Milesight

IoT Solutions & Products Catalogue

AI & Sensing Technology

Better Inside, More in Sight

V3.2

Milesight

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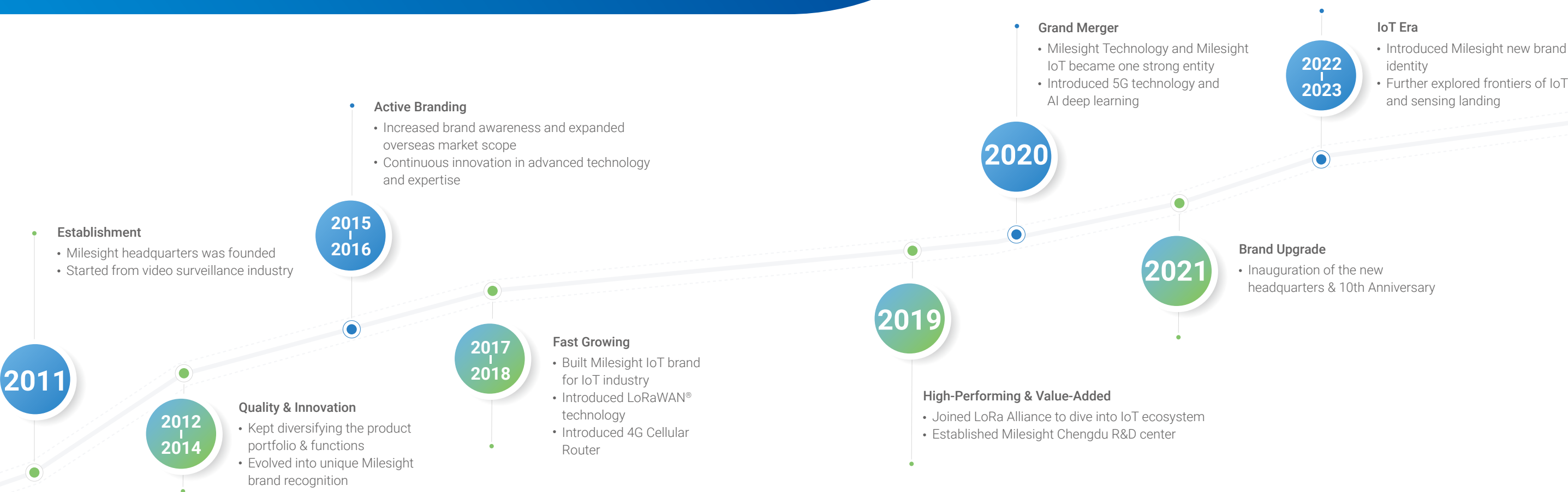
Milesight IoT Co., Ltd.

About Milesight IoT

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. Together, we are driving real and positive impact for businesses.

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

Milesight Milestone

Grand Merger
- Milesight Technology and Milesight IoT became one strong entity
- Introduced 5G technology and AI deep learning

IoT Era
- Introduced Milesight new brand identity
- Further explored frontiers of IoT and sensing landing

2022 – 2023

Active Branding
- Increased brand awareness and expanded overseas market scope
- Continuous innovation in advanced technology and expertise

2020

2015 – 2016

Establishment
- Milesight headquarters was founded
- Started from video surveillance industry

2021

Brand Upgrade
- Inauguration of the new headquarters & 10th Anniversary

2019

2011

2017 – 2018

Fast Growing
- Built Milesight IoT brand for IoT industry
- Introduced LoRaWAN® technology
- Introduced 4G Cellular Router

High-Performing & Value-Added
- Joined LoRa Alliance to dive into IoT ecosystem
- Established Milesight Chengdu R&D center

2012 – 2014

Quality & Innovation
- Kept diversifying the product portfolio & functions
- Evolved into unique Milesight brand recognition

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

LoRaWAN CERTIFIED   CE   FC   RoHS

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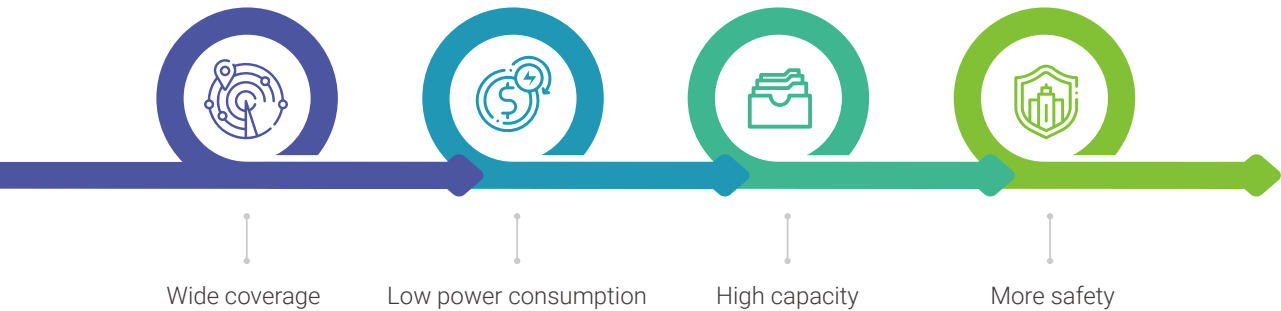- Embrace easy interoperability with other network servers and clouds

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.

Wide coverage	Low power consumption	High capacity	More safety
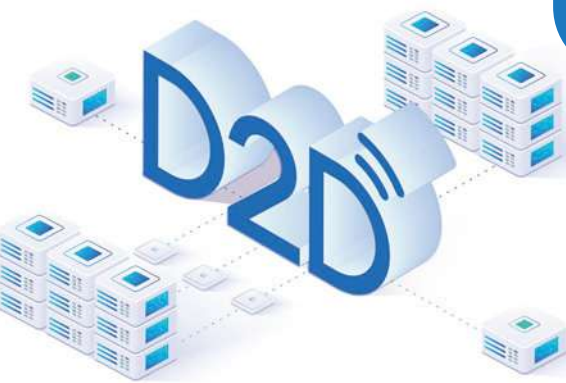
Why Milesight D2D

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

How Milesight Can Help in Maximizing Energy Efficiency in Green Buildings

People Counting

By getting accurate and real-time people flow statistics, it greatly contributes to better space utilization, improved energy saving, and more value-added business running.

Occupancy Monitoring

With real-time people counting data, the overall space capacity and usage patterns will be clearer to allocate resources, avoid unnecessary energy waste and optimize space utilization.

78m²

Power Consumption

Smart lighting systems and smart switch system can be used to control electrical and electronic devices, such as switches and outlets. These devices can be turned on or off remotely through a mobile app, allowing occupants to control their environment more easily.

Indoor Air Quality Monitoring

By monitoring indoor air quality (IAQ), such as temperature, relative humidity, CO_2, PM2.5 & PM10, TVOC and more, real-time and remote management is actionable. This is suitable for bench-marking and developing ventilation, filtration, and other indoor air quality management strategies.

Smart Water Management

All types of utilities need to take a leading role in deploying smart technologies to minimize waste. Real-time detection of water leaks can be helpful for critical assets or spaces, such as data centers. Retrofitting traditional metering with sensors and cameras can help achieve a more advanced level of management.

Energy Efficiency Solution

From smart utility solutions to electric vehicle charging station solutions, from smart workplaces to smart buildings, Milesight is demonstrating a clearer, more robust solution to maximize energy efficiency.
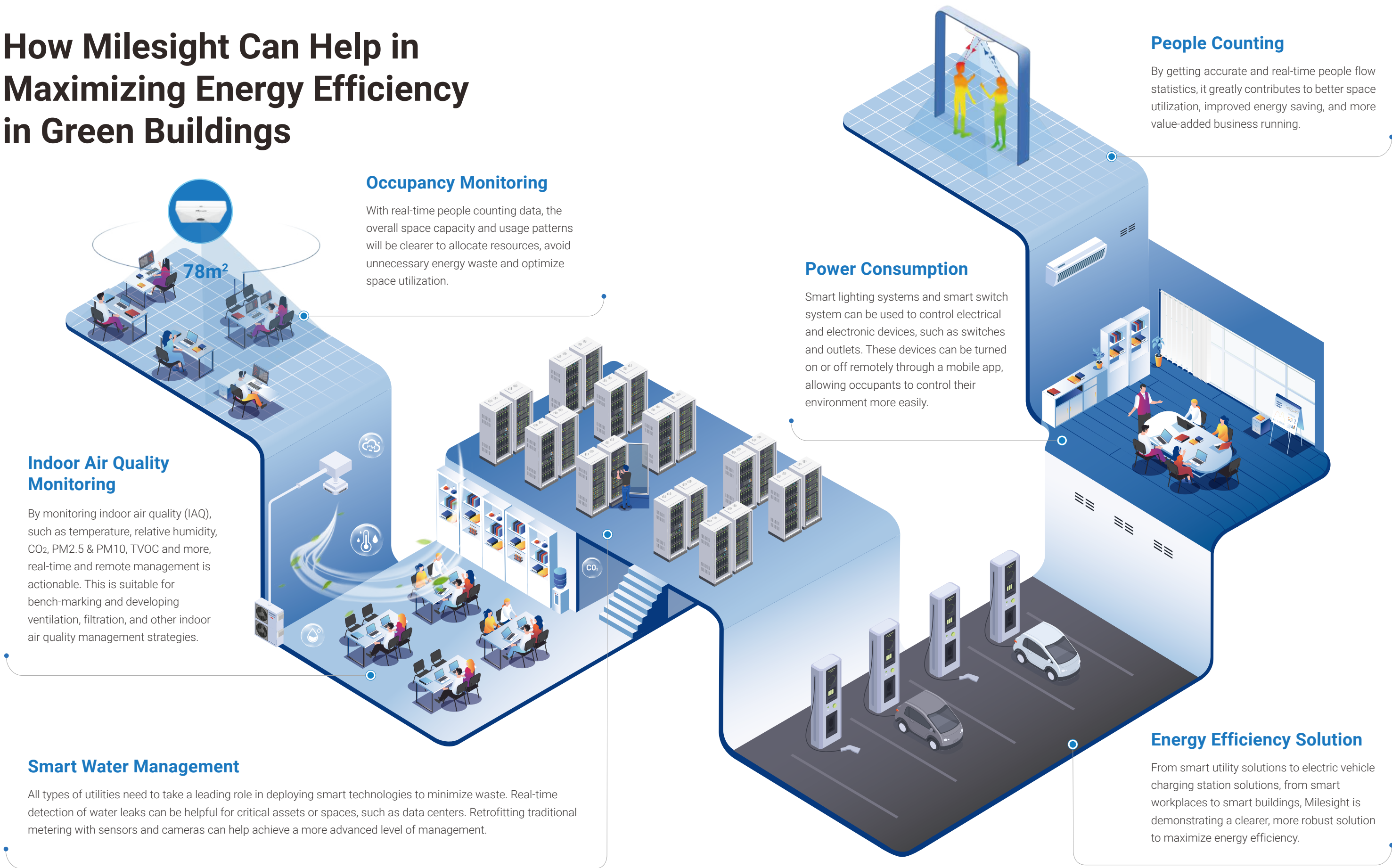
How Milesight Can Help
in Smart City and Smart Agriculture

Temperature and Humidity Monitoring

Widespread but essential, the temperature and humidity sensor serves applications across industries. In the food industry, it is critical to ensure that food is stored at the proper temperature to prevent spoilage. As industries increasingly welcome temperature and humidity monitoring to improve efficiency and lower costs, the importance of temperature and humidity sensors becomes clear.

Smart Parking Management

Sensors play a crucial role in indoor parking management. They can capture real-time parking occupancy information. With real-time data, it streamlines driving experience, ensuring that drivers are guided to a best parking available and saving time, energy and money.

Tash Bin Management

Traditionally, the waste bins are cleared one by one in a fixed route, which is cumbersome. Now Milesight Smart Bin Solution offers a real-time indicator of the garbage level in waste bin at any given time. The data will help optimize waste collection routes and ultimately reduce fuel consumption.

Distance and Level Monitoring

Accurate measurement of distance and level can help optimize production, eliminate waste, and ensure safety. Choosing the right distance/level measurement sensor is essential to achieve reliable and precise measurements.

Smart Agriculture

Smart agriculture solution brings innovative sensing technology to farming from smart irrigation, greenhouse automation, weather monitoring, animal tracking, etc. It makes agriculture more productive and more consistent, and enables farmers to use time and resources more efficiently.

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SENSING INSIGHT
SENSING THE INFINITY TO DRIVE THE WORLD

Physical World

Sense

Interact

AIoT Understand

Sensing by Products

Ingest the original environment from the sensing devices, whether they are network cameras or environmental sensors.

Insight on Environment

Through IoT technologies, convert the original resource into visualized, automated, and value-added data that is critical to the physical world.

Drive the Digital World

Massive critical information about the environment gathered becomes insights. The outcome, such as decision-making and future planning, tells us how to create a more efficient and intelligent world.

Digital Sensing	Connectivity	Interaction	Application
	LoRaWAN® Gateway	IoT Display	Smart Workplace
	4G/5G Industrial Routers		Smart City
Sensing Nodes	5G Super-Speed Suit	IoT Display	Smart Agriculture

Mini LoRaWAN® Gateway

UG63 is a mini-sized indoor LoRaWAN® gateway that fits the LoRaWAN® network coverage for blind spots and standalone deployment.

Overall Features

- Mini Size for Flexible Installation
- Gateway Fleet for Better Blind Spot Coverage
- Semtech SX1302 Chip for Standalone Deployment
- Embedded Network Server Compatible with TTN, ChirpStack, Everynet, Senet, etc.

UG63

Model		UG63
LoRaWAN®	Chipset	SX1302, 8 Channels (Half-duplex)
	Frequency	CN470/RU864/IN865/EU868/US915/AU915/KR920/AS923-1&2&3&4
Connectivity	Ethernet	1 × 10/100Mbps (1 x WAN)
	Cellular(Opt.)	1 x SIM-3FF
	Wi-Fi	IEEE 802.11 b/g/n, 2.4GHz, AP Mode
Hardware	CPU	Dual-core 240MHz, 32-bit Xtensa® LX7
	Power Supply	① 5VDC by Type-C Port ② 802.3af PoE via PoE Splitter ③ 5-12 VDC by Terminal Block
Physical Characteristics	Ingress Protection	IP30
	Installation	Desktop, Wall Mounting, Ceiling 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 × 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 × 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

Semi-Industrial LoRaWAN® Gateway

UG65 is a robust 8-channel LoRaWAN® gateway that is ideally suited to smart office, smart building and many other indoor applications.

Overall Features

- IP65 Rated and UV Resistance
- 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 Actility, AWS, TTN, ChripStack, Everynet, Senet, etc.
- BACnet/IP Support for Seamless Integration into Existing Building Management Systems (BMS)

UG65

Model		UG65
LoRaWAN®	Chipset	SX1302, 8 Channels (Half/Full-duplex)
	Antenna	1 × 50 Ω N-Female External Connector (Opt.)
	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, 10/100/1000 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	Processor	Quad-core 1.5 GHz, 64-bit ARM Cortex-A53
	Built-in	Watchdog, RTC, Timer
	Power Supply	① 1 × 802.3 af Standard PoE Input ② 9 ~ 24 VDC by DC Male Jack Connector
Physical Characteristics	Ingress Protection	IP65
	Dimension	180 x 110 x 56.5 mm (7.09 x 4.33 x 2.22 in)
	Installation	Desktop, Wall or Pole Mounting

Outdoor LoRaWAN® Gateway

UG67 is a robust 8-channel LoRaWAN® gateway that is well-matched to smart agriculture, smart metering and many other outdoor applications.

Overall Features

- IP67 Rated and UV Resistance
- 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 Actility, AWS, TTN, ChirpStack, Everynet, Senet, etc.
- BACnet/IP Support for Seamless Integration into Existing Building Management Systems (BMS)

UG67

Model		UG67
LoRaWAN®	Chipset	SX1302, 8 Channels (Half/Full-duplex)
	Antenna	2 × 50 Ω N-Female External Connectors
	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, 10/100/1000 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
	GPS	Support (Internal Antenna)
Hardware	Processor	Quad-core 1.5 GHz, 64-bit ARM Cortex-A53
	Built-in	Watchdog, RTC, Timer
	Power Supply	① 1 × 802.3 af Standard PoE Input ② 12 VDC with M12 Connector
Physica Characteristics	Ingress Protection	IP67
	Dimension	240 x 164 x 90.9 mm (9.45 x 6.46 x 3.58 in)
	Installation	Wall or Pole Mounting

Ultra Low Power Solar LoRaWAN® Gateway

SG50 is an optimal outdoor LoRaWAN® gateway especially for outdoor environments with limited power availability. It features a reliable 25Ah internal battery, ensuring typical operation for 4 days without sunlight.

Overall Features

- Built-in Rechargeable Batteries & Solar Panel
- Support Typical Use for up to 4 Days without Sunlight
- Support Cellular Backhaul Network
- Easy Deployment, Even in Remote Regions
- Highly Efficient & Advanced Power Management Design
- Highly Compatible with Mainstream Network Servers

SG50

Model		SG50
LoRaWAN®	Chipset	SX1302, 8 Channels (Half-duplex)
	Antenna	1 × 50 Ω N-Female External Connector
	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	Wi-Fi	IEEE 802.11 b/g/n, 2.4GHz, AP Mode
	Cellular	1 x Nano SIM-4FF, Support Global GSM/3G/4G LTE Frequency Bands
Hardware	Processor	Dual-core 240MHz, 32-bit Xtensa® LX7
	Built-in	Watchdog, Timer
	Power Supply	① Solar Power or DC Power (12~24VDC) via M12 Connector ② 3.6V, 25000mAh Backup Batteries ③ 5V, by Type-C Port
Physical Characteristics	Ingress Protection	IP67
	Dimension	250 × 157.5 × 46mm (9.84 x 6.20 x 1.81 in)
	Installation	Wall or Pole Mounting

Wi-Fi HaLow Gateway

HL31 addresses the limitations of bandwidth and slow transmission rates in current LoRa gateways. It is ideal for small to medium-sized coverage areas. Users can experience expanded capabilities for transmitting large data volumes, including images, while preserving low-power requirements.

Wi-Fi HaLow

Overall Features

- Support Sub-1 GHz Spectrum Operation for a Wider Transmission
- Support Wi-Fi Halow AP Mode to Connect to Wi-Fi HaLow Sensors
- Support both Ethernet & Cellular Networks for Data Transmission
- Provide Wi-Fi 2.4G AP Mode for Configuration

HL31

Model		HL31
Wi-Fi HaLow	HaLow Chipset	MM6108
	Frequency	850~950MHz
	Channel bandwidth	1/2/4/8MHz
	Work Mode	AP
Connectivity	Wi-Fi	IEEE 802.11b/g/n, 2.4 GHz
	Cellular (Opt.)	1 x SIM-3FF
	Ethernet	1 × 10/100Mbps (1 x WAN)
Hardware	Processor	RK3308, 1.3 GHz, 64-bit ARM Cortex-A35 Quad Core
	Power Supply	① 5VDC by Type-C Port ② 802.3af PoE via PoE Splitter ③ 5-12 VDC by Terminal Block
Physica Characteristics	Ingress Protection	IP30
	Installation	Desktop, Wall Mounting, Ceiling Mounting

Uninterruptible Power Supply

The UPS01 is building a successful power supply solution featured with 12000 mAh that is able to serve connectivity needs for the terminal devices up to 32 hours. By offering resilient power supply, the UPS01 is poised to ensure seamless data transmission between the terminal devices and remote platform when power outage happens. Besides, the heating film also allows it to work in low-temperature environment for continuous power supply.

☂ IP67 🔋 12000mAh

UPS01

Overall Features

- Adopt Rechargeable 12000mAh High-Capacity Battery for Providing up to 32 Hours' Supplement
- Equip with Heating Film for Protecting Battery in Low-Temperature Environment
- IP67and IK08 Protection for Adapting to Harsh Environment
- Equip with a Traffic Light Indicator and Cooperate with Smart Internal Logic for Status Display
- Compatible with Milesight Devices for Managing Both Power Monitoring and Alarming Remotely

Model		Type-C Version	M12 Version
Power	Power Input	9~20V-2A	
	Input Connector	DC Jack Female Connector	
	Power Output	5V-4A	6~8.4V-1.5A
	Output Connector	Type-C	4-Pin M12 A-Coded Female
	Battery Capacity	4 x 3000mAh Lithium-ion Rechargeable Batteries	
	Battery Supply Time *	6 ~ 32h	
Physical Characteristics	Cable Length	DC IN: 30 cm Type-C: 100 cm	DC IN: 30 cm M12: 150 cm
	Ingress Protection	IP67 & IK08	
	Dimension	96×60×45mm (3.78×2.36×1.77 in) (Without Cable)	
	Operating Temperature	Charge Temperature: -20°C to +45°C (-4°F to +113°F) Discharge Temperature: -20°C to +60°C (-4°F to +140°F)	
	Installation	Wall Mounting, DIN Rail Mounting, Pole Mounting, Desktop Mounting	

* Tested under laboratory conditions and for guideline purposes only.

iBox Kit Series

Milesight iBox Kit is designed for users to quickly evaluate the LoRaWAN® technology with testified devices and services. Going comprehensively digital transformation with more certainty, these solutions are the one step before users to scale connected device deployments securely with high reliability.

LoRaWAN®   N   ☁

Overall Features

- Starters Enjoy It for Putting PoCs into Action with Reduced Time & Cost
- Operators Need It for New Projects and Potential Market Demands
- Deployers Love It for Easy to Deploy and Integrate with Multiple NS Platforms

· AM319   · AM307
· AM103   · AM102
· UG56
· Milesight IoT Cloud

*Pro1 Valid for One Year

Indoor Air Quality Solution — **iBox IAQ Kit**

· WS101   · WS301
· AM103   · WS303
· WS558   · UC300
· UG56
· Milesight IoT Cloud

*Pro1 Valid for One Year

Smart Building Solution — **iBox Smart Building Kit**

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

*Pro1 Valid for One Year

Smart Office Solution — **iBox CoWork Kit**

· VS121   · WS101
· WS301   · WS156
· UC100   · UG56
· Milesight IoT Cloud

*Pro1 Valid for One Year

Smart Office Solution — **iBox CoWork Kit**

· WS101   · WS201
· GS301   · VS330
· UC100   · UG56
· Milesight IoT Cloud

*Pro1 Valid for One Year

Smart Restroom Solution — **iBox Smart Restroom Kit**

· EM500-SMTC
· UC511
· UG56
· Milesight IoT Cloud

*Pro1 Valid for One Year

Smart Agriculture Solution — **iBox Smart Agriculture Kit**

AI Workplace Occupancy Sensor

VS121 delivers curated insights by real-time occupancy data to unleash potential, especially for workplace and buildings.

LoRaWAN® ☁ AI PoE

Overall Features

- LoRaWAN® & PoE Versions for Broader Applications
- High Ceiling Mount Version up to 7 Meters High Is Available
- Embedded AI Algorithm Realizes Up to 98% Accuracy Counting
- Compliant with GDPR & 100% Anonymous Detection
- 78m² Large Detection Area with 16 Custom Detection Regions
- Bi-Directional People Counting via In/Out Counting
- Smart U-Turn Detection via the U-Shape Tracks of People Flow
- Milesight D2D with Communication Latency to <1 Sec

VS121 VS121-P

Model		VS121	VS121-P
Wireless Transmission	Technology	LoRaWAN® , Milesight D2D	-
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4	
	Mode	OTAA/ABP Class C	
Ethernet Transmission	Ethernet Port	-	1× RJ45 10/100 Mbps (PoE PD)
	Network Protocol		MQTT(S), HTTP, RTSP, NTP, SSH, etc.
Measurement	Field of View	Standard Version: 190° Horizontal, 112° Vertical High Ceiling Mount Version: 129.4° Horizontal, 68.4° Vertical	
	Recognition Range	Standard Version: a Radius of 5 Meters, At the Height of 3m High Ceiling Mount Version:18m × 7m, At the Height of 7m	
	Recognition Rate	Region Counting: Up to 95% Line Crossing Counting: Up to 98% People Flow Analysis: Up to 98%	
	Installation Height	Standard Version: 2.5m to 4m High Ceiling Mount Version: 5m to 7m	
	Advanced Feature	Mapped Detection Region Customization, Filter U-Turns, Privacy Mask, Dwell Time Detection	
Physical Characteristics	Configuration	Wi-Fi	Ethernet
	Power Supply	5 VDC / 1.5A by Type-C Port	1.5VDC / 2A by Terminal Block 2. 802.3af PoE
	Installation	Ceiling Mounting	

* Tested under laboratory conditions and for guideline purposes only

AI ToF People Counting Sensor

VS133 is a people counting sensor with combination of AI and upgraded ToF technology to offer line crossing people counting data in real-time to get precise and valuable statistics for facility operators.

LoRaWAN® ☁ ToF AI PoE

Overall Features

- Combination of On-board AI Algorithm and 2ND Generation ToF Technology
- Industry-Leading 99.8% Accuracy
- Support Staff Detection and Adults/Children Differentiation
- Compliant with GDPR & 100% Anonymous Detection
- Smart U-Turn Detection Suitable for Real World Scenarios
- Support Group Counting for Line Crossing Function
- Bi-Directional People Counting via In/Out Counting
- High-Capacity of Storing a Million Data Locally
- User-Friendly Management on DeviceHub
- Support Multi-Device Stitching
- Support Regional People Counting & Dwell Time Detection
- Advanced Heat Map Available (VS133-P)

VS133 VS133-P

Model		VS133	VS133-P
Wireless Transmission	Technology	LoRaWAN®	-
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4	
	Mode	OTAA/ABP Class C	
Ethernet Transmission	Ethernet Port	-	1× RJ45 10/100 Mbps (PoE PD)
	Network Protocol		HTTP, MQTT, NTP, etc.
Measurement	ToF	FoV: 98° Horizontal, 80° Vertical Light Beam: 940nm (Invisible)	
	Accuracy	<3.5 cm	
	Range	0.5~3.5 m	
	Recognition Rate	Up to 99.8%	
Physical Characteristics	Configuration	Wi-Fi	Ethernet
	Power Supply	12VDC / 2A	802.3 at PoE+
	Operation Temperature	-20°C ~ +50°C	
	Ingress Protection	IP40	
	Installation	Ceiling Mounting, Extended Ceiling Mounting & Lintel Mounting (with Optional Multifunctional Bracket)	

* 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.

LoRaWAN® · NFC · Cloud · ToF · Motion

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°
	ToF — Detetion Accuracy and Range	±2cm, 0.040 ~ 3.500m
	PIR — Detection Area	80°
	PIR — 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

Desk & Seat Occupancy Sensor

VS34x adapts PIR and thermopile, bringing higher accuracy and quick occupancy status detecting. It frees up human resources enabling efficient management in hot desking, dining area, traffic hub, library and etc.

LoRaWAN® · D2D

Overall Features

- High Precision & Speed Dual-Technology
- Adjustable PIR Angles for Flexible Performance
- Up to 98% Ultra-High Accuracy
- 100% Anonymous Detection
- Ultra Low Latency Gains Quick Response
- LoRaWAN® Wireless Deployment with Low Power Consumption
- Milesight D2D with Communication Latency to <1 Sec

VS340 VS341

Model		VS340	VS341
Occupancy Detection	Technology	PIR	TPIR & Thermopile
	Recognition Rate	Up to 95%	Up to 98%*
	PIR Detection Area	107° Horizontal, 107° Vertical	
	PIR Detection Distance	Within 1m	
Wireless Transmission	Technology	LoRaWAN®, Milesight D2D	
	Frequency	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4	
	Mode	OTAA/ABP Class A	
Physica Characteristics	Power Supply	1 x 4000 mAh ER18505 Li-SOCL2 Battery	
	Battery Life**	Around 5 Years (100 Triggers per Day, 25°C)	
	Configuration	NFC Configuration via Mobile App	
	Operating Temperature*	-20°C ~ +60°C	
	Dimension	73 x 73 x 26 mm (2.87 x 2.87 x 1.02 in) (Without PIR Cover)	
	Installation	3M Tape Mounting, Wall Screw Mounting	

* The temperature range of thermopile to reach best recognition rate is +10°C to +30°C.
** Tested under laboratory conditions and for guideline purposes only.

Passage People Counter

With bi-directional detection using dual PIR sensors, VS350 brings applicable accuracy and redefines the way you track foot traffic in a cost-effective way.

LoRaWAN® D2D

Overall Features

- Flexible Bi-Directional People Counting
- Cost-Effective Accuracy Performance & Easy Installation
- 100% Anonymous Detection & Large Detection Area
- 4 Years Long Battery Life with High Report Frequency
- LoRaWAN® Wireless Deployment with Low Power Consumption
- Milesight D2D with Communication Latency to <1 Se

VS350

Model	VS350
People Counting — Technology	Dual PIR
Installation Height	Ceiling Mount: ≤ 3.0m, Wall Mount: 1.2m~1.3m
Detection Range	Bi-directional People Counting Ceiling Mount: Passage Width = 2.8 m (At the height of 3m) Wall Mount: Passage Width < 3.8 m
Wireless Transmission — Technology	LoRaWAN®, Milesight D2D
Frequency	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4
Mode	OTAA/ABP Class A
Power Supply	2 x 2700 mAh ER14505 Li-SOCl2 Replaceable Batteries
Physical Characteristics — Battery Life*	Around 4 Years (10-min Interval, 25°C, 1000 People per Day)
Operating Temperature	-20°C ~ +60°C
Dimension	100 x 70 x 21 mm (3.94 x 2.76 x 0.83 in)
Installation	Ceiling Mount, Wall Mount

* Tested under laboratory conditions and for guideline purposes only.

Ultra ToF People Counting Sensor VS135

VS135 is a people counting sensor with combination of AI and upgraded ToF technology to offer line crossing people counting data in public scenarios such as airport, park and etc.
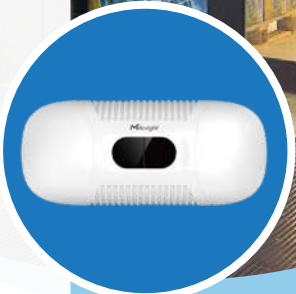
LoRaWAN® 4G ToF

Overall Features

- Combination of On-board AI Algorithm and 2ND Generation ToF Technology
- Industry-Leading 99.8% Accuracy
- High Ceiling Mount Version up to 6.5 Meters High Is Available
- Support Staff Detection and Adults/Children Differentiation
- Compliant with GDPR & 100% Anonymous Detection
- Smart U-Turn Detection Suitable for Real World Scenarios
- Bi-Directional People Counting via In/Out Counting
- High-Capacity of Storing a Million Data Locally
- User-Friendly Management on DeviceHub
- Support Multi-Device Stitching
- Advanced Heat Map Available (VS135-P)

VS135

Model	VS135-P	VS135-L08EU	VS135-HL*	VS135-868M/915M/470M
People Counting — ToF FoV	Standard Version: 98° Horizontal, 80° Vertical / High Ceiling Mount Version: 60° Horizontal, 45° Vertical			
ToF Light Beam	940nm (Invisible)			
ToF Lighting Mode	Auto/Always On			
Measuring Accuracy	Standard Version: < 3.5cm / High Ceiling Mount Version: < 6.5cm			
Installation Height	Standard Version: Up to 3.5m / High Ceiling Mount Version: Up to 6.5m			
Recognition Rate	Up to 99.8%			
Advanced Feature	Multi-Devices Stitching, Group Counting, Heat Map, Dwell Time Detection, Regional People Counting, Staff Detection, Children/Adults Differentiation, Filter U-turns		Group Counting, Dwell Time Detection, Regional People Counting, Staff Detection, Children/Adults Differentiation, Filter U-turns	
Wireless Transmission — Wi-Fi	IEEE 802.11 b/g/n, 2.4GHz (AP Mode for configuration)			
Technology		LTE Cat 4	Wi-Fi Halow	LoRaWAN®
Frequency/Band		LTE-FDD: B1/B3/B7/B8/B20/ B28 WCDMA: B1/B8 GSM/EDGE: B3/B8	900/800MHz	N470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4
Power Supply	802.3at PoE+ / DC12V	DC12V		
Ingress Protection	IP65			
Physica Characteristics — Color	White/Black			
Installation	Ceiling Mounting, Extended Ceiling Mounting & Lintel Mounting (with Optional VB01 Multifunctional Bracket)			

* VS135-HL Coming Soon

Smart Button

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

LoRaWAN CERTIFIED | D2D | N | ☁

WS101

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
- Milesight D2D with Communication Latency to <1 Sec
- Convenient Size with 5 Years Battery Life

Model		WS101
Wireless Transmission	Technology	LoRaWAN®, Milesight 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	Milesight D2D Controller

* Tested under laboratory conditions and for guideline purposes only.

Smart Scene Panel

WS136/WS156 offers occupant with predefine 6 scenes with different surrounding ambiences which can be fast changed by pressing the button.

LoRaWAN CERTIFIED | D2D | N | ☁

WS136 WS156

Overall Features

- 100% Wire-Free with Multiple Scenes Control
- Customizable Display/Stickers Suitable for Various Scenarios
- Control Multiple Devices Simultaneously with One Command
- LoRaWAN® Wireless Deployment with Low Power Consumption
- Milesight D2D with Communication Latency to <1 Sec

Model		WS136/WS156
Wireless Transmission	Technology	LoRaWAN®, Milesight D2D
	Frequency	CN470/RU864/IN865/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Physical Characteristics	Power Supply*	Easily Replaceable Batteries with over 3-Year Battery Life
	Ingress Protection	IP30
	Dimensions	86 × 86 × 14 mm (3.39 × 3.39 × 0.55 in)
	Display	2.9-Inch Black & White E-Ink Screen (WS156 Only)
	Installation	Desktop, 3M Tape Mounting, 86 Box Mounting
Others	Configuration	NFC
	Button	6 Scene Buttons (Blue Light) & 1 Reset Button (Internal)
	Advanced Feature	Milesight D2D Controller, Screen Display Customization

* Tested under laboratory conditions and for guideline purposes only.

Smart Fill Level Monitoring Sensor

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

LoRaWAN® ToF N ☁

WS201

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

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

PIR & Light Sensor

WS202 provides PIR motion detection and brightness measurement, providing reliable supports for automatic lighting control system.

LoRaWAN® CERTIFIED D2D N ☁

WS202

Overall Features

- PIR & Light Sensor for Occupancy/Motion Detection
- Wide Detection Range up to 8m in Distance
- Customizable Bright/Dark Conditions Threshold
- Milesight D2D with Communication Latency to <1 Sec
- Convenient Size with 5 Years Battery Life

Model		WS202
Wireless Transmission	Technology	LoRaWAN®, Milesight D2D
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923
	Mode	OTAA/ABP Class A
Measurement	PIR	120° Horizontal, 100° Vertical, Maximum 8 m
	Light Status	Bright/Dark (Determine 1-60000 lux as Bright or Dark According to Custom Threshold)
Physical Characteristics	Power Supply*	Easily Replaceable Battery with up to 4-Year Battery Life
	Ingress Protection	IP30
	Dimension	50 × 50 × 23.8 mm (1.97 × 1.97 × 0.94 in)
	Installation	On the Flat Surfaces with Screws or 3M Tapes
Others	Configuration	NFC
	Advanced Feature	Milesight D2D Controller

* Tested under laboratory conditions and for guideline purposes only.

Motion & TH Sensor

WS203 is equipped with high-precision TH sensor to detect surrounding temperature and humidity and the motion of humans or animals. It ensures the indoor environment at a preset comfort level via pairing with HVAC system if motions are being detected, which is a huge energy saver and brings much comfort.

LoRaWAN® D2D N ☁

Overall Features

- Accurate Motion Detection with Adjustable Detection Angles
- High-Precision Temperature and Humidity Detection
- Support Data Storage and Retransmission
- LoRaWAN® Wireless Deployment with Low Power Consumption
- Milesight D2D with Communication Latency to <1 Se

WS203

Model		WS203
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	PIR	120° Horizontal, 100° Vertical; Detection Area: Maximum 6 m (Distance)
	Temperature	±0.2°C（-20°C ~ 60°C)
	Humidity	±2% RH（0% RH~ 100% RH)
Others	Configuration	NFC
	Advanced Feature	Milesight D2D Controller, Data Storage, Data Retransmission
Physical Characteristics	Power Supply	1 × 4000 mAh ER18505 Li-SOCl2 Battery
	Battery Life*	Up to 5 years
	Ingress Protection	IP30
	Dimension	73 x 73 x 26 mm (2.87 x 2.87 x 1.02 in) (Without PIR Cover)
	Installation	Wall Screw Mounting, 3M Tape Mounting

* Tested under laboratory conditions and for guideline purposes only

Magnetic Contact Switch

WS301 detects the opening or closing event, sending alarms accordingly. The minimal magnet is placed inside the portable part, while the sensor is inside the fixed part on door, window or other projects.

LoRaWAN® D2D N ☁

Overall Features

- 100% Wire-Free with Double Sided Tape/Screw
- Real-Time Tamper Detection & Report
- Built-in LED Indicator for Status Indication
- Milesight D2D with Communication Latency to <1 Sec
- Convenient Size with 5 Years Battery Life

WS301

Model		WS301
Wireless Transmission	Technology	LoRaWAN®, Milesight D2D
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923
	Mode	OTAA/ABP Class A
Measurement	Detection Distance	10-15 mm
Physical Characteristics	Power Supply*	Easily Replaceable Battery with over 5-year Battery Life
	Ingress Protection	IP20
	Dimension	Sensor: 50.5 × 31 × 18.5 mm (1.99 × 1.22 × 0.73 in) Magnet: 30 × 13.5 × 10 mm (1.18 × 0.53 × 0.39 in)
	Installation	On the Flat Surfaces with Screws or 3M Tapes
Others	Configuration	NFC
	Button	1 × Reset Button (Internal), 1 × Tampering Button
	Alarms	Open/Close Status, Tamper
	Advanced Feature	Milesight D2D Controller

* Tested under laboratory conditions and for guideline purposes only.

Sound Level Sensor

WS302 can not only measure noise levels and generate various values via LoRaWAN® network, but also supports multiple weighting measurements for different application scenarios.
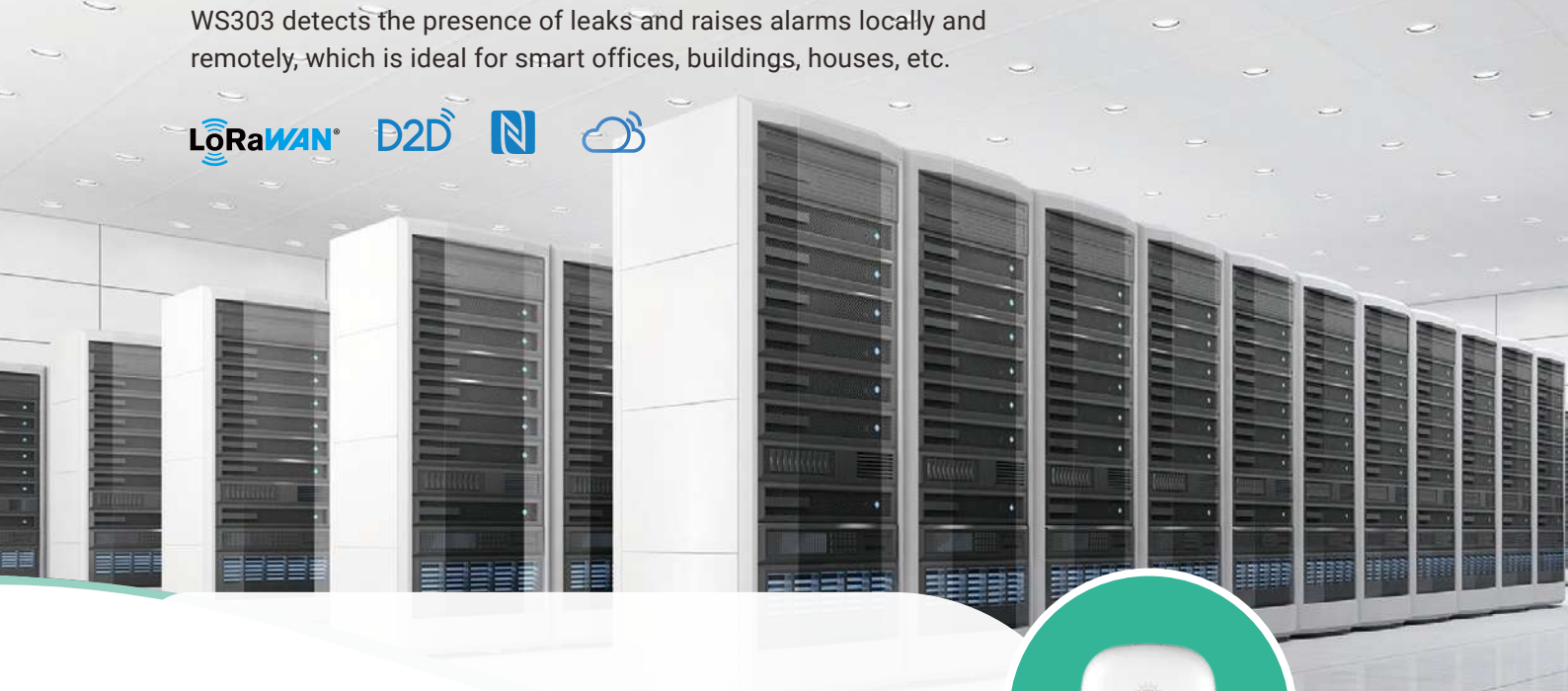
Overall Features

- Accurate Sound Level Measurement in Decibels (dB)
- Support A, C and Fast Time Weighting
- Built-in LED Indicator for Status Indication
- LoRaWAN® Wireless Deployment with Low Power Consumption
- Convenient Size with 5 Years Battery Life

WS302

Model		WS302
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	Sound Level	± 3 dB (0°C to +45°C), 30 dBA to 120 dBA, 35 dBC to 120 dBC
	Frequency Range	30 Hz to 8 kHz
	Weighting	A and C Fast Weighting
	Measurement Unit	SPL Actual, Leq, Lmax
Physical Characteristics	Power Supply*	Easily Replaceable Batteries with over 4-Year Battery Life (Fast Time Weighting Disabled) And over 1.5 Years (Fast Time Weighting Enabled)
	Ingress Protection	IP30
	Dimension	68 × 65 × 20.5 mm (2.68 × 2.56 × 0.81 in)
	Installation	On the Flat Surfaces with Screws or 3M Tapes
Others	Configuration	NFC
	Button	1 × Power/Reset Button

* Tested under laboratory conditions and for guideline purposes only.

Mini Leak Detection Sensor

WS303 detects the presence of leaks and raises alarms locally and remotely, which is ideal for smart offices, buildings, houses, etc.

Overall Features

- IP67 Rated for Harsh Environment
- Water Leak Detection with 0.5mm to Trigger Alert
- Immediate Warning Locally and Remotely
- Up to 5 Years Battery Life with One Coin Cell Battery
- LoRaWAN® Wireless Deployment with Low Power Consumption
- Milesight D2D with Communication Latency to <1 Sec

WS303

Model		WS303
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	Trigger Condition	Conductive Liquid When Liquid Level Reaches 0.5 mm
Physical Characteristics	Configuration	NFC
	Power Supply*	Easily Replaceable Battery with 5-Year Battery Life
	Operation Temperature	-10°C to +60°C
	Ingress Protection	IP67
	Dimension	63 × 63 × 14 mm
	Installation	3M Tape Mounting, Desktop

* Tested under laboratory conditions and for guideline purposes only.

Smart Wall Switch

WS50x is designed for the local and remote control of lights and electrical appliances. It adopts two standard sizes for most of international wall switch types, which can replace the traditional wall switches directly.

LoRaWAN® **D2D** **NFC** ☁

WS50x

Overall Features

- Time-Delay, Schedule, Remote and Scene-Based Control
- Support 1/2-Gang with 3-Wire/2-Wire Circuit Design
- Built-in LED Indicator for Status Indication
- Multicast for Remote Control in Bulk
- Milesight D2D with Communication Latency to <1 Sec

Model		WS50x	
Wireless Transmission	Technology	LoRaWAN®, Milesight D2D	
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4	
	Mode	OTAA/ABP Class C	OTAA/ABP Class B, Class C to B, Class C
Electrical	Circuit Type	3-Wire	2-Wire
	Maximum Current	Inductive: 5 A per Gang, Total 10 A Resistive: 10 A per Gang, Total 10 A	
	Rated Load	Max 1000 W per Gang, total 0 ~ 2000 W	Max 1000 W per Gang, total 38 ~ 2000 W
	Measurement	Voltage (VAC), Current (mA), Power Factor (%), Power (W), Power Consumption (kWh)	-
Physical Characteristics	Dimensions	86 Type: 86 × 86 × 40 mm (3.39 × 3.39 × 1.57 in) 120 Type: 118 × 72 × 46.9 mm (4.65 × 2.83 × 1.85 in)	
	Ingress Protection	IP20	
Operation	Configuration	NFC	
	Switch Control	Local Press or Remote Control	
	Advanced Features	Schedule Switch, Switch Lock, Overcurrent Protection, Multicast, D2D Controller, Milesight D2D Agent	

* Tested under laboratory conditions and for guideline purposes only

Smart Wall Socket

WS51x offers hassle-free integration through in-wall installation, allowing direct replacement of traditional sockets. It is equipped with power failure memory, ensuring that previous settings are retained even after a power outage.

LoRaWAN® **D2D** **NFC** ☁

Overall Features

- Easy Remote and Local Control
- Customizable Scheduling Control
- Group Control with Multicast
- Safeguard Devices with Overload Protection
- Intelligent Power Consumption Management
- V-0 Flame-Retardant Material
- LoRaWAN® Wireless Deployment with Low Power Consumption
- Milesight D2D with Communication Latency to <1 Se

WS51x

Model		WS51x
Wireless Transmission	Technology	LoRaWAN®, Milesight D2D
	Frequency	IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class C
Electrical	Socket Type	EU: Type F, with Safety Door FR: Type E, with Safety Door
	Input Voltage	100~250 VAC, 50~60 Hz
	Rated Current	16A (Max)
	Measurement	Voltage (VAC), Current (mA), Power Factor (%), Power (W), Power Consumption (kWh)
Software	Configuration	NFC or Downlink
	Power Control	Local Press Button or Remote Control
	Advanced Features	Delay Switch, Button Lock, Overcurrent Protection/Alarm, Multicast, Milesight D2D Agent
Physical Characteristics	Ingress Protection	IP20
	Dimensions	Type F: 86.3 × 86.3 × 45.8 mm (3.4 × 3.4 × 1.8 in) Type E: 86.3 × 86.3 × 43.3 mm (3.4 × 3.4 × 1.7 in)

* Tested under laboratory conditions and for guideline purposes only.

Smart Portable Socket

WS523 is designed for the remote scheduled on/off control of electronic applications as well as power consumption measurement.
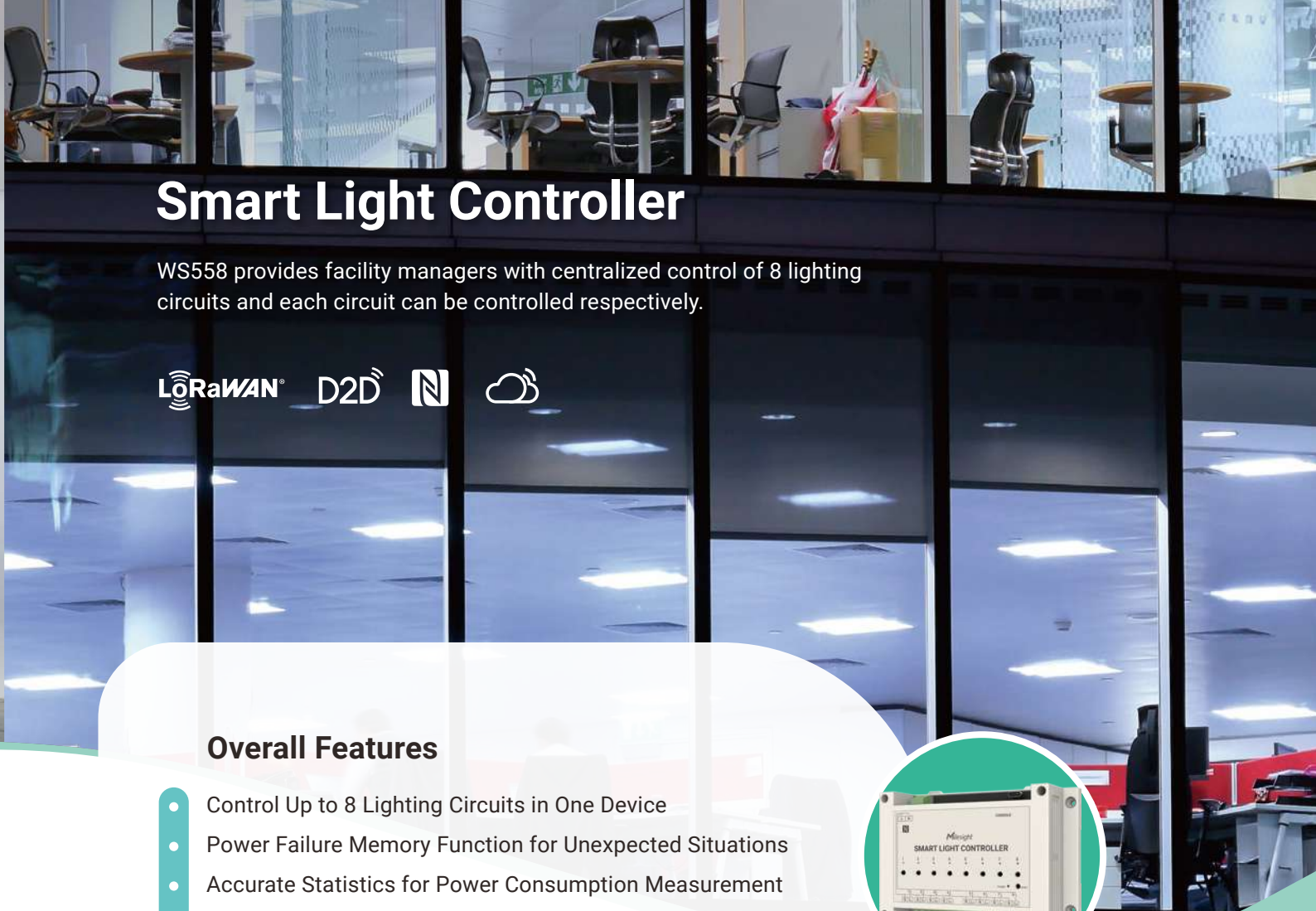
Overall Features

- Schedule, Remote and Scene-Based Control
- Accurate Statistics for Power Consumption Measurement
- Overcurrent Protection/Alarm for Safer Operation
- Multicast for Remote Control in Bulk
- Milesight D2D with Communication Latency to <1 Sec

WS523

Model		WS523
Wireless Transmission	Technology	LoRaWAN®, Milesight D2D
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class C
Measurement	Socket & Plug Type	US/EU/AU/UK/CN, etc.
	Operating Voltage	100 ~ 250 VAC, 50 ~ 60 Hz
	Max Load Capacity	10 A ~ 16 A (Optional), 250 VAC
	Measurement	Voltage (VAC), Current (mA), Power Factor (%), Power (W), Power Consumption (kWh), ±1 % Accuracy
Physical Characteristics	Dimensions	110 × 62.3 × 34.6 mm (4.33 × 2.45 × 1.36 in)
	Ingress Protection	IP30
Others	Configuration	NFC or Downlink
	Switch Control	Button or Remote Control
	Button	ON/OFF, Reset
	Advanced Features	Schedule Switch, Button Lock, Overcurrent Protection/Alarm, Multicast, Power Outage Alert, Milesight D2D Agent

Smart Light Controller

WS558 provides facility managers with centralized control of 8 lighting circuits and each circuit can be controlled respectively.
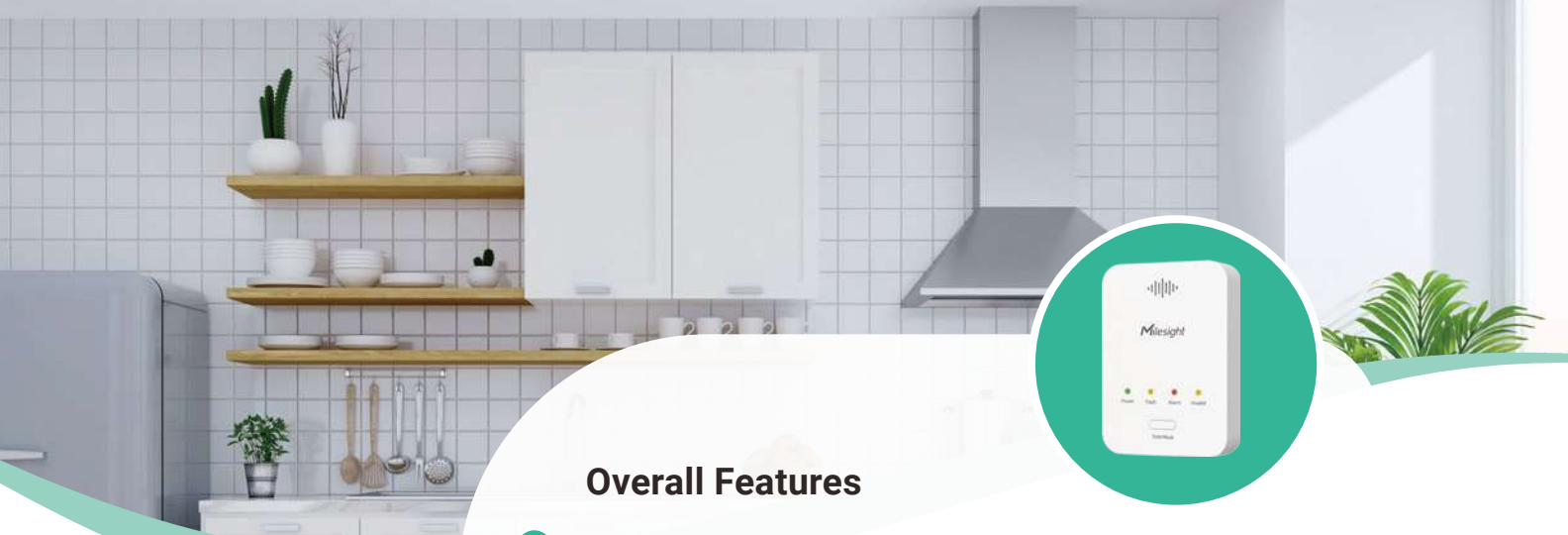
Overall Features

- Control Up to 8 Lighting Circuits in One Device
- Power Failure Memory Function for Unexpected Situations
- Accurate Statistics for Power Consumption Measurement
- Overcurrent Protection for Safer Operation
- Multicast for Remote Control in Bulk
- Schedule, Remote and Scene-Based Control
- Milesight D2D with Communication Latency to <1 Sec

WS558

Model		WS558-LN	WS558-Switch
Electrical	Input Voltage	100~240 VAC, 50~60 Hz	
	Output	8 Active Outputs	8 Passive Switches
	Capacitive & Inductive Load	Maximum 5A per Output, Total 16A	Maximum 5A per Switch
	Resistive Load	Maximum 10A per Output, Total 16A	Maximum 10A per Switch
	Electrical Measurement	Voltage (VAC), Current (mA), Power Factor (%), Power (W), Power Consumption (kW·h)	-
	Switch Control	Local Press or Remote Control	
Wireless Transmission	Protocol	LoRaWAN®, Milesight D2D	
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4	
	Mode	OTAA/ABP Class C	
Physical Characteristics	Dimensions	145 × 90 × 40 mm (5.7 × 3.54 × 1.57 in)	
	Installation	Wall Mounting, DIN Rail Mounting	
Others	Configuration	NFC, USB Type-C or Downlink	
	Advanced Features	Multicast, Remote Schedule Switch, Overcurrent Protection, Milesight D2D Agent	

Gas Detector

GS101 detects methane (CH_4) leakage in residential space such ass houses, apartments, hotels, etc., features a gas alarm threshold as low as 8% Lower Explosive Limit (LEL) that quickly alerts residents to an emergency.

Overall Features

- Detect CH_4 with Higher Accuracy
- Event Trigger via Relay Output/Solenoid Valve Output
- Built-in Self-Test Function for Safer Operation
- Built-in LED Indicator & Buzzer for Status Indication
- Support Retransmission for Reliable Communication
- Store Capacity with 800 Sets of Historical Data Records
- LoRaWAN® Wireless Deployment with Low Power Consumption

GS101

Model		GS101
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class C
Measurement	Detecting Gas	Methane (CH_4)
	Alarm Level	8% LEL
	Historical Records Storage	Alarm Records, Alarm Dismissed Records, Device Fault Records, Device Fault Recovered Records, Device Power on Records, Device Power off Records, Device Invalid Records
	Alarm System	Sound (8% LEL), LED Indicators
Physical Characteristics	Configuration	NFC
	Power Supply	12VDC, 1A through DC Jack Connector
	Ingress Protection	IP30
	Dimension	120 × 85 × 32.5 mm (4.72 × 3.35 × 1.28 in)
	Installation	Wall Mounting

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 NH_3 & H_2S 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_2S)	± 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.

2-in-1 Indoor Air Quality Sensor

AM102/AM102L is a compact sensor for detecting temperature and humidity. The optional e-ink screen offers more possibilities for various scenarios.

AM102
AM102L

Overall Features

- Traffic Light Status Indicator for Direct Notification
- Wireless Installation with Anti-theft Protection
- Support Data Storage and Retransmission
- Smart Screen Mode & Hibernation Mode for Ultra-Low Power Consumption
- 2.13 -Inch E-Ink Screen (AM102)
- Light/Dark Color Theme (AM102)
- Battery Life up to 7 Years (AM102) / 9 Years (AM102L)

Model		AM102	AM102L
Wireless Transmission	Technology	LoRaWAN®	
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4	
	Mode	OTAA/ABP Class A	
Measurement	Temperature	± 0.2°C (-20°C ~ 60°C)	
	Humidity	± 2% RH (0% RH~ 100% RH)	
Physical Characteristics	Power Supply	2 × 2700 mAh ER14505 Li-SOCl2 Replaceable Batteries	
	Battery Life*	Over 7 Years	Over 9 Years
	Display	2.13-inch Black & White E-Ink Screen	-
	Ingress Protection	IP30	
	Dimension	68 × 65 × 20.5 mm (2.68 × 2.56 × 0.81 in)	
	Installation	Wall Screw Mounting, 3M Tape Mounting	

* Tested under laboratory conditions and for guideline purposes only.

3-in-1 IAQ Sensor

AM103/AM103L is a compact IAQ sensor for detecting CO_2 concentration, humidity and temperature accurately and economically.

AM103
AM103L

Overall Features

- Traffic Light Status Indicator for Direct Notification
- Wireless Installation with Anti-theft Protection
- Support Data Storage and Retransmission
- Smart Screen Mode & Hibernation Mode for Ultra-Low Power Consumption
- 2.13 -Inch E-Ink Screen with Vivid Emoticon Indication (AM103)
- Light/Dark Color Theme (AM103)
- Battery Life up to 3 Years (AM103) / 4 Years (AM103L)

Model		AM103	AM103L
Wireless Transmission	Technology	LoRaWAN®	
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4	
	Mode	OTAA/ABP Class A	
Measurement	Temperature	± 0.2°C (-20°C ~ 60°C)	
	Humidity	± 2% RH (0% ~ 100%)	
	Carbon Dioxide (CO_2)	± (30 ppm + 3% of Reading), 400 to 5000 ppm	
Physical Characteristics	Configuration	NFC	
	Display	2.13-inch Black & White E-Ink Screen	-
	Alarm System	1 × Traffic Light Status Indicator	
	Power Supply*	Easily Replaceable Batteries with up to 3-Year Battery Life	Easily Replaceable Batteries with up to 4-Year Battery Life
	Ingress Protection	IP30	
	Dimension	68 × 65 × 20.5 mm (2.68 × 2.56 × 0.81 in)	
	Installation	Wall Screw Mounting, 3M Tape Mounting	

* Tested under laboratory conditions and for guideline purposes only.

7-in-1 Indoor Air Quality Sensor

AM107 is a well-qualified IAQ sensor for monitoring CO_2 concentration, temperature, humidity, light, TVOC, barometric pressure and motion in indoor scenarios.

LoRaWAN CERTIFIED

AM107

Overall Features

- 2.13-Inch E-Ink Screen with Intuitive Display
- Smart Screen Mode for Low Power Consumption
- Powered via USB Type-C for Stable Power Supply
- Battery Life up to 1 Year

Model		AM107
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	Temperature	±0.3°C (-20°C ~ 70°C), ±0.6°C (-20°C ~ 0°C)
	Humidity	± 3%RH (10% ~ 90%), ± 5%RH (0%~10%,10% ~ 90%)
	PIR	94 ° Horizontal, 82 ° Vertical, 5 m
	Light	±30%, 60000 lux (Visible + IR, IR)
	Carbon Dioxide (CO_2)	± (30 ppm + 3% of Reading), 400 ~ 5000 ppm
	TVOC	±15% (0 ~ 60000 ppb)
	Barometric Pressure	±1 hPa, 300 ~ 1100 hPa (-40°C ~ 85°C)
Physical Characteristics	Configuration	NFC, USB Type-C Port
	Power Supply*	Easily Replaceable Batteries with up to 1-Year Battery Life
	Ingress Protection	IP30
	Dimensions	105 × 70.4 × 21.2 mm (4.1 × 2.8 × 0.8 in)
	Display	2.13-inch Black & White E-Ink Screen
	Installation	Wall Mounting

* Tested under laboratory conditions and for guideline purposes only.

9-in-1 Indoor Air Quality Sensor

AM307(L)/AM308(L)/AM319(L) is a comprehensive IAQ sensor for detecting CO2 concentration, temperature, humidity, light, HCHO/O3 level, TVOC, barometric pressure, PM2.5, PM10 and motion.

LoRaWAN CERTIFIED

Overall Features

- Traffic Light Status Indicator and Built-In Buzzer for Alarming
- Flexible Installation with Anti-theft Protection
- Powered via USB Type-C for Stable Power Supply
- Battery Life up to 3 Years (AM307) / 1 Year (AM308)
- Battery Life up to 4 Years (AM307L) / 1.5 Year (AM308L)
- 4.2 -Inch E-ink Screen with Vivid Emoticon Indication (AM307/AM308/AM319)
- Smart Screen Mode for Low Power Consumption (AM307/AM308/AM319)

AM307(L)
AM308(L)
AM319(L)

Model		AM307(L)	AM308(L)	AM319(L)
Wireless Transmission	Technology	LoRaWAN®		
	Frequency	CN470/RU864/IN865/EU868/US915/AU915/KR920/AS923-1&2&3&4		
	Work Mode	OTAA/ABP Class A	OTAA/ABP Class A	OTAA/ABP Class C
Measurement	Temperature	± 0.2°C (-20°C - 60°C)		
	Humidity	±2%RH (0% ~ 100%RH)		
	Motion	Vacant/Occupied (Status)		
	Light	0-60000 Lux (Determine as 6 Levels, 0-5)		
	TVOC (IAQ Rating)	1.00 - 5.00, ±1 Accuracy		
	Barometric Pressure	±0.5 hPa (260 ~ 1260 hPa)		
	Carbon Dioxide (CO_2)	± (30 ppm + 3% of Reading), 400 ~ 5000 ppm		± (50 ppm + 5% of Reading), 400 ~ 2000 ppm
	PM2.5 & PM10	-	±10µg/m3 (0-100 µg/m³), ±10% (100 ~ 1000µg/m³)	
	Formaldehyd(HCHO)*	-		±10% (0 - 1.25 mg/m³)
	Ozone (O_3)*	-		±5% FS (0 - 10 ppm)
Physical Characteristics	Configuration	NFC, USB Type-C Port		
	Power Supply**	AM307: Around 3 Years AM307L: Around 5 Years	AM308: Around 1 Years AM308L: Around 1.5 Years	5V/1A by Type-C Port
	Ingress Protection	IP30		
	Dimensions	100.8 × 114 × 22 mm (3.97 × 4.49 × 0.87 in) & 4.2-inch E-Ink Screen		
	Installation	3M Tape Mounting, Wall Screw Mounting, 86 Box Mounting		

* HCHO or O_3 sensor is alternative option and both support replacement.
** Tested under laboratory conditions and for guideline purposes only.

IoT E-ink Display

DS3604 with high-definition e-ink display is great for flexible content presentation in retail, warehouse and logistics management, smart production lines and more.

LoRaWAN CERTIFIED | NFC | Cloud

DS3604
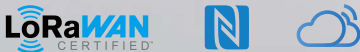
Overall Features

- Bigger E-ink Screen Featuring Red/White/Black Color Display
- Customized Templates in Multiple Modules and Languages
- Low Power Consumption with up to 5 Years Battery Life
- Open API and a LoRaWAN® Button Enable Various Applications
- Support Local and Remote Control for Bulk Deployment
- LoRaWAN® Wireless Deployment with Low Power Consumption

Model		DS3604
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/ IN865/RU864/EU868/US915/AU915/KR920/AS923- 1&2&3&4
	Mode	OTAA/ABP Class A/Class B (Default OTAA Class B)
Display	E-Ink Screen	4.2-inch Black & White & Red E-Ink Screen
	Resolution	400 x 300 Pixels
	Refresh Rate	16s (10 - 40°C)
Physical Characteristics	Configuration	NFC
	Battery Life*	Around 5 Years (Class A Mode + 1 Screen Refresh per Day) Around 1 Year (Class B Mode + 12 Screen Refreshes per Day)
	Operation Temperature	0°C ~ +40°C
	Dimension	99 × 87 × 10.5 mm (3.90 × 3.43 × 0.41 in)
	Installation	3M Tape Mounting, Wall Screw Mounting

*Tested under laboratory conditions and for guideline purposes only.

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 H_2S and NH_3 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

Capacitive Level Sensor

EM300-CL offers a wealth of possibilities for level measurement and point level detection in bulk liquids. It is suitable in restrooms in hospital, schools, offices and so on.

Overall Features

Liquid Level Monitoring Using Non-Contact Capacitive Sensing

Reliable Accuracy with Strong Anti-interference Ability

Up to 10 Years Battery Life for Easy Maintenance

LoRaWAN® Wireless Deployment with Low Power Consumption

EM300-CL

Model		EM300-CL
Capacitive Level Detection	Compatibility	Insulating Non-metallic Containers (Plastic, Glass, Acrylic, etc.)
	Cable Length	1m
Measurement	Technology	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Physical Characteristics	Ingress Protection	IP67
	Configuration	NFC Configuration via Mobile App
	Power Supply	1 × 4000 mAh ER18505 Li-S0CI$_2$ Battery
	Battery Life*	Around 10 Years
	Dimension	Transceiver: 105.6 × 85.2 × 27 mm (4.15 × 3.35 × 1.06 in) Electrode Detection Sheet: 505 x 500 x 0.2mm (19.88 × 19.69 × 0.0079 in)
	Installation	Transceiver: Wall Screw Mounting, 3M Tape Mounting Electrode Detection Sheet: Cable-Tie Mounting, 3M Tape Mounting

* Tested under laboratory conditions and for guideline purposes only.

Pulse Counter

EM300-DI is a LoRaWAN® pulse counter which transforms traditional water meters into wireless intelligent meters at ease.

Overall Features

IP67 Rated for Harsh Environment

Support Digital Filtering for More Accurate Counters

Embedded Pulse/Digital Signals & Temp & Humidity

Support Retransmission for Reliable Communication

Store Capacity with 1,000 Sets of Historical Data Records

Up to 5 Years Battery Life for Easy Maintenance

LoRaWAN® Wireless Deployment with Low Power Consumption

EM300-DI

Model		EM300-DI
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	GPIO	1 x GPIO Interface, Work as Pulse Counter
	Temperature	±0.3°C (0°C ~ 70°C), ±0.6°C (-30°C ~ 0°C)
	Humidity	±3%RH (10%RH ~ 90%RH), ±5%RH (below 10%RH and above 90%RH)
Physical Characteristics	Configuration	NFC
	Power Supply*	Easily Replaceable Battery with up to 5-Year Battery Life
	Operation Temperature	-30°C ~ 70°C
	Ingress Protection	IP67
	Dimension	105.6 × 85.2 × 27 mm (4.15 × 3.35 × 1.06 in)
	Installation	Screw Mounting, 3M Tape Mounting, Cable-Tie Mounting

* Tested under laboratory conditions and for guideline purposes only.

Magnetic Contact Switch

EM300-MCS can be mounted to any doors or windows to detect an opening or closing event. It adds physical security monitoring to your location by alarming for intrusion or unauthorized entry.

LoRaWAN® N ☁
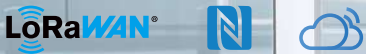
Overall Features

- IP67 Rated and UV Resistance
- Detect Temperature, Humidity and Door/Window Status
- High Sensitivity with 20 to 30 mm Open/Close Sensing Distance
- Customized Alarm Reporting Interval/Times for Various Usage
- Support Retransmission for Reliable Communication
- Store Capacity with 2,800 Sets of Historical Data Records
- Up to 5 Years Battery Life for Easy Maintenance
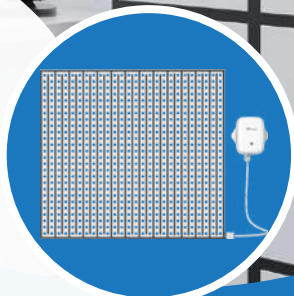- LoRaWAN® Wireless Deployment with Low Power Consumption

EM300-MCS

Model		EM300-MCS
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 Door Magnet	Detection Distance	20-30 mm
	Cable Length	1.5 m
	Temperature	±0.3°C (0°C ~ 70°C), ±0.6°C (-30°C ~ 0°C)
	Humidity	±3%RH (10%RH ~ 90%RH), ±5%RH (below 10%RH and above 90%RH)
Physical Characteristics	Configuration	NFC
	Power Supply*	Easily Replaceable Battery with up to 10-year Battery Life
	Operation Temperature	-30°C ~ 70°C
	Ingress Protection	IP67
	Dimension	Transceiver: 105.6 × 85.3 × 27 mm (4.16 × 3.36 × 1.06 in) Magnet: 32 × 15 × 8 mm (1.25 × 0.59 × 0.31 in)
	Installation	Wall Mounting

* Tested under laboratory conditions and for guideline purposes only.

Membrane Leakage Detection Sensor

EM300-MLD features a 40 cm x 40 cm detection membrane, ensuring dependable water leak monitoring for both residential and commercial applications.

LoRaWAN® N ☁

Overall Features

- Sensitive Leak Detection with Membrane
- IP67 Rated for Harsh Environments
- Support Data Storage and Retransmission
- Up to 10 Years Battery Life for Easy Maintenance
- LoRaWAN® Wireless Deployment with Low Power Consumption
- Milesight D2D with Communication Latency to <1 Se

EM300-MLD

Model		EM300-MLD
Wireless Transmission	Technology	LoRaWAN®, Milesight D2D
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Leakage Detection	Liquid Type	Conductive Liquid (Water, Weak Acid, Weak Base, etc.)
	Trigger Media	400 × 400 × 0.25 mm Printed Leakage-Detecting Film (The size can be customizable)
Physical Characteristics	Cable Length	1000 mm (Customizable)
	Power Supply	1 × 4000 mAh ER18505 Li-SOCL2 Battery (Extendable to 2 Batteries)
	Battery Life*	Up to 10 Years (One hour Leakage per Day, 25°C)
	Color & Material	White Flame, ABS + PC (Retardant)
	Ingress Protection	IP67
	Dimension	105.6 × 85.3 × 27 mm (4.16 × 3.36 × 1.06 in)
	Installation	Wall Screw Mounting, 3M Tape Mounting, Cable-Tie Mounting

* Tested under laboratory conditions and for guideline purposes only.

Temperature & Humidity Sensor

EM300-TH is suitable for indoor and outdoor temperature and humidity monitoring.
It can be widely used in office areas, greenhouses and other environments

Overall Features

- IP67 Rated and UV Resistance
- Detect Temperature and Humidity with Higher Accuracy
- Support Retransmission for Reliable Communication
- Store Capacity with 2,800 Sets of Historical Data Records
- Up to 10 Years Battery Life for Easy Maintenance
- LoRaWAN® Wireless Deployment with Low Power Consumption

EM300-TH

Model		EM300-TH
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	Temperature	±0.3°C (0°C ~ 70°C), ±0.6°C (-30°C ~ 0°C)
	Humidity	±3%RH (10%RH ~ 90%RH), ±5%RH (below 10%RH and above 90%RH)
Physical Characteristics	Configuration	NFC
	Power Supply*	Easily Replaceable Battery with up to 10-Year Battery Life
	Operation Temperature	-30°C ~ 70°C
	Ingress Protection	IP67
	Dimension	88.5 × 85.3 × 27 mm (3.48 × 3.36 × 1.06 in)
	Installation	Wall Mounting

* Tested under laboratory conditions and for guideline purposes only.

Leak Detection Sensor

EM300-SLD/ZLD is suitable for detecting presence of water or other liquids and remotely alerting users the potential water leak accordingly.

Overall Features

- IP67 Rated and UV Resistance
- Conductive Liquids Leak Detection with 5mm to Trigger Alert
- Embedded Temperature & Humidity Sensors with High Accuracy
- Customized Alarm Reporting Interval/Times for Various Usage
- Support Retransmission for Reliable Communication
- Store Capacity with 2,800 Sets of Historical Data Records
- Up to 10 Years Battery Life for Easy Maintenance
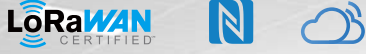- LoRaWAN® Wireless Deployment with Low Power Consumption

**EM300-SLD
EM300-ZLD**

Model		EM300-SLD	EM300-ZLD
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 Leakage Detection	Temperature	±0.3°C (0°C ~ 70°C), ±0.6°C (-30°C ~ 0°C)	
	Humidity	±3%RH (10%RH ~ 90%RH), ±5%RH (below 10%RH and above 90%RH)	
	Trigger Condition	When Conducting Liquid Level Reaches 5 mm	
	Cable Length	1.5 m (Customizable)	3 m (Customizable)
Physical Characteristics	Configuration	NFC	
	Power Supply*	Easily Replaceable Battery with up to 10-Year Battery Life	
	Operation Temperature	-30°C ~ 70°C	
	Ingress Protection	IP67	
	Dimension	105.6 × 85.3 × 27 mm (4.16 × 3.36 × 1.06 in)	
	Installation	Wall Mounting	

* Tested under laboratory conditions and for guideline purposes only.

Tilt Sensor

EM310-TILT is suitable for angle measurement and asset movement based on angle changes and send threshold alarms.

Overall Features

- IP67 Rated for Harsh Environment
- 3-Axis Accelerometer for Accurate Detection
- Built-in Zero Adjustment for Smart Measurement
- 36 Customized Trigger Rules for Various Applications
- Up to 5 Years Battery Life for Easy Maintenance
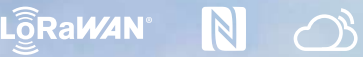- LoRaWAN® Wireless Deployment with Low Power Consumption

EM310-TILT

Model		EM310-TILT
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	Axis	X, Y, Z
	Range	± 1° (- 90° ~ +90°)
	Resolution	0.01°
Physical Characteristics	Configuration	NFC
	Power Supply*	Easily Replaceable Batteries with over 5-Year Battery Life
	Operation Temperature	-20°C ~ 60°C
	Ingress Protection	IP67
	Dimension	111 × 62 × 33 mm (4.37 × 2.44 × 1.30 in)
	Installation	On the Flat Surfaces with Screws

* Tested under laboratory conditions and for guideline purposes only.

Ultrasonic Distance/Level Sensor

EM310-UDL features short blind zone and broad range distance measurement. It is suitable for various applications such as smart parking, smart waste bin and so on.

Overall Features

- IP67 Rated for Harsh Environment
- Non-Contact Distance Detection with 3-450cm Measurement Range
- 3-Axis Accelerometer for Accurate Measurement
- Up to 10 Years Battery Life for Easy Maintenance
- LoRaWAN® Wireless Deployment with Low Power Consumption

EM310-UDL

Model		EM310-UDL
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923
	Mode	OTAA/ABP Class A
Measurement	Distance Range	± (1+0.3%*S) cm, S=distance (3 ~ 450 cm)
	Distance Resolution	1 mm
	Device Position	Normal/Tilt (Status)
Physical Characteristics	Configuration	NFC
	Power Supply*	Easily Replaceable Batteries with over 10-year Battery Life
	Operation Temperature	-15°C ~ 60°C
	Ingress Protection	IP67
	Dimension	111 × 62 × 40 mm (4.37 × 2.44 × 1.57 in)
	Installation	On the Flat Surfaces with Screws

* Tested under laboratory conditions and for guideline purposes only.

Temperature & Humidity Sensor

EM320-TH is suitable for indoor and outdoor temperature and humidity monitoring. It can be widely used in cold chain.

Overall Features

- IP67 Rated for Harsh Environment
- FDA-Approved Food Contact Materials
- Support Subtle Changes Monitoring with Higher Accuracy
- Standard & Magnetic Version for Practical Usage
- Support Retransmission for Reliable Communication
- Store Capacity with 3,000 Sets of Historical Data Records
- Up to 5 Years Battery Life for Easy Maintenance
- LoRaWAN® Wireless Deployment with Low Power Consumption

EM320-TH

Model		EM320-TH
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	Temperature	±0.2°C (-30°C ~ 60°C)
	Humidity	±2%RH (0%RH ~ 100%RH)
Physical Characteristics	Configuration	NFC
	Power Supply*	Easily Replaceable Batteries with over 5-year Battery Life
	Material	PC + ABS (Food-Grade)
	Operation Temperature	-30°C ~ 60°C
	Ingress Protection	IP67
	Dimension	85 × 58 × 18 mm (3.34 × 2.28 × 0.70 in)
	Installation	Wall or Pole Mounting (Standard Version) Magnetic Adsorption (Magnet Version)

* Tested under laboratory conditions and for guideline purposes only.

Tilt Sensor

EM320-TILT is suitable for angle measurement and asset movement based on angle changes and send threshold alarms.

Overall Features

- IP67 Rated for Harsh Environment
- 3-Axis Accelerometer for Accurate Detection
- Built-In Zero Adjustment for Smart Measurement
- 36 Customized Trigger Rules for Various Applications
- Up to 3 Years Battery Life for Easy Maintenance
- LoRaWAN® Wireless Deployment with Low Power Consumption

EM320-TILT

Model		EM320-TILT
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	Axis	X, Y, Z
	Range&Accuracy	-90°~ +90°(Accuracy : ±1°)
Physical Characteristics	Configuration	NFC
	Power Supply*	Easily Replaceable Batteries with over 3-Year Battery Life
	Operation Temperature	-30°C ~ +60°C
	Ingress Protection	IP67
	Dimension	85 × 58 × 18 mm (3.34 × 2.28 × 0.70 in)
	Installation	Wall Mounting, Pole Mounting

* Tested under laboratory conditions and for guideline purposes only.

Smart Current Transformer

CT10x provides non-intrusive current measurement. It is able to power the device through the secondary induced current without the need for batteries.

LoRaWAN · NFC · Cloud

Overall Features

- Powered by the Circuit under Test, No Batteries Required
- Non-intrusive and Quick Installation without Damaging Circuits or Shutting Down the Power Supply
- Support Sampling Frequencies up to 3.3khz for More Accurate Current Measurements
- Determines the General Direction of Energy Consumption and Automatically Calculates Cumulative Ampere-Hour Values Once per Second
- Compact Design Makes It Easy to Install Even in Tight Quarters

CT101
CT103

Model		CT101	CT103
Wireless Transmission	Technology	LoRaWAN®	
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4	
	Mode	OTAA/ABP Class A	
Measurement	Detection Parameter	RMS Current	
	Rated Primary Current	100 A	300 A
	Rated Secondary Current	100 mA	150 mA
Physical Characteristics	Power Supply	Induced current power supply	
	Ingress Protection	IP30	
	Installation	Open current clamp, suspended on the conductor under test	
	Operating Temperature	-12℃~+75℃	
	Flammability Rating	UL94-V0	
	Storage Temperature	-20℃~+75℃	

ToF Laser Distance Sensor

EM400-TLD is designed for small & mini trash bins, boasts a range of powerful features, including the ability to detect overflowing garbage, the status of the garbage bin lid, and trash combustion.

LoRaWAN · NFC · Cloud · NB-IoT

Overall Features

- Detection Ranges from 2cm to 350cm
- Designed for Level Monitoring in Small Trash Bins
- LoRaWAN® & NB/Cat.M Version
- IP67 Rated for Harsh Environment
- High Accuracy and Almost No Blind Spot with ToF Technology
- 3-Axis Accelerometer for Asset Status Management
- Embedded NTC Thermistor for Fire Alarms
- Two Pre-set Modes for Seamless User Experience
- Up to 10 Years Battery Life for Easy Maintenance
- Positioning Function Enabled by GNSS Modules (NB-IoT Version)

EM400-TLD

Model		EM400-TLD	
Wireless Transmission	Technology	LoRaWAN®	NB-IoT/Cat M
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4	Cat M1: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85 Cat NB2: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85
	Mode	OTAA/ABP Class A	TCP/UDP/MQTT/AWS
Measurement	ToF FoV	27°	
	Range&Accuracy	Range: 2 ~ 350 cm Accuracy: ±2 cm (-20°C~70°C) Resolution:1 mm	
	Temperature	-40°C ~125°C	
	Position	Normal/Tilt	
	Location	-	Longitude & Latitude (GNSS)
Physical Characteristics	Configuration	NFC	
	Battery Life*	Around 10 years (Standard Mode -10min Interval, Bin Mode -20min Interval, 25°C)	TCP/UDP—Around 10 Years MQTT/AWS—Around 5 Years (4 Times Report Per Day, Per Report Includes 12 Packages with 30-min Collection Interval, 25°C)**
	Ingress Protection	IP67	
	Installation	On the Flat Surface with Screws	

*Tested under laboratory conditions and for guideline purposes only.
**PSM is required for SIM card and will be impacted by cellular base station signals.

Multifunctional Ultrasonic Distance Sensor

M400-MUD is equipped with multiple application modes catering to a variety of scenarios such as smart waste management, smart parking and other distance / level measurement applications.

LoRaWAN® NFC (cloud) NB-IoT

Overall Features

- Detection Ranges from 3cm to 450cm
- Specialized in Distance Detection in Trash Bin and Parking Lot
- LoRaWAN® & NB/Cat.M Version
- IP67 Rated for Harsh Environment
- Pre-set Modes: Standard Mode & Bin Mode
- Support Pre-set Parking Lot Mode (LoRaWAN® Version Only)
- Ultrasonic Technology with Small Blind Spots Calibration
- 3-Axis Accelerometer for Asset Status Management
- Embedded NTC Thermistor for Fire Alarms
- Up to 10 Years Battery Life for Easy Maintenance
- Positioning Function Enabled by GNSS Modules (NB-IoT Version)

EM400-MUD

Model		EM400-MUD	
Wireless Transmission	Technology	LoRaWAN®	NB- IoT/Cat M
	Frequency	CN470/ IN865/RU864/EU868/US915 /AU915/KR920/AS923- 1&2&3&4	Cat M1: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85 Cat NB2: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85
	Mode	OTAA/ABP Class A	TCP/UDP/MQTT/AWS
Measurement	Detection Range	3 ~ 450 cm	
	Detection Accuracy	± (1+0.3%*S) cm (-15°C ~ 60°C), S=distance	
	Temperature	-40°C ~125°C	
	Position	Normal/Tilt	
	Location	-	Longitude & Latitude (GNSS)
Physical Characteristics	Configuration	NFC	
	Battery Life*	Standard Mode: >10 years (10min Interval, 25°C) Bin Mode: >10 years (20min Interval, 25°C) Parking Lot Mode: 5 years (12 Triggers Per Day, 25°C)	TCP/UDP—Around 10 Years MQTT/AWS—Around 5 Years (4 Times Report Per Day, Per Report Includes 12 Packages with 30-min Collection Interval, 25°C)**
	Operation Temperature	-30°C ~ +70°C	
	Ingress Protection	IP67	
	Dimension	118 × 65 × 32.5 mm	
	Installation	On the Flat Surface with Screws	

*Tested under laboratory conditions and for guideline purposes only.
**PSM is required for SIM card and will be impacted by cellular base station signals.

Ultrasonic Distance Sensor

M400-UDL offers three versions (Standard and Pro) with varying detection range, resolution, and accuracy, which is designed to cater to the demands of professional applications.

LoRaWAN® NFC (cloud) NB-IoT

Overall Features

- Detection Ranges from 25cm to 1000cm
- Professional for Detecting Water Level in Reservoir, Industrial Tank Level and etc.
- LoRaWAN® & NB/Cat.M Version
- IP67 Rated for Harsh Environment
- Non-Contact Distance Measurement
- Ultrasonic Technology with Small Blind Spots Calibration
- 3-Axis Accelerometer for Asset Status Management
- Embedded NTC Thermistor for Fire Alarms
- Up to 10 Years Battery Life for Easy Maintenance
- Positioning Function Enabled by GNSS Modules (NB-IoT Version)

EM400-UDL

Model		EM400-UDL			
Wireless Transmission	Technology	LoRaWAN®		NB- IoT/Cat M	
	Frequency	CN470/ IN865/RU864/EU868/US915/ AU915/KR920/AS923-1&2&3&4		Cat M1: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85 Cat NB2: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85	
	Mode	OTAA/ABP Class A		TCP/UDP/MQTT/AWS	
Measurement	Model	Standard	Pro	Standard	Pro
	Detection Range	C050: 25 ~ 500 cm C100: 25 ~ 1000 cm	W050: 30 ~ 500 cm W100: 50 ~ 1000 cm	C050: 25 ~ 500 cm C100: 25 ~ 1000 cm	W050: 30 ~ 500 cm W100: 50 ~ 1000 cm
	Detection Accuracy	± (1+0.3%*S) cm, S=distance (- 15°C ~ 60°C)*	± 1% FS (- 30°C ~ 65°C)	± (1+0.3%*S) cm, S=distance (- 15°C ~ 60°C)*	± 1% FS (- 30°C ~ 65°C)
	Temperature	-40°C ~ +125°C			
	Position	Normal/Tilt			
	Location	-		Longitude & Latitude (GNSS)	
Physical Characteristics	Configuration	NFC			
	Battery Life**	> 10 Years (10min Interval, 25°C)		(4 Times Report Per Day, Per Report Includes 12 Packages with 30-min Collection Interval, 25°C)***	
	Operation Temperature	-30°C ~70°C			
	Ingress Protection	IP67			
	Installation	On the Flat Surface with Screws			

*This accuracy is applicable to the measuring range of 25~800cm.
**Tested under laboratory conditions and for guideline purposes only.
***PSM is required for SIM card and will be impacted by cellular base station signals.

EM400-UDL

Outdoor Asset Tracker

AT101 allows asset/property owners to ensure awareness for critical assets comes first via highly accurate positioning data from GNSS and Wi-Fi scanning.

LoRaWAN® · N · GNSS · Wi-Fi · Bluetooth

Overall Features

- High-Accurate GNSS Positioning and Cooperate with Wi-Fi Positioning
- Support Geofencing for Targeted Messaging to Secure the Assets and Area
- Provide Motion/Periodic/Timing Modes
- IP67 Rated for Harsh Environment
- IK09 Rated for Impact Resistance
- Easy Configuration via NFC or Bluetooth
- 3-Axis Accelerometer for Asset Status Management
- Embedded NTC Thermistor for Fire Alarms
- Support Retransmission for Reliable Communication
- Store Capacity with 1,000 Sets of Historical Data Records
- Over 15 Years Battery Life for Easy Maintenance

AT101

Model		AT101
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/ IN865/RU864/EU868/US915/AU915/KR920/AS923- 1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	Positioning	GNSS Resolution：0.000001(Longitude/Latitude) Accuracy：5.0m (Direct Line of Sight)
		Wi-Fi Wi-Fi Parameters: BSSID, RSSI Wi-Fi Standard: 802.11b/g/n 2.4GHz
Physical Characteristics	Motion	Normal/Tilt
	Temperature	-40°C ~ 125°C
	Configuration	NFC, Bluetooth® 5.3
	Battery Life*	Twice Daily Location Updates - 15+ Years Tenth Daily Location Updates - 8+ Years Hourly Location Updates - 4+ Years
	Ingress Protection	IP67
	Impact Protection	IK09
	Installation	Wall Screw Mounting, 3M Tape Mounting, Cable-tie Mounting

* Tested under laboratory conditions and for guideline purposes only.

CO₂ Sensor (4 in 1)

EM500-CO₂ is designed for monitoring CO₂ concentration, temperature, humidity and barometric pressure in outdoor scenarios.

LoRaWAN® CERTIFIED · N · Cloud

Overall Features

- IP65 Rated for Harsh Environment
- 4 Sensors in 1 for Various Outdoor Usage
- Measuring Ranges from 400 ppm to 5,000 ppm
- Up to 10 Years Battery Life for Easy Maintenance
- LoRaWAN® Wireless Deployment with Low Power Consumption

EM500-CO₂

Model		EM500-CO₂
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	Carbon Dioxide (CO₂)	± (30 ppm + 3% of reading), 400 - 5000 ppm (0°C ~ 50°C, 0~85%RH)
	Temperature	±0.3°C (0°C ~ 70°C), ±0.6°C (-30°C ~ 0°C)
	Humidity	±3%RH (10%RH ~ 90%RH), ±5%RH (below 10%RH and above 90%RH)
	Barometric Pressure	±1 hPa, 300 ~ 1100 hPa (-40°C ~ 85°C)
Physical Characteristics	Configuration	NFC, USB Type-C Port
	Power Supply*	Built-in 19000 mAh Can be Used for up to 10 Years
	Operation Temperature	-30°C ~ 70°C
	Ingress Protection	IP65
	Dimensions	147.9 × 71 × 69.5 mm (5.8 × 2.8 × 2.7 in)
	Installation	Pole, Wall or DIN Rail Mounting

* Tested under laboratory conditions and for guideline purposes only.

Light Sensor

EM500-LGT can accurately monitor changes in the surrounding light intensity.

Overall Features

- IP67 Rated and UV Resistance
- Measuring Ranges from 0 lux to 100,000 lux
- Fast 1-Sec Response for Accurate Monitoring
- Up to 10 Years Battery Life for Easy Maintenance
- LoRaWAN® Wireless Deployment with Low Power Consumption

EM500-LGT

Model		EM500-LGT
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	Light	0 ~ 100000 lux
	Accuracy	±3%
Physical Characteristics	Configuration	NFC, USB Type-C Port
	Power Supply*	Built-in 19000 mAh Can be Used for up to 10 Years
	Operation Temperature	-30°C ~ 60°C
	Ingress Protection	IP67 (Transceiver)/IP65 (Light Sensor)
	Dimension	Transceiver: 105.4 × 71 × 69.5 mm (4.1 × 2.8 × 2.7 in) Light Sensor: 64 × 58 × 34 mm (2.5 × 2.3 × 1.3 in) Cable Length: 3 m
	Installation	Pole, Wall or DIN Rail Mounting

* Tested under laboratory conditions and for guideline purposes only.

Pipe Pressure Sensor

EM500-PP is designed for the pressure monitoring of tank level or leakage in pipes.
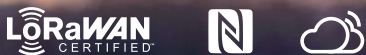
Overall Features

- IP67 Rated and UV Resistance
- Measuring Ranges from 0 kPa to 1,600 kPa
- Shock & Vibration & Corrosion Resistant
- ±0.5% FS Measuring Accuracy to Prevent Leakage Danger
- Temperature Compensation for Correcting Temperature Changes
- Up to 10 Years Battery Life for Easy Maintenance
- LoRaWAN® Wireless Deployment with Low Power Consumption

EM500-PP

Model		EM500-PP
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	Pressure Type	Gauge Pressure
	Range	± 0.5% FS, 0 - 1600 kPa (16 Bar)
	Overload	150% FS
	Long-term Stability	± 0.3% FS/year
Physical Characteristics	Configuration	NFC, USB Type-C Port
	Power Supply*	Built-in 19000 mAh Can be Used for up to 10 Years
	Operation Temperature	-30°C ~ 70°C (Transceiver)/-10°C ~ 70°C (Pipe Pressure Sensor)
	Ingress Protection	IP67 (Transceiver)/IP65 (Pipe Pressure Sensor)
	Dimension	Transceiver: 105.4 × 71 × 69.5 mm (4.1 × 2.8 × 2.7 in) Pipe Sensor: 67.5 × Φ27 mm (2.7 × Φ1.1 in) Cable Length: 1.5 m
	Installation	Pole, Wall or DIN Rail Mounting

* Tested under laboratory conditions and for guideline purposes only.

Industrial Temperature Sensor

EM500-PT100 equips a highly accurate temperature sensor PT100, platinum resistance temperature detector, to provide temperature measurement from -200°C to 800°C.

Overall Features

- IP67 Rated and UV Resistance
- Measuring Ranges from -200°C to 800°C
- Support Various Terminal Heads including Straight Tube, Armored, SMT, Threaded and Magnet
- 3-Wire Circuit Design for Stable Connection
- Up to 10 Years Battery Life for Easy Maintenance
- LoRaWAN® Wireless Deployment with Low Power Consumption

EM500-PT100

Model		EM500-PT100
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	Connection Type	3-wire connection
	Range	T050: -200°C ~ 50°C, T500: -50°C ~ 500°C T200: -50°C ~ 200°C, T800: -50°C ~ 800°C (Customizable from -200°C ~ 800°C)
	Accuracy	±0.5°C
Physical Characteristics	Configuration	NFC, USB Type-C Port
	Power Supply*	Built-in 19000 mAh Can be Used for up to 10 Years
	Operation Temperature	-30°C ~ 70°C
	Ingress Protection	Transceiver: IP67, Sensor: Differ Based on Temperature Ranges
	Dimension	105.4 × 71 × 69.5 mm (4.1 × 2.8 × 2.7 in)
	Probe Type	Straight Tube (Customizable)
	Cable Length	1.5 m (Customizable)

* Tested under laboratory conditions and for guideline purposes only.

Ultrasonic Distance/Level Sensor

EM500-UDL provides highly accurate distance measurement for a variety of applications in harsh environment.

Overall Features

- IP67 Rated and UV Resistance
- Measurements in Small Containers or Openings
- Measuring Ranges from 0.3m to 10 m
- Range is Customizable for Snow Level Detection Usage
- Support Detection of Corrosive Liquid, Chemicals or Combustibles with Non-Contact Design
- Up to 10 Years Battery Life for Easy Maintenance
- LoRaWAN® Wireless Deployment with Low Power Consumption

EM500-UDL

Model		EM500-UDL
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	Range & Accuracy	W050: 0.3 ~ 5 m, ±1% FS W100: 0.5 ~ 10 m, ±1% FS S050: 0.3 ~ 5 m (Snow Version), ±1% FS C050: 0.25 ~ 5 m, ± (1+0.3%*S) cm, S=Distance C100: 0.25 ~ 8 m, ± (1+0.3%*S) cm, S=Distance
Physical Characteristics	Configuration	NFC, USB Type-C Port
	Power Supply*	Built-in 19000 mAh Can be Used for up to 10 Years
	Operation Temperature	W050/W100/S050: -30°C ~ 65°C C050/C100: -15°C ~ 60°C
	Ingress Protection	IP67
	Dimension	156.1 × 71 × 69.5 mm (6.1 × 2.8 × 2.7 in)
	Installation	Pole, Wall or DIN Rail Mounting

* Tested under laboratory conditions and for guideline purposes only.

Soil Moisture, Temperature and Electrical Conductivity Sensor

EM500-SMTC/SMT is suitable for soil condition monitoring. With an external probe, it can accurately and instantly detect conditions on soil moisture content, temperature, and electrical conductivity.

Overall Features

- IP67 Rated and UV Resistance
- Research-Grade Accuracy in Multiple Soil Media
- Rapid Monitoring of Growing Conditions
- Temperature Compensation for Correcting Temperature Changes
- Up to 10 Years Battery Life for Easy Maintenance
- LoRaWAN® Wireless Deployment with Low Power Consumption

EM500-SMTC

Model		EM500-SMTC
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/ IN865/RU864/EU868/US915/AU915/KR920/AS923- 1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	Moisture	Range：0% ~ 100% RH Accuracy: ±2%(0~50%), ± 3%(50%~100%) Resolution：0.01%
	Temperature	Range：-40°C ~ 80°C Accuracy: ±0.5°C Resolution：0.1°C
	Conductivity	Range：0~20000 μs/cm Accuracy: ±3%(0~10000 μs/cm), ±5%(10000~20000 μs/cm) Resolution：1 μs/cm
Physical Characteristics	Configuration	NFC, USB Type-C Port
	Battery Life*	Built-in 19000 mAh Can be Used for up to 10 Years
	Operation Temperature	-30°C to +70°C
	Cable Length	2m
	Ingress Protection	IP67 (Transceiver)/IP68(Soil Sensor)
	Installation	Pole, wall or DIN Rail Mounting

* Tested under laboratory conditions and for guideline purposes only.

Submersible Water Level Sensor

EM500-SWL is designed to measure the tank level or open water applications while fully submerged in liquid.
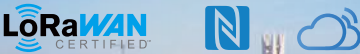
Overall Features

- IP67 Rated and UV Resistance
- Accurate Detection without Affecting by Foam, Wind, or Rain
- Support Water Detection & Customizable for Oil and Other Non-Corrosive Media
- Measuring Range is Customizable up to 200 m
- ±0.5% FS Measuring Accuracy for Better Detection
- Up to 10 Years Battery Life for Easy Maintenance
- LoRaWAN® Wireless Deployment with Low Power Consumption

EM500-SWL

Model		EM500-SWL
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	Pressure Type	Gauge Pressure
	Range	± 0.5% FS, (0 ~ 3m/5m/10m (H2O)) (Customizable up to 200 m and for Other Liquids)
	Long-term Stability	≤ ± 0.3% FS/Year
Physical Characteristics	Configuration	NFC, USB Type-C Port
	Power Supply*	Built-in 19000 mAh Can be Used for up to 10 Years
	Operation Temperature	-30°C ~ 70°C (Transceiver) -10°C ~ 70°C (Level Sensor)
	Ingress Protection	IP67 (Transceiver)/IP68 (Level Sensor)
	Dimension	Transceiver: 105.4 × 71 × 69.5 mm (4.1 × 2.8 × 2.7 in) Level Sensor: 140 × φ28 mm (5.5 × φ1.1 in) Cable Length: At Least 1 ~ 1.5 m Longer than Measuring Range
	Installation	Pole, wall or DIN Rail Mounting

* Tested under laboratory conditions and for guideline purposes only.

Insertion Temperature Sensor

TS101 provides high precision and reliable consistency with an advanced measuring unit that offers a wide temperature measuring range.

LoRaWAN®   NFC   Cloud

TS101

Overall Features

- ±0.5°C Detection Accuracy
- Food-Grade Enclosure and Probe
- IP67 Rated for Harsh Environment
- IK10 Rated Transceiver for Impact Resistance
- Support Retransmission for Reliable Communication
- Store Capacity with 1,200 Sets of Historical Data Records
- Up to 10 Years Battery Life for Easy Maintenance

Model		TS101
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/ IN865/RU864/EU868/US915/AU915/KR920/AS923- 1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	Range	-30°C ~ +70°C (Accuracy: ±0.5°C)
	Resolution	0.1°C
Physical Characteristics	Configuration	NFC
	Power Supply*	Easily Replaceable Battery with 10-Year Battery Life
	Material	Transceiver: ABS + PC Sensor Probe: 316 Stainless Steel (Food-Grade, Phosphine &Corrosion Resistant)
	Ingress Protection	IP67
	Impact Protection	IK10(Transceiver)
	Dimension	Transceiver: Φ 92 × 92 × 26 mm (Φ 3.62 × 3.62 × 1.02 in) Sensor Probe: Φ 7 × 400 mm (Φ 0.28 × 15.75 in)
	Installation	Insert Installation

* Tested under laboratory conditions and for guideline purposes only.

LoRaWAN® Temperature Sensor

TS301/TS302 features an LCD display, presenting temperature and open/close data from high-accuracy PT100 temperature probes and door magnetic sensors. It is ideal for the food processing, pharmaceutical storage, and transportation industries.

LoRaWAN®   NFC   Cloud

Overall Features

- Optimized Readability with LCD Screen
- Efficient Data Export in PDF
- Compliance with HACCP and 21 CFR Part 11B
- Various Precision Probe Options
- IP65 Rated for Harsh Environments
- Support Data Storage and Retransmission
- LoRaWAN® Wireless Deployment with Low Power Consumption

TS301
TS302

Model		TS301	TS302
Wireless Transmission	Technology	LoRaWAN®	
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4	
	Mode	OTAA/ABP Class A	
Sensor Connector	Connector Type	5-pin M12 A-Coded Male Connector	
	Connector Number	TS301: 1 × Connector for PT100 Probe or Magnet Switch Sensor TS302: 2 × Connectors for two PT100 Probes or PT100 + Magnet Switch Sensor	
Others	Configuration	Mobile App (via NFC) or PC software (via USB Type-C)	
	Data Logging	10, 000 measurements and supports to export as CSV or PDF file	
Physical Characteristics	Ingress Protection	IP65	
	Dimension	109.35 × 75 × 20 mm (4.31 × 2.95 × 0.79 in)	
	Installation	Wall Screw Mounting, Magnetic Mounting (Opt.)	

PT100 Probes*			
Model	B05-125-200	AF10-125-150	A05-500-150
Measurement	± 0.5°C (-40°C~40°C), ± 1°C (40°C~125°C)	± 0.4°C (-40°C~125°C)	± 0.5°C (-50°C~500°C)
Cable Length	2m	1.5m	1.5m

* Please contact us for customized probe options according to your specific requirements.

Magnet Switch Sensor	
Detection Distance	20-30 mm
Cable Length	1.5 m (Customizable)
Dimension	32 × 15 × 8 mm (1.25 × 0.59 × 0.31 in)

Smart Radiator Thermostat

WT101 provides automatic and intelligent heating controls based on accurate monitoring of the ambient room temperature. Different types of valves are provided for options and highly improve its compatibility.

WT101

Overall Features

- LoRaWAN® Based for Wireless Transmission
- Accurate Temperature Detection and Calibration
- Up to 16 Heating Schedules within 1 Pre-set Date Period
- Support Child Lock to Prevent Tampering
- Open Window Detection for Smart Management
- Fully Compatible Valve Adapters Out of the Box
- Support Integration with BMS Systems
- Easy Configuration via NFC

Model		WT101
Wireless Transmission	Technology	LoRaWAN®
	Frequency	IN865/RU864/EU868
	Mode	OTAA/ABP Class A
Valve Control	Actuator	Stepping Motor
	Default Valve Fitting	M30×1.5mm
	Optional Adapters	RA, RAV, RAVL, Giacomini, M28 (Comap, Herz, TA)
	Advanced Feature	Automatic Temperature Control, Heat plans, Child Lock, Freeze Protection, Open-window Detection, Tamper Alarm
Temperature Sensor	Sensor Type	NTC
	Range	-20°C ~ 60°C
	Accuracy	± 0.5°C (0°C ~ 50°C)
Physical Characteristics	Power Supply	2 x 1.5V Li-FeS$_2$ AA Replaceable Batteries (3000 mAh in Total)
	Battery Life*	Around 5 Years
	Ingress Protection	IP30
	Installation	Latching on the Valve

* Tested under laboratory conditions and for guideline purposes only.

Smart Thermostat

WT201 is a LoRaWAN® thermostat used as a HVAC controller supporting a wide range of different heating and cooling systems, including heat pumps, AC, boilers, furnaces, AHU, and PTAC devices.

WT201

Overall Features

- 4.2 -Inch LCD Screen with User Friendly UI Design
- Support Child Lock to Prevent Tampering
- Up to 16 Schedules with support of Wake/Away/Home /Sleep Modes
- Compatible with Hotel Room Card Systems for Convenient Remote Management
- Support Most 24VAC HVAC System, Including Furnaces and Air Conditioners (2H/2C), Heat Pumps (4H/2C + 1 Stage Aux Heat), Boilers, and Ptac
- Support Data Storage and Retransmission
- LoRaWAN® Wireless Deployment with Low Power Consumption
- Milesight D2D with Communication Latency to <1 Se

Model		WT201
Wireless Transmission	Technology	LoRaWAN®, Milesight D2D
	Frequency	US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class C
Thermostat Feature	Temperature Control Mode Options	Heat, EM (Emergency) Heat, Cool, Auto
	Fan Mode Options	Auto, On, Circulate
	Advanced Feature	Local Control Schedule, Threshold Alarm, ,Freeze Protection, Child Lock, Multicast, Milesight D2D Controller, Milesight D2D Agent, Data Storage, Data Retransmission
Temperature Sensor	Sensor Type & Range	NTC, -4°F to 140°F (-20°C to 60°C)
Others	Configuration	NFC or Type C USB
Physical Characteristics	Power Supply*	20 to 30 VAC, 24VAC Nominal
	Ingress Protection	IP30
	Dimension	113 x 110 x 21 mm (4.45 x 4.33 x 0.83 in)
	Installation	Wall Screw Mounting

* Tested under laboratory conditions and for guideline purposes only.

Fan Coil Thermostat

WT30x is an advanced touch screen room thermostat, offering access to parameters such as system mode, fan mode and temperature setpoints. Valves and auxiliary electric heaters can be controlled using a relay or contactor system switch controlled by the thermostat.

LoRaWAN®

Overall Features

- LoRaWAN® Based for Wireless Transmission
- Compact Size Design with Easy Installation
- Compiled with 2-Pipe FCU with up to a 3-Speed Fan
- Temperature Adjustment Available
- Support Pre-set Date Period with Programmable Schedules
- 86mm Hidden Box and European 60mm Round Box Available

WT30x

Model		WT301	WT302
Wireless Transmission	Technology	LoRaWAN®	
	Frequency	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4	
	Mode	OTAA/ABP Class C	
Thermostat Feature	Compatible Fan Coil	Two Pipes, 3-speed fan, 95~240VAC	
	Fan Relay Amps	Resistance: 5A, Inductive: 3A	
	Commpatible Valve	Two-wire On/Off Motorized Valve	0-10V Proportional Integral Valve
	Valve Relay Amps	Resistance: 3A, Inductive: 1A	
Temerature Sensor	Sensor Type & Range	NTC, -20°C~60°C	
Physical Characteristics	Power Supply	95~240 VAC, 50~60Hz	
	Operating Temperature	0°C~45°C	
	Ingress Protection	IP20	
	Dimension	88 × 88 × 41.8 mm (3.46 × 3.46 × 1.65 in)	
	Installation	86*86mm Square or European 60mm Round Box Mounting	

IoT Weather Station

WTS305/WTS506 is an ultimate all-in-one weather monitoring system with WTS Sensors, WTS Hub, and solar panel for various atmospheric conditions, including wind speed, wind direction, temperature, humidity, barometric pressure and rainfall.

LoRaWAN®
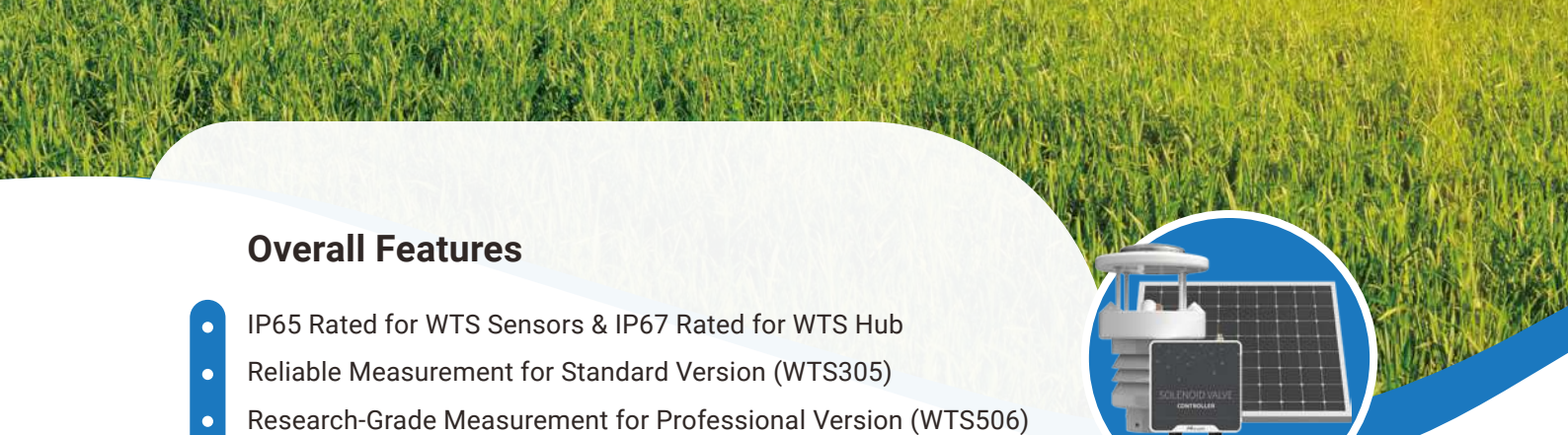
Overall Features

- IP65 Rated for WTS Sensors & IP67 Rated for WTS Hub
- Reliable Measurement for Standard Version (WTS305)
- Research-Grade Measurement for Professional Version (WTS506)
- Solar-Powered & Chargeable Batteries Backup for Better Operation
- Support Normal Work for 7 Days without Sunlight
- Support Retransmission for Reliable Communication
- Store Capacity with 19, 000 Sets of Historical Data Records

WTS305 WTS506

Model		WTS305	WTS506
WTS Sensors	Temperature	±0.3°C, (-40°C ~ 85°C)	
	Humidity	±5% RH (0% ~ 100%)	±3% RH (0% ~ 100%)
	Wind Direction	±3° (0° ~ 360°), 1°	±3° (0° ~ 360°), 1°
	Wind Speed	± (0.5 + 0.02 V) m/s (0 ~ 60m/s)	±0.3 m/s or ±3% (0 ~ 60 m/s)
	Barometric Pressure	±1 hPa (500 ~ 1100 hPa)	±0.5 hPa (500 ~ 1100 hPa)
	Rainfall	-	±0.5 mm (< 10 mm), ±5 %(>10 mm)
WTS Hub	LoRaWAN® Frequency	CN470/RU864/IN865/EU868/US915/AU915/KR920/AS923-1&2&3&4	
	LoRaWAN® Work Mode	OTAA/ABP Class A	
Solar Panel	Open-Circuit Voltage	18 V (± 0.3 V)	
	Rated Voltage	15 V (±0.3 V)	1 A (±5%)
	Maximum Power	15 W (±5%)	14.5 W (±5%)
Physical Characteristics	Configuration	NFC, USB Type-C Port	
	Power Supply	Solar Powered (15 W, 1 A) & 2 × 2550 mAh Replaceable Batteries Backup	
	Ingress Protection	IP65 (WTS Sensors), IP67 (WTS Hub)	
	Dimension	φ140 x 248 x φ50 mm	φ160 x 263 x φ73 mm
		116 × 116 × 45.5 mm (WTS Hub) 343 × 283 × 16.5 mm (Solar Panel)	
	Installation	Pole Mounting (WTS Sensor, Solar Panel) Screw Mounting (WTS Hub)	

Modbus to LoRaWAN® IoT Controller

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

UC100

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

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

LoRaWAN®/4G IoT Controller

UC300 is designed to connect devices on fields via rich industrial interfaces and backhaul connectivity.

UC300

Overall Features

- Support LoRaWAN® & 4G LTE Version
- Integrated Rich Interfaces: DI/DO/AI/RS232/RS485/PT100/RTD Input
- Data Collection up to 16 Registers for Various Usage
- Autonomous Operation when the Network is Unavailable
- Industrial-Grade Design with Heavy Cast Aluminum Casing
- Milesight D2D with Communication Latency to <1 Sec
- Bridge Modbus Data between Serial and Ethernet Network

Model		UC300
LoRaWAN® Model (Option A)	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
Cellular Model (Option B)	Network	4G LTE/3G/2G
	Application Mode	TCP/UDP/MQTT/AWS/Milesight IoT Cloud/SMS
Data Interfaces	Interface Type	3.5 mm Terminal Block
	IO	4 × DI + 2 × DO
	Serial Port	1 × RS232(Transparent) + 1 × RS485(Transparent, Modbus RTU)
	Analog Input	2 × 4 ~ 20 mA, 2 × 0 ~ 10 V, 2 × PT100 RTD Input
Physical Characteristics	Configuration Port	USB Type-C port
	Built-in	Watchdog, Timer
	Power Supply	5 ~ 24 VDC
	Ingress Protection	IP30
	Dimension	93 × 70 × 22 mm (3.66 × 2.76 × 0.87 in)
	Installation	Desktop, Wall Mounting, DIN Rail Mounting

Multi-Interface LoRaWAN® Controller

UC50x is fully integrated and battery-powered with multiple communication interfaces.

Overall Features

- IP67 Rated and UV Resistance Enclosure with M12 Connectors
- Integrated Rich Interfaces: RS232, RS485, GPIO, Analog Input and SDI-12
- Solar Powered and Built-In Batteries for Flexible Power Supply Options
- Support Configuration via NFC or Wired USB Type-C Port
- Bridge Modbus Data between Serial and Ethernet Network via LoRaWAN®

UC50x

	Model	UC501	UC502
Wireless Transmission	Technology	LoRaWAN®	
	Antenna	Internal Antenna or External Antenna (Hardware Optional) External Antenna (EA) Version: 1 × 50 Ω SMA Female Connector	
	Frequency	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4	
	Mode	OTAA/ABP Class A, Class C	OTAA/ABP Class A
Data Interfaces	Interface Type	M12 A-Coded Male	
	IO Port	2 × GPIO	
	Serial Ports	1 × RS232 or RS485 (Switchable) (Transparent/Modbus RTU)	
	Analog Input	2 x 4 ~ 20 mA (or 0 ~ 10 V) (Switchable)	
	SDI-12	1 × SDI-12 (V1.4)	
	Power Output	2 × 3.3 V@Max 100mA, 2 × 5/9/12 V@Max 100 mA (Switchable)	
Physical Characteristics	Configuration	NFC, USB Type-C Port	
	Power Supply	① 2 × Chargeable Batteries ② Solar Powered (6 V, 1.7 W) ③ 5 ~ 24 VDC	① 3 × 9000 mAh Replaceable Batteries ② 5 ~ 24 VDC
	Operation Temperature	-20°C ~ +60°C	-30°C ~ +70°C
	Ingress Protection	IP67	
	Dimension	116 × 116 × 45.5 mm (4.56 × 4.56 × 1.79 in)	
	Installation	Wall or Pole Mounting	

LoRaWAN® Solenoid Valve Controller

UC51x provides access capabilities for common irrigation vales with embedded pulse counter to monitor flow precisely.

Overall Features

- IP67 Rated and UV Resistance Enclosure with M12 Connectors
- Water Flow Monitoring with Programmable Unit per Pulse
- Solar Powered and Built-in Batteries for Flexible Power Supply Options
- Support Configuration via NFC or Wired USB Type-C Port

UC51x

	Model	UC511	UC512
Wireless Transmission	Technology	LoRaWAN®	
	Antenna	Internal Antenna or External Antenna (Hardware Optional) External Antenna (EA) Version: 1 × 50 Ω SMA Female Connector	
	Frequency	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4	
	Mode	OTAA/ABP Class A, Class B, Class C, Class C to B	OTAA/ABP Class A, Class B
Data Interfaces	Interface Type	M12 A-Coded Male	
	Solenoid Interface	2 × Solenoid Interfaces, 5/9/12 VDC Switchable	
	GPIO Interface	2 × GPIO Interfaces (Digital Input, Pulse Counter)	
Physical Characteristics	Configuration	NFC, USB Type-C Port	
	Power Supply	① Solar Powered (6V, 1.7W) ② 2 × Chargeable Batteries ③ 5-24 VDC (EA Version Only)	3 × 9000 mAh Replaceable Batteries
	Operation Temperature	-20°C ~ +60°C	-30°C ~ +70°C
	Ingress Protection	IP67	
	Dimension	116 × 116 × 45.5 mm (4.56 × 4.56 × 1.79 in)	
	Installation	Wall or Pole Mounting	

Milesight IoT Cloud

Milesight IoT Cloud provides unparalleled levels of vertical integration with Milesight LoRaWAN® devices.
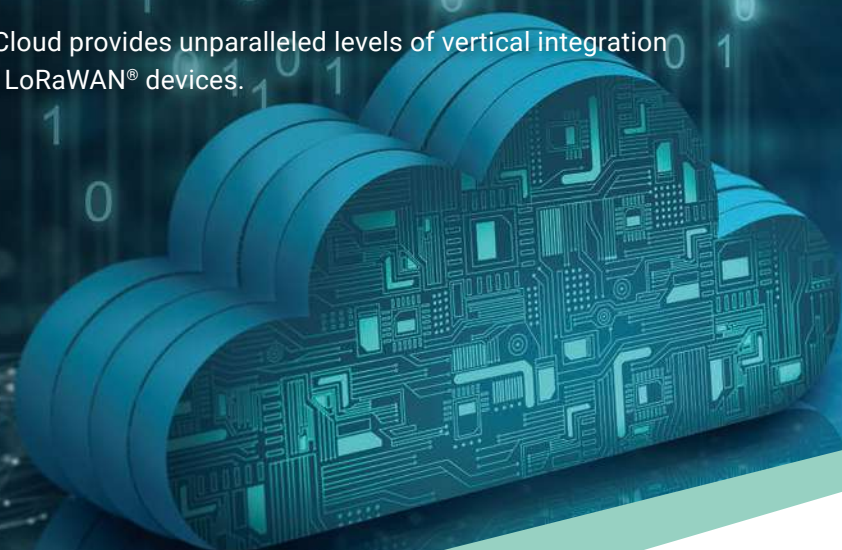
AWS Built on AWS to Provide Confidential and Reliable Infrastructure

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

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

Milesight VPN 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 1,000+ Connected Devices

Milesight IoT Product Naming Covention

Occupancy & People Counting Sensor

AI Workplace Occupancy Sensor

VS 1 2 1 – 915M
① ②③ ④

① Occupancy & People Counting Sensor
- VS121
- VS133
- VS135
- VS330
- VS340
- VS341
- VS350

② Detection Type
- 1: People Counting
- 3: Continuous Perception
- 4: PIR Single Node Array/Thermopile
- 5: PIR Arrays/Thermopile

③ Detection Technology Type
- 2: RGB
- 3: ToF

④ LoRaWAN® Module

LoRaWAN® Gas Sensor

LoRaWAN® Gas Sensor

GS 1 01 – 915M
① ② ③

① Gas Sensor
- GS101
- GS301

② Sub-Series

③ LoRaWAN® Module

IoT Weather Station

IoT Weather Station

WTS 3 0 5 – 915M
① ② ③ ④

① Weather Station
- WTS305
- WTS506

② Sub-Series
- 3: Standard Version
- 5: Professional Version

③ Number of Sensors

④ LoRaWAN® Module

Display Screen

LoRaWAN® IoT Display

DS 3 6 04 – 915M
① ② ③ ④

① Display Screen

② Screen Type
- 3: Three-Pigment E-ink Screen

③ Screen Size
- 04: 4.2 Inch

④ LoRaWAN® Module

LoRaWAN® Gateway

UG65 - L 04 EU - 915M - EA
①   ② ③ ④   ⑤   ⑥

① Model Name
- UG63
- UG56
- UG65
- UG67
- SG50

② Cellular Network Type
- L: 4G LTE

③ Modem Manufacturer & Model

④ Operating Region
- EU: EMEA/South Korea/Thailand/India
- AU: Latin America/Australia/New Zealand
- AF: North America FirstNet

⑤ LoRaWAN® Module
- 470M: CN470
- 868M: RU864/IN865/EU868
- 915M: US915/AU915/KR920/AS923

⑥ External Antenna

LoRaWAN® Sensor

EM500 — UD L 915M
①   ②   ③

① Model Name
- AM102
- AM102L
- AM103
- AM103L
- AM307
- AM307L
- AM308
- AM308L
- AM319
- AM319L
- EM300
- EM310
- EM320
- EM400
- EM500
- TS101
- TS301
- TS302

② Sensor Type
- UDL: Ultrasonic Distance/Level Sensor
- SMTC/SMT: Soil Sensor
- SWL: Submersible Water Level Sensor
- LGT: Light Sensor
- PT100: PT100 Temperature Sensor
- CO_2: CO_2 Sensor
- PP: Pipe Pressure Sensor
- TH: Temperature & Humidity Sensor
- MCS: Magnetic Contact Switch Sensor
- SLD: Spot Leak Detection Sensor
- ZLD: Zone Leak Detection Sensor
- DI: Pulse Counter
- TLD: ToF Laser Distance
- MUD: Multifunctional Ultrasonic Distance
- CL: Capacitive Level

③ LoRaWAN® Module
- 470M: CN470
- 868M: RU864/IN865/EU868
- 915M: US915/AU915/KR920/AS923

LoRaWAN® Controller

UC511— DI - 915M -EA
①   ②   ③   ④

① Model Name
- UC100
- UC300
- UC501
- UC502
- UC511
- UC512

② Interface (For UC51x Only)
- Digital Input (Pulse Counter)

③ LoRaWAN® Module
- 470M: CN470
- 868M: RU864/IN865/EU868
- 915M: US915/AU915/KR920/AS923

④ External Antenna

LoRaWAN® Thermostat

WT 3 01 - 915M
① ②   ③

① Wireless Thermostat

② Sub-Series
- 1: Smart Radiator Thermostat
- 2: Smart Thermostat
- 3: Fan Coil Thermostat

③ LoRaWAN® Module

CoWork Series

LoRaWAN® Smart Button

<u>WS</u> 10 <u>1</u> — <u>915M</u>
① ② ③

① Workplace Sensor ② Number of Buttons ③ LoRaWAN® Module

LoRaWAN® Smart Scene Panel

<u>WS</u> 1 5 6 — <u>915M</u>
① ② ③ ④

① Workplace Sensor ② Display ③ Number of Buttons ④ LoRaWAN® Module
- WS136 - 5: E-Ink Screen
- WS156 - 3: PVC Sticker

LoRaWAN® Sensor

<u>WS</u> 20 <u>2</u> — <u>915M</u>
① ② ③

① Workplace Sensor ② Number of Sensors ③ LoRaWAN® Module
- WS201 - 1: ToF
- WS202 - 2: PIR & Light
- WS203 - 3: TH & Motion

LoRaWAN® Sensor

<u>WS</u> 30 <u>1</u> — <u>915M</u>
① ② ③

① Workplace Sensor ② Sub-series ③ LoRaWAN® Module
- WS301 - 1. Magnetic Contact Switch
- WS302 - 2. Sound Level Sensor
- WS303 - 3. Mini Leak Detection Sensor

LoRaWAN® Smart Wall Switch

<u>WS</u> 50 <u>1</u> — <u>915M</u>
① ② ③

① Workplace Sensor ② Number of Gang ③ LoRaWAN® Module

LoRaWAN® Smart Wall Socket

<u>WS</u> 51 3 – <u>915M</u>
① ②

① Workplace Sensor ② LoRaWAN® Module

LoRaWAN® Smart Portable Socket

<u>WS</u> 52 3 — <u>915M</u>
① ② ③

① Workplace Sensor ② Grounding ③ LoRaWAN® Module
- 2. No Grounding
- 3. Grounding

Smart Light Controller

<u>WS</u> 55 8 – <u>915M</u>
① ② ③

① Workplace Sensor ② Number of Circuits ③ LoRaWAN® Module

Asset Tracker

Outdoor Asset Tracker

<u>AT</u> 101 — <u>915M</u>
① ②

① Asset Tracker ② LoRaWAN® Module
- AT101