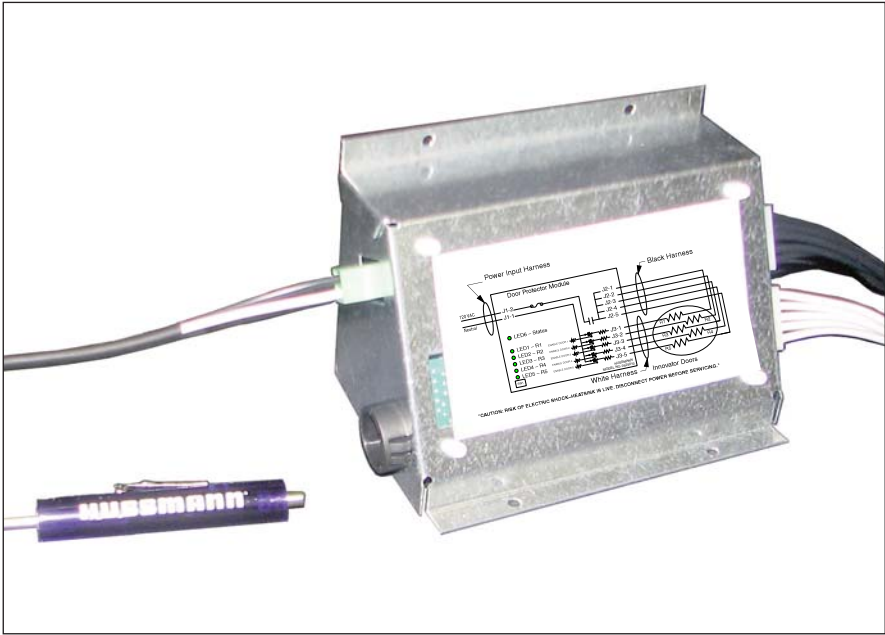


HUSSMANN®

IDP

INNOVATOR DOOR PROTECTOR



P/N 0525414_B
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PURPOSE

The Innovator Door Protector (IDP) is a field installed option that reduces the likelihood of an Innovator door’s glass anti-sweat heater becoming too warm in a high humidity environment.

The IDP is programmed to control one low temperature reach-in merchandiser equipped with 1 to 5 Innovator I doors.

The IDP cannot be applied to Innovator II or Innovator III doors. It cannot be used with 240VAC systems or with a Heated Glass Power Supply (wave chopper) or with any other anti-sweat controller systems.

Figure 1 shows the IDP enclosure. Note the indicator lights on the left.

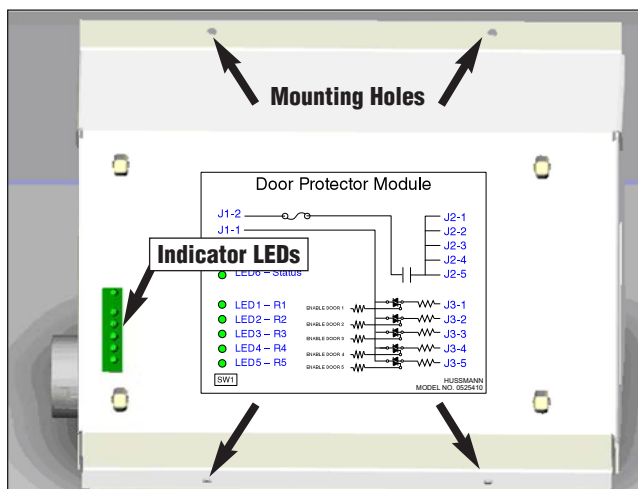


Figure 1 — Door Protector in Sheet Metal Enclosure

! WARNING
Product will be degraded and may spoil if allowed to sit in a non-refrigerated area.

! WARNING

— LOCK OUT / TAG OUT —

To avoid serious injury or death from electrical shock, always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as doors, lights, fans, heaters, and thermostats.

INSTALLATION

1. Shut off power to merchandiser or line-up.
2. To access the raceway, remove the bumper, then remove the #8 hex head screws that hold the front painted panel.
3. **Disconnect any currently installed anti-sweat controllers prior to installation of IDP.**
4. Determine a location for the IDP which will vary depending on optional equipment already installed. Allow space to connect door harness on right side and power on left side. Refer to Figure 1.
5. Attach IDP enclosure to raceway with #8x1/2 hex head SM screws furnished.
6. Disconnect the existing wiring harness between the terminal block and the doors.

Connect the IDP door harness (black) to the IDP per the wiring diagram, Figure 2.

Connect the IDP door harness (black) conductor #1 to the existing hot lead of door harness #1 as shown in the wiring diagram, Figure 2. Connect the remaining IDP door harness (black) conductors to their corresponding hot lead of the door harness per the wiring diagram, Figure 2. For convenience, individual conductors are tagged 1 through 5 to match the J2 connections. Match pairs when connecting IDP door harnesses, see Figure 3.

Connect the IDP door harness (white) to the IDP per the wiring diagram, Figure 2.

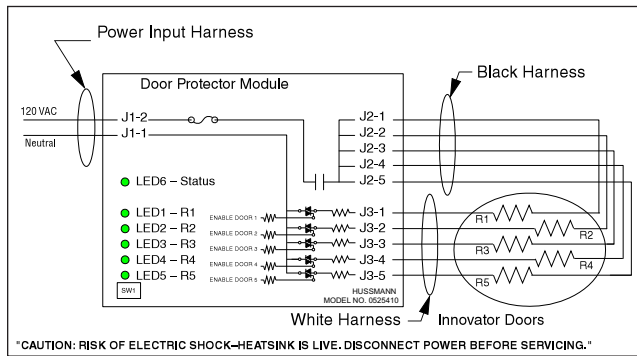


Figure 2 — Wiring Diagram

Connect the IDP door harness (white) conductor #1 to the existing neutral lead of door harness #1 as shown in the wiring diagram, Figure 2. Connect the remaining IDP door harness (white) conductors to their corresponding neutral lead of the door harness per the wiring diagram, Figure 2. For convenience, individual conductors are tagged 1 through 5 to match the J3 connections. Match pairs when connecting IDP door harnesses, see Figure 3.

Note that each harness is wired for five doors. It is not necessary to connect all five for the IDP to function. Simply contain extra wires.

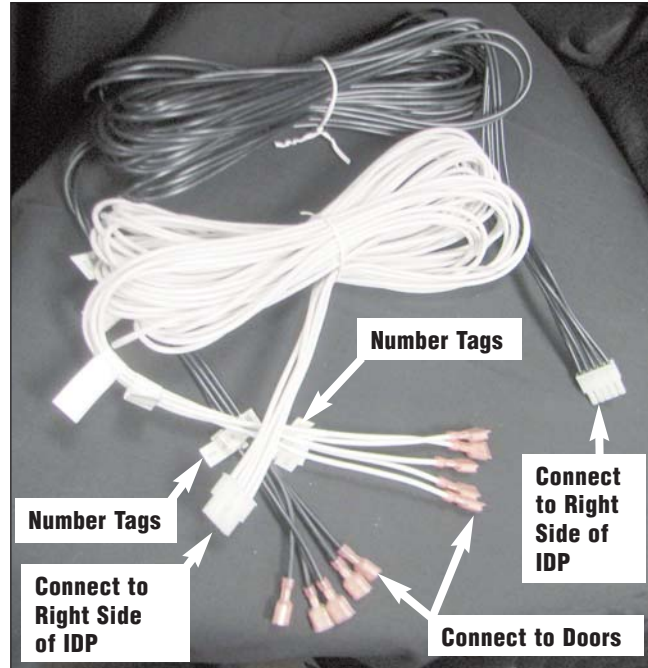


Figure 3 — Connecting Door Harness

7. Connect power supply wire shown in Figure 4 to left side of IDP and to the Door A/S Power Supply Harness, hot to hot, neutral to neutral. Reference Figure 2.

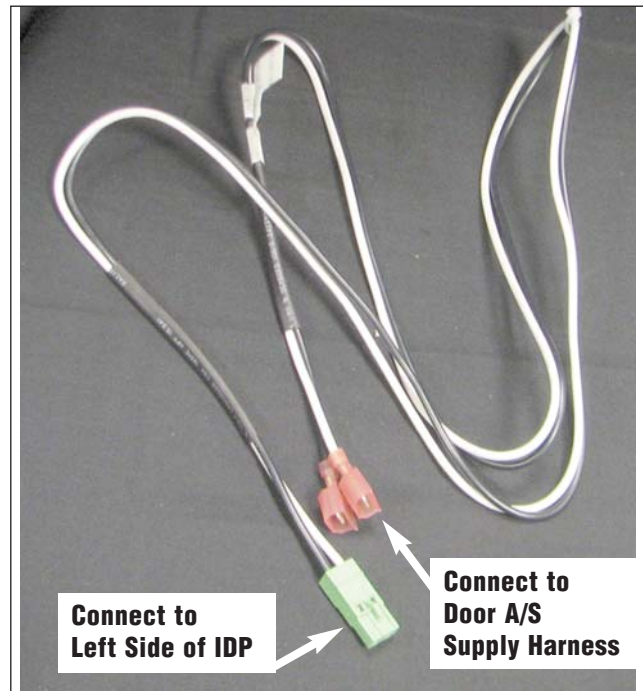


Figure 4 — Connecting Power Harness

8. Restore power to merchandiser or line-up
9. Calibrate the IDP as specified in the next section.
10. Once calibration is successful and the IDP is in normal run mode, replace front painted panel and bumper. Take care that no wires or connections are damaged.

For reference, Figure 5 shows an example of a service screwdriver with magnetic tip.



Figure 5 — Service Screwdriver with Magnet

Note: Only a magnetic south pole will activate the calibration switch. Use the screwdriver provided.

CALIBRATION PROCEDURE

1. Apply power to the module.
 - The module will have the heaters off.
 - The Status LED (LED6) will be off.
 - All or some of the door LEDs (LED1–5) will be on.

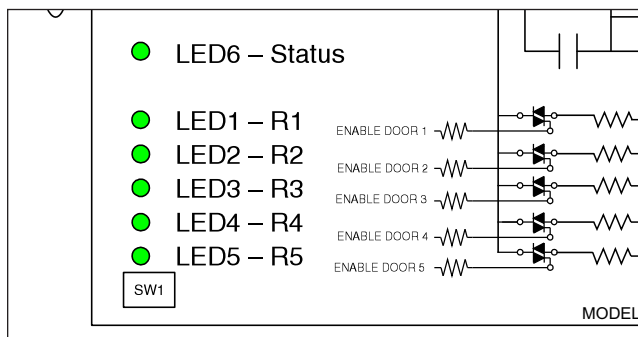


Figure 6 — Status LEDs

2. Activate the calibration magnetic switch (SW1) by inserting the magnetic end of the screwdriver into the hole plug on the left side of the module as shown in Figure 7.
 - The heaters will turn on.
 - Door LEDs will blink for approximately three seconds during calibration.

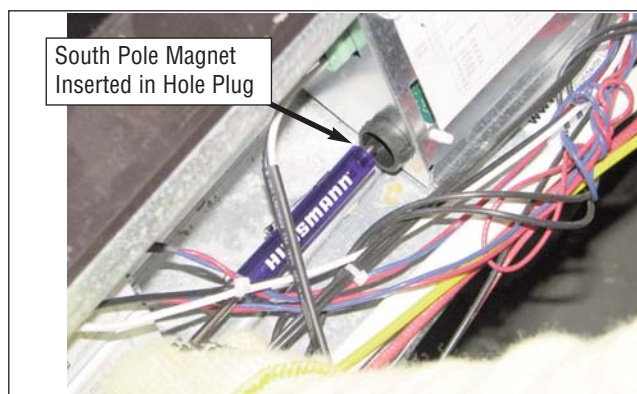


Figure 7 — Initiating Calibration Procedure

3. If calibration is successful,
 - The heaters will remain on.
 - The door LEDs will turn off for inputs that have doors connected to them. Resistances of the doors will be saved to nonvolatile memory.
 - Inputs with no doors will cause their LEDs to blink quickly.
 - The status indicator will blink at 5 Hz.
 - If power is cycled, the module will power up, power on the heaters, and return to its previous state.

4. If calibration fails,

- Power is removed from the failed heaters. Power will not be re-applied to the failed heaters until the next calibration procedure even if power is cycled.
- Faulted door inputs are indicated on the door LEDs.
- Status LED is on solid.
- Causes for previously faulted inputs or for inputs that previously had no door and now have a door.
 - ~ Door resistance is less than 117 Ohm
 - ~ Door resistance is greater than 195 Ohm but the current is greater than $0.2A_{\text{peak}}$ (resistance less than approximately 849 Ohm). In this case, the door has a high resistance, but it is not high enough to be considered an open door input.
 - ~ All 5 doors have less than $0.2A_{\text{peak}}$. In this case, there are no doors connected to the module.

Notes

- Up to 4 doors may be omitted from the 5 inputs on the door protector.
- Previous calibration data will be overwritten for door inputs that have faulted or whose resistance has dropped since the last calibration.
- Power needs to be cycled to the door protector to allow a calibration after a fault.

NORMAL RUN MODE

- The heaters will be on; all heaters are controlled individually.
- The door LEDs will be off for inputs that have doors connected to them.
- Door inputs that have no doors will be indicated with a *flashing* LED.
- The status indicator will blink at 5 Hz.
- If a failed door is detected, the failed door's heater will be turned off. The heaters will remain on for all good doors.
- If power is cycled to the door protector, the module will return to normal run mode even if a failed door is detected.
- Conditions that will cause a fault
 - ~ Door resistance has changed by +41% or -25% from the resistance measured during calibration and the current is greater than $0.2A_{\text{peak}}$.
 - ~ A door input that was calibrated without a door measures current greater than $0.2A_{\text{peak}}$.
- A door input that changes from acceptable resistance based on calibration data to open circuit ($<0.2A_{\text{peak}}$) in less than 4 seconds, will automatically re-calibrate as an open circuit.
- Faults are indicated on the door LEDs, and these doors need to be replaced. Calibration data for these doors will be replaced on the next calibration cycle.

REPLACING UNFAULTED DOORS

Note: Calibration data needs to be rewritten for doors that are replaced without causing a fault on the door protector.

- Remove the power from the door protector.
- Remove black wire harness from IDP.
- Turn on power to the door protector.
~ A fault will be generated on this door after four seconds.
- Remove power from the door protector.
- Replace the door and reattach black wire harness to IDP.
- Perform a calibration procedure to write new calibration data on the door.

DOCUMENT REVISION HISTORY:

Revision A, June 2012, Original Issue.

Revision B, July 2012, correction on page 4.



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