



# Thunderstorm/Lightning Detector Model 6500

allweatherinc



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

## OVERVIEW

The Model 6500 Thunderstorm Detector detects electrical discharges associated with thunderstorms within a 200 nautical mile 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 because of 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 is 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 electrical discharges that occur within a 200 nautical mile radius of the antenna, 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		
	6500/6500-I	6501	6502
Measuring Range	0 – 200 nautical miles (0 – 370 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%		
Serial Protocol	RS-485	RS-485	RS-232
Baud Rate	4800 bps	9600 bps	9600 bps
Serial Port Parameter Setting	8-N-1 (8 data bits, no parity, 1 stop bit)		
Serial Connector	RS-485 screw terminal block pins		Spread-Spectrum Radio
Supply Voltage	115 V/230 V AC, 50/60 Hz		
Power Consumption	11 W		
Enclosure	NEMA 4X painted aluminium		
Mounting	Head mounts to 2.5" pipe (2.875" O.D.)		

Aviation Parameters	Specification
Displayed Range and Detection	0 – 30 nautical miles At Airport, In The Vicinity and Distant Lightning Alerts Distant Lightning, 10-30 NM from airport reported in compass octants
Resolution	1 NM distance 1° Azimuth
Accuracy	Within 10 NM: Detection 90% of all strikes Location: does not exceed 3 NM Between 10 and 30 NM: Detection 80% of all strikes 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

## ORDERING INFORMATION

Part Number	Description
6500	AWOS standard for North America — Reports distance and direction
6500-I	AWOS standard for outside North America — Reports distance and direction
6501	Reports bearing and distance continuously at least every 2 seconds
6502	Model 6501 with spread spectrum radio
M488139-00	Galvanized mounting pole for foundations
M105655-00	Deck mounting pole

## DIMENSIONS & WEIGHTS

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



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Rev. F 05/2019