

ProLEC Wind

Direct Lightning Strike Wireless Monitoring Solution

The ProLEC Wind lightning strike monitoring system consists of sensor nodes and a central communication unit that communicates via wireless technology. Battery powered sensor nodes are installed next to the lightning down conductor inside each of the three wind turbine blades and send lightning strike data directly to a base station, located as far away as 5 kilometers.

With the ProLEC Wind system installed, wind farm operators will be immediately informed about a direct lightning strike onto a blade. This enables focused preventive monitoring, and immediate repair of any blade damage.



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Features

- Detects a direct lightning strike to a wind turbine blade
- Measures the peak of lightning current flowing through the lightning down-conductor
- Replaceable battery, lifetime up to two years
- Wireless data communication - LoRaWAN IoT technology
- Snap-on sensor, no change to existing installation and lightning protection system
- Complies with: IEC/EN 62561-6

Typical Installation

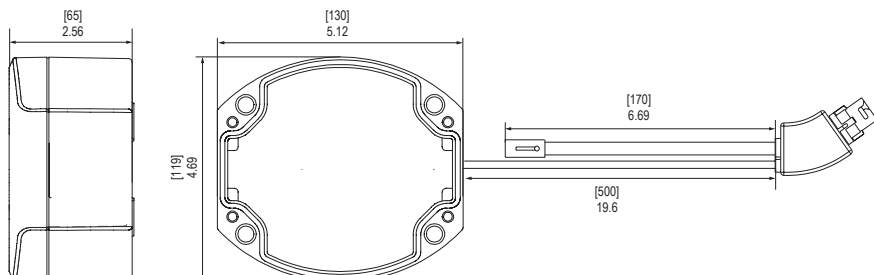


The ProLEC Wind sensor is a lightning current sensor with wireless data transmission for wind turbines. It detects lightning strikes to the wind turbine blade. The sensor is installed inside the blade, next to the down-conductor. When a ProLEC Wind system is installed on a wind farm, information about frequency, time/date and amplitude of direct lightning strikes to specific rotor blades is readily available.

Technical Data

Electrical	
ProLEC Wind Order Code	130 704/JP, 130 705/EU, 130 706/US
Operating Frequency/Region	923 MHz (20 dBm)/JP, 868 MHz (14 dBm)/EU, 915 MHz (20 dBm)/US
Threshold Current (8/20 μ s) [I_{lc}]	2 kA
Maximum Withstand Current (10/350 μ s) [I_{mcw}]	100 kA
Current Measuring Range (10/350 μ s) [I_{mcw}]	10 kA to 200 kA
Amplitude Measurement Error	10 kA to 200 kA: 10% \pm 2 kA
Power Supply*	Replaceable 3.6V (Size D) battery Lifetime up to two years
Distance From Gateway to Sensor	Up to 3.1 miles [5 km]
Mechanical	
Temperature Range	-40 °F to +131 °F [-40 °C to +55 °C]
Maximum Down-conductor Diameter	1.18" [30 mm]
Sensor Cable	19.69" [0.5 m]
Enclosure Material	GD-AI Si 12 (DIN 1725)
Environmental Ingress Protection (IP) Rating	IP 65
Enclosure Dimension (L x W x D)	5.12" x 4.69" x 2.56" [130 x 119 x 65 mm]
Weight	With Battery 1.92 lbs [870 g] Without Battery 1.7 lbs [770 g]
Standards Compliance & Certifications	
Standards	IEC 62561-6
Certification	RoHS, CE
Product Diagram	

*Battery life is calculated based on the following conditions:
SP < 8
Tx power 14 dBm
24 packets per day



[mm]
inches