

# Access Control and Key Management

Whitepaper – Securing wind energy plants



## No more unauthorised access

Modern wind energy plants are high-tech in perfection. Nevertheless, access to them still takes place with conventional keys. The consequences are intrusions or - in the worst case - serious personal injuries. A digital access control system replaces the conventional keys and offers full control, for example for qualification-dependent access rights or remote unlocking as well as an alarm feature.

A service technician recently died in a wind turbine in Nordhessen. The rescue services were unable to gain access due to a closed door. As a test of courage, according to the plant operator, teenagers repeatedly enter the wind turbines.

Unnoticed by the plant operator, the door of a wind turbine was unlocked for weeks. There are repeated intrusions in which cables are stolen or parts of the plant are manipulated. A service technician suffered an electric shock due to such manipulations in a plant in Schleswig-Holstein.

## Security risk: Conventional keys

The current procedure clearly shows what's wrong: Wind turbines are insufficiently protected against unauthorized access by the use of conventional keys.

There are countless keys in circulation for each plant, which are used by manufacturers, operators, park managers or technicians. Often there is one or more master keys for an entire plant.

Some manufacturers even use the same keys to unlock their entire fleet of turbines throughout Germany - a major security issue.

## Full control: Electronic locking system

The wind-energy specialist ABO Wind, in cooperation with the locking system manufacturer and RFID specialist deister electronic, provides a solution specially tailored to wind park requirements - the ABO Lock access control system.



This is how it works: An electronic lock replaces the existing mechanical locking system. The system is completed by a keypad reader at the door, a door sensor and an electronic key management system located at the base of the turbine.

To unlock the system, the Keymanager software transmits a personal identification number (PIN) and a unique transaction number (TAN) to the mobile phone of plant supervisors, consultants, service technicians and other authorised persons. In the event of a power failure, the system is kept functional by an independent power supply (UPS). ►



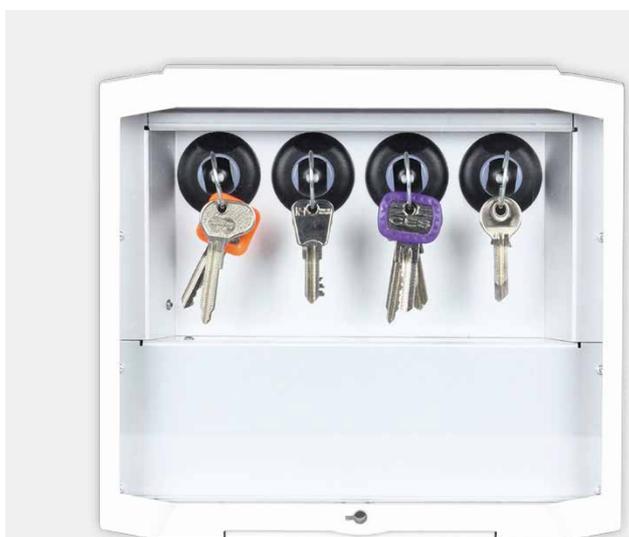
All keys, e.g. for the service lift, transfer station or the medium-voltage switchgear, are electronically secured in the key management system.

## Qualification-dependent access

Qualification-dependent access control means that authorised persons only have access to the areas assigned to them, such as the elevator, the transformer station or the control cabinet.

Access is specifically controlled and the removal of keys for security areas is seamlessly logged. Each access is 100 percent traceable through the electronic log - a must in the event of damage.

Time access restrictions for daily, monthly or one-time operations can also be assigned. Who was in the plant at what time and for how long? The operator receives full transparency via the system. ■



## Standalone Key Cabinet Smart 4

The Smart 4 electronic key cabinet has 4 slots to manage keys or bundles of keys and operates autonomously. It is initially synchronized with the management software and can then be installed standalone.

If the Smart 4 is to be installed inside, it can also control the door to the building or room.

- Standalone and yet integrated in the overall system
- PIN2Access technology generates temporary valid PINs with individual access rights
- Smart 4 can also control a door

## About ABO Wind

ABO Wind is a globally successful project developer for renewable energies. Since 1996, the company has provided the grid with around 650 wind turbines, solar parks and biogas plants with a capacity of 1,400 megawatts. ABO Wind is also active as an operator and manufacturer-independent service and maintenance company.



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## About deister electronic

For 40 years, deister electronic has been an internationally modern and sustainably managed family business that stands for innovative and safe automation solutions. With five international locations, we sell our solutions worldwide and have a strong international focus. Our solution portfolio is used, for example, in the following applications: Long-range identification for access control, access control to buildings, automatic management of work equipment and valuables in electronic locker systems, dispensing and management of textiles for laundry and hospital logistics.



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