



**INSTALLATION & SERVICE
INSTRUCTIONS
FOR**

MBC MULTI-DECK

GONDOLA INSERT



First Call for help (US and Canada):

1-800-922-1919

Soporte Técnico y Asistencia (México):

01-800-522-1900

**For a Service Network Locator and other
Information visit us at**

**www.husmann.com
select Worldwide Locations**

**P/N OII – MBC
January 2006**

SETTING MBC TEMPERATURE CONTROL

- 1. Hold down top button until R-1 appears**
- 2. Go to R-5, push both buttons, set to F, push both again**
- 3. Go to D=3, push both buttons, set to 6, push both again**
- 4. Go to D-4, push both buttons, set to 30, push both again**
- 5. Go to R-1, push both buttons, set to 8, push both again**
- 6. Go to R-2, push both buttons, set to 45, push both again**
- 7. Go to R-3, push both buttons, set to 30, push both again**

Wait for actual temperature to appear. Push both buttons and set to 32.0. Push both again. Push both a third time and let flash until it stops flashing.

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MODEL DESCRIPTION –

This instruction manual covers the merchandisers listed below. All models are available in 36" or 48" lengths.

MBC – Self-Contained Self Service Beverage Case

MBCR – Remote Self Service Beverage Case – Remote case requires a separate condenser unit connection.

APPLICATION -

The MBCR and MBC refrigerated merchandisers are designed for use only in air conditioned stores where temperature and humidity are maintained at or below 75°F dry bulb temperature and 55% relative humidity.

These Beverage Cases are intended for the storage and display of non -potentially hazardous, bottled or canned products only.

INSPECTION UPON RECEIPT –

All equipment should be thoroughly examined for shipping damage before and during unloading. This equipment has been carefully inspected at our factory and the carrier has assumed responsibility for safe arrival.

If damage, either apparent or concealed, is found a claim must be submitted to the carrier.

Apparent Loss or Damage – If there is obvious loss or damage, it must be noted on the freight bill or express receipt and signed by the carrier's agent; otherwise, the carrier may refuse the claim. The carrier will supply necessary forms.

Concealed Loss or Damage – When loss or damaged is not apparent until after equipment is uncrated, a claim for concealed damage is made.

Upon discovering damage, make a request in writing to the carrier for inspection within 15 days and retain all packing. The carrier will supply the inspection report and required claim forms.

SHIPPING –

Move the fixture as close as possible to its permanent location and then remove all crating. Check for damage before discarding packing. Remove all separately packed accessories such as kits and shelves.

LEVELING –

Merchandisers must be installed level to ensure proper operation of the refrigerant system and to ensure proper drainage of defrost water.

Levelers are shipped with the case and should be installed in the same holes that the skid bolts were installed in.

Place pry-bar under metal base and lift. **DO NOT LIFT END PANEL.** Turn leveler, with wrench clockwise to raise, and counter clockwise to lower. Repeat process with other levelers until case is level.

NOTE: To avoid removing concrete flooring, begin lineup leveling from the highest point of the store.

LOCATION –

Like other open merchandisers, these are sensitive to air disturbances. Air currents passing around merchandisers will seriously impair their operation. Do NOT allow air conditioning, electric fans, open doors or windows, etc. to create air currents around the merchandisers.

REAR CLOSE-OFF PANEL –

To perform electrical and refrigeration work, remove the rear closure panel by removing the sheet metal screws. Replace when work is complete.

NOTE: Self Contained Models - Do not block the vent openings on the rear closure panel. These allow intake and exhaust air for the condensing unit. Vents only appear on self-contained models.

CONDENSATE REMOVAL – Self Contained

On the self contained merchandisers the waste outlet is centrally located and accessible from the rear of the case.

The condensate water from the evaporator drains out through the bottom of the evaporator compartment into the condensing unit area into a heated condensate pan.

The pan has a float that activates the heater when sufficient water is in the pan.

INSTALLING DRAIN PIPING – Remotes

Poorly or improperly installed drip pipes can seriously interfere with the merchandisers' operation and result in costly maintenance and product losses. Please follow the recommendations listed here when installing drip pipes to ensure proper installation.

1. Never use drip piping smaller than the nominal diameter of the pipe or water seal supplies with the merchandiser.
2. When connecting drip piping, the “water seal” must be used as part of the drip piping to prevent air leakage or insect entrance. Never use two water seals in series in any one drip pipe. Double water seals in series will cause an air lock and prevent draining.
3. Pitch the drip piping in the direction of flow. There should be a minimum pitch of 1/8” per foot
4. Avoid long runs of drip piping. Long runs make it impossible to provide the pitch necessary for good drainage.
5. Provide a suitable air break between flood rim of the floor drain and outlet of drip pipe.
6. Prevent drip pipes from freezing:
 - a. Do not install drip pipes in contact with insulated suction lines. Suction lines should be insulated with a nonabsorbent insulation material.
 - b. When drip pipes are located in dead air spaces, such as between merchandisers or between a merchandiser and a store wall, provide means to prevent freezing.

EXTERIOR LOADING –

Do NOT walk on top of merchandiser or damage to the merchandiser and serious personal injury could occur. They are not structurally designed to support excessive external loading such as the weight of a person.

INTERIOR LOADING –

In order to maximize product life, maintain a constant and proper product temperature from the time the product is received through storage, preparation and display.

Products should not be placed in merchandisers until all refrigeration controls have been adjusted and merchandisers are at proper operating temperature. Again, air discharge and return air flue MUST be unobstructed at all times to provide proper refrigeration.

CARE and CLEANING –

Long life and satisfactory performance of any equipment is dependent upon the care it receives. To ensure long life, proper sanitation and minimum maintenance costs, merchandisers should be thoroughly cleaned, all debris removed and the interiors washed down, weekly.

Exterior Surfaces –

The exterior surfaces must be cleaned with a mild detergent and warm water to protect and maintain their attractive finish. NEVER use abrasive cleansers or scouring pads.

CAUTION – Shut power off during cleaning.

DO NOT USE –

- Mineral oil based solutions, as these will dissolve the butyl sealants used in the constructions of the merchandisers.

- Abrasive cleansers and scouring pads, as these will mar the finish.

DO –

- Remove the product and all loose debris to avoid clogging the waste outlet.
- Thoroughly clean all surfaces with soap and hot water. Do NOT use steam or high water pressure hoses to wash the interior. These will destroy the merchandisers' sealing causing leaks and poor performance.
- Rinse with hot water but do NOT flood. Never introduce water faster than the waste outlet can remove it.

NOTE – Self-contained Models

The evaporator pan must be monitored for overflow conditions. Provide drainage if necessary. After cleaning and rinsing, purge the pan of any standing water.

- Care should be taken to minimize direct contact between fan motors and cleaning or rinse water.
- Allow the merchandisers to dry before resuming operation.

At the back of this booklet there is a supplement for sealing and cleaning of this unit. Please read for further instructions.

ELECTRICAL –

- **Self-Contained Model Installation** – Merchandisers need only to be connected to a 120V / 60 hz electrical supply., and are supplied with a 20 amp cord.
- **Post Construction Clean-up** – After the first two weeks of a major store remodel or new store operation, the grill should be removed and the condensing unit and condenser face cleaned due to the accumulated dirt and debris generated during construction.
- **Remote Model Installation – Connections** – All wiring must be in compliance with NEC and local codes. Electrical connections for refrigerated models are made in the electrical box on the back of the case behind the rear close-off panel.
- **Field Wiring** – Field wiring must be sized for components amperes stamped on the serial plate. Actual ampere draw may be less than specified. Always check the serial plate.

Model	Evap Fan Amps	Light Amps	Condensate Pan Amps	Condensing Unit Amps		Minimum Circuit Amps		Fuse Amps
Refrigerant (*)					R-22 R-404A	R-22	R-404A	
MBC24-3661/74	0.38	0.15	5.0	10	9.2	16	14	20
MBC24-3684	0.38	0.35	5.0	10	9.2	16	14	20
MBC243661R/74R	0.38	0.15	N/A	N/A	N/A	15	15	15
MBC243684R	0.38	0.35	N/A	N/A	N/A	15	15	15
MBC24-4861/74	0.57	0.20	5.0	10	10.1	16	16	20
MBC24-4884	0.57	0.44	5.0	10	10.1	16	16	20
MBC244861R/74R	0.57	0.20	N/A	N/A	N/A	15	15	15
MBC244884R	0.57	0.44	N/A	N/A	N/A	15	15	15

Check Serial Plate for Refrigerant type and amount used. Self-Contained cases were changed from R-22 to R-404a starting September, 2001.

REFRIGERATION –

Expansion Valve Adjustment

Expansion valves must be adjusted to fully feed the evaporator. To achieve the proper setting, the merchandiser must first have been in operation long enough to have reached the approximate intended operating temperature. Air flow should not be restricted by heavy frost formation on the evaporator. Adjust valves as follows:

Attach two sensing probes (either thermocouple or thermistor) to the evaporator. One under the clamp holding the expansion valve bulb and the other securely taped to the evaporator inlet line as close to the coil as practical.

Some “hunting” of the expansion valve is normal. The valve should be adjusted so that during the hunting the greatest difference between the two probes is 3°-5°F for remote merchandisers. With this adjustment, during a portion of the hunting the temperature difference between the probes will be less than 3°F (at times as low as 0°F). Make adjustments of no more than one-half turn of the valve stem at a time and wait for at least 15 minutes before rechecking the probe temperature and making further adjustments.

Self-contained merchandiser should be adjusted using the same technique with a temperature difference of 6° to 8°F.

REFRIGERANT –

The correct type of refrigerant will be stamped on each merchandiser’s serial plate located inside the merchandiser.

Refrigerant Piping – (Remote Cases)

Connection Sizes	Liquid Line	1/4” OD
	Suction Line	3/8” OD

The refrigerant line connections are behind the rear close-off panel, underneath the drain tub, on the left hand end of the merchandiser as viewed from the rear.

After connections have been made, seal this outlet thoroughly. Seal both inside and outside. We recommend using an aerosol dispensed urethane type of insulation.

Multiplexing -

Piping of remoted merchandisers operating on the same refrigeration system may be run from merchandiser to merchandiser through the end frame saddles provided for this purpose

DO NOT RUN REFRIGERANT LINES THROUGH MERCHANDISERS THAT ARE NOT ON THE SAME REFRIGERANT SYSTEM - as this may result in poor refrigeration control and compressor failure.

Line Sizing –

Refrigerant line should be sized as shown on the refrigeration legend that is furnished for the store (not furnished by Hussmann). If a legend has not been furnished, refer to Hussmann Application Engineering Manual for guidance.

Oil Traps –

P-Traps (oil traps) must be installed at the base of all suction line vertical risers.

Pressure Drop–

Pressure drop can rob the system of capacity. To keep the pressure drop to a minimum, keep the refrigerant line run as short as possible using a minimum number of elbows. Where elbows are required, use long radius elbows only.

Insulation–

The suction and liquid lines should be clamped or taped together and insulated for a minimum of 30' from the merchandiser. Additional insulation is recommended wherever condensation drippage is objectionable.

CONTROLS and ADJUSTMENTS –

The object of the controls and settings listed in this section is to maximize product shelf life.

TEMPERATURE CONTROLS –

Discharge Air Temperature F	32
Evaporator Temperature F	20
Refrigerant Controls	
Thermostat Cut-out F	32
Defrost Controls	
Frequency (Qty per day)	4
Length of defrost (min)	30

ELECTRONIC CONTROLLERS –

On page 13 at the end of this booklet.

The control is factory set and should not need Field adjustment. If they do, use the Quick Guide on the next page for reference.

SHELVING -

The MBC models come equipped with shelves. They are adjustable on one inch increments. When loading the shelves with product, they should be loaded so that the product does not extend over the front edge of the shelf. Product loaded over the edge will interfere with air circulation in the cabinet. It is also desirable to leave a small space between the rear interior wall and the product on the shelves to allow air to enter the cabinet interior through the perforations in the rear wall.

The shelves are rated for 130 pounds each load capacity. When installing the shelves, first install the shelf support bracket at the desired height. Place the rear of the bracket in the desired slot. Raise the front of the bracket towards the rear of the cabinet. Once the ends are in the slot, rotate the bracket forward locking it in place. Place the shelf on the bracket. Load the product. The shelves are not to be slanted. They must remain in a horizontal position.

QUICK GUIDE REFERENCE – At the end of the booklet on page 14

Controller application setting parameters

Settings and read-off parameters	Parameter Codes
Temperature controller, Temperature	
Thermostat	
Differential	r01
Max. limitation of set temperature	r02
Min. limitation of set temperature	r03
Adjustment of temperature indication	r04
Temperature unit (°C/°F)	r05
Defrost	
Interval between defrost starts	d03
Max. defrost duration	d04
Temperature alarm delay after defrost	d11
Delay of display view after defrost stop	d12

Fault code display	
Fault in controller	E1
Disconnected case sensor	E2
Short-circuited case sensor	E3

WARRANTY AND PARTS INFORMATION

IMPORTANT – Please read carefully to assure prompt and accurate service.

ORDERING PARTS REPLACEMENT –

Contact your nearest Hussmann Distributor.

Always specify model and serial number of cabinet.

If correct part number is not know, give a clear description of part itself and its function in the cabinet or remote unit.

Same as first three items in Ordering Replacement Parts Procedure.

Give original installation date of cabinet and, if possible, forward a copy of the original invoice or delivery receipt.

All shipments of in-warranty replacement parts will be invoiced from the factory until such time as the defective part is returned and proved to be defective by our Quality Control Department.

Contact your Hussmann Distributor for instructions on returning in-warranty parts.

Warranty parts must be returned to the factory within 30 days of date of failure to assure proper disposition.

Lack of any of the above information may result in the shipment of the wrong part, or a delay in shipment.

COMPRESSOR REPLACEMENT PROCEDURE –

Replacement compressors will not be shipped from the Hussmann factory. They may be obtained from you nearest Copeland Wholesaler.

Your wholesaler will replace, free of charge, any compressor found to be defective within twelve months of installation, not to exceed twenty months from the date of manufacture – as determined by the compressor serial number on the compressor serial plate.

For any defective compressor beyond the twelve or twenty month time period, a salvage value credit will be given too partially offset the invoice for the replacement.

**To obtain reimbursement forward to: Hussmann Corporation
140 East State Street
Gloversville, NY
12078**

the following information:

The cabinet model and serial number

A copy of the wholesaler's invoice.

EKC 201 Controllers -

EKC 201: For panel mounting

Identification See Fig. 1

1. Light emitting diode



= refrigeration



= defrost



= fan running

2. Minus sign

3. Display (Flashes when setting value for case temp. is displayed).

4. Keys for programming and setting (see setting the EKC 201 Controller).

The control is factory set and should not need Field adjustment. If they do, use the Quick Guide on the next page for reference.

UP KEEP – SERVICE – MAINTENANCE SEALING AND CLEANING

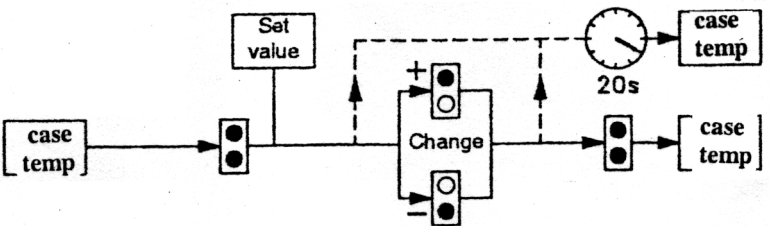
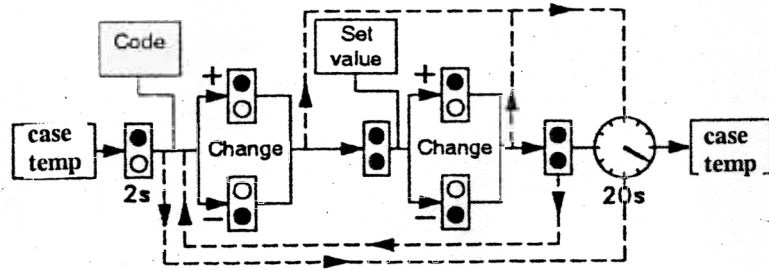
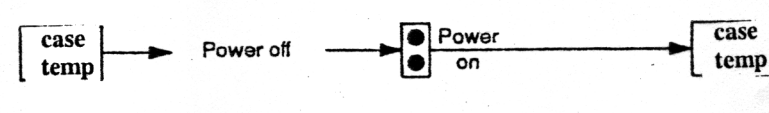
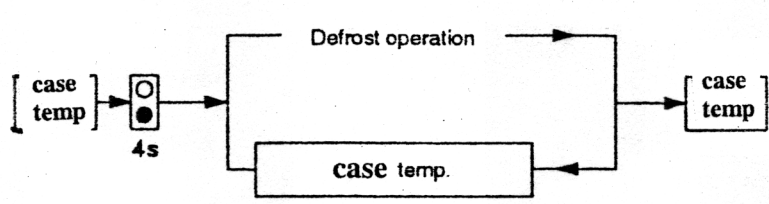
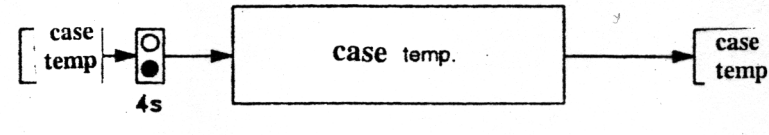
To insure good sanitation, appearance, and minimum maintenance, these models should be thoroughly cleaned and washed on a regular schedule.

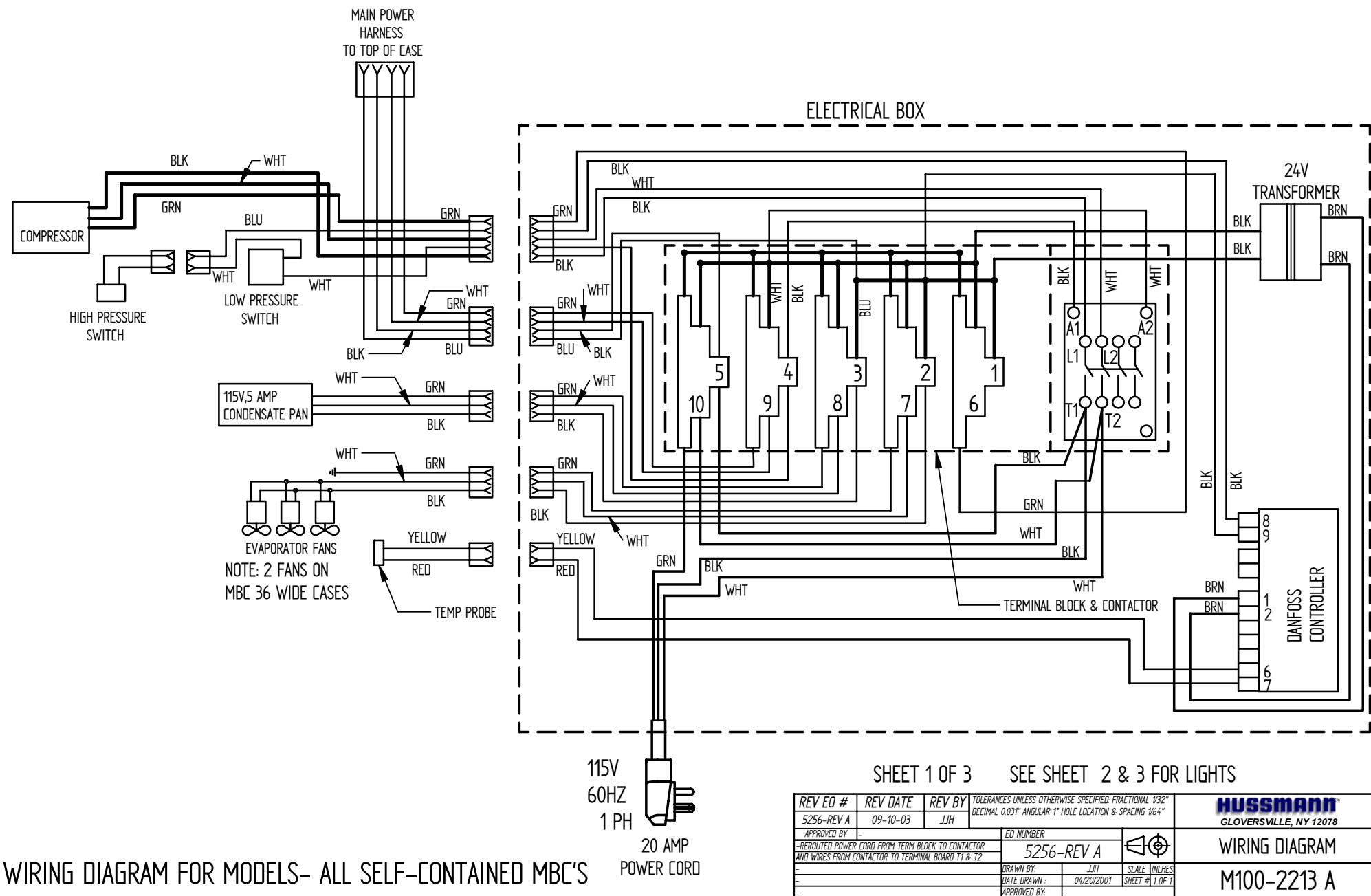
Various components of the case interior can be cleaned by the following instructions, which normally should be done on a monthly basis:

CAUTION: Power should always be disconnected from the case prior to any regular cleaning.

- ✓ **Bottom Decking Shelving** – May be removed from the upright posts and washed down with water and a mild soap.
- ✓ **Back panels and side walls** – May be wiped down with a damp sponge, using water and mild soap.
- ✓ **Case bottom below decking** – Normally, a damp sponge or cloth should be sufficient to wipe down any small residues. Large spillage may require the bottom of the case to be “hosed down”. On self contained cases, make sure the amount of water introduced does not overflow the condensate pan. On remoted cases (no condensate pans), make sure water is not introduced any faster than the drainage system can remove.
- ✓ **Thermometers** – Access for the sensing bulbs of the thermometers can be obtained by removing the screws holding the thermometer in place and pulling sensing bulb out of its holding bracket. Make sure sensing bulb is reinstalled in the reverse fashion to insure proper monitoring of the case temperature.

Quick Guide

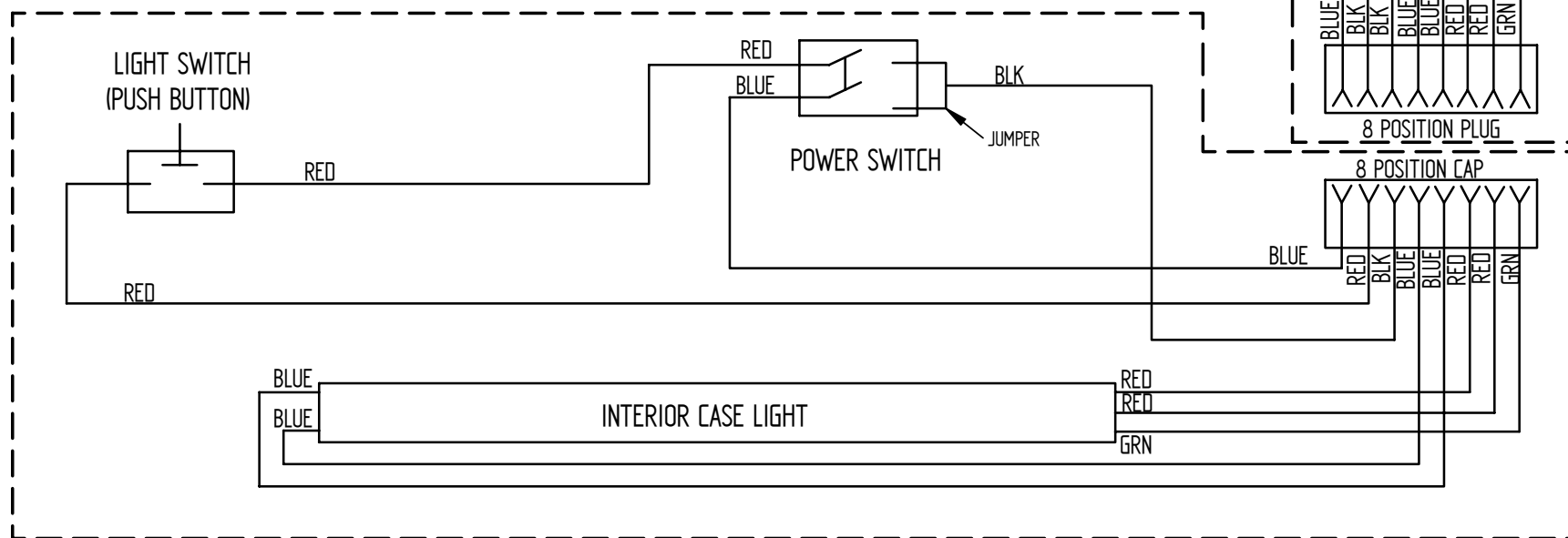
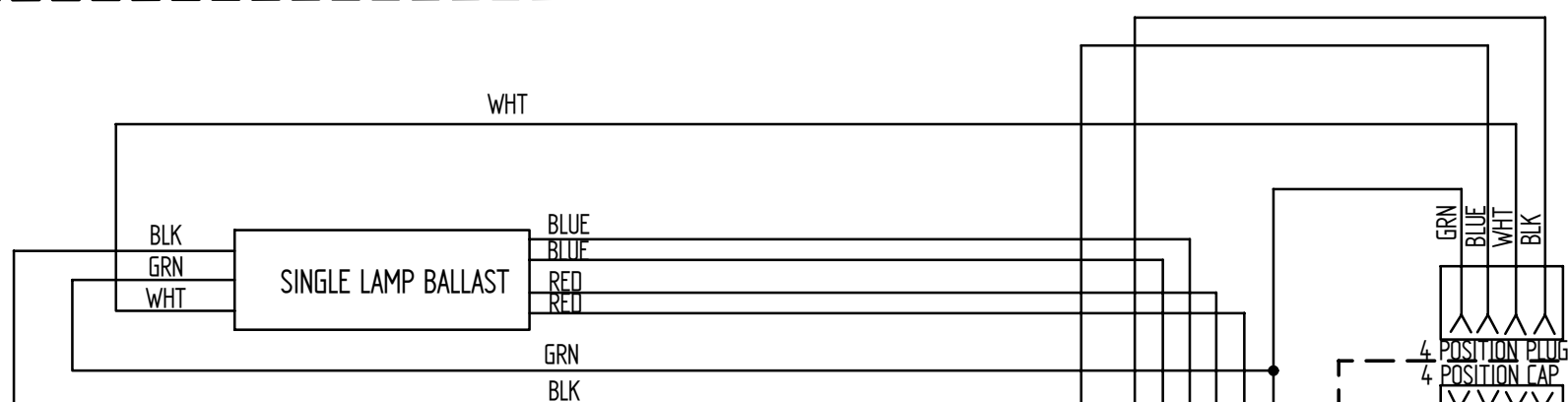
What to do	Initial controller setup	<p>Operating the two pushbuttons</p> <div data-bbox="883 412 993 479" style="border: 1px solid black; padding: 2px; display: inline-block;">Display readout</div> <p>What the controller does automatically</p>	Resulting controller setup
<i>Read or change case temp. setting</i>	<p>Normal operation</p> <p>case temp. 1</p>	 <p style="text-align: right;">DANFOSS A84B1885.10</p>	<p>Normal operation</p> <p>case temp. 2</p>
<i>Read or change parameter codes and settings</i>	<p>Normal operation (or alarm)</p> <p>Unknown codes and settings</p>	 <p style="text-align: right;">DANFOSS A84B1886.10</p>	<p>Normal operation (or alarm)</p> <p>Known codes and settings</p>
<i>Re-establish all factory settings</i>	<p>Unknown settings</p>	 <p style="text-align: right;">DANFOSS A84B1887.10</p>	<p>All parameter settings = factory settings</p>
<i>Manually start of a defrost operation</i>	<p>Normal operation</p>	 <p style="text-align: right;">DANFOSS A84B1889.11</p>	<p>Normal operation</p>
<i>Manually stop of a defrost operation</i>	<p>Defrost operation</p>	 <p style="text-align: right;">DANFOSS A84B1890.11</p>	<p>Normal operation</p>



REV ED #	REV DATE	REV BY	TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONAL 1/32" DECIMAL 0.031" ANGULAR 1" HOLE LOCATION & SPACING 1/64"	HUSMANN® GLOVERSVILLE, NY 12078
5256-REV A	09-10-03	JJH		
APPROVED BY:			ED NUMBER	
			5256-REV A	
			DRAWN BY: JJH	
			DATE DRAWN: 04/20/2001	
			APPROVED BY:	
			SCALE: INCHES SHEET # 1 OF 1	
				WIRING DIAGRAM
				M100-2213 A

UPPER WIRE BALLAST RACEWAY (1 LAMP BALLAST)

(SEE SHEET 3 FOR OPTIONAL TOP SIGN LIGHT)



POWER HARNESS
FROM ELEC BOX

INNER LIGHT FIXTURE ASSY

WIRING DIAGRAM FOR MODELS-MBC-24 X 36 X 61 & 74
MBC-24 X 48 X 61 & 74

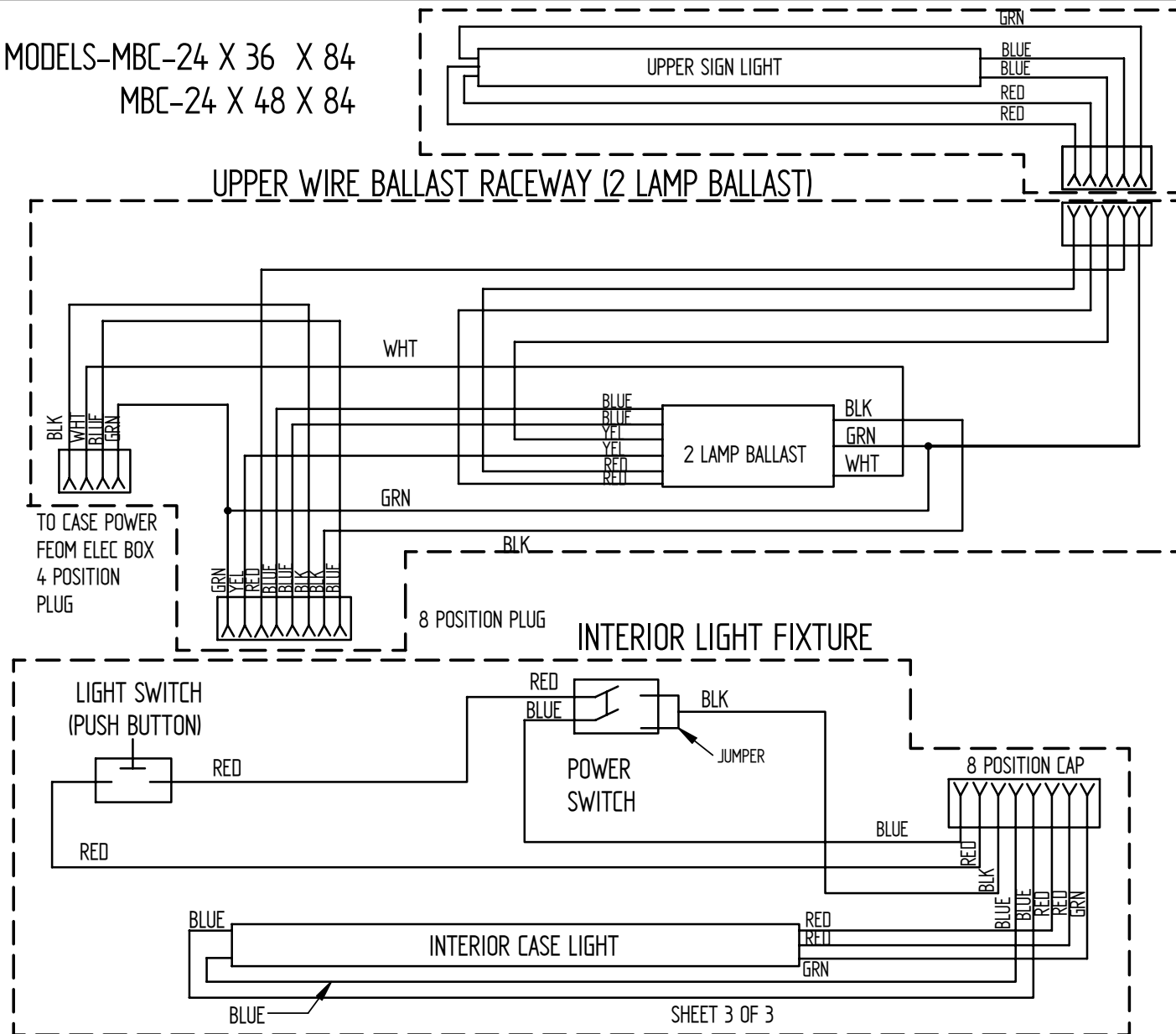
SHEET 2 OF 3

REV E.O. #	REV DATE	REV BY	TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONAL 1/32" DECIMAL 0.031" ANGULAR 1° HOLE LOCATION & SPACING 1/64"	HUSMANN® GLOVERSVILLE, NY 12078
5256-REV A	09-10-03	JJH		
APPROVED BY:			ED NUMBER	
			5256-REV A	
RE-ROUTED POWER CORD FROM TERM BLOCK TO CONTACTOR AND WIRES FROM CONTACTOR TO TERMINAL BOARD T1 & T2			SCALE INCHES	
			DATE DRAWN: 04/20/2001	
			APPROVED BY:	
			SHEET # 1 OF 1	

WIRING DIAGRAM

M100-2213 A

WIRING DIAGRAM FOR MODELS-MBC-24 X 36 X 84 MBC-24 X 48 X 84



SHEET 3 OF 3

REV	ED #	REV DATE	REV BY	TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONAL 1/32"
5256-REV A		09-10-03	JJH	DECIMAL 0.031" ANGULAR 1" HOLE LOCATION & SPACING 1/64"
APPROVED BY:				ED NUMBER
-REROUTED POWER CORD FROM TERM BLOCK TO CONTACTOR AND WIRES FROM CONTACTOR TO TERMINAL BOARD T1 & T2				5256-REV A
DRAWN BY:				SCALE INCHES
DATE DRAWN:				04/20/2001 SHEET # 1 OF 1
APPROVED BY:				

HUSSMANN
GLOVERSVILLE, NY 12078

WIRING DIAGRAM

M100-2213 A