

Table 2 – General Settings Parameters

No.	Page	Description	Factory Default	Parameter Range
1	1	System Type Selection ¹	DX/CW by Jumper	DX/CW by Jumper / DX Override / CW Override / FAMU by Jumper / FAMU DX Override / FAMU CW Override
2		Temperature Units	Auto	Auto / °F / °C
3		Fan Motor Type	Split Capacitor	Shaded Pole or Split Capacitor
4	2	CAN Bus Unit ID ²	1	1-255
5		CAN Bus Group ID ²	100	1-255
6		Filter Hours Setting	Off	Off / 100-2500 Hours
7	3	Filter Hours Reset	n/a	(Resets reminder & clears hours only)
8		Voltmeter Calibration	0 (none)	70-140VAC or 170-260VAC
9		Inside/Exhaust Temperature Calibration	0	±50°F or ±25°C
10	4	Outside/Water/Intake Temperature Calibration	0	±50°F or ±25°C
11		Humidity Setting (%RH) ³	60% RH	45-85% RH
12		Set Point Temp Differential	2°F/1°C	1 or 2°F / 0.5 or 1.0°C
13	5	Fan Operational Mode	Continuous	Continuous or Cycled
14		Electric Heat Option	Off	Off / On
15		Reversed Fan Speed in Heat	On	Off / On
16	6	Inside Temp Sensor Selection	Auto	Auto / Display / Alt. Air
17		Auto Fan Speed Temp Differential	2°F/1°C	1-3°F or 0.5-1.5°C
18		Moisture Mode Heat Set Point	50°F/10°C	40-75°F or 5-25°C
19	7	Dual Temp Set Points	Off	Off / On

¹ System Type Selection does not offer FAMU for any FX1 or FX2 control boards rev G1 and older.

² CAN Bus is an FX2 option only and is not currently supported by EasyTouch

³ Relative Humidity control is an FX2 CW option only.

NOTE: Blue items are only available when the *System Type Selection* is DX / CW.

12.1.1 System Type Selection (DX/CW by Jumper / DX Override / CW Override / FAMU by Jumper / FAMU DX Override / FAMU CW Override; **DX/CW by Jumper**)

This parameter sets the type of air conditioning system to which the EasyTouch is connected. When this parameter is set to its default, "DX/CW by Jumper", EasyTouch determines whether the system is DX or CW based upon the "Cut for Chill" jumper on the FX1 or FX2

main circuit board. When the jumper is cut, CW operation is in effect, and when the jumper is not cut, DX operation is in effect. If at any time the system type needs to set regardless of the state of the jumper, setting this parameter to “DX Override” or “CW Override” will force EasyTouch to use the corresponding system type.

For FX2 Control Boards revision J and newer, the option to select FAMU System Type is offered. Similar to DX/CW, when this parameter is set to "FAMU by Jumper", EasyTouch determines whether the system is FAMU DX or FAMU CW based upon the “Cut for Chill” jumper on the FX2 main circuit board. When the jumper is cut, FAMU CW operation is in effect, and when the jumper is not cut, FAMU DX operation is in effect. If at any time the system type needs to set regardless of the state of the jumper, setting this parameter to “FAMU DX Override” or “FAMU CW Override” will force EasyTouch to use the corresponding system type.

12.1.2 Temperature Units (AUTO/°F/°C; **AUTO**)

The AUTO selection sets EasyTouch to display all live temperatures and temperature settings in °F (Fahrenheit) when connected to 60Hz AC power and in °C (Celsius) when connected to 50Hz AC power. AUTO makes this units selection only during AC power up. To set EasyTouch to use °F or °C all of the time regardless of the AC power frequency, select either of those two settings options.

12.1.3 Fan Motor Type (Split Capacitor/Shade Pole; **Split Capacitor**)

The Split Capacitor default setting is frequently the correct setting for most modern air conditioning unit blowers. If the air conditioning unit has a shaded-pole fan motor instead of a split-capacitor fan motor, you **MUST** choose “Shaded Pole” for the *Fan Motor Type* parameter setting before operating the equipment. Shaded-pole fan motors are most often recognizable by an overhanging blower motor, whereas split-capacitor fan motors are most often enclosed inside the blower housing.



IMPORTANT:

Failure to select Shaded Pole for this parameter setting for an air conditioning unit with a shaded-pole fan motor could result in the fan motor stalling and overheating at low fan speeds. It is therefore very important to insure that this setting is correct.

12.1.4 CAN Bus Unit ID (FX2 only, 1-255; **1**)



NOTE:

CAN Bus is only supported by EasyTouch on FX2 Control Boards revision J and newer. The CAN Bus Unit ID button will always be grayed out otherwise.

This parameter assigns the CAN Bus Unit ID for the FX2 control board. Each control on the same CAN bus network must be assigned a unique Unit ID (1-255). Please refer to the specific requirements of the CAN bus system being used to monitor and control the EasyTouch for further information.

12.1.5 CAN Bus Group ID (FX2 only, 1-255; **100**)



NOTE:

CAN Bus is only supported by EasyTouch on FX2 Control Boards revision J and newer. The CAN Bus Unit ID button will always be grayed out otherwise.

This parameter assigns the CAN Bus Unit ID for the FX2 control board. Each control on the same CAN bus network must be assigned a unique Unit ID (1-255). Please refer to the specific requirements of the CAN bus system being used to monitor and control the EasyTouch for further information.

12.1.6 Filter Hours Setting (OFF/100-2500; **OFF**)

The Filter Hours setting can be set as a reminder to clean or replace the unit's air filter. The reminder for air filter cleaning or replacement is determined by the number of hours of fan operation. By default, this reminder is off, but it can be enabled by selecting the number of operating hours until the filter reminder message appears (shown only on the Main screen). The parameter setting can be adjusted from 100 to 2500 hours. Micro-Air recommends that you check the air filter at least every 500 hours of operation. Once set, a separate timer keeps track of the total amount of run hours that the fan accumulates. Once the reminder time has expired, a message will be displayed on the Main screen. System operation will continue normally without any interruption while this reminder is being displayed. The reminder can only be cleared and the timer reset via the *Filter Hours Reset* parameter. See section 12.1.7 for more information on how to inspect and reset the filter reminder.

12.1.7 Filter Hours Reset (clears reminder and resets hours only)

The Filter Hour Reset setting shows the number of fan operational hours that have accumulated since the reminder was last reset. The only option when viewing this parameter is to clear it by pressing the CLR button. This action will clear the filter reminder and reset the accumulated hours to 0.

12.1.8 Voltmeter Calibration (70-140VAC or 170-260VAC; **0 [none]**)

This parameter allows adjustment of the AC line voltage reading as measured by the EasyTouch. This setting displays the live AC voltage reading, and it can be adjusted by pressing the UP and DOWN buttons. Calibrating this parameter provides a more accurate voltage level for use with the Low-Voltage Monitor (DX only, see section 12.3.3). Use a calibrated voltmeter as a reference when adjusting this parameter.

12.1.9 Inside/Exhaust Temp Calibration ($\pm 50^{\circ}\text{F}$ or $\pm 25^{\circ}\text{C}$; **0 [no adjustment]**)

This parameter calibrates the inside or exhaust temperature sensor (whichever is active) within a range of $\pm 50^{\circ}\text{F}$ or $\pm 25^{\circ}\text{C}$. Adjust this parameter to display the correct temperature reading by using a calibrated temperature measurement device for comparison.

12.1.10 Outside/Water/Intake Temp Calibration ($\pm 50^{\circ}\text{F}$ or $\pm 25^{\circ}\text{C}$; **0 [no adjustment]**)

This parameter calibrates the outside, water, or intake temperature sensor (whichever is active) within a range of $\pm 50^{\circ}\text{F}$ or $\pm 25^{\circ}\text{C}$. Adjust this parameter to display the correct temperature reading by using a calibrated temperature measurement device for comparison.

12.1.11 Humidity Setting (%RH) (FX2 CW only, 45-85% RH; **60% RH**)

This parameter selection is only available whenever the EasyTouch is plugged into an:

- FX2 control board (rev G1 and older) with the optional Temp/Humidity Sensor daughterboard and with a combo temperature/humidity sensor plugged into the daughterboard's "INTAKE" jack and the Inside Temp Sensor Selection programming parameter is set to "AUTO" (see section 12.1.16), or an
- FX2 control board (rev J and newer) with a combo temperature/humidity sensor plugged into the "ALT AIR / RH" jack.

This parameter button will be grayed out whenever EasyTouch is plugged into any other type of FX2 or FX1 circuit board or if the combo sensor is not plugged in. Also, cabin humidity control only applies to CW control operation only.

When the appropriate hardware and mode of operation is detected, EasyTouch will automatically enable humidity control in concert with temperature control whenever executing a cooling cycle in either AUTO or COOL Modes. Cooling will continue once the set point temperature is satisfied until the inside temperature drops to 1° below the set point. If the optional Electric Heat option is enabled (see section 12.1.14), electric heat will be turned on in concert with cooling in order to maintain the inside temperature (dry bulb) while the cooling

cycle continues to dehumidify the cabin. The cooling cycle will terminate once the inside temperature set point and this Humidity Sensor Control Limit have been satisfied.

12.1.12 Set Point Temperature Differential (1 or 2°F / 0.5 or 1.0°C; **2°F/1°C**)

This parameter is the temperature differential utilized to commence either a cooling or heating cycle. Refer to section 8.2 for more information on the various Modes of Operation and how this parameter setting affects them. By default, this parameter setting is 2°F (1.0°C). It can be set to either 1°F (0.5°C) or 2°F (1.0°C). Setting this parameter to 1°F (0.5°C) will result in the control maintaining the room temperature closer to the desired set point. However, this may result in more frequent shorter-duration cooling or heating cycles. In most cases, the factory default of 2°F (1.0°C) is adequate for maintaining a comfortable temperature variation around the desired set point. If you desire less variation in temperature, set this parameter to 1°F (0.5°C).

12.1.13 Fan Operational Mode (CONTINUOUS, CYCLED; **CONTINUOUS**)

This parameter controls the operational mode of the fan. The fan can be set to run continuously whenever the system is turned on, or it can be set to cycle on and off in conjunction with the cooling or heating cycles.

12.1.14 Electric Heat Option (OFF/ON; **OFF**)

For DX systems, when this parameter is set to OFF, the valve output is enabled for use with a reversing valve, will toggle prior to cooling/heating cycles, and be energized for heating cycles. When this parameter is set to ON, the valve output is enabled for use with an electric heater or heater contactor, will no longer toggle, and will energize only during heating cycles without the compressor or pump.

For CW systems, when this parameter is set to OFF, only the valve output will be energized during a heat cycle if the water temperature permits. When this parameter is set to ON, the compressor output is enabled for use with an electric heater or heater contactor and will energize together with or separately from the valve output during a heating cycle, depending on the water temperature. Please refer to section 12.4.2 for more information on how the electric heater output works in concert with the valve output during CW heating operation.

IMPORTANT:



Please refer to section 18 for more information on the electrical specifications for the valve and compressor outputs. It is important to consider the size and load of any electric heater, and it may be necessary to install an additional contactor that is rated to handle the full load of the electric heater. Please consult with Micro-Air Customer Service or with an authorized service technician for assistance.

12.1.15 Reversed Fan Speed in Heat (OFF/ON; **ON**)

Reverse Fan Speed reverses the automatic fan speed behavior during a heating cycle in AUTO or HEAT Modes. This is to improve heat output in cold ambient conditions. When set to ON, the automatic fan speed will decrease as the inside temperature moves away from (below) the set point, and the fan speed will increase as the temperature approaches the set point. Using a lower fan speed when the cabin is cold increases the system head pressure and helps raise the supply air temperature. Using a higher fan speed as the set point is approached also reduces unnecessary high-pressure faults. The fan switches back to low speed (continuous) or turns off (cycled) once the set point is satisfied and the heating cycle terminates. Alternately, the automatic fan speeds during a heating cycle can be programmed to operate the same as in a cooling cycle by setting this parameter to OFF.

12.1.16 Inside Temp Sensor Selection (AUTO / DISPLAY / ALT. AIR; **AUTO**)

This parameter determines how the EasyTouch selects the temperature sensor to for inside temperature control. By default, setting this parameter to "AUTO" causes EasyTouch to use the display sensor if no other sensors are found. If the Alternate Air sensor is plugged into the FX1 or FX2 main circuit board, the EasyTouch will use this sensor for inside temperature.

Or, if the combo Temperature/Humidity sensor is plugged into the FX2 (rev J and newer) “ALT. AIR / RH” jack or into the “INTAKE” jack on the optional FX2 Temp/Humidity Sensor daughterboard (rev G1 and older), the EasyTouch will use this sensor for the inside temperature. Setting this parameter to “DISPLAY” or “ALT. AIR” will override any automatic detection of sensors that are plugged in and will force EasyTouch to use the corresponding sensor for inside temperature.



NOTE:

This parameter must be set to “AUTO” in order for the combo Temperature/Humidity sensor plugged into the FX2 (rev G1 and older) to be recognized and used for inside temperature.

12.1.17 Auto Fan Speed Temp Differential (1-3°F or 0.5-1.5°C; 2°F/1°C)

This parameter sets the incremental differential (with cumulative steps) between the inside temperature and the set point temperature at which the automatic fan speed will increment to the next speed. Note that there is 1°F (or 0.5°C) hysteresis in the auto fan speed differential to prevent the speed from changing if the room temperature if fluctuating between two adjacent values. Please note that the Set Point Differential (see section 12.1.3) also affects the automatic fan speeds. See Table 3 below for an example of how the automatic fan speeds will behave when the Set Point Differential is 2°F (default) and the Auto Fan Speed Temp Differential is 2°F (default).

Table 3 – Automatic Fan Speed Temp Differential Example

Inside Temp	Fan Speed	
	Increasing Temp ↑	Decreasing Temp ↓
SP+7	High	High
SP+6	High	High
SP+5	High	High
SP+4	Med	High
SP+3	Med	Med
SP+2	Low	Med
SP+1	Low/Off	Low
SP	Low/Off	Low/Off

12.1.18 Moisture Mode Heat Set Point (40-75°F or 5-25°C; 50°F/10°C)

This parameter is the minimum inside temperature for which MOISTURE Mode will run a cooling cycle to remove moisture from the air. If the room temperature is below this parameter setting, MOISTURE Mode will run a heating cycle instead. By default, this parameter is set to 50°F (10°C), and it can be adjusted from 40°F to 75°F (5-25°C). See section 8.2.6 for more information on MOISTURE Mode.



IMPORTANT (for DX Systems):

On DX systems configured with reverse-cycle heat, the MOISTURE Mode heat cycle will not be allowed to run when the ambient temperature is below 40°F (4.4°C). This is necessary to protect the condenser coil from freezing. Systems configured with electric heat will be allowed to run the MOISTURE Mode heat cycle regardless of the inside temperature.

12.1.19 Dual Temp Set Points (OFF/ON; OFF)

This parameter controls whether the EasyTouch uses a single, common set point for both cooling and heating (displayed in yellow), or two separate set points for cooling and heating (displayed in blue and red, respectively). When this parameter is set to ON, two set points

become visible on the Home and Main screens whenever selecting the various temperature display indicators. Whenever the set point is adjusted, the cooling set point is always displayed and adjusted by default. The heating set point can only be adjusted by first changing the temperature display to show the heating set point (temporarily or permanently), and then adjusting the set point thereafter using the UP and DOWN buttons. See section 8 for more information on how to change the current temperature display.

The use of dual set points in AUTO mode requires that the cooling set point always be greater than the heating set point, and vice versa. The EasyTouch automatically maintains this separation between the heating and cooling set points as the Set Point Temperature Differential (see section 12.1.3) + 2°F/1°C. For example, by default, if the heating set point is 68°F and the cooling set point is 72°F, if the cooling set point is lowered to 70°F, the heating set point is automatically reduced to 66° in order to maintain this separation. Whenever the cooling set point is raised, the heating set point will be unaffected. The opposite behavior is true when adjusting the heating set point.

Also, when the Dual Temp Set Points parameter is ON, the Program Scheduler displays and allows adjustment of both the cooling and heating set points. See section 13 for more information on the Program Scheduler.

12.2 Fan Speed Settings

To access the Fan Speed Settings, go to the Main Menu, select Control Parameters, and then select Fan Speed Settings. For a standard FX1 or FX2 control board, the Fan Speed Settings Menu consists of 3 items on 1 page as shown in Figure 20. For the FX2 control board with the Expanded DC Blower Daughterboard option installed, the Fan Speed Settings Menu will automatically change to consist of 12 items on 3 pages as shown in Figure 21.

Fan Speed Settings 1-3 (Low, Medium, and High) control the speed of following 3 fan outputs:

- 1) AC Fan (triac) output on the main FX1 or FX2 board
- 2) DC Fan output on the main FX2 board rev J and newer
- 3) DC Fan A output on the optional Expanded DC Blower Daughterboard, if installed.

Fan Speeds Settings 4-12 control the speed of DC Fans B-D, if installed. These 12 separate settings allows for each of the 4 separate DC blower fan outputs to be individually adjusted to better balance the air flow from multiple DC blowers that are under the control of a single FX2 and EasyTouch control system

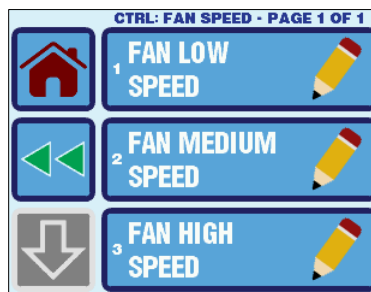
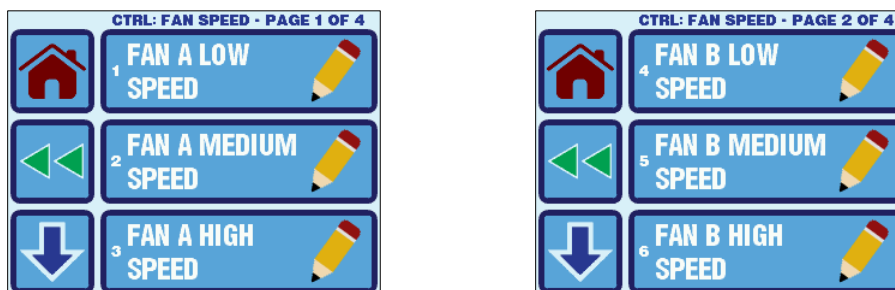


Figure 20 – Standard Single Blower Fan Speed Settings Menu Screen



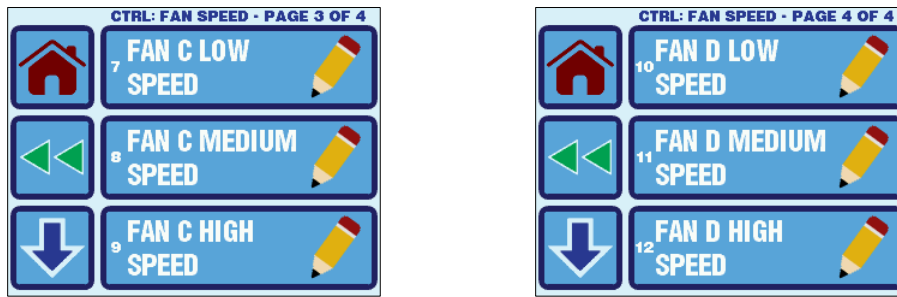


Figure 21 – Optional Expanded DC Blower Fan Speed Settings Menu Screens

Refer to Table 4 for a quick reference to the Fan Speed Settings. Click the hyperlinks in the table to refer to the sections that follow providing further details on each setting.

Table 4 – Fan Speed Settings

No.	Page	Description	Factory Default	Parameter Range
1	1	Fan (A) Low Speed	40	30-75
2		Fan (A) Medium Speed	61	32-85
3		Fan (A) High Speed	95	35-95
4	2	Fan B Low Speed	40	30-75
5		Fan B Medium Speed	61	32-85
6		Fan B High Speed	95	35-95
7	3	Fan C Low Speed	40	30-75
8		Fan C Medium Speed	61	32-85
9		Fan C High Speed	95	35-95
10	4	Fan D Low Speed	40	30-75
11		Fan D Medium Speed	61	32-85
12		Fan D High Speed	95	35-95

NOTE: Blue items are only available when the FX2 Expanded DC Blower Daughterboard Option is installed.

12.2.1 Low Fan (A-D) Speed (30-75; **40**)

Selecting this parameter immediately turns on the selected fan (only) at manual low speed so you can assess the sound and air flow while adjusting. The low fan speed can be adjusted from 30 to 75. Select a higher value to increase the fan speed or a lower value to decrease the fan speed. Once the setting is saved via the SAVE button or the setting screen is exited via the BACK or HOME buttons (or via Sleep Mode), the fan speed returns to the previous state.

NOTE: It is possible to adjust the low fan speed to be higher than the medium or high fan speed, so please take this into consideration when adjusting all three speeds.

12.2.2 Medium Fan (A-D) Speed (32-85; 61)

Selecting this parameter immediately turns on the selected fan (only) at manual medium speed so you can assess the sound and air flow while adjusting. The medium fan speed can be adjusted from 32 to 85. Select a higher value to increase the fan speed or a lower value to decrease the fan speed. Once the setting is saved via the SAVE button or the setting screen is exited via the BACK or HOME buttons (or via Sleep Mode), the fan speed returns to the previous state.

NOTE: It is possible to adjust the medium fan speed to be lower than the low fan speed or higher than the high fan speed, so please take this into consideration when adjusting all three speeds.

12.2.3 High Fan (A-D) Speed (35-95; 95)

Selecting this parameter immediately turns on the selected fan (only) at manual high speed so you can assess the sound and air flow while adjusting. The high fan speed can be adjusted from 35 to 95. Select a higher value to increase the fan speed or a lower value to decrease the fan speed. Adjusting this parameter has no effect on the other two fan speeds. Once the setting is saved via the SAVE button or the setting screen is exited via the BACK or HOME buttons (or via Sleep Mode), the fan speed returns to the previous state.

NOTE: It is possible to adjust the high fan speed to be lower than the medium or low fan speed, so please take this into consideration when adjusting all three speeds.

12.3 DX Operational Settings

The DX Operational Settings menu is only available as an option in the Control Parameters menu when the DX System Type is selected in the *System Type Selection* parameter and/or enabled via the appropriate control board jumper.

To access the DX Operational Settings, go to the Main Menu, select Control Parameters, and then select DX Operational Settings. The DX Operational Settings Menu consists of 7 items on 3 pages as shown in Figure 22.

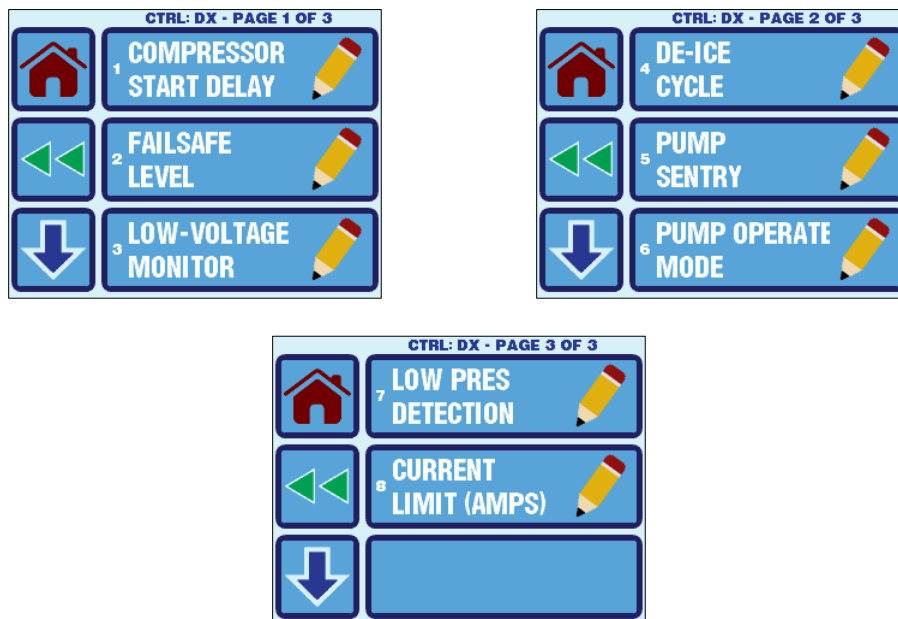


Figure 22 – DX Operational Settings Menu Screens

Refer to Table 5 for a quick reference to the DX Operational Settings. Click the hyperlinks in the table to refer to the sections that follow providing further details on each setting.

Table 5 – DX Operational Settings

No.	Page	Description	Factory Default	Parameter Range
1	1	Compressor Start Delay	15 sec	5 – 135 sec
2		Failsafe Level	Faults Detected and Displayed with Lockout	Faults Not Detected / Faults Detected But Not Displayed / Faults Detected and Displayed / Faults Detected and Displayed with Lockout
3		Low-Voltage Monitor	Off	Off/75-120VAC or Off/175-240VAC
4	2	De-Ice Cycle	Disabled	Disabled Enabled with 5°F/3°C Sensor Differential Enabled with 7°F/4°C Sensor Differential
5		Pump Sentry	Off	Off / 100-150°F or Off / 40-65°C
6		Pump Operate Mode	Continuous	Continuous or Cycled
7	3	Low Pressure Detection	Set by Jumper	Set by Jumper or Disabled
8		Current Limit (Amps)	Off	Off/1-35 Amps

12.3.1 Compressor Start Delay (5-135sec; **15sec**)

The compressor start delay is used for installations where more than one system operates from the same power source. Setting different start delays allows compressors to start at different times when AC power is interrupted. Stage the units at least 5 seconds apart. Note that this delay is only applied immediately after an AC power up and will only affect the first cooling or heating cycle that is called for, assuming the EasyTouch powers up in the ON mode. All subsequent cooling or heating cycles begin upon demand per the normal sequence.

12.3.2 Failsafe Level (Faults Not Detected / Faults Detected But Not Displayed / Faults Detected and Displayed / Faults Detected and Displayed with Lockout; **Faults Detected and Displayed with Lockout**)

This parameter controls the display and response to the various fault conditions. To protect the air conditioning equipment, certain fault conditions trigger a Lockout. A Lockout occurs when the control shuts down and will not automatically restart until the power (button) on the display is cycled. The detection and the display of faults are also controlled by this parameter.

There are 4 different Failsafe levels to choose from:

- **Faults Not Detected** - This level provides minimal failsafe protection and is not recommended. Only the “Air Sensor” and the “Lost AC” fault will be detected and displayed. No Lockout occurs at this failsafe level, except for the Air Sensor fault which always causes a Lockout condition. All other faults will not be detected or displayed.
- **Faults Detected But Not Displayed** - This level provides the same actions of the previous level, plus all other faults are detected but not displayed. When a fault is

detected, the system shuts down for 2 minutes or until the fault is cleared, whichever is longer. The system will then restart automatically after the fault is cleared.

- **Faults Detected and Displayed** - This level provides the same actions of the previous two levels, plus all faults are displayed. The system shuts down for 2 minutes or until the fault is cleared, whichever is longer. The system restarts automatically when the fault is cleared.
- **Faults Detected and Displayed with Lockout** - This level provides the failsafe actions of previous 3 levels, plus the system will lockout after four consecutive High Pressure, Low Pressure, or Pump Sentry faults. To clear the lockout, cycle the power at the display by pressing the POWER button twice.

See section 9 for more information on all of the various faults that EasyTouch can declare.

12.3.3 Low Voltage Monitor (OFF / 75-120VAC or 175-240VAC); **OFF**)

The EasyTouch has a built-in voltmeter circuit that monitors the AC input voltage. Depending on whether the AC input voltage is 115VAC or 230VAC, this parameter has two different setting ranges. The factory default setting is OFF. When this parameter is set to 75-120VAC (115VAC systems) or 175-240VAC (230VAC systems), the EasyTouch checks the AC input voltage prior to each cooling or heating cycle and during regular operation.

- Just prior to compressor startup, EasyTouch will immediately declare the LOW AC fault if the voltage is less than this parameter setting. This provides extra protection for the compressor and components within the system during low voltage starting conditions. The LOW AC fault will persist until the AC input voltage goes above this parameter setting or for a minimum of 2 minutes before allowing the compressor startup to proceed, whichever occurs first.
- After compressor startup, if the AC input voltage goes below this parameter setting for 5 minutes, the system will be shutdown and the LOW AC fault will be declared. The LOW AC fault will persist until the AC input voltage goes above this parameter setting and a fault delay of 2 minutes has occurred, whichever occurs first. Once the voltage is restored, after the normal fault recovery delay, the compressor will be restarted.
- The LOW AC fault does not contribute to the Lockout count.

12.3.4 De-Ice Cycle (Disabled/ Enabled with 5°F/3°C Sensor Differential / Enabled with 7°F/4°C Sensor Differential; **Disabled**)

The de-icing cycle prevents ice buildup on the evaporator coil during extended periods of cooling operation. Installation variables such as grille sizes, length of ducting, insulation, and ambient temperatures determine the runtime required to achieve set point. Factors that substantially increase runtime include operating the system with hatches and doors open and programming an unrealistic set point (e.g. 65°F/18°C). Such situations can cause the evaporator to form ice on warm humid days. De-icing is accomplished by closely monitoring the room air temperature in 10-minute intervals during a cooling cycle. Depending on the parameter value and the change in room temperature during these monitoring intervals, the control performs various actions to prevent ice from forming or to melt ice that has already formed. This is accomplished by short compressor shutdown periods combined with a one-speed increase in fan speed and by periodic Heat Mode cycles with the fan turned off. The parameter setting for the de-icing feature depends on whether you are using the optional alternate air temperature sensor or the display's built-in inside air temperature sensor. Installation of an optional alternate air temperature sensor (located in the return air path) greatly increases the effectiveness of the de-icing feature, and this option should be considered whenever the display sensor cannot read the room temperature accurately.



NOTE:

When using the alternate air temperature sensor, the De-Ice Cycle behavior is the same regardless of whether this parameter is set to **Enabled with 5°F/3°C Sensor Differential** or **Enabled with 7°F/4°C Sensor Differential**.

The De-Ice Cycle algorithm initiates periodic compressor shutdowns every 10 minutes if the inside temperature is at or below 69°F (20°C). The lower the temperature, the longer the compressor shutdown will last. In addition, the De-Ice Cycle algorithm will perform brief reverse cycle runs (with the fan purposely turned off) if the cooling cycle runs for 40 minutes without any cooling progress or if the cooling cycle runs for more than 60 minutes regardless of cooling progress.

Enabled with 5°F/3°C Sensor Differential – When the built-in display temperature sensor is in use, the De-Ice Cycle algorithm as described above operates with the minimum threshold temperature at 74°F or 23°C. De-Ice Cycle operation with the alternate air sensor is the same and is unchanged. Use this setting for typical conditions and a normal installation.

Enabled with 7°F/4°C Sensor Differential – When the built-in display temperature sensor is in use, the De-Ice Cycle algorithm as described above operates with the minimum threshold temperature at 76°F or 24°C. De-Ice Cycle operation with the alternate air sensor is the same and is unchanged. Use this setting for more extreme conditions and an installation where ice is still forming on the evaporator when using the default setting.

12.3.5 Pump Sentry (OFF / 100-150°F or 40-65°C, **OFF**)

EasyTouch can be equipped with an optional Service sensor that is used to monitor the temperature of the condenser coil. See section 6.3 for more information on how to install the Service sensor. This Pump Sentry parameter setting is the maximum Service sensor temperature allowed during normal compressor operation. If at any time during a cooling (or heating) cycle the Service sensor temperature exceeds this parameter setting, the system will be shut down and the EasyTouch will declare the Pump Sentry fault. Also, when the Pump Sentry is enabled, if the Service sensor temperature drops below 45°F/7°C, the system will also be shut down with the same Pump Sentry fault. For FX2 control boards rev J and newer, if the Electric Heat Option is also enabled (see section 12.1.14), if the Service sensor temperature drops below 45°F/7°C, the system will still be shut down; however, the Pump Sentry fault will not be declared in this case and the system will instead begin an Electric Heat cycle.

Once declared, the Pump Sentry fault will remain active until the Service sensor temperature returns to a temperature below this parameter setting and above 45°F/7°C. Once the fault is cleared and after the 2-minute fault recovery delay, the compressor will be restarted. See section 10.6 for more information on the Pump Sentry fault.

12.3.6 Pump Operate Mode (CYCLED / CONTINUOUS; **CYCLED**)

This parameter setting controls the behavior of the pump output. The pump output can either be set to cycle with the compressor or run continuously. Cycled operation is recommended in order to maximize the life of the pump itself and air conditioner condenser coil.

12.3.7 Low Pressure Detection (Set by Jumper / Disabled; **Set by Jumper**)

This parameter setting control the detection of the Low Pressure switch input on the main FX1 or FX2 circuit board. When the parameters is set to “Set by Jumper”, the Low Pressure switch input is enabled if the "LP" jumper on the main board is cut or removed. If the jumper is not cut, the Low Pressure switch input remains disabled. If at any time the Low Pressure switch input needs to be disabled regardless of the state of the jumper, setting this parameter to “Disabled” will cause the input to always be ignored. Micro-Air does not recommend disabling the Low Pressure switch input on systems specifically designed to use Low Pressure switches as this can endanger the equipment under certain conditions. See section 10.4 for more information on the Low Pressure Fault.

12.3.8 Current Limits (Amps) (OFF / 1-35 Amps; **OFF**)

This parameter setting controls the threshold of the Overcurrent fault. The Overcurrent fault occurs whenever the system’s total AC current load exceeds this parameter setting for at least 30 seconds (sustained) or at any time prior to compressor startup while the control is turned on. This fault protects the control board electronics, wiring, and compressor for

possible further damage. The fault shuts down the compressor for the duration of the 2-minute fault recovery delay. See section 10.7 for more information on the Overcurrent fault.

12.4 CW Operational Settings

The CW Operational Settings menu is only available as an option in the Control Parameters menu when the CW System Type is selected in the *System Type Selection* parameter and/or enabled via the appropriate control board jumper.

To access the CW Operational Settings, go to the Main Menu, select Control Parameters, and then select CW Operational Settings. The CW Operational Settings Menu consists of 2 items on 1 page as shown in Figure 23.

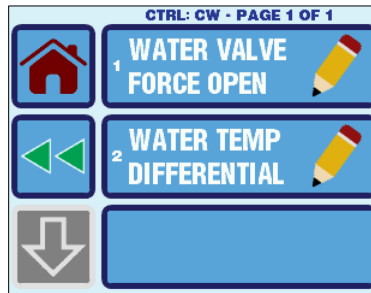


Figure 23 – CW Operational Settings Menu Screen

Refer to Table 6 for a quick reference to the CW Operational Settings. Click the hyperlinks in the table to refer to the sections that follow providing further details on each setting.

Table 6 – CW Operational Settings

No.	Page	Description	Factory Default	Parameter Range
1	1	Water Valve Force Open	Off	Off / On
2		Water Temp Differential	10°F/6°C	5-25°F or 3-14°C

12.4.1 Water Valve Force Open (OFF/ON; **OFF**)

This parameter opens the water valve to bleed air from the system. Setting this parameter to ON forces the valve to open for 4 hours. If the control is turned on or if AC power is interrupted during this 4-hour period, this valve override feature is canceled. The valve can be returned to normal operation at any time by changing this parameter setting back to OFF manually.

12.4.2 Water Temp Differential (5-25°F or 3-14°C; **10°F/6°C**)

This parameter sets the temperature differential between ambient air temperature and inlet water loop temperature at the air handler. For example, the default setting of 10°F allows the valve output to be energized, opening the water valve, when the water temperature is at least 10°F less than ambient temperature in cooling mode and at least 10°F greater than the ambient temperature in the heating mode. Hysteresis is also applied so that the valve remains open if the water temperature moves back toward the ambient temperature during a cooling or heating cycle. This hysteresis equals ½ of the parameter setting (e.g. 5°F). Also, this same hysteresis is applied to disable the use of the electric heater if the water temperature is hot enough during a heating cycle. Careful selection of the temperature differential can fully utilize the ship's heating and cooling resources. See Figure 24 below for a graphical explanation of this parameter and how it affects the operation of the valve and electric heater outputs.

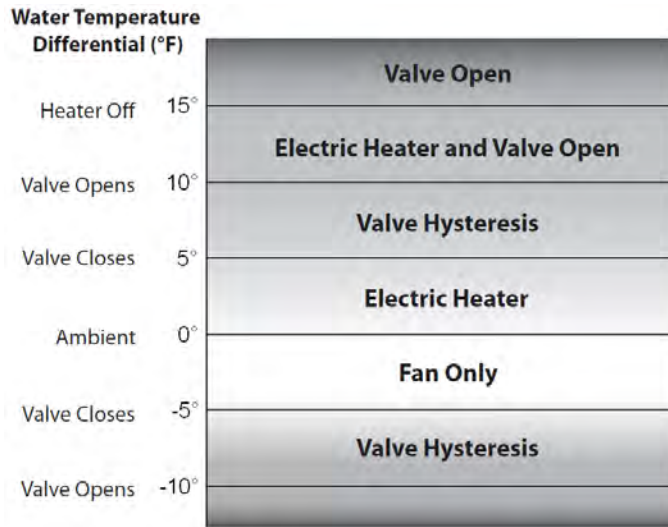


Figure 24 – Water Temperature Differential Behavior Example

12.5 FAMU DX Operational Settings

The FAMU DX Operational Settings menu is only available as an option in the Control Parameters menu when the FAMU DX System Type is selected in the *System Type Selection* parameter and/or enabled via the appropriate control board jumper.

To access the FAMU DX Operational Settings, go to the Main Menu, select Control Parameters, and then select FAMU DX Operational Settings. The FAMU DX Operational Settings Menu consists of 9 items on 3 pages as shown in Figure 25.

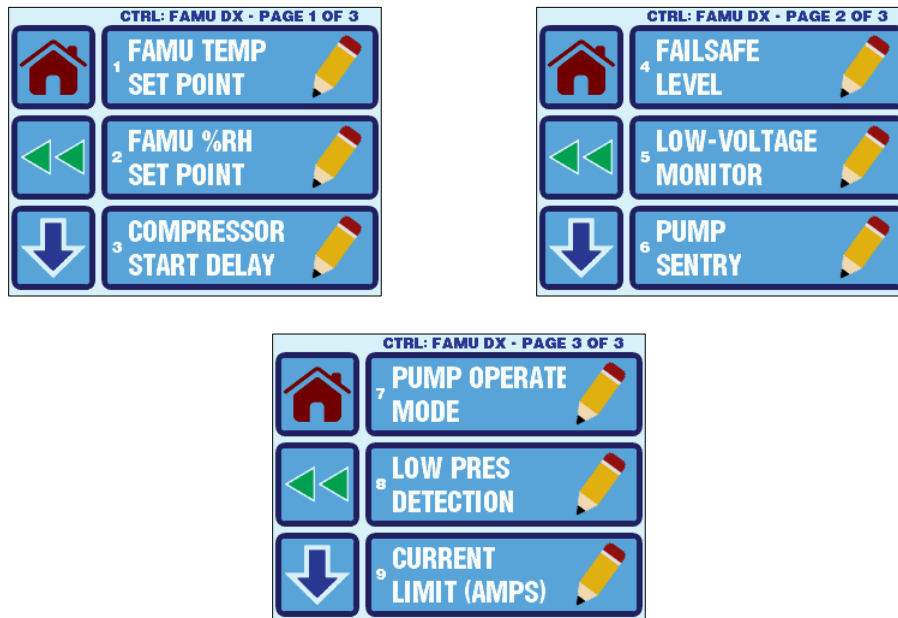


Figure 25 – FAMU DX Operational Settings Menu Screens

Refer to Table 7 for a quick reference to the FAMU DX Operational Settings. Click the hyperlinks in the table to refer to the sections that follow providing further details on each setting.

Table 7 – FAMU DX Operational Settings

No.	Page	Description	Factory Default	Parameter Range
1	1	FAMU Temp Set Point	70°F/21°C	65-85°F or 18-30°C
2		FAMU %RH Set Point	50% RH	35-80% RH
3		Compressor Start Delay	15 sec	5 – 135 sec
4	2	Failsafe Level	Faults Detected and Displayed with Lockout	Faults Not Detected / Faults Detected But Not Displayed / Faults Detected and Displayed / Faults Detected and Displayed with Lockout
5		Low-Voltage Monitor	Off	Off/75-120VAC or Off/175-240VAC
6		Pump Sentry	Off	Off / 100-150°F or Off / 40-65°C
7	3	Pump Operate Mode	Continuous	Continuous or Cycled
8		Low Pressure Detection	Set by Jumper	Set by Jumper or Disabled
9		Current Limit (Amps)	Off	Off/1-35 Amps

12.5.1 FAMU Temp Set Point (65-85°F or 18-30°C; **70°F/21°C**)

This parameter assigns the set point temperature for the exhaust air exiting the FAMU unit. Please see section 9 for more information on FAMU system operation.

12.5.2 FAMU %RH Set Point (35-80% RH; **50% RH**)

This parameter assigns the set point relative humidity for the exhaust air exiting the FAMU unit. Please see section 9 for more information on FAMU system operation.

For parameters 3 thru 9, refer to the detailed descriptions in section 12.3 *DX Operational Settings*, or click the hyperlinks in Table 7 above.

12.6 FAMU CW Operational Settings

The FAMU CW Operational Settings menu is only available as an option in the Control Parameters menu when the FAMU CW System Type is selected in the *System Type Selection* parameter and/or enabled via the appropriate control board jumper.

To access the FAMU CW Operational Settings, go to the Main Menu, select Control Parameters, and then select FAMU CW Operational Settings. The FAMU CW Operational Settings Menu consists of 3 items on 1 page as shown in Figure 26.

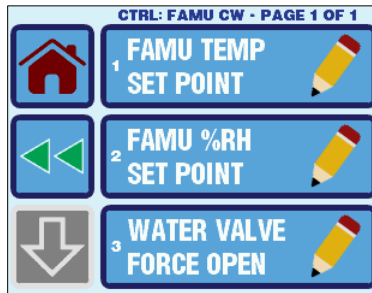


Figure 26 – FAMU CW Operational Settings Menu Screen

Refer to Table 8 for a quick reference to the FAMU CW Operational Settings. Click the hyperlinks in the table to refer to the sections that follow providing further details on each setting.

Table 8 – FAMU CW Operational Settings

No.	Page	Description	Factory Default	Parameter Range
1	1	FAMU Temp Set Point	70°F/21°C	65-85°F or 18-30°C
2		FAMU %RH Set Point	50% RH	35-80% RH
3		Water Valve Force Open	Off	Off / On

For parameters 1 and 2, refer to the detailed descriptions in section 12.5 *FAMU DX Operational Settings*, or click the hyperlinks in Table 8 above. For parameter 3, refer to the detailed description in section 12.4 *CW Operational Settings*, or click the hyperlink in Table 8 above.

12.7 Memorize Settings

On the second page of the Control Parameters Menu as shown in Figure 27, there are three options for saving and recalling all programmable settings.

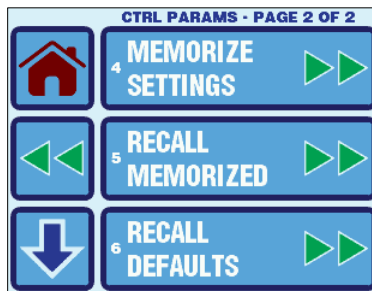


Figure 27 – Options to Save or Recall Programmable Settings

If you want all of the active and customized parameter settings to be saved as a set of memorized settings for possible recall at a later time, select the Memorize Settings option, and then press the SAVE button. This action memorizes the current parameters settings in non-volatile memory.

12.8 Recall Memorized Settings

If you want to recall the previously memorized parameter settings, select the Recall Memorized option, and then press the SAVE Button. This action overwrites all of the active parameter settings with the previously memorized parameter settings.

12.9 Recall Default Settings

If at any time you want to restore the active and memorized parameter settings to the original factory defaults, select the Recall Defaults option, and then press the SAVE button. This action overwrites all of the active and memorized parameter settings with the factory defaults.



IMPORTANT: If you have any problems or confusion during programming that cause the system to malfunction, recall the factory default settings and proceed from there.

13. PROGRAM SCHEDULER MENU

The Program Scheduler allows the EasyStart to automatically start and stop the A/C unit at specific time and day of the week, controlling the mode and temperature set point(s). To access the Program Scheduler, go to Main Menu and then select Program Scheduler.

The Program Scheduler Menu consists of 10 items on 4 pages as show in Figure 28.

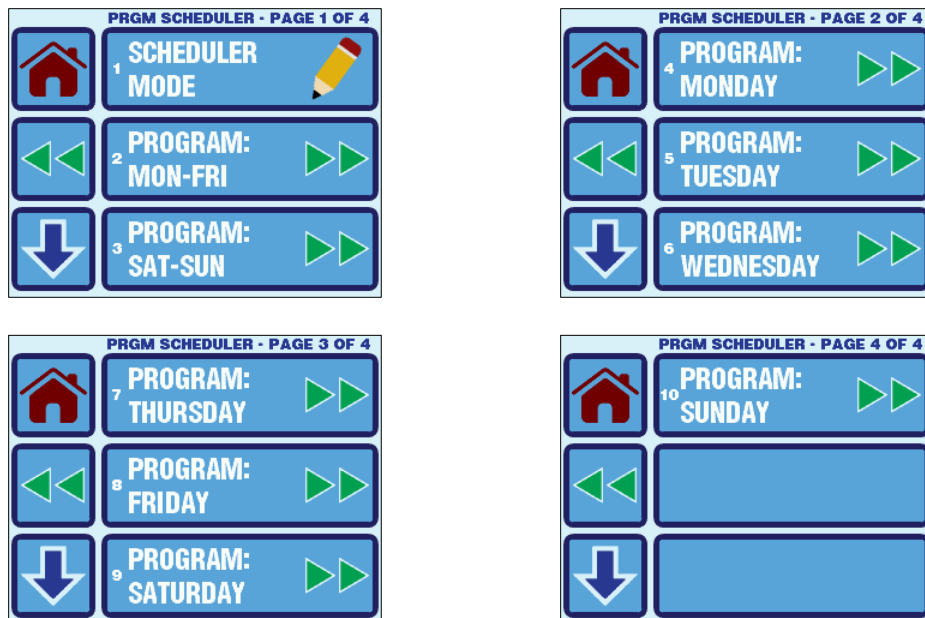


Figure 28 – Program Scheduler Menu Screens

13.1 Mode Control and Operational Behaviors

The Scheduler Mode parameter allows the Program Scheduler to be enabled (ON) or disabled (OFF, default). As soon as the Program Scheduler is enabled, it will immediately begin apply the programs as defined for the current day of the week.

The Schedule status display on the Main screen will indicate which day of the week and which program is currently in effect. For example, if the Schedule status displayed is “**WED P1**”, this indicates Program #1 for Wednesday is in effect. If the Program Scheduler is disabled, the Schedule Status always shows “**MANUAL**”. Lastly, if the set point temperature or operational modes are altered in anyway via user input while the Program Scheduler is operating, it will immediately yield and display the status of “**OVERRIDE**”. The override condition will remain in effect until the beginning of the next Program number or Day of the Week. For example, if the Program Scheduler goes into override mode at 6PM on Wednesday, and the next program is set to begin at 10PM on Wednesday, the Program Scheduler will remain in override until 10PM.



NOTE:

The Program Scheduler requires an accurate date and time setting in order to function properly. If the date and time have not already been set, refer to section 14 for more information.

13.2 Programming a Day or Group of Days

Each Day of the week has 4 programs, and each program has a mode of operation, time, cooling set point, and heating set point (if dual set points are enabled). The 4 programs are accessed by pressing the SCROLL DOWN button. The Mode choices are OFF, COOL, HEAT, AUTO, and MOISTURE. If Dual Set Points is selected, the cooling set point is settable for COOL and AUTO operation, and the heating set point is shown and settable for HEAT and AUTO mode operation. Set points are not settable for OFF or MOISTURE modes. Pressing the buttons for the Mode, set point, hour, minute, and AM/PM allow each item to be adjusted individually and saved. Figure 29 shows an example day of the week and program number.

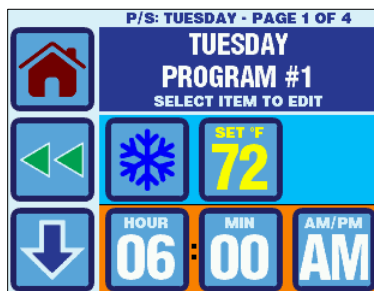


Figure 29 – Program Scheduler Setup Example

The 4 programs can be adjusted simultaneously for an individual day or a group of days:

- Program: Mon-Fri
- Program: Sat-Sun
- Program: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, and Sunday

The default program settings for each day of the week are shown in Table 9. Use this table as a guide for how design the Program Scheduler behavior for your particular needs.

Table 9 – Program Scheduler Default Day of the Week

Program Number	Mode	Set Point	Start Time
1	COOL	72°F	6:00AM
2	COOL	72°F	8:00AM
3	COOL	72°F	4:00PM
4	COOL	72°F	10:00PM



NOTE:

If the same Program Scheduler behavior is desired for Monday-Thursday, but Friday needs to be different, the best way to accomplish this is to program Monday-Friday as a group with the desired programs for Monday-Thursday, then go back and individually edit Friday's programs to make them different.

14. DATE/TIME MENU

The Date/Time Menu allows the user to control the display of the date & time, change its format, and adjust its settings. To access the Date/Time Menu, go to Main Menu and then select Date/Time Menu. The Date/Time Menu has 3 items on 1 page as show in Figure 30.

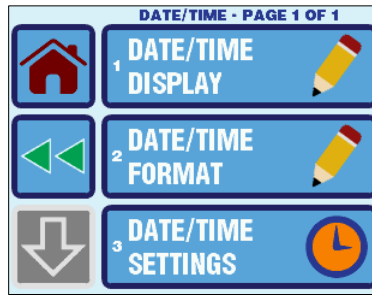


Figure 30 – Date & Time Settings Menu Screen

14.1 Enabling the Date/Time Display

The Date/Time Display parameter controls the display of date & time on the Main screen only. Setting this parameter ON enables the display of the date & time as shown in Figure 31. Setting this parameter to OFF disables the display of the date & time as shown in Figure 32. When disabled, the EasyTouch logo is shown in place of the date & time.

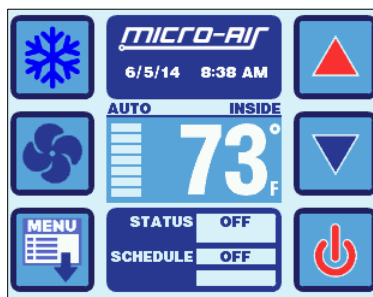


Figure 31 – Main Screen with Clock

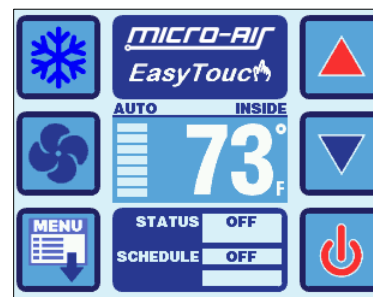


Figure 32 – Main Screen without Clock

14.2 Changing the Date/Time Format

The Date/Time Format parameter allows the date & time display format to be selected automatically based on AC power line frequency, or selected deliberately. Setting this parameter to AUTO allows the AC power line frequency to determine the date & time format.

- 60Hz: M/D/Y 12-hour format
- 50Hz: D/M/Y 24-hour format

To fix the date & time display format to a particular setting, choose “M/D/Y 12-HOUR” or “D/M/Y 24-HOUR”.

14.3 Setting the Date & Time

The Date/Time Settings screen allows each individual value to be adjusted individually. This screen has 1 page and is shown below in Figure 33.

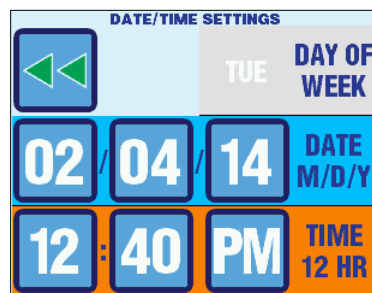


Figure 33 – Date & Time Setting Screen

To edit a particular value, press the button corresponding to the value. After making the necessary adjustments in the edit screen, press the SAVE button. The day of the week will automatically be calculated based upon the set date.



NOTE:

If the EasyTouch battery is ever replaced or the rechargeable battery becomes fully discharged, the date & time settings will be reset to 01/01/2007 12:00AM. During an AC power-up under these conditions, the EasyTouch will detect this date & time reset and will display the Date/Time Settings screen immediately after power-up.

15. SYSTEM MENU

The System menu allows the user to view and modify system settings pertaining to the display itself. For example, the screen brightness, colors, Sleep Mode behaviors, display lock, etc. To access the System Menu, go to Main Menu and then select System Menu. The System Menu has 6 items on 2 pages as show in Figure 34.

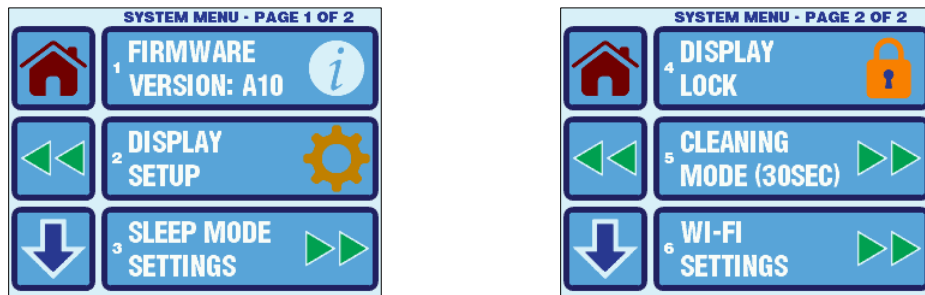


Figure 34 – System Settings Menu Screens

15.1 Firmware Version

The Firmware Version is displayed on the System Menu screen inside the corresponding button. Pressing the button will display a screen showing the firmware version number and its release date.

15.2 Display Setup

The Display Setup menu allows the adjustment of the display brightness, and the color adjustment of 5 different portions of the display color scheme. The Display Setup menu has 6 items on 2 pages as shown in Figure 35.

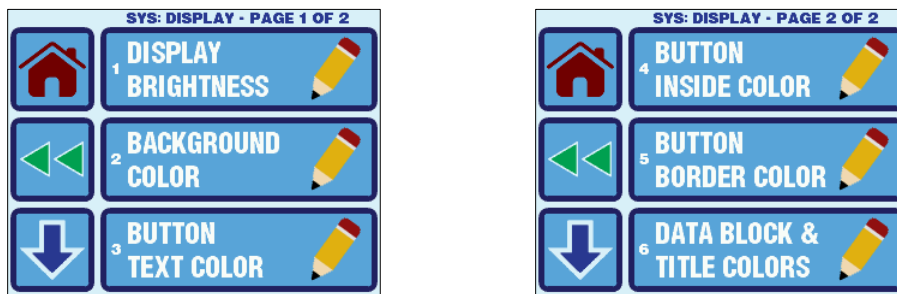


Figure 35 – Display Setup Menu Screens

Display Brightness – This setting can be adjusted from 5 to 100%. Note that this setting does not affect the brightness used during sleep mode or during power up.

Display Colors – The various portions of the display can have their colors changed. The color choice palettes displayed consist of 126 different colors shown across 14 pages. Pages 1-12 show the color choices from a standard color pallet, page 13 shows the grayscale color choices, and page 14 shows the standard display colors used by factory default. Figure 36 below shows an example of a color selection display screen.

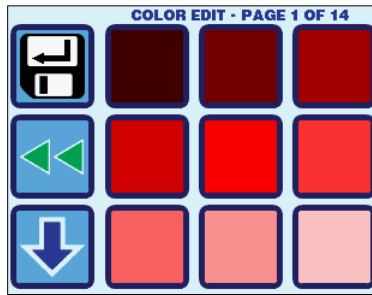


Figure 36 – Color Edit Screen Example

15.3 Sleep Mode Settings

The Sleep Mode Settings menu allows control over all the various Sleep Mode displays and its behavior. The Sleep Mode Settings menu has 5 items on 2 pages as shown in Figure 37.

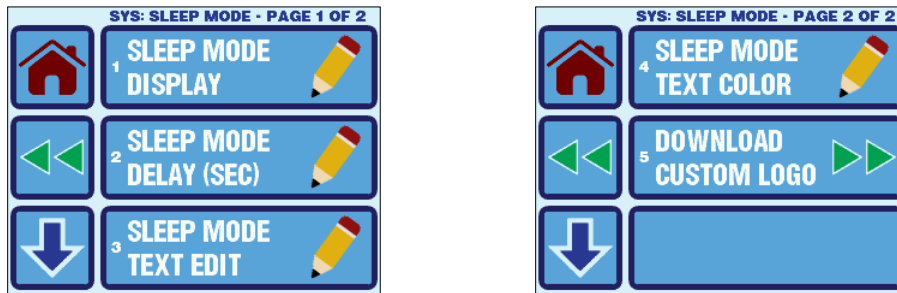


Figure 37 – Sleep Mode Settings Menu Screens

Sleep Mode Display - Sleep Mode Display Allows to select among 5 different options to be displayed when the EasyTouch automatically enters into Sleep Mode.

- Standard Logo – shown in Figure 3
- Blank Screen Backlight On
- Blank Screen Backlight Off
- Custom Logo – see details below.
- Custom Text – see editor below.

Sleep Mode Delay – The Sleep Mode Delay parameter is set to 60 seconds by default. That is, after 60 seconds of no touch screen interactions, the EasyTouch will automatically enter Sleep Mode. The choices for the Sleep Mode Delay parameter are OFF, and 0 to 600 seconds. If OFF is selected, the display will not go into Sleep Mode.

Sleep Mode Text Edit – This special entry screen shown in Figure 38 allows the editing of the text string that will be displayed in Sleep Mode when “Custom Text” is selected as the Sleep Mode Display parameter.

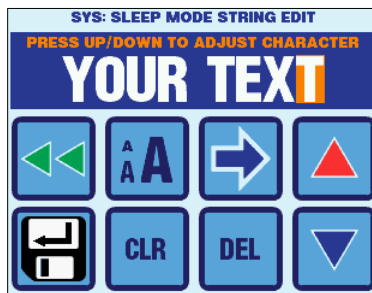


Figure 38 – Sleep Mode Text Editor

The active (last) character can be changed using the UP and DOWN buttons. The character choices are as follows:

ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789&*@:;°=!(~)%.+#!?/ (and a space character)

Navigating to the right is accomplished using the RIGHT ARROW button. Navigating to the left is accomplished using the DEL button. CLR deletes all the custom text except for one active character. The font size can be adjusted to 3 different sizes by pressing the font button. The total number of characters that will fit on the screen is a function of the font size, with an absolute max of 25. Pressing the SAVE button will store the updated Sleep Mode Text into non-volatile memory.

Sleep Mode Text Color – The color of the Sleep Mode custom text can be adjusted identically as the other various display colors. See the description for *Display Colors* in section 15.2 for more information about adjusting and selection colors.

Download Custom Logo - This feature button is normally grayed out unless the EasyTouch detects that the special programming cable is plugged into its 8-pin jack. Figure 39 shows the Down Custom Logo screen as it normally appears before a download is initiated.

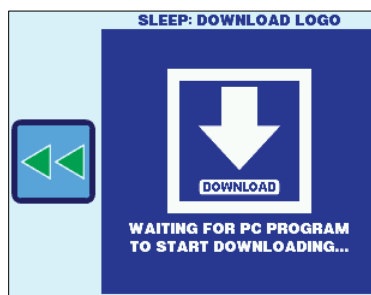


Figure 39 – Sleep Custom Logo Download Screen

Use of this feature also requires a special USB programming cable (SUB-082-X00) and special PC software that enables the reading of a 24-bit graphics bitmap file (BMP) and then transmission to the EasyTouch. The PC software can be downloaded free from the EasyTouch product page on the Micro-Air website (www.microair.net). Please contact Micro-Air Customer Service for more information on this special programming cable and PC program (Micro-Air p/n SUB-082-X00).

15.4 Display Lock

The Display Lock menu allows control over the Display Lock and its 4-digit PIN. The Display Lock menu has 2 options on 1 page as shown in Figure 40.

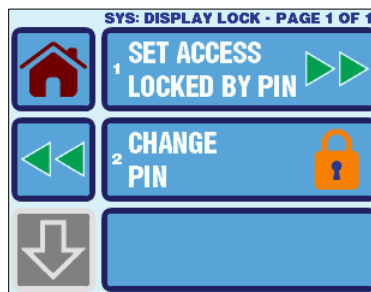


Figure 40 – Display Lock Menu Screen



NOTE:

The EasyTouch factory default PIN is 1234.

Set Access Locked by PIN – This parameter controls the display access level at which PIN access is required. There are 5 levels of access restriction including OFF (no restriction), each of which is a progressively higher (earlier) in the access allowed:

- None (no lock or restriction, factory default)
- Control Parameters – access without the PIN is allowed to the Home & Main screens, and to all menus and settings *except* for the Control Parameters and all sub-menus and parameters beyond this point.
- All Menu Settings – access without the PIN is allowed to the Home and Main Screens, but no access to the Main Menu is allowed and all sub-menus and parameters beyond this point.
- Main Screen – access without the PIN is allowed to the Home Screen, but no access is allowed beyond this point.
- Home Screen – access without the PIN allows viewing the Home Screen after power up or exiting from Sleep Mode, but not button presses or access beyond this point is allowed.

When access to a restricted point is attempted, the EasyTouch will prompt the user for the PIN with the display screen shown in Figure 41. The factory default PIN for the EasyTouch is 1234.



Figure 41 – Display Lock PIN Prompt Screen

Figure 42 shows examples of the screen displays when the PIN is entered correctly or incorrectly. If the PIN is entered incorrectly, the CLR button must be pressed in order to try again.



Figure 42 – Display Lock PIN Entry Screen Examples

Once the PIN is entered successfully, access to all levels below and above are allowed, until the display once again enters Sleep Mode or until its AC power is cycled. PIN re-entry will also be required again if the access level parameter setting is changed.

Change PIN – This option allows the PIN setting to be changed to a different 4-digit value. Before entering a new PIN, the current PIN must be entered first. Once a new 4-digit PIN is entered and validated, the screen color will change to green and the ENT button will be displayed as shown in Figure 43. Pressing the ENT button will save the new PIN into non-volatile memory.



Figure 43 – Display Lock PIN Change Display Screen



IMPORTANT: If the PIN is forgotten, it can be restored to 1234 by powering off the control at the AC circuit breaker, removing the battery for 30 seconds, reinstalling, and powering back up. This will only reset the date and time to its factory default and will also reset the PIN to 1234. No other parameters or saved entries will be lost.

15.5 Cleaning Mode

The Cleaning Mode Allows screen to be cleaned for 30 seconds with the backlight turned off and the touch panel disabled. In this way, finger prints and other dirt can be seen more clearly and the touch screen will not react to the wiping. The screen and touch panel will turn on again automatically in 30 seconds. Normal system operation is not affected during this time. Micro-Air recommends that a soft, non-abrasive cloth be used with a small amount of rubbing alcohol to clean the display.

15.6 Wi-Fi Settings (optional EasyTouch feature)

The Wi-Fi Settings Menu allows the editing of the various Wi-Fi SSID, password, and IP address settings. Also, the detailed live status of the Wi-Fi connection can also be viewed. This menu will only be selectable if the EasyTouch has the optional Wi-Fi hardware feature installed. The Wi-Fi Settings Menu consists of 7 items on 3 pages as shown in Figure 44.

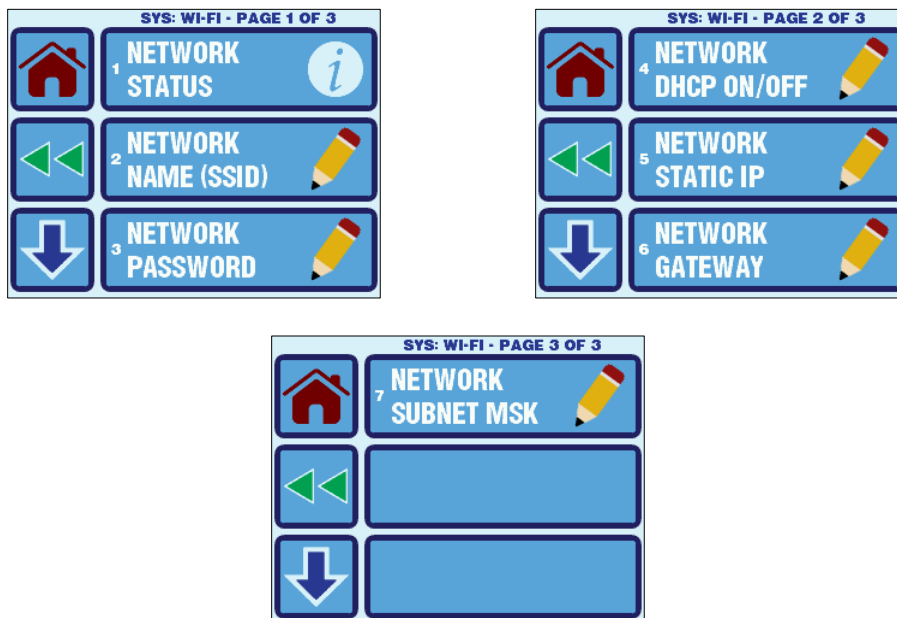


Figure 44 – Wi-Fi Settings Menu Screens

Network Status -.The Network Status screen displays the current network connection status, signal strength, DHCP configuration, and IP addresses as shown in Figure 45.

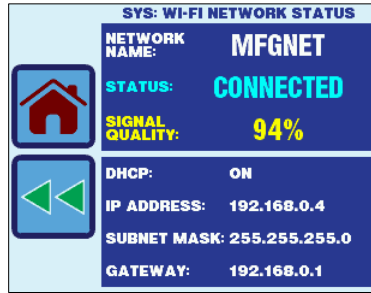


Figure 45 – Wi-Fi Network Status Screen

Network Name (SSID) & Password – The Wi-Fi Network Name (SSID) and Password can be set via the screen shown in Figure 46. If the network does not use a password, the password setting does not matter and can be left at any value (e.g. space).



Figure 46 – Wi-Fi Network Name (SSID) & Password Screens

Network DHCP On/Off – DHCP can be enabled or disabled via this setting. If enabled, the Network Static IP, Gateway, and Subnet mask settings are not used. If disabled, then these additional settings must be configured properly for your Wi-Fi network.

Network Static IP/Gateway/Subnet Mask – These settings only apply if the DHCP is set to ON (enabled). They can be set via the screen shown in Figure 47.

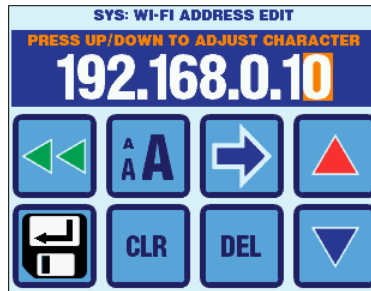


Figure 47 – Wi-Fi Network IP Address Screens

16. TROUBLESHOOT & COMMISSION MENU

The Troubleshoot & Commission Menu allows access to the System Status, Help, and the Commission Procedure. To access the Troubleshoot & Commission Menu, go to Main Menu and then select Troubleshoot & Commission. The Troubleshoot & Commission Menu has 3 items on 1 page as show in Figure 48.

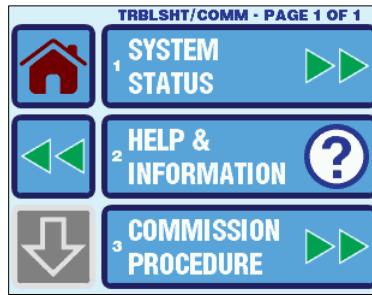


Figure 48 – Troubleshoot & Commission Menu Screen

16.1 System Status

The System Status displays the live readings from all the sensors and pressure switches, the status of the AC outputs, and the AC input voltage & frequency. Uninstalled temperature sensors are indicated by the display of “- - -”. Certain sensors will be relabeled depending on if the main circuit board is FX1 or FX2, which option boards are installed, and the System Type that is selected. See Figure 49 and Figure 50 for examples of the System Status display.

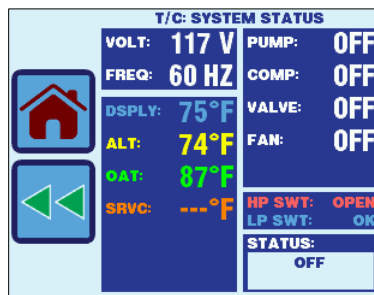


Figure 49 – FX1 System Status

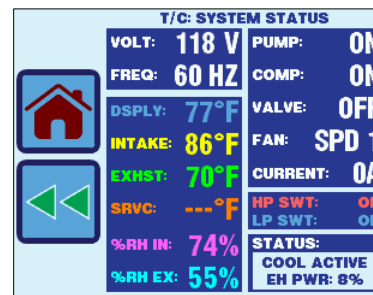


Figure 50 – FX2 FAMU System Status

16.2 Help & Information

Fault Help Lookup – For each of the six faults described in section 9, a help description is available in the Fault Help Lookup menu. These help descriptions are also displayed whenever a fault is active or recovering, and the user presses the touch screen over the top of the fault status display on the Main screen. See Figure 51 for an example of a Fault Help description.

Link to Get More Help – The Link to Get More Help display shows a QR Code that connects to the Micro-Air website. There you can find this manual along with other information for further assistance. Figure 52 shows the Link to Get More Help screen.



Figure 51 – Fault Help Display Screen Example

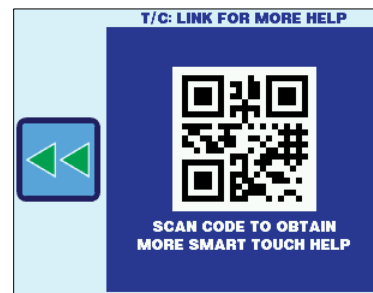


Figure 52 – More Help QR Code Screen

16.3 Commission Procedure

The Commission Procedure provides step-by-step instructions on how to verify the operation of a DX or CW system. It reads all of the important sensor and switch inputs, exercises the AC outputs, and prompts the user to verify a number of different items. Successful completion of the entire

Commission Procedure will add an entry into the Fault History to provide a record that the procedure was carried out. See Figure 53 for examples of the Commission Procedure display screens.

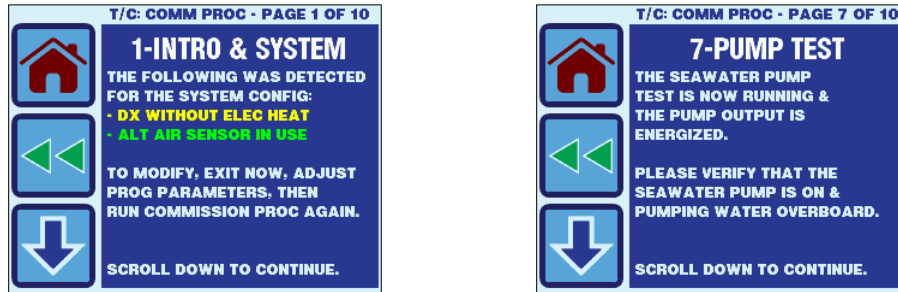


Figure 53 – Commission Procedure Screen Examples

17. FAULT HISTORY & RUN HOURS MENU

The Fault History & Run Hours Menu allows access to the Fault History and Run Hour displays. To access the Fault History & Run Hours Menu, go to Main Menu and then select Fault History & Run Hours. The Fault History & Run Hours Menu has 3 items on 1 page as show in Figure 54.

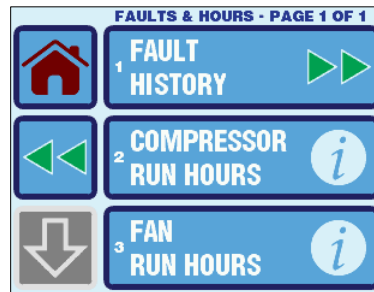


Figure 54 – Fault History & Run Hours Menu Screen

17.1 Fault History

The Fault History displays the all of the faults that have occurred. Each entry has a number, date & time, and a fault type as shown in Figure 55. The most recent entries are shown at the top of the list with the lowest entry number. For example, entry #1 is the most recently recorded fault and entries #2, #3, #4, etc. all occurred before entry #1. The Fault History can store a maximum of 500 faults. Once filled, it will begin overwriting the oldest entry in the history; however, the order of the display and the numbering of the entries will always be maintained as described above.

All of the fault types described in section 9 are captured in the Fault History. Refer to that section for further details on the each fault type. In addition, the execution of the Commission Procedure is also recorded (see section 16.3). To clear the fault history, press and release the CLR button. You will then be prompted to enter the Display Lock PIN (see section 15.4). After correctly entering the PIN, press and release the CLR button again to clear the Fault History. Pressing and holding the CLR button for 5 seconds will restore the Fault History to the listing of lifetime faults stored in the 500-entry memory. Although the displayed Fault History can be cleared, the lifetime entries are always being maintained in the background and cannot be cleared (for a maximum of the previous 500 entries).

F&H: FAULT HSTRY - PAGE 1 OF 1		
CLR	4	01/01/07 12:31 AM PUMP SNTRY
	3	01/01/07 12:30 AM LOW PRES
	2	01/01/07 12:30 AM COMM PROC
	1	01/01/07 12:29 AM HIGH PRES
		(EMPTY)

Figure 55 – Fault History Display Screen



NOTE:

The Fault History is an excellent troubleshooting tool and can only have maximum effectiveness if the Date & Time are set correctly. See section 14 for more information on how to properly set the Date & Time.

17.2 Compressor Run Hours

The Compressor Run Hours displays the number of hours the fan has been operating as shown in Figure 56. The value can be cleared by pressing the CLR button. You will then be prompted to enter the Display Lock PIN (see section 15.4). After correctly entering the PIN, press and release the CLR button again to clear the run hours. Once cleared, the number of operating hours begins accumulating again from 0. Pressing and holding the CLR button for 10 seconds will reset the Compressor Run Hours to the total hours accumulated for the lifetime of the display. Although the displayed hours are cleared, the lifetime hours are always being maintained in the background and cannot be cleared.

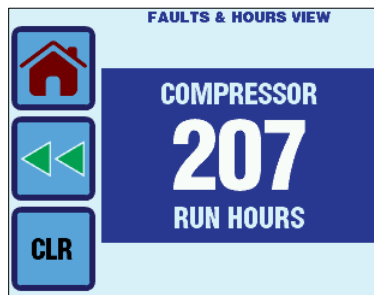


Figure 56 – Compressor Run Hours Display



Figure 57 – Fan Run Hours Display

17.3 Fan Run Hours

The Fan Run Hours displays the number of hours the fan has been operating as shown in Figure 57. The value can be cleared by pressing the CLR button. You will then be prompted to enter the Display Lock PIN (see section 15.4). After correctly entering the PIN, press and release the CLR button again to clear the run hours. Once cleared, the number of operating hours begins accumulating again from 0. Pressing and holding the CLR button for 10 seconds will reset the Fan Run Hours to the total hours accumulated for the lifetime of the display. Although the displayed hours are cleared, the lifetime hours are always being maintained in the background and cannot be cleared.



NOTE:

The Fan Run Hours display is a completely separate timer value maintained and stored separately from the Filter Reminder (Fan) Hours. The two timers are completely independent. See section 12.1.6 for more information on the Filter Reminder.

18. SPECIFICATIONS

OPERATIONAL

Set Point Operating Range (single)	65°F to 85°F (18°C to 30°C)
Set Point Operating Range (dual, cool mode)	65°F to 95°F (18°C to 35°C)
Set Point Operating Range (dual, heat mode)	55°F to 85°F (13°C to 30°C)
Ambient Temperature Operating Range Displayed	5°F to 150°F (-15°C to 65°C)
Sensor Accuracy	± 2°F @ 77°F (±1.0°C @ 25°C)
Low Voltage Processor Reset	50 VAC
Line Voltage	100 to 240 VAC
Frequency	50 or 60 Hz
Fan Output	6 Amps @ 115 VAC
Fan Output	Amps @ 230 VAC
Valve Output	1/4 Amp @ 115/230 VAC
Heater Output (using valve relay)	15 Amps @ 115 VAC
Heater Output (using valve relay)	10 Amps @ 230 V
Pump Output	1/4 HP @ 115 VAC
Pump Output	1/2 HP @ 230 VAC
Compressor Output	1 HP @ 115 VAC
Compressor Output	2 HP @ 230 VAC
Minimum Operating Temperature	0°F (-18°C)
Maximum Ambient Operating Temperature	180°F (82°C)
Maximum Rh Conditions	99% Non-Condensing
Power Consumption	Less Than 5 Watts

DIMENSIONS

Display Panel	4.309" (109mm) X 2.874" (73mm)
Panel Cut Out	2.90" (74mm) X 2.165" (55mm)
Bezel Type Required	Vimar® Eikon or Vimar® Eikon EVO

CABLE LENGTHS

Display Cable Self Contained	15' (4.6m) Standard
Display Cable Split System	30' (9.1m) Standard
Maximum Display Cable Length	75' (22.9m) Maximum
Alternate Air Sensor (optional)	7' (2.1m) Standard
Alternate Air Sensor Split System (optional)	30' (9.1m) Standard
Outside Air Sensor (optional)	15' (4.6m) Standard
Maximum Temperature Sensor Cable Length	75' (22.9m) Maximum
Combo Temperature/Humidity Sensor (optional for FX2 only)	7' (2.1m) Standard
Maximum Combo Inside Temperature/Humidity Sensor Cable Length	30' (9.1m) Maximum

SYSTEM INPUTS

Inside Air Temperature Sensor (built into display)	1
High Refrigerant Pressure	1
Low Refrigerant Pressure (optional)	1
Alternate Air Temperature Sensor (optional)	1
Combo Temperature/Humidity Sensor (optional for FX2 only)	1
Outside Air Temperature Sensor (optional)	1
Pump Sentry Condenser Coil Sensor (optional)	1

19. WARRANTY AGREEMENT

Micro-Air warrants new products sold to be free from manufacturing defects for a period of two (2) years commencing with delivery of the product to the original customer. Our obligation under this warranty is expressly limited at our option, to the replacement or the repair at Micro-Air or at a service facility designated by us, of such parts, as inspection shall disclose to have been defective. This warranty does not apply to defects caused by damage or unreasonable use, including failure to provide reasonable and necessary maintenance, while in the possession of the consumer.

Micro-Air shall not be liable for consequential damages of any kind, including, but not limited to, consequential labor costs or transportation charges in connection with the replacement or repair of the defective parts.