

# Instruction Manual for Gen III Fan Controller

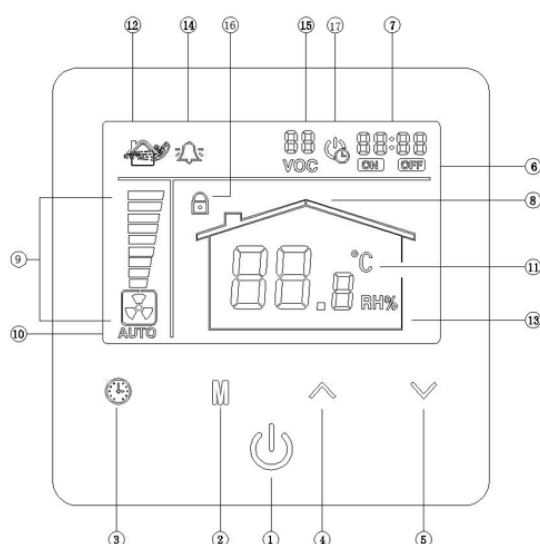


Figure 1

Feature	Description
1	POWER BUTTON. Tap to turn the controller on or off manually.
2	MODE / TIME DELAY BUTTON. This button performs different functions depending upon whether the fan is ON or OFF. When the fan is ON, tap once to display the Delay Value. Each press will increase 1 minute and totally 30 minutes. When the fan is OFF, long press to switch between Manual and Automatic modes (#10 will show “AUTO” or not).
3	CLOCK BUTTON: This is where you can set the time of day to automatically turn on and off. When the fan is ON, tap the clock icon to change the timer settings. The time is entered in 24-hour notation (HH:MM). So first you enter the minute then the hour of when it will go ON (eg 13:00 for 1pm), and then the minute and hour of when it will turn OFF (eg 14:00). Press and hold to exit the timing function, or just wait and it will timeout and exit. For use in The Armoire we will ignore this – we do not want the unit automatically cycling on/off.
4	UP ARROW. When the fan is ON, tap once to increase the wind speed by one gear (represented by horizontal bars).
5	DOWN ARROW. When the fan is ON, tap once to reduce the wind speed by one gear (represented by horizontal bars).
6	Indicator for timer on/off value during settings.
7	Clock (in 24-hour HH:MM format) or delay value (HH:MM) depending on currently selected mode.
8	The shape of the house represents indoor. You will see this when the fan is ON. It disappears when the fan is OFF.
9	CURRENT FAN SPEED. This indicates the current fan speed. The more horizontal bars, the greater the air volume moved.
10	Automatic Mode Indicator. Indicates automatic mode when it says “AUTO”, or manual mode when it disappears.
11	Shows C when temperatures are shown in centigrade, or F when show in Fahrenheit
12	Ventilation Indicator.
13	Relative Humidity Indicator.
14	Locked Rotor Warning. Hopefully you never see this!
15	TVOC display position. We largely ignore this for use in The Armoire.
16	CHILD LOCK INDICATOR. Press and hold the UP ARROW for 4s to toggle the child lock.
17	DELAY ICON. This indicates that the displayed time is a delay time.

## II. Basic Operation

A few notes first:

1. **Power.** Unless you physically unplug the controller, it doesn't literally "turn off." The concept of "OFF" and "ON" are relative, more like "sleeping" and "awake". When "OFF" the fan motor does shut down, but the LCD Controller screen just dims and many of the images and icons disappear, but there's still power to the screen and the temperature will show. While the fan goes on and off, the controller screen never fully powers down. So, when reading these instructions, please understand that "off" does NOT imply true off, as if it were disconnected from power.
2. **Clock.** The clock can be slightly confusing because the same clock area can be used to represent three different values: 1) a delay value (the number of hours and minutes to continue running the fan after shutdown, such as 00:30 to run the fan 30 more minutes, then auto shut off), 2) a fixed time to turn on and off (actual clock times, such as instructing the fan to go on at 9am and off at 5pm. We don't want to use this feature for The Armoire), or 3) the actual current time. All times are specified in HH:MM format, and are based upon 24-hour (aka "Military") format if representing a 24-hour actual clock time.

The actual current time is set as described in section #6 below, so that the controller has a frame of reference for the on/off timers. The current time is never actually SHOWN to the user in AUTO MODE. Once you set it with the MODE key (described below), you may never see it again, as the clock always shows either the ON/OFF times, or delay value. In MANUAL MODE the on/off indicator (Figure 1, Feature #6) disappears and you see the real, current time of day displayed in the clock area.

When you see "ON" and "OFF" under the clock, that does NOT mean the timer is on or off. That means it's showing you the time it will go back ON, or go back OFF.

3. The temperature sensor is located in the controller, not in the fan. Thus, it might show a little warmer (1 or 2 degrees) when mounted up high, or a little cooler when placed on the floor of The Armoire. When run OUTSIDE of The Armoire for convenience, please keep in mind the temperature reading will show the room temperature outside The Armoire and not be useful for measuring the temperature inside The Armoire.

**1. POWER BUTTON.** Press the POWER BUTTON once to turn the fan ON. Press the POWER BUTTON again to turn the fan OFF. When OFF, the LCD screen only shows the current temperature and turns off the fan at the same time. (In case of delay, the fan shall be shut down after the delay is over. So, if there's a 30 minute delay value set, then the fan will continue running 30 more minutes then power down.)

**2. SETTING A DELAY.** When the fan is ON, tap the "M" button (Mode / Timer Delay Button – Figure 1, Feature #2) to display the Delay Value. You will see the delay icon (Feature #17), and the clock will start to flash. Tap the UP ARROW and DOWN ARROW to adjust the delay time, specified in hours and minutes. After adjusting the delay time, it will display the delay time countdown after

the fan is turned off. This is not an absolute time (eg 2pm) but rather just a number of hours and minutes to continue operating before shutting down.

**3. TIMER VALUES:** When the fan is ON, tap the CLOCK BUTTON (Figure 1, Feature #3) to edit the timer settings. First you set the time to power on. The time is specified in 24-hour time format (HH:MM) – that’s an absolute clock time (like 2:30am). You will see "ON" displayed (Figure 1, Feature #6) and the minutes will blink. Use the UP ARROW and DOWN ARROW to adjust the minutes accordingly. Press the CLOCK BUTTON again to switch to the hour flashing. Similar to setting the minutes, use the UP ARROW and DOWN ARROW to set the hour value. Then, repeat this for the time of day to turn OFF. Tap the CLOCK BUTTON again to exit the timer settings and save it. Or, do nothing and let it timeout and the system will automatically exit and save the setting.

Each time after setting the timing time and pressing the timing key to exit, the timing function is started. So, merely entering this feature will turn it back on. This can cause confusion by re-enabling the timer you thought you already shut off. The suggested operation is to set the OFF time 1 minute before the ON time, so once per day it will shut down at 11pm for example, and go back on at 11:01pm. You’ll want to turn off the timer function for use in The Armoire, but it’s not a bad idea to set the 11:01 on /11:00 off mechanism so that your fan down shutdown on its own if you accidentally toggle the timer back on.

**4. TIMER ON/OFF:** When the fan is ON, press and hold the CLOCK BUTTON to turn off the timing function. You will see the clock change to the actual current time, and turn off the "ON / OFF" indicator (Figure 1, Feature #6). Similarly, press and hold the CLOCK BUTTON to re-engage the timer. **Note:** after enabling the timer feature, the fan will power cycle according to the on/off timer values, on a daily basis. For example, if you set the on/off values to 2pm and 3pm, then every day the unit will power down at 2pm and power back up at 3pm, etc. If you exit after setting the timing shutdown time (as noted above), the timer function will be started automatically!

**5. WIND SPEED:** Use the UP ARROW and DOWN ARROW to adjust the wind speed when the machine is turned on but not set.

**6. SET THE CLOCK:** This is where we set the actual current time, in 24-hour (HH:MM) format (aka "Military Time"). With the fan OFF, tap the CLOCK BUTTON. The minutes portion of the time will flash. Press the UP ARROW or DOWN ARROW to adjust the minutes. After the adjustment is completed, tap the CLOCK BUTTON again, and the hour portion of the clock flashes. Press the UP ARROW and DOWN ARROW to adjust the hour the current time. After the adjustment is completed, tap the CLOCK BUTTON again to exit and save. Or, do not touch anything and the system will automatically timeout and exit.

**7. TOGGLE AUTO/MANUAL MODES:** When the fan is ON, press and hold the "M" button (Mode / Timer Delay Button – Figure 1, Feature #2) for about 5 seconds. The clock position (Figure 1, Feature #7) displays "AUTO" and displays the highest wind speed. The temperature position shows HH, indicating the setting of maximum wind speed. Tap the UP ARROW and DOWN ARROW keys to adjust. Tap the "M" key again to switch to the setting of minimum wind speed, display AUTO lowest gear, temperature position display LL. Again, tap the UP ARROW and DOWN ARROW to adjust to the desired low fan value. Tap the mode key again to switch to the upper temperature setting, display the temperature symbol and display HH. Adjust your high value, then tap the mode key

again to switch to the lower temperature setting (you'll see LL). After setting the low value, tap the mode key again to switch to the VOC upper limit setting, press the mode key again to switch to the VOC lower limit setting, and then tap the "M" key to exit the settings and save.

**In the automatic mode, long press the mode key to switch to the manual mode. In the automatic mode, long press the key to start the upper and lower limit setting again.**

**8. PARAMETER SETTINGS:** With the fan OFF, press and hold the "M" button (Mode / Timer Delay Button – Figure 1, Feature #2) for about 5 seconds to edit parameters for the controller.

If you find that once the temperate "settles down" it's always high or low in comparison to other thermometers / hygrometers, you can use features 1 and 2 below to "offset" or "correct" temperate and humidity up/down. Usually we ignore all of these paramters and accept the default values, except for parameter #6 to change from Celsius to Fahrenheit.

NO.	functions	range	default	Note
1	Temperature correction	+ -9 degrees	0	
2	Humidity correction	+ -20	0	
3	VOC correction	+ -15	0	VOC has no effect after turn-off
4	VOC switch	0 VOC off 1 VOC on	0	
5	VOC detection after shutdown	0 no detection after shutdown 1 detection after shutdown	0	VOC has no effect after turn-off
6	Celsius or Fahrenheit	0 ° C 1 Fahrenheit	0	
7	Forced reset	1 no reset 2 reset	1	

### III. Wiring

Thread the white controller cable (with audio style jack) thru the rectangular slot on the top of the small electrical box, then plug it into the LCD Module. You can program it and then spool up the excess cable and stow in the electrical box—then snap the LCD in place. It will hide the excess cable and make for a clean streamlined look.

**NOTE:** The audio jack should be unplugged after the power is cut off, conversely it should be plugged in before the fan is plugged into the wall. Do not power the fan without full insertion.

### IV. Armoire Quick Setup

The instructions above detail how to operate all of the advanced features of the LCD Controller module. For the purposes of The Armoire, we really only care about setting the fan at a certain speed and letting it run that way indefinitely. You can program automatic mode to automatically power up and down according to temperature values, etc., but it's not necessary. Here's a quick process to follow to setup the LCD Controller for basic manual mode operation in The Armoire:


1. **SET THE CLOCK.** (Same instructions as step 6 above): This is where we set the actual current time, in 24-hour (HH:MM) format (aka "Military Time"). So, for example, if it's 2:15pm in the afternoon, then you'll set it to 14:15.

With the fan OFF, tap the CLOCK BUTTON. The minutes portion of the time will flash. Press the UP ARROW or DOWN ARROW to adjust the minutes. After the adjustment is completed, tap the CLOCK BUTTON again, and the hour portion of the clock flashes. Press the UP ARROW and DOWN ARROW to adjust the hour the current time. After the adjustment is completed, tap the CLOCK BUTTON again to exit and save.

2. **SET THE TEMPERATURE READ-OUT TO FAHRENHEIT.** With the fan OFF (tap the power button to turn off if necessary), press and hold the "M" button (Mode / Timer Delay Button – Figure 1, Feature #2) for about 5 seconds to edit parameters for the controller. You will see it display a large "01" on the screen. We want option 06, so tap the "M" (Mode Button) five more times until you get to option "06" on the screen. Tap the UP ARROW or DOWN ARROW to toggle between C and F (Celcius and Fahrenheit). When you see "F" you're done. Wait a few seconds and the settings will timeout and save and exit.
3. **SET NO DELAY.** For good measure, we will turn off any delay values. When the fan is ON, tap the "M" button (Mode / Timer Delay Button – Figure 1, Feature #2) to display the Delay Value. You will see the delay icon (Feature #17), and the clock will start to flash. Tap the UP ARROW and DOWN ARROW to adjust the delay time to 00:00.
4. **SET THE TIMERS.** We really do NOT want to use the timers, but it's easy to accidentally engage them, so I suggest setting them and then turning them off. If they ever get turned on accidentally it won't cause a problem because we pre-emptively programmed them to

be effectively useless. We will set the fan to go off every day at 3am, and then back on at 3:01am. This will be in the middle of the night when presumably the light is off too, anyway. If the timer is ever accidentally engaged, it won't matter – it'll briefly go off for a minute in the middle of the night, then back on a minute later. Here's how to do it:

When the fan is ON, tap the CLOCK BUTTON (Figure 1, Feature #3) to edit the timer settings. First you set the time to power on. The time is specified in 24-hour time format (HH:MM) – that's an absolute clock time (like 2:30am). You will see "ON" displayed (Figure 1, Feature #6) and the minutes will blink. Use the UP ARROW and DOWN ARROW to adjust the minutes to 01. Press the CLOCK BUTTON again to switch to the hour flashing. Similar to setting the minutes, use the UP ARROW and DOWN ARROW to set the hour value to 03. That sets the ON time to 03:01. Then, repeat this for the time of day to turn OFF, setting it to 03:00. It's a little confusing that we're doing them backwards, but the controller has you set ON time, and then OFF time. So we'll set ON at 3:01am and off at 3:00am, so that if it ever goes off at 3am, it'll come right back on at 3:01am.

5. **TURN THE TIMER OFF:** We really didn't want to use the timer anyway, so now we will disable it. When the fan is ON, press and hold the CLOCK BUTTON to turn off the timing function. You will see the clock change to the actual current time, and turn off the "ON / OFF" indicator (Figure 1, Feature #6).
6. **TURN OFF AUTO MODE:** When the fan is ON, press and hold the "M" button (Mode / Timer Delay Button – Figure 1, Feature #2) for about 5 seconds to toggle AUTO on and off. When you see the AUTO indicator (Figure 1, Feature #10) go off – that's what we want!
7. **SET WIND SPEED:** Use the UP ARROW and DOWN ARROW to set the fan speed where you want it. About 2/3 power is most likely appropriate, but will heavily depend upon your specific temperature situation – you may need more or less circulation.
8. **LOCK THE CONTROLS:** To make sure we don't accidentally bump the panel and mess up some setting, we can activate the "Child Lock" feature. With the fan ON, press and hold the UP ARROW until the lock icon  appears (Figure 1, Feature #16).