

NOTICE TO USERS

The THOR GUARD Lightning Prediction System is manufactured by THOR GUARD, Inc. for the express purpose of assisting the user in determining and evaluating the existence and extent of a potential for lightning discharges in the area being monitored by THOR GUARD. This product is in no way intended, nor is it represented to be, any form of protection for persons or property, whatsoever; and THOR GUARD, Inc. shall not be held liable for any damages or losses the user may experience from the effects of lightning, storm related damages, or personal injuries.

The THOR GUARD system will automatically test every day at a pre-selected time. It is the user's responsibility to ensure the system is connected to a properly grounded source of power and that the unit displays a green light following its test. If the test should fail, the user, after immediately following the "Testing & Cleaning" instructions in this booklet to solve the problem, should call THOR GUARD, Inc. at the number provided below.



THOR GUARD, Inc.

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Integrated Lightning Prediction and Warning Systems

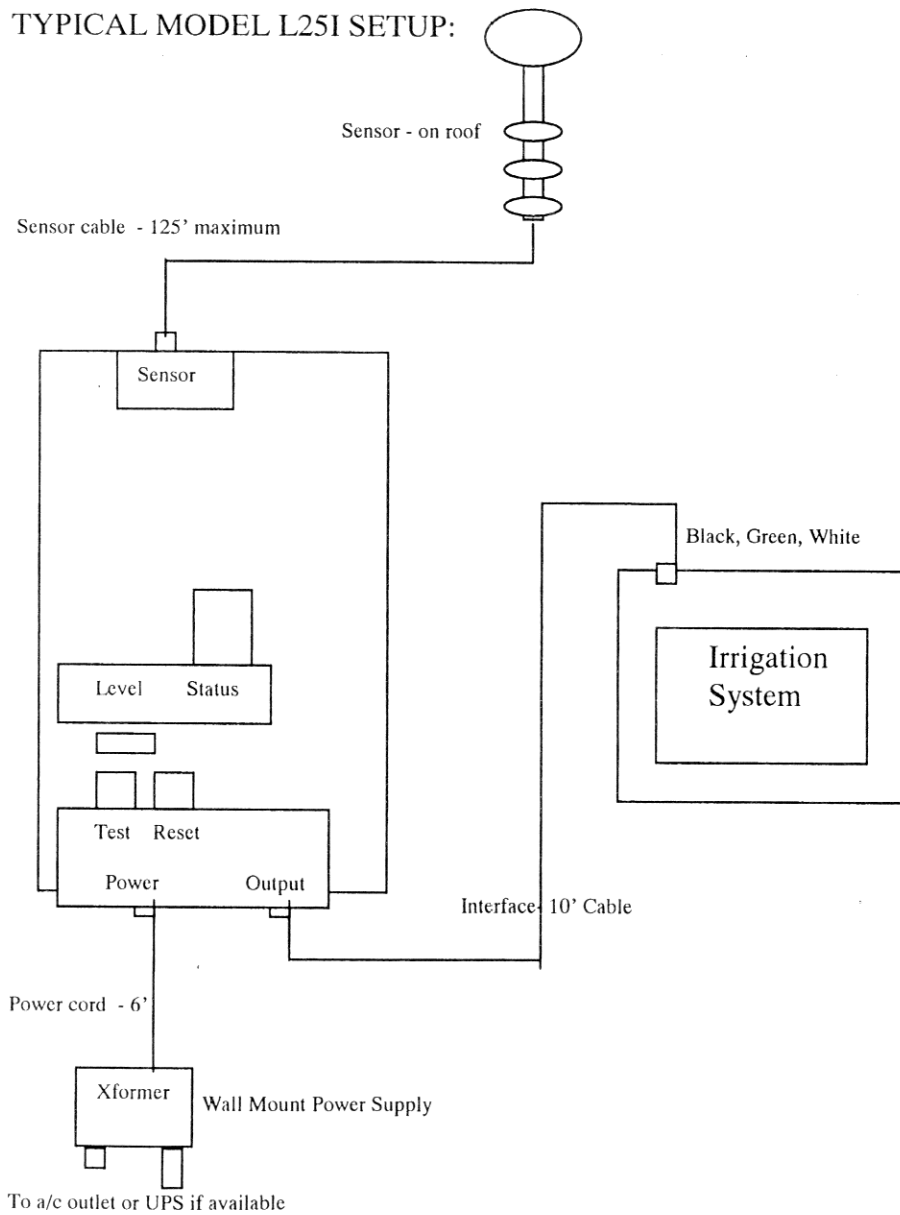
MODEL L25I

LIGHTNING PREDICTION SYSTEM

INSTALLATION AND OPERATIONS MANUAL

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TYPICAL MODEL L25I SETUP:



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Choosing the Sensor Location

The location of the Sensor will be dependent upon the desired location of the THOR GUARD console, the type of existing roofing material, the design of the roof, and the proximity of other equipment that may adversely affect the performance of the system. If a roof location is not possible, the Sensor may be mounted on a post or pole. **NOTE: THIS SYSTEM WILL NOT OPERATE PROPERLY UNLESS THE SENSOR IS MOUNTED WITH A CLEAR "VIEW" OF THE SURROUNDING SKY. IF A SUITABLE LOCATION CANNOT BE FOUND, DO NOT INSTALL THE SYSTEM!**

The following should be considered when locating the Sensor:

- Within the standard 125' cable length.
- At least 10' from lightning rods.
- At least 15' from (and higher than) air conditioning units, vents, fans, etc.
- At least 15' from other antennas; e.g. TV, VHF, etc.
- Never under overhanging trees and high power lines.
- Outside a 30-degree angle from building structures or trees (trees absorb signal).
- As far as possible from electric chargers or transformers.
- A metal roof is not advisable, but if necessary isolate the sensor from the roof and elevate it as much as possible.
- High enough so that curious hands cannot inadvertently touch the Sensor Plate, thereby activating the system.
- **MAKE SURE THAT ANY MAST OR TRIPOD UTILIZED TO MOUNT THE SENSOR IS NOT GROUNDED.**
- **SENSOR MUST BE ACCESSIBLE FOR REGULAR CLEANING** (See "Sensor Cleaning").

Running the Triaxial Cable

You have been supplied with a predetermined length of special, triaxial cable, already connected to the Sensor. The path available for the cable will also dictate the final location of the Sensor and Console. Apart from avoiding the obvious obstacles, attention should be given to the following:

- Do not cut cable without discussing it with your representative/factory.
- The cable does not carry any a/c power, so in most instances it won't be necessary to enclose it in conduit.
- When routing the cable, do not parallel lightning rod grounding wires or power runs and **never tie-wrap to another cable of any type.**
- Avoid sharp bends, metal edges, or anything that might tear outer jacket.
- Avoid pulling too tightly and stretching or crimping the cable.
- Leave a "service loop" when you mount the Sensor.
- Avoid using staples to secure cable.

The Sensor was designed to be mounted 5'-10' above any surface using a 3'-5' piece of 1" rigid pipe, screwed into the threaded bushing (BUSHING MUST BE GLUED INTO BOTTOM PVC). It is advisable to set the Sensor plate at a level that is accessible for cleaning, regardless of which type of mast is utilized. Most installations will accept one of the following mounting techniques:

1. Mount directly to wall using a pair of appropriate wall mounts (from Radio Shack, or equivalent) and a short piece (3'-5') of 1" rigid pipe:
 4" # 15-883, 8" #15-886, 12" #15-885
 Eaves Mount #15-891, Or Custom Mount
 2. Mount directly to pipe stub or antenna mast with stainless hose clamps.
 3. Tripod (also found at Radio Shack, or equivalent): 3" #15-517
- How the tripod is mounted depends upon the material and the construction of the desired roof location. Please note that care should be taken if you choose to penetrate any roofing material in order to secure the legs of the tripod. Lag bolts and screws should be accompanied by liberal amounts of waterproof silicone. **DO NOT GROUND THE TRIPOD TO A LIGHTNING ROD OR BUILDING.**

Choosing the L25I Location/Installation & Orientation

The enclosed, 10' (DB-9) cable is to connect the L25I to the irrigation system. Requirements include:

- A verified 115 volt, 60 cycle a/c power outlet for the power supply **that is known to be securely grounded.** The contacts are rated:
 115 VAC @.5AMP or 24VDC @1AMP
- Plug the cable into the connector labeled SENSOR, on the TOP panel.
- Next, attach the power cord from the enclosed power supply. After startup it may be necessary to push the RESET button to clear any lingering energy on the Sensor Plate. **NOTE: IF YOUR A/C POWER SOURCE DOES NOT HAVE A GROUNDED PLUG (3 WAY) THEN YOU WILL NEED TO USE THE ADJACENT GROUND SCREW.**
- Connect the L25I to the irrigation system by means of the enclosed cable: **BLACK**=Common; **GREEN**=Normally Closed; **WHITE**=Normally Open
- When everything is connected push the "TEST" button on the L25I. The relay will energize momentarily before the system enters the sensor test. If the sensor test results in a "PASS", the STATUS will display a "0." If the test "FAILS", an "E" on the STATUS indicates an L25I problem (Call the THOR GUARD factory), and an "F" indicates a Sensor failure (Check the Sensor and Cable) see "Testing & Cleaning," in this Manual.
- The relay will energize when the "Red Alert" level (number 3 is displayed) has been reached. When an "All Clear" condition has returned, the relay will de-energize.
- A "Level" adjustment is provided for desired warning notification: Increased Warning select "H"; Decreased Warning select "L".

TESTING AND CLEANING

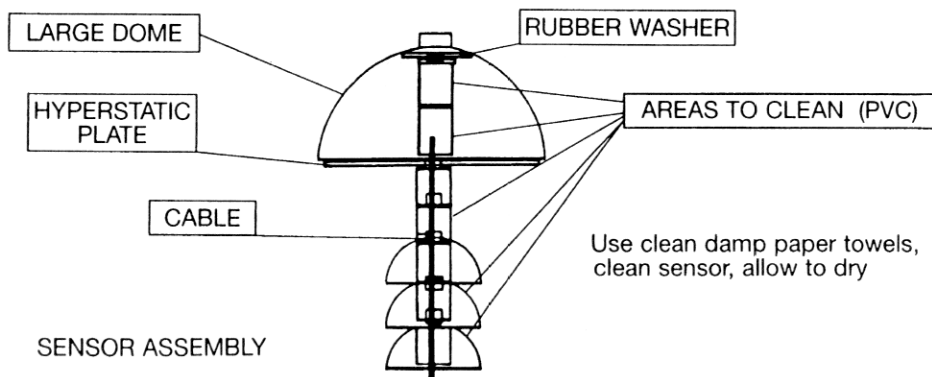
The THOR GUARD L25I has been programmed to run an internal diagnostic test of the entire system every 24 hours. (NOTE: This is an independent test and does not give any indication of a problem that may reside in your irrigation system.) The test may also be run manually (unless there is storm activity), however it is required that the operator depress "TEST" button on the front panel. While the test is running (approximately 25 seconds), the letter "A." will appear on the "STATUS" display. If all is normal, the STATUS will return to "0." Should the test indicate a failure, one of two letters will appear. The letters "F" or "C" indicate a Sensor or Cable failure. Follow the instructions below. The letter "E" will indicate the L25I has developed an internal problem (Call Service).

THE SYSTEM WILL NOT BE OPERATIONAL IN FAILURE MODE!

- Check that the Sensor connection on the Top of the L25I is secure.
- Clean the Sensor on the roof of all dirt that may have accumulated on **all** of the white plastic PVC parts, any cobwebs between the large stainless Dome (on top) and round plate, and any excess dirt on the plate, itself. This should be accomplished with **ONLY** clean paper towels (dampen only with water), as cleaning rags may contain solutions that will contaminate the surfaces. Then dry the area cleaned with other paper towels. The large Dome may be slightly tilted to allow your hand entry. NOTE: REGULAR CLEANING OF THE SENSOR WILL MINIMIZE THESE FAILURES. SOME ENVIRONMENTS WILL NECESSITATE MORE CLEANING.

Push the RESET button and run the TEST again. If it fails this test then either the sensor is too wet, or a problem has developed with the cable, the sensor, or the L25I connector plug. Call the factory or your representative.

SENSOR MUST BE ACCESSIBLE FOR REGULAR CLEANING



WARRANTY & SERVICE INFORMATION

Limited Warranty for Manufactured by THOR GUARD
(Does not apply to products supplied by third-party vendors)

THOR GUARD, INC. ("the warrantor") will repair any product manufactured by the warrantor with new or refurbished parts, free of charge, in the USA for a limited period from the date of original purchase in the event of a defect in material or workmanship. Please see the enclosed Warranty Information Sheet for more information about the warranty period or contact the THOR GUARD office. This Warranty is extended only to the original purchaser and only covers failures due to defects in material or workmanship that occur during normal operation. It does not cover damage that occurs in shipment or failures that are caused by products not supplied by the warrantor or failures that result from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, modification, lightning, line power surge, introduction of sand, dust, humidity and liquids or commercial use of this product, or service by anyone other than a THOR GUARD factory or authorized representative, or damage that is attributed to "Acts of God".

In the event of a problem, please direct all inquiries to THOR GUARD, INC., Sawgrass Corporate Parkway, Sunrise FL 33323, Tel. (888) 571-1212, or Fax (954)835-0808, or e-mail: service@thorguard.com.

LIMITS & EXCLUSIONS

There are no express warranties except as listed above.

THE WARRANTOR SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THESE PRODUCTS, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions may not apply to you.

This warranty gives you specific rights and may also have other rights which vary from state to state. If a problem within this product develops during or after the warranty period, you may contact your representative or our General Offices in Sunrise, Florida.