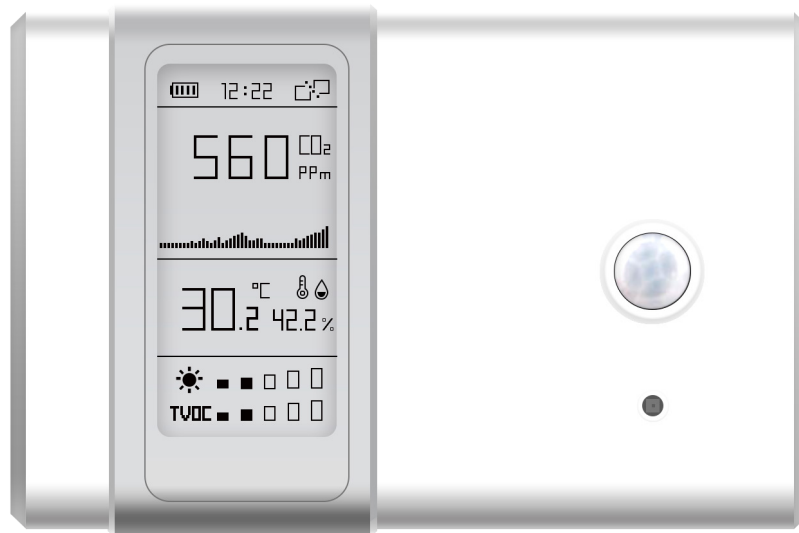


v. 1.0.0
DATASHEET

Ambience Monitoring Sensor



Born to be smart

Urbana Ambient Sensor is a compact ambience monitoring sensor that integrates many sensors like humidity, temperature, light, CO2 concentration, TVOC, barometric pressure and motion.

These data will be shown on the E-ink screen in real-time, which allow to evaluate the indoor environment quality and the comfort level.

Urbana Ambient Sensor is maintenance-free and powered by two standard AA batteries.

Ultimate technology for network connectivity

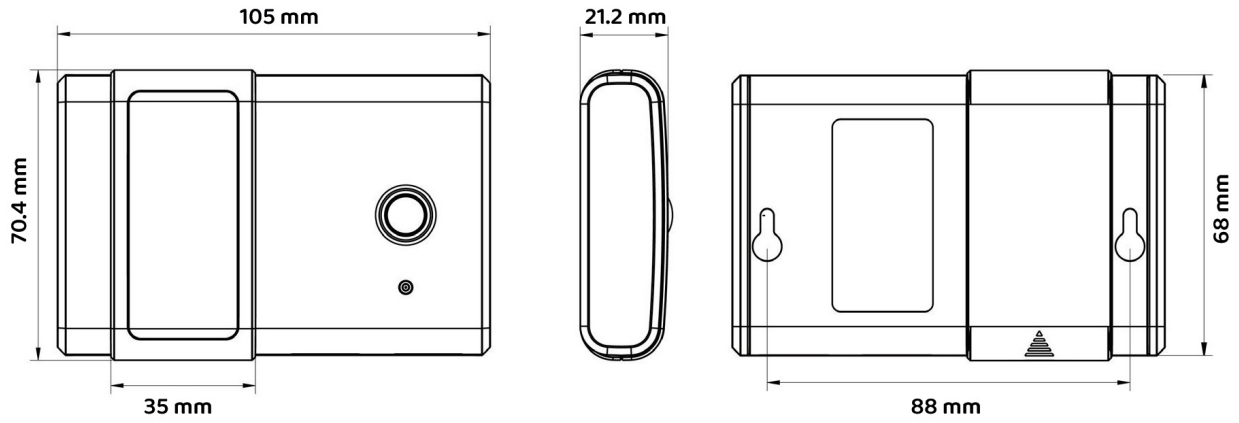
The device deploys LoRa® radio technology for last mile communication. This innovative low-power and long-range technology is used by Urbana Ambient Sensor for communicating with the Urbana IoT Platform and operates under LoRaWAN® 1.0.2 standard. LoRa® technology provides the best performance for radio communication in terms of reliability, scalability and obstacle penetration with low power consumption.

Real-time optimization through Urbana IoT Platform

Through the Urbana IoT platform it is possible to define triggers and actions to be performed based on the data sent by the Urbana Ambient Sensor. For example, it is possible to activate the air conditioning or heating system according to the measured temperature or it is possible to activate air recirculation when there is a decrease in air quality. Taking advantage of the data provided by the device it is possible to improve the indoor environment quality and the level of comfort.

DEVICE DIMENSION

Dimension in mm



TECHNICAL SPECIFICATION

MECHANICAL

Housing:	Solid Case
Material:	Plastic
Dimension:	105 × 70.4 × 21.2 mm
Mounting:	Wall Mounting
Power Supply:	2 × AA battery or Type-C port power supply

ENVIRONMENTAL

Operating Temperature:	0°C to +45°C
Relative Humidity:	0% to 100% (non-condensing)
IP Rating:	IP30
Certification:	CE, FCC

LORAWAN® INTERFACE

Frequency:	EU433/CN470/IN865/RU864/EU868/US915/ AU915/KR920/AS923
Tx Power:	16dBm (868)/20dBm (915)/19dBm (470)
Modulation:	LoRa®
Mode:	OTAA/ABP Class A
Sensitivity:	-147 dBm @300bps
Antenna:	Embedded Ceramic Antenna

DISPLAY & CONFIGURATION

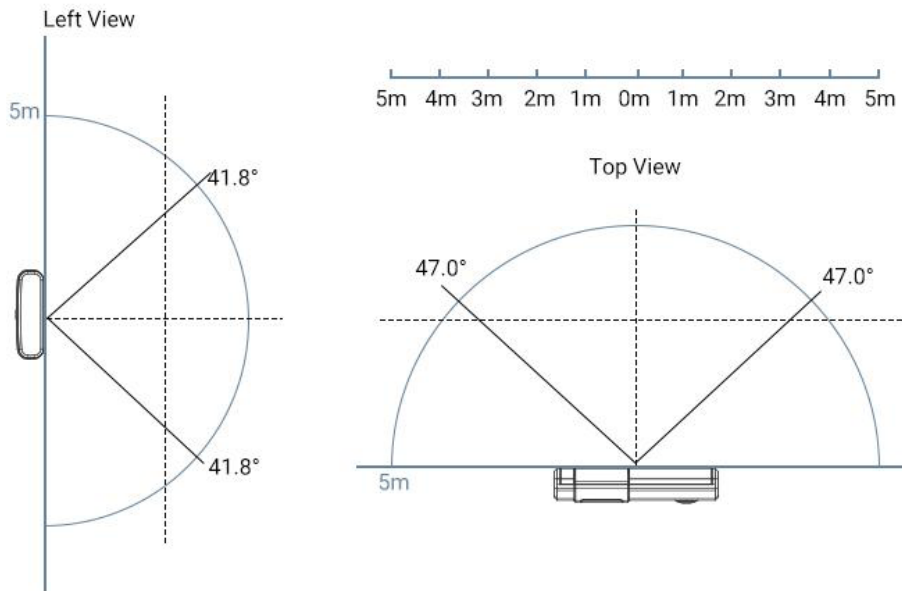
Display:	2.13-inch Black & White E-Ink Screen
Configuration:	1. Mobile APP via NFC 2. PC software via NFC or USB Type-C port

SENSORS		
Temperature	<i>Range</i>	-20°C to + 70°C
	<i>Accuracy</i>	0°C to + 70°C (+/- 0.3°C), -20°C to 0°C (+/- 0.6°C)
	<i>Resolution</i>	0.1 °C
Humidity	<i>Range</i>	0% to 100% RH
	<i>Accuracy</i>	10% to 90% RH (+/- 3%), below 10% and above 90% RH (+/- 5%)
	<i>Resolution</i>	0.5%RH
PIR	<i>Detection Area</i>	94 ° Horizontal, 82 ° Vertical
	<i>Detection Distance</i>	5 m
	<i>Output Range</i>	0-65535
Light	<i>Range</i>	60000 lux (Visible + IR, IR)
	<i>Accuracy</i>	±30%
	<i>Resolution</i>	1 lux
CO₂	<i>Range</i>	400 - 5000 ppm
	<i>Accuracy</i>	±30 ppm or ±3 % of reading
	<i>Resolution</i>	1 ppm
TVOC	<i>Range</i>	0 - 60000 ppb
	<i>Accuracy</i>	±15 %
	<i>Resolution</i>	1 ppb
	<i>Long-term Stability</i>	1.3 % accuracy drift per year
Barometric Pressure	<i>Range</i>	300 - 1100 hPa (-40°C - 85°C)
	<i>Accuracy</i>	±1 hPa
	<i>Resolution</i>	0.1 hPa

COMPLIANCES	
LoRaWAN® Certified	
EMC:	EN 55032, EN 55035
EMS:	IEC 61000-4-2 Level 3 IEC 61000-4-3 Level 2 IEC 61000-4-4 Level 4 IEC 61000-4-5 Level 3 IEC 61000-4-6 Level 3 IEC 61000-4-8 Level 4
Radio Frequency:	FCC Part 15B, FCC Part 15.247, EN 300 330, EN 301 489-1/3, EN 300 220-1/2
Safety:	EN62368-1

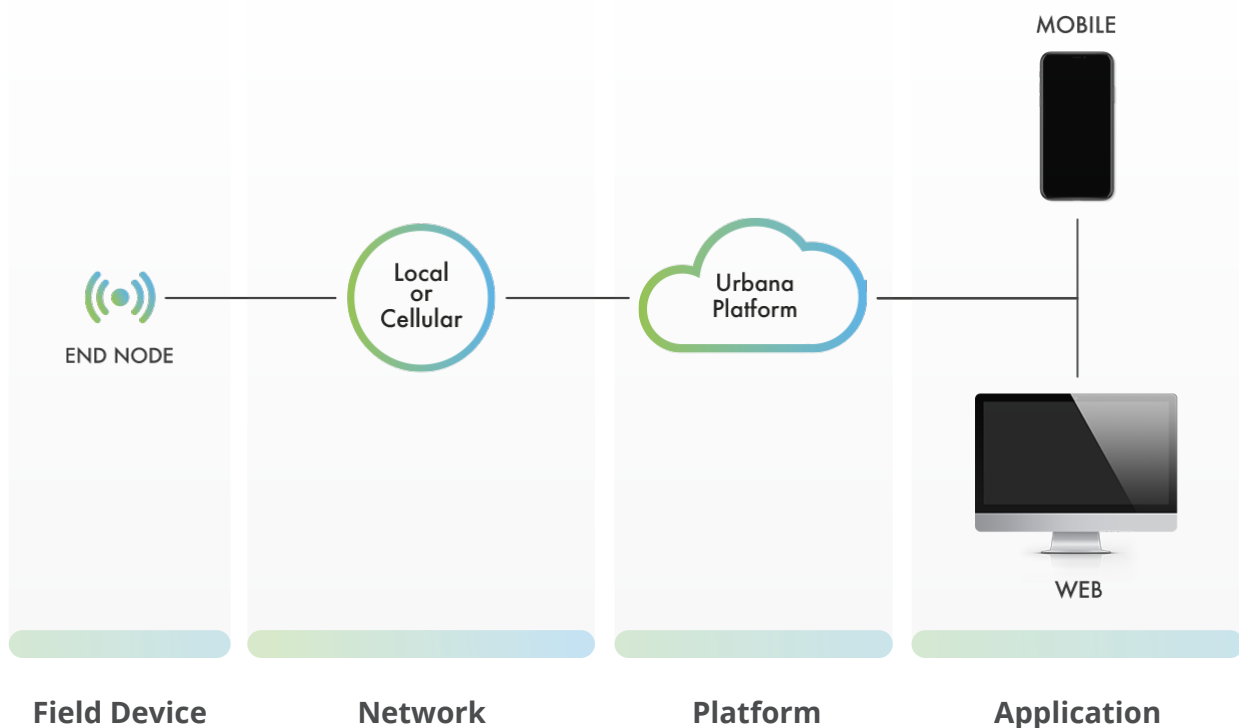
*Tested under laboratory conditions and for guideline purposes only

PIR AREA



URBANA IoT PLATFORM

Urbana platform is designed to provide end-to-end IoT solutions from hardware to software. The core structure of the platform is based on a scalable distributed and containerised infrastructure maintaining the requirements of clients to scale up whenever needed. The tech stack used in Urbana allows us to have no restriction based on number of devices, features, users and availability. With use of these highly scalable and available databases, Urbana IoT Platform is able to provide advanced reporting and fallback mechanism to provide high level of reliability. One of the most important components of the Urbana IoT Platform is the MQTT broker (server). The MQTT layer is the gate that connects the cloud-based part of the infrastructure to the local field network of devices. It plays a critical role both in terms of security and scalability but also in terms of interoperability. Urbana infrastructure can interface with any device compliant with LoRaWAN[®] network protocol as standardized by the LoRa Alliance[®]. Urbana Smart Solutions, being an end-to-end provider, have in-house LoRaWAN[®] gateways readily for the clients if needed, which are Plug&Play compliant with all the Urbana devices.



Ambience Monitoring Sensor
Datasheet

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