



Thunderstorm Detector Model 6500

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- Accurate, Dependable Detection
- No Harmful Transmissions
- Self-Testing for Reliability
- Timely Information

OVERVIEW

The Model 6500 Thunderstorm Detector detects electrical discharges associated with thunderstorms up to 250 miles, or more, radius of the system. The Model 6500 is a passive sensor that listens for electromagnetic signals with a receiving antenna. There is no transmitter, and so no harmful transmissions.

Consisting of an antenna mounted to a 28" x 31" ground plane and a processor housed in a NEMA 4X enclosure, the entire package mounts simply to a 2 1/2" pipe (2.875" O.D.) using two U-bolts.

The Model 6500 is Federal Aviation Administration (FAA) certified, meeting the most current regulatory requirements.

SENSITIVITY

The Model 6500's antenna is a combined crossed-loop and sense antenna, which can correlate the electric and magnetic signatures of lightning strikes better than other systems due to its patented sense channel technology. The antenna has been designed to help filter out pulsed noise from sources other than atmospheric electrical discharges.

PROCESSOR

The Model 6500's processor houses the data acquisition circuitry, along with circuitry to process strike data and communicate with the AWOS Data Collection Platform (DCP). Communication with the DCP

via an RS-485 link. The lightning detection processor digitizes, analyzes, and converts the discharge signal into range and bearing data, then stores the data in memory.

DEPENDABILITY

The Model 6500's antenna detects the electrical and magnetic fields generated by cloud-to-ground, cloud-to-cloud, and intra-cloud electrical discharges that occur, and sends the resulting 'discharge signals' to the processor. The processor digitizes, analyzes, and converts the discharge signals into range and bearing data, then stores the data in memory.

SENSORS

SPECIFICATIONS

Parameter	Specification
Measuring Range Capability	0 – 250+ miles (0 – 400+ km)
Operating Temperature	-67 to +158°F (-55 to +70°C)
Storage Temperature	-103 to +158°F (-75 to +70°C)
Humidity	Noncondensing up to 100%
Baud Rate	4800 bps
Serial Port Parameter Setting	8-N-1 (8 data bits, no parity, 1 stop bit)
Serial Connector	RS-485 screw terminal block pins
Supply Voltage	11–32 V DC
Power Consumption	11 W
Enclosure	NEMA 4X painted aluminium
Mounting	Head mounts to 2.5" pipe (2.875" O.D.)
Environment	Withstand 75 m/s

ORDERING INFORMATION

Part Number	Description
6500 / 6500-I	Thunderstorm Detector Reports distance and direction
6501	Reports bearing and distance continuously at least every 2 seconds
6502	Thunderstorm Detector (6501) with spread spectrum radio
M488139-00	Galvanized mounting pole for foundations
M105655-00	Deck mounting pole

DIMENSIONS & WEIGHTS

Dimensions	27.5" W × 30.9" L × 9.0" D (70 cm × 79 cm × 23 cm)
Weight	35 lb (16 kg)
Shipping Weight	40 lb (18 kg)

Aviation Parameters	Specification
Displayed Range and Detection (ICAO / FAA compliant)	0 – 30 nautical miles At Airport, In The Vicinity and Distant Lightning Alerts Distant Lightning, 10-30NM from airport reported in compass octants
Resolution	1 NM distance 1° Azimuth
Accuracy	Within 10 NM: Detection 90% of all strikes (±10%) Location: Does not exceed 3 NM Between 10 - 30 NM Detection 80% of all strikes (±20%) Location: Does not exceed 6 NM
False Reports	Not more than 2%
Detection Rate	Up to 40 strikes every 2 seconds
Reporting	AWOS information updated each minute



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