

# CoolerMiser™

## CM150 / CM151 Installation Instructions

CoolerMiser™ is designed to operate as an intelligent power controller for refrigerated coolers. Note that CoolerMiser may not be used on any cooler which contains perishable products.

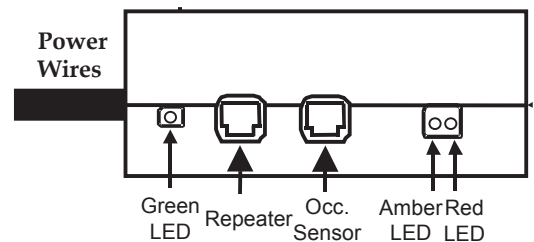
### General Theory of Operation

Using a Passive Infrared (PIR) occupancy sensor, CoolerMiser will automatically shut down the controlled cooler when the area around it has been vacant for 15 minutes. However, CoolerMiser will periodically re-power the machine automatically to ensure that the vended product stays cold. In addition, CoolerMiser contains a current sensor which determines if the cooler's compressor is operating and will delay power-down of the cooler until the compressor has completed its cooling cycle.

To install the CoolerMiser, follow these simple steps:

### Locating and Mounting the CoolerMiser

1. Unplug the cooler's power cord from the outlet. If it is necessary to move the machine, be careful as it can be heavy. Note-Each cooler should remain on the same outlet/circuit breaker at the end of installation.
2. Identify a suitable mounting location for CoolerMiser, most likely on the wall behind the cooler. CoolerMiser must be located so that the machine's power cord can reach CoolerMiser, and CoolerMiser's power cord can reach the power outlet.
3. CoolerMiser should be oriented so that the operational lights are viewable by maintenance personnel.
4. Using screws appropriate for the wall material, attach CoolerMiser's steel mounting bracket to the identified location with the UP arrow facing towards the ceiling. "Snap" the CoolerMiser DOWNWARDS onto the mounting bracket. (To remove CoolerMiser later, "Snap" the unit UPWARDS.)
5. Plug the cooler's power cord into the CoolerMiser. Do not yet plug the CoolerMiser into the wall outlet at this stage of the installation.



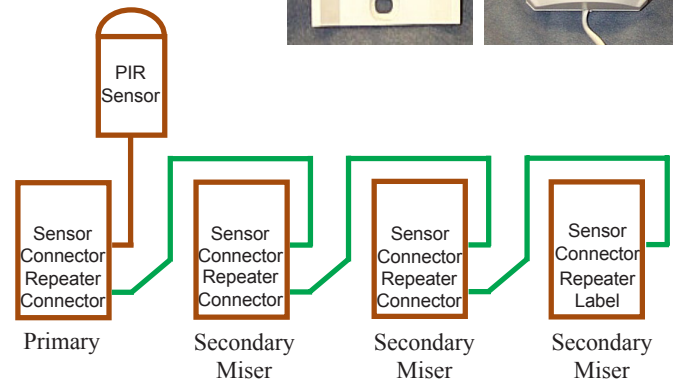
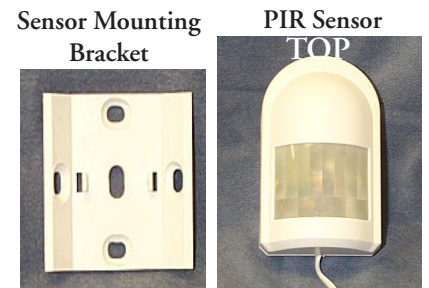
### Occupancy Sensor or Sensor Repeater Installation

6. If the controlled cooler is a single unit, or the first in a bank of machines, a PIR sensor must be installed, as described below, to create a Primary CoolerMiser. If this CoolerMiser is not the first bank unit, skip to Step 10 to install a Secondary CoolerMiser.
7. The PIR sensor must be located so it can "See" anyone approaching the cooler. Ideally, the sensor should be mounted on the wall behind the cooler, about two feet above the machine. Note the picture on reverse side of this document - ensure that the TOP of the sensor is facing the ceiling. If low ceiling height above the cooler does not allow wall mounting, mount on the ceiling in front of the cooler. This requires that the "TOP" of the sensor points towards the cooler to ensure proper operation. Always avoid sensor placement near air ducts which can falsely trigger the sensor.

# CoolerMiser™

## CM150 / CM151 Installation Instructions (cont'd.)

- To mount the sensor, use the supplied plastic mounting bracket shown on the right. Use appropriate fasteners to secure it to the selected surface. Then snap the sensor over the bracket. To remove the sensor at a later date, snap the sensor off the bracket by pulling the sensor straight out.
- The occupancy sensor cable has a telephone style connector at its end. Plug this connector into the center socket on the CoolerMiser. The sensor cable should be secured to the wall or ceiling by covering it with plastic low voltage wire raceway.
- If a Secondary CoolerMiser is being installed, use the supplied 3 Meter (10 feet) phone style cable to connect the OCCUPANCY SENSOR connector on this Secondary to the REPEATER connector on the Primary CoolerMiser. Additional Secondary CoolerMisers can be daisy-chained using the same techniques shown in the diagram to the right. A maximum of four Misers can be daisy-chained in this fashion. It is acceptable to mix CoolerMisers with SnackMisers, PlugMisers, and/or VendingMisers provided the sensor coverage is acceptable for all devices sharing the sensor.



## Power-Up Testing and Install Validation

Plug the CoolerMiser into the wall outlet. The following should occur:

- The cooler should power up immediately.
- The Green LED should flash twice to indicate that the temperature sensor is functional.
- The Amber LED should then come on as the CoolerMiser attempts to synchronize with the compressor's operation. This typically will require that the compressor cycle on and off.
- The Red LED should come on, indicating occupancy detection.

The PIR sensor must be allowed to stabilize for several minutes before its placement can be verified. Once the sensor is warmed up, it will flash at the slightest movement within its field of view. Validate that the sensor can "See" an occupant at, or approaching, the cooler. If necessary, relocate the sensor and repeat the coverage test. The Red LED on the CoolerMiser will mirror the state of the PIR sensor, with an additional 3 second delay. This verifies that CoolerMiser is communicating with the PIR sensor.

The CoolerMiser will not power-down the cooler the first time only after installation until the compressor has completed three cycles to allow the CoolerMiser to learn the compressor operation. Following this initial power-down, the CoolerMiser will operate with its standard 15 minute time-out for occupancy and two compressor cycles between energy savings mode operation.

**NOTE:** The CoolerMiser will flash all three LEDs simultaneously and light a RED LED in the PIR sensor if the cooler has failed and will not shut down its compressor after several hours of use. Since this prohibits the CoolerMiser from shutting down the machine, please call the machine owner service line for service.

