration offset. This should be verified with the setting that appears on the display.

**SELECT ▲** or **▼** - To change the offset. Humidity will only range between 20 to 80%. The range of offset is dependent on the current humidity.

**MENU ▲** - To advance to next sub-menu


Display will read: **7 - 3 CALIBRATE DISC. AIR TEMP SENSOR**

**SELECT ▲** or **▼** - To view current setting

Display will read: **7-3 CALIBRATE DISC. AIR TEMP SENSOR**  
**DISCHARGE TEMPERATURE: nn.n - nn.n = nn.n F (C)**

The discharge air temperature sensor is CALIBRATED and the offset is entered at the factory. Each sensor is tagged with the calibration offset. This should be verified with the setting that appears on the display.

**SELECT ▲** or **▼** - To change the offset. Temperature offset ranges +/- 9.9° in 0.1° increments.

 **NOTE:** Discharge air temperature sensor is optional. If the unit was ordered without the option the display will read **SENSOR NOT INSTALLED** when looking for current setting.

---

**MENU ▲** - To advance to next sub-menu


Display will read: **7 - 4 CALIBRATE CW TEMP SENSOR**

**SELECT ▲ or ▼** - Press SELECT button to view current setting

Display will read: **7-4 CALIBRATE CW TEMP SENSOR**  
**COLD H2O TEMP: nnn.n - n.n = nnn.n F (C)**

The CW (chilled water) temperature sensor is CALIBRATED and the offset is entered at the factory. Each sensor is tagged with the calibration offset. This should be verified with the setting that appears on the display.

**SELECT ▲ or ▼** - To change the offset. Offset ranges from -9.9 to 9.9 in 0.1 degree increments.


 **NOTE:** Chilled Water temperature sensor is optional. If the unit was ordered without the option the display will read SENSOR NOT INSTALLED when looking for current setting.

**EXIT** - Press EXIT to return to **GROUP 7 - CALIBRATION**

**EXIT** - Press EXIT again to return to Current Operating Functions & Status Display

OR

## Group 8

 **NOTE:** Menu Group 8 only displays when the DAP III is in reduced function mode (RFM), which is normally used with ceiling and wall mounted units. Menu Group 8 does not normally display when the DAP III is in use with floor mounted type units.

Display will read: **GROUP 8 – SET-BACK**

**SELECT ▲** - To view first sub-menu

Display will read: **8-1 DAY SCHEDULE**

**SELECT ▲** - To view current setting

Display will read: **8-1 DAY SCHEDULE**  
**USE DAILY SCHEDULE: aaa**

**SELECT ▲/▼** - change setting. There are two available settings – ON or OFF

**MENU ▲** - To view next sub-menu

Display will read: **8-2 OVERRIDE ENABLE** Used with 8-3 to override Day Schedule.

**SELECT ▲** - To view current setting

Display will read: **8-2 OVERRIDE ENABLE**  
**OVERRIDE ENABLE: aaa**

**SELECT ▲ or ▼** - To change setting. There are two available settings – ON or OFF

**MENU ▲** - To view next sub-menu

Display will read: **8-3 OVERRIDE TIME**

**SELECT ▲** - To view current setting

Display will read: **8-3 OVERRIDE TIME** If 8-2 is set to ON then the Day Schedule is over ridden for the number of hours set in this option.  
**OVERRIDE HOUR: nn**

**SELECT ▲ or ▼** - To change setting. The available override hours are 1 – 12, in one hour increments

**MENU ▲** - To view next sub-menu

Display will read: **8-4 SET-UP COOL**

**SELECT ▲** - To view current setting

Display will read: **8-4 SET-UP COOL**  
**SETUP COOL: xxF (C)** Allows one to increase cooling set point in Day Schedule.

**SELECT ▲ or ▼** - To change setting. The range is from 0 – 30 in 1<sup>0</sup> increments.

**MENU ▲** - To view next sub-menu

Display will read: **8 – 5 – SET-BACK REHEAT**



---

**SELECT ▲** - To view current setting

Display will read: **8-5 – SET-BACK REHEAT  
SETBACK HEAT: nnF (C)**

Allows one to decrease reheat set point in Day Schedule.

**SELECT ▲** or **▼** - To change setting. The range is from 1 – 30 in 1° increments.

**MENU ▲** - To view next sub-menu

Display will read: **8-6 SET-UP DEHUMIDIFICATION**

**SELECT ▲** - To view current setting

Display will read: **8-6 SET-UP DEHUMIDIFICATION  
SETUP DEHUMIDIFICATION: nn%**

Allows one to increase dehumidification set point in Day Schedule.

**SELECT ▲** or **▼** - To change setting. The range is from 1 – 30% in 1% increments.

**MENU ▲** - To view next sub-menu

Display will read: **8-7 SET-BACK HUMIDIFICATION**

**SELECT ▲** - To view current setting

Display will read: **8-7 SET-BACK HUMIDIFICATION  
SET BACK HUMIDIFICATION: nn%**

Allows one to decrease humidification set point in Day Schedule.

**SELECT ▲** or **▼** - To change setting. The range is from 1 – 30% in 1% increments.

**MENU ▲** - To view next sub-menu

Display will read: **8-8 MONDAY SCHEDULE**

**SELECT ▲** or **▼** - To view current setting

Display will read: **8-8 MONDAY SCHEDULE  
SCHEDULE TYPE: aaaaaaaaa/aa**

**SELECT ▲** or **▼** - To change setting. There are two settings: ON/OFF and SETBACK/UP

In the ON/OFF mode the unit will operate during the occupied time with standard settings and turn OFF (shut off) during the unoccupied time. In the SETBACK/UP mode the unit will operate with standard set points during occupied time and operated with modified set points (standard set points plus set-backs programmed in menus 8-4 through 8-7) during unoccupied times. Menus 8-8 through 8-14 permit you to select the mode, the hour to begin and end occupancy or N/C - no change. This permits a more energy efficient operation of the unit.

**MENU ▲** - To view next menu

Display will read: **8-8 MONDAY SCHEDULE  
OCCUPIED hh:mm**

**SELECT ▲** or **▼** - To change setting. Time can be set from 00:00 hours to 23:45 hours in 15 minute increments. N/C (no change) is also an option.

**MENU ▲** - To view next menu

Display will read: **8-8 MONDAY SCHEDULE  
UNOCCUPIED hh:mm**

---

**SELECT ▲ or ▼** - To change setting. Time can be set from 00:00 hours to 23:45 hours in 15 minute increments. N/C (no change) is also an option.

**MENU ▲** - To view next sub-menu

Display will read: **8-9 TUESDAY SCHEDULE**

**SELECT ▲** - to view current setting

Display will read: **8-9 TUESDAY SCHEDULE  
SCHEDULE TYPE: aaa/aaa**

**SELECT ▲ or ▼** - To change setting. There are two settings: ON/OFF and SETBACK/UP

**MENU ▲** - To view next menu

Display will read: **8-9 TUESDAY SCHEDULE  
OCCUPIED hh:mm**

**SELECT ▲ or ▼** - To change setting. Time can be set from 00:00 hours to 23:45 hours in 15 minute increments. N/C (no change) is also an option.

**MENU ▲** - to view next menu

Display will read: **8-9 TUESDAY SCHEDULE  
UNOCCUPIED hh:mm**

**SELECT ▲ or ▼** - To change setting. Time can be set from 00:00 hours to 23:45 hours in 15 minute increments. N/C (no change) is also an option.

**MENU ▲** - To view next sub-menu

Display will read: **8-10 WEDNESDAY SCHEDULE**

**SELECT ▲** - To view current setting

Display will read: **8-10 WEDNESDAY SCHEDULE  
SCHEDULE TYPE: aaaa/aaa**

**SELECT ▲ or ▼** - To change setting. There are two settings: ON/OFF and SETBACK/UP

**MENU ▲** - To view next menu

Display will read: **8-10 WEDNSDAY SCHEDULE  
OCCUPIED hh:mm**

**SELECT ▲ or ▼** - To change setting. Time can be set from 00:00 hours to 23:45 hours in 15 minute increments. N/C (no change) is also an option.

**MENU ▲** - To view next menu

Display will read: **8-10 WEDNSDAY SCHEDULE  
UNOCCUPIED hh:mm**

---

**SELECT ▲ or ▼** - To change setting. Time can be set from 00:00 hours to 23:45 hours in 15 minute increments. N/C (no change) is also an option.

**MENU ▲** - To view next sub-menu

Display will read: **8-11 THURSDAY SCHEDULE**

**SELECT ▲** - To view current setting

Display will read: **8-11 THURSDAY SCHEDULE  
SCHEDULE TYPE: aaaa/aaa**

**SELECT ▲ or ▼** - To change setting. There are two settings: ON/OFF and SETBACK/UP

**MENU ▲** - To view next menu

Display will read: **8-11 THURSDAY SCHEDULE  
OCCUPIED hh:mm**

**SELECT ▲ or ▼** - To change setting. Time can be set from 00:00 hours to 23:45 hours in 15 minute increments. N/C (no change) is also an option.

**MENU ▲** - To view next menu

Display will read: **8-11 THURSDAY SCHEDULE  
UNOCCUPIED hh:mm**

**SELECT ▲ or ▼** - To change setting. Time can be set from 00:00 hours to 23:45 hours in 15 second increments. N/C (no change) is also an option.

**MENU ▲** - To view next sub-menu

Display will read: **8-12 FRIDAY SCHEDULE**

**SELECT ▲** - To view current setting

Display will read: **8-12 FRIDAY SCHEDULE  
SCHEDULE TYPE: aaaaa/aaaa**

**SELECT ▲ or ▼** - To change setting. There are two settings: ON/OFF and SETBACK/UP

**MENU ▲** - To view next menu

Display will read: **8-12 FRIDAY SCHEDULE  
OCCUPIED hh:mm**

**SELECT ▲ or ▼** - To change setting. Time can be set from 00:00 hours to 23:45 hours in 15 minute increments. N/C (no change) is also an option.

**MENU ▲** - To view next menu

Display will read: **8-12 FRIDAY SCHEDULE  
UNOCCUPIED hh:mm**

**SELECT ▲ or ▼** - To change setting. Time can be set from 00:00 hours to 23:45 hours in 15 minute increments. N/C (no change) is also an option.

---

**MENU ▲** - To view next sub-menu

Display will read: **8-13 SATURDAY SCHEDULE**

**SELECT ▲** - To view current setting

Display will read: **8-13 SATURDAY SCHEDULE  
SCHEDULE TYPE: aaaa/aaa**

**SELECT ▲ or ▼** - To change setting. There are two available settings: ON/OFF and SETBACK/UP

**MENU ▲** - To view next menu

Display will read: **8-13 SATURDAY SCHEDULE  
OCCUPIED hh:mm**

**SELECT ▲ or ▼** - To change setting. Time can be set from 00:00 hours to 23:45 hours in 15 second increments. N/C (no change) is also an option.

**MENU ▲** - To view next menu

Display will read: **8-13 SATURDAY SCHEDULE  
UNOCCUPIED hh:mm**

**SELECT ▲ or ▼** - To change setting. Time can be set from 00:00 hours to 23:45 hours in 15 second increments. N/C (no change) is also an option.

**MENU ▲** - To view next sub-menu

Display will read: **8-14 SUNDAY SCHEDULE**

**SELECT ▲** - To view current setting

Display will read: **8-14 SUNDAY SCHEDULE  
SCHEDULE TYPE: aaaa/aaa**

**SELECT ▲ or ▼** - To change setting. There are two settings: ON/OFF and SETBACK/UP

**MENU ▲** - To view next menu

Display will read: **8-14 SUNDAY SCHEDULE  
OCCUPIED hh:mm**

**SELECT ▲ or ▼** - To change setting. Time can be set from 00:00 hours to 23:45 hours in 15 minute increments. N/C (no change) is also an option.

**MENU ▲** - To view next menu

Display will read: **8-14 SUNDAY SCHEDULE  
UNOCCUPIED hh:mm**

**SELECT ▲ or ▼** - To change setting. Time can be set from 00:00 hours to 23:45 hours in 15 minute increments. N/C (no change) is also an option.

**EXIT** - Press EXIT to return to **GROUP 8 - SET BACK** (Only shows if RFM in ON.)



**REHEAT STRIP #2**  
**REHEAT STRIP #3**  
**HUMIDIFIER**  
**HUMIDIFIER FLUSH**  
**ALARM RELAY #1**  
**ALARM RELAY #2** (Relay module required)  
**ALARM RELAY #3** (Relay module required)  
**ALARM RELAY #4** (Relay module required)  
**UNIT STATUS**  
**WATER VALVE LED**  
**HUMIDIFIER VALVE LED**  
**CHILLED WATER PUMP**

**MENU ▲** - To view next sub-menu

Display will read: **9-4 TEST ANALOG OUTPUTS**

**SELECT ▲** - To view current setting

Display will read: **9-4 TEST ANALOG OUTPUTS**  
**OUT n V READ H2O: n.nnn HUM: n.nnn**

**SELECT ▲** or **▼** - To increase or decrease the output to the chilled water valve or the modulating control of the steam generator (optional).



**NOTE:** The voltage range is 0-10 volts

**MENU ▲** - to view next sub-menu

Display will read: **9-5 TEST DIGITAL INPUTS**

**SELECT ▲** or **▼** -

Display will read: **CONTROL: - - - - -**

**SELECT ▲** or **▼** -

Display will read: **EXPANSION 1: - - - - -**

Menu 9-5 tests input signal on connectors P-7, P-11, P-12. Position 11 on EXPANSION 1 is for P-12.

When there is an input signal to one of the pins on these connectors the number will show in place of the dash.

The last position will show an "M" if any of the switches have a manual override switch in the "ON" position.

For example:

CONTROL: -2- - - -

EXPANSION: - - 3 4 5 6 - - - - - M

**MENU ▲** - To view next sub-menu

Display will read: **9-6 TEST ENVIRONMENTAL SENSORS**

**SELECT ▲** or **▼** Display will read:

**9-6 TEST ENVIRONMENTAL SENSORS**

**RETURN TEMP: nn.n = n.n = nn.n F (C)**

The following can be read by pressing the **SELECT ▲** button:

DISCHARGE: nn.n - n.n = nn.n F (C)

COLD H2O TEMP: nn.n - nn.n = nn.n F (C)

HUMIDITY: nn.n + nn.n = nn.n %

AI-1: NOT INSTALLED

AI-2:	NOT INSTALLED
AI-3:	NOT INSTALLED
AI-4:	NOT INSTALLED

**NOTE:** Analog sensors require optional analog module

**MENU ▲** - To view next sub-menu

Display will read: **9-7 VIEW ANTICIPATION HUMIDITY SETPOINT**

**SELECT ▲** - To view current setting

Display will read: **9-7 VIEW ANTICIPATION HUMIDITY SETPOINT  
HUMIDITY SETPOINT: nn.n + nn.n = nn.n %**

**MENU ▲** - To view next sub-menu

Display will read: **9-8 TEST AUDIO ALARM**

**SELECT ▲** - To view current setting

Display will read: **9-8 TEST AUDIO ALARM  
AUDIO ALARM: aaaa**

There are four available alarm settings. Each can be tested through sub-menu 9-8.

The selections are: **NONE  
SHORT BEEP  
LONG BEEP  
FULL ON**

**MENU ▲** - To view next sub-menu

Display will read: **9-9 TEST RS-485 NETWORK CARD**

**SELECT ▲** - To view current setting

Display will read: **9-9 TEST RS-485 NETWORK CARD  
RS485 NETWORK REQUIRED**

**NOTE:** RS-485 Network Cards are optional. Above message will be displayed if card is not installed. To test the RS-485 card the jumper must be placed in the test position. To place jumper in test position turn power to display module OFF, move jumper and power ON. After testing reverse procedure.



Test results (PASS or FAIL) will display on panel




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**MENU ▲** - To view next sub-menu

Display will read: **9-10 TEST WATCHDOG RESET CIRCUIT**

**SELECT ▲** - To view current setting

Display will read: **9-10 TEST WATCHDOG RESET CIRCUIT  
PRESS SELECT TO FORCE WATCHDOG RESET**

 **NOTE:** Running this test will cause the unit to shut down and restart.

**SELECT ▲** - Watchdog will reset in two seconds. Panel will return to CURRENT OPERATING FUNCTIONS & STATUS DISPLAY after running through its self-test procedure.

**EXIT** - Press EXIT button to return to GROUP 9 MENU

**EXIT** - Press EXIT again to return to Current Operating Functions & Status Display

OR


**MENU ▲** - To view group 10.

Display will read: **GROUP 10 - ANALOG**

---

**Group 10**

---

 **NOTE:** The ANALOG menu, GROUP 10, will only display if an analog module is installed in the DAP III. If there is no analog module in the DAP III menu 10 will not display. See Analog Mode micro-switch setting for details on setting the analog signal ranges in sub-menu 10-3.

**SELECT ▲** - To view sub menu 10-1

Display will read: **10-1 SELECT SENSOR 1 NAME**

**SELECT ▲** - To view **10-1 SELECT SENSOR 1 NAME  
NOT INSTALLED**

If there are no optional sensors factory installed in the unit, "NOT INSTALLED" will display. However, if options have been factory installed that sensor will display. The following are sensor options that are available:

INPUT VOLTAGE A-B	OUTPUT CURRENT C	CONDENSER WATER FLOW
INPUT VOLTAGE B-C	NEUTRAL CURRENT	CHILLED WATER FLOW
INPUT VOLTAGE A-C	GROUND CURRENT	ZONE AIR TEMPERATURE
OUTPUT VOLTAGE A-B	FREQUENCY	OUTSIDE AIR TEMPERATURE
OUTPUT VOLTAGE B-C	POWER	OUTSIDE AIR HUMIDITY
OUTPUT VOLTAGE A-C	CONDENSER H2O SUPPLY TMP	DISCHARGE PRESSURE
INPUT CURRENT A	CONDENSER H2O RETURN TMP	SUCTION PRESSURE
INPUT CURRENT B	CHILLED WATER SUPPLY TMP	DIFFERENTIAL PRESSURE
INPUT CURRENT C	CHILLED WATER RETURN TMP	PRESSURE
OUTPUT CURRENT A	SUPPLY AIR TEMPERATURE	FLOW
OUTPUT CURRENT B	RETURN AIR TEMPERATURE	

**MENU ▲** - To view next sub-menu

Display will read: **10-2 SPECIFY SENSOR 1 UNITS OF MEASURE**

**SELECT ▲** - To view current setting

Display will read: **10-2 SPECIFY SENSOR 1 UNITS OF MEASURE  
VAC (AC VOLTS)**

**SELECT ▲ or ▼** - To change setting.

**AMPS (AMPERES)  
HZ (HERTZ)  
KW (KILOWATTS)  
F (DEGREES FAHRENHEIT)  
C (DEGREES CENTIGRADE)  
GPM (GALLONS PER MINUTE)  
%RH (PERCENT RELATIVE HUMIDITY)  
PSIG (POUNDS PER SQUARE INCH)  
"H2O (INCHES OF WATER)  
PSI (POUNDS PER SQUARE INCH)  
% (PERCENT)**

**NOTE** - In addition to programming sub-menu 10-3 you must set the micro switches on the Analog Module, as described on page 78.

**MENU ▲** - To view next sub-menu

Display will read: **10-3 SPECIFY SENSOR 1 SIGNAL RANGE**

**SELECT ▲** - To view current setting

Display will read: **10-3 SPECIFY SENSOR 1 UNITS OF MEASURE  
0-10 VDC**

**SELECT ▲ or ▼** - To change setting.

**0-5 VDC  
4-20 MA**

**MENU ▲** - To view next sub-menu

Display will read: **10-4 SPECIFY SENSOR 1 MINIMUM VALUE**



**SELECT ▲** - To view current setting

Display will read: **10-4 SPECIFY SENSOR 1 MINIMUM VALUE  
0 VDC SIGNAL = 0.0 VAC**

**SELECT ▲ or ▼** - To change setting.

**0 VDC SIGNAL = 100.0 VAC  
0 VDC SIGNAL = 200.0 VAC  
0 VDC SIGNAL = 300.0 VAC  
0 VDC SIGNAL = 400.0 VAC  
0 VDC SIGNAL = 500.0 VAC  
0 VDC SIGNAL = 600.0 VAC  
0 VDC SIGNAL = 700.0 VAC  
0 VDC SIGNAL = 800.0 VAC  
0 VDC SIGNAL = 900.0 VAC**

**NOTE** - Unit of measure will change based on selection in sub menu 10-2.

**MENU ▲** - To view next sub-menu

Display will read: **10-5 SPECIFY SENSOR 1 MAXIMUM VALUE**

**SELECT ▲** - To view current setting

Display will read: **10-5 SPECIFY SENSOR 1 MAXIMUM VALUE**  
**10 VDC SIGNAL = 0.0 VAC**

**SELECT ▲** or **▼** - To change setting.

- 10 VDC SIGNAL = 100.0 VAC**
- 10 VDC SIGNAL = 200.0 VAC**
- 10 VDC SIGNAL = 300.0 VAC**
- 10 VDC SIGNAL = 400.0 VAC**
- 10 VDC SIGNAL = 500.0 VAC**
- 10 VDC SIGNAL = 600.0 VAC**
- 10 VDC SIGNAL = 700.0 VAC**
- 10 VDC SIGNAL = 800.0 VAC**
- 10 VDC SIGNAL = 900.0 VAC**

**MENU ▲** - To view next sub-menu

Display will read: **10-6 SET SENSOR 1 CALIBRATION**

**SELECT ▲** - To view current setting

Display will read: **10-6 SET SENSOR 1 CALIBRATION**  
**0.0 + 0.0 = 0.0**

**SELECT ▲** or **▼** - To change the calibration. The first value in the calibration formula is the minimum value set in submenu 10-4, this value can range from 0 to 900. The next value in the above equation is the calibration range, adjustment, which can be changed in 0.1 of degree increments either positive or negative.

The calibration range, adjustment, is dependent on the values set for the maximum and minimums. Adjustment range will be the MAXIMUM VALUE, set in sub-menu 10-5, less the MINIMUM VALUE, set in sub menu 10-4, divided by 10. For example if you had set sub-menu 10-5, MAXIMUM VALUE, at 800 and sub-menu 10-4, MINIMUM VALUE, at 200 then the calibration range would be 60 (800-200=600/10=60), in 0.1 increments.

**NOTE:** In no circumstances should the MINIMUM value be greater than the MAXIMUM value.

There are four sensor input with the same menu options as 10-1 through 10-6 except they are for the other three sensors. See submenu reference below.

	<u>Sensor 1</u>	<u>Sensor 2</u>	<u>Sensor 3</u>	<u>Sensor 4</u>
Sensor Name	Submenu 10-1	Submenu 10-7	Submenu 10-13	Submenu 10-19
Unit of Measure	Submenu 10-2	Submenu 10-8	Submenu 10-14	Submenu 10-20
Signal Range	Submenu 10-3	Submenu 10-9	Submenu 10-15	Submenu 10-21
Minimum Value	Submenu 10-4	Submenu 10-10	Submenu 10-16	Submenu 10-22
Maximum Value	Submenu 10-5	Submenu 10-11	Submenu 10-17	Submenu 10-23
Calibration	Submenu 10-6	Submenu 10-12	Submenu 10-18	Submenu 10-24

---

**MENU ▲** - To view next sub-menu

Display will read: **10-25 SELECT OUTPUT 1 CONFIGURATION**

**SELECT ▲** - To view current setting

Display will read: **10-25 SELECT OUTPUT 1 CONFIGURATION  
NOT INSTALLED**

**SELECT ▲ or ▼** - To change setting.  
**FAN SPEED**

**MENU ▲** - To view next sub-menu

Display will read: **10-26 SELECT OUTPUT 2 CONFIGURATION**

**SELECT ▲** - To view current setting

Display will read: **10-26 SELECT OUTPUT 2 CONFIGURATION  
NOT INSTALLED**

**SELECT ▲ or ▼** - To change setting.  
**FAN SPEED**

**EXIT** - Press EXIT to return to **GROUP 10 - ANALOG**

**EXIT** - Press EXIT again to return to Current Operating Functions & Status Display

**Group 11** menu options are only applicable for units operating in Zone Master control. Due to the involved nature of these menu options a separate operations manual is available for this group.

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### Unlocking Menus

#### UNLOCKING MENUS - "Finger Dance"

To unlock menus go to **GROUP 1 - STATUS & HISTORY**

1. **MENU ▲** Press and hold down the Menu ▲ button
2. **MENU ▼** Next press and release the Menu ▼ button - keep the Menu ▲ button depressed while pressing and releasing the Menu ▼ button
3. **Release the MENU ▲ up button**
4. **MENU ▲** Press and release the Menu ▲ button.

If performed correctly the DAP III will beep three times.

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# DATA ALARM PROCESSOR-III (DAP-III) CONTROL LOGIC

## PROCESSOR SELF-TEST

Whenever the DAP-III is turned on, it performs a Diagnostic Self-Test of the following:

MODEL nnn-xxx-xxx BOOTLOADER REV: n:nn	
MODEL nnn-xxx-xxx SOFTWARE REV: n.nn	
MODEL nnn-xxx-xxx CONTROL MODULE: REV Nnn.n	
MODEL nnn-xxx-xxx EXPANSION MODULE REV. nn.n*	
MODEL nnn-xxx-xxx RELAY MODULE REV. nn.n*	
MODEL nnn-xxx-xxx ANALOG MODULE REV nn.n*	
MODEL nnn-xxx-xxx ETHERNET MODULE REV. nn.n*	(Can vary based on Comm Card installed.)
FLASH:	PASS OR FAIL
STATIC RAM:	PASS OR FAIL
PARAMETERS:	PASS OR FAIL
RAM SIGNATURE:	PASS OR FAIL
ANALOG:	PASS OR FAIL
12 VDC REGULATED:	PASS OR FAIL
5 VDC REGULATED:	PASS OR FAIL
BATTERY VOLTAGE:	PASS OR FAIL
RETURN TEMP SENSOR:	PASS OR FAIL
DISCHARGE TEMP SENSOR:	PASS OR FAIL
HUMIDITY SENSOR:	PASS OR FAIL
BUTTONS:	PASS OR FAIL

\* Display only when module is installed.

If any of the tests display "FAIL", see the troubleshooting guide for recommended corrective procedures. The RAM SIGNATURE test often displays "FAIL" on start-up because the RAM does not have any stored data. Simply press the **SELECT ▲** to bypass the "FAIL" message. Once the processor is on line and operating, the RAM will collect data and the test should pass on future restarts.

## SYSTEM START DELAY

After the Diagnostic Self-Test is complete, the Timed Start Delay will be displayed and will start counting down from the programmed delay. The factory setting is five (5) seconds. Programmed in sub-menu 3-4 and ranges from 0 to 10 minutes in 5 second increments

## BLOWER

1. The blower(s) will start upon completion of the Timed Start Delay and is programmed and wired to run continuously during unit operation.
2. Cooling, reheat, humidification and dehumidification functions are inhibited for one (1) minute after the blower starts. This allows the temperature and humidity sensors time to adjust.

## COMPRESSOR COOLING

1. There is a five (5) minute delay between start-to-start of the same primary stage compressor. The delay will be increased to six (6) minutes for one (1) hour following the detection of a compressor short-cycle condition even if the compressor short cycle alarm is disabled in Sub-Menu 4-8.
2. There is a two (2) minute delay between stop-to-start of the same primary stage compressor.
3. There is a one (1) minute delay between stop-to-start of the same secondary unloader stage compressor or stop-to-start of a second secondary unloader stage compressor.

- 
4. Compressor staging sequence at each adjustment period, sub-menu 3-2 (Mode and Stage Response Time).

#### **UNITS WITH STANDARD (DUAL) SCROLL COMPRESSORS**

Compressor "ON" sequence (Increasing Temperature)

Cool 1 ON at Temperature Setpoint + Temperature Deadband  
Cool 2 ON at Temperature Setpoint + Temperature Deadband + 0.3° F

Compressor "OFF" sequence (Decreasing Temperature)

Cool 2 OFF at Temperature Setpoint + 0.3° F  
Cool 1 OFF at Temperature Setpoint

#### **UNITS WITH OPTIONAL TANDEM SCROLL OR SEMI-HERMETIC COMPRESSORS**

Compressor "ON" sequence (Increasing Temperature)

Cool 1 ON at Temperature Setpoint + Temperature Deadband  
Cool 2 ON at Temperature Setpoint + Temperature Deadband + 0.3° F  
Cool 3 ON at Temperature Setpoint + Temperature Deadband + 0.6° F  
Cool 4 ON at Temperature Setpoint + Temperature Deadband + 0.9° F

Compressor "OFF" sequence (Decreasing Temperature)

Cool 4 OFF at Temperature Setpoint + 0.9° F  
Cool 3 OFF at Temperature Setpoint + 0.6° F  
Cool 2 OFF at Temperature Setpoint + 0.3° F  
Cool 1 OFF at Temperature Setpoint

5. If the temperature drops below the setpoint during an adjustment period, all compressors turn OFF at once.

#### **CHILLED WATER COOLING**

Chilled water valve "OPENING" sequence (Increasing Temperature)

1. The chilled water valve proportionally opens 10% for each 0.1°F above the temperature setpoint plus temperature deadband.
2. The chilled water valve responds to a change of the return air temperature after each adjustment period. When a change is made to the setpoint, the chilled water valve will delay its response for five (5) minutes, after which it will respond to each adjustment period.
3. If the current temperature is higher than the temperature at the last adjustment period, the following sequence will determine the new valve position:

Current Temperature = Setpoint + Deadband + 0.0° F = 0% Position Open  
Current Temperature = Setpoint + Deadband + 0.1° F = 10% Position Open  
Current Temperature = Setpoint + Deadband + 0.2° F = 20% Position Open  
Current Temperature = Setpoint + Deadband + 0.3° F = 30% Position Open  
Current Temperature = Setpoint + Deadband + 0.4° F = 50% Position Open  
Current Temperature = Setpoint + Deadband + 0.6° F = 60% Position Open  
Current Temperature = Setpoint + Deadband + 0.7° F = 70% Position Open  
Current Temperature = Setpoint + Deadband + 0.8° F = 80% Position Open  
Current Temperature = Setpoint + Deadband + 0.9° F = 90% Position Open  
Current Temperature = Setpoint + Deadband + 1.0° F = 100% Position Open

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## Chilled water valve “CLOSING” sequence (Decreasing Temperature)

1. The chilled water valve proportionally closes 10% for each 0.1°F below the temperature setpoint plus 1°F.
2. The chilled water valve responds to a change of the return air temperature after each adjustment period. When a change is made to the setpoint, the chilled water valve will delay its response for five (5) minutes, after which it will respond after each adjustment period.
3. If the current temperature is lower than the temperature at the last adjustment period, the following sequence will determine the new valve position:

Current Temperature = Setpoint + 1.0° F	=	100% Position Open
Current Temperature = Setpoint + 0.9° F	=	90% Position Open
Current Temperature = Setpoint + 0.8° F	=	80% Position Open
Current Temperature = Setpoint + 0.7° F	=	70% Position Open
Current Temperature = Setpoint + 0.5° F	=	50% Position Open
Current Temperature = Setpoint + 0.4° F	=	40% Position Open
Current Temperature = Setpoint + 0.3° F	=	30% Position Open
Current Temperature = Setpoint + 0.2° F	=	20% Position Open
Current Temperature = Setpoint + 0.1° F	=	10% Position Open
Current Temperature = Setpoint + 0.0° F	=	0% Position Open

4. If the temperature is consistently rising, the valve will open accordingly at each adjustment period. Likewise, if temperature is consistently falling, the valve will close accordingly at each adjustment period. However, if the temperature changes directions, then the temperature must change the amount of the deadband before the valve will be repositioned. The temperature can slowly drift back and forth within a deadband window at any point in the adjustment period without a valve position change.

## ENERGY SAVER and AUXILIARY CHILLED WATER COOLING

1. Energy Saver/Auxiliary Chilled Water Cooling will be available whenever the incoming water (or water/glycol) supply is below the energy saver chilled water temperature setpoint, menu 2-6.
2. The Energy Saver/Auxiliary Chilled Water Cooling mode will operate only in a two (2) degree range. The range is between the return air setpoint plus deadband and two (2) degrees. If the temperature rises above this range, the Energy Saver/Auxiliary Chilled Water Cooling will be inhibited for the amount of time set in sub-menu 3-8, “ENERGY SAVER LOCK-OUT TIME” and DX (Direct Expansion) cooling will take over. After the amount of time set in sub-menu 3-8, “ENERGY SAVER LOCK-OUT TIME”, it will try Energy Saver/Auxiliary Chilled Water Cooling again.
3. The chilled water valve proportionally opens 10% for each 0.1°F above the temperature setpoint plus temperature deadband.
4. The chilled water valve responds to a change of the return air temperature after each adjustment period. When a change is made to the setpoint, the chilled water valve will delay its response for five (5) minutes, after which it will respond to each adjustment period.
5. If the temperature is consistently rising, the valve will be opened more at each adjustment period. Likewise, if the temperature is consistently falling, the valve will be closed more at each adjustment period. However, if the temperature movement changes directions, then it must change the amount of the deadband before the valve will be repositioned. The temperature can be slowly drifting back and forth within a deadband window at any point in the adjustment period and no valve changes will be made.
6. If the current temperature is higher than at the last adjustment period, the following sequence is used to determine the new valve position:

Current Temperature = Setpoint + Deadband + 0.0° F	=	0% Position Open
Current Temperature = Setpoint + Deadband + 0.1° F	=	10% Position Open



Current Temperature = Setpoint + Deadband + 0.2° F = 20% Position Open  
 Current Temperature = Setpoint + Deadband + 0.3° F = 30% Position Open  
 Current Temperature = Setpoint + Deadband + 0.4° F = 50% Position Open  
 Current Temperature = Setpoint + Deadband + 0.6° F = 60% Position Open  
 Current Temperature = Setpoint + Deadband + 0.7° F = 70% Position Open  
 Current Temperature = Setpoint + Deadband + 0.8° F = 80% Position Open  
 Current Temperature = Setpoint + Deadband + 0.9° F = 90% Position Open  
 Current Temperature = Setpoint + Deadband + 1.0° F = 100% Position Open

7. The chilled water valves proportionally closes 10% for each 0.1°F below the temperature setpoint plus 1°F.

8. If the current temperature is lower than at the last adjustment period, the following sequence is used to determine the new valve position:

Current Temperature = Setpoint + 1.0° F = 100% Position Open  
 Current Temperature = Setpoint + 0.9° F = 90% Position Open  
 Current Temperature = Setpoint + 0.8° F = 80% Position Open  
 Current Temperature = Setpoint + 0.7° F = 70% Position Open  
 Current Temperature = Setpoint + 0.5° F = 50% Position Open  
 Current Temperature = Setpoint + 0.4° F = 40% Position Open  
 Current Temperature = Setpoint + 0.3° F = 30% Position Open  
 Current Temperature = Setpoint + 0.2° F = 20% Position Open  
 Current Temperature = Setpoint + 0.1° F = 10% Position Open  
 Current Temperature = Setpoint + 0.0° F = 0% Position Open

9. DAP III will switch the unit to DX cooling for 1 hour after every 100 continuous hours of Energy Saver or Auxiliary Chilled Water cooling.

**ENERGY SAVER and AUXILIARY CHILLED WATER COOLING with COMPRESSOR SUPPLEMENT**

1. Energy Saver/Auxiliary Chilled Water Cooling can operate simultaneously with compressor cooling. An optional discharge sensor is required.

2. The Energy Saver/Auxiliary Chilled Water Cooling will be the same and compressor rules for short-cycle time will not be violated.

3. The following is the compressor staging sequence at each adjustment period:

**UNITS WITH STANDARD (DUAL) SCROLL COMPRESSORS**

Cool 1 ON at Temperature Setpoint + Temperature Deadband + 1.3° F and Valve 100% Open  
 Cool 2 ON at Temperature Setpoint + Temperature Deadband + 1.6° F and Valve 100% Open  
 Cool 2 OFF at Temperature Setpoint + 1.6°F and Valve 100% Open  
 Cool 1 OFF at Temperature Setpoint + 1.3°F and Valve 100% Open until next adjustment period

**UNITS WITH OPTIONAL TANDEM SCROLL OR SEMI-HERMETIC (w/unloading) COMPRESSORS**

Cool 1 ON at Temperature Setpoint + Temperature Deadband + 1.3° F and Valve 100% Open  
 Cool 2 ON at Temperature Setpoint + Temperature Deadband + 1.6° F and Valve 100% Open  
 Cool 3 ON at Temperature Setpoint + Temperature Deadband + 1.9° F and Valve 100% Open  
 Cool 4 ON at Temperature Setpoint + Temperature Deadband + 2.2° F and Valve 100% Open  
 Cool 4 OFF at Temperature Setpoint + 2.2°F and Valve 100% Open  
 Cool 3 OFF at Temperature Setpoint + 1.9°F and Valve 100% Open  
 Cool 2 OFF at Temperature Setpoint + 1.6°F and Valve 100% Open  
 Cool 1 OFF at Temperature Setpoint + 1.3°F and Valve 100% Open until next adjustment period

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## REHEAT

1. There is a one (1) minute delay between the stop of any reheat stage to start of any reheat stage.
2. There is a one (1) minute delay from start-to-start of different reheat stages. Reheat stages rotate every 100 hours of runtime.
3. The reheat staging at each adjustment period is as follows:

Reheat 1 ON at Temperature Setpoint – Temperature Deadband  
Reheat 2 ON at Temperature Setpoint – Temperature Deadband – 0.3° F  
Reheat 3 ON at Temperature Setpoint – Temperature Deadband – 0.6° F  
Reheat 3 OFF at Temperature Setpoint – 0.6 °F  
Reheat 2 OFF at Temperature Setpoint – 0.3° F  
Reheat 1 OFF at Temperature Setpoint

4. The above staging is for the standard 3 stage electric reheat. Other types of reheat are available (hot water and hot gas). They are single stage. Single stage operates in the following manner:

Reheat is ON at Temperature Setpoint – Temperature Deadband  
Reheat is OFF at Temperature Setpoint

5. Reheat will be overridden by humidification when Sub-Menu 5-6, Group 5 – Configuration, is programmed for Computer, Non-Modulating or Computer, Modulating.

## HUMIDIFICATION

1. Humidification will inhibit the reheat if sub-menu 5-6, is programmed for HUMIDIFIER: COMPUTER, NON-MODULATING or HUMIDIFIER: COMPUTER, MODULATING. Reheat is allowed during humidification if sub-menu 5-6, is programmed for HUMIDIFIER COMFORT, NON-MODULATING or HUMIDIFIER COMFORT, MODULATING.
2. There is a one (1) minute delay between stop-to-start of humidification.
3. There is a five (5) minute delay between stop of dehumidification and start of humidification.
4. The humidification staging sequence of each adjustment period for ON/OFF of non-modulating humidifiers is as follows:

Humidifier ON at Humidity Setpoint – Humidity Deadband  
Humidifier OFF at Humidity Setpoint – 1.0%

5. The humidification staging sequence for a modulating humidifier is as follows:

Valve is OPENED at Humidity Setpoint – 1.0%  
Valve is CLOSED at Humidity setpoint – 0.5%

6. When the humidifier valve is opened, its position will follow a linear ramp that goes from 25% open with the humidity at setpoint minus 0.5% to 100% open at setpoint minus humidity deadband.

## DEHUMIDIFICATION

1. Dehumidification Mode, sub-menu 3-9, is used to select one (1) or two (2) compressors for dehumidification and with or without reheat limits.
2. If dehumidification is programmed for “WITHIN REHEAT LIMITS” dehumidification will inhibit reheat if the return air temperature drops to temperature setpoint minus temperature deadband minus 0.9° F. Dehumidification will be inhibited until the return air temperature rises to the temperature setpoint. Compressor short-cycle time will not be violated.

- 
3. If dehumidification is programmed for "NO REHEAT LIMITS" it remain ON until the humidity setpoint is reached. In this mode dehumidification has priority and overcooling is disregarded. The reheat sequence will remain the same.
  4. If dehumidification is programmed for two (2) compressors, with or without reheat limits, only one (1) compressor will be allowed if reheat is required.
  5. There is a one (1) minute delay between stop-to-start of dehumidification. Compressor short-cycle time delay will not be violated.
  6. There is a five (5) minute delay between dehumidification and humidification.
  7. The compressor staging sequence for dehumidification at each adjustment period is as follows:

#### **UNITS WITH STANDARD (DUAL) SCROLL COMPRESSORS**

Cool 1 ON at Humidity Setpoint + Humidity Deadband  
Cool 2 ON at Humidity Setpoint + humidity Deadband + 1%  
Cool 2 OFF at Humidity Setpoint + 1%  
Cool 1 OFF at Humidity Setpoint

#### **UNITS WITH OPTIONAL TANDEM SCROLL OR SEMI-HERMETIC (with unloading) COMPRESSORS**

Cool 1 ON at Humidity Setpoint + Humidity Deadband  
Cool 2 ON at Humidity Setpoint + humidity Deadband + 1%  
Cool 3 ON at Humidity Setpoint + humidity Deadband + 2%  
Cool 4 ON at Humidity Setpoint + humidity Deadband + 3%  
Cool 4 OFF at Humidity Setpoint + 3%  
Cool 3 OFF at Humidity Setpoint + 2%  
Cool 2 OFF at Humidity Setpoint + 1%  
Cool 1 OFF at Humidity Setpoint

8. The sequence for dehumidification with Energy Saver or Auxiliary Chilled Water Cooling is as follows:

Valve is OPENED to 100% at Humidity Setpoint + Humidity Deadband  
Valve is CLOSED at Humidity Setpoint

#### **DEHUMIDIFICATION FOR CHILLED WATER UNITS**

1. All of the standard dehumidification rules for dehumidification with compressors applies to chilled water units.
2. The chilled water valve responds to a change of the return air relative humidity after each adjustment period. When a change is made to the setpoint, the chilled water valve will delay its response for five (5) minutes after which it will respond after each adjustment period.
3. The dehumidification sequence for chilled water units as is follows:

Valve is OPENED to 100% at Humidity Setpoint + Humidity Deadband  
Valve is CLOSED at Humidity Setpoint

#### **AUTOMATIC FLUSH CYCLE LOGIC for CHILLED WATER or HOT WATER COILS**

If 100 hours elapses and the chilled water or hot water valve has not opened for normal cooling or heating, the valve will automatically open for 30 seconds to flush the coil. The microprocessor will not display a message indicating the flush cycle is in progress.

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## HUMIDIFIER AUTO-FLUSH TIMER CONTROL

1. Humidifier auto-flush timer control is optional and requires a Relay Module. The auto-flush timer is only available on units with infrared humidifiers.
2. The auto-flush timer is programmed through sub-menu 5-10.
3. The auto-flush cycle takes 11 minutes. The sequence is as follows:
  - For the first four minutes the drain solenoid is OPENED and humidification is inhibited (The processor will display the following message: HUMIDIFICATION INHIBITED BY AUTO-FLUSH. Humidity related alarms are disabled)
  - During the fifth and sixth minutes the solenoid is closed and the pan starts to fill
  - From minutes seven through eleven the humidification is enabled and the pan continues to fill. The humidification inhibit message is discontinued.
  - After eleven minutes the humidity alarms are enabled

## MODE and STAGE RESPONSE TIME (ADJUSTMENT PERIOD)

This is the interstate time delay/system reaction time. Time is programmed through sub-menu 3-2. The factory setting is one (1) minute. The maximum time allowed is five (5) minutes. The test mode setting is only for service. For proper unit operation the setting should not be left in test mode. The time delay is not based on a real time clock. The one (1) minute setting may not be a sixty (60) second duration.

## HUMIDITY ANTICIPATION

1. Humidity anticipation is programmed (ON or OFF) through sub-menu 3-15.
2. When set to ON, the humidity setpoint is automatically modified to reduce excessive humidifying and dehumidifying.

The humidity setpoint is decreased by 1% for every 1.5° F the return air temperature rises above the temperature setpoint. The maximum amount the humidity setpoint may be decreased is 10% (15° F above the return air temperature setpoint.)

The humidity setpoint is increased by 1% for every 1.5° F the return air temperature falls below the temperature setpoint. The maximum amount the humidity setpoint may be increased is 10% (15° F below the return air temperature setpoint.)

## MANUAL OVERRIDE

When any manual override function is used, the automatic functions of the processor are disabled and all desired functions must be changed to manual override. The processor will display "MANUAL OVERRIDE".

## TEMPERATURE and HUMIDITY SENSOR PROBLEM

1. A temperature sensor problem will activate all of the cooling stages if the unit is operating at the time of the problem. If a temperature sensor problem is detected at the start-up self-test, the test will stop at the temperature sensor test until the **SELECT ▲** button is pressed. To bypass the test, program sub-menu 3-6, to "ON".
2. A humidity sensor problem will inhibit the humidification or dehumidification functions if the unit is operating at the time of the problem. If a humidity sensor problem is detected at the start-up self-test, the test will stop at the humidity sensor test until the **SELECT ▲** button is pressed. To bypass the test, program sub-menu 3-6, Group 3 – Operation, to "ON".

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## COMPRESSOR SHORT-CYCLE ALARM

1. The alarm is programmed (**ON** or **OFF**) through sub-menu 4-8. A compressor short-cycle alarm will activate if the compressor has been energized ten (10) times in a one(1) hour period
2. The alarm is a warning only. Compressor operation will continue.
3. One cycle is a combination of compressor starts for cooling or dehumidification functions.
4. If the compressor is started 10 times in a one (1) hour period, the alarm will be activated and the message "**COMPRESSOR SHORT-CYCLE**" will be displayed on the processor display.
5. The compressor short-cycle time delay will be increased from five (5) to six (6) minutes for the next hour.
6. The short-cycle alarm will not clear until a one (1) hour period has passed with less than ten (10) compressor starts.

## POWER PROBLEM OR RESTART MODE

The power problem or restart mode is programmed through sub-menu 3-10. There are three selections available:

1. **AUTOMATIC: NO MESSAGE OR ALARM** – The unit will automatically start after a power failure or reset. No audio alarm will sound. No message will be displayed on the processor display screen.
2. **AUTOMATIC: MESSAGE, AUDIO ALARM & RELAY** – The unit will automatically restart after a power failure or reset. The audio alarm will be activated and the message "**POWER FAILURE RESTART**" will be displayed on the processor display screen. Pressing the "**SILENCE**" button (when the message appears on the processor display screen) will clear the alarm. The alarm will also clear itself five (5) minutes if there is no button activity.
3. **MANUAL: MESSAGE, AUDIO ALARM & RELAY** – The unit will NOT automatically restart after a power failure or reset. The "**SILENCE**" button must be pressed to restart the unit. The audio alarm will be activated and the message "**POWER FAILURE RESTART**" will be display on the processor display screen.

## NO AIRFLOW ALARM

1. When no airflow is detected via the air flow switch, the cooling, reheat humidification and dehumidification functions are locked out until the alarm condition is corrected. Sub-menu 4-24 allows you to adjust the delay the polling of the air flow detector at start-up of the fan from 5 to 180 seconds. This is to minimize false alarms due to air turbulence.
2. The audio alarm is activated and "**NO AIRFLOW**" message will be displayed on the processor display screen.

## DIRTY FILTER ALARM

When a dirty filter is detected, using a pressure differential switch, the audio alarm is activated and a "**DIRTY FILTER: CHECK FILTERS**" message will be displayed on the processor display screen until the alarm condition has been corrected.

## HUMIDIFIER FAILURE: CHECK WATER PRESSURE SWITCH

1. On units with humidifiers an audio alarm is activated and "**HUMIDIFIER FAILURE – CHECK WATER PRESSURE**" message will be displayed on the processor screen if the humidifier water pressure switch does not sense adequate supply water pressure.
2. The alarm will prevent the humidifier from operating until the alarm is corrected.

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### FIRESTAT TEMPERATURE ALARM

1. The firestat temperature alarm limit is programmed through sub-menu 4-6.
2. If the return air temperature reaches the firestat temperature alarm limit, the blower, cooling, reheat, humidification and dehumidification functions are immediately terminated.
3. The audio alarm is activated and “**FIRESTAT TRIPPED – UNIT SHUTDOWN**” message will be displayed on the processor screen.
4. The alarm will prevent the unit from operating until the alarm condition is corrected.

### HI TEMPERATURE ALARM LIMIT

1. The high temperature alarm limit is set and/or disabled through sub-menu 4-2.
2. If the alarm is not disabled and the return air temperature rises above the high temperature alarm limit, the audio alarm is activated and “**HIGH TEMPERATURE WARNING**” message will be displayed on the processor display screen.
3. The audio alarm is a warning only and will not prevent any of the unit functions from operating.
4. The alarm will remain until the alarm condition is corrected.

### LO TEMPERATURE ALARM LIMIT

1. The low temperature alarm limit is set and/or disabled through sub-menu 4-3.
2. If the alarm is not disabled and the return air temperature falls below the low temperature alarm limit, the audio alarm is activated and “**LOW TEMPERATURE WARNING**” message will be displayed on the processor display screen.
3. The audio alarm is a warning only and will not prevent any of the unit functions from operating.
4. The alarm will remain until the alarm condition is corrected.

### HI HUMIDITY ALARM LIMIT

1. The high humidity alarm limit is set and/or disabled through sub-menu 4-4.
2. If the alarm is not disabled and the return air humidity rises above the high humidity alarm limit, the audio alarm is activated and “**HIGH HUMIDITY WARNING**” message will be displayed on the processor display screen.
3. The audio alarm is a warning only and will not prevent any of the unit functions from operating.
4. The alarm will remain until the alarm condition is corrected.

### LO HUMIDITY ALARM LIMIT

1. The low humidity alarm limit is set and/or disabled through sub-menu 4-5.
2. If the alarm is not disabled and the return air humidity falls below the low humidity alarm limit, the audio alarm is activated and “**LOW HUMIDITY WARNING**” message will be displayed on the processor display screen.
3. The audio alarm is a warning only and will not prevent any of the unit functions from operating.
4. The alarm will remain until the alarm condition is corrected.

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### LOW DISCHARGE TEMPERATURE ALARM LIMIT

1. An optional discharge air sensor is required. If the optional discharge air sensor is not installed, the setting in sub-menu 4-7, will automatically read "**SENSOR NOT INSTALLED ON THIS UNIT**".
2. The low discharge temperature alarm limit is set and/or disabled through sub-menu 4-7.
3. If the alarm is not disabled and when the discharge air temperature falls to the low discharge temperature alarm limit, the audio alarm is activated and "**LOW DISCHARGE AIR WARNING**" message is displayed on the processor display screen.
4. If the optional Energy Saver with Compressor Supplement is used (see sub-menu 3-7), the compressors will be inhibited for 15 minutes.
5. The alarm will remain until the alarm condition is corrected.

### LOW VOLTAGE WARNING ALARM

1. If the measured 24 VAC control voltage that feeds the processor falls to 18 volts, the audio alarm is activated and "**LOW VOLTAGE WARNING**" message is displayed on the processor display screen. The low voltage warning alarm is fixed in software and is not adjustable.
2. The alarm is a warning only and will not cause operational problems (such as contactor or relay chattering).
3. The alarm will remain until the alarm condition is corrected.

### SCHEDULED NORMAL MAINTENANCE ALARM

1. The scheduled normal maintenance alarm is set and/or disabled through sub-menu 3-11.
2. The alarm is a warning only and will not prevent any of the unit functions from operating.
3. The alarm will remain until the alarm condition is corrected.

### HIGH PRESSURE/INTERNAL OVERLOAD COMPRESSOR ALARM

1. When the high head pressure switch is tripped or the compressor(s) overload contact opens, the audio alarm is activated and "**HIGH PRESSURE/INTERNAL OVERLOAD: COMP 1**" or "**COMP 2**" message is displayed on the processor display screen.
2. The alarm will prevent the compressor from operating and be MANUALLY RESET.
3. The alarm will remain until the alarm condition is corrected.

### LOW PRESSURE COMPRESSOR ALARM

1. When the low head pressure switch is tripped, the audio alarm will be activated and "**LOW PRESSURE COMPRESSOR 1**" or "**COMPRESSOR 2**" message is displayed on processor display screen.
2. The alarm will prevent the compressor from operating but will automatically reset when the low head pressure condition is corrected.
3. The alarm will remain until the alarm condition is corrected.



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### PERSON TO CONTACT ON ALARM

1. The person to contact on alarm is set and/or disabled through sub-menu 4-11.
2. The alarm is a warning only and will not prevent any of the unit functions from operating.
3. The alarm will remain until acknowledged by pressing the “*SILENCE*” button.

### SMOKE ALARM

1. Smoke alarm requires optional smoke detector.
2. If the smoke detector senses smoke, the blower, the cooling, the reheat, humidification and dehumidification functions are immediately terminated.
3. The audio alarm is activated and “**SMOKE DETECTOR UNIT SHUTDOWN**” message is displayed on the processor display screen.
4. The alarm will prevent the unit from operating until the alarm condition is corrected and the smoke detector is **MANUALLY RESET**.

### HIGH CONDENSATE WATER LEVEL ALARM

1. The high condensate water level alarm requires an optional secondary float switch and unit mounted condensate pump.
2. When the high condensate water level alarm is activated, the cooling, reheat, humidification and dehumidification functions are inhibited.
3. The audio alarm is activated and “**HIGH CONDENSATE WATER LEVEL**” message is displayed on the processor display screen.
4. The alarm will prevent the unit from operating until the alarm condition is corrected (condensate pump is checked and its float switch is open).

### FAN MOTOR OVERLOAD ALARM

1. The fan motor overload alarm is optional and requires a motor overload relay contact for each motor.
2. Alarm is programmed through either sub-menus 4-12, 4-14, 4-16 and 4-18.
3. The audio alarm is activated and “**FAN MOTOR OVERLOAD: CHECK MOTOR AMPERAGE**” message is displayed on the processor display screen.
4. The alarm is a warning only and will not prevent any of the unit functions from operating.
5. The alarm will remain until the alarm condition is corrected.

### NO WATER FLOW ALARM ACTION

1. The no water flow alarm is optional and requires a field provided and installed flow switch.
2. The no water flow alarm action is set and/or disabled through sub-menu 4-10.
3. The audio alarm is activated and “**NO WATER FLOW**” is displayed on the processor display screen.

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4. The alarm can be set to a warning only and will not prevent any of the unit functions from operating or set to lockout the compressor(s). All other functions continue and manual reset is required.

5. The alarm will remain until the alarm condition is corrected.

#### Chilled Water

1. The DAP-III will not detect the NO WATER ALARM unless the valve opens more than 60%.

2. If the valve opens 60% or more the NO WATER FLOW ALARM detection will be displayed for the amount of the delay set in sub-menu 4-25, NO WATER FLOW ALARM TIME DELAY (range is from 60 to 180 seconds in 1 second increments).

The factory setting is 60 seconds.

3. A “NO WATER FLOW: CHECK PUMP” alarm message will be displayed on the DAP-III LCD screen and the alarm contacts will close when a “NO WATER FLOW” alarm is detected.

#### DX Cooling

1. The DAP-III panel will only detect the No Water Flow alarm when the unit calls for cooling.

2. Each time the cooling stage starts, the No Water Flow alarm detection will be delayed for the amount of time that is set in sub-menu 4-25, NO WATER FLOW ALARM TIME DELAY (range is from 60 to 180 seconds in 1 second increments).

3. A “NO WATER FLOW: CHECK PUMP” alarm message will be displayed on the DAP-III LCD screen and the alarm contacts will close when a “No Water Flow” alarm is detected.

4. If sub-menu 4-10, “NO WATER FLOW ALARM ACTION” is set to “Compressor Lockout”, when a No Water Flow alarm is detected, the compressor(s) will be inhibited for 5 minutes and a “No Water Flow: Cooling Inhibited” message will be displayed on the DAP-III screen.

#### STANDBY PUMP ON ALARM

1. The standby pump on alarm is optional and requires a contact from the Pump Auto-Changeover control to be added to the remote dry cooler.

2. Alarm is programmed through either Sub-Menu 4-12, 4-14, 4-16, 4-18, Group 4 – Alarms.

3. The audio alarm is activated and “**STANDBY PUMP ON: CHECK PRIMARY PUMP**” message is displayed on the processor display screen.

4. The alarm is a warning only and will not prevent any of the unit functions from operating.

5. The alarm will remain until the alarm condition is corrected.

#### UPS/ALTERNATE POWER ON ALARM

1. The UPS/alternate power on alarm is optional and requires an input contact from a field supplied alternate power source contact.

2. Alarm is programmed through either Sub-Menu 4-12, 4-14, 4-16, 4-18, Group 4 – Alarms.

3. The audio alarm is activated and “**UPS/ALTERNATE POWER ON: CHECK MAIN POWER**” message is displayed on the processor display screen.

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4. The alarm is a warning only and will not prevent any of the unit functions from operating.
  5. The alarm will remain until the alarm condition is corrected.

#### REHEAT INHIBITED ALARM

1. The reheat inhibited alarm is optional and requires an input contact from a field supplied alternate power source or contacts.
2. Alarm is programmed through either Sub-Menu 4-12, 4-14, 4-16, 4-18, Group 4 – Alarms.
3. The audio alarm is activated and “**REHEAT INHIBITED**” message is displayed on the processor display screen.
4. If operating, the reheat is shut off and locked off when alarm is present.
5. The alarm will remain until the alarm condition is corrected.

#### HUMIDIFICATION INHIBITED ALARM

1. The humidification inhibited alarm is optional and requires an input contact from a field supplied contact.
2. Alarm is programmed through either Sub-Menu 4-12, 4-14, 4-16, 4-18, Group 4 – Alarms.
3. The audio alarm is activated and “**HUMIDIFICATION INHIBITED**” message is displayed on the processor display screen.
4. If operating, the humidification is shut off and locked off when alarm is present.
5. The alarm will remain until the alarm condition is corrected.

#### REHEAT AND HUMIDIFICATION INHIBITED ALARM

1. The reheat and humidification inhibited alarm is optional and requires an input contact from a field supplied contact.
2. Alarm is programmed through either sub-menu 4-12, 4-14, 4-16 or 4-18.
3. The audio alarm is activated and “**REHEAT AND HUMIDIFICATION INHIBITED**” message is displayed on the processor display screen.
4. If operating, both the reheat and humidification are shut off and locked off when alarm is present.
5. The alarm will remain until the alarm condition is corrected.

#### CUSTOM MESSAGE ALARM

1. The custom message alarm is optional and requires factory programming. Message is limited to 25 characters.
2. Alarm is programmed through either sub-menu 4-12, 4-14, 4-16 or 4-18.
3. The audio alarm is activated and the custom message is displayed on the processor display screen.
4. The alarm will remain until the alarm condition is corrected.

#### WATER UNDER FLOOR DETECTION ALARM

1. The water under floor detection alarm message is displayed when the alarm is activated. This means the water sensor has detected water.

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2. Depending on the setting of sub-menu 4-9 the unit will either shutdown or the compressors will be inhibited when the alarm is activated.

3. Unit will return to normal operation when this alarm is corrected.

### FAN SPEED CONTROL FOR CHILLED WATER (CW) UNITS WITH PLUG FANS

Four (4) fan speed control modes can be selected for units with plug fans. The control modes are accessible through Menu Group 3, Sub-Menu 3-21. Any one of the following may be chosen:

1. CONSTANT FAN SPEED
2. CONSTANT STATIC PRESSURE
3. PROPORTIONAL FAN SPEED CONTROL BASED ON THE CW VALVE ACTION
4. FAN SPEED CONTROLLED BY BMS

1. **CONSTANT FAN SPEED:** On units where constant design fan speed is required (i.e. standard plug fan configuration), a value based on percentage of fan speed is entered into the DAP-III through Sub-Menu 3-19 (CONSTANT FAN SPEED FOR CW COOLING). The adjustable range is 60 – 100%, which results in an analog output of 6 VDC to 10 VDC. In this mode the fan will start and operate at the selected fan speed. In addition, Sub-Menu 3-21 (FAN SPEED CONTROL FOR CW COOLING) must be set to “CONSTANT SPEED”.

2. **CONSTANT STATIC PRESSURE CONTROL MODE –** Both an optional analog module and differential pressure transmitter are required for this mode. The following Sub-Menus must be configured for this mode to operate:

Sub-Menu	3-19 CONSTANT FAN SPEED FOR CW COOLING
Sub-Menu	3-21 FAN SPEED CONTROL FOR CW COOLING
Sub-menu	3-22 MAXIMUM FAN SPEED
Sub-Menu	3-23 MINIMUM FAN SPEED
Sub-Menu	3-24 DIFFERENTIAL PRESSURE SETPOINT
Sub-Menu	3-25 DIFFERENTIAL PRESSURE DEADBAND
Sub-menu	3-26 FAN SPEED RESPONSE RATE

The differential pressure (DP) transducer will be connected to the DAP-III analog module to report the differential pressure across the unit (between the supply and return section). Three fan speeds need to be programmed via the DAP-III menus: CONSTANT FAN SPEED FOR CW COOLING (Sub-Menu 3-19), MAXIMUM FAN SPEED (Sub-Menu 3-22) and MINIMUM FAN SPEED (Sub-Menu 3-23).

When started in the mode, the fan will first operate at the programmed constant fan speed for 5 minutes. After the initial 5 minutes, the fan will proportionally increase or decrease the speed to maintain a constant static pressure setpoint as follows:

- If the measured differential pressure is less than the differential pressure setpoint minus the differential pressure deadband, the fan speed will increase 1% for each response time period until the differential pressure setpoint is reached (fan speed cannot exceed the maximum speed).
- If the measured differential pressure is greater than the differential pressure setpoint plus differential pressure deadband, the fan speed will decrease 1% for each response time period until the differential pressure setpoint is reached (fan speed cannot be lower than minimum fan speed).
- Otherwise, fan speed will remain constant

3. **PROPORTIONAL FAN SPEED CONTROL BASED ON THE CW ACTION MODE –** Units where proportional fan speed control based on the CW valve action is required, a maximum allowable fan speed (range 70 – 100% of fan capability) is programmed on Sub-Menu 3-22 (MAXIMUM FAN SPEED) and a minimum fan speed (as low as 40% of the maximum allowable fan speed) is entered through the DAP-III (Sub-Menu 3-23, MINIMUM FAN SPEED). In this mode, Sub-Menu 3-21 (FAN SPEED CONTROL FOR CW COOLING) must be set to (“PROPORTIONAL TO VALVE”).

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Example: For a fan with a speed capacity of 1750 RPM, a maximum allowable programmed fan speed of 1501 RPM is chosen. At this RPM, the maximum speed is 86% of the rated RPM ( $1501/1750 = 85.77\%$ ). If 60% is chosen for minimum fan speed (through Sub-Menu 3-23), the minimum programmed fan speed will be 901 RPM ( $1501 \times .60 = 901$ ) and the fan capability is 52% ( $901/1750 = 51.49\%$ ).

When the fan starts, it will operate at the minimum fan speed. As the chilled water valve opens, the fan speed will modulate proportionally based on the chilled water valve action from the programmed maximum fan speed (when the chilled water valve is fully open).

The fan will operate at the maximum fan speed when the unit calls for reheat or humidification.

4. FAN SPEED CONTROLLED BY BMS MODE – Units where fan speed is required to be controlled by the BMS, a value based on percentage of fan speed is entered into the DAP-III (Sub-Menu 3-19, CONSTANT FAN SPEED FOR CW COOLING) using the front panel buttons from 60 – 100% as the programmed constant fan speed mode but this value can be adjusted from 30 – 100% via the BMS. In this mode, Sub-Menu 3-21 (FAN SPEED CONTROL FOR CW COOLING) must be set to “CONTROLLED BY BMS”.

When the fan starts, it will operate at the front panel programmed constant fan speed. It will modulate to the BMS programmed fan speed when a network communication (with the BMS) is established.

If either the reheat or humidifier are used, the maximum fan speed setting is required and will be used as the maximum limit fan speed. If the reheat or humidifier is required while the fan speed is commanded by the BMS to a value that is lower than the maximum fan speed, the fan speed will automatically increase to the maximum speed. The fan speed will revert to the BMS programmed fan speed when the unit stops calling for reheat or humidifier.

**WARNING: IF THE CUSTOMER DECIDES TO USE THIS FAN SPEED CONTROL MODE (FAN SPEED CONTROLLED BY BMS MODE), DATA AIRE WILL NOT BE RESPONSIBLE FOR ANY EFFECTS, MALFUNCTIONS OR SPACE CONTROL CONDITIONS CAUSED BY THIS SELECTION.**

#### FAN SPEED CONTROL FOR DIRECT EXPANSION (DX) UNITS

Two (2) fan speed control modes can be selected for units with plug fans. The control modes are accessible through Menu Group 3, Sub-Menu 3-20. Either of the following may be chosen:

1. CONSTANT FAN SPEED
2. CONSTANT STATIC PRESSURE

1. CONSTANT FAN SPEED – On units where a constant fan speed design is required (standard plug fan set-up), a value based on percentage of fan speed can be entered through the DAP-III panel via Sub-Menu 3-18 (CONSTANT FAN SPEED FOR DX COOLING). The adjustable range is 70 – 100%. The range results in an analog output of 7 to 10 VDC. When the fan(s) starts it will operate constantly at the programmed speed (%) as entered through Sub-Menu 3-18.

In addition, Sub-Menu 3-20 must be set for “CONSTANT SPEED”.

2. CONSTANT STATIC PRESSURE CONTROL – Operation in this mode requires an optional analog module and an optional differential pressure transmitter to report to the DAP-III panel.

The following DAP-III Sub-Menus must be configured properly for proper operation:

- Sub-Menu 3-18, CONSTANT FAN SPEED FOR DX COOLING
- Sub-Menu 3-20, FAN SPEED CONTROL FOR DX COOLING
- Sub-Menu 3-22, MAXIMUM FAN SPEED
- Sub-Menu 3-23, MINIMUM FAN SPEED
- Sub-Menu 3-24, DIFFERENTIAL PRESSURE SETPOINT
- Sub-Menu 3-25, DIFFERENTIAL PRESSURE DEADBAND
- Sub-menu 3-26, FAN SPEED RESPONSE RATE

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The differential pressure transducer is connected to the DAP-III analog module to report the differential pressure across the unit (between the supply and return air section). Three Sub-Menus must be programmed for proper operation. The Sub-Menus are 3-18 (CONSTANT FAN SPEED FOR DX COOLING), 3-22 (MAXIMUM ALLOWABLE FAN SPEED) and 3-23 (MINIMUM ALLOWABLE FAN SPEED).

When started in the mode, the fan will first operate at the programmed constant fan speed for 5 minutes. After the initial 5 minutes, the fan will proportionally increase or decrease the speed to maintain a constant static pressure setpoint as follows:

- If the measured differential pressure is less than the differential pressure setpoint minus the differential pressure deadband, the fan speed will increase 1% for each response time period until the differential pressure setpoint is reached. The fan speed cannot exceed the maximum speed (set in Sub-Menu 3-22).
- If the measured differential pressure is greater than the differential pressure setpoint plus the differential pressure deadband, the fan speed will increase 1% for each response time period until the pressure setpoint is reached. The fan speed cannot be lower than the minimum fan speed (set in Sub-Menu 3-23).
- Otherwise, the fan speed will stay constant.

An optional discharge sensor is required for this mode. The discharge sensor will be used as a safety freeze thermostat. If the discharge temperature falls below the discharge temperature limit setting, the fan will increase to the maximum allowable programmed speed until the discharge temperature rises above the discharge temperature limit for 15 minutes.

#### FAN SPEED CONTROL FOR DIRECT EXPANSION (DX) UNITS WITH ENERGY SAVER

Three (3) plug fan speed control modes are available:

1. CONSTANT FAN SPEED
2. PROPORTIONAL FAN SPEED CONTROL BASED ON CW VALVE ACTION
3. CONSTANT STATIC PRESSURE CONTROL

- When in DX mode, allow the fan speed to vary the same as the same as the constant fan speed mode described under DX cooling.
- When in Energy Saver cooling mode, allow the fan speed to vary the same as the proportional fan speed control based on the CW valve action described for chilled water units.
- When in either DX or Energy Saver mode, allow the fan speed to vary the same as the constant static pressure mode described under DX or CW depending on which cooling mode is being used.

An optional discharge sensor is required for this mode. The discharge sensor will be used as a safety freeze thermostat. If the discharge temperature falls below the discharge temperature limit setting, the fan will increase to the maximum allowable programmed speed until the discharge temperature rises above the discharge temperature limit for 15 minutes.

## DATA ALARM PROCESSOR III (DAP III) TROUBLESHOOTING GUIDE

1. The power must be off before servicing the DAP-III
2. Factory notification is required prior to replacing any components in the panel
3. Meters or any type of test instruments are NOT to be used on the panel without specific instructions from the factory

Problem	Possible Cause	Check or Remedy
No power or panel does not come on	Main disconnect switch is OFF	Turn disconnect switch to ON
	Hard power ON/OFF switch of OFF	Turn hard power ON/OFF switch to ON
	Optional remote shutdown contact is open	Check remote shutdown contact
	Loose connection on P5 plug or cable	Check P5 connections on DAP-III Control Module
	F1 PCB fuse of DAP-III is blown	Replace with 2 amp fuse
	Transformer circuit breaker is tripped	Reset the circuit breaker on transformer
Operates but no display	Loose connection with control module	Turn panel OFF. Check CAT 5 cable that plugs into PC board and turn back ON
Display is too dim or too bright	Improper LCD adjustment	Adjust the LCD pot, RP2, on PC board that is located next to the LCD
<i>Self Test Failures</i> RAM SIGNATURE	Empty historical memory	Press Select ▲. If failure is at start-up. Check back-up battery. Remove paper between battery and contact
ANALOG	24 VAC power is low	Check 24 VAC power and reset panel
12VDC REGULATED	24 VAC power is low	Check 24 VAC power and reset panel
5 VDC REGULATED	24 VAC power is low	Check 24 VAC power and reset panel
BATTERY VOLTAGE	Battery low or disconnected	Check battery, replace if lower than 2.8 V
RETURN TEMP SENSOR	Loose connections on P8 or sensor problem	Check connection. See temp. sensor problem
DISCHARGE TEMP SENSOR	Loose connections on P8 or sensor problem	Check connection. See temp. sensor problem
HUMIDITY SENSOR	Loose connections on P8 or sensor problem	Check connections. See humidity sensor problem
BUTTONS	Faulty button(s) or cover is pressing on button(s)	Insure that the cover is not pressing on the button(s)



<b>Problem</b>	<b>Possible Cause</b>	<b>Check or Remedy</b>
Blower does not come on	<p>Bad connections on the plugs or cable (P5-3,P5-4, P6-1)</p> <p>F2 RELAY fuse on DAP III is blown</p> <p>One of the manual override switches is ON and the manual override for the blower is OFF</p> <p>Smoke detector alarm activated</p> <p>Firestat temperature alarm activated</p> <p>Faulty blower relay (K5)</p>	<p>Check connections. Use blower manual override switch to test</p> <p>Replace with 8 amp fuse</p> <p>Check manual override switches, make sure they are all OFF and the manual override switch for the blower is ON. <i>Manual override mode</i></p> <p>Reset the smoke detector</p> <p>System is inhibited until return air temperature is below the firestat limit (Menu 4-6)</p> <p>Use manual diagnostic Relay Test to check Refer to sub menu 9-3</p>
Temperature sensor problem alarm is activated	<p>Loose connections on P-8</p> <p>Faulty sensor</p> <p>Incorrect calibration</p>	<p>Check connections and cable, P8-4 &amp; P8-5</p> <p>Use sensor chart to check VDC of sensor across P8-4 to P8-5 connector</p> <p>Contact Data Aire Technical Support</p>
Humidity sensor problem alarm is activated	<p>Loose connections on P-8</p> <p>Power supply fault</p> <p>Faulty sensor</p>	<p>Check connection and cable (P8-1, P8-2 and P8-3)</p> <p>Check for 5 VDC between P8-3 and P8-13</p> <p>Use sensor chart to verify VDC between P8-2 and P8-3.</p>
Compressor(s) do not come on	<p>No call for cooling</p> <p>Cooling stages are in short-cycle time delay period</p> <p>Inhibited by no airflow alarm</p> <p>Incorrect configuration on compressor menu</p> <p>Loose connections on plug or cable (P6-2 and P6-3)</p> <p>F2 RELAY fuse of DAP III is blown</p> <p>Panel is operating in manual override and the compressor manual override is not ON</p>	<p>Check temperature setpoint and deadband</p> <p>Wait 5 to 10 minutes or reset panel</p> <p>Correct for no airflow alarm</p> <p>Check settings on sub-menu 5-4. Also make sure unit is not configured for chilled water, check sub menu 5-7</p> <p>Check connection. Use compressor manual override switches to test</p> <p>Replace with 8 amp fuse</p> <p>Check manual override switches</p>

<b>Problem</b>	<b>Possible Cause</b>	<b>Check or Remedy</b>
Compressor(s) do not come on - <i>continued</i>	Smoke detector alarm activated	Reset the smoke detector
	Firestat temperature alarm activated	System in inhibited until return air temperature is below the firestat limit menu 4-6
	Faulty cool 1 <sup>st</sup> stage relay	Use manual test relay check sub menu 9-3.
	Faulty cool 2 <sup>nd</sup> stage relay	Use manual test relay check sub menu 9-3
	Cooling configuration	Check setting on sub menu 5-4.
Optional compressor un-loader for cool 3 and cool 4 does no come on	No call for 3 <sup>rd</sup> or 4 <sup>th</sup> stage cooling	Check temperature setpoint and deadband
	Incorrect configuration in compressor menu	Check settings in sub menu 5-4. It should be set for primary/secondary-primary/secondary
	Panel is operating in manual override and the the compressor manual override in not ON	Check manual override switches
	Faulty cool 3 <sup>rd</sup> stage K10 relay	Use manual test relays test to check. Refer to sub menu 9-3.
	Faulty cool 4 <sup>th</sup> stage K10 relay	Use manual test relays test to check. Refer to sub menu 9-3.
	Loose connection on optional Relay Module	Check Relay Module card connections on PC board
	Loose connections on plugs or cable	Check connections on P15-2, P15-3 and wires 37 and 38
Optional Energy Saver not functioning	No call for cooling	Check temperature setpoint and deadband
	Waterstat not closed	Check waterstat and 24 VAC on pin #19 of TB2
	Waterstat changeover setpoint too high	Adjust as required, sub menu 2-6
	Loose connection on pin P13-1 and P-13-2	Check connection and cable
	Incorrect configuration	Check settings in sub menu 5-7. It must be set for Energy Saver Cooling
	Inhibited by inter-stage time delay	Refer to cooling control logic
	The following applies to Energy Saver without compressor supplement	Refer to Energy Saver control logic without compressor supplement
	Return temperature is higher than the Energy Saver range, Temperature SP+DB+2.0°F	Check setting in Menu 5-7. An optional discharge air sensor is required for Energy Saver with compressor supplement
	Energy Saver is inhibited for lock-out time set in menu 3-5	Energy Saver will resume after lock-out time if the water temperature falls within the operating range. Refer to Energy Saver Control Logic

Problem	Possible Cause	Check or Remedy
Chilled Water valve does not modulate	No call for cooling Inhibited by no airflow alarm Incorrect configuration Loose connection on plugs or cable P13-1 and P13-2 Panel is operating in manual override mode Dehumidification is inhibited by reheat	Check temperature setpoint and deadband Correct no airflow alarm Check settings in sub menu 5-7 Check connections. Use auto/manual water valve manual override switch on the Control Expansion Module to test the valve Check manual override switches Use manual diagnostic test sub menu 9-3 to check.
Reheat does not come on	No call for reheat Inhibited by no airflow Inhibited by humidification Loose connection on plugs or cable P6-4, P10-2 and P10-3 F2 relay fuse on DAP-III is blown Panel is operating in manual override and the reheat override switch is not ON Faulty 1 <sup>st</sup> stage reheat relay Faulty 2 <sup>nd</sup> stage reheat relay Faulty 3 <sup>rd</sup> stage reheat relay Unit is not configured for reheat Reheat thermal cutout switch	Check temperature setpoint and deadband Correct no airflow alarm Check settings in sub menu 5-5 and verify the humidification control logic Check cable and connectors Replace with 8 amp fuse Check manual override switches Use manual Test Relay test to check. Refer to sub menu 9-3 Check settings in sub menu 5-5. Check thermal cutout switch in reheat box assembly
Humidification does not come on	No call for humidification Inhibited by no airflow Incorrect configuration Inhibited by Humidity Anticipation	Check humidity setpoint and deadband Correct no airflow alarm Check setting in sub menu 5-6 Refer to Humidity Anticipation Logic. Check sub menu 3-15 and 9-7

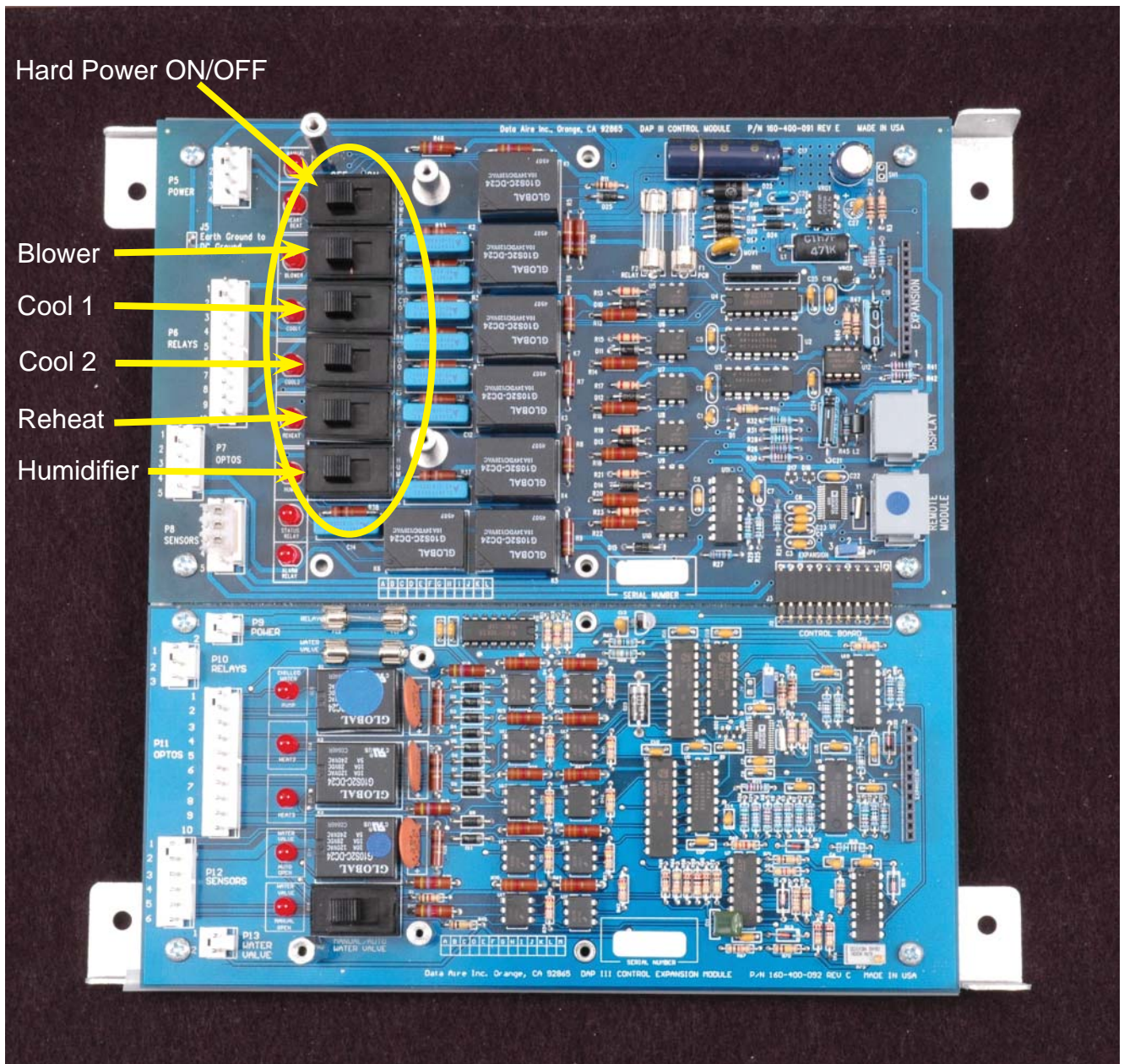
Problem	Possible Cause	Check or Remedy
Humidification does not come on - <i>continued</i>	Loose connection on plugs on cable P6-5  F2 RELAY fuse of DAP III is blown  Panel is operating in manual override and the humidifier override is not ON  Faulty humidifier relay  Incorrect configuration  Humidifier problem alarm  Restricted by interstage time delay or autoflush timer panel	Check connections use humidifier manual override switch to test  Replace with 8 amp fuse  Check manual override switches  Use manual Test Relay tests sub menu 9-3 to check.  Check settings in sub menu 5-6.  Correct the alarm.  Wait 5-10 minutes or reset the panel. Refer to humidification logic
Modulating humidifier does not come on	No call for humidification  Loose connection on plugs or cable P15-16, P15-17  No DC output to humidifier controller  Incorrect settings	Check humidity setpoint and deadband  Check connections. Use humidifier manual override switch to test.  Use manual diagnostic output test sub menu 9-4  Check settings in sub menu 5-6
Optional autoflush timer does not work	Incorrect setting  Loose connection on Relay module  Autoflush timer of OFF  Loose connections on cable  Faulty autoflush relay	Check setting in sub menu 5-10  Check Relay Module connections on PC board, check pin P15-4  Check setting in sub menu 5-10  Check connections. Refer to wiring diagram  Use manual Test Relay sub menu 9-3 to check.
Dehumidification does not come on	No call for dehumidification  Inhibited by no airflow  Incorrect configuration  Inhibited by humidity anticipation  Inhibited by reheat	Check humidity setpoint and deadband  Correct no airflow alarm  Check settings in sub menus 3-9 and 3-15.  Refer to humidity logic. Check sub menu 3-15  Refer to dehumidification logic. Check sub menu 3-9

<b>Problem</b>	<b>Possible Cause</b>	<b>Check or Remedy</b>
Dehumidification does not come on - <i>continued</i>	Dehumidification is OFF  Unit does not have reheat  Panel is operating in manual override and the compressor override is not ON  Restricted by inter-stage time delay	Check sub menu 3-9  On units without reheat, the dehumidification mode is not operable.  Check manual override switches  Wait 1-5 minutes or reset panel. Refer to dehumidification logic.
Panel locks up	24 VAC power is low  Loose ground connections  Loose CAT-5 cable	Check 24 VAC power. Reset panel  Tighten mounting screws of PC board to aluminum enclosure. Reset panel  Power OFF, remove battery, check CAT-5 cable and Power ON
Watchdog LED lit	DAP III has experienced a frozen display problem or loose ground	Tighten mounting screws on PC board to aluminum enclosure. Reset panel.
Audio alarm does not sound	Audio alarm has been turned OFF  Faulty alarm buzzer	Check setting on sub menu 4-1  Use manual Test Audio Alarm test sub menu 9-8 to check. Contact factory technical support if buzzer does not sound in manual test.
Alarm contact do not close	Alarm contact are disabled and/or not programmed correctly  Faulty alarm relays	Check settings for alarms sub menus 4-20, 4-21, 4-22 and 4-23  Use manual Test Relay test to check. Sub-menu 9-3
Condenser contact do not close	Loose connections of auxiliary contact and/or optional Relay module  Loose or faulty relay on expansion module	Check auxiliary compressor contact P15-11 and P15-12 or Relay Module and check module to PC board connection  Check relay connections and use manual Test Relay test to check. Sub menu 9-3
Faulty standard alarm conditions. Refer to alarm features	Bad Connections on plugs or cable  Loose connection on Relay module	Refer to wiring diagram to check connections.  Check Relay module connections to PC board
Faulty optional alarm conditions. Refer to alarm features	Bad Connections on plugs or cable  Loose connection on Relay module	Refer to wiring diagram to check connections.  Check Relay module connections to PC board
High or low temperature or humidity warning	Return air temperature or humidity is above or below the alarm limits  Faulty sensor	Silence the audio alarm. The alarm deactivates automatically when the temperature or humidity returns to within the alarm limits.  Refer to temperature and humidity sensor trouble shooting section above



## Manual Override Switches

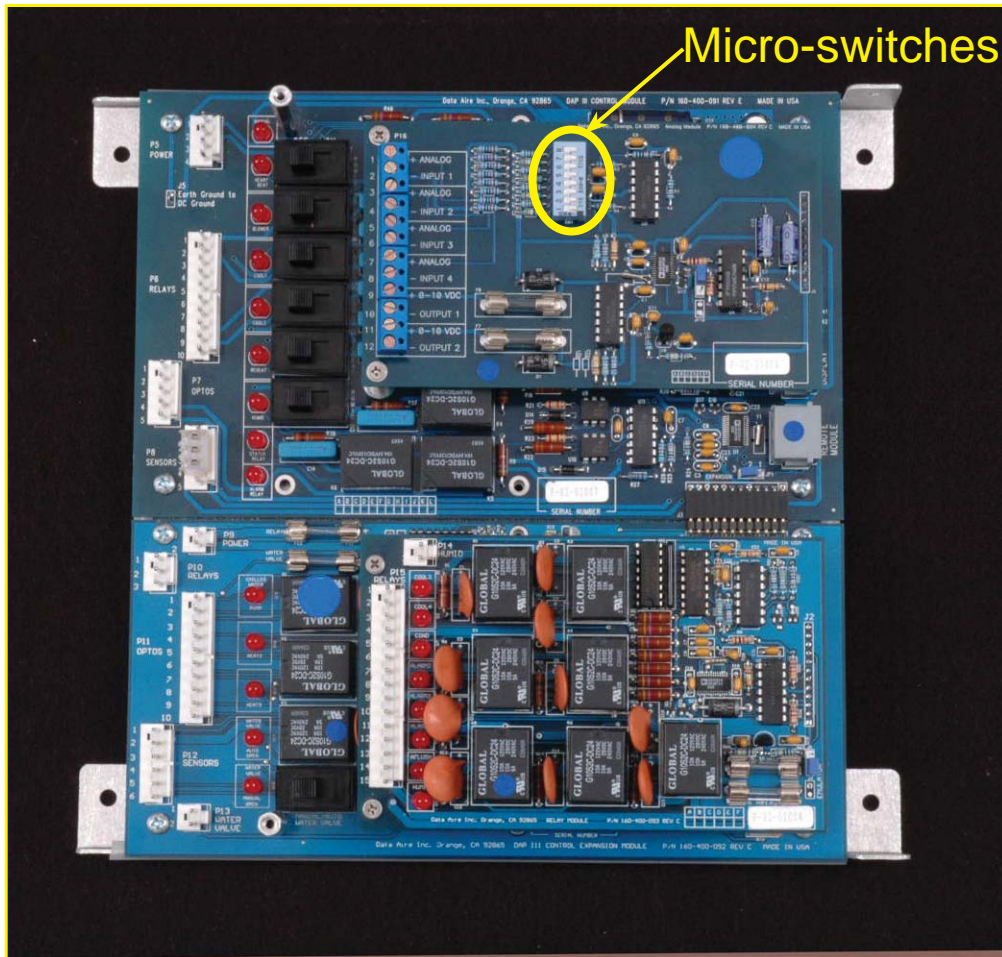
On all DAP III control modules there are six manual over ride switches. These switches are on the board and to access the cover has to be opened. As discussed in the beginning of this manual the first or top switch is the “hard” power ON/OFF switch. The next switches in order are for the blower, cool 1, cool 2, reheat, and humidifier. In testing the unit or in the event of a failure of the electronic circuitry these switches can be turned to the ON position to operate the components. Regardless of the programming in the DAP III each component that is turned on will remain operational until the respective manual over ride switch is returned to the OFF position.



# Analog Module Micro-Switch Settings

On the Analog Module there is a set of eight micro switches that must be set in conjunction with sub-menu 10-3 to establish signal range. Below is a photo of the Analog Module with the switches circled in yellow. Also a table indicating the appropriate settings for the various input options.

<b>Input 1:</b>	<b>Switch 1</b>	<b>Switch 2</b>	<b>Input 3</b>	<b>Switch 5</b>	<b>Switch 6</b>
0-5 v	OFF	OFF	0-5 v	OFF	OFF
0-10 v	OFF	ON	0-10 V	OFF	ON
4-20 mA	ON	OFF	4-20 mA	ON	OFF
<b>Input 2:</b>	<b>Switch 3</b>	<b>Switch 4</b>	<b>Input 4</b>	<b>Switch 7</b>	<b>Switch 8</b>
0-5 v	OFF	OFF	0-5 v	OFF	OFF
0-10 v	OFF	ON	0-10 v	OFF	ON
4-20 mA	ON	OFF	4-20 mA	ON	OFF





## Humidity and temperature Sensor Chart

### DC VOLTAGE vs RELATIVE HUMIDITY

0.1	10.0%	0.37	37.1%	0.64	63.9%
0.11	11.0%	0.38	38.1%	0.65	65.2%
0.12	11.9%	0.39	39.0%	0.66	66.1%
0.13	12.9%	0.40	40.0%	0.67	67.1%
0.14	13.9%	0.41	41.0%	0.68	68.1%
0.15	15.2%	0.42	41.9%	0.69	69.0%
0.16	16.1%	0.43	42.9%	0.70	70.0%
0.17	17.1%	0.44	43.9%	0.71	71.0%
0.18	18.1%	0.45	45.2%	0.72	71.9%
0.19	19.0%	0.46	46.1%	0.73	72.9%
0.20	20.0%	0.47	47.1%	0.74	73.9%
0.21	21.0%	0.48	48.1%	0.75	75.2%
0.22	21.9%	0.49	49.0%	0.76	76.1%
0.23	22.9%	0.50	50.0%	0.77	77.1%
0.24	23.9%	0.51	51.0%	0.78	78.1%
0.25	25.2%	0.52	51.9%	0.79	79.0%
0.26	26.1%	0.53	52.9%	0.80	80.0%
0.27	27.1%	0.54	53.9%	0.81	81.0%
0.28	28.1%	0.55	55.2%	0.82	81.9%
0.29	29.0%	0.56	56.1%	0.83	82.9%
0.3	30.0%	0.57	57.1%	0.84	83.9%
0.31	31.0%	0.58	58.1%	0.85	85.2%
0.32	31.9%	0.57	59.0%	0.86	86.1%
0.33	32.9%	0.60	60.0%	0.87	87.1%
0.34	33.9%	0.61	61.0%	0.88	88.1%
0.35	35.2%	0.62	61.9%	0.89	89.0%
0.36	36.1%	0.63	62.9%	0.90	90.0%

### DC VOLTAGE vs TEMPERATURE

2.800	44.3°F	2.873	57.5°F	2.948	71.0°F
2.801	44.5°F	2.876	58.0°F	2.951	71.5°F
2.804	45.0°F	2.879	58.5°F	2.954	72.0°F
2.807	45.5°F	2.882	59.0°F	2.957	72.5°F
2.809	46.0°F	2.884	59.5°F	2.959	73.0°F
2.812	46.5°F	2.887	60.0°F	2.962	73.5°F
2.815	47.0°F	2.890	60.5°F	2.965	74.0°F
2.818	47.5°F	2.893	61.0°F	2.968	74.5°F
2.820	48.0°F	2.895	61.5°F	2.970	75.0°F
2.823	48.5°F	2.898	62.0°F	2.973	75.5°F
2.826	49.0°F	2.901	62.5°F	2.976	76.0°F
2.829	49.5°F	2.904	63.0°F	2.979	76.5°F
2.831	50.0°F	2.907	63.5°F	2.982	77.0°F
2.835	50.5°F	2.909	64.0°F	2.984	77.5°F
2.837	51.0°F	2.912	64.5°F	2.987	78.0°F
2.840	51.5°F	2.915	65.0°F	2.990	78.5°F
2.843	52.0°F	2.918	65.5°F	2.993	79.0°F
2.845	52.5°F	2.920	66.0°F	2.995	79.5°F
2.848	53.0°F	2.923	66.5°F	2.998	80.0°F
2.852	53.5°F	2.926	67.0°F		
2.854	54.0°F	2.929	67.5°F		
2.857	54.5°F	2.932	68.0°F		
2.859	55.0°F	2.934	68.5°F		
2.862	55.5°F	2.937	69.0°F		
2.865	56.0°F	2.940	69.5°F		
2.868	56.5°F	2.943	70.0°F		
2.870	57.0°F	2.945	70.5°F		

## PIN IDENTIFICATION FOR DAP III MODULES

PIN Identification	DAP III Connector PIN No.	DAP III Cable No.
<b>STANDARD CONTROL MODULE</b>		
24VAC ISOLATION TR.	P5-1	1
24VAC COMMON ISOLATION TR.	P5-2	2
24 VAC	P5-3	2A
24 VAC COMMON.	P5-4	3A
BLOWER	P6-1	4
COMPRESSOR 1	P6-2	5
COMPRESSOR 2	P6-3	6
REHEAT 1	P6-4	7
HUMIDIFIER	P6-5	8
STATUS CONTACT COMMON	P6-6	9
STATUS CONTACT N.O	P6-7	10
ALARM 1 CONTACT COMMON	P6-8	11
ALARM 1 CONTACT N.C	P6-9	12
ALARM 1 CONTACT N.O	P6-10	13
OPTIONAL ALARM INPUT 1	P7-1	14
OPTIONAL ALARM INPUT 2	P7-2	15
OPTIONAL ALARM INPUT 3	P7-3	16
HIGH CONDENSATE WATER LEVEL	P7-4	17
NO AIR FLOW	P7-5	18
+5VDC TO HUMIDITY SENSOR	P8-1	
HUMIDITY SENSOR +	P8-2	
HUMIDITY SENSOR -	P8-3	
RETURN AIR TEMP SENSOR+	P8-4	
RETURN AIR TEMP SENSOR-	P8-5	
		SENSORS ARE DIRECTLY CONNECTED TO THE BOARD USING SHIELDED CABLE.
<b>STANDARD CONTROL EXPANSION MODULE</b>		
24 VAC	P9-1	2B
24 VAC COMMON.	P9-2	3B
ENERGY SAVER AVAILABLE OUTPUT	P10-1	19
REHEAT 2	P10-2	20
REHEAT 3	P10-3	21
OPTIONAL ALARM INPUT 4	P11-1	22
DIRTY FILTER	P11-2	23
HUMIDIFIER FAILURE	P11-3	24
HP FAILURE COMPRESSOR 1	P11-4	25
LP FAILURE COMPRESSOR 1	P11-5	26
HP FAILURE COMPRESSOR 2	P11-6	27
LP FAILURE COMPRESSOR 2	P11-7	28
SMOKE DETECTOR	P11-8	29
NO WATER FLOW ALARM	P11-9	30
ENERGY SAVER INPUT	P11-10	31
DISCHARGE TEMP SENSOR +	P12-1	
DISCHARGE TEMP SENSOR -	P12-2	
CHILLED WATER TEMP SENSOR +	P12-3	
CHILLED WATER TEMP SENSOR -	P12-4	
FLOOR WATER SENSOR	P12-5	32
FLOOR WATER SENSOR	P12-6	33
+ 0-10VDC TO WATER VALVE	P13-1	34
- 0-10VDC TO WATER VALVE	P13-2	35
		SENSORS ARE DIRECTLY CONNECTED TO THE BOARD USING SHIELDED CABLE.
<b>OPTIONAL RELAY MODULE</b>		
24VAC IN	P15-1	36
COOLING 3RD STAGE	P15-2	37
COOLING 4TH STAGE	P15-3	38
AUTOFLUSH TIMER	P15-4	39
ALARM 2 CONTACT COMMON	P15-5	40
ALARM 2 CONTACT N.C	P15-6	41
ALARM 2 CONTACT N.O	P15-7	42
ALARM 3 CONTACT COMMON	P15-8	43
ALARM 3 CONTACT N.C	P15-9	44
ALARM 3 CONTACT N.O	P15-10	45
CONDENSER AUX. CONTACT	P15-11	46
CONDENSER AUX. CONTACT	P15-12	47
ALARM 4 CONTACT COMMON	P15-13	48
ALARM 4 CONTACT N.C	P15-14	49
ALARM 4 CONTACT N.O	P15-15	50
MODULATING HUMIDIFIER VDC+	P15-16	51
MODULATING HUMIDIFIER VDC-	P15-17	52

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## DAP-III SOFTWARE UPGRADE INSTRUCTIONS

Upgrading the software for the DAP-III microprocessor control is relatively simple.

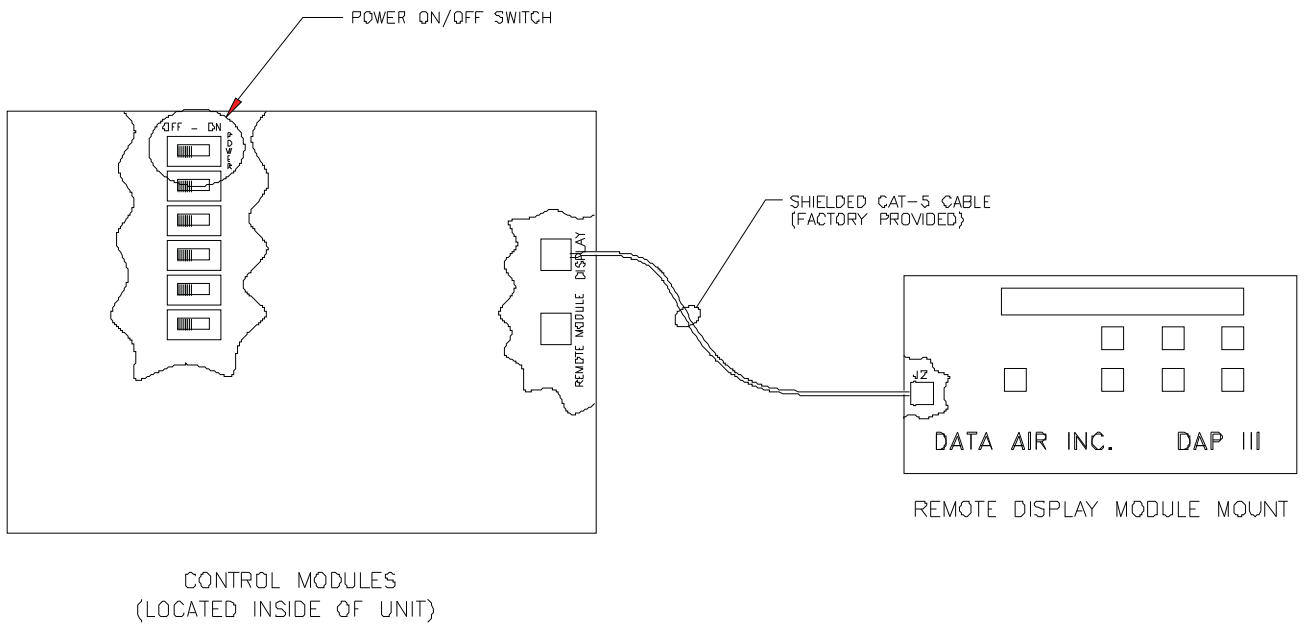
1. Make certain the DAP-III panel is online and in the Normal Operating Mode.
2. Insert the USB key that contains the updated DAP III binary file to the USB port of the DAP III panel.
3. The panel will automatically recognize the USB key and stop its normal operating mode. It will switch from the Normal Operating Mode to Software Loading Mode.
4. The panel's display will show this message during the software-upgrading period:  
**“Loading New Firmware”**.  
This process should take about 3 to 4 minutes
5. Follow the instructions on the panel's LCD screen (a message when the upgrade is complete.
6. Remove the USB key from the panel.
7. Once removed, the panel will automatically restart and show the new software revision.
8. Once the panel has restarted, it is recommended the panel's settings are checked to ensure the proper settings are programmed

# gForce Terminal Strip

<b>1</b>	24 VAC TRANSFORMER	LP FAILURE COMPRESSOR 1	<b>26</b>
<b>2A</b>	24 VAC TRANSFORMER	HP FAILURE COMPRESSOR 2	<b>27</b>
<b>2B</b>	24 VAC TRANSFORMER	LP FAILURE COMPRESSOR 2	<b>28</b>
<b>3A</b>	24 VAC COMMON	SMOKE DETECTOR	<b>29</b>
<b>3B</b>	24 VAC COMMON	NO WATER FLOW	<b>30</b>
<b>4</b>	BLOWER	ENERGY SAVER INPUT	<b>31</b>
<b>5</b>	COMPRESSOR 1	FLOOR WATER SENSOR	<b>32</b>
<b>6</b>	COMPRESSOR 2	FLOOR WATER SENSOR	<b>33</b>
<b>7</b>	REHEAT 1	+ 0-10 VDC TO WATER VALVE	<b>34</b>
<b>8</b>	HUMIDIFIER	- 0-10 VDC TO WATER VALVE	<b>35</b>
<b>9</b>	STATUS CONTACT COMMON	24 VAC FOR RELAY MODULE	<b>36</b>
<b>10</b>	STATUS CONTACT NORMALLY OPEN	COMPRESSOR 3 OR UNLOADER 1	<b>37</b>
<b>11</b>	REMOTE ALARM 1 COMMON	COMPRESSOR 4 OR UNLOADER 2	<b>38</b>
<b>12</b>	REMOTE ALARM 1 NORMALLY CLOSED	AUTOFLUSH TIMER	<b>39</b>
<b>13</b>	REMOTE ALARM 1 NORMALLY OPEN	REMOTE ALARM 2 COMMON	<b>40</b>
<b>14</b>	OPTIONAL ALARM INPUT 1	REMOTE ALARM 2 NORMALLY CLOSED	<b>41</b>
<b>15</b>	OPTIONAL ALARM INPUT 2	REMOTE ALARM 2 NORMALLY OPEN	<b>42</b>
<b>16</b>	OPTIONAL ALARM INPUT 3	REMOTE ALARM 3 COMMON	<b>43</b>
<b>17</b>	HIGH CONDENSATE WATER ALARM	REMOTE ALARM 3 NORMALLY CLOSED	<b>44</b>
<b>18</b>	NO AIR FLOW	REMOTE ALARM 3 NORMALLY OPEN	<b>45</b>
<b>19</b>	ENERGY SAVER OUTPUT	CONDENSER AUX. CONTACT	<b>46</b>
<b>20</b>	REHEAT 2	CONDENSER AUX. CONTACT	<b>47</b>
<b>21</b>	REHEAT 3	REMOTE ALARM 4 COMMON	<b>48</b>
<b>22</b>	OPTIONAL ALARM INPUT 4	REMOTE ALARM 4 NORMALLY CLOSED	<b>49</b>
<b>23</b>	DIRTY FILTER	REMOTE ALARM 4 NORMALLY OPEN	<b>50</b>
<b>24</b>	HUMIDIFIER FAILURE	+ 0-10 VDC FOR MOD. HUMIDIFIER	<b>51</b>
<b>25</b>	HP FAILURE COMPRESSOR 1	- 0-10 VDC FOR MOD. HUMIDIFIER	<b>52</b>

196-000-200 DATA ALARM PROCESSOR III

# Remote DAP III Display Mount connection to Control Module



**DAI** DATA AIRE INC.  
230 WEST BILLCRIDGE AVENUE  
ORANGE, CALIFORNIA 92865

DWG TITLE	
DATA AIRE REMOTE MOUNT DAP III CABLE CONNECTION	
JOB NO	DRAWN BY: <b>CWB</b>
PROJECT NO	CHECKED BY:
	EFFECTIVE DATE: <b>01-14-2008</b>
OPTIONS	REVISIONS: <b>A</b>
SYNCRAM NO: <b>REM MNT CBL CON.</b>	



230 W. BlueRidge Avenue  
Orange, CA 92865  
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