



# MoniTeq® III

## On-Line HV Circuit Breaker Monitoring System

On-line monitoring systems have revolutionized equipment maintenance practices in the electric power industry, resulting in a shift from scheduled preventive maintenance to predictive maintenance based on the condition of equipment.

High-voltage (HV) circuit breakers are strategic in operating the power system but entail high maintenance, repair and replacement costs so monitoring their condition is important. MoniTeq® III, an HV circuit breaker monitoring system, is designed to keep a close watch on such equipment. Marketed by Snemo under licence, the system has been used to monitor several types of circuit breakers.

### ***New generation of on-line monitoring systems***

MoniTeq® III is a leading-edge system for monitoring the electrical and mechanical condition of power grid circuit breakers. Quickly detecting anomalies in circuit breakers helps ensure grid reliability, availability and security.

MoniTeq® III comprises sensors that monitor travel, current, pressure, temperature, etc., as well as a data acquisition controller and a substation controller. An expert system, supported by a rule set specific to the type of circuit breaker, provides detailed diagnostics of problems detected, including:

- > Component affected, nature of the anomaly and severity
- > Probable causes
- > Consequences if no action is taken
- > Recommended maintenance measures

MoniTeq® III includes a database of operating rules that can be tailored to the specific needs of each customer.

The system has been honed for the following types of circuit breakers:

- > 345 and 800-kV SFA SF6 gas breakers
- > 245 to 800 kV PK/PKV air-blast breakers
- > 145 to 345 kV HVB dead-tank SF6 gas breakers

MoniTeq® III can be adapted to monitor other types of circuit breakers.

### ***Functional characteristics***

The expert system automates data analysis for the following:

- > Discrepancy from the normal values typical of a healthy circuit breaker
- > Probable failures
- > Information for event post mortems
- > Historical trends for parameters measured

MoniTeq® III relies on 2.4 GHz wireless communication for data transfer from the circuit breaker to the control building.

### ***Competitive advantages***

MoniTeq® III has the following competitive advantages:

- > Open architecture supporting a wide range of applications
- > Proven performance for very-high-voltage substation applications
- > Wireless communication with the substation controller (significantly reducing installation costs)
- > Diagnostic of circuit breaker condition using an expert system based on breaker-specific rules
- > Interoperability with third-party systems
- > Minimal down time for commissioning and updates

Using MoniTeq® III thus helps reduce maintenance costs, increase circuit breaker reliability and better plan maintenance work.

### ***For information:***

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