

[REDACTED]

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 (red light), 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.

[REDACTED]



THOR GUARD, Inc.

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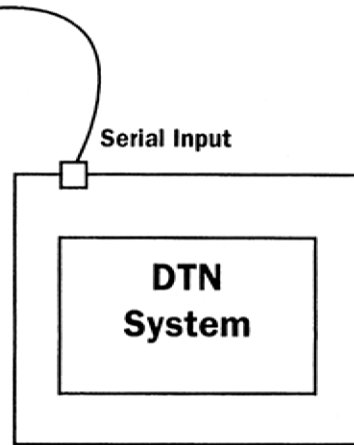
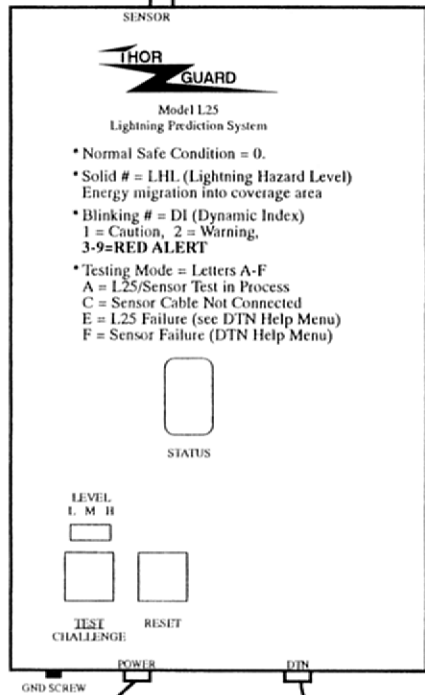
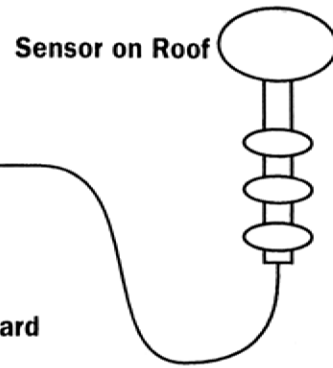
Integrated Lightning Prediction and Warning Systems

MODEL L25

LIGHTNING PREDICTION SYSTEM

INSTALLATION AND OPERATIONS MANUAL

TYPICAL MODEL L25 SETUP:



Power cord with gray strain clip



To a/c outlet or UPS if available

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OPERATIONAL INFORMATION

Check DTN on screen HELP MENU

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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 45-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.

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 L25 Location/Installation & Orientation

The enclosed, 6' (DB-9) cable is to connect the L25 to the DTN System. If more length is needed, advise the factory prior to installation. Requirements include:

- A verified 110 volt, 60 cycle a/c power outlet for the power supply **that is known to be securely grounded.** A UPS for backup is advisable.
- 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 YOU'RE A/C POWER SOURCE DOES NOT HAVE A GROUNDED PLUG (3 WAY) THEN YOU WILL NEED TO USE THE ADJACENT GROUND SCREW.**
- Connect the L25 to the DTN System by means of the enclosed DB9 computer cable. ("DTN" port on L25 to "Serial" port on DTN console)
- When everything is connected and you have accessed the THOR GUARD page on the DTN menu, push the "TEST" button on the L25. If the test results in a "PASS", indicating that the sensor and L25 have been properly installed, then the DTN system will initialize the THOR GUARD lightning page and a "0." will appear on the L25's, LED display. If the test "FAILS", an "E" on the LED indicates an L25 problem (Call the THOR GUARD factory), and an "F" indicates a Sensor failure (Check the Sensor and Cable) see "Testing & Cleaning," this Manual. Note: A "C" indicates that the Sensor cable needs to be reconnected.

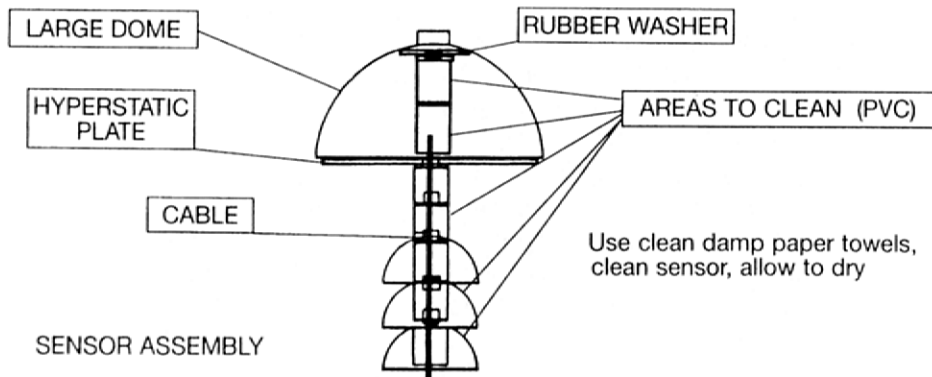
TESTING AND CLEANING

The THOR GUARD L25 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 DTN System.) The test may also be run manually (unless there is storm activity), however it is required that the operator depress "TEST/CHALLENGE" button on the front panel. While the test is running (approximately 25 seconds), the letter "A." will appear on the "STATUS", LED display. If all is normal, the LED will return to "0." Should the test indicate a failure, one of two letters will appear. The letter "F" or "C" indicate a Sensor or Cable failure. Follow the instructions below. The letter "E" will indicate the L25 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 L25 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, but care should be taken to avoid damage to any of the small, wire connections. 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 L25 connector plug. Call the factory or your representative.

SENSOR MUST BE ACCESSIBLE FOR REGULAR CLEANING



WARRANTY & SERVICE INFORMATION

THOR GUARD Model L25 Limited Warranty

THOR GUARD, INC. ("the warrantor") will repair this product with new or refurbished parts, free of charge, in the USA during the term of the service agreement in the event of a defect in material or workmanship.

In the event of a problem, please direct all inquiries to THOR GUARD, INC., 1193 Sawgrass Corporate Parkway, Sunrise, FL 33323, Telephone (954) 835-0900, or Fax (954) 835-0808. This warranty is extended only to the original Lessee. This warranty solely covers failures due to defects in materials or workmanship that occur during normal use. It does not cover damage which may occur in shipment or failures which are caused by products not supplied by the warrantor or failures which 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 attributable to acts of God.

Limits and 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 THIS PRODUCT, 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 or limitations may not apply to you.

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