Milesight IoT Product Catalogue

5G, AI & Sensing Technology

Better Inside, More in Sight

V3.0

Milesight IoT

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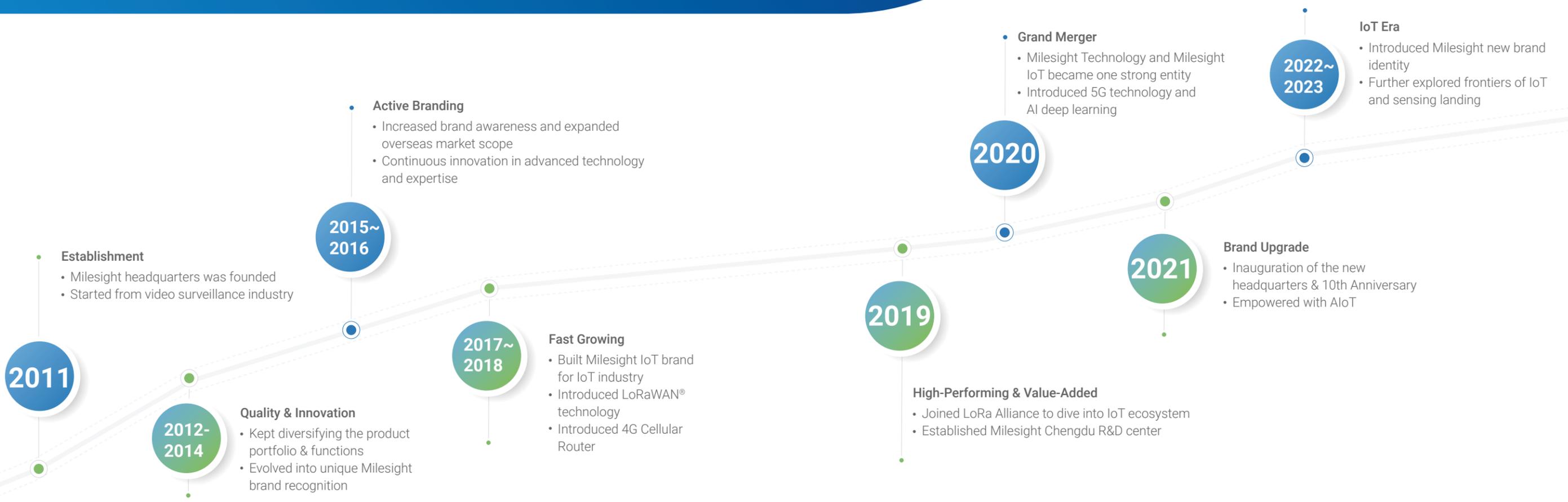
Milesight IoT Co., Ltd.

About Milesight IoT

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

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

Milesight Milestone

2011

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

2012-2014

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

2015~2016

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

2017~2018

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

2019

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

2020

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

2021

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

2022~2023

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

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
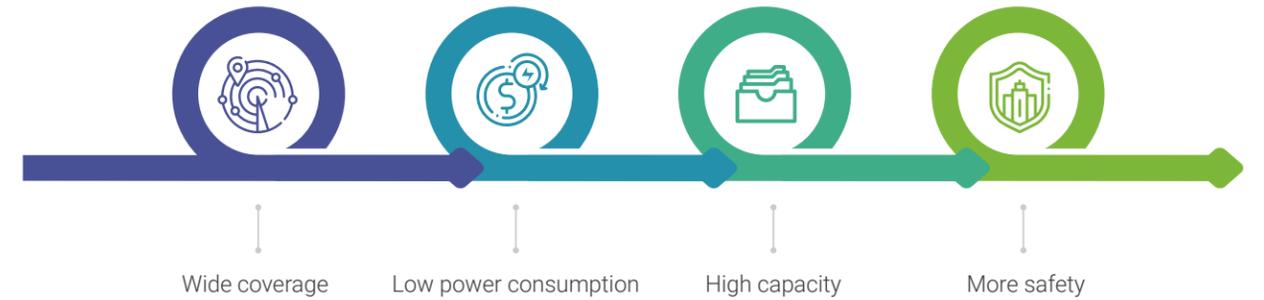- Embrace easy interoperability with other network servers and clouds

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

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Mini LoRaWAN® Gateway

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

UG63
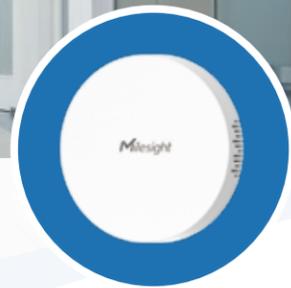
Overall Features

- Mini Size for Flexible Installation
- Gateway Fleet for Better Blind Spot Coverage
- Listen Before Talk (LBT) for Downlink Data Integrity
- Semtech SX1302 Chip for Standalone Deployment
- Embedded Network Server Compatible with TTN, ChirpStack, Everynet, Senet, etc.

Model		UG63
LoRaWAN®	Chipset	SX1302, 8 Channels (Half/Full-duplex)
	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 × RJ45 (PoE PD Supported), 10/100 Base-T (IEEE 802.3)
Hardware	CPU	528 MHz, ARM Cortex-A7
	Built-in	Watchdog, RTC, Timer
	Power Supply	① 1 × 802.3af Standard PoE Input ② 5V by Type-C Port
Physical Characteristics	Ingress Protection	IP30
	Dimension	Φ 115 x 21 mm (Φ 4.52 x 0.83 in)
	Installation	Desktop, Wall Mounting

Industrial LoRaWAN® Gateway

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

Overall Features

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

UG56

Model		UG56
LoRaWAN®	Chipset	SX1302, 8 Channels (Half-duplex)
	Antenna	1 × 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, 10/100/1000 Base-T (IEEE 802.3)
	Wi-Fi	IEEE 802.11b/g/n, 2.4 GHz
	Cellular (Opt.)	1 x Mini SIM-2FF, 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 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)

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, 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, 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

AI Workplace Occupancy Sensor

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

Overall Features

- Embedded AI Algorithm Realizes Up to 98% Accuracy Counting
- LoRaWAN® Wireless Deployment with Low Power Consumption
- Compliant with GDPR & 100% Anonymous Detection
- 78m^2 Large Detection Area with 16 Custom Detection Regions
- Bi-Directional People Counting via In/Out Counting
- Milesight D2D with Communication Latency to <1 Sec

VS121

Model		VS121
Wireless Transmission	Technology	LoRaWAN® , Milesight D2D
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923
	Mode	OTAA/ABP Class C
People Counting	Field of View	190 ° Horizontal, 112 ° Vertical
	Recognition Range	Based on a Radius of 5 Meters (At the Height of 3M)
	Recognition Rate	Region counting: 95% Line crossing counting: 98%
	Advanced Custom Setting	Up to 16 Mapped Regions for Detection, D2D Controller
Physical Characteristics	Configuration	1 x Wi-Fi Interface (IEEE 802.11 b/g/n, 2.4GHz)
	Power Supply	5V /1.5A by Type-C Port
	Dimension	85 × 85 × 20 mm (3.35 × 3.35 × 0.79 in)
	Power Input	1 × Type-C
	Installation	Ceiling Mounting

3D ToF People Counting Sensor

VS132 offers bi-directional line crossing people counting data in real-time to get precise and valuable statistics for facility operators.

Overall Features

- 3D ToF Technology with 99.5% Ultra-High Accuracy
- ToF Light Source for Complete Darkness
- LoRaWAN® Wireless Deployment with Low Power Consumption
- 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

VS132

Model		VS132
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class C
People Counting	ToF FoV	92.5 ° Horizontal, 67 ° Vertical, Accuracy: 99.5%
	Detection Range	0.5 to 3m (Installation Height ≤ 3m)
	Local Storage	1, 000, 000 Data Records
Physical Characteristics	Configuration	1 x Wi-Fi Interface (IEEE 802.11 b/g/n, 2.4GHz)
	Power Supply	① 12 VDC, 2A by Terminal Block ② 1 × 802.3 at PoE Input
	Operating Temperature	-10°C ~ +60°C
	Dimension	140 × 50 × 50 mm (5.51 × 1.97 × 1.97 in)
	Ethernet Port	1 × RJ45 10/100 Mbps Ethernet Port (PoE PD), Provides CGI for Integration
	Installation	Ceiling Mounting, Wall Mounting, Embedded Mounting

Bathroom Occupancy Sensor

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

Overall Features

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

VS330

Model		VS330
Wireless Transmission	Technology	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
	Mode	OTAA/ABP Class A
Measurement	ToF — ToF FoV	27°
	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

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.

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

Kick off IoT PoCs with LoRaWAN® Demo Kits

- AM319
- AM307
- AM103
- AM103L
- UG63
- Milesight IoT Cloud
  *Pro1 Valid for One Year

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

- VS121
- WS156
- UG63
- WS101
- WS202
- WS301
- Milesight IoT Cloud
  *Pro1 Valid for One Yea

Smart Office Solution — **iBox CoWork Kit**

- UC300
- UG65
- EM300
- WS101
- WS301
- AM103
- Milesight IoT Cloud
  *Pro1 Valid for One Yea

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

Smart Button

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

Overall Features

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

WS101

Smart Scene Panel

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

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

WS136
WS156

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 Batteries 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.

Model		WS136/WS156
Wireless Transmission	Technology	LoRaWAN®, Milesight D2D
	Frequency	CN470/RU864/IN865/EU868/US915/AU915/KR920/AS923
	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.

PIR & Light Sensor

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

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 (Distance)
	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.

Magnetic Contact Switch

WS301 detects the opening or closing event, sending alarms accordingly. T[...] magnet is placed inside the portable part, while the sensor is inside the fixe[...] door, window or other projects.

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

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

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 (A and C Weighting)
	Time Weighting	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.

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.

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

WS50x

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	

Smart Portable Socket

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

LoRaWAN®   D2D   NFC   Cloud
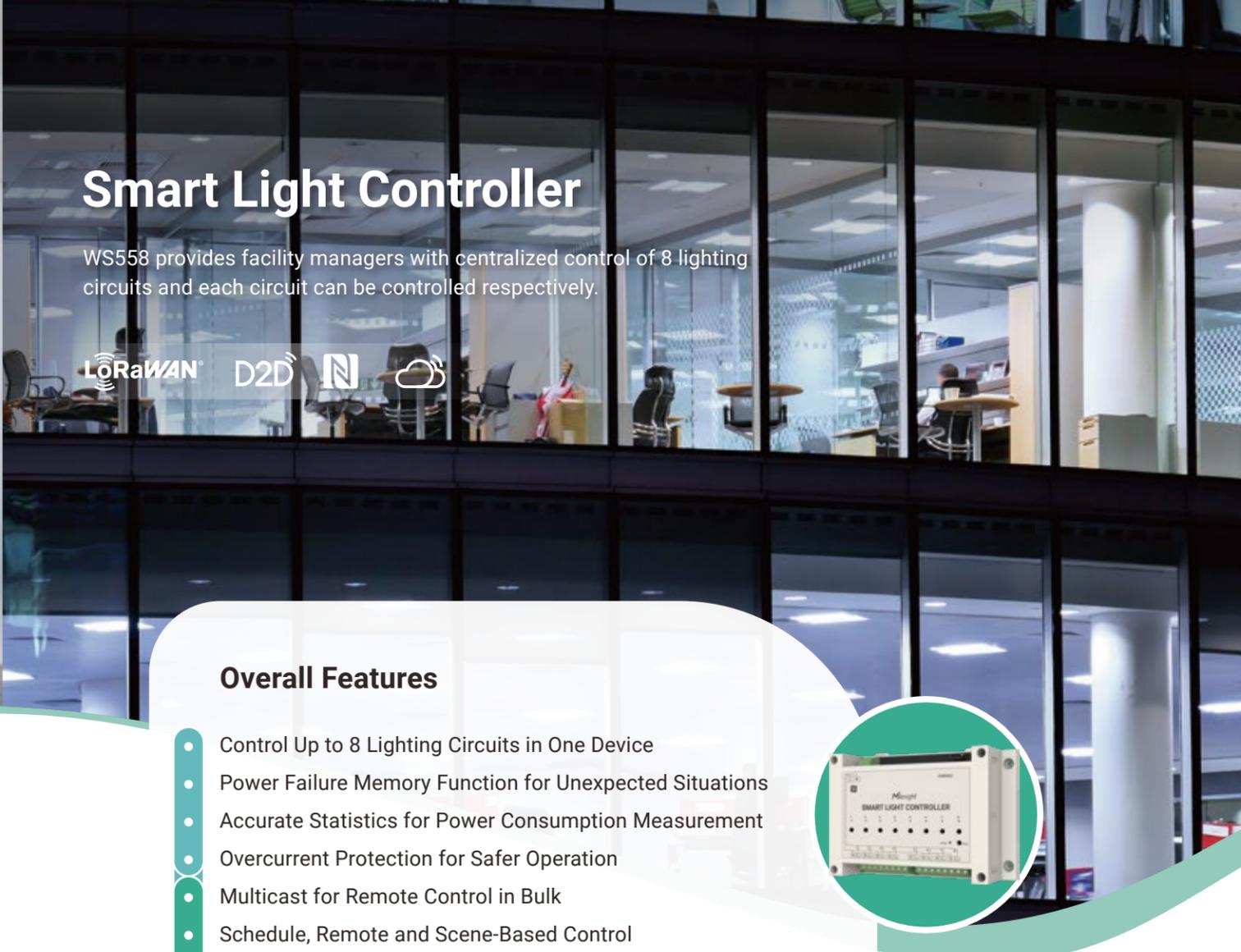
Overall Features

- 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

Smart Light Controller

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

LoRaWAN®   D2D   NFC   Cloud

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	Circuit Type	LN Type	Switch Type
	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
	(VAC), Current (mA), ...actor (%), Power (W), ...Consumption (kW·h)		-
		Local Press or Remote Control	
		LoRaWAN®, Milesight D2D	
		...N470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4	
		OTAA/ABP Class C	
		145 × 90 × 40 mm (5.7 × 3.54 × 1.57 in)	
		Wall Mounting, DIN Rail Mounting	
		NFC, USB Type-C or Downlink	
		...st, 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.

LoRaWAN® N ☁
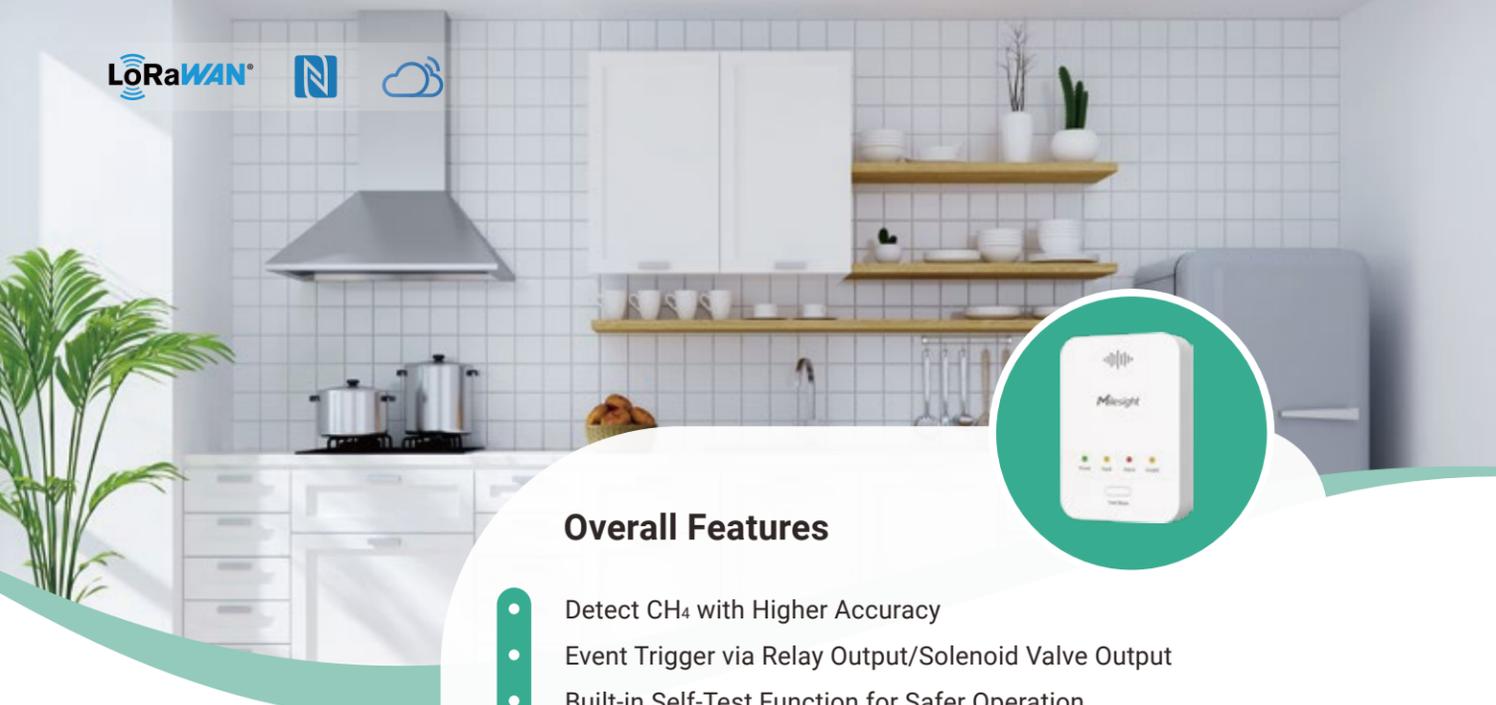
Overall Features

- 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$_4$)
	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
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)
	Alarm System	Sound (8% LEL), LED Indicators
	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.

LoRaWAN® D2D N ☁

Overall Features

- Detect NH$_3$ & H$_2$S 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 (0.01ppm)
	Hydrogen Sulfide (H$_2$S)	± 5% (-40 - 35°C), 0 ~ 5 ppm (0.01ppm)
	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.

3-in-1 Indoor Air Quality Sensor

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

Overall Features

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

AM103
AM103L

Model		AM103	AM103L
Wireless Transmission	Technology		
	Frequency	CN470/IN86	
	Mode		
Measurement	Temperature		
	Humidity		
	Carbon Dioxide (CO_2)	±	
Physical Characteristics	Configuration		
	Display	2.13-inch Black & White	
	Alarm System		
	Power Supply*	Easily Replaceable Ba... up to 3-Year Batte...	
	Ingress Protection		
	Dimension		
	Installation		

7-in-1 Indoor Air Quality Sensor

AM104/AM107 is a well-qualified IAQ sensor for monitoring CO_2 concentration, temperature, humidity, light, TVOC, barometric pressure and motion in indoor scenarios.

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 1.5 Years (AM104) /1 Year (AM107)

AM104
AM107

Model		AM104	AM107
	Technology	LoRaWAN®	
Wirel...			

9-in-1 Indoor Air Quality Sensor

AM307/AM308/AM319 is a comprehensive IAQ sensor for detecting CO_2 concentration, temperature, humidity, light, HCHO/O_3 level, TVOC, barometric pressure, PM2.5, PM10 and motion.

Overall Features

- 4.2 -Inch E-ink Screen with Vivid Emoticon Indication
- Traffic Light Status Indicator and Built-In Buzzer for Alarming
- Flexible Installation with Anti-theft Protection
- Support Retransmission for Reliable Communication
- Store Capacity with 18,000 Sets of Historical Data Records
- Smart Screen Mode for Low Power Consumption
- Powered via USB Type-C for Stable Power Supply
- Battery Life up to 3 Years (AM307) / 1 Year (AM308)

AM307
AM308
AM319

	Model	AM307	AM308	AM319
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% (0% ~ 100%)		
	Motion	5m (80 ° Horizontal, 55 ° Vertical), Vacant/Occupied (Status)		
	Light	0-60000 Lux (Determine as 6 Levels, 0-5)		
	TVOC	1.00 - 5.00 (IAQ Rating), ±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)$_2$	-		±10 % (0 - 1.25 mg/m³)
	Ozone (O_3)$_2$	-		±5 % FS (0 - 10 ppm)
Physical Characteristics	Configuration	NFC, USB Type-C Port		
	Power Supply*	Easily Replaceable Battery with up to 3-Year Battery Life	Easily Replaceable Battery with over 1-Year Battery Life	-
		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		

IoT Display

DS7610 brings customers simplicity and a user-friendly experience in managing rooms' conditions with one tap.

Overall Features

- Built-in LoRaWAN® Gateway for AIoT Insights
- Quad-Core Industrial Processor with Big Memory
- 10.1-inch Capacitive Touch Screen with RGB LED Indicators
- Powerful SDK Capabilities for Secondary Developer
- Support Third-party Android Applications
- More User-Friendly with NFC Enabled Applications
- Smart Screen Mode for Low Power Consumption
- Optional Docking Station with Flexible Connection Options
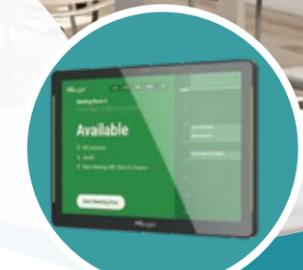
DS7610

	Model	DS7610
Display	LCD Screen	10.1-inch TFT LCD Touch Screen (STB 74.88%)
	Resolution	1280 x 800 Pixels
	Indicators	RGB Side LED Indicators, Stepless Adjustment
Sensors & NFC	Proximity Sensor	Detection Distance: 1 m (Max.)
	Light Sensor	5 Brightness Level Adjustment
	NFC	13.56 MHz
Wireless Transmission	LoRaWAN® Channel	Single Channel
	LoRaWAN® Frequency	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4
	LoRaWAN® Protocol	V1.0.3 Class A/Class C
	Wi-Fi	IEEE 802.11 b/g/n，2.4 GHz, IEEE 802.11 a/n/ac，5 GHz
	Bluetooth	Bluetooth 5.0
	Ethernet	1 x RJ45 10/100/1000 Mbps Ethernet Port (PoE PD Supported)
Physical Characteristics	Processor	Quad-core ARM Cortex-A55
	Operating System	Android 11.0
	Power Supply	① 802.3af PoE ② 12V/1A by DC Jack Connector ③ 5V/2A by Type-C Port
	Ingress Protection	IP30
		Wall Mounting, 3M Tape Mounting

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

- IP67
- Pulse Counting
- 5-Year Battery Life

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	Pulse Counter, Digital Input (1 x GPIO Interface, Dry Contact)
	Temperature	±0.3°C (0°C ~ 70°C), ±0.6°C (-30°C ~ 0°C)
	Humidity	±3%RH (10% ~ 90%), ±3%RH (below 10% and above 90%)
Physical Characteristics	Configuration	NFC
	Power Supply*	Easily Replaceable Batteries 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

* 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 physical security monitoring to your location by alarming for intrusion or unauthorized
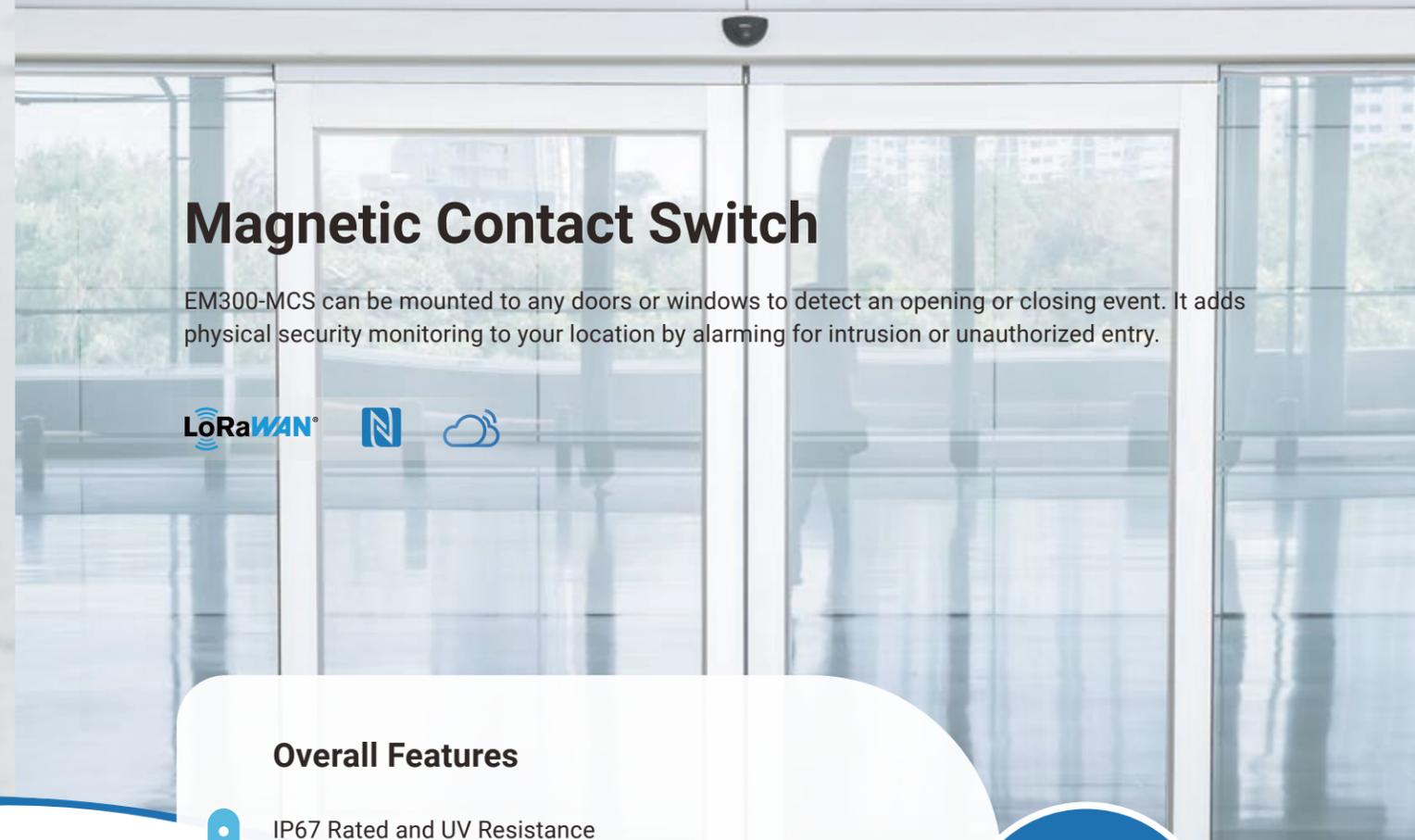
Overall Features

- 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
	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% (10% ~ 90%), + 5% (below 10% and above 90%)
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.

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
	Mode	OTAA/ABP Class A
Measurement	GPIO	+ 0.3°C (0°C ~ 70°C), + 0.6°C (-30°C ~ 0°C)
	Temperature	+ 3% (10% ~ 90%), + 5% (below 10% and above 90%)
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	
	Mode	OTAA/ABP Class A	
Measurement Leakage Detection	Trigger Condition	When Liquid Level Reaches 5 mm	
	Cable Length	1.5 m (Customizable)	3 m (Customizable)
	Temperature	± 0.3°C (0°C ~ 70°C), ± 0.6°C (-30°C ~ 0°C)	
	Humidity	± 3% (10% ~ 90%), ± 5% (below 10% and above 90%)	
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.

LoRaWAN® | NFC | Cloud

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	-30°C ~ 70°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.

LoRaWAN® | NFC | Cloud

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

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	± (1+0.3%*S) cm, S=distance (3 ~ 450 cm)
	Humidity	± 0.2°C, -30°C ~ 60°C
Physical Characteristics	Configuration	± 0.2%, 0% to 100%RH
	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 Mounting (Standard Version) Magnetic Adsorption (Magnet Version)

* 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.

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)
	Temperature	+ 0.3°C (0°C ~ 70°C), + 0.6°C (-30°C ~ 0°C)
	Humidity	+ 3% (10% ~ 90%), + 5% (below 10% and above 90%)
	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
	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 / T200: -50 °C ~ 200 °C T500: -50 °C ~ 500 °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		SMTC	SMT
Wireless Transmission	Technology	LoRaWAN®	
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923	
	Mode	OTAA/ABP Class A	
Measurement	Moisture	±2% (0~50%), ±3% (50%~100%)	±2%, (0% ~100%)
	Temperature	±0.5°C (-40°C ~ 80°C)	/
	Conductivity	±3% (0~10000 μs/cm), ±5% (10000~20000 μs/cm)	/
Physical Characteristics	Configuration	NFC, USB Type-C Port	
	Power Supply*	Built-in 19000 mAh Can be Used for up to 10 Years	
	Ingress Protection	IP67 (Transceiver)/IP68 (Soil Sensor)	IP67
	Dimension	Transceiver: 105.4 × 71 × 69.5 mm (4.1 × 2.8 × 2.7 in) Soil Sensor: 88 × 68 × 26 mm (3.5 × 2.7 × 1.0 in) (Probe length: 50mm/1.97 in)	Transceiver: 105.4 × 71 × 69.5 mm (4.1 × 2.8 × 2.7 in) Soil Sensor: 89 × 18 × 7 mm (3.5 × 0.7 × 0.3 in) (Probe Length: 50mm/1.97 in, Cable Length: 5m)
	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.

5G Dongle

UF31 is a 5G-to-wire device which offers a 4G to 5G migration solution for mobility, embedded system, smart buildings and etc.

5G　**4G**

Overall Features

- Ultra-Fast 4G/5G Connectivity with SA & NSA Modes
- Plug & Play Networking with Pint-Sized Design
- Support Power & Networking Supply via USB Type-C Port
- Higher Performance with 2 GHz Quad-Core Processor
- Industrial-Grade Design with Heavy Cast Aluminum Casing
- Support Devicehub Management for Easy Maintenance

UF31

Model		UF31
Hardware	Processor	Quad-core ARM Cortex-A55, 2 GHz
	Memory	1 GB LPDDR4X RAM and 1 GB NAND Flash
	Button	1 × Reset Button (Internal)
	GNSS	1 × 50 Ω SMA Connector
Connectivity	Cellular Interface	5G NR SA&NSA/4G LTE/WCDMA
	Ethernet Interface	1 × 10/100/1000 Mbps LAN Port
Others	Network Protocols	IPv4/IPv6, TCP, UDP, DHCPv4/DHCPv6, HTTP, HTTPS, DNS, ARP, Telnet, SSH, etc.
	Power Input	① 5-24 VDC, with Surge-Protection and Reverse Polarity Protection ② 5V/3A by USB Type-C Port
	Ingress Protection	IP30
	Operating Temperature	-20°C to +50°C(-4℉ to +122℉)
	Dimension	90 x 72 x 15 mm (3.54 x 2.83 x 0.59 in)
	Installation	Desktop, Wall Mounting, DIN Rail Mounting

5G CPE

UF51 features aesthetic design and outstanding performance with IP67 rating to deliver fast 5G connectivity, higher bandwidth, and low latency to more business.

5G

Overall Features

- IP67 Rated and UV Resistance
- Ultra-Fast 5G Connectivity with SA & NSA Modes
- Dual Band Wi-Fi 6 with up to 3.6 Gbps Download Speed
- Equipped with Qualcomm Quad-Core Processor
- Aesthetic Design with Flexible Installation Ways
- Support Devicehub Management for Easy Maintenance

UF51

Model		UF51
Hardware	Processor	Quad-core ARM Cortex-A55, 2 GHz
	Memory	1 GB LPDDR4X RAM and 1 GB NAND Flash
Connectivity	Cellular Interface	5G NR SA&NSA/4G LTE/WCDMA（1 x SIM Slot)
	Ethernet Interface	1 × 10/100/1000/ Mbps (LAN2) 1 × 10/100/1000/2500 Mbps (LAN1/WAN)
	Wi-Fi Interface (Optional)	IEEE 802.11b/g/n/ax 4 x 4 MIMO, 2.4 GHz IEEE 802.11a/n/ac/ax 4 x 4 MIMO, 5 GHz
	Serial Interface	1 × RS485 (RS232 Hardware Optional)
	DI/DO	1 × DI+ 1 × DO, Galvanic Isolation
Others	Network Protocols	IPv4/IPv6, TCP, UDP, DHCP, HTTP, HTTPS, ARP, NTP, DNS, ARP, SSH, etc.
	Ingress Protection	IP67
	Dimension	No Waterproof Connector: φ105 x 110 x 187 mm (φ4.13 x 4.33 x 7.36 in) With Waterproof Connector: φ105 x 110 x 218 mm (φ4.13 x 4.33 x 8.58 in)
	Installation	Desktop, Pole Mounting, Wall Mounting, Bottom Screw Mounting

5G AIoT 4X/12X Pro Bullet Plus Network Camera

Milesight 5G AIoT 4X/12X Pro Bullet Plus Network Camera provides a fresh experience of UHD image quality, low latency and fast transmission speed to some scenarios where wiring is inconvenient.

5G   LoRaWAN®   AI

Camera
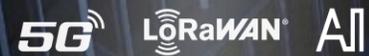
Overall Features

- Built-in LoRaWAN® Gateway for AIoT Insights
- Embedded Network Server for Easy Deployment
- Better AI Video Analytics, Face Detection, People Counting via AI Deep Learning
- 5G Wireless Communication with Higher Bandwidth, Higher Mobility, Higher Scalability, Lower Latency

5G Industrial Router

The Milesight Ultra-Series Industrial Cellular Router UR75 delivers 5G connectivity for wireless networking solutions

5G

Overall Features

- Ultra-Fast 5G Connectivity with Superb Download Speed up to 4.67 Gbps
- Strong Wi-Fi Performance with up to 1.8 Gbps Download Speed
- Equipped with Quad-Core CPU Arm Cortex-A55 for Faster Data Transmission
- Advanced OpenCPU System for More Simplified Yet Efficient Frame Work
- Support Transmission of Data via RS232/RS485/ DI/DO
- Support GPS & Wi-Fi for Various Applications

UR75

Model		5G AIoT 4X Pro Bullet Plus Network Camera	5G AIoT 12X Pro Bullet Plus Network Camera
Camera	Megapixel	2MP	4K
	Image Sensor	1/2.8" Progressive Scan CMOS	1/1.8" Progressive Scan CMOS
	Lens	5.3~64mm, 12X Optical Zoom	8~32mm, 4X Optical Zoom
	Field of View	H61°~H5°/D69°~D5°/V36°~V2°	H44°~H13°/D51°~D15°/V25°~V7°
	Max.Image Resolution	1920x1080	3840x2160
LoRaWAN®	Chipset	SX1302, 8 Channels (Half/Full-duplex)	
	Antenna	2 × Internal Antennas + 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	Cellular	Support 5G/4G/3G (1 x Nano SIM)	
	Ethernet	1*RJ45 10M/100M Ethernet Port	
	Audio I/O	1/1	
	Alarm I/O	1/1	
Physical Characteristics	Power Supply	PoE (802.3at) / DC 12V±10%	
	Ingress Protection	IP67(Only for Camera Body)	
	Dimension	320 x 134 x 126 mm (12.60 x 5.28 x 4.96 in) 320 x 134 x 292 mm (12.60 x 5.28 x 11.50 in) (With 5G Antennas)	

Model		UR75
Hardware	Processor	Quad-core ARM Cortex-A55, 2 GHz
	Memory	1 GB LDDR4x RAM and 1 GB NAND Flash
	Extendable Storage	1 × M.2 NVMe SSD Interface
	Button	1 × Reset Button
	GNSS	1 × 50 Ω SMA Connector
Connectivity	Cellular Interface	5G NR SA & NSA/4G LTE/WCDMA
	Ethernet Interface	1 × WAN + 4 × LAN (5 x 10/100/1000 Mbps)
	Wi-Fi Interface (Optional)	IEEE 802.11b/g/n/ax 2 x 2 MIMO, 2.4 GHz IEEE 802.11a/n/ac/ax 2 x 2 MIMO, 5 GHz
	Serial Port	1 × RS232 + 1 × RS485
	DI/DO	1 x DI + 1 x DO
Others	Ingress Protection	IP30
	Dimension	135 x 115 x 36.4 mm (5.31 x 4.53 x 1.43 in)
	Installation	Desktop, Wall or DIN Rail Mounting

Modbus to LoRaWAN® IoT Controller

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

Overall Features

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

UC100

LoRaWAN®/4G IoT Controller

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

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

UC300

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

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 + 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

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
- 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®	
	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)	
	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 × Replaceable Batteries ② Solar Powered (5 V, 1.6 W) ③ 5 ~ 24 VDC	① 3 × Replaceable Batteries ② 5 ~ 24 VDC
	Operation Temperature	-20°C ~ 60°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
- Integrated Rich Interfaces: RS232, RS485, GPIO, Analog Input
- 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®	
	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 2 × 2550 mAh Replaceable Batteries ② Solar Powered (5 V, 1.6 W)	3 × 9000 mAh Replaceable Li-SOCl2 Batteries
	Operation Temperature	-20°C ~ 60°C	
	Ingress Protection	IP67	
	Dimension	116 × 116 × 45.5 mm (4.56 × 4.56 × 1.79 in)	
	Installation	Wall or Pole Mounting	

Mini Series Industrial Router

UR41 is a compact size 4G router for IoT applications with low-cost and high efficiency.

4G

Overall Features

- Secure 4G Connectivity in a Compac...
- Power Consumption as Low as 60mA...
- Protect Power Sources by Dropping...
- Target of 6.3mA in Standby Mode
- Fast Network Response from Standb...
- DI, Cellular, Ethernet or Serial Port
- Remote and Bulk Management for Easy Maintenance
- Support GPS & Multiple Interfaces for Various Applications

- PoE-PSE for Less Wire Connection Option
- Reliable Connectivity with 4G/Ethernet Failover
- Support Milesight VPN & Devicehub Management for Easy Maintenance

UR41

UR32L

Model		UR41
Hardware System	Processor	ARM Cortex-A7, 528 MHz
	Memory	128 MB DDR3 RAM and 128MB Flash
Connectivity	Cellular Interface	4G LTE (CAT 4)/WCDMA/GSM (1 x SIM Slot)
	Ethernet Interface	1 × 10/100 Mbps LAN Port
	Wi-Fi Interface	IEEE 802.11 b/g/n, 2.4GHz
	Serial Interface	1 × RS232 or 1 x RS485 (Software Switchable)
	DI/DO	1 x DI + 1 x DO
Others	Network Protocols	IPv4/IPv6, PPP, PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, RIPv1/v2, OSPF, DDNS, VRRP, HTTP, HTTPS, DNS, ARP, QOS, SNTP, Telnet, VLAN, SSH, etc.
	Power Input	① 5-24 VDC, with Surge-Protection and Reverse Polarity Protection ② 5V/1A by USB Type-C Port
	Ingress Protection	IP30
	Dimension	70 x 55 x 22 mm (2.76 x 2.17 x 0.87 in) (Antenna Excluded)
	Installation	Desktop, Wall Mounting

Model		UR32L
Hardware System	Processor	ARM Cortex-A7, 528 MHz
	Memory	128 MB DDR3 RAM and 128MB Flash
	Button	1 × Reset Button
Connectivity	Cellular Interface	4G LTE (CAT 4)/WCDMA/GSM (1 x SIM Slot)
	Ethernet Interface	1 × WAN + 1 × LAN or 2 × LAN (2 x 10/100 Mbps)
Others	Network Protocols	IPv4/IPv6, PPP, PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, RIPv1/v2, OSPF, DDNS, VRRP, HTTP, HTTPS, DNS, ARP, QOS, SNTP, Telnet, VLAN, SSH, etc.
	Power Consumption	Typical 1.8 W, Max 2.2 W (In Non-PoE Mode)
	Ingress Protection	IP30
	Dimension	108 x 90 x 26 mm (4.25 x 3.54 x 1.02 in)
	Installation	Desktop, Wall or DIN Rail Mounting

Pro Series Industrial Router

UR32/UR35 secures reliable cellular-to-ethernet connectivity for IoT applications, such as kiosk, self-service terminals and process automation equipment.

4G

Overall Features

- Support Modbus RTU/TCP & Python Programming
- Industrial-Grade Design with Rugged Metal Casting
- Equipped with NXP Industrial Grade Processor
- Support Operating Temperature from -40℃ to 70℃
- PoE-PSE for Less Wire Connection Option
- Reliable Connectivity with 4G/Ethernet/Wi-Fi Failover & Dual SIM Backup
- Support Milesight VPN & Devicehub Management for Easy Maintenance

UR32
UR35

Model		UR32	UR35
Hardware System	Processor	ARM Cortex-A7, 528 MHz	
	Memory	128 MB DDR3 RAM and 128MB Flash	
	Extendable Storage	1 × Micro SD	
	Button	1 × Reset Button	
	GPS (Optional)	1 × 50 Ω SMA Connector	
Connectivity	Cellular Interface	4G LTE (CAT 4)/WCDMA/GSM (2 x SIM Slots)	
	Ethernet Interface	2 × 10/100 Mbps (1 x WAN + 1 x LAN or 2 x LAN)	5 x 10/100 Mbps (1 x WAN + 4 x LAN)
	Wi-Fi Interface (Optional)	IEEE 802.11 b/g/n, 2.4GHz	
	Serial Interface	1 x RS232(1 x RS485 Optional)	1 × RS232 + 1 × RS485 (2 × RS485 Optional)
	DI/DO	1 x DI + 1 x DO	
	Voice Interface (Optional)	-	1 ×FXS (RJ-11)
Others	Network Protocols	IPv4/IPv6, PPP, PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, RIPv1/v2, OSPF, DDNS, VRRP, HTTP, HTTPS, DNS, ARP, QOS, SNTP, Telnet, VLAN, SSH, etc.	
	Power Output	2 × 802.3 af/at PoE PSE on LAN Ports (Optional)	4 × 802.3 af/at PoE PSE on LAN Ports (Optional)
	Ingress Protection	IP30	
	Dimension	108 x 90 x 26 mm (4.25 x 3.54 x 1.02 in)	135 x 103 x 45 mm (5.31 x 4.06 x 1.77 in)
	Installation	Desktop, Wall or DIN Rail Mounting	

Ultra Series Industrial Router 5G

Milesight Ultra-Series Industrial Cellular Router UR75 delivers 5G connectivity for wireless networking solutions.

Overall Features

- Ultra-Fast 5G Connectivity with Superb Download Speed up to 4.67 Gbps
- Strong Wi-Fi Performance with up to 1.8 Gbps Download Speed
- Equipped with Quad-Core CPU Arm Cortex-A55 for Faster Data Transmission
- Advanced OpenCPU System for More Simplified Yet Efficient Frame Work
- Support Transmission of Data via RS232/RS485/ DI/DO
- Support GPS & Wi-Fi for Various Applications

*For more specification, please refer to Page 44.

UR75

Milesight PoE Switch

Milesight PoE Switch transmits data and power simultaneously, which is suitable for installation environment where power outlet is limited.

PoE Switch

Overall Features

- Multiple Options for Ports from 4, 8, 16 to Maximum 24 Ports
- Up to 14.8 Gbps Switching Capacity with Full Link-Speed Forwarding
- Maximum 400W Power Budget with 4 Kv Surge Protection
- Allow Different Camera Variations to be Configured

Model	MS-S0204-EL	MS-S0208-EL	MS-S0208-GL	MS-S0216-GL	MS-S0416-GF	MS-S0224-GL	MS-S0424-GF
Ports	8X10/100Mbps PoE Ports (RJ45)	8X10/100Mbps PoE Ports (RJ45)		16X10/100Mbps PoE Ports (RJ45)		24X10/100Mbps PoE Ports (RJ45)	
	2X100Mbps Uplink Ports		2X1000Mbps Uplink Ports				
	-	-	-	-	2X1000Mbps SFP Ports	-	2X1000Mbps SF Ports
Switching Capacity	1.6Gbps	2Gbps	11.8Gbps	14.8Gbps			
	Non-blocking						
Power	Built-in Switching Power Supply, AC 100~240V, 50-60Hz						
Supply	1A	2.2A	2.5A	3A		5A	
PoE Standard	IEEE802.3af/at						

IoT Weather Station

WTS305/WTS50x 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™   N   ☁

Overall Features

- IP65 Rated for WTS Sensors & IP67 Rated for WTS Hub
- Reliable Measurement for Standard Version (WTS305)
- Research-Grade Measurement for Professional Version (WTS50x)
- 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
WTS50x

Model		WTS305	WTS505	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°	0° ~ 360°, 0.1°	
	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	—	±5 % (10 ~ 500 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)	Rated Current	1 A (± 5%)
	Maximum Power	15 W (± 5%)	Minimal Power	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 252 x φ73 mm (WTS505)	φ160 x 263 x φ73 mm (WTS506)
		116 × 116 × 45.5 mm (WTS Hub) 343 × 283 × 16.5 mm (Solar Panel)		
	Installation	Pole Mounting (WTS Sensor) Screw Mounting (WTS Hub)		

Milesight IoT Cloud

Milesight IoT Cloud provides unparalleled levels of vertical integration with Milesight LoRaWAN® devices.
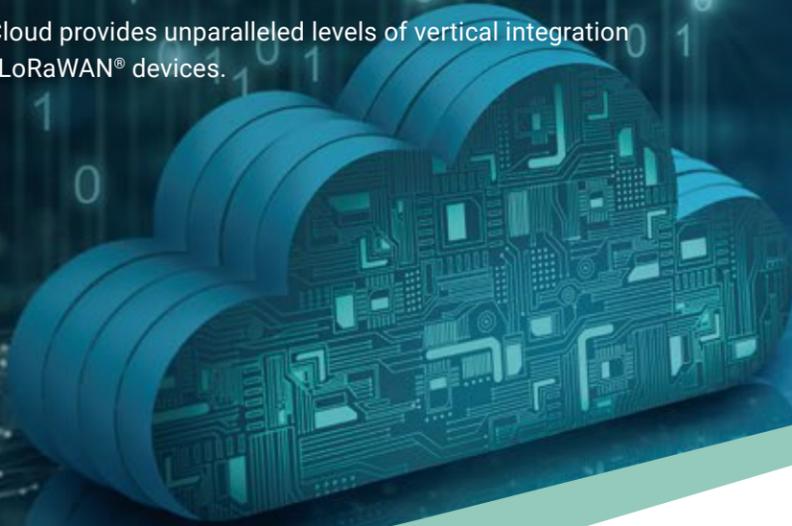
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Transform Real-Time and Historical Data into Drag-and-Drop Widgets on Dashboard

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

List of LTE Frenquancy Band

Number	Model	Region	Frequency Band
L04AF		North America	LTE FDD: B2/B4/B5/B12/B13/B14/B66/B71 WCDMA: B2/B4/B5
L04AU	UR3x/UR75-4G	Latin America, ANZ	FDD: B1/B2①/B3/B4/B5/B7/B8/B28 TDD: B40 WCDMA: B1/B2/B4/B5/B8 GSM/EDGE: B2/B3/B5/B8
L04EU		EMEA, Thailand	FDD: B1/B3/B7/B8/B20/B28A TDD: B38/B40/B41 WCDMA: B1/B8 GSM/EDGE: B3/B8
L04AF		North America	LTE-FDD:B2/B4/B5/B12/B13/B25/B26 WCDMA: B2/B4/B5
L08AU	UR41	Latin America, ANZ	LTE-FDD:B1/B2/B3/B4/B5/B7/B8/B28/B66 WCDMA: B1/B2/B5/B8 GSM:B2/B3/B5/B8
L08EU		EMEA, ANZ	LTE-FDD:B1/B3/B7/B8/B20/B28 WCDMA: B1/B8 TD-SCDMA :B34/B39 GSM:EGSM900/DCS1800

4G Cellular Module (row label spanning)

① Rx-diversity not supported.

Number	Model	Region	Frequency Band
500GL	UR75-5G	Global (except for US)	5G NR: N1/2/3/5/7/8/12/20/25/28/38/40/41/66/71/77/78/79 LTE FDD: B1/2/3/4/5/7/8/12/13/14/17/18/19/20/25/26/28/29/30/32/66/71 LTE TDD: B34/38/39/40/41/42/48 WCDMA: B1/2/3/4/5/6/8/19
501EU	UF51	EMEA, APAC	5G NR: N1/3/5/7/8/20/28/38/40/41/77/78/79 LTE FDD: B1/3/5/7/8/18/19/20/26/28/32 LTE TDD: B34/38/39/40/41/42/43 WCDMA: B1/3/5/6/8/19
504AE	UR75-5G/UF51	EMEA, APAC, Brazil	5G NR: N1/3/5/7/8/20/28/38/40/41/77/78 LTE FDD: B1/3/5/7/8/20/28/32 LTE TDD: B38/40/41/42/43 WCDMA: B1/5/8
554AE	UF31	EMEA, APAC	5G NR: N1/3/5/7/8/20/28(a&b)/38/40/41/77/78/79 LTE FDD: B1/3/5/7/8/18/19/20/28(a&b)/32 LTE TDD: B38/40/41/42/43/46 WCDMA: B1/5/8

5G Cellular Module (row label spanning)

Milesight IoT Product Naming Covention

Occupancy & People Counting Sensor

AI Workplace Occupancy Sensor

VS 1 2 1 – 915M
① ② ③   ④

① Occupancy & People Counting Sensor
- VS121
- VS132
- VS330

② Detection Type
- 1: People Counting
- 3: Continuous Perception

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
- WTS505
- WTS506

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

③ Number of Sensors

④ LoRaWAN® Module

Display Screen

LoRaWAN® IoT Display

DS 7 6 10 – 915M
① ② ③   ④

① Display Screen

② Screen Type
- 7: Android Electronic Screen

③ Screen Size
- 10: 10.1 Inch

④ LoRaWAN® Module

Industrial Cellular Router & 5G CPE & IoT Controller

UR32 - L 04 EU - G - P - W - RS 485
① ② ③ ④ ⑤ ⑥

① Model Name
- UR41
- UR32L
- UR32
- UR35
- UR75
- UF51
- UC300

② Cellular Network Type
- L: 4G LTE
- 5: 5G

③ Modem Manufacturer & Model

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

⑤ Function (for routers only)
- G: GPS
- P: PoE
- W: Wi-Fi

⑥ RS485 (for UR32 only)
- Add RS-485 Serial Interface

LoRaWAN® Gateway

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

① Model Name
- UG63
- UG56
- UG65
- UG67

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 — UDL 915M
① ② ③

① Model Name
- AM103
- AM103L
- AM104
- AM107
- AM307
- AM308
- AM319
- EM300
- EM310
- EM320
- EM500

② Sensor Type
- UDL: Ultrasonic Distance/Level Sensor
- SMTC/SMT: Soil Sensor
- SWL: Submersible Water Level Sensor
- LGT: Light Sensor
- PT100: PT100 Temperature Sensor
- CO2: CO2 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: Paulse Counter

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

LoRaWAN® Controller

UC511— DI - 915M
① ② ③

① Model Name
- 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

CoWork Series

LoRaWAN® Smart Button

WS 10 1 — 915M
① ② ③

① Workplace Sensor   **② Number of Buttons**   **③ LoRaWAN® Module**

LoRaWAN® Smart Scene Panel

WS 1 5 6 — 915M
① ②③ ④

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

LoRaWAN® PIR & Light Sensor

WS 20 2 — 915M
① ② ③

① Workplace Sensor   **② Number of Sensors**   **③ LoRaWAN® Module**

LoRaWAN® Magnetic Contact Switch

WS 30 1 — 915M
① ② ③

① Workplace Sensor   **② Sub-series**   **③ LoRaWAN® Module**

LoRaWAN® Smart Portable Socket

WS 52 3 — 915M
① ② ③

① Workplace Sensor   **② Number of Holes**   **③ LoRaWAN® Module**

Smart Light Controller

WS 55 8 — 915M
① ② ③

① Workplace Sensor   **② Number of Circuits**   **③ LoRaWAN® Module**

Industrial PoE Switch

MS — S0 2 04 — E L   MS — S0416 — G F
① ② ③④   ⑤⑥

① Uplink Port and SFP Port
- 2: 2 × Uplink Ports
- 4: 2 × Uplink Ports + 2 × SFP Ports

② Number of PoE Ports

③ Fast Uplink Port (10/100 Mbps)

④ Extend Mode

⑤ Gigabit Uplink Port (10/100/1000 Mbps)

⑥ Optical Fiber Port (SFP)