

IotaComm 800 MHz IAQ Sensor

User Manual



Table of Contents

1. Introduction	3
1.1 About This Manual	3
1.2 Product Overview	3
2. Safety and Handling Instructions	3
3. Hardware Overview	4
3.1 Package Contents	4
3.2 Sensor Indicators	4
4. Installation	4
4.1 Recommended Installation Locations.....	4
4.2 Mounting Options.....	5
4.2.1 Option 1: Wall Mount (Screw Fixing)	5
Option 2: Adhesive Mount (3M Tape).....	5
5. Power Supply & Battery Replacement.....	5
6. Telemetry and Data Collection.....	6
7. Operating Guidelines	7
8. Declaration of Conformity and FCC Statements.....	8
9. Customer Support	10

1. Introduction

1.1 About This Manual

This user manual is intended to provide an overview of the IotaComm 800 MHz Licensed LoRaWAN Indoor Air Quality (IAQ) Sensor ("IotaComm 800 MHz IAQ Sensor"). It explains the sensor's functionality, installation options, key telemetry parameters, battery replacement instructions, and support contact information.

Note: The IotaComm 800 MHz IAQ Sensor is designed to be part of a fully managed IAQ service delivered by IotaComm and its partners. The product will be deployed, supported, and maintained by IotaComm or authorized partners. Customers are not required to interact with, operate, or maintain the sensor directly.

1.2 Product Overview

The IotaComm 800 MHz IAQ Sensor provides continuous indoor environmental quality monitoring over IotaComm's 800 MHz licensed LoRaWAN network. The sensor collects and transmits real-time data on:

- Temperature
- Relative Humidity
- Barometric Pressure
- Total Volatile Organic Compounds (TVOCs)

The sensor's gas sensor detects and estimates levels of key VOCs, including:

- Ethane
- Isoprene (2-methyl-1,3-butadiene)
- Ethanol
- Acetone
- Carbon Monoxide



2. Safety and Handling Instructions

- Do not attempt to open, disassemble, or modify the sensor.

- Do not expose the sensor to liquids, extreme temperatures, or direct flames.
- Replace batteries only as described in this manual.
- The sensor is intended for indoor use only.

3. Hardware Overview

3.1 Package Contents

- 1 × IotaComm 800 MHz IAQ Sensor
- 1 × Mounting Bracket
- 1 × 3M Double-Sided Tape
- 3 × Wall Mounting Kits
- 1 × Theft-Detering Screw
- 4 × ER14505 Li-SOCl₂ Batteries (Pre-installed)
- 1 × Quick Start Guide
- 1 × Warranty Card

3.2 Sensor Indicators

The sensor has onboard LED indicators to display operational status, network connectivity, and air quality alerts.

4. Installation

4.1 Recommended Installation Locations

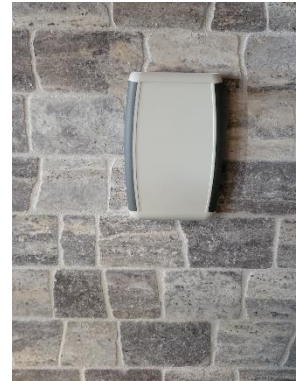
The sensor should be installed:

- Indoors, away from heat sources and airflow obstructions.
- At least 1.5 meters above floor level.
- Away from direct sunlight, windows, or vents.

4.2 Mounting Options

4.2.1 Option 1: Wall Mount (Screw Fixing)

1. Secure the mounting bracket to the wall using the included screws and wall plugs.
2. Attach the sensor to the bracket and secure it with the theft-detering screw.



Option 2: Adhesive Mount (3M Tape)

1. Apply the provided double-sided tape to the back of the mounting bracket.
2. Press the bracket firmly against a clean, flat wall surface.
3. Attach the sensor to the bracket and secure it.



5. Power Supply & Battery Replacement

The sensor is powered by 2 standard double AA batteries.

To replace batteries:

1. Remove the theft-detering screw and open the back cover.
2. Remove old batteries and insert two new double AA batteries.
3. Ensure correct polarity alignment.
4. Replace the back cover and secure it with the screw.



Battery Precautions:

- Always use the specified battery type.
- Replace all batteries at the same time.
- Do not mix old and new batteries.

6. Telemetry and Data Collection

The sensor collects and transmits the following environmental data:

Parameter	Measurement Unit
Temperature	°C
Humidity	% RH
Barometric Pressure	hPa
Gas Resistance (VOC Index) Ohms	

VOC Detection: The sensor detects the following volatile organic compounds (VOCs):

- Ethane
- Isoprene / 2-methyl-1,3 Butadiene
- Ethanol
- Acetone
- Carbon Monoxide

VOC data is used to calculate an Air Quality Index (IAQ) score, providing an indication of overall indoor air quality.

IAQ Index	Air Quality	Impact (long-term exposure)	Suggested action
0 – 50	Excellent	Pure air; best for well-being	No measures needed
51 – 100	Good	No irritation or impact on well-being	No measures needed
101 – 150	Lightly polluted	Reduction of well-being possible	Ventilation suggested
151 – 200	Moderately polluted	More significant irritation possible	Increase ventilation with clean air
201 – 250	Heavily polluted	Exposition might lead to effects like headache depending on type of VOCs	optimize ventilation
251 – 350	Severely polluted	More severe health issue possible if harmful VOC present	Contamination should be identified if level is reached even w/o presence of people; maximize ventilation & reduce attendance
> 351	Extremely polluted	Headaches, additional neurotoxic effects possible	Contamination needs to be identified; avoid presence in room and maximize ventilation

7. Operating Guidelines

The sensor is part of IotaComm's managed service offering. Customers do not need to configure, maintain, or directly access the sensor. All configuration, calibration, and maintenance activities will be performed by IotaComm or authorized partners.

If customers or partners encounter any issues with the sensor, they should contact IotaComm Customer Service.

8. Declaration of Conformity and FCC Statements

The sensor is part of IotaComm's managed service offering. Customers do not need to configure, maintain, or directly access the sensor. All configuration, calibration, and maintenance activities will be performed by IotaComm or authorized partners.

If customers or partners encounter any issues with the sensor, they should contact IotaComm Customer Service.

Supplier's Declaration of Conformity 47 CFR § 2.1077 Compliance Information

Unique Identifier: FCC ID: 2BOTM-888777888

Responsible Party –

IotaComm

600 Hamilton St., Suite 1010

Allentown, PA 18101

USA

Contact: 1-855-743-6478, ask for Regulatory

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

FCC ID: 2BOTM-88877788

FCC:

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This

equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

RF Exposure / Wireless notice:

- This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. The antenna should be installed and operated with minimum distance of 20 cm between the radiator and your body.

Compliance Statement FCC:

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Modification Statement:

- The Grant holder has not approved any changes or modifications to this device by the user. Any changes or modifications could void the user's authority to operate the equipment.

9. Customer Support

For technical support or service requests, please contact: **IotaComm:**

Email: support@iotacomm.com

Phone: 1-855-743-6478

Website: www.iotacomm.com/support