Insertion Temperature Sensor

Featuring LoRaWAN®

TS101



Milesight TS101 is an all-in-one insertion temperature sensor with an integrated transmitter. It is equipped with an advanced measuring unit that provides a wide temperature measuring range.

With IP67 and IK10 ratings, the exquisite TS101 sensor is suitable for monitoring the inner temperature of Tobacco or grain stacks. It can also be applied in other warehousing scenarios which require inner temperature detection with high efficiency.

TS101 is compatible with Milesight LoRaWAN® gateway and mainstream LoRaWAN® network servers. With this low power consumption technology, TS101 can work for up to 10 years with a 4,000mAh battery. Combining with Milesight LoRaWAN® gateway and Milesight Development Platform solution, users can manage all sensor data remotely.

TS101 can be used to monitor the temperature of tobacco warehouses, farm haystacks, compost piles and other applications.

◆ Features

- Equipped with highly accurate and stable DS18B20 temperature sensor chip with high resolution
- Adopt food-grade stainless-steel probe and shell material for efficient and safe detection
- Store locally historical records and support retransmission to prevent data loss
- IP67 and IK10 rated and phosphine corrosion-resistant for harsh environment

- Built-in 4000 mAh replaceable battery and works for up to 10 years without replacement
- Integrated and compact design for wireless deployment
- Built-in NFC for easy configuration
- Compatible with standard LoRaWAN® gateways and network servers
- Quick and easy management with Milesight IoT Cloud solution and Milesight Development Platform

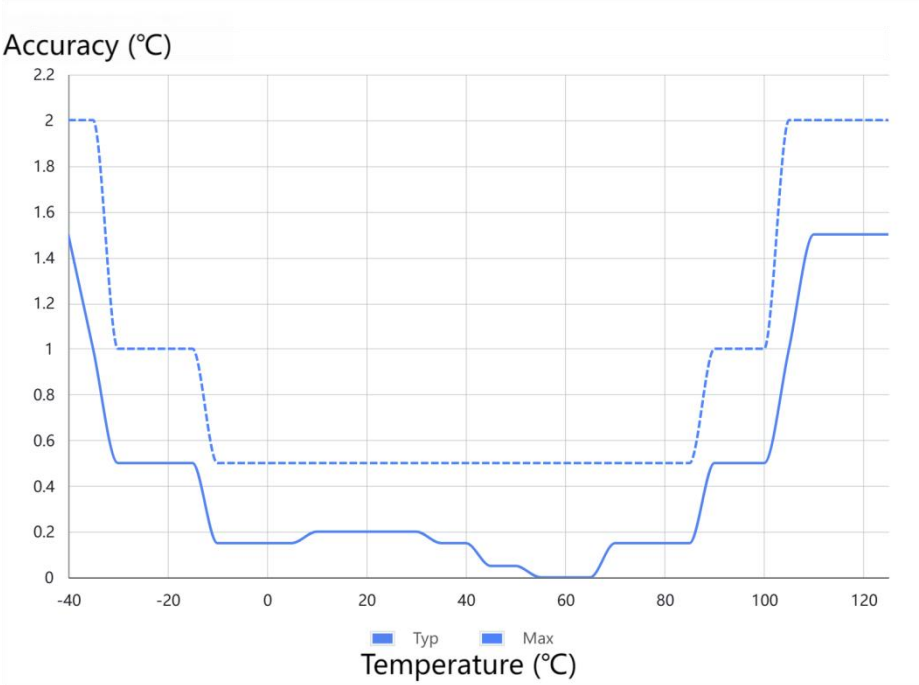
◆ Specifications

Wireless Transmission	
Protocol	LoRaWAN®
Antenna	Internal Antenna
Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
Tx Power	16 dBm (868 MHz)/20 dBm (915 MHz)/19 dBm (470 MHz)
Sensitivity	-137 dBm @300bps
Mode	OTAA/ABP Class A
Measurement	
Detecting Range	-30°C ~ +70°C
Accuracy[1]	Typ.: ± 0.5°C
Resolution	0.1°C
Software	
Power On & Off	Mobile App via NFC or Power Button (Internal)
Configuration	NFC Configuration via Mobile App
Advanced Feature	Data Storage (1200 entries), Data Retransmission, Data Retrievability, Abrupt Temperature Change Alarm
Physical Characteristics	
Power Supply	1 × 4000 mAh ER18505 Li-SOCl$_2$ Replaceable Battery
Battery Life[2] (1 Hour Report Interval, 25°C)	Up to 10 Years (SF7, EU868 & US915) Around 4.8 Years (SF10, EU868) Around 5.5 Years (SF10, US915)
Operating Temperature	-30°C ~ +70°C
Relative Humidity	0 ~ 95% (Non-condensing)
Housing & Color	Transceiver: ABS+PC (Food-Grade, Phosphine Corrosion resistant), White Sensor Probe: 316 Stainless Steel (Food-Grade, Phosphine Corrosion

	Resistant) , Silver Grey
Ingress Protection	IP67
Impact Protection	IK10 (Transceiver)
Dimension	Transceiver: Φ 92 × 92 × 26 mm (Φ 3.62 × 3.62 × 1.02 in) Sensor Probe: Φ 7 × 400 mm (Φ 0.28 × 15.75 in)
Installation	Insert Installation
Approvals	
Regulatory	CE, FCC
Environmental	RoHS

Note:

1. Accuracy corresponding to the temperature.



2. Tested under laboratory conditions and for guideline purposes only.

◆ Dimensions(mm)

