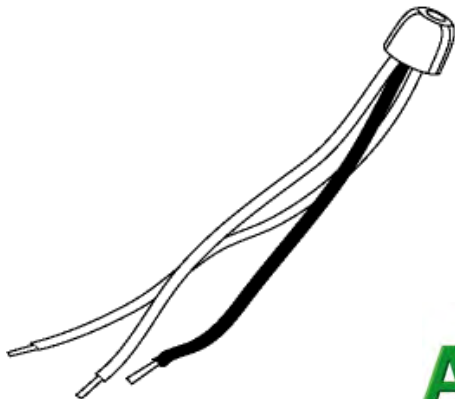


# Acclima System Lightning Arrestor



**ACC-LAR-007**

  
**Acclima**  
Closed Loop Irrigation Systems

## Introduction

Acclima controllers are designed and built with very robust lightning protection. The sensor rods are isolated from the 2-Wire system and the controllers, if properly installed with a ground rod, can recover from most high voltage surges. However, for extra protection in areas prone to lightning installing Lightning Arrestors throughout the 2-Wire system ensures greater protection against high voltage surges caused by lightning.

Lightning, as best we understand, is a channel of negative charge, called a stepped leader that zigzags downward in roughly 50-yard segments in a forked pattern. This step leader is invisible to the human eye, and shoots to the ground in less time than it takes to blink. As it nears the ground, the negatively charged step leader is attracted to a channel of positive charge reaching up a streamer, normally through something tall, such as a tree, house, or telephone pole. When the oppositely-charged leader and streamer connect, a powerful electrical current begins flowing. A return stroke of bright luminosity travels about 60,000 miles per second back toward the cloud. A flash consists of one or perhaps as many as 20 return strokes. We see flicker when the process rapidly repeats itself several times along the same path.

As lightning travels through objects it brings with it massive surges of high voltage electricity. The surges cause damage to electrical wiring, electrical products, and is prone to cause fires. To protect property and electrical products it is important to allow the lightning a channel to ground.

Lightning Arrestors are designed to channel the surge of lightning away from the 2-Wire system and into the ground. When a high voltage surge exists the arrestors open a switch allowing the surge to move to ground along a ground rod. Once the surge passes the arrestor closes to allow normal communication along the 2-Wire system. Properly installed Lightning Arrestors help protect the system devices from local area lightning strikes.

**NOTE:** This product is a high quality lightning arrestor and has been shown to provide substantial protection from lightning surges; however, due to variations in installation and grounding methods, it is impossible to warranty any damage to equipment caused by lightning.

## Arrestor Specifications

Maximum Current Rating:

Maximum Number of Surges:

Response Time:

Joules:

Spark-Over Voltage:

**Arrestor Installation**

Install Lightning Arrestors in conjunction with a 8' copper ground rod. Your controller should be grounded using a similar 8' ground rod. Use a Paige Electric Cadweld Connector for connecting the organ wire to the ground rod.

**NOTE:** This product is designed to function with a well grounded controller. The controller must be grounded to its own ground rod.

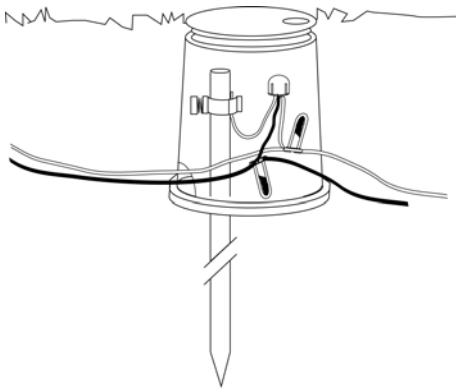
Install the arrestors every 600 feet throughout all branches of the 2-wire system. If you system is a loop design install arrestors every 600 feet along the loop.

**Wiring Table:**

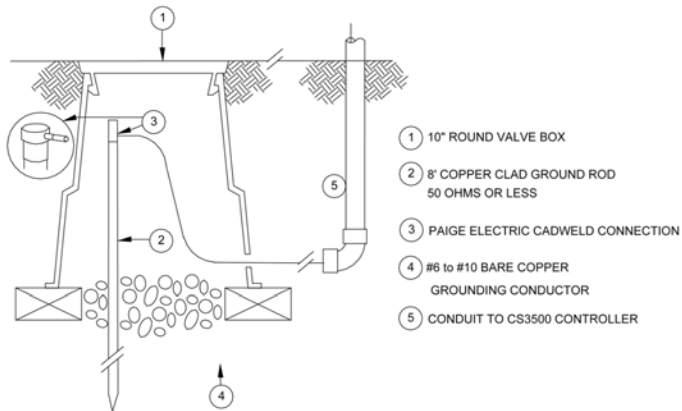
<b>Lightning Arrestor</b>	<b>2-Wire System</b>
Red Wire	Red Wire
White Wire	White Wire
Orange Wire	8' Copper Ground Rod

## *Acclima System Lightning Arrestor*

Use a 10" round valve box for your installation. You can also install the arrestors and ground rods in a near by valve box. Use direct burial connectors or grease caps for all connections. The red and white wires on the arrestor connects to the 2-wire system.



**Controller Grounding Drawing**

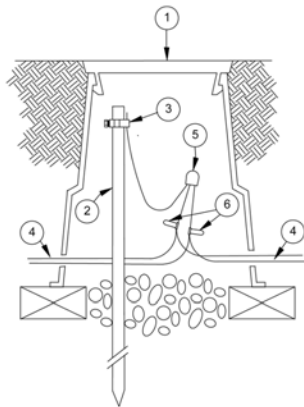


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**CONTROLLER GROUNDING**  
**ACCLIMA ACC-SYS-3500**

DETAIL-NO SCALE  
09-17-07

## Arrestor Grounding Drawing



- 1 10" ROUND VALVE BOX
- 2 8' COPPER CLAD GROUND ROD  
50 OHMS OR LESS
- 3 PAIGE ELECTRIC CADWELD CONNECTION
- 4 ACCLIMA 2-WIRE SYSTEM
- 5 LIGHTNING ARRESTOR
- 6 DIRECT BURIAL CONNECTORS

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### LIGHTNING ARRESTOR ACCLIMA ACC-LAR-007

DETAIL-NO SCALE  
9-10-07



**Disclaimer**

This product is a high quality lightning arrestor and has been shown to provide substantial protection from lightning surges; however, due to variations in installation and grounding methods, it is impossible to warranty any damage to equipment caused by lightning. Lightning arrestors are designed to protect equipment from local lightning strikes and cannot survive direct strikes.



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