



Wind power

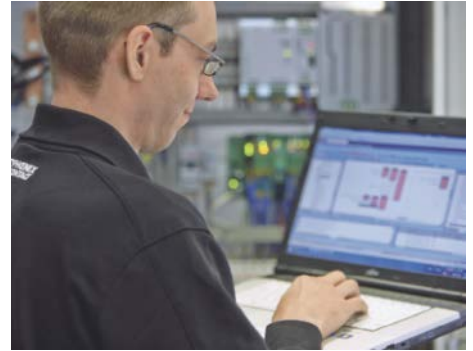
Solutions for ice detection and temperature measurement

Solutions for ice detection

Phoenix Contact provides a reliable ice detection system for rotor blades for increasing the yields of your wind turbine generators. Our solution measures the coating thicknesses of potential ice deposits and the temperature directly on the surface of the blade. Thanks to the wireless integration of the sensors, the system is suitable both for new wind turbine generators and for retrofitting into existing systems.

Your advantages

- ✓ Reliable ice detection, thanks to coating thickness measuring on the rotor blades
- ✓ Maximum yields, thanks to automatic restart
- ✓ Optimized control of the blade heating, thanks to temperature measuring
- ✓ Fast startup, even as a retrofit solution, thanks to preconfigured components
- ✓ Autonomous operation, because integration into the wind turbine generator controller is not necessary



Flexible evaluation unit

The evaluation unit is available as a complete control cabinet solution or as a system for integration.

- Operating temperature: -25°C ... +50°C
- Storage temperature: -40°C ... +70°C
- Input voltage: 100 V ... 240 V
- Mains frequency: 50 Hz ... 60 Hz
- Floating outputs for system messages
- Easy SCADA integration

Autonomous sensors

The sensors, which are simply stuck on, measure the coating thickness of the ice as well as the external temperature on the rotor blade.

- Operating temperature: -40°C ... +60°C
- Wireless range of up to 250 m
- Transmission frequency: 868 MHz / 915 MHz
- Direct energy supply via solar power
- Storage capacity for supply for over 1000 hours

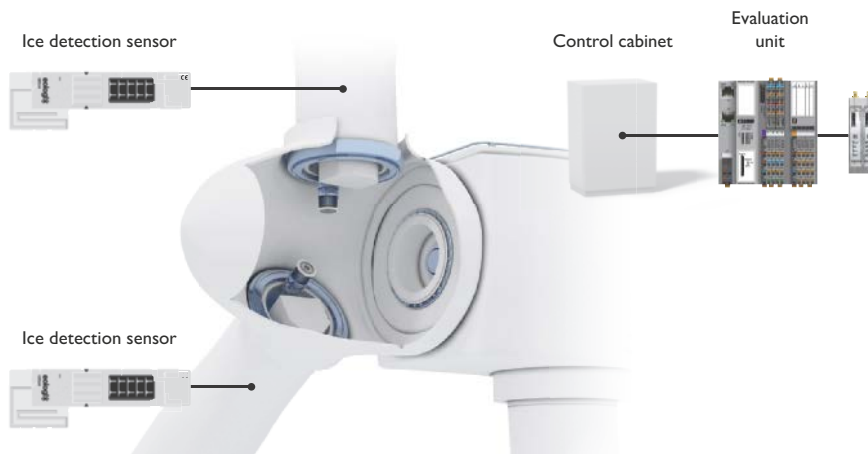
Comprehensive service

We will be glad to support you from planning through to startup of the ice detection solution. Our expert service partners will support you in installing the solution. Benefit from our years of expertise in the holistic automation of wind turbine generators.

Innovative measuring technology

The ice detection system from Phoenix Contact ensures the reliable operation of the wind turbine generator. The evaluation algorithm, certified by the DNV GL accreditation company, decides whether to allow continued operation or to shut down the wind turbine generator. With the appropriate number of sensors,

the system is suitable for the automatic restart function. The sensor signals are transmitted wirelessly to the evaluation unit in the nacelle. Data from the wind turbine generator controller is not necessary for operation, meaning that the system can be easily retrofitted into existing systems.



Product overview		
Description	Type	Order no.
Sensor for 868 MHz	ID-S-S 868	1061959
Receiver for 868 MHz	ID-S-RT 868	1061960
System for ice detection	CBL-ID-S-DETECT-EU	1044652
System with automatic restart	CBL-ID-S-868MHZ-Restart-39	On request
Sensor for 915 MHz	ID-S-S 915	1061958
Receiver for 915 MHz	ID-S-RT 915	1061961
System for ice detection	CBL-ID-S-DETECT-US	1053701
System with automatic restart	CBL-ID-S-915MHZ-Restart-39	On request

The Restart 39 system is based on a blade length of approx. 65 meters.

In dialog with customers and partners worldwide

Phoenix Contact is a globally present, Germany-based market leader. Our group is synonym for future-oriented components, systems, and solutions in the fields of electrical engineering, electronics, and automation. A global network across more than 100 countries, and 16,500 employees ensure a close proximity to our customers, which we believe is particularly important.

The wide variety of our innovative products makes it easy for our customers to find future-oriented solutions for different applications and industries. We especially focus on the fields of energy, infrastructure, process and factory automation.



You will find our complete product range at:
phoenixcontact.com

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