

Spica test stands & Hardware-in-the-loop

Hardware-in-the-loop simulator for wind turbine control system software testing.

Purpose

1. Improving the automatic testing of frequent software releases for modern control systems.
2. Testing and verification of components for wind turbine control systems in the development phase.
3. Simulation, troubleshooting, and faultfinding as training for service electricians.

About the product

Test stand with customer specific hardware.

100s of sensors that simulates 1000s of electrical signals in a coordinated and precise manner

When a new software version is released for the wind turbine controller, it must be tested on a test stand to verify that these new releases also work as intended in the field.

You are the expert

No one knows your design as well as you! Hardware-in-the-loop ensures that your product will be exactly as you want. Spica test stands for Hardware-in-the-loop gives you the power to design the test system you need to safely produce the product you need.

Spica can make it possible to reproduce the actual operating conditions of wind turbines working with different types of generators, communications and components.



?

Testing of control system software

Wind turbines are getting constantly bigger and consist of a number of components, such as the rotor, the gear, the pitch controller, the frequency converter, the transformer, as well as an increasing number of sensors that ensure that thousands of electrical signals must act in a coordinated and precise manner.

The control system is connected to these components through hundreds of I/O signals and several communication protocols. The most complex part of the control system is the built-in control software that executes the control loops.

When developing completely new operating systems, Spica can, in their testing facilities using the Hardware-in-the-loop system, make it possible to reproduce the actual operating conditions of wind turbines working with different types of generators and components.

Each time a new software version is released for the wind turbine controller, it must be tested on a test stand to verify that these new releases also work as intended in the wind farm.

At the same time, wind turbine electricians can simulate all sorts of faults and practice troubleshooting and faultfinding.