

LoRaWAN Heavy-Duty Thermocouple Temperature Transmitter



Smart Factory

SKU: WSLRWAL-TC



Safe Zone



Hazardous Zones

LORAWAN HEAVY DUTY THERMOCOUPLE TEMPERATURE TRANSMITTER WSLRWAL-TC



ME: 1

WSLRWAL-TC is a battery-powered LoRaWAN® thermocouple temperature transmitter designed for reliable temperature monitoring in industrial and heavy-duty applications. It supports Thermocouple Types B, E, J, K, N, R, S, and T, providing flexible integration with a wide range of temperature probes and industrial processes. The transmitter features a rugged IP67 cast-aluminum enclosure, making it suitable for demanding environments such as factories, boilers, furnaces, steel plants, and process facilities. Factory calibrated for quick commissioning and optimized with ultra-low-power electronics and smart firmware, the WSLRWAL-TC can operate for up to 10 years using a single 3.6 V D-size battery, depending on configuration and operating conditions. LoRaWAN Class A communication enables long-range wireless data transmission to standard LoRaWAN gateways, supporting efficient remote temperature monitoring with reduced wiring, installation effort, and maintenance requirements.

Applications

Industrial process temperature monitoring, Boiler and furnace temperature monitoring, Steel and metal processing, Machinery and equipment temperature monitoring, Factory and plant condition monitoring, Remote temperature monitoring, Agricultural and processing equipment, Energy and utility facilities

Notes For Applications

When selecting a thermocouple transmitter node, consider the following criteria:

- **Temperature Range:** Determine the required measurement temperature range for your application.
- **Chemical Resistance:** Assess the compatibility and durability of the thermocouple wires with the environment where they will be exposed.
- **Abrasion and Vibration Resistance:** Choose a transmitter that can withstand abrasion and



LoRaWAN communication

LoRaWAN Class A communication provides long-range, low-power wireless connectivity and easy integration with standard LoRaWAN gateways and networks.



Up to 10-Year Battery Life

Ultra-low-power electronics and optimized firmware enable up to 10 years of operation from one 3.6 V D-size primary lithium battery, depending on device configuration and operating conditions.



Multiple Thermocouple Types

Supports Thermocouple Types B, E, J, K, N, R, S, and T for flexible temperature monitoring across a wide range of industrial applications.



Rugged IP67 Industrial Housing

Durable cast-aluminum IP67 enclosure designed for demanding industrial and heavy-duty installations.



Flexible Data Reporting

Supports periodic reporting, alarm-triggered transmission, and manual data transmission using a magnetic key.

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LORAWAN SENSOR CONNECT WITH
THERMOCOUPLE SENSOR

ME: 1

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Created date: Jun-02-2024

Updated date: Sep-17-2026

Specification

Input	Thermocouple Temperature Sensor Type B, Type E, Type J, Type K, Type N, Type R, Type S, Type T
Accuracy	±0.55°C at ambient temperature range from -20~100°C, ±1.05°C at ambient temperature range from -40~125°C (Transmitter accuracy only, thermocouple sensor error is not included)
Resolution	0.1°C
Sensor port connector	Internal Connectors via PG9 Cable Gland
COMMUNICATION	
Spreading Factor (SF)	SF7-SF12
Antenna	External antenna
Power Supply	1 × 3.6 V D-size primary lithium battery (not included)
RF Frequency and Power	860~930MHz, 14~20 dBm, configurable for zones: EU868, IN865, RU864, KR920, AS923, AU915, US915
Protocol	LoRaWAN Class A V1.0.3
Data Reporting Modes	Periodic, alarm-triggered, and manual transmission via magnetic key
Housing	Cast-aluminum enclosure, IP67
Ambient working temperature	-40~85°C (use with SAFT LS33600)
Size	145 × 126 × 129 mm (H × W × D), excluding antenna
Net weight	1.2 Kg
Mounting type	Wall mounting, optional pipe-mount bracket

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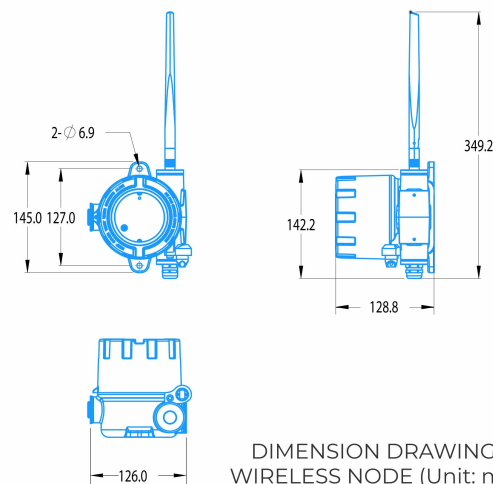
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WSLRWAL-TC



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WSLRWAL-TC



RECOMMENDED BATTERIES



LS 33600
Lithium battery
-60~85°C working temperature
Low self-discharge rate
17000 mAh capacity

POWERED BY PRIMARY BATTERY

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Ordering Information

ITEM CODE	DESCRIPTIONS
WSLRWAL-TC-02	LoRaWAN heavy-duty thermocouple temperature transmitter, external antenna, 1 × D-size 3.6 V primary lithium battery, IP67 cast-aluminum enclosure, configurable 860–930 MHz regional bands, wall mounting, Battery not included
P5-B	Mounting bracket for Pipe 1-1/2" to 2"