

C-440S Controller



Model No. C-440S
Part No. 7400-8940-015

The C-440S Controller is used to regulate the showering and interval cycles in a low-pressure livestock cooling system. This easy-to-program controller can be set to operate either in Two-Stage Mode or Smart Mode. In Smart Mode, the interval time is automatically adjusted as the temperature changes. The interval time is the period of time when no showering occurs and the water is allowed to evaporate from the animals. As temperature increases, the interval time will decrease, thus giving animals more frequent shower cycles, to reduce heat stress.

Dealing with the effects of heat stress is a major economic factor in livestock production. A low-pressure shower or drip system can drastically reduce the effects of hot weather and allow your livestock to remain healthy and profitable. This reliable, economical controller makes the most efficient use of your water resources to keep your livestock productive.

Features & Benefits

- Operates up to 4 electric solenoid valves/zones in sequence rather than all at once, to reduce water capacity demands on your system
- Monitors up to 4 separate temperature probes to allow accurate cooling in different zones
- Two-Stage Mode provides traditional two-level cooling – a lower intensity cooling cycle (LO Range) operates when the temperature is above the low temperature setting, and a higher intensity cooling cycle (HI Range) operates when the temperature is above the high temperature setting
- Smart Mode provides innovative, infinite stage cooling – it varies the interval time in direct proportion to the temperature difference as the temperature moves between LO Range and HI Range actuation temperature settings, providing exactly the right amount of cooling at any temperature while minimizing water usage
- With Smart Mode, you program the system once – no need to make adjustments as the temperatures change during the season
- Shower time for each electric solenoid valve/zone can be programmed independently – each valve/zone can have a different length shower cycle if desired
- 24 Volt AC power output for safety and ease of installation
- Super bright LED displays for viewing indoors or outdoors
- User programmable – quick and easy to program
- Easy and economical to install and operate – quick return on investment
- Fully compatible with previous model controllers to allow upgrades of existing systems
- 2-Year Factory Warranty



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Application/Operation

The C-440S Controller is designed for use with the Edstrom Drip-Cool and Spray-Cool systems. The controller monitors the temperature and regulates the shower or drip cooling cycles in livestock production facilities. The controller is the heart of the system and makes the best use of your resources to keep livestock comfortable, healthy, and productive.

The C-440S Controller is generally mounted in an area that is easy to access and monitor. It is also recommended that the controller be installed in a location that is protected from rain and direct sunlight. It may be centrally located if multiple zones are being controlled, or the controller could be located in a remote office area and connected by low voltage wires to the electric valves in the livestock areas. The C-440S Controller can remain plugged in during winter to serve as a temperature gauge.

The controller plugs into a standard 120V outlet through a transformer (included) that reduces the line voltage down to 24 VAC. An optional 230V/24V model, Part No. 7400-8940-215, can be special ordered. Accessories to complete the cooling system (shower nozzles, additional temperature probes, and electric solenoid valves) are also available from Edstrom Industries.

One temperature probe is pre-wired into the controller at the factory. If additional probes are desired, they will need to be wired into the controller on site. You can set the controller to monitor either a single temperature probe or the same number of temperature probes as the number of electric solenoid valves/zones that are being controlled. For example, if the controller is set to activate four electric valves/zones, you can choose to have the controller monitor just one temperature probe, or four probes, but NOT two or three. By monitoring multiple temperature probes, cooling in each zone is dependent on the temperature in that specific zone only. A shower is activated for only those zones that have a temperature at or above the programmed actuation temperature. The duration of shower can be customized for each zone.

The C-440S Controller is easy to program by using the three push buttons on the front panel. The star button toggles through the various settings, and the up or down arrow buttons increase or decrease the settings as needed (*Figure 1*). You can also choose the number of solenoid valves/zones and temperature probes being used, as well as toggle between Two-Stage Mode and Smart Mode.

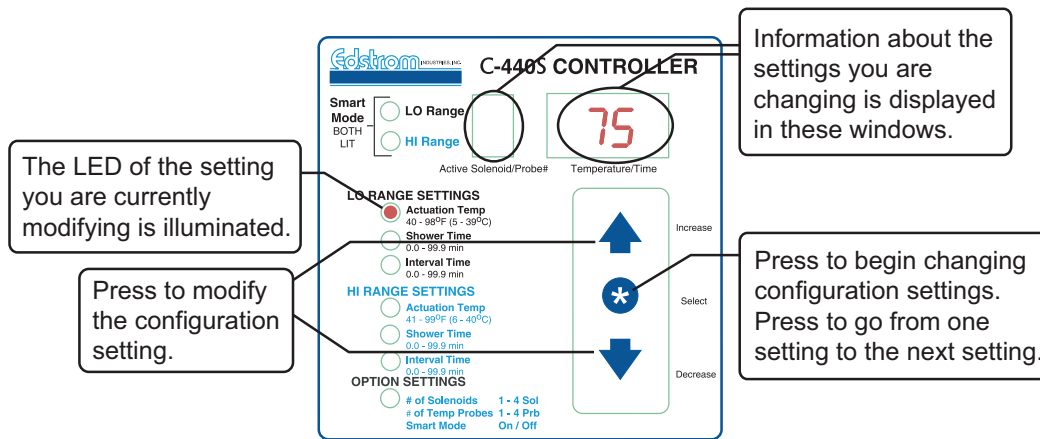


Figure 1 - Modifying configuration settings on the C-440S Controller

Specifications

Hardware

Dimensions: 7.75 in. W x 7.5 in. H x 5.5 in. D
[197 mm W x 190 mm H x 140 mm D]

Control Panel

Enclosure: Solid, high-impact engineered thermoplastics
NEMA 4X rating
7 segment high intensity LED characters
Non-volatile, user programmable memory

Utility Requirements

Input Power: 120 VAC ± 10% 60 Hz 0.25 Amp
Relay Output Power: 24 VAC ± 10% 0.8 Amp inrush
(19VA) 0.57 Amp steady state (14VA)

Operating Parameters

Operating Temperature Range: 0°F to 122°F
[-18°C to 50°C]

Programmable Ranges:

Temperature: 40°F to 98°F [5°C to 39°C] (LO Range)
41°F to 99°F [6°C to 40°C] (HI Range)

Shower Time and Interval Time: 0 to 99 minutes
Programmable in 0.1-minute (6 second) intervals

All specifications are subject to change without notice.

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