



# INFRA RED BROODERS



**Low Cost • Radiant Heat • Safe**

***Ideally suited for warming Pigs, Chicks, Lambs or Calves.***

## General Information

"HLC" series heat lamps are designed to provide a pleasant radiant heat that warms pigs, chicks, lambs or calves. Both series are designed for use with a maximum 250 watt brooder bulb and are compatible with energy efficient 175 watt Par 38 halogen bulbs (bulbs are not supplied).

All Canarm heat lamps have vented reflectors and a strong, easy to open wire guard. They also feature porcelain sockets with a plated copper screw shell for longer life & resistance to bulb damage. All units come with a heavy, grounded 3 wire cord set and are CSA approved specifically for use as a brooder in an agricultural environment.

The HLC-S model has an energy saving High/Low/Off switch, which lets producers adjust the heat output of the bulb, while reducing energy costs by 50%.



## HLC-P Features

- Strong vented steel reflector is white epoxy coated for improved corrosion resistance and longer life
- Heavy gauge plated wire guard
- 8 foot grounded cord
- Packaged in "master packs" of 10 units

## HLC & HLC-S Features

- Strong, triple corrosion protected steel cap and reflector
- Metal reflector and cap are pre-treated, zinc coated, then epoxy painted with a reflective silver colour to prevent corrosion and improve heating
- Reflector is designed deeper for improved bulb protection
- Strong, plated wire guard provides excellent bulb protection and is pinned to hinge open for easy bulb replacement
- Push button switch is conveniently located on the side of the unit and is totally sealed for long life
- HLC-S model comes with energy saving High/Low/Off switch
- 10 foot grounded cord
- Packaged in "master packs" of 10 units



Conveniently Located Sealed Switch



Model	Reflector Diameter	Reflector Depth	Quantity Master Pack	Voltage	High/Low/Off Switch	Cord Length	Maximum Bulb Capacity
HLC	11"	6"	10	115	No	10'	250 Watts
HLC-S	11"	6"	10	115	Yes	10'	250 Watts
HLC-P	10"	4"	10	115	No	8'	250 Watts

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# AUTOMATIC LAMP & MAT HEATING CONTROL

Lower Electrical Costs • Fewer Pre-Wean Losses • Longer Equipment Life • Reduced Labour Costs



## MicroZone

### University Study -

**Savings of \$20/yr for each brooder!**



University of Iowa study indicates not only are the livestock more comfortable and healthier but the savings amount to \$2600/yr for each 130 lamps based on \$0.06/kW. The average investment for 130 lamps at 175 watts each in one room is \$2700.

**Payback is less than one year** when you consider the electrical savings and these other important benefits:

- ✓ Improved growing environment in the critical first few weeks
- ✓ Increased bulb life
- ✓ Reduced lay-ons

### A Better Way to Control Heat Lamps & Mats

- 0 - 100% Variable Power Output
- Programmable Temperature Ramp
- Room Temperature Compensation





# AUTOMATIC LAMP & MAT HEATING CONTROL

## Overview

The MicroZone Controller is a fraction of the cost of more elaborate environmental systems. Yet no system, at any price, does a better job of managing supplemental heat and energy use.

MicroZone is compact, rugged and easy to use. A few simple settings are all that's required to automatically maintain the correct thermal environment for your farrowing and nursery operations.

## Automatic Operation

Each MicroZone Controller has its own temperature sensor to accurately monitor the piglets' environment. You set the temperature control band and the desired temperature drop per day (power ramp). The MicroZone Controller does the rest. The Power Modulators automatically regulate the power to the heaters from 0 to 100% to compensate for changes in room temperature and the growing animals' reduced need for supplemental heat.

The Controller readout lets you instantly check:

- % Power applied to heaters
- % Saving
- Measured Room Temperature
- Temperature control band settings

**By applying only the minimum needed power, animals are healthier, energy waste is reduced and equipment life extended.**

## Reduce Lost Profits from Pre-Weaned Pig Mortality & Wasted Electricity

**Every year, pre-weaned pig mortality costs U.S. hog producers \$197 million in lost profits.\***

Improper localized heating is a significant factor in these losses. Poorly regulated supplemental heat can make newborn pigs more susceptible to sickness and disease. High or low temperatures may also force piglets away from the safe area of the heat source and increase their risk of being crushed by the sow.

52% of pre-wean losses are due to crushing.

You know that newborn pigs require less supplemental heat with each passing day. The challenge is to accurately reduce power consumption while maintaining the correct temperature for the piglets.

**Manual adjustment** of heat lamp height is time consuming, does not reduce the amount of energy used, and can add heat stress to the sow.

**Conventional thermostats** turn heaters off at a preset limit, but do nothing to save energy at lower temperatures. They can also create conditions that are too hot or too cold.

**A manual rheostat** allows a gradual reduction of power and more consistent heat control, but requires daily manual adjustment and does not react to changes in room temperature.

*\* Source: 1996 survey by the U.S. National Animal Health Monitoring System*

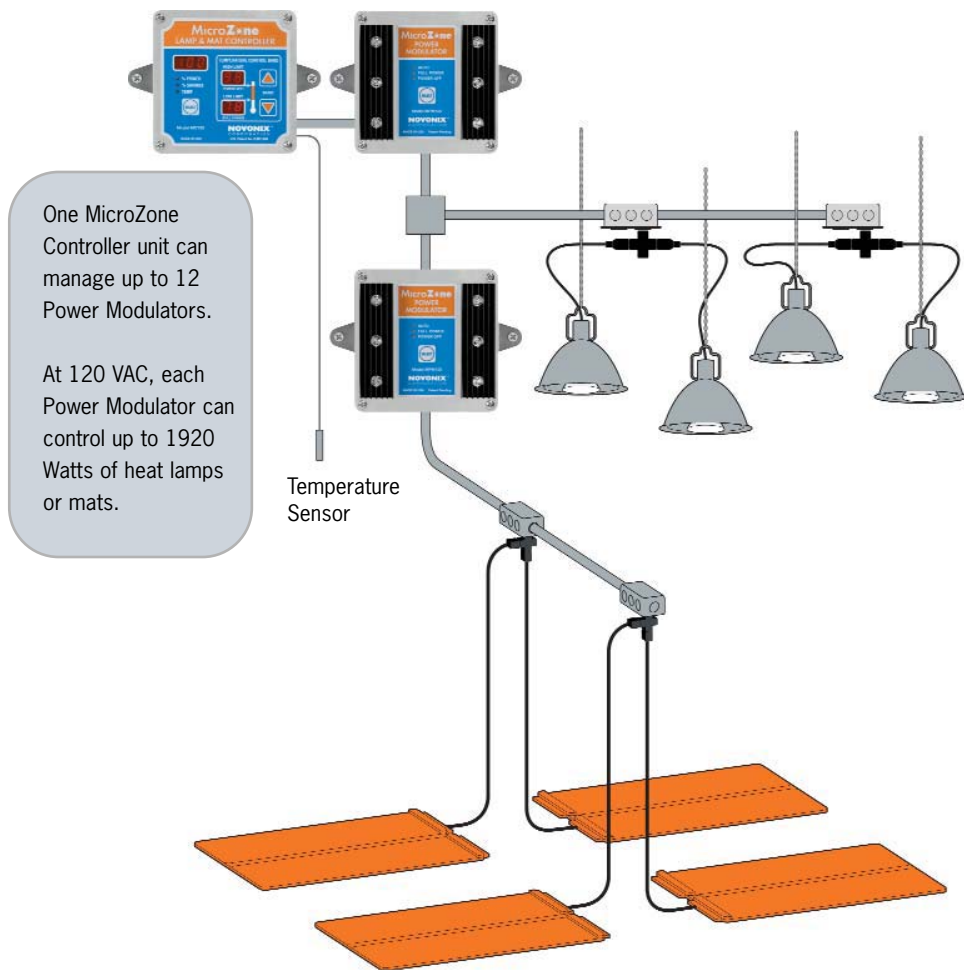
## Energy Savings

Growers are realizing a 22% energy savings by gradually reducing power to a 125-watt heat lamp from full power at birth to 70 watts at weaning. At 8¢ per kilowatt-hour, this translates into annual savings of up to \$7980 for a 480-crate farrowing operation. Comparable saving can also be achieved with heat mats.

### UNIVERSITY STUDY CONFIRMS POTENTIAL SAVINGS

An Iowa State Research study demonstrated that a significant reduction in energy consumption can be achieved by progressively reducing localized heat to growing piglets.

# AUTOMATIC LAMP & MAT HEATING CONTROL



## MicroZone Components

### MC100 Lamp & Mat Controller

This is the main control unit of the MicroZone System. The MicroZone monitors room temperature, and varies the power to the heat lamps or mats from 0 to 100% via the MicroZone Power Modulator. It also provides the programmable temperature ramp to adjust your power settings based on animal age. One MC100 can control up to twelve MPM100 power modulators.



### MPM100 Power Modulator

The MicroZone MPM100 regulates the power going to the heat lamps or heat mats in response to commands from the MC100 control module. One MPM100 will control all heating devices connected to a common 20 amp circuit.



### MPS100 Power Supply

The MPS100 supplies the operating voltage for the MC100 control module.



### Temperature Sensor TS3

This allows the MC100 Controller to accurately measure the room temperature of your animal's environment, resulting in optimized power levels for your heat lamps or mats.



## Features & Specifications

MicroZone	
Temperature Control	Automatically adjusts power to lamps or mats to compensate for fluctuations in room temperature.
Temperature Ramping	Automatically decreases temperature as pigs get older.
Soft Start	Slowly restores power after an outage to reduce peak demand on the power utility or a backup generator. Helps extend lamp light.
Internal Protection	The control is protected against transient voltage spikes, thermal overload and short circuits in heating devices.
Enclosure	Corrosion and water-resistant housings.
Dimensions	4" x 4" x 2"
Environment	0° to 105°F, 10 to 95% RH
MicroZone MC100 (Lamp & Mat Heat Controller)	
Input Power	9VDC, 9.6VA, 50/60Hz
MicroZone MPM100 (Power Modulator)	
Input Power	120 VAC, 16A Maximum
Load Rating	0 - 120VAC (2Kw@120V Maximum)
Load Type	Resistive or Incandescent



## Benefits

Feature	Benefit
0-100% Variable Output Power	Eliminates the too hot or too cold conditions associated with on/off thermostats. Saves energy when less than full power is required to maintain a comfortable microenvironment. Increases bulb life and reduces replacement cost.
Temperature Ramping	Gradually reduces power to heaters for growing piglets. Maintains comfortable creep area, keeping piglets away from sow resulting in reduced lay-ons, while providing 25+% savings in energy. Eliminates labor associated with heat lamp adjustments.
Room Temperature Compensation	Automatically reduces power to heaters when room temperature rises, compensating for changing weather conditions. Less heat is added to the room for a more comfortable sow. Lower room temperatures can be utilized, resulting in higher feed intake, increased milk production, higher weaning weights, and increased litter sizes.
Soft-Start	Slowly restoring power after an outage extends bulb life and reduces the peak demand placed on the power utility or backup generator.
Simple Operation	Adjust the temperature control band to the age of your pigs and let the auto ramping control the temperature until weaning time.
Information At A Glance	See the % Power as you walk by – or check room temperature with a touch of a button.
Short Circuit Protection With Automatic Reset	The control automatically shuts down if a short circuit condition is detected. By not tripping the circuit breaker, all other devices on the same breaker are not affected.
Sealed Enclosure	Non-corrosive PVC enclosure is sealed to keep contaminants out.
Data Retention	Parameter information is retained on loss of power. There is no need to reenter information after a power outage.
Heat Lamps or Heat Mats	Corrects for differences in resistive versus incandescent loads. Selectable configuration.

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