

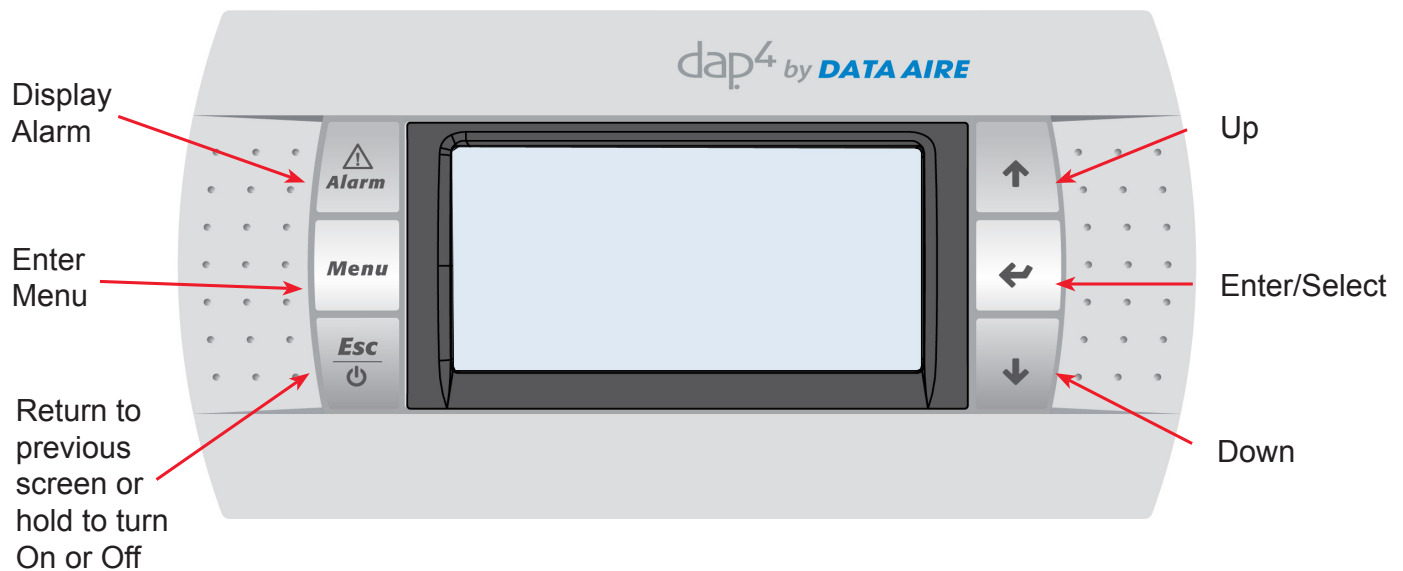
dap⁴

by **data**aire[®]

Quick Start







The dap4 consists of two main components: the control module and the display panel. The control module is located in the electrical panel. The display panel is remotely mounted to one of the outer front doors. The two are connected by special telephone type cable* harness (units may be ordered with longer cables for optional remote wall mounting). All data displayed on the display screen originates from the control module. The display panel has a backlit LCD (liquid crystal display). There are six keys on the face of the display panel to retrieve or enter settings.

Display Module



* Note: If used, regular telephone cable will not operate. Factory cable is required.

Button Functions

Alarm		Allows viewing of active alarms Silences audible alarms Resets active alarms
Menu		Allows entry to Main Menu
Esc		Return to previous screen Hold to turn ON or OFF
Up Arrow		Allows scrolling to next screen Allows values changes (increase)
Enter Arrow		Allows entry to menus Advances cursor
Down Arrow		Returns to previous screen Allows value changes (decrease)

The main screen allows you to see the current unit status (temperature, relative humidity and operating mode – cooling, humidification, etc.).

Powering the Unit ON/OFF



Before powering unit ON, check that power is available and proper connections have been completed.

Note: The unit is shipped with the control power in the OFF (Off by Key) position.

Turn the disconnect switch to the ON position. The controller display keys and screen will illuminate and the processor will conduct a self-test (the screen will remain illuminated with no messages until the testing is complete). The self-test takes approximately 20 seconds. Once completed, the main menu screen will be displayed.

The main menu screen will display the unit type, date and time, and unit status. In addition, the screen will scroll and display the temperature, relative humidity and operating mode.

The unit status will indicate the unit: "OFF by Key."

The unit may be turned ON at any time. Hold the ESC key for approximately 5 seconds. The display will continue to scroll and display messages. At the same time the unit status is changed to "Unit On". Once powered there will be a 5-600 second start delay indicated by "Time Before Start: XXs".

Note: The start time delay is programmable from 5-600 seconds (Menu J – Factory Settings). The factory setting is 5 seconds.

For initial programming of setpoints, alarms, delays, etc. it is not necessary to have the unit ON. With the unit in the "OFF by Key" mode, all settings are available to view and change (other than Menus J – Factory Settings and L – Configure Inputs/Outputs) if the proper password is entered.

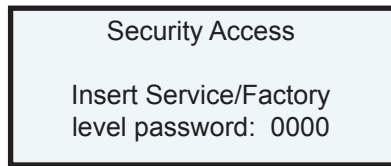
Once the desired settings are complete, change to the Unit to ON by holding the Esc Key for approximately (five) 5 seconds.

Accessing Menus/Passwords

To access any Menu a numerical password is required.

To enter the Menu and Sub-Menu screens, press the MENU key on the display panel. A password will be requested. The password is a four digit entry (including 0). Units are shipped from the factory with the password requirement bypassed to accommodate start-up and set-up.

The display screen will have the following message:



The Service Level Password setting from the factory is: 0000

The cursor will be flashing by the Security Access message at the top of the screen. Press the ENTER key to move the cursor. The cursor will flash at the first input (represented by a 0). Press the UP or DOWN keys to increase or decrease the value. Once the value is entered, press the ENTER key to move to the next input. Increase or decrease the value by pressing the UP or DOWN keys. Once the value is entered, press the ENTER key to move to the next input.

Once all four values are entered, press the Enter key. If the password is incorrect, the following message will appear: Password Wrong! The cursor will return to the first input value. Follow the same procedure to re-enter the password.

Once the correct password is entered and accepted, the Menus will display on the screen. Only those Menus allowed through the Service Password will be available. Use the UP or DOWN keys to scroll through the available Menus.

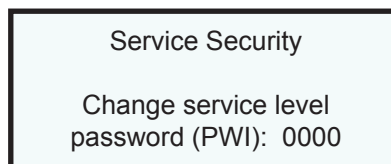
Note: Factory Level Menus are for configuring the unit. The dap4 controller is used for a variety of equipment types. The controller is based on the unit type, unit components and options. Under normal circumstances these menus should not be changed. If they need to be changed, please contact Data Aire engineering or service personnel.

Changing the Service Level Password

The Service Level password can be changed by doing the following:

Enter the Main Menu by pressing the Menu key. You will be prompted to Insert the Service Level password. Enter the current password as previously explained.

▼ Press the Menu key. The screen will display the following message:



▼ Press the Enter key. The cursor will highlight the first input. Change the input by pressing the UP or Down key. Once the selected number is displayed, press the Enter key to move to the next input. Repeat the same steps for each input.

After the last input has been entered, press the MENU key to return to Main Menu. The password is stored.

Entering Menu Settings

MENU A – ON/OFF

MENU A allows the unit power to be switched from ON to OFF and OFF to ON (the Service Level password is required for entry).

Enter Menu A by pressing the MENU key. Use the UP or DOWN key to scroll through the menus. Press the UP or DOWN key until "A. On/Off" (factory setting) appears and is highlighted. Press the ENTER key.

The following will appear on the display screen:

On/Off Unit	
Start-up Delay:	5s
Start-up Mode:	Off
Status:	Unit On
Hold ESC for 5 seconds to turn unit ON or OFF	

The cursor will be flashing at the upper left hand corner. Press the ENTER key. The cursor will move to the "Change to: SWITCH OFF". Press either the UP or DOWN button to change the status. Press the ENTER key to save the setting.

- If selecting SWITCH OFF the STATUS will change to: OFFbyKey. The unit will be OFF
- If selecting SWITCH ON the STATUS will change to: UnitOn. The unit will be ON
- When switching from the SWITCH OFF selection to the SWITCH ON (and pressing the ENTER key), the following message will appear: Time Before Start: XXs

Note: The start time delay is programmable from 5-600 seconds (Menu J – Factory Settings)

Once a selection is made, to leave MENU A, press the MENU key. The Main Menu screen will continue to display other menus (B, C, E and F). To look at any of these menus scroll to the desired menu. Press the ENTER key. If you choose to return to the Main Screen, press the Esc key.

MENU B - SETPOINTS

MENU B allows viewing and changing of Setpoints (Service Level password is required for entry)

Press the UP or DOWN key until "B. Setpoint" appears and is highlighted. Press the ENTER key.

Use the UP or DOWN key to scroll through the screens. Menu B has two screens.

The following will appear on the first Menu B screen (values are for reference only):

Setpoints	
TEMP SETPOINT:	72.0°F
TEMP DEADBAND:	2.0°F
STAGE to STAGE:	0.3°F
ENGY SVR SETPT:	50.0°F
DEADBAND:	1.0°F
CHANGE OVER:	2.0°F

Press the UP or DOWN key. The following will appear on the screen:

Setpoints	
HUM SETPOINT:	50%
HUM DEADBAND:	3%

FACTORY SETTINGS

TEMPERATURE: 72.0°F	(Temperature range: 65 - 85°F)
DEADBAND: 2.0°F	(Temperature Deadband range: 2 - 5°F)
STAGE TO STAGE: 0.3°F	(Stage-to-Stage range: 0.3 - 3.0°F)
ENGY SVR SETPT: 50.0°F	(Setpoint range: 40.0 - 60.0°F)
DEADBAND: 1.0°F	(Deadband range: 1.0 - 5.0°F)
CHANGE OVER: 2.0°F	(Change over range: 2.0 - 5.0°F)
HUM SETPOINT: 50%	(Humidity range: 25-70%)
HUM DEADBAND: 3%	(Humidity deadband range: 1 - 15%)

If Humidity Anticipation is turned ON in humidity setting under Factory Setting (Menu J), the following page appears for reference (non-editable):

Humidity Anticipation	
HUM SETPOINT:	50%
TEMP OFFSET:	- 2%
ANTICIPATION SP:	48%

To change the value of any one of the setpoint values, move the cursor by pressing the ENTER key to the desired setpoint. The cursor will flash on the input value. Press the UP or DOWN button to increase or decrease the value. Once the desired setpoint value has been changed, press the ENTER key to move to the next setting or until the cursor is at the top of the screen.

Exit the Setpoint Menu by pressing the Esc Key. The display screen will return to the MAIN MENU. Use the UP or DOWN Keys to advance to another Menu or press the Esc Key to return to the normal operating mode.

Note: Changes to any MENU input will remain and can only be changed manually (as described above)

Following is a brief description of the remaining menus (C through L)

Menu C – Clock/Scheduler

The menu allows programming of night set-back, week-end or special day schedules. This is intended for use in non-critical applications where units may be cycled off without any damage to sensitive electronic equipment. Typical application is comfort cooling where units may be shut down during non-working hours.

Requires service level password for programming

Menu D – Input/Output

This is a view only menu. The values are factory set and only if instructed by Data Aire engineering or service personnel should these be changed.

Requires service level password for viewing

Menu E – Historical Data

Menu allows viewing of alarms, component runtime hours and re-setting of run times. Alarms will displayed by the alarm name and the time, date of alarm occurrence. In addition, it will display the temperature and humidity at time of alarm.

Requires service level password for programming

Menu F - Information

This is a view only menu detailing the processor version and requires the service level password to enter.

Menu G – Network Config

Menu allows programming of available protocols. Typically this menu is factory set.

Requires a service level password for programming

Menu H – Calibrate Sensors

Allows calibration of the installed unit sensors if required

Requires a service level password for programming

Menu I – Manual Control

Allows the unit components to run manually. Used for diagnostic of individual components within the unit.

Requires a service level password for programming

Menu J – Factory Settings

Menu J is for setting the control to the type equipment and options ordered. This includes compressor type and quantity, blower type, blower running speed or mode, chilled water valve type, Energy Saver, humidifier, reheat and other additional features. This requires the Factory Level password and entry should be limited to Data Aire factory and service personnel.

Menu K – Alarms & Limits

Menu K is for setting the control alarms, limits, alarm enunciation mode, configure optional and custom alarms. Firestat alarm will shut unit down, its limit is programmed at 150°F as default value. (150 Deg F is default in software version 1.25 or later. 100 Deg F is default value in older software version.) Change this limit on start-up if necessary.

RETURN AIR ALARMS	
Firestat Set Point:	150°F
Hi Temp Alarm:	Yes
Setpoint:	80°F
Low Temp Alarm:	Yes
Setpoint:	60°F

This requires a service level password for programming

Menu L – Configure I/O

Menu L is a factory menu for configuring the unit's digital inputs and the unit's analog inputs and outputs. This requires the Factory Level password and entry should be limited to Data Aire factory and service personnel.



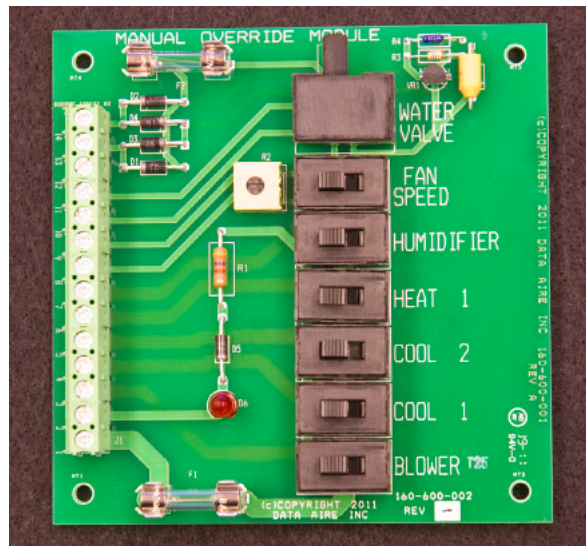
Manual Override Switches

For testing and during start-up each Data Aire gForce unit is provided with manual override slide switches. There are seven slide switches. One for each of the following functions:

- **Water Valve**
- **Fan Speed**
- **Humidifier**
- **Heat 1**
- **Cool 2**
- **Cool 1**
- **Blower**

All automatic control is disabled but the safety switches remain functional. Simply slide the manual switches to energize the blower, compressors, humidification, reheat and other functions.

The fan speed of the EC (Electronically Commutated) motor can be adjusted from 0 – 10 volts by adjusting the potentiometer at the left of the **Fan Speed** switch. The fan will turn 10% for each volt adjustment. One volt equals 10%. At ten volts the motor is at full speed.



Warning: Do not leave the unit in manual override. Slide the switches to the OFF position when completing testing and/or start-up. An alarm will be activated if units are left in the ON position.



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