Temperature Sensor

Featuring LoRaWAN®

TS201



TS201 is a compact temperature and humidity sensor. It is equipped with high-precision sensors and an IP67 waterproof design, making it applicable for accurate temperature data detection in various harsh environments. With the low power consumption technology, TS201 can maintain a long operational life with its internal battery. When combined with Milesight LoRaWAN® gateway and Milesight Development Platform solution, users can manage all sensor data remotely and visually.

TS201 is widely used for temperature and humidity monitoring applications like cold chain storage of food or medicine, etc.

◆ Features

- Equipped with high accuracy DS18B20 temperature probe or TH temperature - humidity probe
- Detachable probe for self-calibration
- IP67 waterproof with specialized battery compartment design , making it suitable for harsh environment
- Equipped with indicator to indicate device status and threshold alarms
- Flexible design support various mounting options
- EN12830 certified for cold-chain applications
- Stores up to historical records locally and support retransmission to prevent data loss
- Equipped with NFC for quick and easy configuration
- Function effectively with standard LoRaWAN® gateways and network servers

- Compatible with Milesight Development Platform
- Supports Milesight D2D protocol to enable ultra-low latency and direct control without gateways
- Supports Firmware Update Over the Air (FUOTA) feature

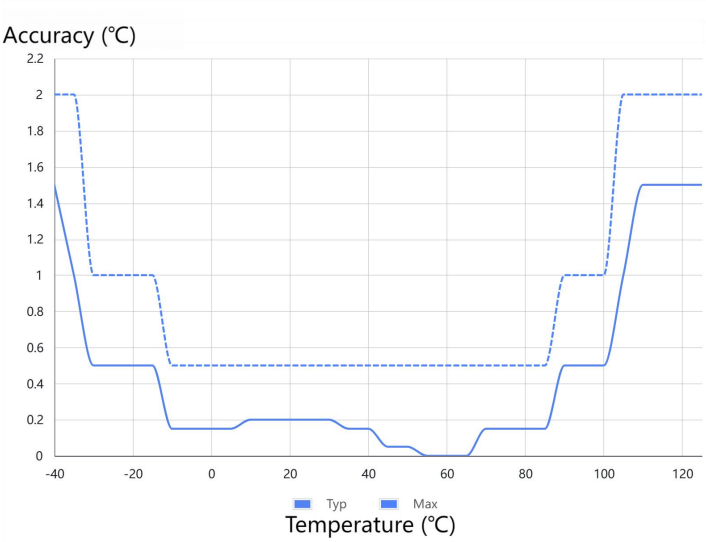
◆ Specifications

Model	Temperature Version	TH Version
Connector Type	5-Pin M12 A-Coded Male Connector	
Connector Number	1 × Connector for DS18B20 Sensor	1 × Connector for TH Sensor
Sensor		
Sensor Type	DS18B20	Digital CMOSens® technology (MEMS)
Temperature		
Measuring Range	-40°C ~ 125°C	
Accuracy	Typ.[1]: ± 0.5°C(-10°C ~ 85°C), ± 2°C(-40°C ~ -10°C, 85°C ~ 125°C)	Typ.[2]: ± 0.3°C(-40°C~ 0°C) ± 0.2°C(0°C~ 60°C) ± 0.5°C(60°C~ 125°C)
Resolution	0.1°C	
Long-term Drift	Typ.< 0.2°C (125°C, VDD=5.5V, 1000h)	Typ. < 0.03°C/year
Humidity		
Measuring Range	/	0% ~ 100% RH
Accuracy[3][4]		Typ.: ±2% (25°C)
Resolution		0.5% RH
Long-term Drift		Typ.: < 0.2% RH/year
Wireless Transmission		
Technology	LoRaWAN®, Milesight D2D	
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	
Others		
LED Indicator	1 × Status Indicator	

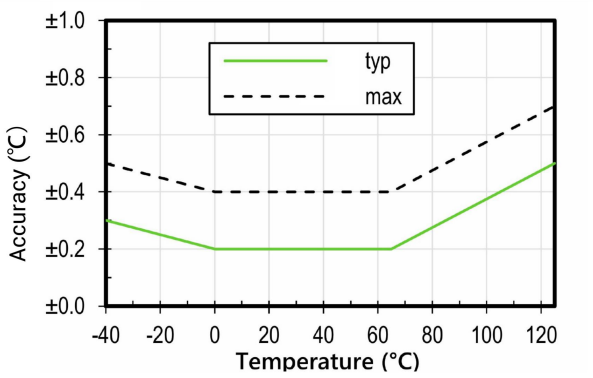
Button	1 × External Power Button	
Configuration	Mobile App (via NFC) or Downlink	
Advanced Feature	Data Retransmission, Data Retrievability, Data Storage (4000 entries), Abrupt Change Alarm, Milesight D2D Controller, Milesight D2D Data Transmission	
Physical Characteristics		
Power Supply	1 × 2700 mAh ER14505 Li-$SOCl_2$ Battery	
Battery Life[5] (10 min Interval, 25°C)	Around 8.2 Years (SF7, EU868&US915) Around 2.7 Years (SF10, EU868&US915)	Around 9 Years (SF7, EU868) Around 2.8 Years (SF10, EU868) Around 10 Years (SF7, US915) Around 3 Years (SF10, US915)
Operating Temperature	TS201 Device: -30°C ~ 55°C (-22°F ~ 131°F)	
Relative Humidity	0% ~ 95% (Non-condensing)	
Ingress Protection	IP67	
Housing&Color	TS201 Device: ABS+PC & White Sensor Cable: TPE & White	
	Sensor Probe: Stainless Steel 316 (Food Grade)	Sensor Probe: Stainless Steel 304 (Food Grade)
Weight	TS201 Device: 70g	
	Sensor Cable+Probe: 25g	Sensor Cable+Probe: 26.5g
Length	Sensor Cable: 1.5m Sensor Probe: 50mm	
Dimension	58 × 65 × 25 mm (2.28 × 2.56 × 0.98 in)	
Installation	Wall Screw Mounting, Cable-tie Mounting, Magnetic Mounting (Opt.)	
Approvals		
Regulatory	CE, FCC, EN12830	
Environmental	RoHS	

Note:

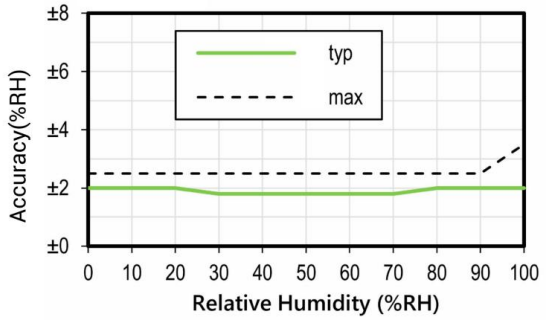
1. Accuracy corresponding to the temperature.



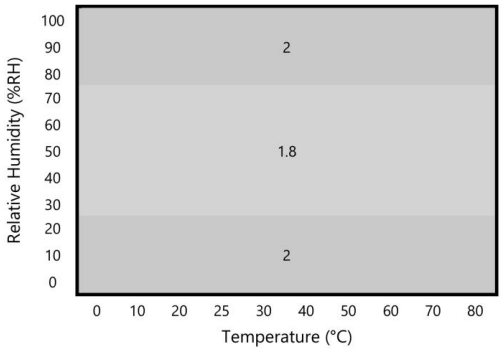
2. Accuracy corresponding to the temperature.



3. Accuracy corresponding to the relative humidity (25°C).



4. Typical RH accuracy corresponding to the temperature.



5. The battery life is based on test results under laboratory conditions using the standard battery provided by Milesight. Actual performance may vary depending on battery brand and environmental factors.

◆ Dimensions (mm)

