

TS30x LoRaWAN temperature sensor

AoFrio's advanced resistance LoRaWAN temperature sensor with visualized data display is ideal for on-location data capture and transmission in harsh environments including cold storage, supermarkets and hospitals. Designed for reliable, long-term use, it also supports a diverse range of temperature probes and offers a magnetic contact switch sensor.

When combined with AoFrio's LoRaWAN Gateway and iQ Cloud Platform, it delivers highly detailed remote temperature and humidity monitoring and management.



- Optional PT100 temperature probes (3 types) and magnetic contact switch sensor
- IP65 waterproof enclosure with dust plug
- Automated temperature monitoring and anti-tamper data recording (HACCP compliant, 21 CFR Part 11B)
- Simplified PDF data export
- Two large-capacity replaceable batteries for extended life
- Low-consumption LCD display for intuitive reading
- Stores up to 10,000 records locally with retransmission support
- NFC and Type-C USB for quick configuration
- Compatible with standard LoRaWAN® gateways and AoFrio's iQ platform.

Specifications	
Power supply	2 × 4000 mAh ER18505 Li-SOCL2 Batteries or Type-C USB (5V/1A)
Battery life	• TS30x + One or Two PT100 Probes: Around 5 years • TS30x + One Magnet Sensor: Over 10 years (10 triggers per day)
Cellular communications	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
Connector	• 5-pin M12 A-Coded Male Connector • 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
Display	LCD Segment Code Screen
Mounting method	Wall Screw Mounting, Magnetic Mounting (Opt.)
Ingress protection	IP65
Operating temperature	-30°C to +70°C
Relative humidity	0% to 95% (non-condensing)
Dimensions	• 109.35 × 75 × 29 mm (4.31 × 2.95 × 1.14 in) • See over page for diagrams
Temperature probes	See over page for options
Magnet switch sensor	• Detection distance – 20-30mm • Cable length - 1.5m • 32 × 15 × 8 mm (1.25 × 0.59 × 0.31 in)
Weight	175 g (TS301), 185 g (TS302)
Approvals	   

PT100 Probes

Model	BO5-125-200	AF10-125-150	AO5-500-150
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	0.1°C	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

Dimensions

