ECONO-COOL WITH SOLENOID INSTRUCTIONS

General Information

1. Controller automatically turns solenoid on when the air temperature is above setting on the thermostat.
2. Controller shuts off water when temperature falls below thermostat setting.

Electrical Connections

1. Connect solenoid cord from Econo-Cool controller.
2. Do Not plug into power supply at this time.

Connecting solenoid to the Water Supply

1. connect water supply to solenoid.
2. Connect water line with emitters to the outlet side of solenoid.

Setting the Controller

1. Set thermostat to the temperature that cooling is to begin.
2. Set minutes on 1> 15 MIN (Water time).
3. Set minutes off 1> 55 MIN (Interval time).
4. Plug the Econo-Cool Controller into the power supply.

The Timer Thermostat sends a 12 volt DC signal to the 12 volt DC solenoid when the room temperature is higher than the setting on the thermostat.

DISCLAIMER

Meter-Man, Inc. Cooling Systems are designed to assist livestock producers relieve heat stress in livestock and poultry. The cooling environment in which the cooling system is placed, air speed, temperature and humidity may effect the evaporation rate of water, which will cause variations in cooling.

Meter-Man, Inc. recommends proper cleaning and maintenance of the systems.

Note: The use of evaporative cooling with young immature livestock is not recommended. Also in times of extreme heat stress close attention and proper animal husbandry practices should apply.

INSTALLATION INSTRUCTIONS FOR THE METER-MAN COOLING SYSLEM

Please read these instructions before installing this system!

GENERAL INFORMATION

The Controller regulates the flow of water through the cooling system; it automatically allows water to flow to the Emitters when the air temperature is warmer than the temperature setting of the Thermostat. Once on, the controller will cycle on and off at preset intervals (intervals are adjustable). The Controller will shut off automatically when the air temperature drops below the temperature setting of the Thermostat.

ELECTRIC CURRENT

Voltage fluctuations do not hinder the Controllers performance. If power is interrupted the Controller will start at the beginning of the "ON" cycle when power is resumed. The time interval and temperature settings are not lost due to power interruptions or failure.

All threaded fittings are garden hose thread (GHT).

1. Mount the Meter-Man Controller in a convenient location, preferable close to a source of water and an electrical outlet.
2. Attach the Line Filter (UCS95) to the Meter-Man Controller fitting marked "INLET." Make sure the filter Screen (UCS95R) is in the filter before securing the coupling.

DO NOT USE THE CONTROLLER WITHOUT THE FILTER!

The most common cause of Controller failure is foreign material in the solenoid Valve. Filter Screens (UCS95R) can be cleaned or changed. Do not use the controller without a filter on the incoming side of the unit.

3. Connect the Controller to the water hydrant with a piece of garden hose that has female garden hose fittings on each end.
4. Attach the white Check Valve (UCS60) to the "OUTLET" fitting on the controller.
5. Connect a Female Swivel Coupling (UCS10) to the Check Valve (UCS60). Use the two Elbows (UCS24) to turn the tubing towards the ceiling after the Check Valve. Always push the tubing about 1 inch into the compression fittings. No solvent or clamp is necessary. The coupling (UCS56) can be used to join two pieces of tubing.
6. Run the remaining 1/2" (12.7 mm) tubing to the sites of application. (A Tee coupling (UCS12) is provided if you need to branch your system.) Secure in place with the Loop Clamps (UCS16) and/or wire Ties (UCS15) provided. The UCS12 is black. Loop clamps or wire ties should be spaced every four feet (1.2 meters) to secure the tubing.
7. Place the 3/4" Male End Cap (UCS11) onto the end(s) of the tube farthest from the controller.
8. Next, determine where you want the Emitters to be located. Refer to the detailed description of Emitters for assistance in locating the Emitters. Use the Hole Punch (UCS07) to make a hole in the tubing. The Emitters will snap or screw into place. Goof Plugs (UCS06) are provided if you punch a hole in the wrong place. When using the Atomizing Mister (UCS85) with the Compression Tee (UCS86), slice the 1/2" (12.7 mm) tubing where the Mister is desired. Then slide each end of the tubing into the Tee Coupling (UCS86). If SCH 40 PVC pipe is used, you will need to use PVC cement to attach the tubing to the Tee Couplings (UCS87).

Droplet Emitters (UCS04B)
The Droplet Emitters are rated at 1/2 gallon (2 liters) of water per hour. Droplet Emitters are generally installed on the side of the tubing. The Emitters should be placed so the water drips on the shoulder or neck area of the sow. Flexible 1/8" (3.1 mm) tubing (UCS14) may be added to the emitter to reach application site. Special note: Always install the large end into the 1/2" (12.7 mm) tubing. If you install the small end of the dripper into the 1/2" (12.7 mm) tube you will get a steady stream of water, not a drip pattern!

Mist emitters (UCS05)
The Misters produce a coarse mist and are rated at 6 gph (22 Liters per hour) @ 30 psi (2 atmospheres) with a 360 degree pattern. The Misters are usually put on the bottom of the tubing and spaced 6 to 9 feet (1.8 to 2.7 meters) apart.

Atomizing Misters (UCS85)
The atomizing Mister emits a fine mist with a rating of 1.5 gph @ 50 psi. A general rule is to use one emitter for every 300 square feet (28 square meters) of floor space, or every 8 to 30 feet (2.4 meters to 9 meters). Always use teflon tape on the threads when installing Atomizing Misters (Ucs85). The UCS85 must be installed in a UCS86 Tee.

Sprinkler Emitters (UCS23 – 360 degree and UCS64 – 180 degree)
The Sprinklers emit large droplets in a circular pattern with a 15 foot diameter (4.5 meters) when operated at full capacity. Each Sprinkler Emitter can be turned off individually. The flow rate is adjustable from 0 to 15 gph (4.5 liters per hour) with a diameter ranging from 4 to 30 feet (1.2 meters to 9.1 meters). The Sprinklers may be installed on the top or bottom of the tubing. Sprinklers are normally spaced 12 to 15 or more feet (3.6 meters to 4.5 meters) apart if the tube is 8 feet (2.4 meters) off the floor. If the tubing is higher a wider pattern will be covered.

SPECIAL NOTE:
The Solenoid Valve requires a minimum flow of water to function and it works best at full line pressure. Always have the water supply valve wide open. If animal waterers are using the same water supply, there could be a limited supply available for the Controller during the period when the animals are drinking. This could cause the Emitters to run slowly but continually because the solenoid Valve cannot shut off. If a reduced flow rate is needed, the optional Pressure Regulator (UCS08) can be installed on the outlet side of the Controller under the Check Valve.

DISCLAIMER: Meter-Man, Inc. Cooling Systems are designed to assist livestock producers relieve heat stress in livestock and poultry. The cooling ability of any system is limited to the evaporative properties of the environment in which the system is placed. Air speed, temperature and humidity may effect the evaporation rate of water, which will cause variations in cooling.

Meter-Man, Inc. recommends proper cleaning and maintenance of the systems. Note: the use of evaporative cooling with immature livestock is not recommended. Also in time of extreme heat stress, close attention and proper animal husbandry practices should apply.

Operating Instructions

Controls: Four rubber momentary push buttons arranged in a horizontal row are used to operate this counter.

On/Clear: Turns the electronics ON when pressed once and clears the present reading when pressed a second time. Note: If the wheel is not operated or the controls manipulated for a period of 3 minutes, the control will automatically turn OFF. (This is done to conserve battery life). Pressing this button once will reactivate the display AND the previous data will be displayed. It is not lost or cleared until this button is pressed a second time – without pressing any other button in between the repetitive pressing of this button.

M/FT: Allows selections of 3 display modes.

A) Feet + Inches
B) Feet + Tenths of feet
C) Meters + Centimeters

HLD/CLR: Allows "holding" a reading on either the #1 or the #2 counter. Pressing the button once will set the counter (#1 or #2 – Whichever once is displayed) into a HOLD state while allowing the other counter to continue to count. When the button is pressed the word HOLD will appear on the display and the counter number will flash at a 1 cycle per second rate. Pressing the button a second time will release the HOLD condition.

#1/#2: Pressing this button alternates the display between presenting the #1 or #2 data. The display includes #1 or #2 to indicate which is presented.

Example: Measuring Distance

A 20' B 10' C.

x----------x----------x

Press ON/CLR	Energize Counter
Press ON/CLR	Clear Counter
Press M/FT	Until counter reads feet/inches (0'0")
Press #1/#2	Until counter #1 shows on display
Measure from A to B, counter #1 reads 20'0"	
Press HLD/CLR	"Hold" #1 stores measurement
Press #1/#2	#2 counter reads 20'0"

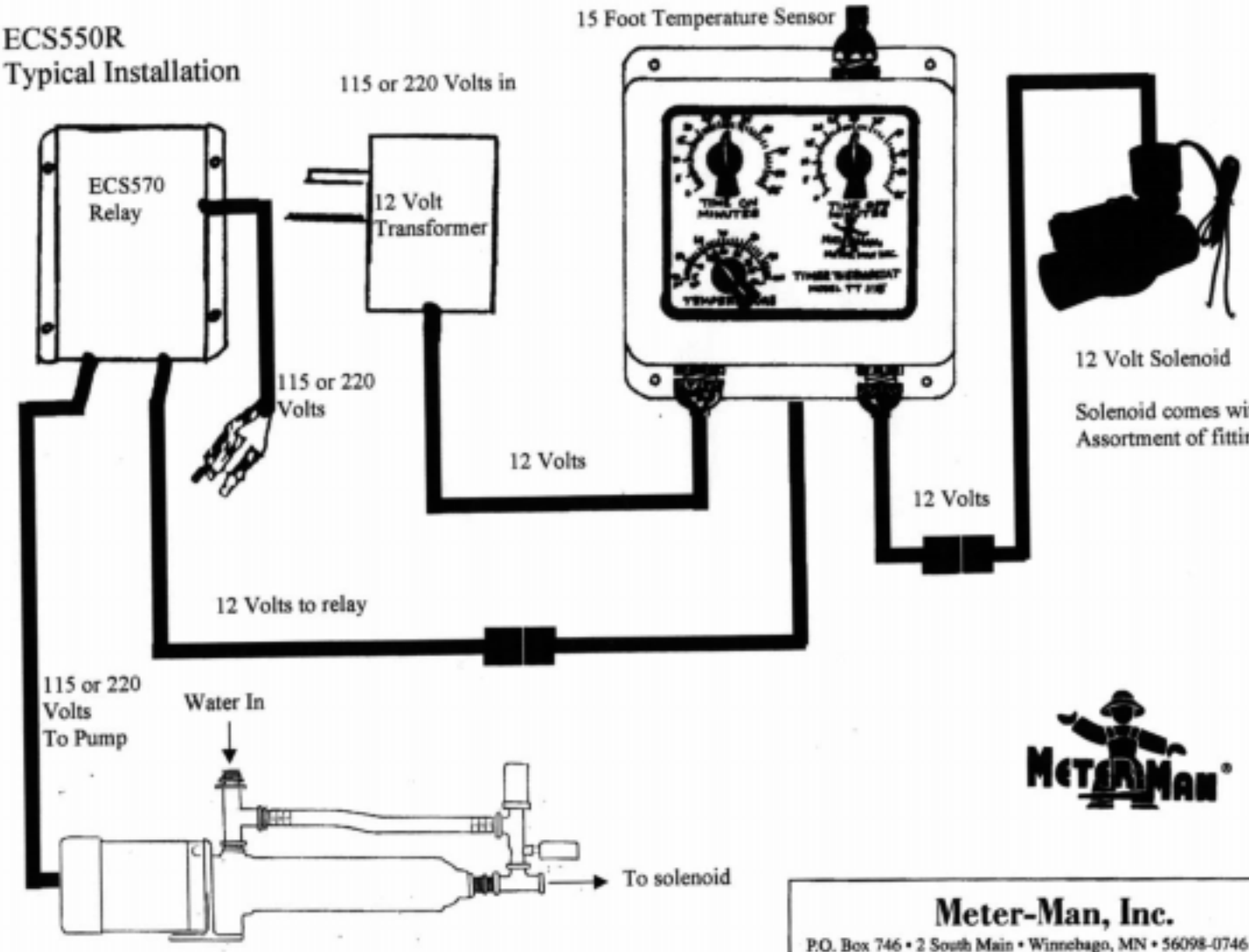
Options

Option 1	Measure B to C counter reads 30'0"
Press HLD/CLR	"Hold" measurement in memory

Option 2	Before measuring from B to C
Press HLD/CLR	"Hold"
Press HLD/CLR	"Clear counter #2 memory (0'0")
Measure from B to C	Counter should read (10'0")
Press HLD/CLR	Store measurement in memory

Counters #1 and #2 have measurement stored for your use.

ECS550R
Typical Installation



Meter-Man, Inc.

P.O. Box 746 • 2 South Main • Winnebago, MN • 56098-0746 U.S.A.
Tel: 800-338-5756 U.S.A • 507-893-4806 • Fax: 507-893-3517
E-Mail: meterman@bevcomm.net • http://www.meter-man.com