Temperature &Humidity Sensor

Featuring LoRaWAN®

EM320-TH



EM320-TH is a simple, compact and powerful LoRaWAN® temperature & humidity sensor. It is equipped with high-precision sensors and IP67 waterproof design, applicable for accurate temperature and humidity data detection in various harsh environments. FDA-approved food-grade material's enclosure and magnet design allow it to be placed in freezers and refrigerators and in contact with food or medicines safely.

In addition to LoRaWAN® technology with low power consumption, it has built-in high-capacity batteries available for usage for up to 5 years without battery replacement. Moreover, EM320-TH is compatible with both Milesight LoRaWAN® Gateway and Milesight Development Platform to achieve remote data monitoring and management. It is suitable for both indoor and outdoor applications such as cold chain transportation, agricultural greenhouses, office buildings, hospitals, factories, etc.

◆ Features

- Uses Sensirion high-precision sensor, capable of sensing subtle changes in temperature and humidity
- IP67 waterproof enclosure with multi-level structure and sealing ring design enabling strong waterproof performance for harsh environments
- Uses FDA-approved food-grade material's enclosure, which is safe for contact with food or medicines
- EN12830 certified for cold-chain applications
- Ultra-low power consumption and standby with 5400 mAh built-in replaceable batteries, ensuring durable battery life

- Wall mounting or magnet version optional for multiple installation scenarios
- Anti-theft and anti-slip pad design on back cover to secure firm and sturdy installation
- Long range data transmission for up to 15 kilometers in rural areas
- Store locally 3000 historical records and support retransmission to prevent data loss
- Equipped with NFC for easy configuration
- Compliant with standard LoRaWAN® gateways and network servers
- Quick and easy management with Milesight IoT Cloud and Milesight Development Platform solution

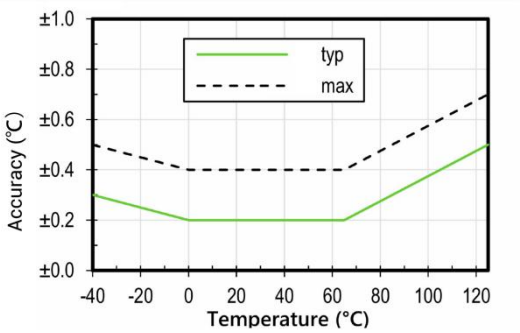
◆ Specifications

Wireless Transmission	
Technology	LoRaWAN®
Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
Tx Power	16dBm (868 MHz)/20dBm(915 MHz)/19dBm (470 MHz)
Sensitivity	-137dBm @300bps
Mode	OTAA/ABP Class A
Measurement	
Temperature	
Range	-30°C to + 60°C
Accuracy[1]	Typ.: ±0.3°C (-30°C ~ 0°C) ±0.2°C (0°C ~ 60°C)
Resolution	0.1°C
Humidity	
Range	0% to 100% RH
Accuracy[2][3]	Typ.: ±2% (25°C)
Resolution	0.5% RH
Software	
Power On & Off	Mobile App via NFC, Power Button (Internal)
Configuration	Mobile App via NFC
Advanced Features	Threshold Alarm, Data Storage, Data Retransmission, Data Retrievability
Physical Characteristics	
Power Supply	2 × 2700 mAh ER14505 Li-SOCl$_2$ Batteries

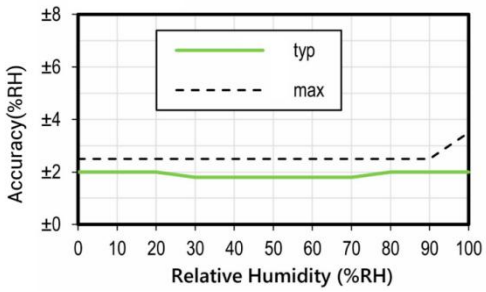
Battery Life[4]	≥10 years (10 min interval, 25°C)
Operating Temperature	-30°C to +60°C
Relative Humidity	≤95%
Material & Color	PC + ABS (Food-Grade), White
Weight	93.2g (Standard Version), 102g (Magnet Version)
Ingress Protection	IP67
Dimension	85 × 58 × 18 mm (3.34 × 2.28 × 0.70 in)
Installation	Standard Version: Wall Mounting, Pole Mounting Magnet Version: Magnetic Adsorption
Approvals	
Regulatory	CE, FCC, Telec, EN12830
Environmental	RoHS

Note:

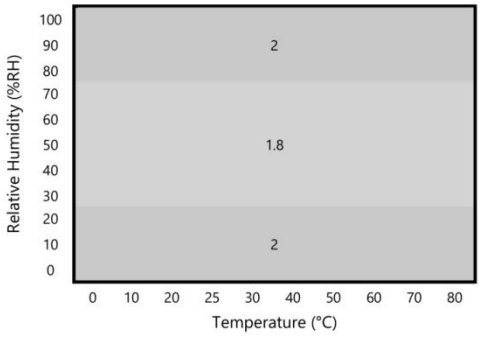
1. Accuracy corresponding to the temperature:



2. Accuracy corresponding to the relative humidity:



3. Typical RH accuracy corresponding to the temperature:



4. The battery life is tested under laboratory conditions and for guideline purposes only.

◆ Dimensions(mm)

