

VL-100-LRW

Real-Time Detection of Lightning Strikes



Summary

The VL-100 is a LoRaWAN™ Class A device that detects lightning approaching thunderstorms within a 40-kilometer radius. It can determine its approximate distance, the energy level of individual lightning strikes and uses fine-tuned algorithms to reject man-made interference to prevent false positives. It operates entirely on a solar panel and battery for easy maintenance and installation.

Applications

- Personnel Safety Warning Measures.
- Power infrastructure protection.
- Golf course player safety.
- Thunderstorm activity logging at marinas.
- Airport and aviation early warning system.
- Safety in outdoor parks and recreation sites.

Features:

- LoRaWAN™ Class A
- Lightning Activity detection radius of up to 40km.
- Solar-cell and battery powered for easy installation and maintenance.
- Waterproof Enclosure (IP67)
- Intra and inter-cloud lightning detection.
- Interference and false detection rejection.
- RoHS Compliant





System Specifications:

Radio Frequency Communication	
Protocol	LoRaWAN™ Class A
Activation Method	OTAA or ABP
Frequency (MHz)	EU: 863-870 US: 902-928
Transmit Power (dBm)	+14
Receiver Sensitivity (dBm)	-140
Data Encryption	AES128
Default Transmission Duty Cycle	Every 10 minutes
Lightning Detection	
Maximum Detection Range (km)	40
Distance Estimation Resolution (km)	3
Maximum Detection Efficiency (%)	50
Electrical	
Power Supply	Integrated Solar Cell + LiPo Battery
Battery Life in Sunlight	Infinite
Battery Life in Darkness	5 days
Mechanical	
Dimensions	122mm x 82mm x 55mm
Ingress Protection	IP67
Installation Methods	Tied to a railing or a wall
Environmental	
Temperature Range (°C)	0 to 60

Ordering Information

Reference	Model Description
VL-100-LRW-US	US Version
VL-100-LRW-EU	EU Version