Multiplex Beverage Equipment Installation Instructions for
Electronic Ice Bank Control Retro-fit Kit
P.N. 00217273 (120 VAC) and P.N. 00219504 (220 VAC)

Manitowoc Beverage Equipment is making a change to the ice bank controls used in Multiplex Soda Factory and Super Chill units.

The previous control board for these units was part number:

00219264    CTRL ELECT ICE BANK 120V
00219265    CTRL ELECT ICE BANK 230V

The new control board for these units will be part number:

020001413    CRTL ELEC ICE BANK 120V (077F1409)
020001414    CTRL ELEC ICE BANK 230V (077F1410)

The temperature probe (part number 00219266) for the boards will remain the same. This probe is not voltage specific (as the boards are) and will work with the old or new board.

Power wire positions change in addition to the change in part numbers. The previous version had (reading left to right) Line (1) – Compressor (3) – Neutral (5). The new version board has (reading left to right) Compressor (3) – Line (1) – Neutral (5). The left and middle terminals have reversed.

DO NOT CONNECT A NEW BOARD WITHOUT FIRST VERIFIYING WIRING AND VOLTAGE. YOU MAY DESTROY THE NEW BOARD IF CONNECTED INCORRECTLY.
Before installing

Make sure the Electronic Ice Bank Control (EIBC) is the proper voltage for the equipment; either 120 VAC (P.N. 020001413) Control Circuit or 220 VAC (P.N. 020001414) Control Circuit.

Removing the old ice bank control(s)

1. Turn “off” all power to the unit being serviced.
2. Remove the existing Ice Bank Control(s) (some models have two controls). Save two (2) of the screws used for attachment. You will have to remove the sensor bulb(s) along with the control.
3. Cut tie wraps and save the plastic bracket from evaporator that the sensor bulb(s) attached to.
4. Record the hole positions where bulb was attached, new probe should be attached to same hole positions. The new electronic control is more reliable than two mechanical controls. Only one Ice Bank Control is needed.
5. Remove the wires from the existing control(s) terminals, only two (2) existing wires will be needed. Discard the rest.
6. The two (2) wires needed are one from the compressor high pressure switch (typically BRN-X), and one (1) from the Contactor Coil or Compressor (typically 6-5, 2-5) (refer to Schematic Diagram of old Ice Bank Control).

Note: The Electronic Ice Bank Control (EIBC) must match the contactor coil voltage (either 120 VAC or 230 VAC) on the equipment retro-fit. If no contactor/relay, new Electronic Ice Bank Control (EIBC) MUST be same voltage as Compressor. Also note one (1) Electronic Ice Bank Control (EIBC) replaces two (2) mechanical controls, if exists.

7. One (1) new wire (Blue) supplied (3-9) will be used to complete power to new Electronic Ice Bank Control (to Neutral or Phase B). It will go to a terminal buss with the blue phase or white (N) wires. Refer to Schematic Diagram included in these instructions.

How to install the new ice bank control

1. If exists, remove Secondary Ice Bank Warning Light. Plug the hole with supplied part.
2. Install new Electronic Ice Bank Control in place of the existing mechanical control(s). Pick two (2) holes that existed for the old mechanical control(s) that line up with new holes on bracket of electronic control. Attach with two (2) existing screws.
3. Install the new Electronic Ice Bank Control Sensor Probe onto the existing plastic bracket for evaporator in same holes as marked above (refer to figure 1).
4. Secure Ice Bank Control Sensor Probe with three (3) new tie wraps (or maximum allowable by the plastic bracket). Use at least two (2) new tie wraps.

Note: Make sure probe top extends above water line when installed.

5. Install plastic bracket and sensor probe onto evaporator in front right 1/3 of evaporator, between the 1st and 2nd coils from top (refer to figure 1).

Note: Do not install the new Electronic Ice Bank Control and Bracket lower than between 1st and 2nd coil. The old mechanical bulb and bracket were installed lower on evaporator coil.

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![Diagram](image_url)
Caution: To Avoid Serious Injury

*Important:* Read the following warnings before beginning an installation. Failure to do so may result in possible death or serious injury.

**DO** Adhere to all National and Local Plumbing and Electrical Safety Codes.

**DO** Turn “off” incoming electrical service switches when servicing, installing, or repairing equipment.

**DO** Check that all flare fittings on the carbonation tank(s) are tight. This check should be performed with a wrench to ensure a quality seal.

**DO** Inspect pressure on Regulators before starting up equipment.

**DO** Protect eyes when working around refrigerants.

**DO** Use caution when handling metal surface edges of all equipment.

**DO** Handle CO₂ cylinders and gauges with care. Secure cylinders properly against abrasion.

**DO** Store CO₂ cylinder(s) in well ventilated areas.

**DO NOT** Throw or drop a CO₂ cylinder. Secure the cylinder(s) in an upright position with a chain.

**DO NOT** Connect the CO₂ cylinder(s) directly to the product container. Doing so will result in an explosion causing possible death or injury. Best to connect the CO₂ cylinder(s) to a regulator(s).

**DO NOT** Store CO₂ cylinders in temperature above 125°F (51.7°C) near furnaces, radiator or sources of heat.

**DO NOT** Release CO₂ gas from old cylinder.

**DO NOT** Touch Refrigeration lines inside units, some may exceed temperatures of 200°F (93.3°C).

*Notice:* Water pipe connections and fixtures directly connected to a potable water supply shall be sized, installed and maintained in accordance with Federal, State, and Local codes.

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**WARNING: DANGER OF ELECTRICAL SHOCK**

Disconnect and lock out all electrical power sources before performing service or maintenance on this machine -- except when electrical tests are being performed by qualified service personnel.
6. Route the new sensor probe wire harness to the new control. Attach as shown in figure 2.

7. Attach existing wire from refrigeration High Pressure Switch (typically BRN-X) to Terminal 1 (L) of new Electronic Ice Bank Control (as shown in figure 2).

8. Attach existing wire (typically 6-5, 2-5) from contactor coil or compressor directly to Terminal 3 (C).

9. Attach new wire 3-9 to Terminal 5 (N) and Common (or Phase B) power terminal (as shown in Schematic Diagram).

Completing the installation

1. Verify again the wiring for new Electronic Ice Bank Control matches Schematic Diagram.

2. Turn “on” all power to the unit, and test that compressor comes on. New control has these built-in delays:
   - Power On-Delay ................. 25-35 seconds
   - Compressor Delay ............... 299 seconds (5 minimum)
   - Short Cycle Delay ............... 120 seconds (2 minimum)

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Schematic Diagram

Note:
- 120 VAC Control (P.N. 020001413)
  - Terminal 1 - 120 VAC, 60 Hz
  - Terminal 5 - Neutral

- 220 VAC Control (P.N. 020001414)
  - Terminal 1 - 208-240 VAC, 50/60 Hz
  - Terminal 5 - Neutral or Phase B

Note: Verify voltage label on contactor is same voltag as label on new Electronic Ice Bank Control (EIBC); e.g.: 120 VAC contactor = 120 VAC Control and 230 VAC Contactor = 230 VAC Control.

Note: If no contactor/relay, new Electronic Ice Bank Control (EIBC) MUST be the same voltage as Compressor.