Supplemental heat

Every year, pre-weaned pig mortality costs U.S. hog producers $197 million in lost profits.* Poorly regulated supplemental heat is a significant factor in these losses, making newborn pigs more susceptible to sickness and disease.

High or low temperatures 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.

Rising energy costs are eroding profitability. Agricultural energy specialists expect electrical rates will continue to climb and some believe it is likely that cost-saving programs such as "Off-Peak" will be eliminated. Yet, unlike many costs of production, electrical consumption is an expense you can control. You know that growing pigs need less supplemental heat with each passing day. The challenge is how to reduce power while maintaining the optimum temperature for the pigs.

MicroZone solves the problems of:

Manual height adjustment
Adjusting heat lamps is time consuming, doesn't save energy, and can add heat stress to the sow.

Conventional thermostats
Thermostats turn heaters off at a preset limit, but do not save energy at lower temperatures. They may also create conditions that are too hot or too cold.

Manual rheostats
Rheostats allow a gradual reduction of power and more consistent heat control, but require daily manual adjustment and do not react to changes in room temperature.

MicroZone™

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

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

MicroZone Features and Specifications

Temperature Control:	Automatically adjusts the power to lamps or mats from 0 to 100% 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 life.
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: 90 - 240 VAC, 20A circuit
Load Rating: 0 - 240VAC, 16A (i.e. 1920W at 120V, 3840W at 240V)
Load Type: Resistive or Incandescent

Agency Approvals: UL/CSA

U.S. Patent No. 6,981,649
Additional Patent Pending

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MicroZone™

Automatic Heating Control for Lamps & Mats

Up to 40% Electrical Savings

- Healthier pigs
- Reduced labor and operating costs
- Lower pre-wean mortality

A safer, healthier environment for newborn pigs

Reduced electric bills!

No other system, at any price, does a better job of managing supplemental heat and energy use.

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

EASY OPERATION
You set the beginning temperature and MicroZone does the rest. 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. Manual height adjustment of lamps is reduced.

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

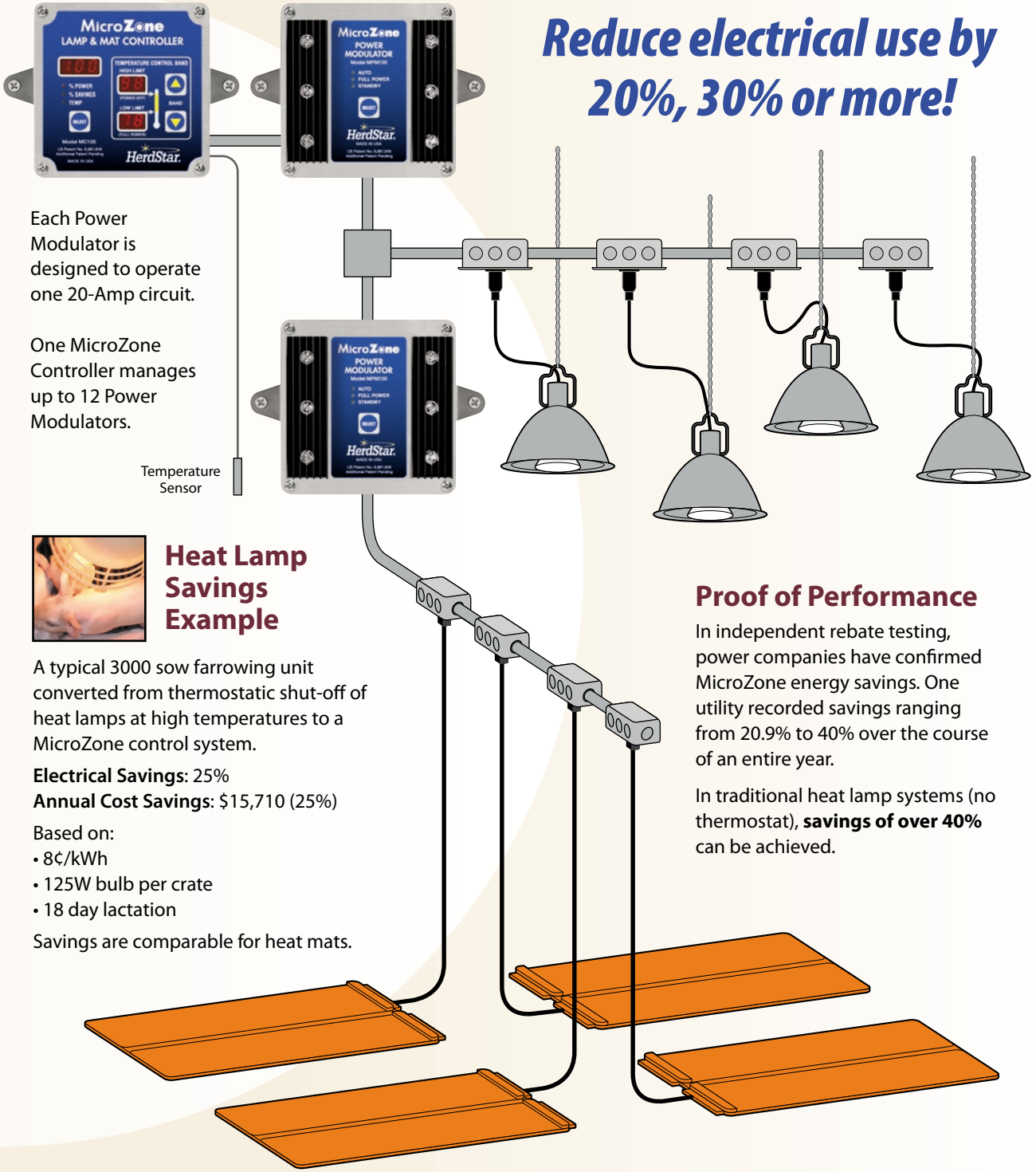
Power company rebates

Many utility companies are offering rebates on the purchase of MicroZone equipment and installation. In many cases up to 30% of the cost is paid directly to you. In addition, MicroZone qualifies for a federal rebate program.

Ask your electric provider or contact HerdStar about rebates in your area.

When combined with a rebate, equipment investment is returned in as little as six months.

Reduce electrical use by 20%, 30% or more!



Each Power Modulator is designed to operate one 20-Amp circuit.

One MicroZone Controller manages up to 12 Power Modulators.

Heat Lamp Savings Example

A typical 3000 sow farrowing unit converted from thermostatic shut-off of heat lamps at high temperatures to a MicroZone control system.

Electrical Savings: 25%
Annual Cost Savings: $15,710 (25%)

Based on:
- 8¢/kWh
- 125W bulb per crate
- 18 day lactation

Savings are comparable for heat mats.

Proof of Performance

In independent rebate testing, power companies have confirmed MicroZone energy savings. One utility recorded savings ranging from 20.9% to 40% over the course of an entire year.

In traditional heat lamp systems (no thermostat), **savings of over 40%** can be achieved.