HUSSMANN®

Kit P/N 3014447_A

December 2016

OPTIONAL

ANTI-CONDENSATE HEATER CONTROLLER

FOR REACH-IN GLASS DOORS

MANUAL- KIT INSTALLATION CONDENSATE HEATER

Spanish 3014926
French 3014927

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REVISION A

1. Original Issue

IMPORTANT
KEEP IN STORE FOR FUTURE REFERENCE
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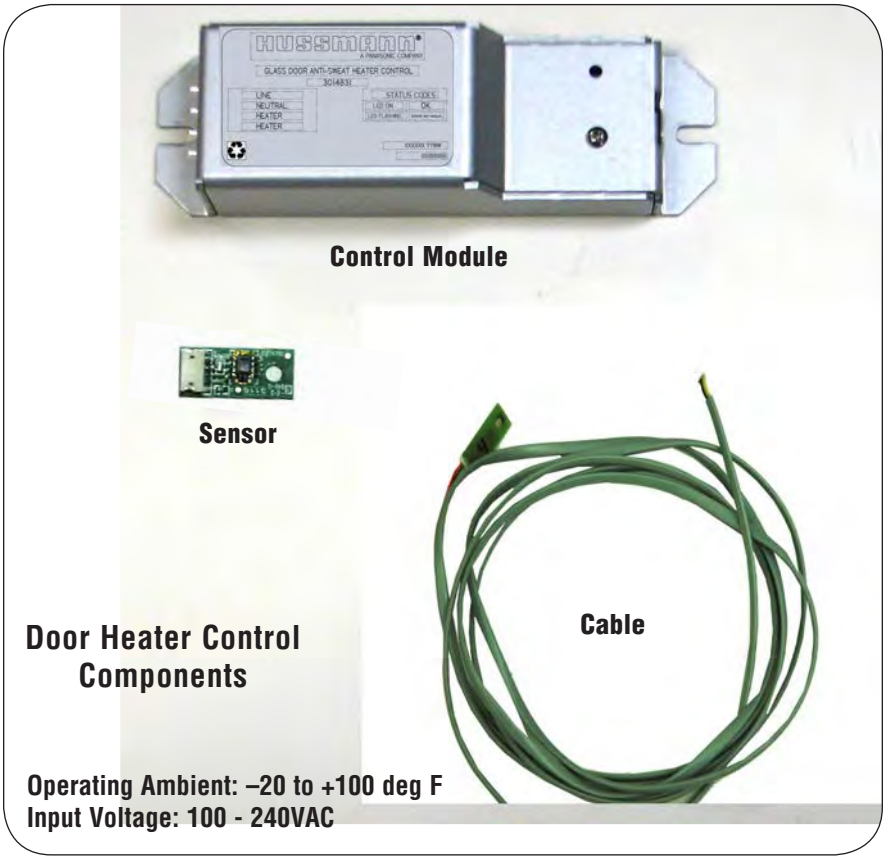
GENERAL INFORMATION

This control is designed for conservation of energy by reducing power consumption of glass door frame assemblies. This is achieved by controlling the average power applied to the door glass anti-condensate heaters. Power to the heaters is cycled in proportion to the sensed dew point relative to the surface temperature of the door glass. Required heat load is anticipated thus ensuring no condensation forms on the door.



The control consists of three components: a control module located in the raceway, a combination temperature and percent relative humidity sensor mounted in the door mullion and an interconnecting cable. All three components are factory installed in the frame assembly. Unlike other similar control systems, sensor placement is not a concern of the installer. Exact location and position of the sensor required for optimal performance is achieved at the factory. As this device is integral to the frame assembly, there is no esthetic impact to the shopper.

The glass anti-condensate heaters are under the control of a microprocessor in the control module. The processor continuously monitors the environment surrounding the glass surface and adjusts the % of on time to the heaters accordingly. This eliminates the need for operator adjustment and guarantees maximum energy savings at all possible room ambient conditions. The control algorithm detects product loading as well as peak shopping and adjusts applied heat to optimize clearing time.

The control switches a maximum load of 5 amps. This allows the control to be applied to one to five door frame assemblies. Each frame assembly will be equipped with its own control/sensor.

1. Initial power up (BOOT sequence)
 a. Initialization of Controller Inputs & Outputs
 b. Illumination of green LED indicator (ON)
 c. Output remains ON for 10 seconds during BOOT sequence
 d. Regular SSR operation will pulse width modulate (PWM) according to the value specified in the pre-calibrated RH & temperature table (10 second interval modulation)

2. Upon completion of BOOT sequence
 a. The LED indicator will remain ON unless an error occurs in the system
 b. The Controller will initialize the I2C communication Protocol with the sensor unit
 c. Read the present RH & Temperature value from the sensor unit and store in memory
 d. Set the solid state relay (SSR) output based on the most recent values stored in memory.

3. Normal Operation
 a. Read the present RH & Temperature value from the sensor unit and store in memory
 b. Evaluate last 4 readings for potential error modes
 c. Set the Solid State Relay (SSR) output per the look up table
 d. If an error occurs, activate the LED indication per the chart below
 e. Repeat normal operation every 10 seconds
 f. If readings are OK – the LED indicator will remain ON

4. Error mode description

Sr No	Type of Error	Error Description	LED Flash Sequence / Indication
1	Erratic Error	A sudden 20% deviation from last sensor reading for 8 minutes	3 times (OFF & ON) for a duration of **½ Second** (Fast blink). Wait for 2 minutes, 3 times (OFF & ON) Continues.
2	Static Error	Unchanged values for temperature and humidity for 20 consecutive cycles	2 times (OFF & ON) for a duration of **½ Second** (Fast blink). Wait for 2 Seconds, 2 Times (OFF & ON) Continues.
3	Communication Error	If RH and Temperature readings are out of range for each 10 second execution cycle	1 Time (OFF & ON) for a duration of **½ Second** (Fast blink). Wait for 2 Seconds, 1 Time OFF and ON Continues.

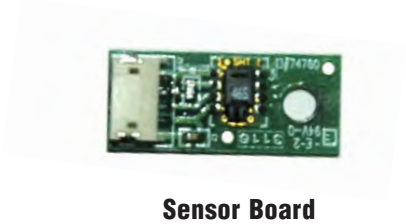
NOTE:
A flashing LED could indicate such conditions as a door stuck open or a sensor disconnect, etc. A flashing LED does not necessarily signify that there is a problem with the operation of the controller or sensor.

INSTALLATION

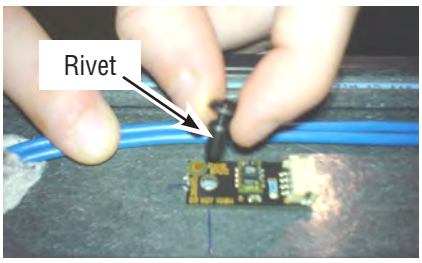
1. Remove the mullion cover between the pair of doors where the sensor is to be located.

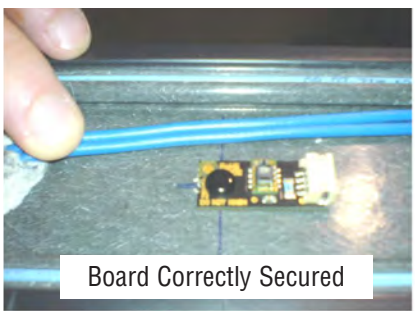
Sensor Board

2. The sensor board has a hole in one end. A plastic rivet holds the sensor board securely. The sensor is located 7” from the top of the wire-way, on the mullion to the left of the right door, and should line up with the hole in the wireway cover. Drill a .140” to .145” hole for the plastic rivet



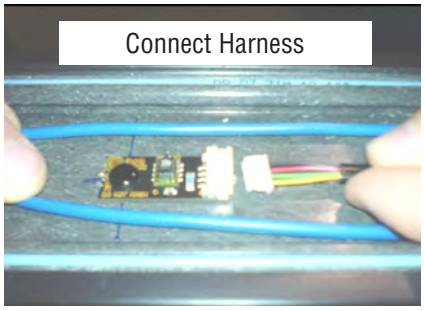
Sensor Board



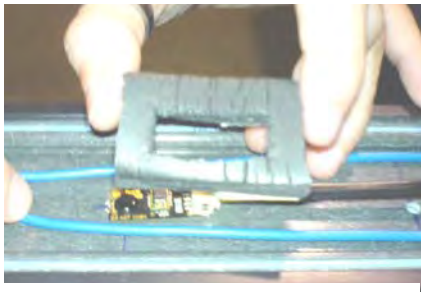


Harness

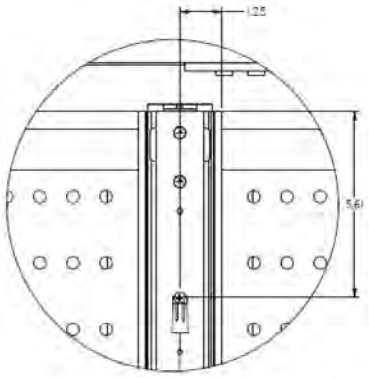
3. The harness has connectors at each end. Push one end of the harness onto the sensor board.



4. Position the sensor board gasket around the board and over the harness as shown. Route lamp wiring around the gasket.

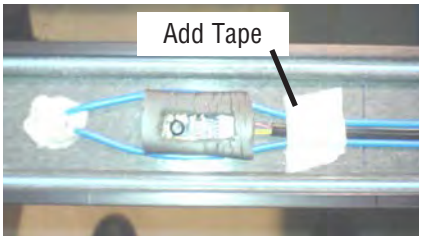


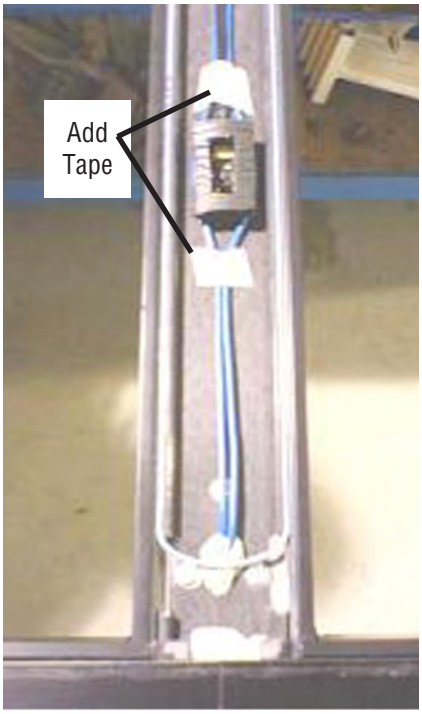
Place Gasket



Sensor Location

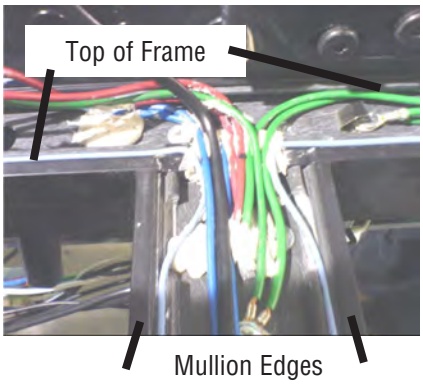
5. Important: Verify the sensor board perimeter is completely sealed. Use electrical tape to hold wiring in position at the center of the mullion. This will avoid damage when replacing the cover.



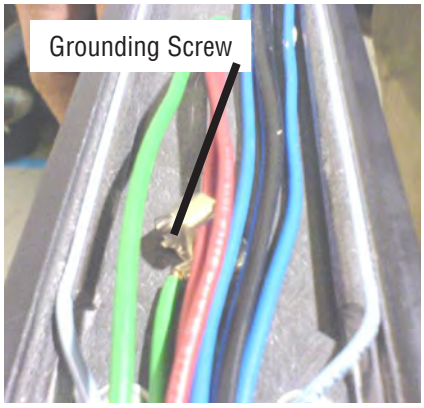


RLTM and RLNS and walk-in cooler doors route wire to top of raceway. For RL and RLN route wire to bottom of raceway.

6. Route harness wiring up in the mullion to top of frame and then within the top of frame to the wireway.



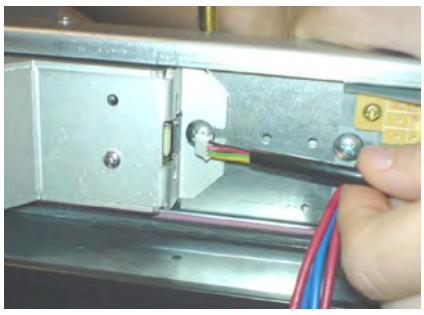
Important: Arrange all wiring carefully to prevent damage when replacing the cover. Avoid the grounding screw. Use electrical tape or tie-wraps as necessary to control wiring. Do not force wiring.



Control Board

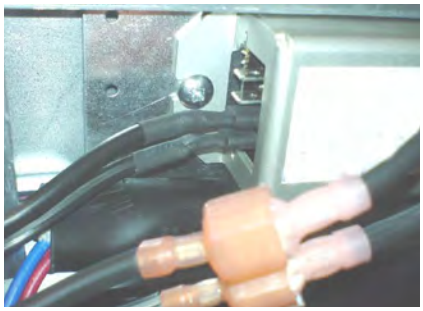
7. The control box is mounted to the ballast tray with #8 x 3/8 sheetmetal screws.

8. Connect the sensor harness to the control box as shown.



Door Heater Harness

9. Connect the insulated male connectors of the door heater harness to the sensor control box. Pins are marked on the outside of the control box.



Power Connection

10. Connect the insulated male connectors for line power and neutral to the sensor control box. Pins are marked on the outside of the control box.

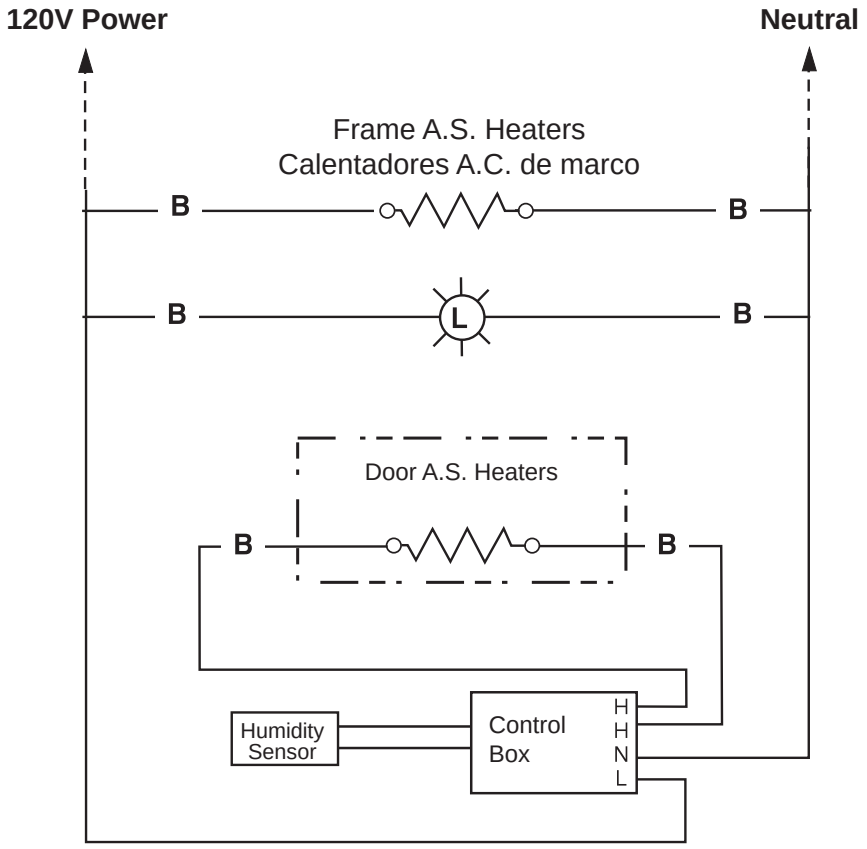
Finish

11. Check that all wiring is secure within the mullion and frame, then replace cover.

12. Restore power.

13. Verify controller is cycling the anti-sweat door heaters.

Controller will update the PWM output to the doors every 10 seconds. Each update is based on present ambient conditions.



Wiring Diagram for Controller

Sequence of Operation:

The DASH Controller cycles the door heat based on the ambient temperature and relative humidity, and the case operating temperature. At normal store conditions, the doors will cycle between 40% and 70%. The percent on time will be greater at higher relative humidity and lower case temperature, and will be less at lower humidity and higher case temperature.

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To obtain warranty information or other support, contact your Hussmann representative. Please include the model and serial number of the product.

Hussmann Corporation, Corporate Headquarters: Bridgeton, Missouri, U.S.A. 63044-2483 01 October 2012