# 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. 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 LoRaWAN® Gateway and IoT Cloud 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 food-grade material's enclosure, which is safe for contact with food or medicines

➢ 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 IoT Cloud solution

## ◆ Specifications

| Wireless Transmission | |
|---|---|
| Technology | LoRaWAN® |
| Frequency | CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4 |
| Tx Power | 16dBm (868)/20dBm(915)/19dBm(470) |
| Sensitivity | -137dBm @300bps |
| Mode | OTAA/ABP Class A |
| **Measurement** | |
| **Temperature** | |
| Range | -30°C to + 60°C |
| Accuracy | +/- 0.2°C |
| Resolution | 0.1°C |
| **Humidity** | |
| Range | 0% to 100% RH |
| Accuracy | +/- 2% |
| Resolution | 0.5% RH |
| **Operation** | |
| Power On & Off | NFC Configuration via Mobile App, Power Button (Internal) |
| Configuration | NFC Configuration via Mobile App |
| **Physical Characteristics** | |
| Power Supply | 2 × 2700 mAh ER14505 Li-SOCL$_2$ Batteries |
| Battery Life* | ≥5 years |
| Operating Temperature | -30°C to +60°C |
| Relative Humidity | ≤95% |
| Material & Color | ABS + PC (Food Grade), White |
| Ingress Protection | IP67 |
| Dimension | 85 × 58 × 18 mm (3.34 × 2.28 × 0.70 in) |

| Installation | Standard Version: Wall Mounting |
| --- | --- |
| | Magnet Version: Magnetic Adsorption |

* Tested under laboratory conditions and for guideline purposes only.