

μSMART SERIES

Lightning Strike Sensor

Model LS (X)



The Lightning Strike sensor counts lightning strikes by detecting electrical fields with signal strength greater than the factory set threshold voltage of the sensor. An early warning of impending lightning activity allows sensitive equipment to be isolated from mains power or time to carry out a controlled shut down of a plant or dangerous operation.

Detection sensitivity varies with:

- The severity of the lightning strike, (the peak current of which may vary from a few thousand amperes up to several hundred thousand amperes);
- The sensor threshold voltage which will be between 0.1 volt and 1 volt depending on the version selected; and,
- The general topography of the surrounding district.

As a general guide, typical coverage is an area within a 5 kilometre radius of the sensor for the LS1 to >30 k with the LS3.

The sensor is designed for connection to Monitor Sensors data loggers for analysis of lightning activity but can also be linked to the counter input of a variety of other loggers. It is important to mount the lightning strike sensor away from sources of electrical interference.

NB: Monitor Sensors' automatic weather stations are designed to withstand secondary lightning strikes. However for stations permanently connected to other systems such as computers and PLCs, the use of product LP1 Lightning Protection Kit is recommended.

Features

Robust Design
Corrosion Resistant Finish
Low Power Consumption
Low Maintenance
Available in several signal strength options for short or long range monitoring
High sensitivity for long range monitoring

Applications

Meteorological
Automatic Weather Stations
Forestry - Fire
Emergency Services
Educational
Lightning Warnings
Early warning for spectator/player evacuation at Sporting events.
Shut down of blasting operations.
Monitoring lightning activity around Munitions dumps and explosives manufacturing plants.

Quality Assurance

Monitor Sensors products are manufactured under a third party accredited ISO9002 System.

Specifications

Measurement Parameter:	Electrical field with signal strength exceeding - >1.0 volt/metre >0.3 volts/metre >0.1 volt/metre
Sensitivity:	LS1 1.0 v/m LS2 0.3 v/m LS3 0.1 v/m
Maximum Count Rate:	5 strikes per second in pulse output. 100 strikes a second when operating as a µSmart sensor.
Temperature Range:	-10 ⁰ C to +50 ⁰ C
Humidity Range:	0-100%
Output:	Serial Data in ASCII text, or +5 volt pulse, 100-millisecond duration
Power Supply:	5-28 v DC unregulated
Current Drain:	0.1 ma
Weight (unpacked):	250 grams
Dimensions:	Overall height including spigot 535 mm Diameter 28 mm
Mounting:	Designed to mount on Monitor Sensors standard cross arm (product code M10). Alternatively, a ½ inch BSP adaptor is available for fitting to a standard water pipe.
Cable Details:	Standard product has 0.2 mts of cable. Longer cable lengths may be ordered - allow \$2.50/m for additional cable.
Related Products:	AWS1 Automatic Weather Station LP1 Lightning Protection Kit BP1 Barometric Pressure Sensor R4(X) Tipping Bucket Rain gauge M10 Standard Cross Arm Mount LSS(X) Lightning Strike Station