

Visibility Sensor PWD20W

Turbine-mounted visibility sensing for intelligent light emission



Key benefits

Stay compliant in a changing regulatory environment

Obstruction lights are required for aircraft safety, but they disturb residents. Visibility measurement with the PWD20W allows for more intelligent dimming of lights rather than simple, 100% on/off functionality.

Serve communities and avoid negative PR

Residents in communities around wind farms are negatively impacted by bright, flashing lights, leaving them with a poor perception of the wind energy industry. ADLS with visibility-based brightness control provides best possible protection for residents against disturbances, and it shows care and diligence on the part of turbine operators.

Assist pilots and enhance safety

Pilots in passing aircraft are affected by turbine lighting (both conventional and infrared), which can flood their field of view and distract them from flying tasks. Visibility sensors dramatically reduce these effects and enable pilots to fly more safely.

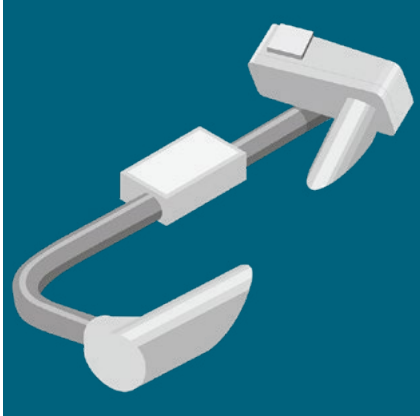
The Vaisala PWD20W is a world-class visibility sensor designed specifically for wind turbine installations. It allows turbine operators to intelligently adjust their light emissions, improving satisfaction for nearby communities and meeting emerging regulations.

New regulations for Aircraft Detection Lighting Systems (ADLS, or BNK in Germany) took effect in 2020 and have created new pressures — and opportunities — for wind farm operators. Many are unaware that the regulations allow for ADLS systems to be improved from basic “on/off” functionality, with real-time visibility values determining how brightly the lights switch on. The Vaisala PWD20W is the ideal visibility sensor for this purpose, and it allows for up to a 90% reduction in brightness — dramatically improving satisfaction for nearby residents.

PWD20W at a glance

Applications

- Wind farm lighting modulation, with or without ADLS



Key features

Intelligent system design that uses look-down geometry, optional hood heaters for high humidity or wintry conditions, and measurement algorithms that account for the disturbing effects of high-intensity lighting and flicker interference.

Built on proven Vaisala forward scatter technology known for accurate, traceable measurements and long-term stability in all conditions. PWD20W's mean time between failures is more than 20 years.

Trusted to meet strict requirements from regulators — such as the German requirement that if one measuring device fails, all lights must operate at 100%. Accepted by the FAA and certified by Deutscher Wetterdienst.

Simple integration and installation with existing ADLS technologies and any turbine type.

Why Vaisala for renewable energy?

We are innovators, scientists, and discoverers who are helping fundamentally change how the world is powered. Vaisala elevates wind and solar customers around the globe so they can meet the greatest energy challenges of our time.

Our weather and environmental monitoring solutions for renewable energy are guided by several key priorities:

- Thoughtful evolution in a time of change
- Making renewable energy smarter at every stage
- Extending our legacy of leadership

Vaisala is the only company to offer 360-degree renewable energy solutions — from sensors and systems to digital services and actionable intelligence — nearly anywhere on the planet (and even on Mars). Every Vaisala solution benefits from our 85+ years of experience, pioneering deployments in 170+ countries, and unrivaled thought leadership.

Our innovation story, like the renewable energy story, continues.

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