FIELD PROGRAMMING GUIDE -MINI MAX
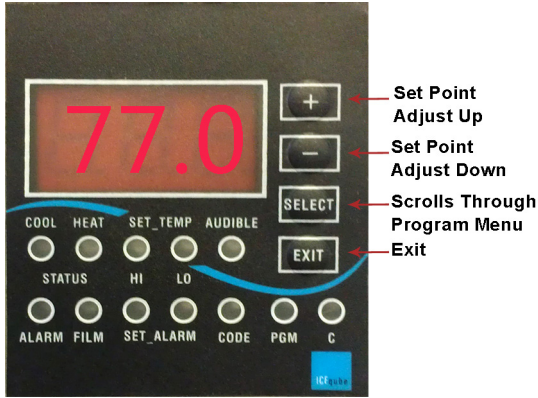

Set Point Adjust Up
Set Point Adjust Down
Scrolls Through Program Menu
Exit

OPERATING THE SYSTEM:

Once the Ice Qube system has been installed onto the enclosure and the power cord has been attached to a properly grounded electrical outlet with adequate voltage and current supply, the unit is ready for operation. As soon as electrical power is supplied to the Ice Qube system, the cool air stream blower will start to operate. The blower will run continuously so that the controller can monitor the enclosure's internal temperature. The enclosure temperature will be displayed on the face of the controller.

If the enclosure temperature is greater than the factory cooling setpoint of 80°F, the "Cool" status LED will flash. This indicates that the compressor's automatic off cycle timer is working. (The off cycle timer is factory set at 3½ minutes). At the end of 3½ minutes, the compressor and the condenser air blower will begin to operate. This signifies that the cooling system has begun operation to remove heat and humidity from the enclosure. This procedure may take 20 to 30 minutes before it reaches full capacity.

If the heat load within the enclosure is less than the cooling capacity of the Ice Qube system, the temperature on the digital display will begin to decrease. When the temperature inside the enclosure decreases 7 degrees Fahrenheit below the 'cooling on' setpoint, the compressor and the condenser blower will cycle off. The cool air blower will continue to operate, circulating air within the enclosure. The controller has a factory programmed temperature differential of 7 degrees Fahrenheit. Example: "Cooling on" @ 80°F; "Cooling off" @ 73°F.

> **NOTE:** *There is a dead band programmed into the controller that prevents heating and cooling from operating simultaneously.*

PROGRAMMING THE CONTROLLER:

The digital controller has many features that may or may not be required for your application. However, the controller has been programmed at the factory with typical default settings for immediate system operation. Please review the following default settings:

1. Cooling system on temperature   80° F
2. Heating system on temperature   50° F *(optional)*
3. High enclosure temperature alarm   100°F
4. Low enclosure temperature alarm   40° F
5. Audible and Visual alarm   "ON"
6. Digital display in degrees   Fahrenheit
7. Filter maintenance alarm   0 days – Disabled
8. High condenser temperature alarm   170° F

To change the factory default settings, enter the programming code sequence:

> **"+" (plus sign)**
> **"-" (minus sign)**
> **"Select"**
> **"Exit"**

After pressing the above sequence the program LED should illuminate along with three alternating flashing boxes on the display face, indicating the code was accepted. If no selection is made within one minute, the system returns to the normal operating mode.

> **Note:** *Pressing the "Exit" button at any time while in the programming mode returns the controller to the normal operating mode.*

Press the "**Select**" button to continue programming. The set temperature "HI" LED illuminates with the display indicating the 'cooling on' setpoint. The compressor will begin operation at this temperature and will remain operating until the enclosure temperature decreases approximately seven degrees Fahrenheit (four degrees Celsius).

Press the "**+**"or "**-**" buttons until the desired set point is displayed. The range for this adjustment is 70° to 126°F, (21° to 52°C). When the adjustment is complete, press the "**Select**" button to continue.

The set temperature "LO" LED is *on* with the display indicating the (optional) 'heating on' set point. The heating system will begin operation at this temperature and remain operating until the enclosure temperature increases approximately seven degrees Fahrenheit (four degrees Celsius). Press the "**+**"or "**-**" buttons until the desired set point is displayed within a range of 0°F to 63°F (-17.8°C to +17°C).

> **NOTE:** *Review alarm settings if the 'cool on' or 'heat on' set points have been changed,*

Press the "**Select**" button to continue. The set alarm "HI" LED is *on* with the display indicating the high temperature alarm setpoint. The alarm will activate at this temperature and will automatically reset at two degrees Fahrenheit (one degree

Celsius) below this temperature. Press the **"+"** or **"-"** key pads to change the alarm setpoint within a range of 8°F (or 4°C) above the set temperature "HI" set point, to 135°F (or 57°C).

Press the **"Select"** button to continue. The set alarm "LO" LED is *on* with the display indicating the low temperature alarm set point. The alarm will activate at this temperature and will automatically reset at two degrees Fahrenheit (or one degree Celsius) above this temperature. Press the **"+"** or **"-"** key pads to change the alarm setpoint within a range of 8°F (4°C) below the set temperature "LO" set point, to 34°F (or 1° C).

Press the "**Select"** button to continue. The alarm LED will flash and the display will show "ALL", indicating the "ALL" alarm on/off status. Press **Select** and the display will show either *"ON"* or *"OFF"*, indicating current alarm status. Press the **"+"** or **"-"** key pads to toggle the mode as desired. If the *"OFF"* mode is selected, no alarms will activate and the audible on/off select function is skipped.

Press the **"Select"** button to continue. The audible LED will flash and the display will show *"AUD"*, indicating the audible alarm on/off status. Press "**Select"** and the display shows **"ON"** or *"OFF"* indicating the current audible alarm status. Press the **"+"** button or the **"-"** button to toggle the mode as desired.

Press the "**Select"** button to continue. The "C" LED flashes and the display shows either *"F"* for degrees Fahrenheit or *"C"* for degrees Celsius. Press the **"+"** button or the **"-"** button to toggle the mode as desired.

Press the **"Select"** button to continue. The code LED is on and the display shows "PIN". To set a new user PIN code, press the "**+"** button. The display will flash "4", prompting an entry of a four button sequence using the **"+", "-", "Select"** and/or **"Exit"** buttons. (Any sequence of the four buttons may be programmed as the code.) As the buttons are pressed, the display will show the number of buttons that were pressed.

> NOTE: *After pressing a button, there will only be 5 seconds to press the next button. If the next button is not pressed within the allotted time, the system will default to no PIN code, indicated by "0" on the display. Once the sequence is entered the display will no longer flash, and will show "4".*

To program the no PIN code mode, press **"-"** and the display will show "0", indicating no PIN code. With no PIN code, pressing any button will permit access to the program.

*** CAUTION ***
Always record the selection sequence (PIN code) and store in a secure place.

Press the **"Select"** button to continue. The filter LED flashes and the display will show *"FIL"*, indicating the filter alarm days selection. Press the **"Select"** button and the display will show the number of days that the alarm is set in one-half day increments. (Example: 10.5 indicates the alarm will activate every ten and one-half days).
Press the **"+"** or the **"-"** key pads to vary the desired number of days. (Range is 0-99 days). Programming 0 days will disable the alarm.

> NOTE: *The required number of days to set this alarm will be determined by the ambient air conditions. If rain or wash down hoods are installed on the system, no filter is supplied and the filter alarm should be set to "0". This will disable the filter alarm.*

Press the **"Select"** button to continue**.** The program LED will be lit and the display will show *"Add"*. Press the **"Select"** button again and a value of *"0.0"* will appear. Programming of the microprocessor is now complete.

Press the **"Select"** button to review all of the settings. Press the **"Exit"** button to enter the selected settings and to return to the normal operating mode.

> NOTE: *If the "Exit" button is not pressed, any changes to the program settings will not be saved.*

ALARM OPERATION:

1. **The enclosure temperature is above or below the alarm setpoint**:
   The alarm LED will light, the display flashes, either "HI" or "LO" LEDs flash with the display and the audible alarm sounds (if activated). The enclosure temperature must rise or fall two degrees Fahrenheit (one degree Celsius) before the alarm will reset.

2. **The condenser temperature is above the condenser alarm setpoint**:
   The alarm LED lights, the display flashes the condenser temperature, and the audible alarm sounds (if activated). The condenser temperature must fall four degrees Fahrenheit (two degrees Celsius) before the alarm will reset. **The above alarms can be manually reset by entering the PIN code into the system.**

3. **The filter day timer has expired**:
   The alarm LED lights, the display flashes showing *"FIL"*, the filter LED flashes with the display and the audible alarm sounds (if activated). The filter alarm may be cleared by pressing "**Exit".**

4. **Sensor Malfunctions**:

   i. E-O - Evaporator sensor open
   ii. E-C - Evaporator sensor shorted
   iii. C-O - Condenser sensor open
   iv. C-C - Condenser sensor shorted

   > NOTE: *An alternating E-O … C-O display may indicate the sensor connector has become disconnected from the rear of the controller.*

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