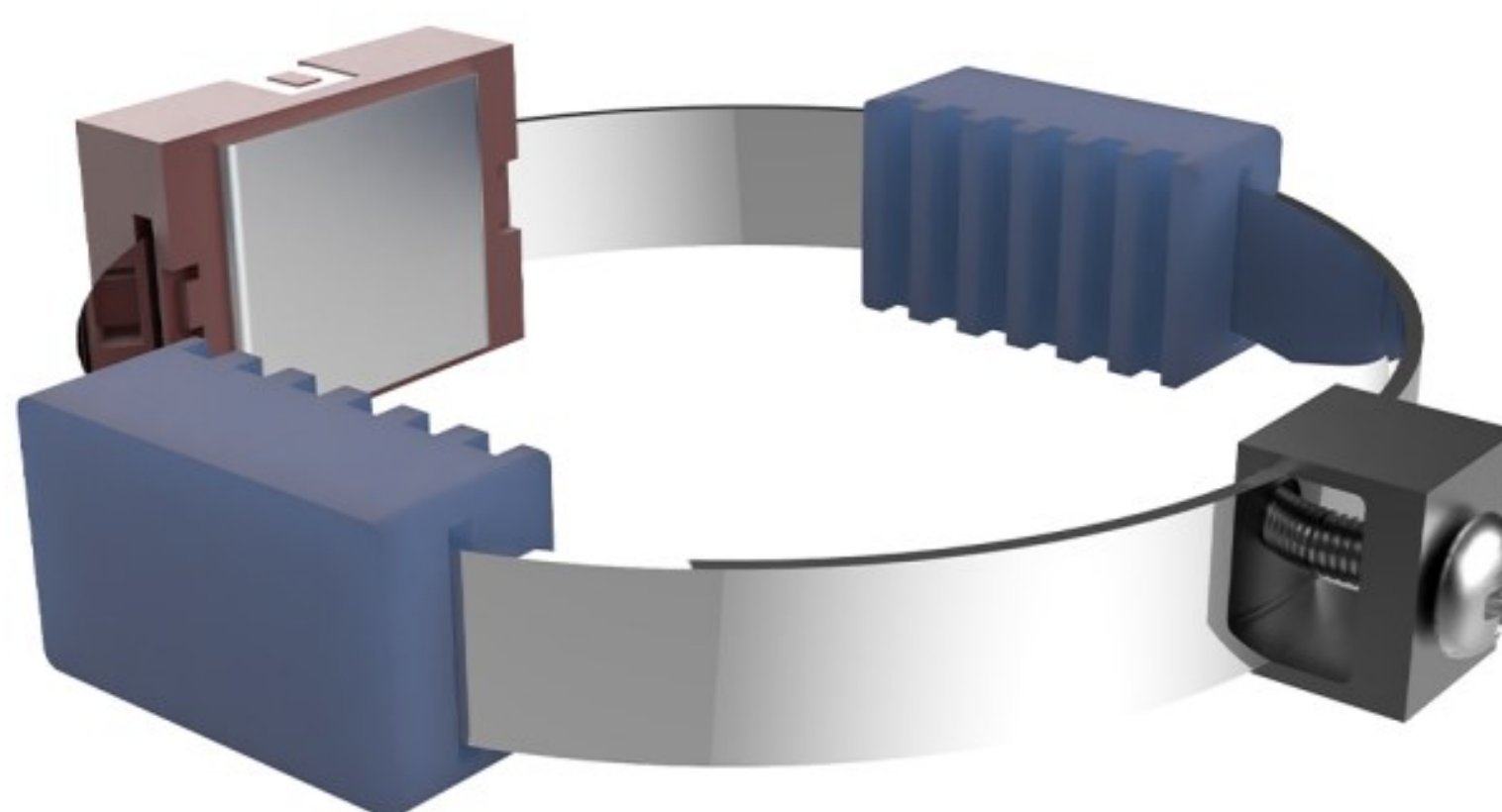


PASSIVE WIRELESS TEMPERATURE MEASUREMENT SENSOR



Introduction

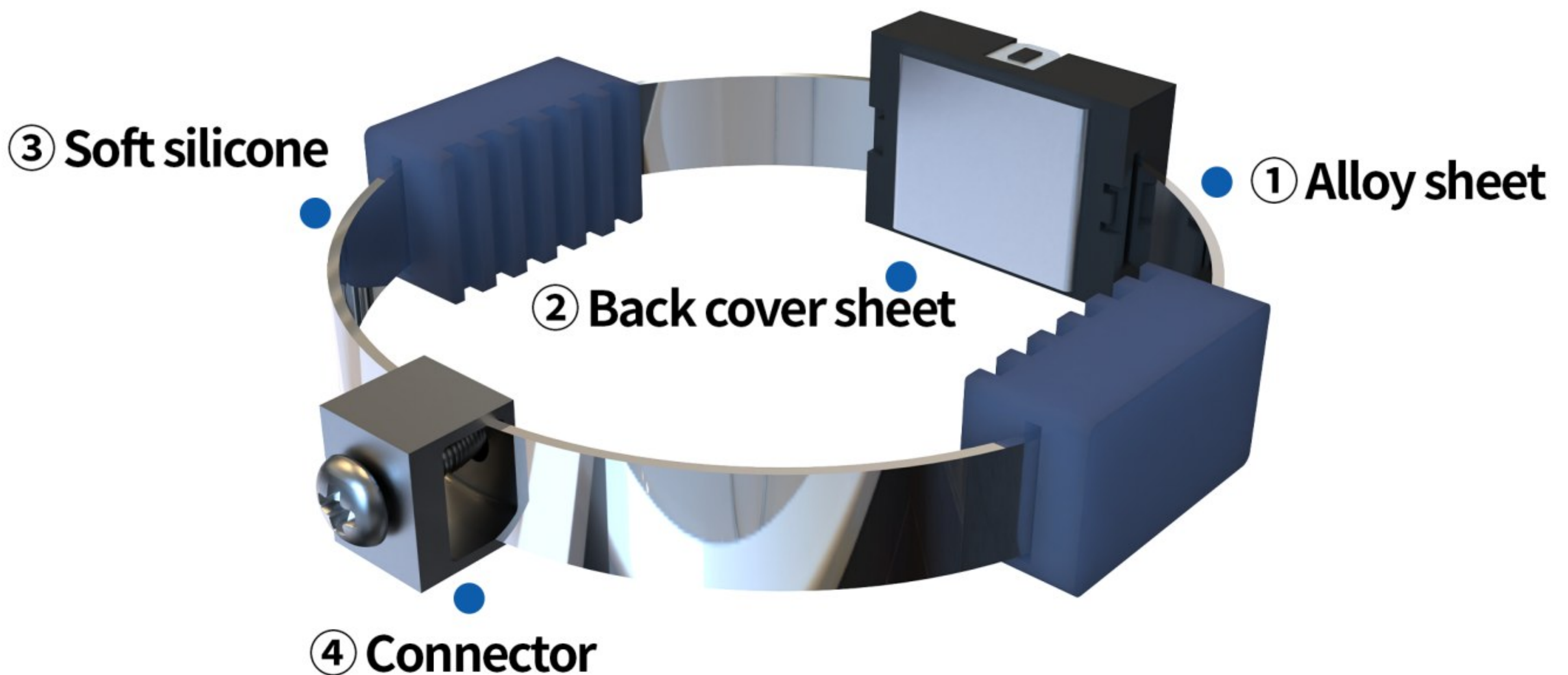
This product is designed to measure the surface or contact temperature of high-voltage live objects, such as the operating temperature of bare contacts, busbar connections, outdoor disconnectors and transformers inside high-voltage switchgear cabinets.

The wireless temperature sensor consists of a temperature sensing element, signal modulation & amplification circuit, logic control circuit and wireless modulation interface. The sensor transmits the collected temperature signals to the wireless temperature monitoring host via wireless network.

System



Device Structure



Structural Description

- ① **Power-taking alloy sheet:** Made of conductive alloy material, it harvests operating power from the measured equipment via electromagnetic induction to power the sensor.
- ② **Back cover sheet:** A contact component with a built-in thermosensitive element, which fits closely to the surface of the measured part to sense and collect temperature data in real time.
- ③ **Soft silicone:** An elastic insulating material filled in component connection gaps. It enhances sealing performance and structural stability, and also provides electrical insulation protection.
- ④ **Connector:** A dual-terminal connector that links the power-taking alloy sheet to the sensor's main circuit, enabling power transmission and signal conduction.
- ⑤ **Screw:** Used to fasten the power-taking alloy sheet to the surface of the measured equipment, ensuring stable contact between the power-taking component and the measured part.

123 Parameters

Parameter	Details
Temperature Measurement Range	-40 ~ 150°C
Measurement Accuracy	±1°C
Temperature Sampling Frequency	10~30 seconds by default (random interval)
Wireless Frequency	433MHz
Wireless Transmission Distance	≥350 meters (in open space)
Working Power Supply	Inductive power harvesting
Starting Current	<5A
Voltage Grade at Installation Position	≤220kV
Primary Current at Installation Position	≤5000A (for current exceeding 5000A, please contact the manufacturer's technical team for on-site assessment)
Installation Method	Strap-on type
Main Body Dimensions	24mm × 22mm × 10mm

Positions

Equipment Type	Specific Installation Position	Scenario Description
Withdrawable High-voltage Switchgear	Busbars, static contacts, cable lap joints	Conductive connection nodes of high-voltage distribution equipment
Low-voltage Cabinet	Outlet terminals, circuit breaker inlet & outlet terminals	Line connection terminals of low-voltage distribution equipment
Busbar / Power Station Equipment	Tubular busbars, copper busbars, substation connectors	Busbar and connector components of power transmission & distribution systems
Fixed High-voltage Switchgear	Busbars, isolating disconnectors, cable lap joints	Conductive connection nodes of fixed high-voltage equipment
Low-voltage Switchgear	Air switch incoming lines, outgoing lines, cable outlets	Line connection terminals of low-voltage switchgear equipment