



# Reliable grid module for wind turbines

KK Wind Solutions' grid monitoring and generator cut-in control module supports safe and reliable operation of wind turbines with or without voltage transformers.

With thousands of modules in operation at sites both on- and off-shore, KK Wind Solutions' grid measurement module is tried and tested in harsh conditions.

Designed specifically for operation in wind turbines, the module measures three-phase voltage, current, active and reactive power. The measured values can be continually read out by a CAN communication interface. The CAN interface is also used to program the module with parameters that adjust how the measurement is done.

The module also contains thyristor control outputs that can be used for soft cut-in of wind turbines that do not use a power converter.

Additionally, the module provides grid monitoring functionality that can monitor the grid measurements and control a relay output depending on parameter threshold levels.

Our long track record, the use of robust components and a thorough testing regime makes the V5503 Grid Module a safe choice for your turbine.

## Key benefits:

- ✓ Robust design dedicated for operation in wind turbines
- ✓ Extensive track record onshore and offshore with proven reliability
- ✓ Enables soft cut-in for turbines without power converters

## Connectivity

Input / output control and measurement data are transferred via the CAN bus interface. Both electrical and optical interfaces (optional add-on) are available. The module features:

- 4 x Pt100 temperature inputs
- 1 x encoder input
- 4 x digital input
- 4 x digital output, relay output NC/NO

## Wide environmental range of operation

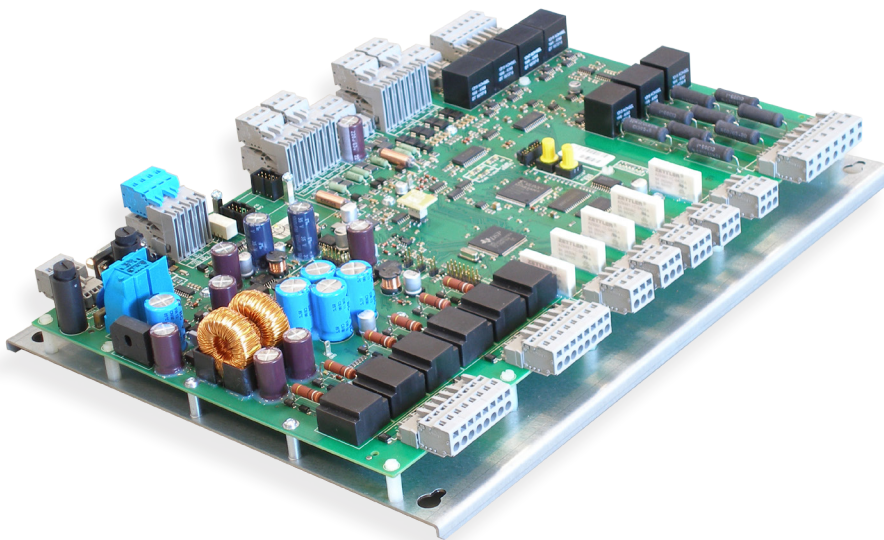
The design of the module allows for storage and operation in harsh conditions.

Temperature limitations:

Operation	-20°C to 70°C
Storage:	-40°C to 85°C

Humidity limitations:

Operating:	5 - 95 %RH non condensing
Storage:	5 - 95 %RH non condensing



## Technical specifications

- 3-phase voltage measurement
- 3-phase current measurement
- Additional 1-phase current measurement
- RMS-calculations: U, I, P, S, Q
- Grid monitoring with OK/fail signalling on digital output
- 3-phase thyristor control output
- LED indicators for input / output status
- CAN-bus electrical interface
- CAN-bus optical interface (optional)
- Selectable CAN bitrate and address
- Module status read out via LEDs and CAN-interface
- Power supply monitoring
- Self-diagnostics
- Temperature monitoring
- Soft generator cut-in using thyristor outputs

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## About KK Wind Solutions

Building on more than 35 years of experience in electrical systems for wind, KK Wind Solutions' capabilities span development of state-of-the-art technologies, high quality lean manufacturing, cost-efficient supply chain solutions and flexible service of turbines.

We innovate to integrate®