



Smart Restroom Kit



iBox Smart Restroom Kit Datasheet
Unboxing Your Next Level IoT Adventure

KIT AND TECHNOLOGY OVERVIEW

Why Smart Restroom Kit

Congratulations on beginning the journey of Smart Restroom towards a greener future.

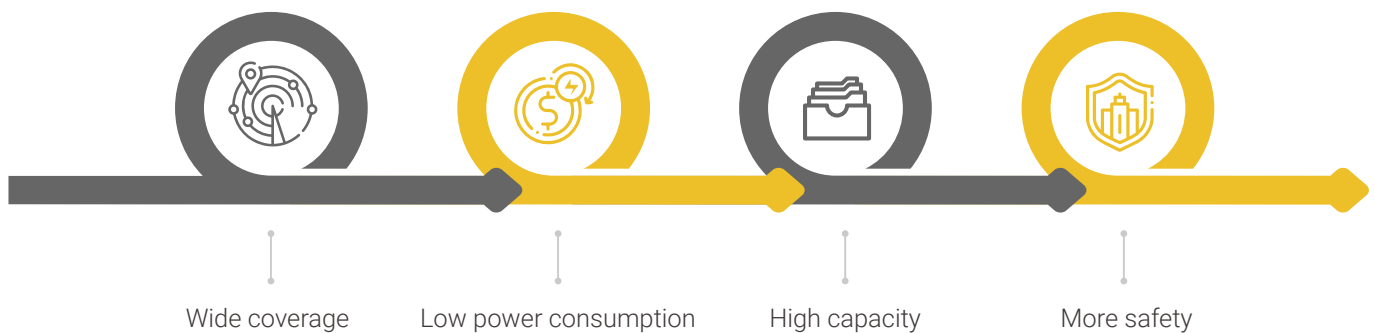
The Milesight iBox Smart Restroom Kit is equipped with a variety of sensors and devices that take all the hassle out of creating smart, modern restrooms for building owners and managers.

"Together with IoT solutions, it's easy to enhance your daily hygiene and accessibility." The Milesight Team



Why LoRaWAN®

LoRaWAN® is a long range, wide area, and low-power networking protocol.



Why Milesight D2D



Milesight D2D is a device to device communications protocol which enables LoRaWAN® based devices to communicate directly with one another when they are in the same group.

*** Independently Developed by Milesight**

- Low latency (less than 1 second in the same room)
- Low power for battery operation of both sides
- Long range and as secure as LoRaWAN®
- No useless beaconing and difficult synchronization
- Initial feature which coexists with LoRaWAN®
- No additional hardware and LoRaWAN® gateways are needed

Smart Button

WS101 allows users to remotely control appliances, triggering a scene or calling for help.



Overall Features

- Single/Double/Long Press Mode for Customized Application
- LoRaWAN® Wireless Deployment with Low Power Consumption
- Built-in LED Indicator & Buzzer for Status Indication
- Mulesight D2D with Communication Latency to <1 Sec
- Convenient Size with 5 Years Battery Life



WS101

Model		WS101
Wireless Transmission	Technology	LoRaWAN®, Mulesight D2D
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Physical Characteristics	Power Supply*	Easily Replaceable Battery with over 5-year Battery Life
	Ingress Protection	IP30
	Dimensions	50 × 50 × 18 mm (1.97 × 1.97 × 0.71 in) Button: Φ20 mm (Φ0.79 in)
	Installation	On the Flat Surfaces with Screws or 3M Tapes, Lanyard
Others	Configuration	NFC
	Button	1 × External Button + 1 × Reset Button (Internal)
	Advanced Feature	Mulesight D2D Controller

Smart Fill Level Monitoring Sensor

WS201 monitors container fill levels in real time with high accuracy through ToF technology to optimize management.



Overall Features

- Detection Ranges from 1cm to 55cm
- Suitable for Diverse Toilet Paper Dispenser
- Accurate Fill Level Monitoring with ToF Technology
- Up to 2 Years Battery Life with One Coin Cell Battery
- LoRaWAN® Wireless Deployment with Low Power Consumption



WS201

Model		WS201
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/ IN865/RU864/EU868/US915/AU915/KR920/AS923- 1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	ToF FoV	25°(Accuracy± 5°)
	Range&Accuracy	1 ~ 55 cm (Accuracy: ± 1 cm)
	Resolution	1mm (1.0 ≤X ≤15.0cm) 2mm (15.0<X≤ 35.0cm) 3mm (35.0<X≤55.0cm) X = Detection Distance
Physical Characteristics	Dimension	66 × 38 × 12 mm (2.60 × 1.50 × 0.47 in)
	Configuration	NFC
	Power Supply*	Easily Replaceable Battery with 2-Year Battery Life
	Operation Temperature	-10°C ~ +60°C
	Ingress Protection	IP30
	Installation	On the Flat Surface with 3M Tapes

* Tested under laboratory conditions and for guideline purposes only

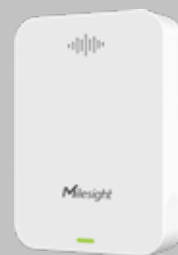
Bathroom Odor Detector

GS301 can be applied to measure the concentration of harmful gases such as ammonia and hydrogen sulfide in real-time.



Overall Features

- Detect NH₃ & H₂S with Higher Accuracy
- Built-in Buzzer & Traffic Light Status Indicator for Alarming
- Up to 3 Years Battery Life for Easy Maintenance
- Support LoRaWAN® & Milesight D2D Simultaneously
- LoRaWAN® Wireless Deployment with Low Power Consumption
- Milesight D2D with Communication Latency to <1 Sec



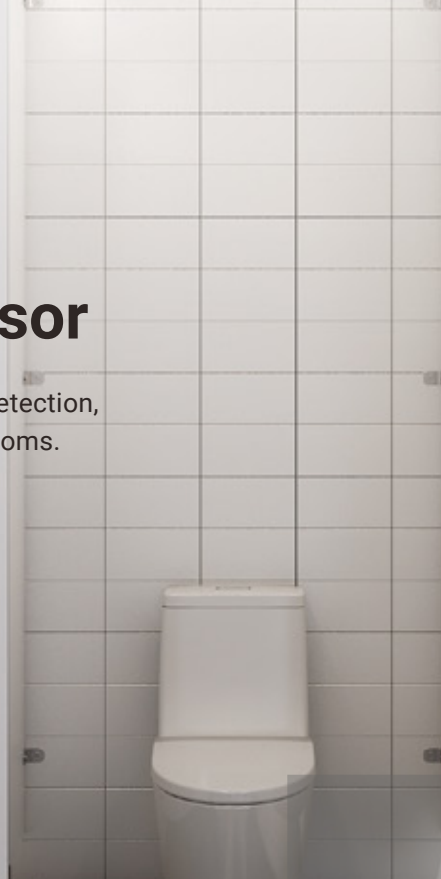
GS301

Model		GS301
Wireless Transmission	Technology	LoRaWAN®, Milesight D2D
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	Ammonia (NH ₃)	± 5% (-40 - 35°C), 0 ~ 10 ppm
	Hydrogen Sulfide (H ₂ S)	± 5% (-40 - 35°C), 0 ~ 5 ppm
	Temperature	± 0.2°C (-40 - 85°C)
	Humidity	± 2%RH (0 - 100%)
Physical Characteristics	Configuration	NFC
	Power Supply*	Easily Replaceable Batteries with up to 3-Year Battery Life
	Ingress Protection	IP30
	Dimension	120 × 85 × 32.5 mm (4.72 × 3.35 × 1.28 in)
	Alarm System	1 × Status/Alarm Indicator + 1 × Buzzer
	Installation	Wall Mounting

* Tested under laboratory conditions and for guideline purposes only.

Cubicle Occupancy Sensor

VS330 combines ToF and PIR technology for accurate detection, solving the ultimate difficulty in public toilets and bathrooms.



Overall Features

- Combine PIR & ToF Technology with Low Power Consumption
- Detection & Report with Smart Logic Achieving 99.5% Accuracy
- Compliant with GDPR & 100% Anonymous Detection
- Real-Time Data Collection at a 10-Second Intervals for Prompt and Accurate Updates
- Conformal Coating on PCBA and Rotatable Probe for Reliable Usage



VS330

Model			VS330
Wireless Transmission	Technology		LoRaWAN®
	Frequency		CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode		OTAA/ABP Class A
Measurement	ToF	ToF FoV	27°
		Detetion Accuracy and Range	±2cm, 0.040 ~ 3.500m
	PIR	Detection Area	80°
		Detection Distance	Maximum 2.5m
	Others	Sensor Adjustable Angle	0°, 15°, 30°, 45°, 60°, 75°
Physical Characteristics	Configuration		Mobile App via NFC
	Power Supply*		Easily Replaceable Batteries with up to 4-Year Battery Life
	Button		1 × Power/Reset Button
	Ingress Protection		IP30
	Dimension		Φ100 x 24 mm (Φ3.94 x 0.95 in)
	Installation		Ceiling Mount or Wall Mount via Screws or 3M tapes

Modbus to LoRaWAN® IoT Controller

UC100 is used for remote control and data acquisition from Modbus RS485 devices via LoRaWAN® networks.



Overall Features

- Modbus RS485 to LoRaWAN® Transmission
- Data Collection up to 16 Registers for Various Usage
- Compact Size with Embedded LoRa® Antenna
- Support Autonomous Operation even when the Network is Unavailable
- Built-in LED Indicator for Status Indication
- USB Type-C Port for Local Configuration & LoRa® Downlink for Remote Configuration
- Milesight D2D with Communication Latency to <1 Sec



UC100

Model		UC100
Wireless Transmission	Technology	LoRaWAN®, Milesight D2D
	Frequency	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class C
	Advanced Feature	Milesight D2D Controller/Agent
Data Interfaces	Connector	3.5 mm Terminal Block Connector
	Port	1 × RS485
	Protocol	Modbus RTU, Support Reading 16 Register Values
Physical Characteristics	Configuration	USB Type-C Port
	Power Supply	① 5 ~ 24 VDC by Terminal Block ② 5 VDC by Type-C Port
	Power Consumption	< 0.5 W
	Ingress Protection	IP30
	Dimension	70 × 45 × 13 mm (2.75 × 1.77 × 0.51 in)
	Installation	Desktop, Wall Mounting

Industrial LoRaWAN® Gateway

UG56 is a high-performance 8-channel LoRaWAN® gateway that offers reliable connectivity for industrial applications.



Overall Features

- Industrial-Grade Design with Compact Size
- Stay Connected via Ethernet, Cellular, and Wi-Fi
- Gateway Fleet for Comprehensive Networking
- Listen Before Talk (LBT) for Downlink Data Integrity
- Semtech SX1302 Chip with High-Performance Quad-Core CPU
- Embedded Network Server Compatible with TTN, ChirpStack, Everynet, Senet, etc.
- BACnet/IP Support for Seamless Integration into Existing Building Management Systems (BMS)

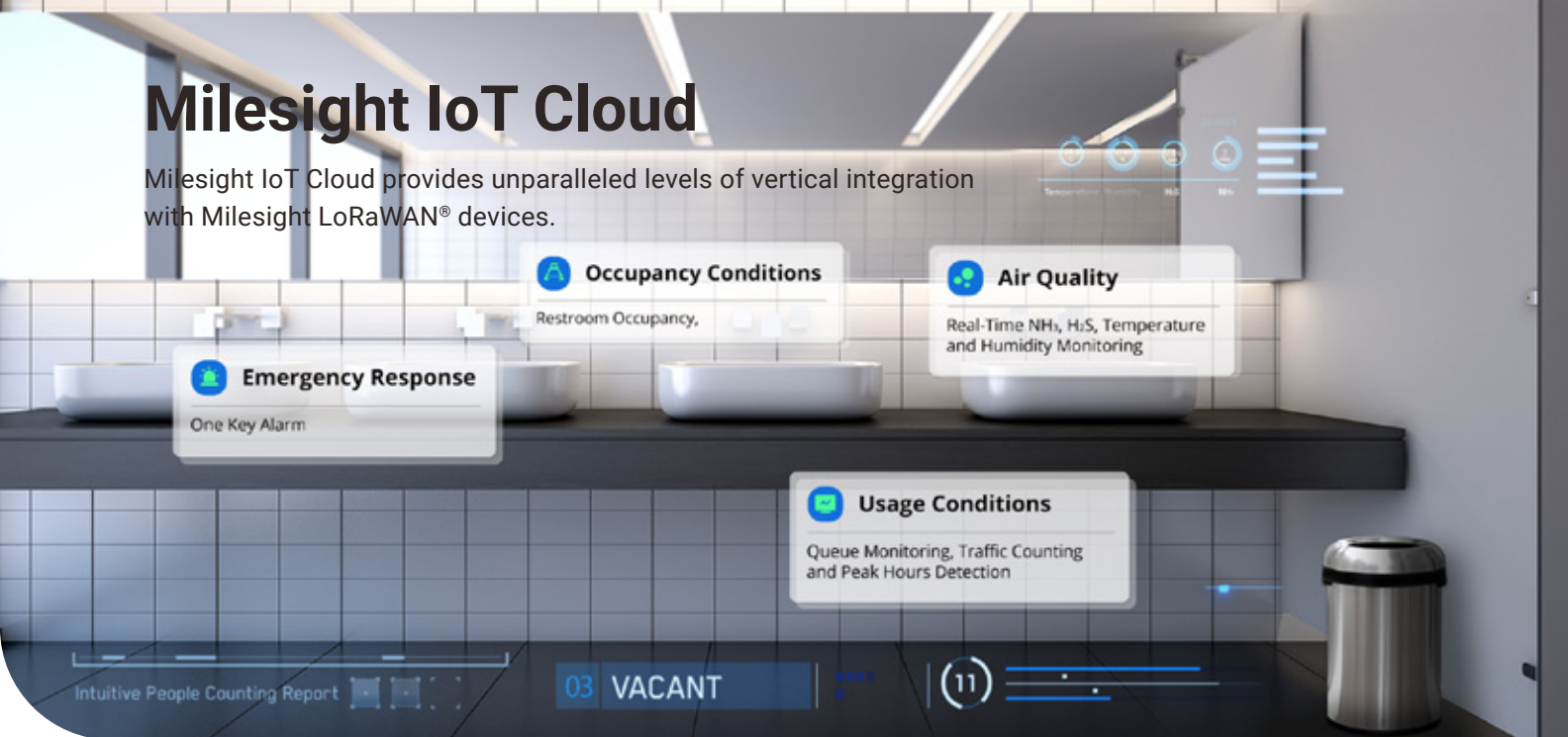


UG56

Model		UG56
LoRaWAN®	Chipset	SX1302, 8 Channels (Half-duplex)
	Antenna	1 x 50 Ω SMA Connector (Center PIN: SMA Female)
	Frequency	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4
	Protocol	V1.0 Class A/Class B/Class C and V1.0.2 Class A/Class B/Class C
Connectivity	Ethernet	1 x RJ45 PoE PD Port, 10/100 Base-T (IEEE 802.3)
	Wi-Fi	IEEE 802.11b/g/n, 2.4 GHz
	Cellular (Opt.)	1 x Mini SIM-2FF Slot, Support Global GSM/3G/4G LTE Frequency Bands
Hardware	CPU	Quad-core 1.3 GHz, 64-bit ARM Cortex-A35
	Power Supply	① 1 x 802.3af Standard PoE Input ② 5V, 2A by Type-C Port
Physical Characteristics	Ingress Protection	IP30
	Dimension	110 x 75 x 24 mm (4.33 x 2.95 x 0.94 in)
	Installation	Desktop, Wall Mounting

Milesight IoT Cloud

Milesight IoT Cloud provides unparalleled levels of vertical integration with Milesight LoRaWAN® devices.



Built on AWS to Provide Confidential and Reliable Infrastructure



Licensing with Ease: Just Copy & Paste and Upgrade Is Done



Get the **Free Trial** now and begin your data-driven future.

Transform Real-Time and Historical Data into Drag-and-Drop Widgets on Dashboard



Control Access and Monitor Projects from Anywhere



Email and Mobile Push Notifications based on Triggered Events

Milesight Development Platform

Milesight Development Platform is an integration platform that simplifies integration and device deployment and management. With the technical complexity managed, you can fully focus on developing your IoT project.

- Easy integration & data exchange
- Centralized management of devices, applications, and projects
- Not requiring extensive software/hardware knowledge



[Try the Platform Now!](#)

If you need any assistance or clarification, please send an email to evie@milesight.com.



Plan and Pricing

Free Plan - For light users	Professional Plan - For regular business users	Private Cloud
<ul style="list-style-type: none">● 10 connected devices● 3 applications for integration	<ul style="list-style-type: none">● Connected devices: \$1/device/year● Unlimited applications for integration	<ul style="list-style-type: none">● Contact us

*Camera product users are charged upon the number of image transmissions.

For pricing details, visit [Milesight Development Platform](#)



You Can Always Trust Us

Milesight is a multi-dimensional sensing products company transforming how the world is perceived and connected, and delivering safety, efficiency, and business insights.

Our mission is to digitalize the world with connected sensors, deliver the most accurate and valuable data, and extract actionable insights with our partners.

Our vision is to continuously drive the society and environment towards a more connected, efficient, and sustainable future.



- AM319 · AM307
- AM103 · AM102L
- UG56
- Milesight IoT Cloud

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Indoor Air Quality Solution

iBox IAQ Kit



- VS121 · VS340
- DS3604 · UG56
- Milesight IoT Cloud

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Smart Office Solution

iBox CoWork Kit-A



- VS121 · WS101
- WS301 · WS156
- UC100 · UG56
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Smart Office Solution

iBox CoWork Kit-B



- WS101 · WS201
- GS301 · VS330
- UC100 · UG56
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Smart Restroom Solution

iBox Smart Restroom Kit



- WS101 · WS301
- AM103 · WS303
- WS558 · UC300
- UG56
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Smart Building Solution

iBox Smart Building Kit



- EM500-SMTC
- UC511
- UG56
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Smart Agriculture Solution

iBox Smart Agriculture Kit



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www.milesight.com

iot.sales@milesight.com

86-592-5085280