

SenseLive Edge8000, SenseBT222, SenseCT222

Wireless Busbar/Surface Temperature Monitoring

SenseLive Wireless Busbar/Surface Temperature Monitoring System

System Overview

The SenseLive Wireless Busbar/Surface Temperature Monitoring System integrates three components into a single, modular solution:

- **Edge8000 Controller** : 96×96×17 mm panel-mount wireless temperature controller with RS-485 Modbus-RTU output and relay alarms.
- **SenseBT222 Sensor**: Strap-secured, battery-powered temperature sensor (−50 °C to 125 °C, ±1 °C) communicating at 470 MHz.
- **SenseCT222 Sensor**: Alloy-clip, CT-powered temperature sensor (−50 °C to 125 °C, ±1 °C) on the same wireless link.

A single Edge8000 can receive data from **up to 60** combined BT/CT sensors, providing local display, digital inputs, relay outputs, and Modbus-RTU on RS-485 for SCADA integration.

Key Benefits

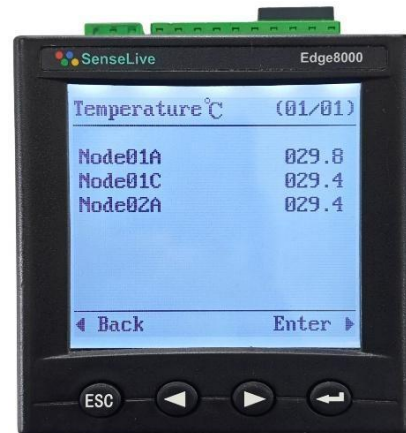
- **Prevent Overheating & Failures**: Detects hot-spots to avoid insulation damage, arc-flash, and unplanned outages.
- **Predictive Maintenance**: Real-time alerts and historical trends enable timely interventions
- **Safety & Compliance**: Meets NB/T 42086-2016 wireless temp measurement



- standards; aids IEC 61439, IEEE 1584 compliance.
- **Energy Efficiency**: Optimizes load distribution by maintaining optimal busbar temperature.
- **Remote Monitoring**: Wireless IoT connectivity for cloud/SCADA dashboards and mobile access.

Applications:

- Busbar Overheat Detection
- Switchgear Panel Monitoring
- Battery Cold Spot Detection
- Chiller Pipe Temperature
- Substation Equipment Monitoring
- Cold Storage Temperature
- HVAC Duct Temperature.



Edge8000 Controller Technical Specifications

Parameter	Specification
Dimensions	Panel: 96 × 96 × 17 mm;- depth: 65 mm; Cutout: 92 × 92 mm
Power Supply	AC 85–265 V or DC 100–300 V; 8 W consumption
Input Channels	4 × Digital Inputs (auxiliary breaker contacts; opto-isolated; DI= “1” when closed)
Relay Outputs	4 channel DO's; valid only when Node Enable=ON)
RS-485 Interface	Modbus-RTU, 2400–19 200 bps; 3-phase wiring 3P3L/3P4L; 100 V/5 A/50 Hz measurement via optional meter integration
Wireless Receiver	470 MHz; up to 150 m open area; auto-pair to BT222/CT222 sensor groups
Sampling & Transmission	Sensor sampling 25 s (active) / 15 s (passive); adjustable 5 min max; battery life ≥ 5 years
Environmental	–10 °C to +55 °C; ≤ 95 % RH; 86–106 kPa; MTBF ≥ 50 000 h
Communications	Modbus-RTU (Function codes 02h/03h/04h/06h/10h); DI/DO status frames;

	register address table supporting up to 30264 registers
Installation & Mounting	Panel-mount via cutout; guide-rail kit optional; wall brackets optional



SenseBT222 Battery-Powered Sensor

Parameter	Specification
Mounting	Strap-secured mounting anywhere on busbar
Temperature Range	–50 °C to +125 °C
Accuracy	±1 °C
Power Source	Lithium battery (≥ 5 years life)
Wireless Frequency	470 MHz
Transmission Range	Up to 100 m (line of sight)
Sampling Interval	25 s (configurable 5 min max)
Protection Rating	IP68 (outdoor sensor)



SenseCT222 CT-Powered Sensor

Parameter	Specification
Mounting	Alloy-clip fixing on CT conductor
Temperature Range	-50 °C to +125 °C
Accuracy	±1 °C
Power Source	Powered by CT circuit (≥ 5 A CT primary)
Wireless Frequency	470 MHz
Transmission Range	Up to 100 m (line of sight)
Sampling Interval	25 s (configurable)

Ordering Information

Model	Description
Edge8000	Wireless Temperature Controller (panel-mount)
SenseBT222	Battery-powered temperature sensor (strap mount)

SenseCT222	CT-powered temperature sensor (clip mount)
Edge8000 + BT222 + CT222	Complete system: 1 controller + up to 60 sensors

Accessories: Panel -mount brackets; external antenna;

8. Compliance & Certification

- Conforms to **NB/T 42086-2016** wireless temperature measurement standards.
- CE, FCC, and RoHS compliant.
- Designed for **IEC 61439**, **IEEE 1584**, **NFPA 70E** environments.