Park Control

Reliable, flexible and intelligent wind park control built on more than 35 years of experience.
Today’s wind turbines and wind parks grow increasingly larger as the demand for flexible controlled power in the grid increases. In order to control these wind parks and ensure that they are balanced and able to comply with the grid codes all over the world, Mita-Teknik offers an open, reliable, flexible and intelligent Wind Park Control solution that gives our customers the edge when selling their turbines for wind parks.

The share of wind energy has experienced a significant growth in recent years all over the world. Therefore, the integration of wind power into the power systems has become an important issue to consider, and brings forward new requirements for wind park control systems.

Our Park Control solution consists of our field-proven hardware, developed for harsh on- and offshore environments, as well as multiple software packages optimized specifically to your location.

All units are interconnected by an Ethernet network running the reliable M-Link protocol.
How it Works

The wind parks is controlled by a Park Controller that dispatches the active and reactive power set points, as ordered by a Transmission System Operator (TSO) either directly to the Wind Turbine unit, or via a Cluster Controller that can be introduced in large wind parks or when there is more than one point of common coupling to the grid.

At the point of common coupling, a Grid Station can be installed to accurately measure the grid characteristics and send them back to the Park/Cluster Controller for further control. As part of the concept, a Weather Station may supply the Park Controller with meteorological data. By doing so, you can, for example, produce a wind farm power curve or take special functions like humidity, ice and ambient light detectors into account (upon request). All functions can be setup, monitored and data extracted either directly on the unit or via complete remote control.

Complete Solution or Tailor-made

We have compiled a Park Control solution that will fit most grid codes and needs concerning e.g.:

- Park Controller
- Cluster Controller
- Grid Station
- Weather Station
- Fully tested software for controlling the individual wind park components
- Installation and commissioning services
- Integration services
- Training services
- Accessories

However, should you require solutions for special purposes we are always prepared to compile a tailor-made solution that fits your specific needs.

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**Open Flexible System**

Our Park Control solution is designed to be open and flexible, supporting open configurable standards for control and supervision like:

- OPC DA
- IEC 61400-25 (MMS)
- IEC 60870-5-104
- Modbus TCP

**Multiple TSO Interfaces**

Communication with the Transmission System Operator (TSO), e.g. the utility company, is often different from country to country and from TSO to TSO. Mita-Teknik offers a variety of configurable interfaces for exchanging data with the Transmission System Operator, e.g.:

- Analog inputs/outputs
- Digital inputs/outputs
- Modbus TCP
- OPC DA
- IEC 61400-25 (MMS)
- IEC 60870-5-104

**SCADA Integration**

Our Park Control solution is fully integrated with the Mita-Teknik SCADA systems, so that you can monitor, supervise and setup the wind park control, no matter if you are on-site or on the other side of the world.

The Park Controller data panel provide comprehensive overview including data related to active and reactive power production, set points etc. Our SCADA solutions also provide services such as historical data logging, alarms handling, automatic reports generation etc.

**Screen Functions:**

- Set points - set point mode, active/reactive power set points.
- Output - the values of active and reactive power production, divided into controlled and non-controlled parts.
- Capability - active/reactive power capability, max. values of active and reactive power and mean park wind speed.
- Regulation details - number of controlled, non-controlled and offline clients.
Flexible Park Control

Whether you are installing only a few or even hundreds of wind turbines, there is one solution that fits your needs! Our Wind Park Control solution supports from 1 to 2500 turbines in 0 to 50 clusters with individual grid and weather measurements and output control in each cluster.

Built-in Grid Code Support
Often, grid codes vary from country to country, making it difficult to comply with all codes in one solution. Our Park Control solution accommodates this by offering off-the-shelf grid codes support like European and Chinese etc. This makes it easy for you to enter new markets without having to think about compliance with local grid codes. Should a required grid code not be in our database, our grid experts can of course help to analyze and implement it.

Reliable Park Communication
The communication protocol used internally in the Park Control solution is our reliable M-Link protocol. The protocol provides very stable and secure communication via cost-optimized network components.

Backward Compatible
If you have wind parks running on our WP3x00 platform, the new features of our Park Control solution can of course be utilized. By using the Mita-Teknik ES1000 Gigabit Managed Ethernet Switches and the M-Net communicator software, previous generations of controllers can be brought up to speed with the newest grid codes requirements etc.