

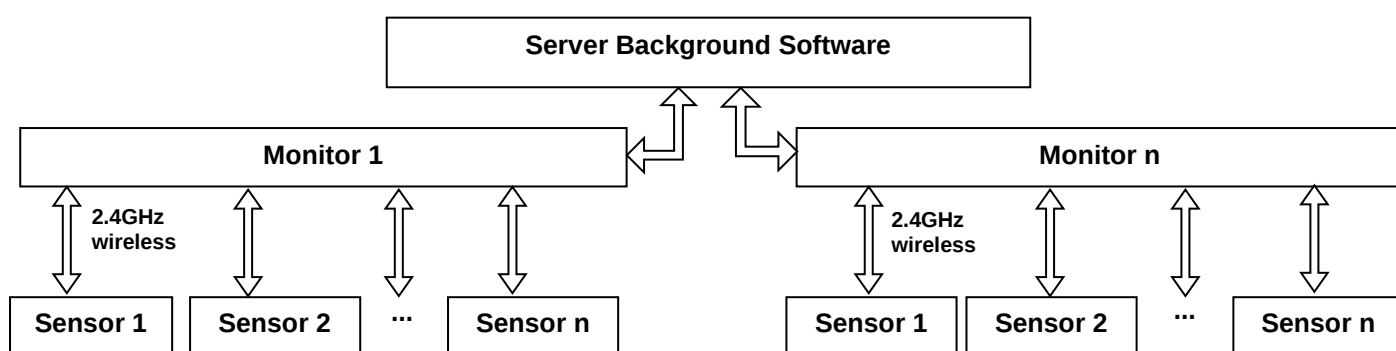


Wireless Temperature Monitoring system

WITEM

The wireless temperature monitoring system WITEM300 is dedicated for temperature monitoring of most important spots (moving contacts, busbar joints, etc.) in LV/MV switchgear systems. It consists of two parts: temperature measurement monitor WITEM300M and a number wireless temperature measurement sensors WITEM300S. Temperature measuring monitor is installed on the instrument panel door. Measuring sensors can be installed on the fixed contacts in the bushing insulator, on the busbar or cable connections. Temperature sensor and monitor have wireless communication between each other. This helps to avoid insulation problems and gives an advantage of fast and easy sensor installation.

Typical diagram of the wireless temperature monitoring system:



MONITOR CHARACTERISTICS

- One monitor can connect up to 16 temperature measurement sensors, and one upper computer can connect up to 99 monitors through the RS485.
- The wireless temperature measuring monitor can display temperature of all measured points in real time.
- It is possible to set up LED alarms, NC/NO alarm output signals and relevant parameters on the spots - exceeded preset absolute temperature or temperature rise values, too high temperature difference between different measuring points.
- Through RS485 (optocoupler isolated) bus, Modbus protocol networking function, you can reach all parameter settings, real-time temperature data and alarm information.



MONITOR TECHNICAL DATA

Power supply	50/60Hz, 90-264V AC / 100-370V DC
Operating temperature range	-10°C~+85°C
Display	16x2 monochrome LCD and four LED display
Alarm Output	Two relay, AC250V/5A
Wireless communication distance	open area 50-100 meters
Monitor power consumption	≤5W
The communication with PC	Isolated

SENSOR CHARACTERISTICS

- Very low self-power consumption: temperature sensor power consumption is less than 0.1W. Temperature sensor uses ZigBee Low-power technology. Operation mode is work-sleep-work. When the input current is less than 30A, temperature sensor enters into the ultra-low power mode. It will automatically send temperature data with regular cycle, but the rest of the time it is in dormant state.
- High performance current transformer: the current transformer designed by the company has the characteristics of strong electromagnetic induction and high conversion efficiency. It provides the power guarantee for the stability of the sensor.
- Very low start-up current and high cut-off current; current range of the sensor is 15A ~ 4000A.
- High temperature design, high quality heat resistant material and electronic components can work properly and steadily up to 115°C ambient temperature
- High reliability: the temperature measurement sensor adopts electronic structure design of industrial level, to ensure the long-term reliability of equipment; special measures were anticipated in the design to avoid EMC problem, ensuring that the equipment can run in harsh operating conditions.
- Each wireless temperature sensor has its own ID (12 bit read-only) and can adapt automatically to the work frequency of the monitor.
- Wireless temperature measurement sensor comes in three editions designed for application in different spots. It can be mounted on the circuit breaker moving or static contacts, busbar or cable connection.



Temperature sensor type 1



Temperature sensor type 2



Temperature sensor type 3

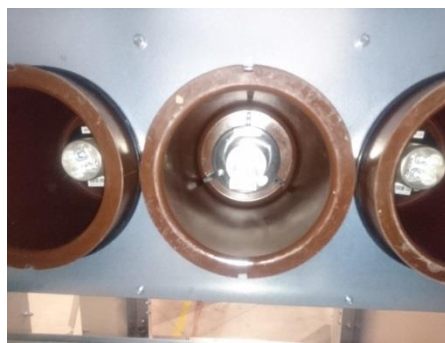
SENSOR TECHNICAL DATA

Power supply	Self powered
Operating temperature range	-30°C~+115°C
Measuring temperature range	-30°C~+125°C
Accuracy of measurement	±1.0°C
Wireless communication distance	open area 50-100 meters
Reaction Time	≤3s
Sensor power consumption	≤0,1W

SENSOR APPLICATIONS



Sensors mounted on CB static contacts



Sensors mounted on CB static contacts



Sensor mounted on busbar

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