

FX2-AH™

Digital Control

Operations Manual



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Introduction:

The FX2-AH digital controller allows for easy adjustment of fan speed, operating mode and temperature in a compact, easily readable display. The FX2-AH digital control is designed to operate with marine tempered water systems.

Features include:

- **Four position menu navigation switch featuring a joystick style interface with push on / push off control.**
- **Built in room temperature sensor.**
- **The display is compatible with Vimar and Gewiss frames.**
- **Visual symbols enable the viewer to see the operating status at a glance.**
- **Easily programmed for customized operation.**
- **Both automatic and manual six level fan speed adjustment.**
- **Universal 115/230 VAC 50/60 Hz power supply.**

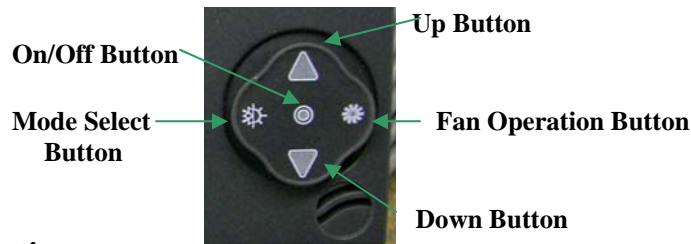
Optional features include:

- **Outside air temperature sensor.**
- **Alternate air sensor.**

Before you start:

1. Applying power:

When power is first applied, the display will show the software revision, and then return to the last state the unit was in when power was removed.



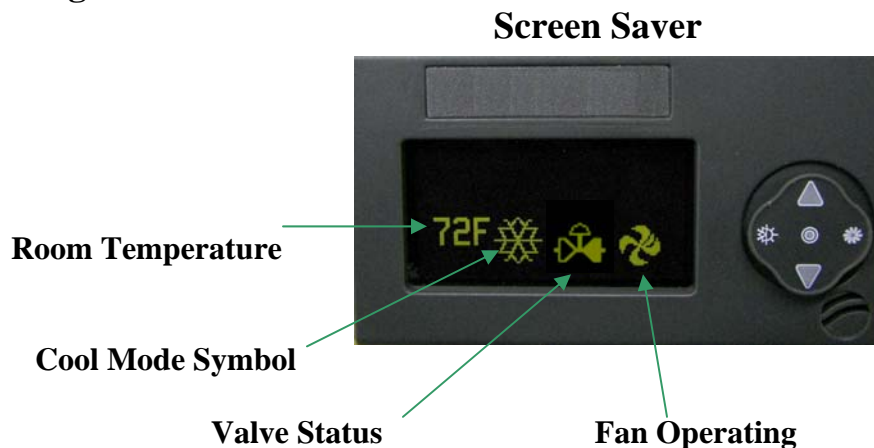
2. Joystick operation:

The four position joystick may be tapped up, down, right, left or in the center to make changes to the operation of the control. Gently tap this switch to operate it. Excessive force will damage the switch.

3. Operating states:

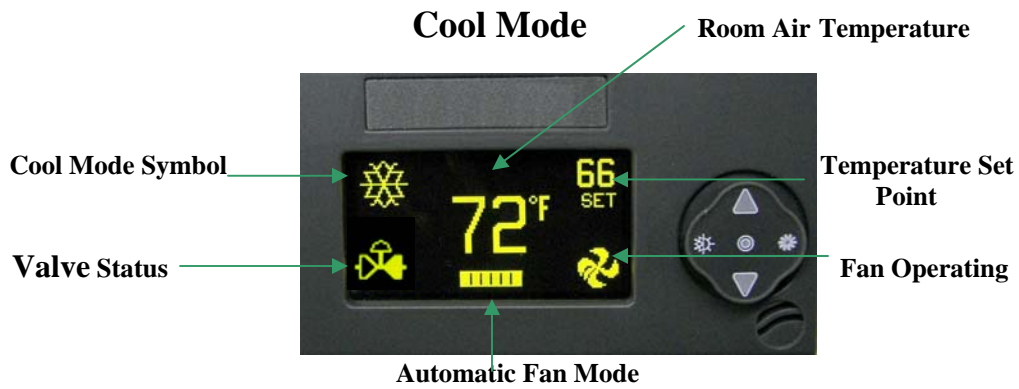
The display operates in 2 operational states. In the *OFF* state, the temperature is displayed and only fan operation is available. In the *ON* state, the display shows the temperature set point, room temperature, fan, and valve status. Switch between these states by pressing and releasing the On/Off button.

Operating Screens



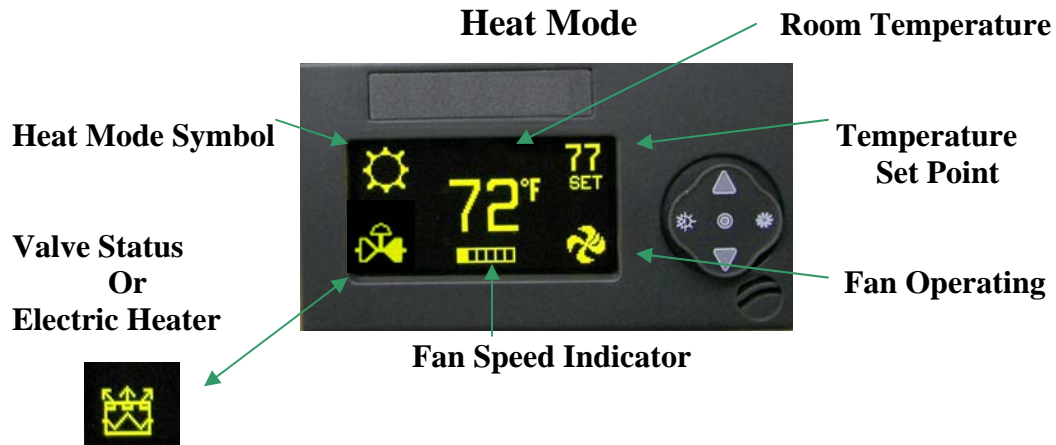
Screen Saver

In screen saver, the display will appear dim and the information will scroll across the screen. Status symbols appear as needed and operation continues in the mode selected. To exit this mode, just tap any button.



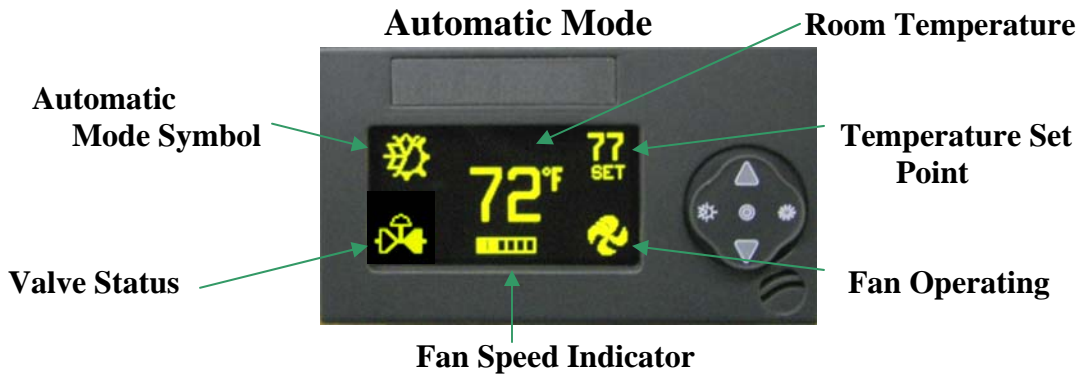
Cool mode

To select cooling only, tap the mode select button to scroll through the symbols in the top left of the display until the cool symbol appears. Set the desired room temperature by tapping the up or down button. The system will provide cooling as necessary. The valve symbol will appear when system is cooling.



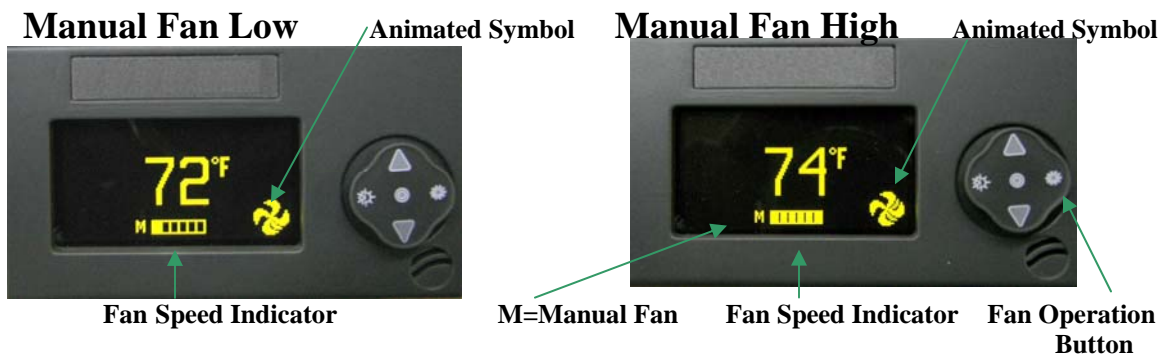
Heat mode

To select heating only, tap the mode select button to scroll through the symbols in the top left of the display until the heat symbol appears. Set the desired room temperature by tapping the up or down button. The system will provide heating as necessary. The valve or electric heat symbol will appear when the system is heating.



Automatic Mode

To select automatic mode, tap the mode select button to scroll through the symbols in the top left of the display until the automatic mode symbol appears. In this mode, the system will automatically maintain room temperature. Set the desired room temperature by tapping the up or down joystick button. When the system is operating, the appropriate symbol will appear in the lower left corner.



Operating the fan:

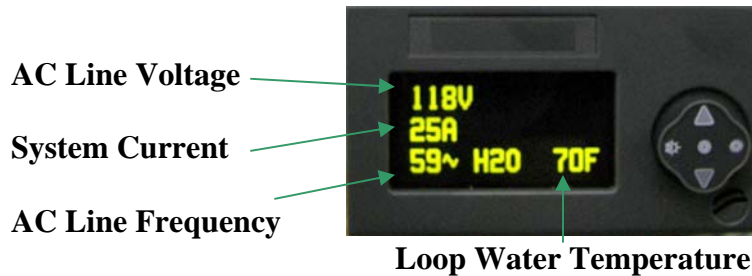
Fan speed may be controlled automatically by room temperature or manually. Tap the joystick fan button to cycle through fan speeds and automatic operation. Manually selected fan speed is indicated with the M showing before the speed indicator. When the fan is automatically controlled, the M is not present. The fan may be controlled in the cool, heat, automatic modes as well as in the off state to circulate room air.

Manual fan speed operation is not available when the water valve is not open if the cycle fan option is set. Turn the unit off in this case and then manual fan operation may be used.



Outside Air Temperature

If the optional outside air temperature sensor is installed, the temperature set point in the upper right of the display will alternate with OAT showing outside air temperature.



Viewing System Status

In the ON state, press and hold the Mode select button for two seconds. The display will indicate AC line voltage, System current, AC Line frequency, and loop water temperature. *If the loop water sensor is not installed or fails, no reading will appear. In this case, electric heat will not be available and the system will open the valve when necessary regardless of loop temperature.*

Air Sensor Trouble

If the air sensor fails, AIR SENSOR TROUBLE will appear on the display. The air sensor should be checked by a qualified service person.

Program Parameters:

There are eleven programmable parameters with their factory defaults described in this section. The table below defines the parameter descriptions along with the permitted values and default settings.

To enter the program mode first put the unit in the off state. Next press the following sequence of buttons: **Mode, Up, Down, Mode**. Use the fan button to advance to the next parameter and the mode button to go back to the last parameter. Use the up and down buttons to change the parameters value. Exit the program mode when finished by pressing and releasing the On/Off button or wait 60 seconds for the display to exit.

Description	Default	Value
Cycled fan	Continuous	Cycled or Continuous
Reverse fan in heat	Reverse	Reverse or Normal
System units	°F	°F or °C
Display brightness	15	4=Minimum 15=Maximum
Screen saver brightness	4	- and 1-8
Temperature calibration	0	Ambient +/- 10°F
Alternate air enabled	Alternate air enabled	Alternate air enabled or Outside air enabled
Electric Heat	No Electric Heat	Electric Heat or No Electric Heat
Normal valve operation	Normal valve operation	Normal valve operation or Valve override
Fan speed 1	30	30-90
Fan speed 2	35	30-90
Fan speed 3	40	30-90
Fan speed 4	45	30-90
Fan speed 5	55	30-90
Fan speed 6	85	30-90
Reset Parameters	No	No or Yes

Parameter description:

- **Cycled fan:** When set for cycled, the fan will operate on demand. When set for continuous, the fan will always run unless you turn the system off.
- **Reverse fan in heat:** Fan speed will increase as the room temperature rises if this parameter is set for reverse. If set for normal, fan speed will decrease as room temperature rises. This parameter only works in heat mode and the fan must be set for automatic operation.
- **System units:** Degrees Fahrenheit (°F) or degrees Celsius (°C) can be selected
- **Display brightness:** Display brightness can be set from 4 to 15 to suit room lighting. Brightness will change as the number is changed.
- **Screen saver brightness:** If set for (-) than a single bar (-) will blink sequentially in the four corners of the display. Number values from 1 to 8 can be set to suit room brightness and the unit will operated as described in the screen saver section.
- **Temperature calibration:** This parameter allows the user to calibrate the room air temperature sensor. The room temperature will be displayed and can be adjusted +/-10 °F or +/-5°C
- **Alt air enabled:** When set for alt air enabled, the alt air jack can be used with an optional air sensor to replace the display mounted air sensor. When set for outside air enabled, an optional sensor may be installed to monitor out side air temperature. This will appear as OAT on the display.
- **Electric heat/ No electric heat:** Set this parameter only if the system is equipped with an electric heater. The electric heater is connected to the compressor L1 and compressor L2 terminals. Heater current must not exceed 30 Amps.
- **Normal water valve operation:** This feature allows service personnel to force the water valve open to facilitate bleeding air from the system. Selecting override will force the water valve open for four hours. This operation can be reset by turning the system on with the On/Off button.
- **Fan speed 1-6:** These parameters are used to optimize fan performance and should *be changed only by qualified service personnel*.
- **Reset parameters:** To reset all parameters to factory defaults, select YES and then exit the program mode by pressing the joystick center button. The display will show EEPROM RESET then show the room temperature in the off mode.

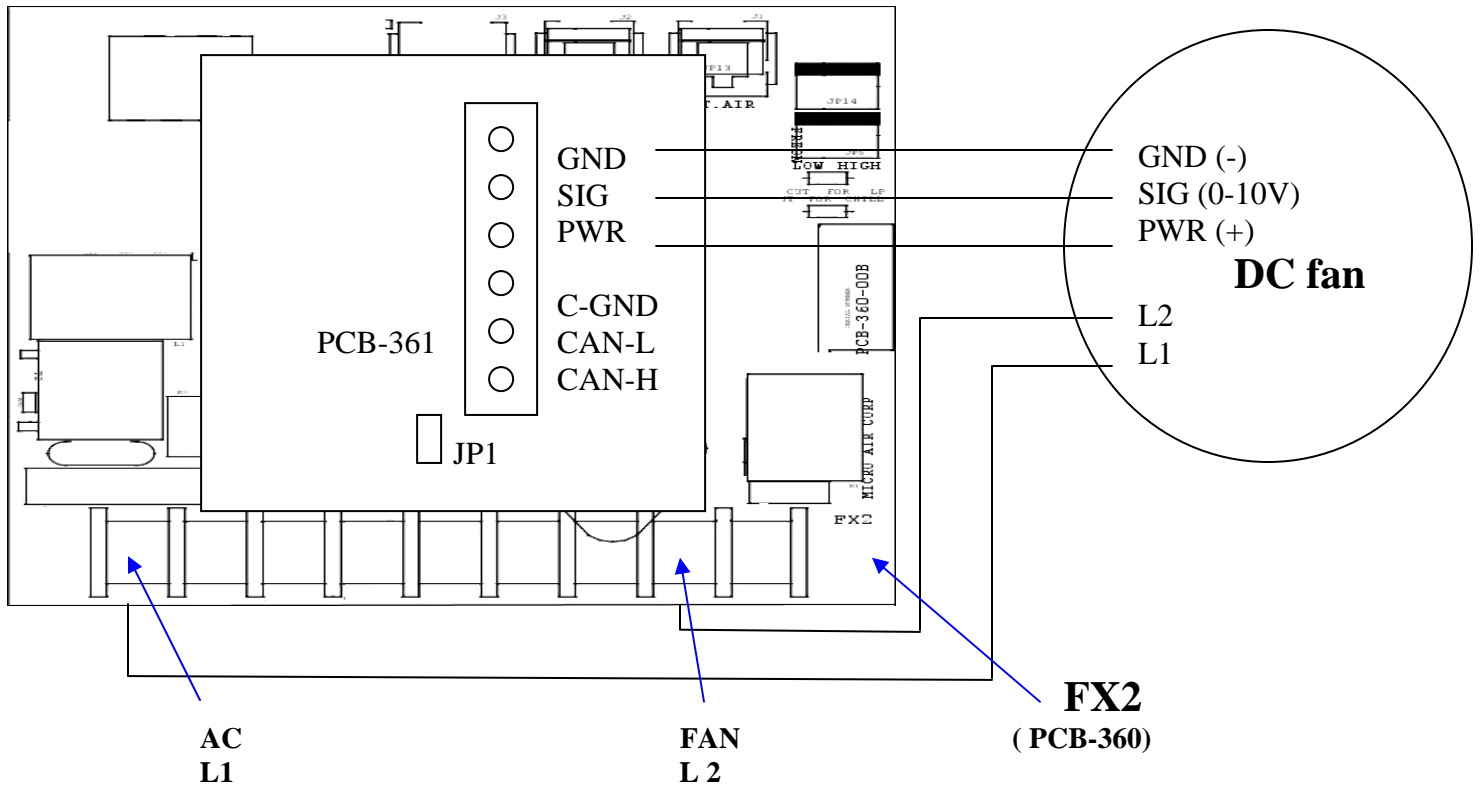
Specifications

Set point range	55°F to 85°F 12.7°C to 29.4°C
Ambient temperature range displayed	5°F to 150°F
Sensor accuracy	2°F at 77°F
Low voltage limit 115 VAC units	75VAC
Low voltage limit 230 VAC units	175VAC
Line voltage limit	250VAC
Frequency	50 or 60 Hz
Fan output MAX	6 Amps
Valve output MAX	10 Amps
Heater output (connected to compressor L1 and L2)	30 Amps Maximum
Minimum operating temperature	0°F
Maximum operating temperature	180°F
Maximum RH conditions	99% Non condensing
Maximum length of the display cable	75 Feet
Maximum length of the Outside air sensor cable	50 Feet

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Optional DC Fan / CAN Bus Control

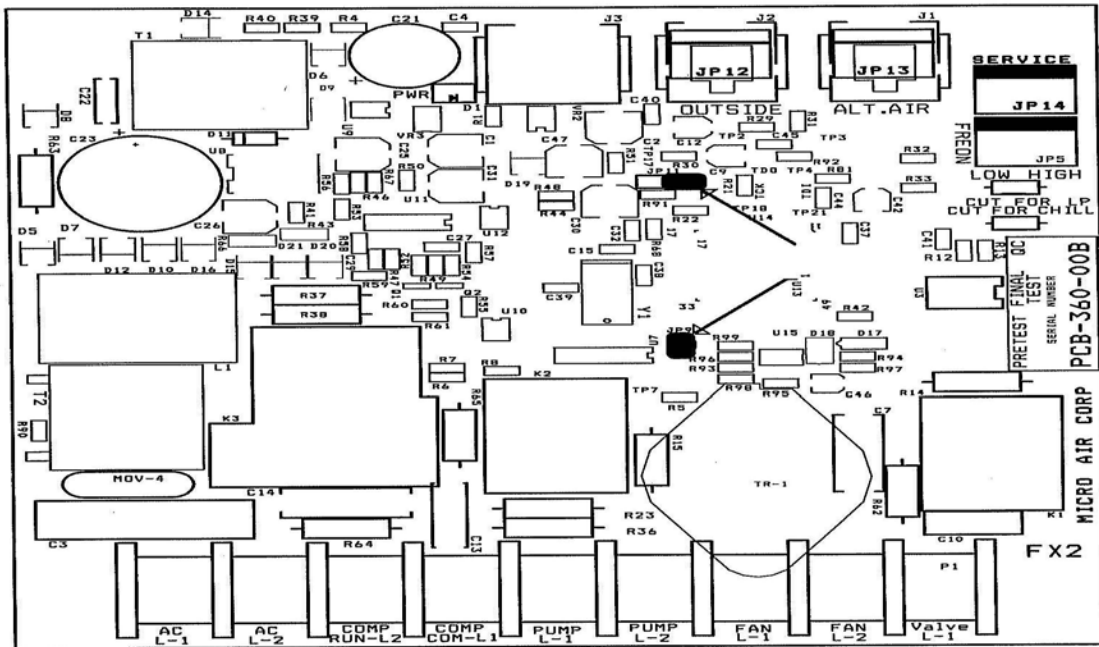
DC Fan

When the optional DC fan control (PCB-361) is installed in the FX2 power supply board (PCB-360), connect the fan input wires to GND, SIG and PWR. Connect the fan voltage supply lines to AC L1 and FAN L2 on the PCB-360. Follow the fan manufacturers' guidelines for wiring this fan.

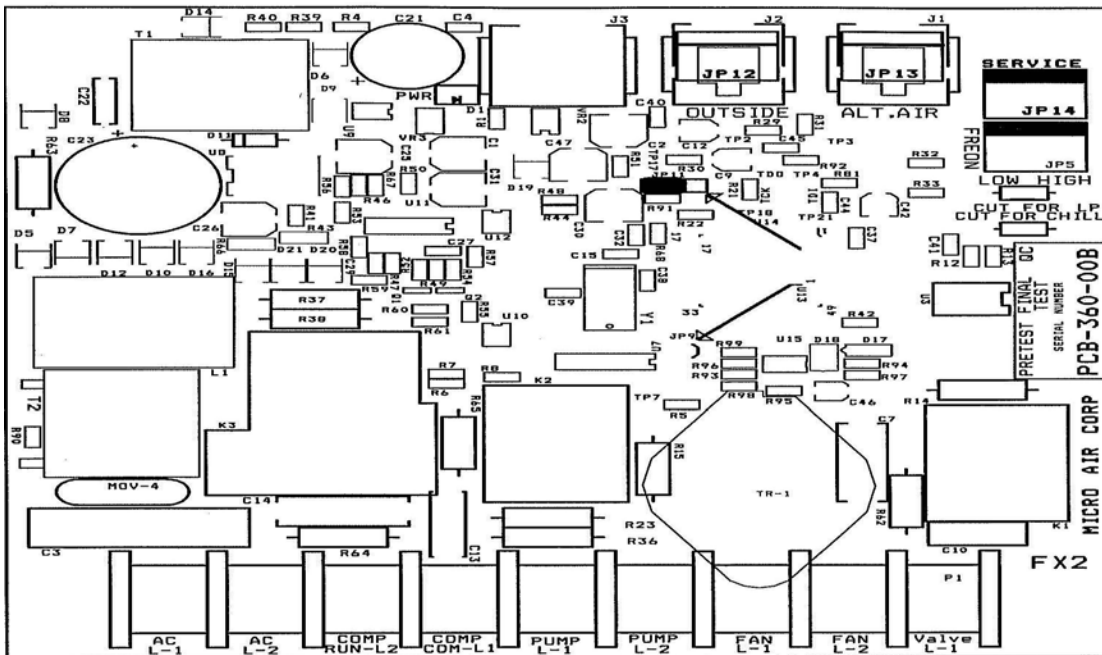
CAN Bus

When the optional CAN bus controller is used, connect the C-GND, CAN-L and CAN-H wires on the bus to the appropriate connection. CAN bus wire system limit is 500 feet and must have a terminator (JP1) on the first (usually the PC) and the last connection in the system only.

Power supplies designed for use with CAN bus systems use power supply board (PCB-360) specific to that application that allow both CAN bus and DC fan operation. Be sure you have the correct supply before attempting CAN operation.



"FX Series" jumpers configuration:
 JP9 is installed
 Pins 2 and 3 of JP11 are shorted



"OLED" jumpers configuration:
 JP9 is not installed
 Pins 1 and 2 of JP11 are shorted