

- Better Inside, More in Sight ▪

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Milesight IoT Product Brochure





About Milesight IoT

Milesight is a fast-growing high-tech company delivering smart IoT and video surveillance products with a focus on IoT technologies, including Artificial Intelligence, 5G and LoRaWAN®, since 2011. With improved sensing capability and advanced IoT insights, we help customers worldwide optimize their business operation in a more efficient and sustainable way. In collaboration with a global network of distributors and system integrators, we are committed to building open ecosystems and accelerating IoT strategies to the next level.

Milesight IoT delivers products including IoT Gateway, IoT Sensors, IoT Controllers and 4G/5G Industrial Routers & Switches to offer complete device-to-cloud-solutions for massively growing markets of smart office, smart building and smart agriculture in an actionable and adapted way.

Milesight Milestone



Why Milesight



Professional Technology

- Strong IoT know-how
- State-of-the-art IoT technology: 5G, sensing, LoRaWAN®, Milesight D2D, AI



Strong Capabilities

- 56% of employees are working in R&D team
- 15% revenue invested into R&D



Compliance and Associations



Flexible Integration

- The Things Industries, ChirpStack, Activity, Senet and many more
- Embrace easy interoperability with other network servers and clouds



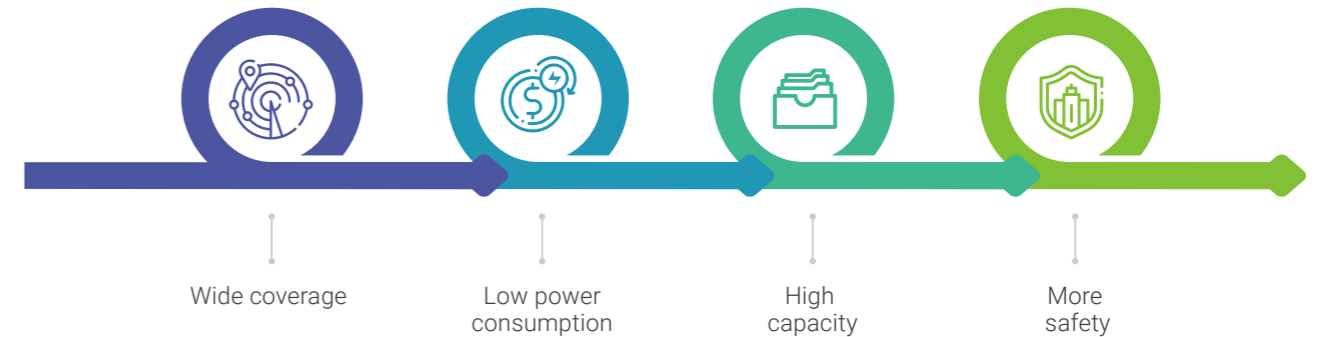
Worldwide Coverage

- Provide services over 120+ countries and regions
- Form a healthier and value-added channel management network

WHY MILESIGHT

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



Indoor Air Quality



Smart Building



Smart City



Smart Office



Smart Agriculture

Enable All-around Connectivity

LoRaWAN® Gateway



UG63 Mini LoRaWAN® Gateway

- Rated at IP30 and mini-sized
- Desktop, wall or ceiling mounting
- 5V Type-C port or PoE
- Backhaul backup: Ethernet

Overall Features

- ▶ Provide Large Capacity & Faster Data Processing
- ▶ Handle Higher Amount of Traffic with Lower Consumption
- ▶ Handle Massive Sensor Data Efficiently
- ▶ OpenVPN/IPsec/PPTP/L2TP/GRE/DMVPN
- ▶ Embedded Network Server & High Compatibility with Mainstream Networks Including Actility and Senet
- ▶ Support CN470/RU864/IN865/EU868/AU915/US915/KR920/AS923-1&2&3&4
- ▶ Connecting End Nodes Varies from Class A/B/C
- ▶ Extraordinary Features: Noise Analyzer, Multicast, Gateway Fleet
- ▶ Embedded Node-RED Development Tool (UG56/65/67)
- ▶ Embedded Python SDK (UG56/65/67)
- ▶ Listen Before Talk
- ▶ Support BACnet (UG56/65/67)



UG56 Industrial LoRaWAN® Gateway

- Rated at IP30 and industrial design
- Desktop and wall mounting
- 5V Type-C port or PoE
- Backhaul backup: Ethernet, cellular and Wi-Fi



UG65 Semi-Industrial LoRaWAN® Gateway

- Rated at IP65 and semi-industrial grade
- Desktop, wall or pole mounting
- 9-24 VDC Jack connector or PoE
- Backhaul backup: Ethernet, cellular and Wi-Fi

UG67 Outdoor LoRaWAN® Gateway

- Rated at IP67 and industrial design
- Wall or pole mounting
- DC, PoE or solar power supply (optional)
- Backhaul Backup: Ethernet, cellular and Wi-Fi
- Power outage alert
- GPS positioning

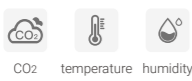


See the Unseen to Know Indoor Air Quality

IAQ Sensor



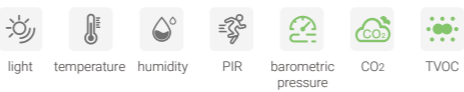
3-in-1 AM103/AM103L



- Traffic light status indicator
- Anti-theft protection
- Smart screen mode
- Hibernation mode
- Support data storage and retransmission
- 2.13 -inch E-ink screen (AM103)
- Vivid emoticon indication (AM103)
- Light/dark color theme (AM103)
- Multiple display styles (AM103)
- Battery life up to 3 years (AM103) / 4 years (AM103L)

7-in-1 AM107

- 2.13 inch E-ink screen
- Visual and intuitive display
- Powered via USB Type-C
- Battery life up to 1 year



Smart Classroom



Smart Supermarket



Smart Hospital

7/8/9-in-1 AM307/AM308/AM319

- Light/dark display mode
- 4.2 inch E-ink screen
- Vivid emoticon indication
- Traffic light indicator & buzzer
- Higher accuracy
- Anti-theft protection
- Powered via USB Type-C
- Battery life up to 3 years (AM307) / 1 year (AM308)
- Data retrieval and data retransmission



100% Anonymous Monitoring

Occupancy & People Counting Series



VS121 AI Workplace Occupancy Sensor



- LoRaWAN® & PoE version
- High ceiling mount version (7 meters)
- Up to 98% accuracy
- 78 m² detection area
- 16 custom detection regions
- Bi-directional people counting
- Smart U-turn detection
- Compliant with GDPR
- 100% Anonymous detection
- Support Milesight D2D featuring LoRa®

VS133 AI ToF People Counting Sensor

- LoRaWAN® & PoE version
- On-board AI algorithm
- 2nd generation ToF technology
- Up to 99.8% accuracy
- Staff detection
- Adults/children differentiation
- Compliant with GDPR
- 100% anonymous detection
- Bi-directional people counting
- Smart U-turn detection



VS330 Bathroom Occupancy Detector



- Combine PIR & ToF technology
- Up to 99.5% accuracy
- Operate in smart logic
- Compliant with GDPR
- 100% anonymous detection
- Real-time data collection
- Low power consumption
- Conformal coating on PCBA
- Battery life up to 4 years

Monitor Conditions and Optimize Controls

EM300 Series - Environment Monitoring Sensor



Overall Features

- ▶ Industrial-grade Design
- ▶ Support Extra Temperature and Humidity Detection (Except UDL & TILT)
- ▶ Rated at IP67
- ▶ Battery Life up to 5 Years
- ▶ Easy Configuration via NFC



Smart Office



Smart Hotel

EM300-DI Pulse Counter

- Pulse/digital signals & temperature & humidity
- Great partner of old water meters
- IP67 rating for harsh environment
- Data retrieval and data retransmission



EM300-MCS Magnetic Contact Switch Sensor

- Detect the opening or closing event of door & window to ensure security
- Data retrieval and data retransmission



EM300-TH Temperature & Humidity Sensor

- Temperature & humidity sensor
- $\pm 0.3^{\circ}\text{C}$ high accuracy of temperature and $\pm 3\%$ RH of humidity
- Data retrieval and data retransmission



EM300-SLD/ZLD Leak Detection Sensor

- Detect water leakage based on the principle of liquid conduction (SLD: Spot leak detection ZLD: Zone leak detection)
- LoRaWAN® certified (EM300-SLD)
- Data retrieval and data retransmission



EM310-TILT Tilt Sensor

- 3-Axis accelerometer & built-in zero adjustment
- 36 customized trigger rules & rated at IP67
- NFC configuration & easy installation



EM310-UDL Ultrasonic Distance/Level Sensor

- Non-contact distance detection with 3-450 cm measurement range and short blind zone
- Detect device gesture with built-in 3-axis accelerometer sensor to monitor device tilt status



EM320-TH Temperature & Humidity Sensor

- $\pm 0.2^{\circ}\text{C}$ high accuracy of temperature and $\pm 2\%$ RH of humidity
- Strong waterproof performance for harsh environments
- FDA-approved food contact material
- Anti-theft and anti-slip pad design on back cover
- Data retrieval and data retransmission



EM320-TILT FDA Approved Tilt Sensor

- 3-Axis accelerometer & built-in zero adjustment
- 36 customized trigger rules & rated at IP67



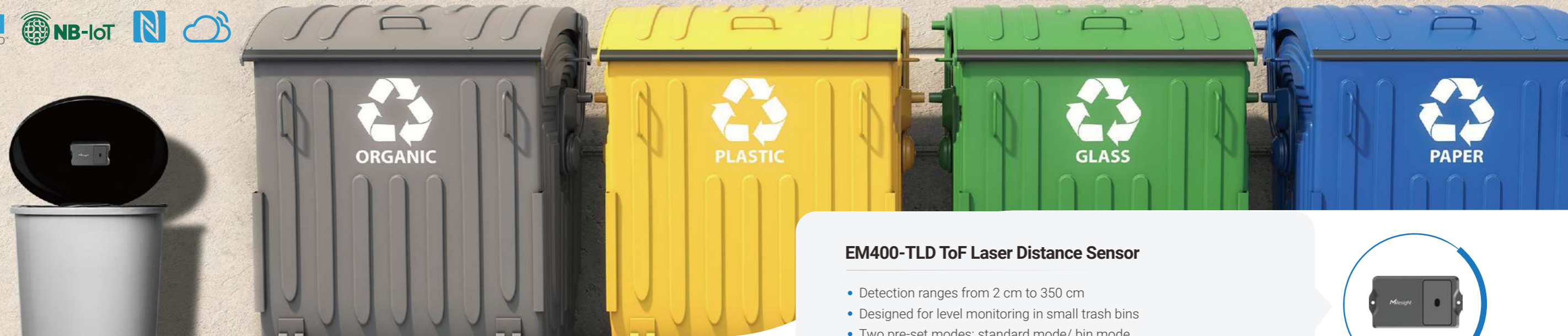
TS101 Insertion Temperature Sensor

- $\pm 0.5^{\circ}\text{C}$ detection accuracy
- Food-grade enclosure and probe
- IP67 rated & IK10 rated (transceiver)
- Support data storage and retransmission
- Battery life up to 10 years



Revolutionizing Measurement and Monitoring

EM400 Series Distance/Level Measurement Sensor



EM400-TLD ToF Laser Distance Sensor

- Detection ranges from 2 cm to 350 cm
- Designed for level monitoring in small trash bins
- Two pre-set modes: standard mode/ bin mode
- ToF Technology for high accuracy and almost no blind spot



Overall Features

- ▶ Rated at IP67
- ▶ LoRaWAN® & NB Version
- ▶ Embedded 3-Axis Accelerometer & NTC Thermistor
- ▶ Replaceable Battery Life up to 10 Years
- ▶ Easy Configuration via NFC



EM400-MUD Multifunctional Ultrasonic Distance Sensor

- Detection ranges from 3 cm to 450 cm
- Specialized in distance detection in trash bin and parking lot
- Pre-set modes: standard mode & bin mode
- Support pre-set parking lot mode (LoRaWAN® version only)
- Ultrasonic technology with small blind spots and support calibration



Smart Parking Lot



Boiler Expansion Monitoring

EM400-UDL Ultrasonic Distance Sensor

- Detection ranges from 25 cm to 1000 cm
- Professional for detecting water level in reservoir, industrial tank level and etc.
- Standard / professional / snow level versions available
- Support calibration for better accuracy





Reliable Data Collection for Long-term Remote Operation

EM500 Series - Outdoor Environment Monitoring Sensor

Overall Features

- ▶ Rated at IP67
- ▶ Replaceable Battery Life Up to 10 years
- ▶ Ultra-wide-distance Transmission
- ▶ NFC Configuration



EM500-CO₂ Carbon Dioxide Sensor (4 in 1)

- 4 in 1 (CO₂, temperature, humidity, barometric pressure)
- Measuring ranges (0 to 50°C): 400 ppm to 5000 ppm



EM500-LGT Light Sensor

- Accurate detection of any light changes
- Measuring ranges from 0 to 100,000 lux with high precision



EM500-PP Pipe Pressure Sensor

- Shock & vibration & corrosion resistant
- Measuring accuracy around $\pm 0.5\%$ FS to prevent leakage danger
- Temperature compensation for correcting temperature changes



EM500-PT100 Industrial Temperature Sensor

- Customizable temperature (-200 ~ 800 °C)
- Terminal heads are available varying from the straight tube, armored, SMT, threaded, magnet



EM500-UDL Ultrasonic Distance /Level Sensor

- Suitable for measuring benign & chemical mediums
- Non-contact detection for any corrosive liquid chemicals or combustibles
- Measurements in very small containers or openings
- Measuring ranges: 0.3-5 m/0.5-10 m



EM500-SMTC Soil Moisture, Temperature and Electrical Conductivity Sensor

- Research-grade accuracy in multiple soil media
- Corrosion resistance & tough probe
- Rapid monitoring of growing conditions



EM500-SWL Submersible Water Level Sensor

- Submersible pressure sensor not affected by foam, wind, or rain
- Measuring medium: water (Customizable for oil and other non-corrosive media)
- Customizable measuring range up to 200 m

The Workplace of the Future - Safer and Smarter

CoWork Series



WS101 Smart Button

- Support multiple press actions
- Convenient size
- Built-in LED indicator & buzzer
- Support Milesight D2D Featuring LoRa®
- Battery life over 5 years



WS156 & WS136 Smart Scene Panel

- 100% wire-free
- Customizable display (WS156)
- Customizable stickers (WS136)
- Battery life up to 3 years
- Support Milesight D2D Featuring LoRa®
- LoRaWAN® certified (WS156)



WS201 Smart Fill Level Monitoring Sensor

- Detection ranges from 1 cm to 55 cm
- Suitable for diverse toilet paper dispenser
- Accurate fill level monitoring with ToF technology
- Battery life up to 2 years



WS202 PIR & Light Sensor

- Occupancy or motion detection
- Convenient size
- Built-in light sensor & PIR sensor
- Support Milesight D2D Featuring LoRa®
- Battery life up to 4 years



WS301 Magnetic Contact Switch Sensor

- 100% wire-free
- Tamper detection
- Built-in LED indicator
- Battery life up to 5 years
- Support Milesight D2D Featuring LoRa®



WS302 Sound Level Sensor

- Peak and average sound level measurement
- Simple design for blending with any interiors
- NFC configuration & wire-free installation
- LED alarm indicator
- Battery life up to 4 years



WS303 Mini Leak Detection Sensor

- Water leak detection with 0.5 mm to trigger alert
- Immediate warning locally and remotely
- Battery life up to 5 years & IP67 rated
- Support Milesight D2D featuring LoRa®



WS50x Wall Switch

- Time-delay, schedule, remote and scene-based control
- 1/2-gang & multinational versions (AU, EU, UK & US)
- Power consumption statistics
- Multicast for remote control in bulk
- Support Milesight D2D Featuring LoRa®



WS523 Portable Socket

- Remote & time-based ON/OFF
- Power consumption measurement and collection
- Overload protection/alarm
- Support multicast



WS558 Smart Light Controller

- Control up to 8 lighting circuits
- Remote & time-based ON/OFF
- Power consumption measurement
- Support Milesight D2D Featuring LoRa®

Integrate Connectivity and Applications in One

DS Series

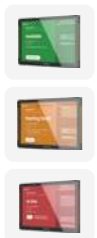


DS3604 IoT E-ink Display

- 4.2 E-ink screen
- Three pigment ink system: red/white/black
- Customized templates in multiple modules
- Support over 150 languages
- Battery life up to 5 years
- Open API & LoRaWAN® Button



DS7610 IoT Display



- Built-in LoRaWAN® gateway
- Robust features for secondary development
- 10.1 inch capacitive touch screen
- Support third-party Android applications



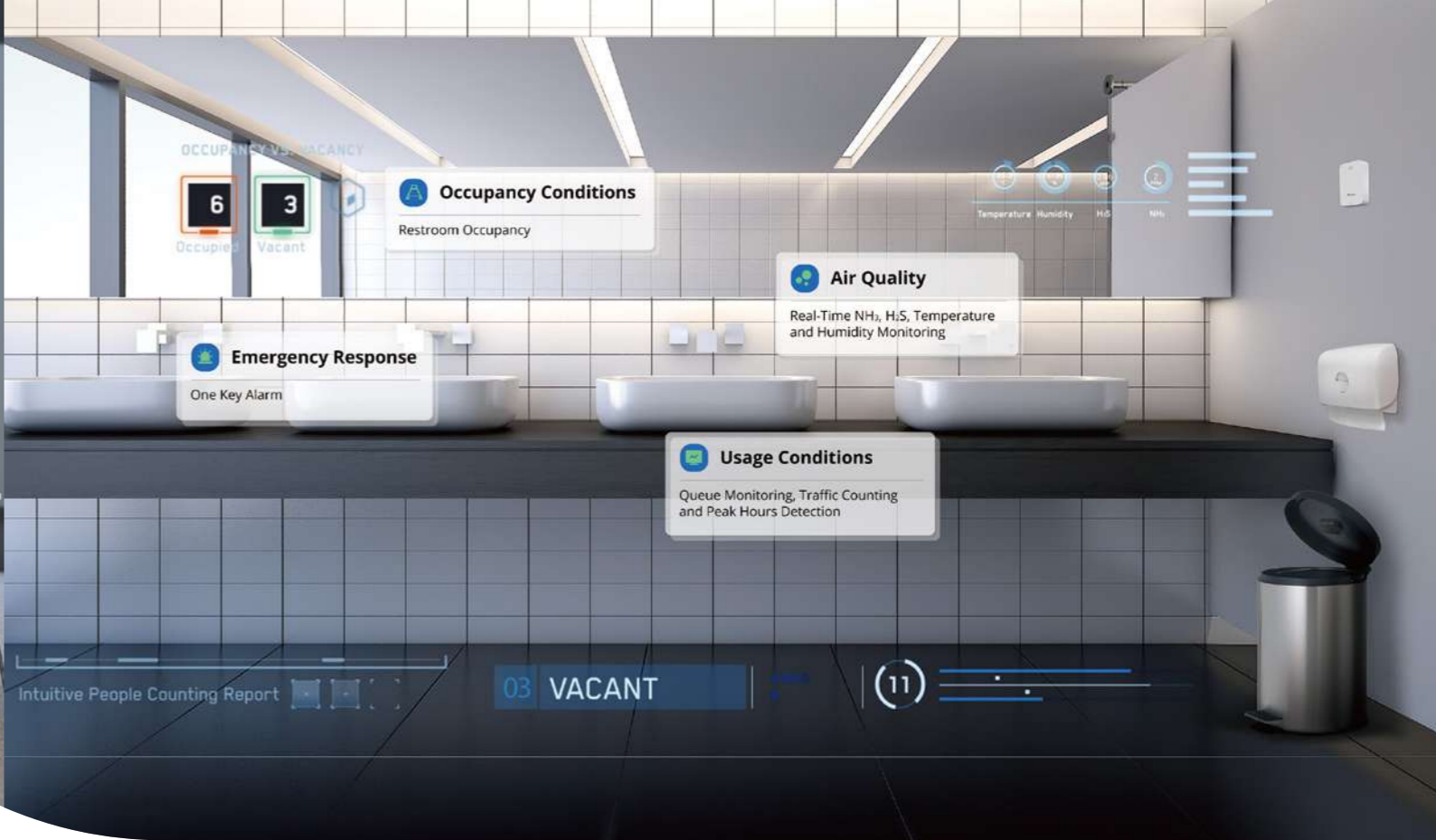
Office



Restroom



Hospital



Smart Restroom Solution

Reshape Restroom, Release the Values of Smartness

Milesight Smart Restroom Solution seamlessly integrates advanced operational and environmental sensors and IoT technologies breaking the limitations of traditional restrooms.



- Effective Toilet Paper Replacement with Fill Level Monitoring
- Advanced HVAC Systems Based on H₂S and NH₃ Detection Data
- Detect Leaks Immediately with Leak Detection and Take Countermeasures.
- Integrated Information Displayed for Users Can Have a Visual View of the Restroom Conditions
- Metering Management in Real Time to Improve Energy Utilization and Energy Saving
- Occupancy Mastery Based on Cubicles Vacancy Data

Sense the Invisible Danger

GS Series

LoRaWAN® N Cloud D2D



GS101 LoRaWAN® Gas Detector

- Methane (CH₄) sensor
- Event trigger
- Built-in auto-test function
- Ultra safe gas alarm threshold
- 800 records historical data storing capacity
- 5-year long life expectancy

GS301 LoRaWAN® Bathroom Odor Detector

- Detect NH₃ & H₂S with high accuracy
- Traffic light indicator & buzzer
- Battery life up to 3 years
- Support Milesight D2D Featuring LoRa®



Accurate, Reliable and Continuous Weather Monitoring

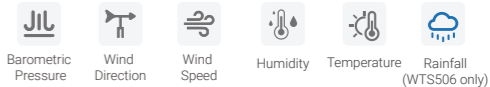
WTS Series

LoRaWAN® N Cloud



Overall Features

- All-in-one IoT Weather Station
- Solar-powered & Chargeable Batteries Backup
- Robust and Rugged
- Various Application Scenarios
- Data Retrieval and Data Retransmission



WTS305
IoT Weather Station
Standard Version



WTS50x
IoT Weather Station
Pro Version

Protect and Manage Critical Assets at All Times

AT Series LoRaWAN® GNSS Wi-Fi Bluetooth®

AT101 Outdoor Asset Tracker

- Highly-accurate GNSS positioning
- Cooperate with Wi-Fi positioning
- Support Geofencing
- Provide motion/periodic/timing Modes
- IP67 rated & IK09 rated
- Easy configuration via NFC or Bluetooth
- Embedded 3-Axis Accelerometer & NTC Thermistor
- Support data storage and retransmission
- Battery life over 15 years



Kick off IoT PoCs in

ONE KIT



Turning Data into Actionable Insights

Milesight designs and develops iBox Kit that employs vertical IoT strategies into users' insights in the fields of IAQ, CoWork, and Smart Building. With straightforward data directly shown on display or cloud platform, you can always stay informed and alert before it is too late. Through reports and analysis, you can maintain control over schools, workplaces, buildings and many more with fingertips and catch the problems that you probably ignored otherwise.



Overall Features

- Monitored and Managed
- Automated and Always Connected
- Smarter and Seamless



Smart Classroom



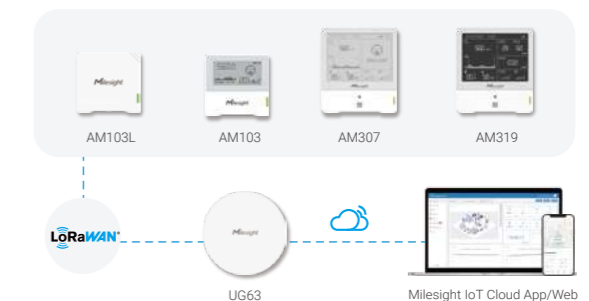
Smart Office



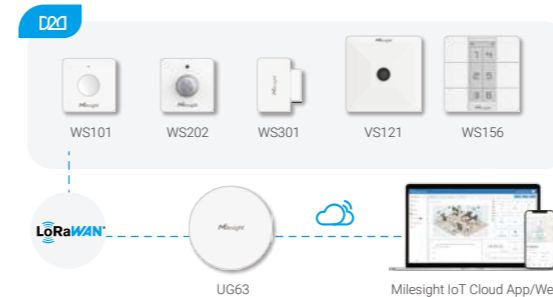
Smart Building

iBox IAQ Kit Lighting Your Way to Green Air

- See your environment
- Reinforce your health
- Maintain your business continuity



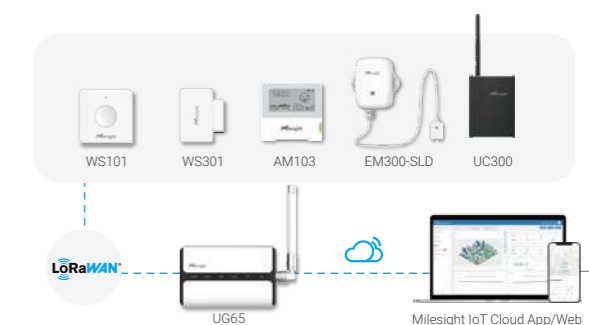
iBox CoWork Kit Workplace Efficiency and Utilization



- Interactive collaboration between devices within 1 second
- Automated scenarios switch
- Develop device-to-cloud connectivity

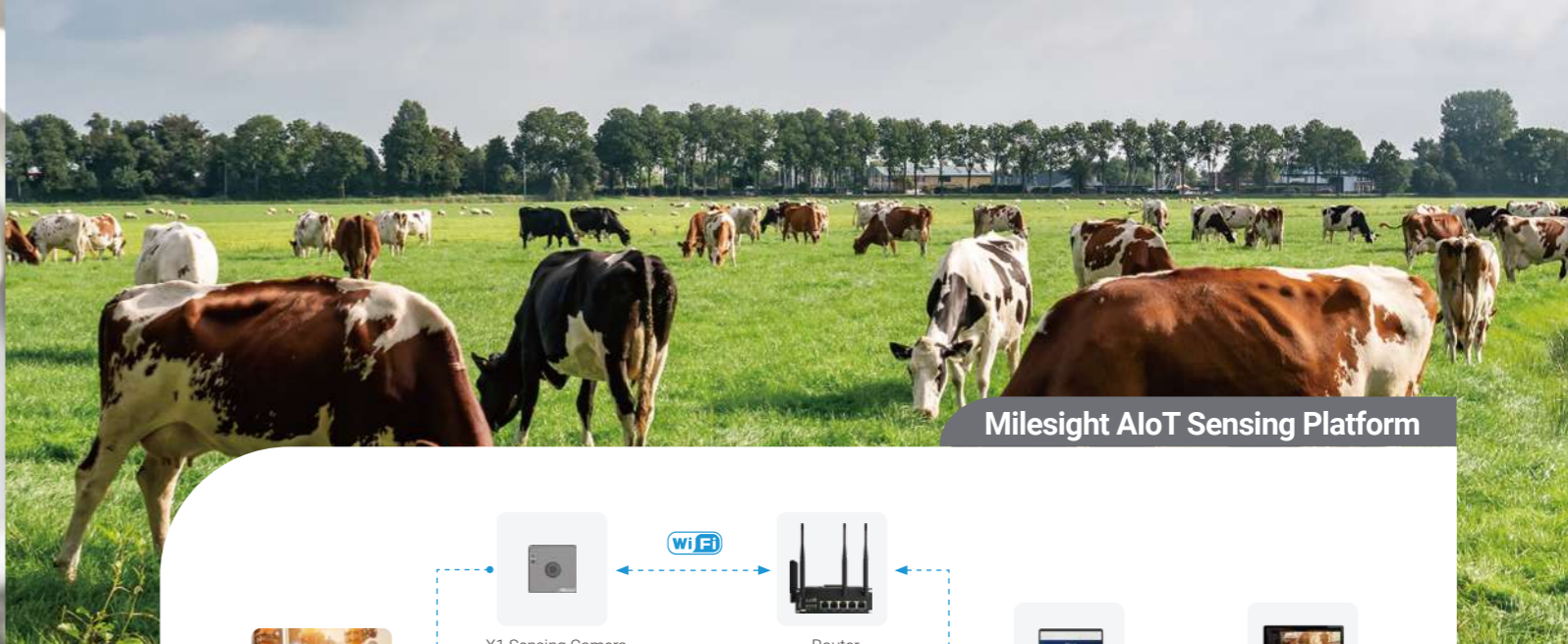
iBox Smart Building Kit Automated Monitoring and Management

- Simple to install and easy to use
- Driven by real needs and requirements
- Convert your idea with digital innovations

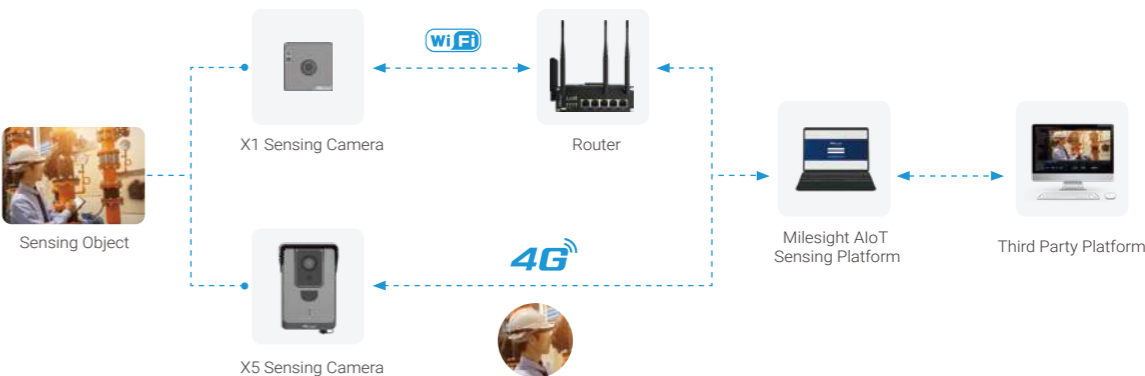


Sensing to Get Advanced Imaging Insights

Milesight X Infinity Series



Milesight AIoT Sensing Platform



X1 Sensing Camera for Indoor Scenarios



- Inspire sensing insights through images
- 2MP high-definition images
- Easy-to-get wireless deployment
- Low power consumption
- Multi-object catching
- Multi-capturing modes
- Compact design
- Powerful camera capacity
- Collaborate with AIoT Sensing Platform
- Compatible with third-party platforms
- Battery life up to 2 years

X5 Sensing Camera for Outdoor Applications

- 4G transmission
- Wi-Fi configuration
- Active based on time, DI, PIR, radar, temperature or noise
- IP66 rated & Adjustable rain cover
- Support GPS
- 2MP high-definition images
- Support infrared supplement light without disturbance
- Wireless deployment
- Power supply via type-c and solar power
- Support hibernate mode
- Collaborate with AIoT Sensing Platform
- Compatible with third-party platforms



Device Management Platform

- Unified Management of The Devices
- Bulk Upgrade & Configuration & Set ROI Area
- Retrieve Historical Data



Data Center Platform

- Normalize All Data of The Sensing Object
- Transfer to Back-end for More Possibilities
- Recognize The Image Information of Meters



Customizable Dashboard for Demo Solution

- Implement The Logic of Demo Solution Directly
- Visualize The Demo Solution on The Platform

Ultra-Fast and Futuristic

5G Series

5G



UF51 5G CPE

- Flexible deployment
- Dual band Wi-Fi
- Outstanding performance
- Flexible installation
- Multiple industrial interfaces
- PoE PD powered



UF31 5G Dongle

- Plug & play dongle for 5G connectivity
- SA/NSA & super-fast 5G speed
- Palm-sized design for any limited space
- Accelerator of 5G embedded applications



UR75 High-Performance 5G Industrial Router

- Fast speed 4G/5G network
- Wi-Fi 6
- Rich interfaces
 - ① Gigabit Ethernet ports for lightning transmission of data
 - ② 1 x RS232, 1 x RS485, 1 x DI, 1 x DO
 - ③ 4 x Wi-Fi, 4 x cellular, 1 x GPS
 - ④ 1 x USB port
- Industrial-grade design



Rugged Communications for Mission-Critical Applications

Industrial Cellular Router & Switch



UR32L Industrial Cellular Router

- High cost-effective with main router function
- 2 x 10/100 Mbps Ethernet interfaces for reliable network
- Support global 4G LTE network



UR35 Industrial Cellular Router

- Rich interfaces
 - ① 4 x PoE PSE Ethernet ports
 - ② 1 x RS232, 1 x RS485, 1 x DI, 1 x DO
 - ③ Wi-Fi & GPS
 - ④ FXS port for telephone communication
- Wide input voltage
- Support secondary development with Python SDK & API
- Industrial-grade design



UR32 Industrial Cellular Router

- Rich interfaces
 - ① Wi-Fi/GPS (alternative)
 - ② PoE (optional)
 - ③ 2 x Ethernet ports, 1 x RS232, 1 x DI, 1 x DO
- Support secondary development with Python SDK & API
- Industrial-grade design
- Verizon Open Development Certification



UR41 Mini Industrial Router

- Itsy-bitsy router with great flexibility
- Rich interfaces
 - ① GNSS
 - ② 1 x RS232/RS485, 1 x DI, 1 x DO
 - ③ 1 x Ethernet port
- Ultra-low power consumption
- Industrial-grade design



PoE Switch

- Multiple-port options: 4, 8, 16, 24
- Smart PoE power supply
- Superb transmission
- Flexible extend mode
- SFP uplink port
- Surge protection

Bring Data Acquisition & Remote Control with Ease

IoT Controller



UC100 IoT Controller

- RS485 to LoRaWAN® transmission
- Cost-effective & super-tiny size
- Support Milsight D2D Featuring LoRa®



UC50x Series LoRaWAN® Controller

- Rich industrial interfaces: RS232/RS485(Switchable), GPIO, analog input and SDI-12
- Waterproof design including IP67 case and M12 connectors
- DC powered and built-in battery (optional)
- Solar powered (UC501)
- NFC or wired USB port for configuring
- Battery life up to 10 years
- Support internal antenna or external antenna version
- Multicast function and over threshold reporting are available
- Support local data storage (600 pieces), retrievability and retransmission



UC300 IoT Controller

- Backhaul connectivity: LoRaWAN® technology or 4G LTE
- Rich interfaces: DI/DO/AI/RS232/RS485/PT100 RTD input
- Customized trigger rules
- Desk, wall & DIN mounting
- Support Milsight D2D Featuring LoRa®



UC51x Series LoRaWAN® Solenoid Valve Controller

- 2 x outputs for connecting DC latching solenoid valve
- Two GPIO interfaces for flow monitoring or valve status monitoring
- DC powered or solar powered (UC511)
- Time and flow control
- LoRaWAN® certified (UC512)
- Battery life up to 10 years
- Support internal antenna or external antenna version
- Store locally 1000 historical records and support retransmission to prevent data loss

Remote Management Platform



Milesight IoT Cloud



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



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
- Built on AWS to provide confidential and reliable infrastructure for your data
- Licensing with ease: just copy & paste and upgrade is done

DeviceHub



Milesight DeviceHub is a platform which is designed to provide a high-efficiency, low maintenance solution to easily deploy Milesight IoT devices (especially industrial cellular routers) across multiple locations, reducing complexity and increasing productivity.

- Large scale deployment
- Real-time monitoring
- Comprehensive report

Milesight VPN

MilesightVPN is a web-based VPN monitoring and management platform.

- Intuitive Web GUI
- Connection status overview
- Easy to setup VPN tunnel
- Access to remote devices securely
- Support up to 1000+ connected devices

