

ST Series Wireless Temperature Sensors

The ST Series Wireless Temperature Sensors are industrial-grade devices engineered for precise temperature monitoring of industrial equipment. They offer high accuracy, ultra-low power consumption, and exceptional durability, making them ideal for long-term operation in harsh industrial environments.

ST100P and ST100K: Feature a host and external probe configuration, suitable for monitoring internal temperatures of pipes or equipment. These sensors support platinum resistance probes (PT100) and various thermocouple types (K, J, N, T, S, R, or E), with a temperature range from -270°C to 1600°C.

ST101, ST103, and ST105: Offer an integrated design, ideal for surface temperature monitoring. Installation is straightforward using adhesive, screws, clamps, or magnetic methods.

The sensor data is transmitted wirelessly to remote monitoring system, allowing users to monitor the temperature and receive timely alerts, continuously track the entire process, ensure the safe operation of equipment, prevent unplanned downtime, and reduce maintenance time and costs.

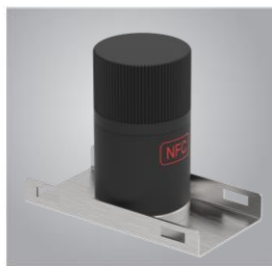


Features and Advantages

Accurate	⇒ Platinum resistance thermometer: 15-Bit ADC, resolution 0.03°C, accuracy $\pm 0.5^\circ\text{C}$. Type K Thermocouple: 14-Bit ADC, resolution 0.25°C, accuracy $\pm 2^\circ\text{C}$.
Easy-to-install	⇒ Cable-free, mounted with adhesive, threaded, and clamping methods.
Wireless	⇒ Reliable data transmission via Bluetooth or LoRa/LoRaWAN.
Low-powered	⇒ Built-in battery with 5-10 years of life for normal usage.
Ruggedized	⇒ Waterproof, dustproof, shockproof, corrosion-resistant, and intrinsically safe; suitable for harsh industrial environment.
Flexible	⇒ Configurable sampling and communication periods to meet specific requirements.
Accessible	⇒ Remotely accessible anytime, with automatic alerts and maintenance-free operation.
Convenient	⇒ Bluetooth compatible and can be connected via mobile app.

APPLICATIONS

- Equipment Monitoring
- Pipeline Monitoring
- Container Monitoring
- Environment Monitoring

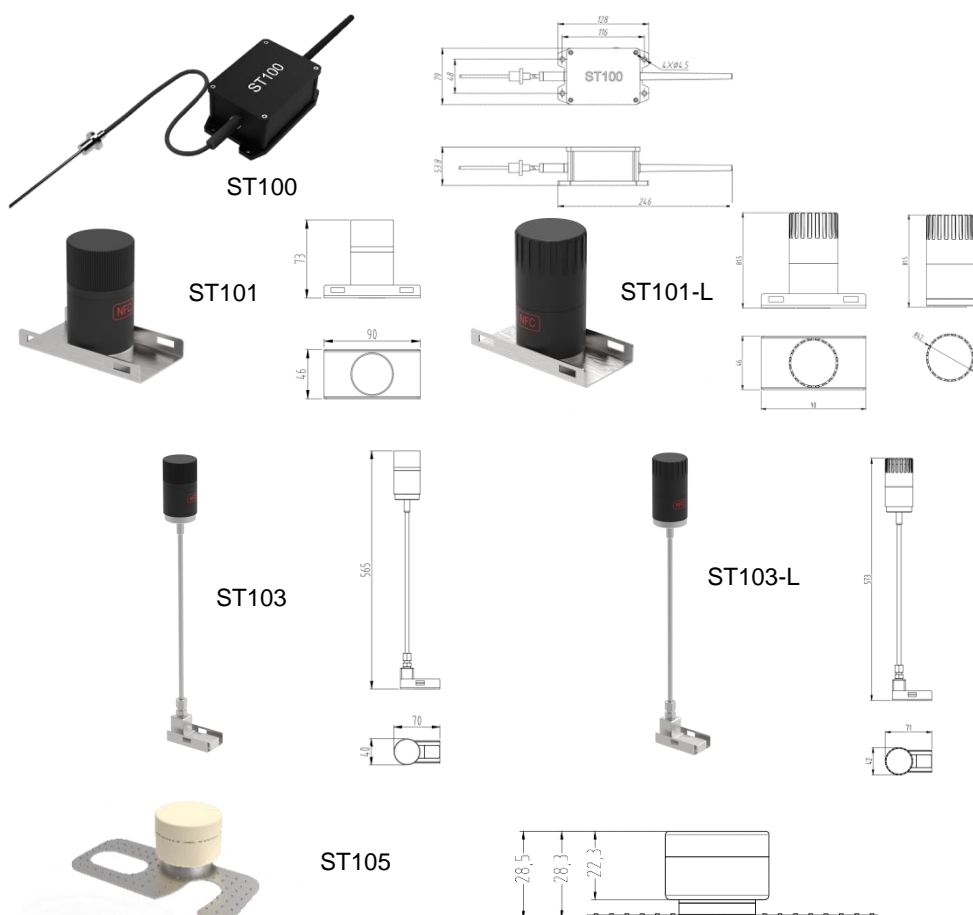


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THETA SENSORS CORPORATION

Specifications

Product Model	ST100-R ST100-RL	ST100-K ST100-KL	ST101 ST101-L	ST103 ST103-L	ST105
Form Factor	External probe		Integrated (normal temperature)	Integrated (high temperature)	Integrated (normal temperature)
Sensor Type	Platinum resistance (RTD)	Type K thermocouple	Thermal resistance	Type K thermocouple	Thermal resistance
Measurement Range	Maximum: -200~450°C	Maximum: -200~1350°C	-45~125°C (sensing element)	-200~600°C (other ranges customizable)	-45~125°C (sensing element)
Measurement Precision	±0.5°C or ±0.5% of full scale	±0.8%	±1°C	±0.8%	±1°C
Data Acquisition Period	1/2/5/10/15/20/30/60/120/240/360/480/720/1440 minutes				
Communication	ST100-R/ST100-K/ST101/ST103/ST105: 2.4GHz Wireless Sensor Network (Bluetooth 5.0), line-of-sight range 300m ST100-RL/ST100-KL/ST101-L/ST103-L: LoRa/LoRaWAN Wireless Sensor Network, line-of-sight range 3000m				
Battery	6500mAh Li/SOCL2; replaceable		ST101/ST103: 4000mAh; ST101-L/ST103-L: 6500mAh Li/SOCL2 replaceable		1200mAh Li/SOCL2; replaceable
Dimensions	128 x 79 x 54mm (L x W x H)		90 x 46 x 73mm 90 x 46 x 81.5mm (L x W x H)	70 x 40 x 565mm 70 x 40 x 573mm (L x W x H)	33 x 28.5mm (D x H)
Weight	500g		140g/150g	300g	38g
Operating Temperature	-40~85°C				
Operating Humidity	10%~90% RH				
Enclosure	Metal and polyamide with fiberglass				
Explosion Protection	EX ia IIC T4 Ga				
Ingress Protection	IP67				
Mounting	Screws		Screws, adhesive, clamping ring or magnetic mounting		



ST101/ ST101-L Clamping Ring Mounting



ST103/ ST103-L Mounting