Temperature Sensor

Featuring LoRaWAN®

TS30x

Milesight

◆ Introduction

TS30x is an advanced resistance temperature sensor with a visualized data display. It features extendable connecting lines and a diverse range of detecting probes, including A-class, B-class, and A-class food-grade temperature probes. Moreover, it provides the option for a magnetic contact switch sensor. TS30x prioritizes security and reliability, ensuring traceable data and effortless data exports for seamless integration.

TS30x is designed for measuring a wide range of temperature in harsh environments and transmitting data using LoRaWAN® technology. With this low power consumption technology, TS30x can maintain a long operational life with its embedded batteries. Combining with Milesight LoRaWAN® gateway and Milesight IoT Cloud solution, users can manage all sensor data remotely and visually.

TS30x is widely used for temperature monitoring applications like food processing, cold chain storage of food or medicine, etc.

TS301

TS302

◆ Features

➢ Provide optional three types of high-accuracy PT100 temperature probes and one magnetic contact switch sensor

➢ IP65 waterproof enclosure with dust plug, suitable for harsh environment

➢ Support automated temperature monitoring and anti-tamper recording of data in compliance with HACCP, meeting the authenticity requirements of 21 CFR Part 11B electronic record

➢ Provide simplified PDF data export for easy documentation without complex paperwork

➢ Built-in two large-capacity replaceable batteries, ensuring an extended battery life

➢ Features low-consumption LCD display, enabling intuitive data reading

➢ Store up to 10,000 historical records locally and supports retransmission to prevent data loss

➢ Equipped with NFC and Type-C USB for quick and easy configuration

➢ Function effectively with standard LoRaWAN® gateways and network servers

➢ Compatible with Milesight IoT Cloud

◆ Specifications

Wireless Transmission	
Technology	LoRaWAN®
Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
Tx Power	16dBm (868MHz)/22dBm (915MHz)/19dBm (470MHz)
Sensitivity	-137dBm @300bps
Mode	OTAA/ABP Class A
Sensor Connector	
Connector Type	5-pin M12 A-Coded Male Connector
Connector Number	TS301: 1 × Connector for PT100 Probe or Magnet Switch Sensor TS302: 2 × Connectors for two PT100 Probes or PT100 + Magnet Switch Sensor
PT100 Connection	3-wire Connection
Display	
Display	LCD Segment Code Screen
Viewing Direction	12 O'clock
Others	
Button	1 × External Power Button + 1 × Internal Reset Button
LED Indicator	1 × Status Indicator (Internal)
Configuration	Mobile App (via NFC) or PC software (via USB Type-C)

Data Logging	10, 000 measurements and supports to export as CSV or PDF file
Physical Characteristics	
Power Supply	2 × 4000 mAh ER18505 Li-SOCL$_2$ Batteries or Type-C USB (5V/1A)
Operating Temperature	-30°C to +70°C
Relative Humidity	0% to 95% (non-condensing)
Ingress Protection	IP65
Weight	175 g (TS301), 185 g (TS302)
Dimension	109.35 × 75 × 20 mm (4.31 × 2.95 × 0.79 in)
Installation	Wall Screw Mounting, Magnetic Mounting (Opt.）

Optional Sensors

PT100 Probes*			
Model	B05-125-200	AF10-125-100	A05-500-150
Measuring Range	-40 °C ~ 125 °C	-40 °C ~125 °C	-50 °C ~ 500 °C
Measuring Accuracy	± 0.5°C (-40°C~40°C), ± 1°C (40°C~125°C)	± 0.4°C	± 0.5°C
Measuring Resolution	0.1°C		
Probe Type	Straight tube, 304 Stainless Steel	Needle, Food Grade 316 Stainless Steel	Straight tube, 304 Stainless Steel
Probe Length	Φ4*50 mm	Φ4*100 mm	Φ4*30 mm
Cable Length	2 m	1.5 m	1.5 m
Cable Material	PVC	Food Grade Silicone	Teflon
Cable Operating Temperature	-30 °C~105 °C	-60 °C~250 °C	-200 °C~290 °C
Ingress Protection	IP67	IP67	IP30
Magnet Switch Sensor			
Detection Distance	20-30 mm		
Cable Length	1.5 m (Customizable)		
Dimension	32 × 15 × 8 mm (1.25 × 0.59 × 0.31 in)		
Installation	Wall Screw Mounting, 3M Tape Mounting		

* Please contact us for customized probe options according to your specific requirements.