



AVES Wind Offshore

When planning and approving offshore wind turbines, wind farm operators have to consider special provisions for the protection of bird life in accordance with national regulations. AVES Wind Offshore was developed to meet these requirements by capturing and measuring the passage of birds through the defined rotor area of the wind turbine during autumn and spring migration.

AVES Wind Offshore includes stereoscopic cameras, IR illuminators and AI-based software. The cameras permanently (day/night) monitor the swept area of the wind turbine and automatically recognize the crossing birds. The AI calculates the real-time migration traffic rate and calculates the migration intensity. The optronic carrier is mounted on the nacelle parallel to the rotor axis and can cover an observation range of 180 degrees. To achieve 360-degree-coverage, installing a second truss on the other side of the nacelle or applying a statistical model is possible.

Features

- Reliable detection and measurement of bird crossings day and night
- Automatic documentation and analysis
- Minimum data flow through special data architecture
- Easy installation on wind turbines with modular adapter plates



Technical Specification AVES WIND Offshore - Prototype	
Development status	Prototype; Series system available in Q4/2024
Operating conditions	-25 °C to +55 °C, wind load 50m/s (180 km/h)
Protection class	IP66
Marking	CE
Power supply	230 V / 16 A
Network	LAN or fiber optic
Lightning protection	Optronics carrier is integrated into the nacelle's lightning protection concept
Configuration and dimensions	
Optronic Carrier	
Size (L x W x H)	1.100 x 825 x 545 mm
Weight	< 130 kg
Installed equipment	<ul style="list-style-type: none"> ▪ 8 stereoscopic cameras ▪ 4 IR emitters ▪ Wiring
Installation	<ul style="list-style-type: none"> ▪ Outside the nacell ▪ Parallel to the rotor axis