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Transmission Line Temperature Monitoring Device K8051

A wireless temperature monitoring system for transmission line conductors and clamps. It collects real-time temperature data, supports overheating early warning, and provides core data for line safety and dynamic capacity increase.



Product Core Positioning

A dual-point temperature monitoring solution for conductors, clamps and connectors. It enables accurate temperature measurement, real-time overheating detection and intelligent warning, supporting dynamic line rating and improving O&M efficiency.

Core Technical Advantages

◎ Dual-point Accurate Temperature Measurement

Dual-point synchronous monitoring of conductor + clamp, temperature measurement range -40℃~+120℃, accuracy ±1℃, IP68 high protection, adapting to complex outdoor environments.

◎ Ultra-low Power & Long Battery Life

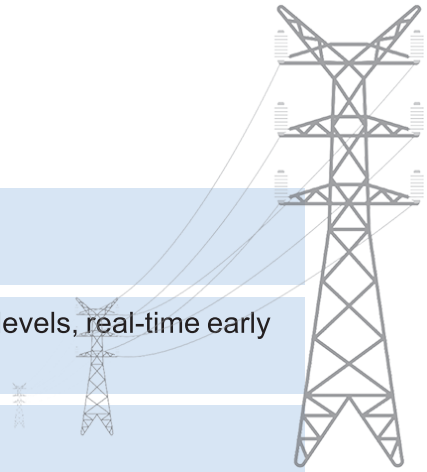
Sensor battery life ≥5 years, monitoring terminal works continuously for ≥30 days without sunlight, LoRa low-power communication, long-term stable and maintenance-free.

◎ Large-capacity Centralized Control

Single terminal can connect ≤255 sensors, wireless coverage radius ≥300m, greatly reducing the number of terminal deployments and construction costs.

◎ Intelligent Defect Warning & O&M

Automatically judge temperature defect levels, automatically increase collection frequency when temperature rises abnormally; support remote configuration and upgrade, data storage ≥90 days for traceability.



Core Function Introduction

01 **Conductor/Clamp Dual-point Temperature Measurement:**
Collect temperature data in real time, filter noise, accurate monitoring

02 **Intelligent Defect Judgment:** Automatically determine temperature defect levels, real-time early warning for abnormal temperature rise

03 **Large-capacity Wireless Networking:**
LoRa communication, single terminal connects 255 sensors, wide coverage

04 **Long Battery Life & Low Power Consumption:**
Sensor life ≥5 years, terminal works 30 days without sunlight

05 **Remote Intelligent O&M:**
Remote parameter configuration & firmware upgrade, data storage ≥90 days

Product Technical Parameters

Parameter category	Specific parameters
Temperature Range	-40℃ ~ +120℃
Temperature Accuracy	±1℃
Communication	LoRa/4G/Beidou
Protection Grade	IP68
Sensor Life	≥5 years
Battery Life (No Sunlight)	⩾30 days
Sensors per Terminal	≤255
Wireless Distance	≥300m

Application Scenarios & Benefits

Suitable for temperature monitoring of conductors, clamps, connecting fittings, jumper link plates of HV transmission lines; real-time early warning of overheating defects, avoiding line faults, supporting dynamic capacity increase, improving line utilization and reducing O&M costs.