Eologix sensor technology gmbh (AUSTRIA)

About us

Eologix sensor technology gmbh is a young technology company in Graz. Founded 2014, eologix developes an innovative sensor solutions for intelligent surfaces.

The first product is an autonomous, flexible sensor for ice detection and temperature measurement of wind turbines, which has been introduced 2014 on the market. By the end of 2015, there were already more than 20 sensor systems in use worldwide.

Eologix introduces an easily retrofittable sensor system for all types of wind turbines. The system consists of one single receiving unit per turbine plus a number of sensing units which are distributed over the blades' surface. The sensing units can easily mounted, e.g. during regular inspection of the blades.

Advantages

- icing and surface temperature information even in locked-rotor state
- early detection of icing from critical blade locations
- sensors can be mounted over heaters and control them for minimum downtime
- no drilling or wires needed in the blades
- no additional lightning issues
- unlimited number of sensors per turbine
- easily retrofittable

Icing detection

- wireless
- autonomous
- retrofittable

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- receive blade icing information exactly from where it occurs
- monitor the efficiency of your anti-icing or de-icing solution

Sensing Units

- are completely wireless smart sensors
- are supplied by stored solar energy for unlimited energy supply
- measure temperature with a resolution of 0.25°C
- can detect icing at local thicknesses below 1 mm*
- are small, flexible and thin (below 2 mm)
- can be mounted to any position on the blade, also on nacelle or tower
- are delivered on a patch of erosion protection tape and mounted within minutes

Receiving Unit (Base Station)

- collects the data transmitted by the sensing units
- can be placed on ground, nacelle, spinner, hub, blade root or tower (only one base station is required per turbine).
- can be integrated into current SCADA or control systems
- has a variety of available interfaces (WiFi, Web Server, Ethernet, RS485, GSM)
- has a variety of optional interfaces (Modbus TCP/RTU, CANopen, EtherCAT, PowerLink, Profibus, Satellite etc

eologix
sensor technology

eologix sensor technology gmbh was founded in 2014. The young company develops innovative sensors for smart surfaces. The first product was launched onto the market in early 2015 and is a thin, autonomous and retrofittable sensor for icing detection on the surface of wind turbine rotor blades.

The patented solution can be used to reduce stand-still times as well as to effectively control anti- and de-icing equipment. Due to the easy mounting process it can be used for all types of wind turbines, also as a retrofit solution.

Market response, cooperations and research projects with Austrian Universities give eologix the technological know-how and competitive edge.

Get more information on www.eologix.com

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sensor technology

wireless temperature and icing sensor system for rotor blades

icing detection

› wireless
› autonomous
› retrofittable

eologix introduces an easily retrofittable sensor system for all types of wind turbines. The system consists of one single receiving unit per turbine plus a number of sensing units which are distributed over the blades' surface. The sensing units can be easily mounted, e.g., during regular inspection of the blades.

› receive blade icing information exactly from where it occurs
› monitor the efficiency of your anti-icing or de-icing solution

RENEWABLES CERTIFICATION
DNV·GL
Certificate no.
CC-GL-IV-1-00526-0

original size

thickness: below 2 mm

energy buffer
typical dark time operation > 1000 hours

energy harvesting
a flexible solar cell ensures unlimited energy supply from ambient light

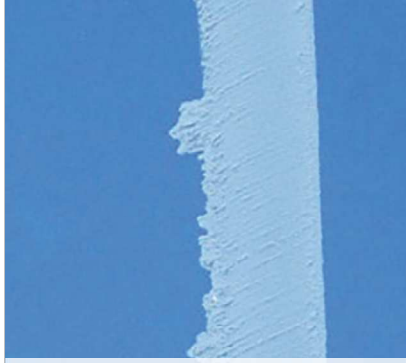
icing detection
ice is detected at several levels by means of an innovative impedance measurement approach

temperature measurement
surface temperature data at an accuracy of 0.25°C

completely wireless
transmits data to the base station over at least 250 m

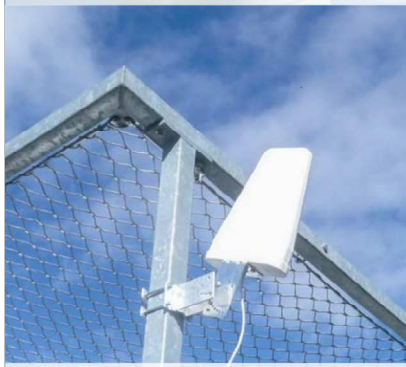
advantages

› icing and surface temperature information even in locked-rotor state
› early detection of icing from critical blade locations
› sensors can be mounted over heaters and control them for minimum downtime
› no drilling or wires needed in the blades
› insulated device, no risk of lightning strikes
› unlimited number of sensors per turbine
› easily retrofittable


iced rotor blade


rope access mounting


mounted sensor


receiver antenna