



HIGH VOLTAGE ELECTRICAL ASSET MONITORING SOLUTIONS

Accurate, Real-time Temperature Monitoring
Without the Hassle of Wires

Simplified Real-Time Temperature Data Collection

Wireless temperature sensor can be powered by self-sensing on the measured object (requiring a minimum current of 5A), or using battery power (3 years, 5 years, or longer depending on the choice).

The sensors can be easily installed in most critical positions such as busbars, conductors, cable terminations, nearby contact points, or even inside medium voltage cabinets, transformer enclosure.

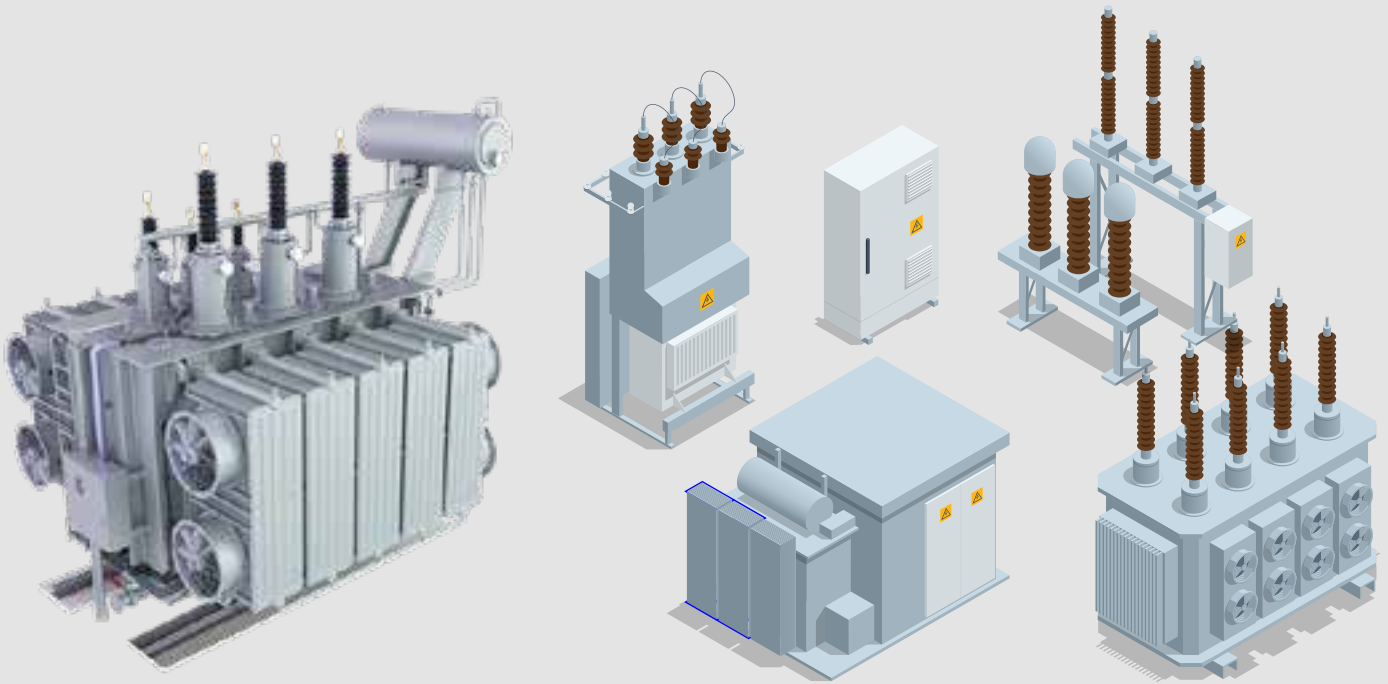


Sensor Type	Description	Feature
WIRELESS TEMPERATURE SENSOR (SELF-POWERED AND BATTERY-POWERED))	Communication	Wireless
	Transmission Range	100 meters in open space
	Sampling Rate	Can setting
	Power Supply	Self-powered with current $\geq 5A$ (for self-powered sensor) Battery Life: 3 years, 5 years, or longer depending on the choice (for battery-powered sensor)
	Measuring Temperature Range	-20°C - 120°C
	Accuracy	$\pm 0.1^\circ C$
	Humidity Measurement Range	0 - 100%RH
	Accuracy	2%RH
	Operating Environment	Temperature: -10°C ÷ 80°C Humidity: $\leq 100\%RH$
	Protection Level	IP65
	Environmental Certification	RoHS 2

Temperature Monitoring Solution

<p>Continuous Automatic Temperature Monitoring and Alerting</p>	<p>Integration of Existing Monitoring and Alerting Systems</p>	<p>Connecting SCADA System using IEC 60870-5-104 Master/Slave Protocol</p>
<p>Display on Web Interface or Mobile Application (Android/iOS)</p>	<p>Detailed Identification of Monitored Objects</p>	<p>Setting Thresholds for Alarm Notification according to Vietnamese Standards, International Standards (IEC/TCVN), or Custom Standards</p>
<p>Adjusting Load-Based Alert Thresholds</p>	<p>Report Generation: Frequency of Selection, Trend Charts by Day, Week, Month, Year</p>	<p>Oil Level Monitoring</p>
<p>Monitoring Parameters: Current, Voltage, Power, Power Factor...</p>	<p>Monitoring Any Location on the Electrical Equipment</p>	<p>Humidity Monitoring</p>

Connecting to Electrical Devices



Thermal Solution Architecture

Central Monitoring Room



MONITORING CENTER

Visualization, Analysis, Diagnostics, and Evaluation of Electrical Equipment Condition

Monitoring center



RM EYE

DATA COLLECTION SYSTEM

DATA COLLECTION SYSTEM

- Configuration and setup for connecting and collecting data from sensors.
- Physical connections to transmit data to the central system through various interfaces: Ethernet, Wi-Fi, 4G, RS485.
- Integration with the central system or HMI using custom standards or Modbus TCP/RTU.



Gateway



R501

THE SENSOR ARE CONNECTED USING STANDARD INTERFACES



WAN

Wireless

SENSOR

Sensors are directly mounted on the monitored object to measure and transmit data to the data collection system.



Sensor



Specifications Of Thermal Gateway

- 1 The device collects temperature data from wireless sensors. It utilizes 2.4GHz wireless technology with 16 channels, allowing for optimal data transmission speed. It operates on the free and unlicensed ISM band, ensuring no licensing requirements.
- 2 Integrated with the central monitoring system or HMI using proprietary standards or Modbus TCP/RTU protocol. This enhances flexibility in industrial applications.



- 3 Detailed identification of all monitored objects and their respective monitoring locations creates the most favourable conditions for the monitoring and operational processes.
- 4 The physical connection to the central monitoring system is typically done through a standard Ethernet RJ45 interface, making it easy to connect. The configuration process is user-friendly, with a web-based guide interface that is integrated into the device for convenience
- 5 Specifications Of Thermal Gateway.



Thermal Solution Applications

Thermal monitoring systems can be flexibly installed in locations with voltage up to 500kV, and are applied in monitoring applications.

- Electrical devices in the medium voltage substation
- Electrical devices in the medium voltage switchgear
- Electrical devices in the 110/220/500kV substation yard



Why Customers Choose Us?

RM solution, the trusted monitoring solution for over 10000+ assets across 50+ countries. We are a leading High Value Electrical Asset Monitoring Company integrating fibre optic technology to the assets.



Attention to Details

It's our attention to the small stuff, scheduling of timelines and keen project management that makes us stand out from the rest.



A plan for Success

Our Customers are well satisfied with the advisory services that we offer to help them with best in class technological performance and a long durable life.



Experts only

We bring in our diversified experienced team with over 100+ years of experience in Asset Monitoring



Meeting Deadlines

Work with us, and you'll work with seasoned professionals – vigilant of deadlines, and committed to exceeding client expectations.



Money Matters

We protect you against currency fluctuation with competitive and fair market prices



Rugged Monitoring Services

Rugged Monitoring provides customization of sensors, monitors & software. In addition we offer on-site commissioning services, maintenance contracts and technical support to all customers worldwide.

About Rugged Monitoring

Industry's leading team of asset condition monitoring experts with 100+ years of combined experience committed to delivering customizable solutions for challenging applications. We offer a range of reliable, high performance, customizable sensors and monitoring solutions that are immune to external influence.

Certification



ISO 9001



ISO 14001



ISO 45001/
OHSAS 18000



Lloyd's
Register



ATEX
Certification

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