



**Title:**

Navigating Danfoss MCX Controller

# Danfoss

## MCX Controller Navigation



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## Overview

This guide provides controller layout and general navigation/ operation instructions. Document does not include all functionality of the MXC controller.

## Controller Layout

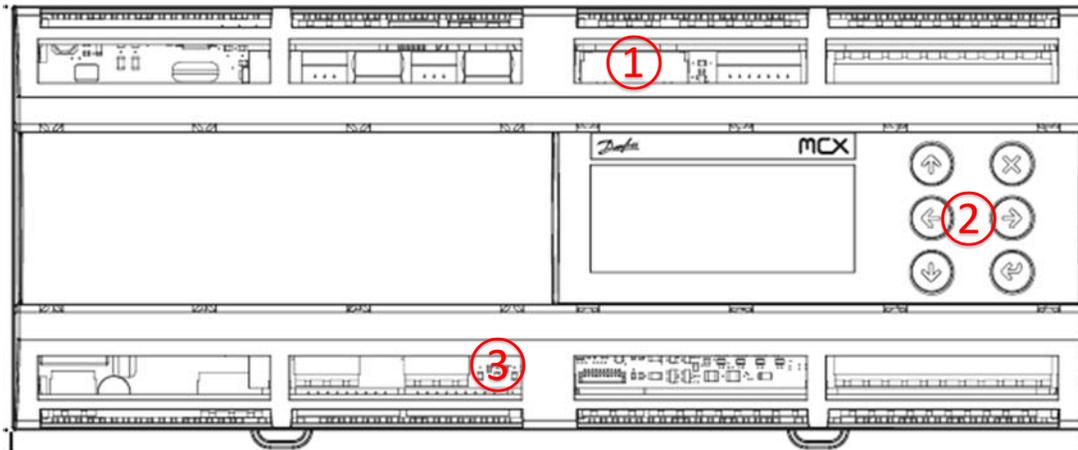


Figure 1. Danfoss MCX Controller

1. SD Card Slot for Program Updates
2. Navigation Keys
3. Status LEDs

## Home Screen

The Home Screen displays the current operation and space conditions. The white arrow on the screen denotes the occupancy mode. The moon icon in the top left corner appears when the unit is in Unoccupied Mode.

After performing an action, use the  to return to the Home screen.

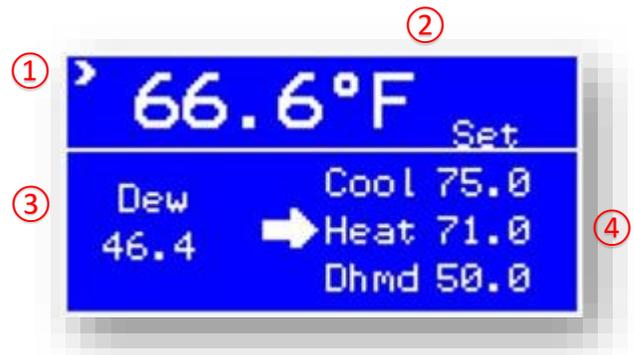


Figure 2. MCX Home Screen

1. Unoccupied Mode Icon
2. Average Space Temperature
3. Current Dew Point
4. Current Set Points

## Temperature and Humidity Screen

From the Home screen, press  to view the Temperature and Humidity Sensor status screen. The Sensor Status displays the current temperature and humidity not visible on the Home Screen.

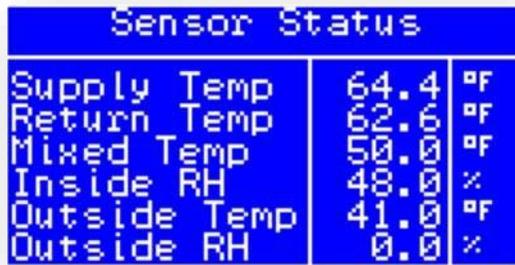


Figure 3. Sensor Status Screen

## Transducers, CO2 Sensor, Digital Input/Output, and Analog Output Status Screens

1. From the Home screen, press  to view the Temperature.
2. Main Menu: Input/ Output ; Input/Output: I/O Display .

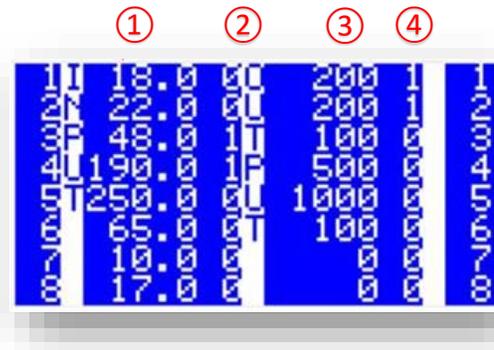


Figure 4. Screen

1. Analog Input
2. Digital Output
3. Analog Output
4. Relay Output

To view current temperature status, refer to the above “Temperature and Humidity Sensor Status” screen. To view other sensor types and outputs, see the status on the I/O display screen.

The screen is divided, Inputs displayed on the left and the Outputs displayed on the right. To view the value of an input, locate the number of the input that corresponds to the wiring position and refer to the value to the right of the number (e.g. Suction Transducer 1 is Input #4, wired to AI4, reading a value of 190.0 psi).

The Digital Input values are in the column to the right of the analog input values (e.g. Digital Input #1 is DI1: Smoke Detector, and the value is reading “0” or in the OFF position).

Use the  button to view the remainder of the Inputs. The Analog Outputs are displayed on the right-hand side of the screen next to #1-6. The values listed are the current output voltage\*100 (e.g. Analog Output #1 is the OAD position wired to AO1 and reading 2.0 VDC in the I/O display screen). The Relay Outputs are displayed in the column to the right of the Analog Output values (0 = OFF, 1 = ON).

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## Damper Status Screen

The Damper Control screen displays the current CO<sub>2</sub>, Dew Point, and Space Temperature readings across the top of the screen. The current Outdoor, Return, and Bypass Damper positions are listed across the bottom of the screen.

- From the Home screen, press



Figure 5. Damper Control Screen

## Compressor Status

The Compressor Control screen displays the status for each suction group. Figure 6 shows both suction groups enabled. The average suction pressure and suction pressure set points are displayed across the top of the screen. The digital compressor operating %'s and the status of the ON/OFF compressor are displayed across the bottom.

The numbers inside of the icons denote the Compressor number. When the compressors are locked out for any reason, a lock icon will appear over one or both the suction groups as seen in Figure 7.

- From the Home screen, press ,



Figure 6. Compressor Control Screen



Figure 7. Compressor Lockout

## Heat Status

The Heat Control screen in Figure 8 displays the status of heating operation. The Space Temperature, Supply Temperature, and Supply Temperature Set Point are displayed across the top of the screen.

The active heat stages are displayed across the bottom of the screen under "Aux Heat." Each flame represents one stage of heat (e.g. 3 flames: Heat Stage 1, Heat Stage 2, and Heat Stage 3 are activated). Each Reheat or Reclaim coil is denoted with a flame as well underneath the "Reclaim/Reheat" title.

- From the Home screen, press , ,

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Figure 8. Heat Control Screen



Figure 10. Active Clogged Filter Alarm

## Alarms

When an alarm occurs within the FLō unit, an alarm icon will appear on the Home Screen, and a red light located below the MCX screen will illuminate. If the type alarm that is currently activated requires a lockout of the mechanical equipment in the unit (i.e. smoke detection, fan fail, space and return temp fail), a lock icon will appear in the top right corner of the Home Screen.

1. From the Home screen, press

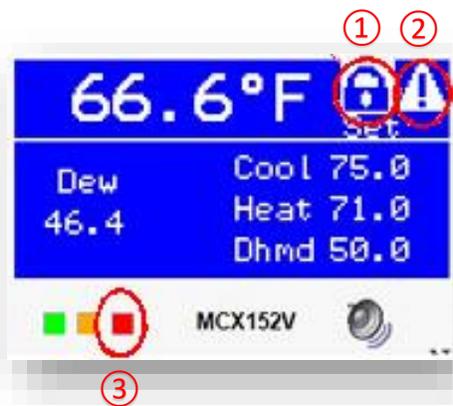


Figure 9. Alarm Screen

1. Lockout
2. Active Alarm
3. Alarm Light

If an active alarm exists, navigate to the alarm status screen. If more than one alarm exists, press the to scroll through the active alarms.

## Alarm Log

The alarm log screen shows a history of alarms. The name of the alarm is denoted along with a time stamp for each occurrence of that alarm.

1. Press the button to scroll through the alarm log.



Figure 11. Smoke Alarm

## Adjusting Set Points

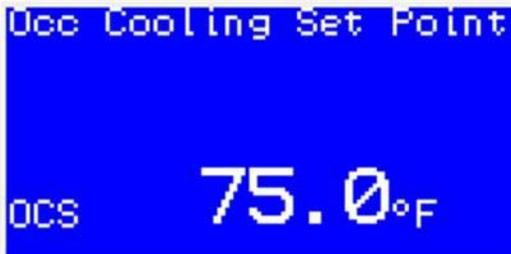


Figure 12. Occ Cooling Set Point

From the Home screen, press , , .

To adjust the current heating and cooling set points, follow the steps below:

1. Once in the Heat and Cool Setpoints screen, navigate to the set point screen that you would like change (Occ Cool, Occ Heat, Unocc Cool, and Unocc Heat) using the button.
2. Press the button to highlight the set point.
3. Use the and buttons to adjust the set point.
4. Press to save.

## Adjust the Controller Clock

To adjust the controller time and date:

1. Once in the RTC Setup screen, use the and buttons to navigate to the time or date parameter you would like to change.
2. Press the button to highlight the parameter.
3. Use the and buttons to adjust the parameter.
4. Press to save.



Figure 13. Controller Clock

## Adjusting a Schedule

From the Home screen, press Main Menu: Parameters, Parameters: General, , General: Setup .



Figure 14. Schedule Hours

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Figure 15. Schedule Minutes

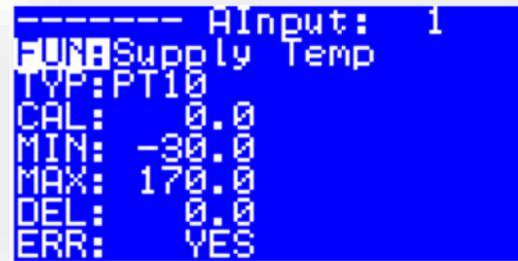


Figure 16. Analog Input Configuration

To adjust the occupancy schedule:

1. From the General Setup screen, use the button to navigate to the Occupied-ON Hour, Occupied ON Min, Occupied OFF Hour, or Occupied OFF Min screen (Occupied OFF times refer to the start of the Unoccupied time).
2. Press the button to highlight the selected time.
3. Use the and buttons to adjust the time.
4. Press to save.

**Note there is one Occupied and Unoccupied time available. The OCC and UNOCC times will be used for each day of the week.**

## Setting Sensor Offsets

From the Home screen, press Main Menu: Input/Output, Input/Output: I/O Config, I/O Config: Analog Input,

1. From the Analog Input Setup screen, use the button to highlight the desired sensor.
2. Press the button to enter the sensor setup screen.
3. Scroll down to “CAL:” and press the button.
4. Use the and buttons to adjust the offset.
5. Press to save.

**Note the offsets are in °C. It is recommended that you make small adjustments to the offset and refer back to the temperature sensor reading. Repeat the process until the desired final temperature is achieved.**

## Adjusting Outdoor Air Damper Parameters

From the Home screen, press Main Menu: Parameters, Parameters: Unit, Unit Config: Outside Air Damper,

Adjust the Outdoor Air Damper Maximum position:

1. From the OAS Max Position screen, press the button.
2. Use the and buttons to adjust the OAD Max position.
3. Press to save.

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## Override Physical Outputs

From the Home screen, press  Main Menu:  
Parameters,  Parameters: Overrides, .

1. From the Overrides menu, use the  and  buttons to scroll to the desired ‘Ovrr’ output.
2. Press the  button to highlight the output ON/OFF value.
3. Use the  and  buttons to change the value to ON.
4. Press  to save.
5. Scroll to the desired “\_Val” output.
6. Press the  button to highlight the output ON/OFF value.
7. Use the  and  buttons to change the value to ON (or desired analog value).
8. Press  to save.