EnviAir

Substation Remote Monitoring System

Switchgear panel's most probable initiating cause of failure involves both mechanical and electrical, such as loose connections, internal temperature issue, contact deterioration and etc., which would lead to rise of internal temperature. An effective thermal detection could prevent thermal failures.

Design

EnviAir is specially designed for substation condition monitoring, which includes three main indications: temperature, humidity and ozone. It can be easily implemented to switchgears in various brands and voltage levels by attaching it to the panel surface (hole-drilling required: approx. 12mm). It continuously monitors the temperature, humidity both inside and outside, which can effectively prevent false alarm due to environmental factors.

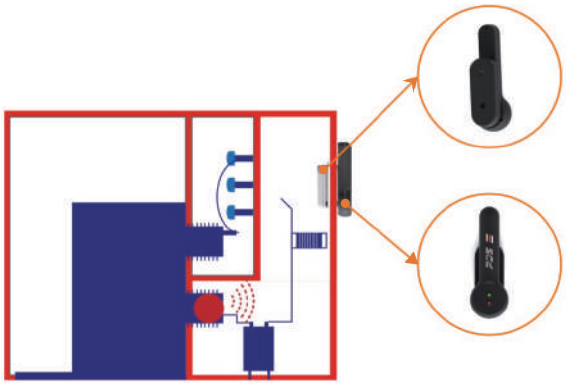
The time interval of data collection and alarm threshold are adjustable. For 1 minute interval, the battery can last up to 18 months. Data acquired will be uploaded to server wirelessly via gateway utilizing Sub-GHz communication. The multi-condition monitoring system can work well as a sole indicator, or it can be combined with other monitoring system, such as Partial Discharge Monitoring System (PDMS), smart meter for further analysis. For instance, with the aid of PDMS, EnviAir can provide supplementary information to determine the possibility of flash over and the associated risk assessment.

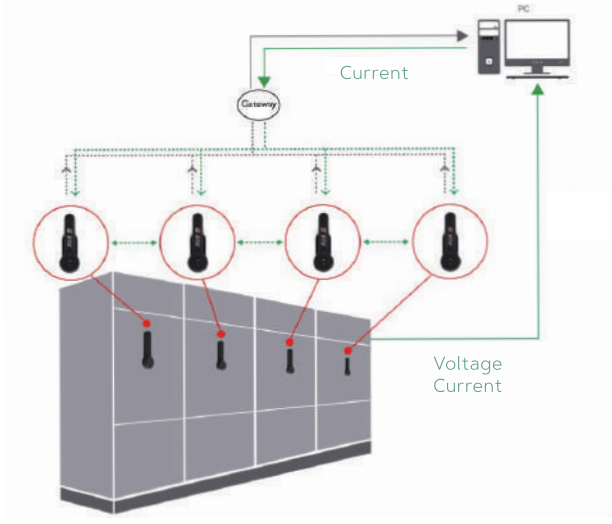
Components

Sensors : Built-in 3 sets of sensor (2 sets of temperature/humidity + 1 set of ozone) for continuous monitoring. It features battery indicator and failure detection, which will trigger alarms when battery is low and/or abnormal activities are detected.

Wireless Communication : EnviAir can communicate wirelessly utilizing Sub-GHz method, which allows connection up to 1,024 devices (depends on layout onsite). The communication method has advantages such as long distance, low power consumption and numerous monitoring points.

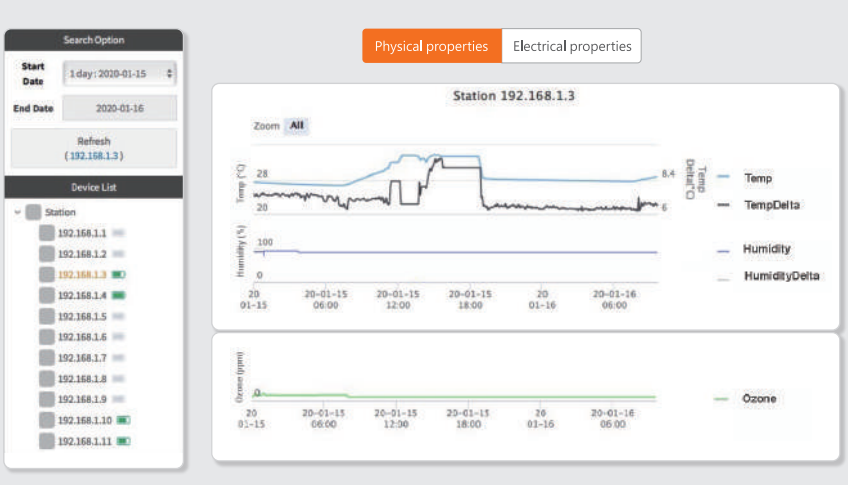
Monitoring Software : Real-time monitoring on the three conditions, as well as displaying equipment information, such as sensor battery status, communication strength and current condition. User may adjust monitoring parameters, such as alarm threshold, fault notification, recording interval, and more.





Feature Highlight

- Multiple sensors: temperature/humidity/ozone
- Up to 1-minute recording interval (default)
- Wireless communication with small size for easy installation
- Battery power for up to 18 months (1-min. interval)
- Trend graph for easy tracing and report making
- Alert notification set (adjustable):
  - Internal overheat
  - Excessive temperaturedifference between inside and outside of panel
  - Excessive ozone concentration
  - Low battery
  - System fault
- Temperature measuring range: -40°C to 125°C
- Humidity measuring range: 0 to 100% RH
- Ozone measuring range: 0 to 20ppm



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