Temperature Sensor

Featuring LoRaWAN®

IOT-S500T Series

Introduction

IOT-S500T 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. IOT-S500T Series prioritize security and reliability, ensuring traceable data and effortless data exports for seamless integration. IOT-S500T Series are designed for measuring a wide range of temperature in harsh environments and transmitting data using LoRaWAN® technology. With this low power consumption technology, IOT-S500T Series can maintain a long operational life with its embedded batteries. Combining with Linovision LoRaWAN® gateway and Linovision IoT Cloud solution, users can manage all sensor data remotely and visually. IOT-S500T Series are widely used for temperature monitoring applications like food processing, cold chain storage of food or medicine, etc.

IOT-S500TS

IOT-S500TD

Features

- Provide optional five 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
- EN12830 certified for cold-chain applications
- 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 Linovision IoT Cloud and Linovision Development Platform

Specifications

Wireless Transmission	
Technology	LoRaWAN®
Antenna	Internal Antenna
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 Number1	IOT-S500TS: 1 × Connector for PT100 Sensor or Magnet Switch IOT-S500TD: 2 × Connectors for two PT100 Sensors or PT100 Probe + Magnet Switch Sensor
PT100 Connection	3-wire Connection
PT100 Resolution	0.1 °C
Display	
Display	LCD Segment Code Screen
Viewing Direction	12 O’clock
Others	

Button	1 × Power Button (External) + 1 × Reset Button (Internal)
LED Indicator	1 × Status Indicator (Internal)
USB	1 × Type-C Port for Power Supply, Configuration and Debug
Software	
Power On/Off	NFC, USB, Power Button
Configuration	1. Mobile App via NFC 2. PC software via USB Type-C port 3. Downlink
Data Logging	10, 000 measurements and supports to export as CSV or PDF file
Advanced Features	Threshold Alarm, Change Alarm, Data Retrievability, Data Retransmission
Physical Characteristics	
Power Supply	2 × 4000 mAh ER18505 Li-SOCl2 Batteries or Type-C USB (5V/1A)
Battery Life2 (30°C, 10 min interval)	IOT-S500TD/S + One or Two PT100 Sensors: Around 5 years IOT-S500TD + PT100 Sensor + Magnet Sensor: Around 5 years (10 triggers per day) IOT-S500TD/S + One Magnet Sensor: Over 10 years (10 triggers per day)
Operating Temperature	-30°C to +70°C
Relative Humidity	0% to 95% (non-condensing)
Ingress Protection	IP65
Wei ght	175 g (IOT-S500TS), 185 g (IOT-S500TD)
Dim ens ion	109.35 × 75 × 29 mm (4.31 × 2.95 × 1.14 in)
Installation	Wall Screw Mounting, Magnetic Mounting (Opt.)
Approvals	
Regulatory	CE, FCC, EN12830
Environmental	RoHS

1 IOT-S500TD does not support to connect both magnet switch sensors.

2 Tested under laboratory conditions and for guideline purposes only.

Optional Sensors

Model	Measuring Range	Accuracy Class	Accuracy	Sensor Probe	Cable	Installation
PT100 Sensor						
SP11-B05-125-200 (Regular Version)	-40 °C ~ 125 °C	B	± 0.5°C (-40°C~40°C), ± 1°C (40°C~125°C)	Straight tube, 304 Stainless Steel, Φ4*50 mm, IP67	2 m, PVC, -30 °C~105 °C	Contact, Thermal Buffer Bottle Installation(Opt.)
SP11-AF10-125-150 (Food Applications)	-40 °C ~ 125 °C	A	± 0.4°C	Needle, 316 Stainless Steel (Food Grade), Φ4*100 mm, IP67	1.5 m, Silicone (Food Grade), -60 °C~250 °C	Insert Installation
SP11-A03-050-150 (Low Temperature Applications)	-200 °C ~ 50 °C	A	± 0.5°C (-175°C~50°C), ± 0.55°C (-200°C~-175 °C)	Straight tube, 304 Stainless Steel, Φ4*30 mm, IP67	1.5 m, Teflon, -200 °C~290 °C	Contact
SP11-A05-500-150 (Industrial Applications)	-50 °C ~ 500 °C	A	± 0.4°C (-50°C~125°C), ± 1.15°C (-125°C~500°C)	Straight tube, 304 Stainless Steel, Φ4*30 mm, IP30	1.5 m, Fiberglass, -50 °C~500 °C	Contact
SP11-A09-085-200-B046 (Pipe Monitoring)	-20°C ~ 85°C	A	± 0.4°C	Straight tube (with Baffle), 304 Stainless Steel, Φ4.8*90 mm, IP67	2 m, PVC, -20 °C~85 °C	Baffle Screw Installation (Baffle: 46*14mm)
Magnet Switch Sensor						
SS21-PN03-150	20-30 mm	/	/	Two Magnet Switches, per 31 × 14 × 7.5 mm	1.5m	Wall Screw Mounting, 3M Tape Mounting

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

Dimension(mm)