

Matrix Duct TH Sensor (LoRaWAN + Modbus) Overview

Matrix Duct TH Sensor is designed for accurate measurement of temperature and humidity in HVAC duct applications. It supports both LoRaWAN wireless communication and Modbus (RS485) for flexible integration into BMS and IoT platforms. Ideal for smart buildings, energy management systems, and industrial HVAC monitoring.

Key Features

- Dual Communication: LoRaWAN + Modbus RTU (RS485)
- High accuracy temperature and humidity sensing
- Wide operating range for HVAC applications
- Long-range wireless communication (up to 2 km LoRaWAN)
- Low power consumption (battery or external supply)
- Industrial-grade duct probe with robust enclosure
- IP65 enclosure for harsh environments
- Real-time monitoring and cloud integration
- Configurable reporting intervals and thresholds
- Supports OTA firmware upgrade (LoRaWAN)
- Gateway integration ready (BACnet/Modbus)
- Easy installation with mounting flange



Technical Specifications

Parameter	Specification
Material Body	Polycarbonate (Flame Retardant)
Probe Material	Stainless Steel
Sensing Elements	Digital Temperature & Capacitive Humidity Sensor
Temperature Range	-20°C to +70°C
Humidity Range	0–100% RH
Temperature Accuracy	±0.3°C
Humidity Accuracy	±2% RH
Power Supply	18–30 VDC / 24 VAC
Analog Output	4–20 mA / 0–10 V
Digital Output	Modbus RTU (RS485), LoRaWAN
LoRa Frequency	EU868 / US915 / AS923
Communication Range	Up to 5 km (LOS)

Ingress Protection	IP65
Operating Humidity	0–95% non-condensing
Operating Temperature	-10°C to +70°C
Installation	Duct Mount with Flange
Country of Origin	UAE

Applications

- HVAC duct monitoring
- Smart buildings & BMS systems
- Energy management systems
- Industrial ventilation systems
- Clean rooms & data centers