Condition Monitoring **with SENTRON 3WA and 3VA circuit breakers**

Prevent unplanned downtime in critical infrastructures

A reliable power supply is of crucial importance in critical infrastructures such as hospitals, data centers, and industrial manufacturing facilities. However, circuit breakers and their condition often do not receive enough attention until it is too late.

As an operator, you are faced with a dilemma: Premature maintenance wastes resources and does not make full use of functional equipment's available service life. Conversely, delayed maintenance increases the risk of unplanned outages, which can have a serious impact on the entire power supply.

Blind maintenance costs more than one might think

Although keeping track of everything allows you to minimize risks and reduce costs, it's easier said than done. A lack of transparency can have several negative effects.

- Difficulty predicting maintenance times
- Unplanned outages due to circuit breaker wear
- High costs due to maintenance being performed too early or late

Reimagining maintenance: shifting from reactive to proactive

Intelligent condition monitoring allows for precise maintenance planning and prevents unplanned outages. Siemens offers an intelligent solution for predictive maintenance of critical infrastructures with the SENTRON 3WA and SENTRON 3VA circuit breakers. The integrated condition monitoring in these devices can do much more than count switching cycles.

The circuit breakers are equipped with various sensors. These sensors continuously monitor and control various wear effects. Condition monitoring allows users to draw conclusions about the devices' condition and expected remaining service life.

SIEMENS

The core elements of condition monitoring

Health indicator:
The health indicator of SENTRON 3WA and 3VA circuit breakers is determined by analyzing shutdowns and trips. Each shutdown or trip changes the status of the main contacts. Therefore, the health indicator is recalculated with each new switching cycle (on/off or on/tripped). This means that the device status is evaluated daily and expressed as a percentage.

- 100-30%: Optimal functionality
- 30-1%: Prepare for maintenance
- 0%: Immediate replacement required

Remaining service life forecast:
A patented, intelligent algorithm calculates the remaining service life by taking into account changes in the health indicator and analyzing previous usage behavior. If usage behavior changes, the algorithm adjusts accordingly.

- Intelligent calculation based on actual usage behavior
- Detailed, daily-updated time specifications for less than three years of remaining service life
- Automatic adjustment in the event of changes in usage behavior

Software for energy and condition monitoring

The information can be viewed on either the integrated display or an externally connected display. Alternatively, it can be accessed on-site via Bluetooth on a smart device using the SENTRON Powerconfig Mobile app, or it can be monitored and analyzed using the SENTRON Powercenter 3000 or SENTRON Powermanager software solutions.

Visualization and access

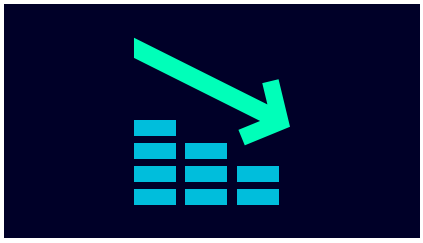
- Display directly on the device (on the ETU)
- SENTRON Powerconfig – the commissioning software
- SENTRON Powercenter 3000 – the energy monitoring software
- SENTRON Powermanager – the comprehensive energy management system (EMS)

Your advantages: Optimized availability at reduced costs

Thanks to their integrated condition monitoring, the SENTRON 3WA and SENTRON 3VA circuit breakers enable a proactive rather than reactive maintenance strategy. The health status of each circuit breaker is transparent and measurable. Therefore, maintenance decisions are based on precise data rather than assumptions.

Enhanced safety and reliability

- Early detection of potential failure risks
- Avoidance of unplanned downtime
- Optimization of maintenance intervals



Reduced effort and lower costs

- Reduction of unnecessary maintenance work
- Optimal utilization of service life

Complete transparency

- Comprehensive overview of switch and system status
- Sound basis for decision-making
- Planning reliability for resources

Published by
Siemens AG
Smart Infrastructure
Electrical Products
Siemensstrasse 10
93055 Regensburg
Germany

For the U.S. published by
Siemens Industry Inc.
3617 Parkway Lane
Peachtree Corners, GA 30092
United States

Order No. SIEP-B10520-00-7600