

Glass Sentry II Description and Installation

Product Description:

Glass Sentry II is an electronic energy-savings invention designed to smartly control the operation of glass door and frame heaters for walk-in coolers/freezers. Programming within the microcontroller of the Glass Sentry II efficiently runs the heater circuit enough to keep condensation from occurring on the door frame and glass without wasting additional energy. An optimized algorithm based on humidity of ambient air efficiently controls the door and frame heaters, only allowing run time when the air is humid enough to require heat. Glass Sentry II can pay for itself within months of installation based upon current costs for electricity. Its compact size and design for easy installation translates into minimum up-front costs and head-aches.

Glass Sentry II is available in two versions, one for coolers (medium temp.) and one for freezers (low temp.). A pot adjustment on the side of the unit is factory preset for maximum energy efficiency. However, this adjustment can be turned clockwise to increase the heater run times for rare times when extra heater run time is needed. Referring to Figure 1 below, the adjustment can be rotated clockwise to increase the run time on the heater circuit.

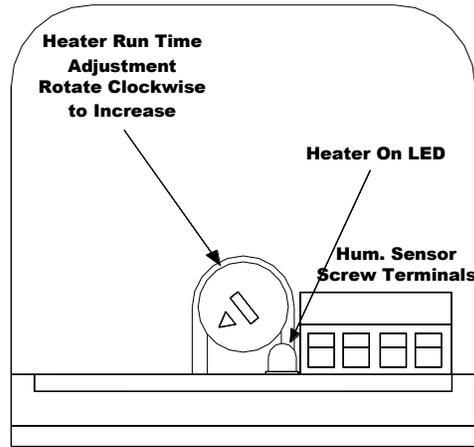


Figure 1 – End View of Glass Sentry II Showing the Heater Run Time Adjustment

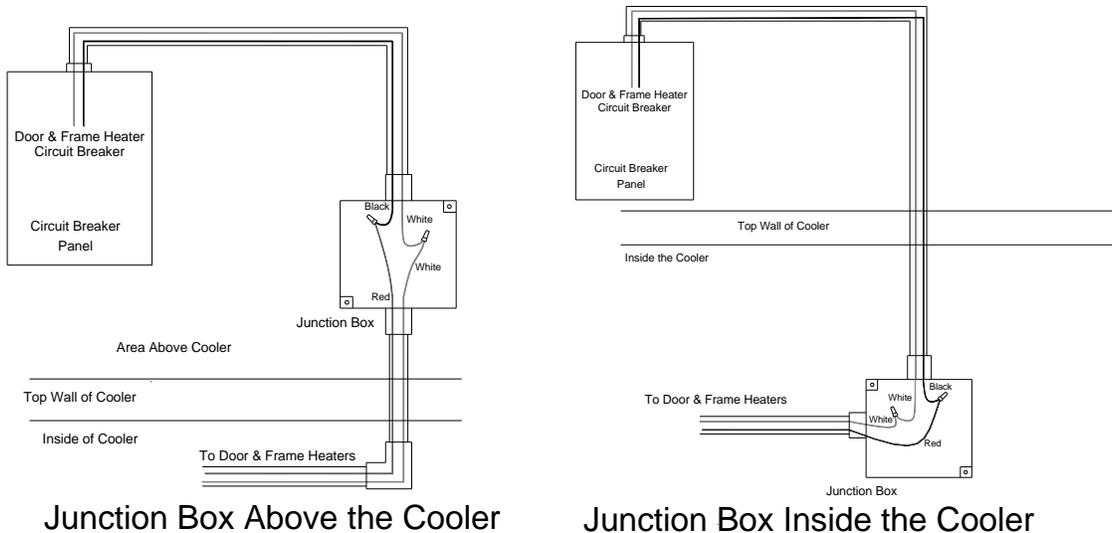
Operating ambient temperature	-40°C to 60°C
Shipping and storage temperature	-40°C to 60°C
Control type	Electronically Operated Control
Software Class	A
Overvoltage category	III
Pollution degree	2
Rated impulse voltage	2500 V
Maximum phase to ground voltage of the supply source	150 Vac
Protection against electric shock class	Class II (Intended for mounting internal to equipment)
Environmental	Panel Mount Only for installation internal to end product equipment
Classification of installation and use	Independently Mounted Panel Mount
Supply Connection	External Conductors
Operating Frequency	Continuous

Installation Instructions:

Tools Required- Drill with an 7/64" drill bit and a 1/4" diameter drill bit at least 6" in length, #2 Phillips screw driver, 3/32" standard blade screw driver, infra-red thermometer, amp meter.

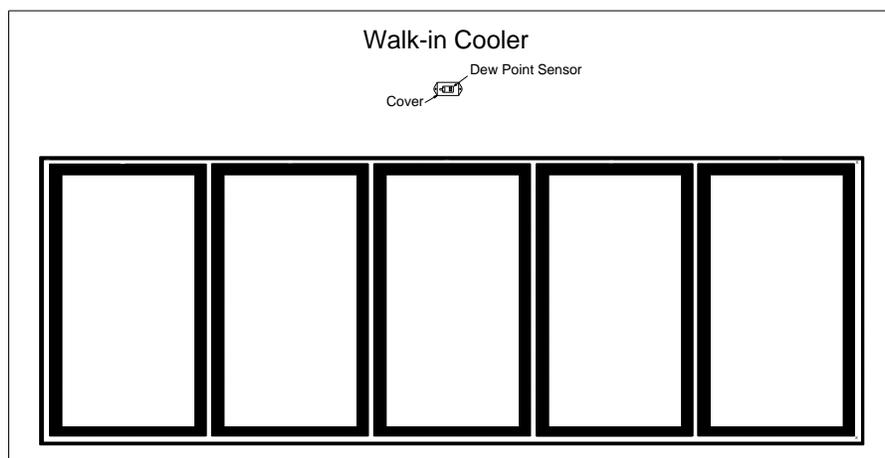
Parts Provided with Glass Sentry- Five #6x1/2" self-tapping screws and bread ties.

1. Find the circuit breaker in the electrical panel feeding power to the door and frame heater circuit, and open the circuit breaker connected to that circuit. Locate the junction box mounted inside or above the cooler that connects the circuit breaker wires (black and white) to the door and frame heater wires (red and white), and mount Glass Sentry II in a convenient location within 16" of the box using three zinc-plated #6x1/2" self-tapping screws (provided with the unit). Refer to the diagram below.



2. Following the wiring diagram above, connect Glass Sentry II so that white wire is tapped into the Neutral junction of the breaker panel and heater circuit. The Black wire should connect to the line power from the breaker panel, and then the Red wire connects to the line side of the heater circuit (Red Wire) as shown on the next page. Make sure all connections are firm and secure.

3. Locate a spot above the center of the door frame, on the wall, to mount the Glass Sentry II's Dew Point sensor. Drill a 1/4" diameter hole through the wall, next to the mounting spot, above or below the cooler, depending upon where the Glass Sentry II is mounted. Run the loose end of the Dew Point sensor cable through the hole until all of the loose cable is on the other side of the wall. Clean the surface of the wall where the sensor is to be mounted, peel the paper from the back of the sensor, and stick to the wall. Secure the walk-in Dew Point sensor housing using two black self-tapping screws supplied with the unit. Refer to the illustration below.



4. Run the humidity sensor cable back to the unit and connect the four wires (Green, Yellow, Black, Red) correspondingly to the screw terminals labeled "G Y B R" on Glass Sentry. Use the bread ties supplied with the Glass Sentry II to secure the cable, if needed.
5. Apply power to the circuit by closing the circuit breaker and insure that the Heater LED on Glass Sentry II is lit and the heater circuit is running. Using an amp meter, measure the current going to the heater circuit to determine the amp draw and whether or not the heater is running. Follow the troubleshooting steps below if the LED is not lit or the heater circuit is not running, or if the heater circuit never shuts off.

Troubleshooting

If the Heater LED is not lit and the heater circuit does not energize:

Check the voltage to ensure that it is between 95 to 128 VAC. If there is no AC voltage present, check the fuse or circuit breaker feeding the heater circuit. In the event that the fuse or breaker is blown, recheck your wiring and insure that the heater circuit does not exceed 30 amps.

Make sure that the sensor is properly placed based on the sensor placement diagram

Replace the Glass Sentry if no other issues are found.

If the Heater LED is lit but the heater circuit is not running:

Check the wiring to make sure that it is correct and that all connections are tight and secure.

If the Heater LED is lit and the heater circuit never turns off:

Check the wiring to make sure that it is correct and ensure that the heater circuit is not drawing more than 30 amps.

If the humidity is above 70%, the heater circuit may not shut off until the humidity level drops.

Make sure that the sensor is properly placed based on the sensor placement diagram

Replace the Glass Sentry if no other issues have been found.

If the Heater LED is off but the heater circuit is still running:

Check the wiring to make sure that it is correct and ensure that the heater circuit is not drawing more than 30 amps.

Replace the Glass Sentry if no other issues have been found.

If the heater circuit is not running enough and condensation begins to form on the glass:

Rotate the adjustment on the side of Glass Sentry clockwise, in small increments, until the issue is resolved. Refer to Figure 1.

Technical Support

For additional questions and support you may either direct your email to sales@GlassSentry.com, or you may call (888) 780-4827