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Instruction Sheet

Subject: Ice Level Management Installation

K00457 ELECTRONIC THERMOSTAT INSTALLATION FOR CUBE, NUGGET OR FLAKE ICE MACHINES

⚠Warning

Authorized Service Representatives are obligated to follow industry standard safety procedures, including, but not limited to, local/national regulations for disconnection / lock out / tag out procedures for all utilities including electric, gas, water and steam.

⚠DANGER

Disconnect electric power to the ice machine at the electric switch box before proceeding. Failure to disconnect the power at the main power supply disconnect could result in serious injury or death. The power switch DOES NOT disconnect all incoming power.

This kit reduces overfill and condensation issues and can be used on a Manitowoc or Koolaire ice machine installed on an ice dispenser or bin.

Ice Level Management Kit Installation

Step 1 Remove all ice from dispenser or bin.

Step 2 Disconnect all power to the ice machine and dispenser at the service disconnect or fuse/breaker panel.

Step 3 Move the ice machine and dispenser/bin away from the wall for easier access.

Step 4 Remove all panels and control box cover.

Step 5 If an ice machine is already installed on the dispenser/bin, raise and support the right side of the ice machine. Install the mounting bracket on the right-hand side of the dispenser/bin 6” from the right rear corner. Compress the bracket to the thickness of the dispenser wall and tighten the two screws.

Step 6 Route thermistor wire out back of the ice machine/ dispenser/bin (lower the ice machine, if supported). Remove unused knockout on the ice machine back panel, install romex connector and route wire into the ice machine compressor compartment.

Step 7 Normally the controller can be mounted on the bulkhead flange. If not, a suitable area must be found for your model. Use controller bracket to locate mounting holes on the flange of the bulkhead. Drill two 9/32” diameter holes. Do not mount the controller, at this time.

Step 8 Route the four wires from the temperature control to the control box (insuring that the wires will not come in contact with any refrigeration tubing).

⚠Caution

The thermostat must be wired to match the voltage of the ice machine. The thermostat is factory wired for 120 volts. Rewire thermostat, if your ice machine is 240 volts.

Step 9 The electronic control receives line voltage power from L1 and L2 on the ice machine:

A. Contactor - Connect thermostat L1 (brown) and L2 (blue) wires to contactor (incoming line voltage side) L1 and L2.

B. Incoming Power - Disconnect incoming power line wire nuts. When present remove quick-connect fittings from brown and blue wires and strip 1/2” of insulation from the wires. Connect incoming power L1, ice machine L1, and thermostat L1 (brown) wires together with wire nut. Connect incoming power L2, ice machine L2, and thermostat L2 (blue) wires together with wire nut.

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Step 10 Connect ice machine to electronic controller LC and LNO terminals:

> **⚠ Caution**
>
> When a jumper wire is connected from line voltage to LC, it must be removed before installing the bin switch wires. Verify the wiring matches the diagram displayed.

Manitowoc Models

A. Disconnect the red male/female connector for the bin switch wire and connect the red male wire from the controller to the red female bin switch wire.

B. Connect the white male bin switch wire to the white female wire of the controller.

Koolaire Models

A. Cut the red bin switch wire 3 inches from molex connector on bin switch.

B. Strip wires and install male and female crimp connectors supplied in kit.

C. Connect male and female connectors from the bin thermostat into the newly installed terminals.

Nugget or Flake Models

NOTE: Flake ice machines cannot be used on a dispenser.

BIN THERMOSTAT

A. Disconnect L1 wire from bin thermostat and connect to the red male wire from the controller.

B. Connect white female wire of the controller to the bin thermostat.

TOGGLE SWITCH

A. Disconnect L1 wire from toggle switch and connect to the red male wire from the controller.

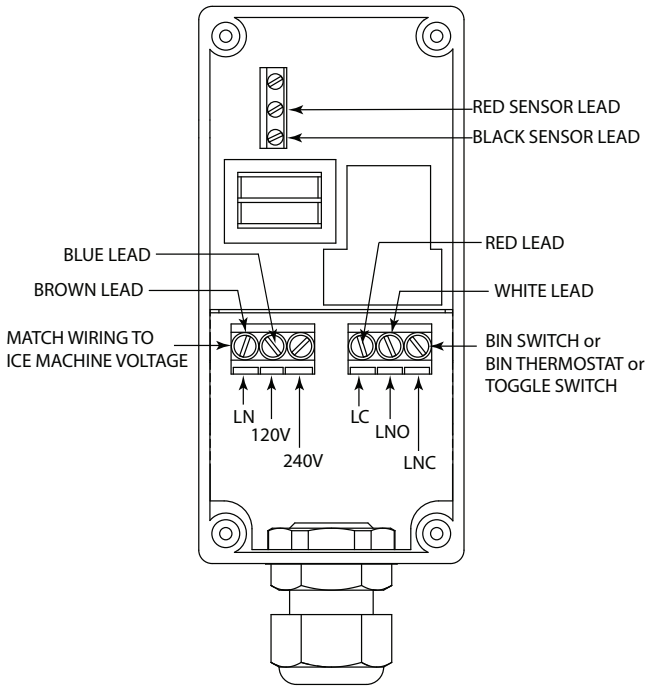
B. Connect white female wire of the controller to the toggle switch.

Step 11 Restore all power to the ice machine and dispenser at the service-disconnect or fuse/breaker panel.

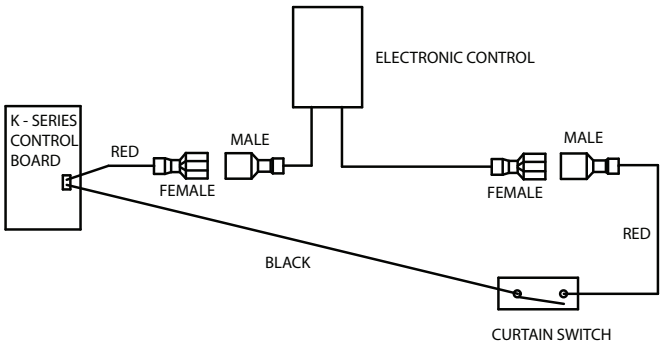
Step 12 With two screws, secure the controller bracket assembly to the flange of the bulkhead.

Step 13 Refer to Setting Control Setpoint Values and program the thermostat.

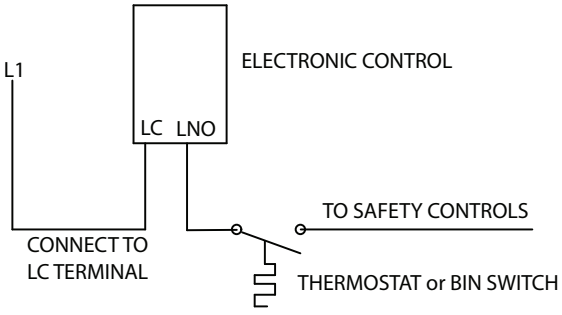
Step 14 Reinstall the control box cover and all panels.



KOOLAIRE MODELS



NUGGET/FLAKE MODELS



SETTING CONTROL SETPOINT VALUES

To view and adjust setpoint, follow these steps:

A. Press MENU, select and set the OFF temperature. Press the up or down arrows to change the setpoint value (38° F / 3° C recommended).
Press MENU to save the new value and advance to the next parameter code.

Notice

If MENU is not pressed after changing the setpoint value, the control reverts to the previous setpoint value.

B. Scroll to the ON parameter. Press the up or down arrows to change the ON setpoint value (40° F / 5° C recommended). Press MENU to save the setting and advance to the next parameter code.

C. Scroll to the SF screen. Press up or down arrows to set the SF (sensor failure) operation:

0 = Shuts off on sensor failure - Flake, nugget or cube ice

1 = Continues to run on sensor failure - 0 is recommended for all applications although cube ice can use this setting.

D. Press MENU to save the new value and advance to the next parameter code.

⚠Warning

Do not use sensor failure setting 1 (one) with nugget ice machines. Overfilling can result in the ice machine dislodging and falling from the dispenser during ice agitation.

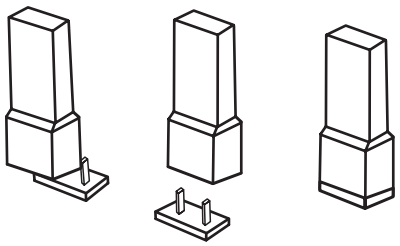
E. Scroll to the ASd (anti short cycling delay) screen. Press the up or down arrow to change the ASd (anti short cycling delay) time: Numbers are minutes; a minimum of one minute is required and recommended. Press MENU to save the setting, then wait 30 seconds for the control to revert to the default temperature setpoint display.

NOTE: The time delay is active anytime power is interrupted and restored or the control cycles the ice machine off.

RESTRICTING CONTROL ADJUSTMENT

The jumper position determines if the touch pad is locked or unlocked. To change function, disconnect power to the controller, move the jumper to the desired function and reapply power to the controller.

- Locked - Jumper contacts one pin.
- Unlocked - Jumper contacts both pins.



TROUBLESHOOTING

If the control system does not function properly, verify the control is wired and set up properly. If the problem persists, use the following procedures to determine the cause of the problem.

⚠Warning

Line voltage is present inside the control. Contact with line voltage can cause injury or death.

Follow these troubleshooting procedures in the order presented. Do not skip any of the steps in the procedures.

1. Check for proper voltage to the control.

   A. Remove the cover by loosening the four cover screws.

   B. Use an AC voltmeter to check the voltage between the common and 120V or 240V terminals.

   C. The voltage must be between 102 and 132 volts for 120V applications; 177 and 264 volts for 208/230V applications.

   D. If the voltage reading is not within the required range, check the power source and input power wires for problems.

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2. Check for Fault Codes

If the LCD displays an alarm or fault code (SF or EE):

Fault Code	Definition	Solution
SF flashing alternately with OP	Open temperature sensor or sensor wiring	See Step 3. Cycle power to reset control
SF flashing alternately with SH	Shorted temperature sensor or sensor wiring	See Step 3. Cycle power to reset control
EE	Program failure	Reset the control by pressing MENU. If problem persists cycle power to reset control. If problem isn't resolved, replace the control

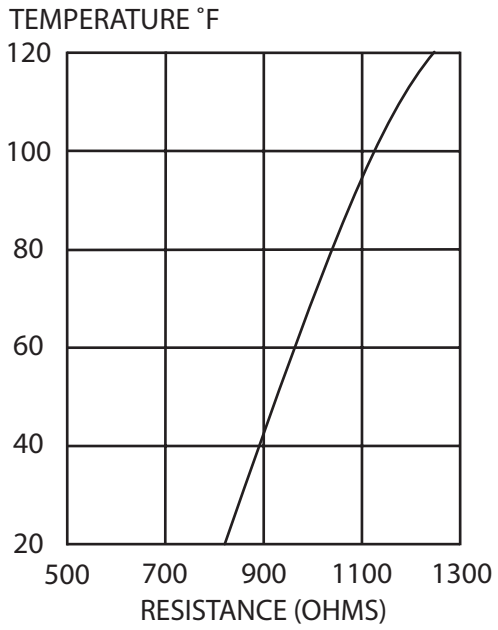
3. Test thermistor resistance.

   A. Disconnect thermistor from control.

   B. Measure the temperature at thermistor.

   C. Measure resistance of thermistor.

   D. Compare temperature and resistance to the chart. Replace thermistor if values are not in the proper range.



4. Check for proper operation.

Notice

Perform Steps 1, 2 and 3 before performing these steps:

   A. Disconnect the load from the output relay terminals.

   B. Verify the touch pad is unlocked, "Restricting Control Adjustment" on page <?>.

   C. Reconnect the sensor leads and supply power to the control.

   D. Replace the cover.

   E. Check the control settings for proper values.

   F. Press MENU until ASd appears and set the delay to 0, press menu to save the setting.

   G. Press MENU until ON appears. Press MENU and then use the up and down arrows to change the setpoint temperature above and below the sensor temperature until the relay energizes and de-energizes.

   H. If the output relay does not perform as indicated, replace the control.

   I. If proper operation of the control is verified, reconnect the load.