

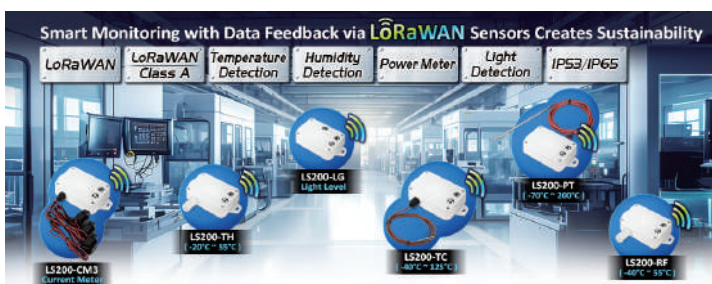
# LoRaWAN Sensors



### Build a Smart IoT Environment with Fabulous LoRaWAN Sensors

PLANET LS100 and LS200 LoRaWAN sensor series can be installed in various settings for the comprehensive environmental monitoring and tracking of temperature, humidity, illumination, and ingress and egress, making them the best solutions for outdoor and industrial use. Battery-operated and wire-free, they are easy to install.

The LS200 series includes sensors ideal for cold chain logistics, industrial power monitoring, and maintaining product quality in agriculture and pharmaceuticals. The multi-functional sensor, which comes in one device, supports smart homes and long-term care, offering comprehensive monitoring of temperature, humidity, motion, light, tilt, vibration, door/window status, and glass breakage. The LS100 series offers versatile options for occupancy monitoring, leak detection, and smoke detection. These sensors ensure optimal indoor climates, energy efficiency, security, and maintenance efficiency, making them essential for modern smart environments.



### LS100-WL

- Water Leak Sensor
- IP65 rating
- LoRaWAN™ Class A compatible

### LS100-PIR

- Indoor Occupancy Sensor (Occupancy/Light/Temperature)
- IP30 rating
- LoRaWAN™ Class A compatible

### LS100-DW

- Door and Window contact Sensor
- IP30 rating
- LoRaWAN™ Class A compatible

### LS100-CO

- Indoor CO Detector
- High Temperature Alarm (>60°C)
- Alarming Bell
- LoRaWAN™ Class A compatible

### LS100-SMK

- Smoke Detection
- High Temperature Alarm (>60°C)
- Alarming Bell
- LoRaWAN™ Class A compatible

### LS200-TH

- Indoor Temperature and Humidity Sensor (-20~55°C)
- IP65 rating
- LoRaWAN™ Class A compatible

### LS200-PT

- Product Temperature Sensor with PT1000 Needle Probe (-70~200 °C)
- IP65 rating
- LoRaWAN™ Class A compatible

### LS200-TC

- Machine Temperature Sensor with Thermocouple (-40~125 °C)
- IP65 rating
- LoRaWAN™ Class A compatible

### LS200-RF

- Refrigerator Temperature and Humidity Sensor (-40~55 °C)
- IP65 rating
- LoRaWAN™ Class A compatible

### LoRa and LoRaWAN Wireless Technology

LoRa is a low-power wide-area network (LPWAN) technology designed for long-range data transmission. The LoRaWAN protocol standardizes device communication, making IoT applications more efficient and easy to deploy. LoRa can achieve a range of up to 3 miles (5 kilometers) in urban areas and over 6 miles (10 kilometers) in rural areas with a clear line of sight. The range varies based on factors like frequency, environment, antenna design, and power. Its low power consumption enables battery-powered devices to run for years, depending on usage.

LoRaWAN uses a star topology, ideal for gathering small data from many low-power devices. Its open protocol supports various applications, transmitting data efficiently via gateways. The LS series is optimized for LoRa IoT, offering low power use, high reliability, and long-range communication, perfect for efficient data collection.

### Expanding Capabilities with PLANET Industrial LoRa Node Controllers

The integration of PLANET LS100/LS200 Sensor series into the NMS-AIoT platform enhances the system's capabilities by enabling seamless connectivity via LoRa, HaLow, and wireless, or wired options. This allows the LS100/LS200 Sensor series to contribute to real-time data collection and AI-driven insights for applications in smart cities, agriculture, and industrial environments, strengthening the platform's overall ecosystem.

The NMS-AIoT platform enables comprehensive integration of diverse devices, such as sensors, RS485/Modbus systems, and PDUs, through flexible connectivity options. This unified architecture supports environmental data collection and AI processing, empowering applications like smart cities, precision agriculture, and intelligent manufacturing.



### LoRaWAN-based Sensor

PLANET LoRaWAN LS100/LS200 Sensor series is fully compatible with standard LoRaWAN gateways like PLANET LCG-300 series, supporting the LoRaWAN class A. It is ideal for large-scale IoT applications, including building automation, smart metering, HVAC systems, agriculture, and more. The sensor facilitates the seamless integration of multiple sensors, making it a perfect choice for retrofitting legacy assets into IoT-enabled systems.

### Environmental Sensors:

Temperature and Humidity

- **LS200-TH**  
IP65 LoRaWAN Indoor Temperature and Humidity Sensor

Water Leakage

- **LS100-WL**  
IP65 LoRaWAN Water Leak Sensor

### LS200-LG

- Light Level Sensor
- IP65 rating
- LoRaWAN™ Class A compatible

### LS200-CM3

- 3-phase Current Meter with Clamp-On CT
- Maximum 75A current measurement
- IP53 rating
- LoRaWAN™ Class A compatible

### LS200-CM

- 1-phase Current Meter with Clamp-On CT
- Measure 150A current maximum
- IP53 rating
- LoRaWAN™ Class A compatible

### LS200-PM25

- PM2.5 Sensor
- Temperature and Humidity (-20~55 °C)
- IP30 rating
- LoRaWAN™ Class A compatible

### LS200-VOC

- TVOC Sensor
- Temperature and Humidity (-20~55 °C)
- IP65 rating
- LoRaWAN™ Class A compatible

### LS200-MF8

- Indoor Temperature and Humidity Sensor (-20~55 degrees C)
- PIR Sensor (3m to 5m)
- Light Sensor (1 Lux to 3000 Lux)
- Tilt Sensor (Conversion Angle: 45±5 degrees)
- Vibration Sensor
- Reed Switch Sensor
- Glass Break Sensor (Detection Mode: Piezoelectric buzzer)
- LoRaWAN™ Class A compatible

### LS250-PLUG

- Power Plug with Power Meter
- Maximum 16A current measurement
- IP20 rating
- LoRaWAN™ Class C compatible

Light Detection

- **LS200-LG**  
IP65 LoRaWAN Light Level Sensor

Gas

- **LS200-VOC**  
IP65 LoRaWAN TVOC Sensor
- **LS200-PM25**  
IP30 LoRaWAN PM2.5 Sensor
- **LS100-CO**  
IP20 LoRaWAN CO Detector

Smoke

- **LS100-SMK**  
IP20 LoRaWAN Smoke Detector

Device Sensors:

Temperature and Humidity Sensing

- **LS200-PT**  
IP65 LoRaWAN Product Temperature Sensor
- **LS200-TC**  
IP65 LoRaWAN Machine Temperature Sensor

- **LS200-RF**  
IP65 LoRaWAN Refrigerator Temperature and Humidity Sensor
- Security Monitoring

- **LS100-PIR**  
IP30 LoRaWAN Indoor Occupancy Sensor
- **LS100-DW**  
IP30 LoRaWAN Door and Window Sensor

Power and Current Monitoring

- **LS200-CM3**  
IP53 LoRaWAN 3-phase Current Meter
- **LS200-CM**  
IP53 LoRaWAN 1-phase Current Meter

- **LS250-PLUG**  
IP20 LoRaWAN Power Plug with Power Meter

Multi-function

- **LS200-MF8**  
IP30 LoRaWAN Temperature/Humidity/PIR/Tilt/Vibration/Reed Switch/Light/Glass Break Sensor

## Applications

### LoRa Communication Solution

PLANET LoRaWAN LS100/LS200 Sensor series, fully compatible with standard LoRaWAN gateways like PLANET LCG-300 series, supports the LoRaWAN class A or class C. Beyond compatibility, it offers advanced features enhancing IoT applications. With reliable data transmission and low power consumption, it meets diverse IoT demands. In building automation, the sensor enables real-time monitoring and control, optimizing HVAC systems for energy efficiency. In agriculture, it aids precision farming by monitoring soil conditions and livestock well-being. For smart metering, it excels in accurate data acquisition, facilitating energy consumption monitoring and resource management. Its retrofitting capabilities seamlessly integrate various sensors, transforming the existing infrastructure into smart, connected systems. In summary, PLANET LoRaWAN Sensor enriches IoT applications with advanced features, ensuring compatibility and empowering industries for increased efficiency and sustainability in a concise manner.



## Specifications

### ■ LS100 series (WL/PIR/DW)

Product	LS100-WL	LS100-PIR	LS100-DW
<b>Wireless Transmission</b>			
Technology	LoRaWAN		
Frequency	EU868: 863–870 MHz US915: 902–928 MHz		
TX Power	US915 20dbm AS923 16dbm (optional) AU915 20dbm (optional)	EU868 16dbm KR920 14dbm (optional) IN865 20dbm (optional)	
Rx Sensitivity	-136dBm (LoRa, Spreading Factor = 12, Bitrate = 293bps) -121dBm (FSK, Frequency Deviation = 5kHz, Bitrate = 1.2kbps)		
Work Mode	OTAA/ABP Class A		
<b>Data Interfaces</b>			
Power Supply	2x 3.6V ER14505 AA battery in parallel (Battery not included)		2x 3.0V CR2450 button battery (Battery not included)
Operating Voltage	DC 3.1V~3.65V	DC 3.1V~3.65V	DC 2.4V~3V
Battery Life Time	5 years (25C, 15-minute reports, TxPower=20dBm, SF10)		3 years (25C, 15-minute reports, TxPower=20dBm, SF10)
Standby Current	22uA	110uA	12uA
Wake-up Current (Typical value)	7.12mA	9.78mA	120mA/11mA
Low Battery Threshold	3.2V	3.2V	2.4V
<b>Physical Characteristics</b>			
Dimensions (L x W x H)	112 x 88.2 x 32 mm	78 x 78.8 x 82.2 mm	57 x 38.05 x 15.2 mm 42.5 x 13 x 12 mm (Magnet)
Weight	141 g	125.8g	43.8g
Sensor Dimensions (L x W x H)	38.5 x 11.89 x 13.7mm	-	-
Sensor Measurement Info	<b>Water Leak Detection</b>	<b>Occupancy Sensor</b> - Sensing Angle: 110° horizontally / 60° vertically - Sensing Distance: 2m to 12m - Object Moving Speed to Send Alarm: ≥ 0.2 m/s  <b>Temperature Sensor</b> - Measurement Range: -20°C to 55°C - Measurement Accuracy: ±2°C  <b>Light Sensor</b> - Illuminance Range: 1 LUX to 65535 LUX	<b>Contact Detection</b>
Ingress Protection	IP65	IP30	IP30
Operating Temperature	-20°C to 55°C		
Relative Humidity	<90% RH (non condensing)		
Storage Temperature	-40 °C ~ 85 °C		
<b>Standards Conformance</b>			
Regulatory Compliance	CE RED, FCC PART 15B		

### ■ LS100 series (CO/SMK)

Product	LS100-CO	LS100-SMK
<b>Wireless Transmission</b>		
Technology	LoRaWAN	
Frequency	EU868: 863–870 MHz US915: 902–928 MHz	
TX Power	US915 20dbm AS923 16dbm (optional) AU915 20dbm (optional)	EU868 16dbm KR920 14dbm (optional) IN865 20dbm (optional)
Rx Sensitivity	-136dBm (LoRa, Spreading Factor = 12, Bitrate = 293bps) -121dBm (FSK, Frequency Deviation = 5kHz, Bitrate = 1.2kbps)	
Work Mode	OTAA/ABP Class A	

Data Interfaces		
Power Supply	2 x 1.5V AAA alkaline batteries (Battery not included)	
Operating Voltage	DC 2.3V – 3.3V	
Battery Life Time	4.7 years (25°C, 60-minutes reports, TX power = 20dBm, SF10)	
Standby Current	18uA	12uA
Wake-up Current (Typical value)	-	580mA
Low Battery Threshold	2.4V	2.4V
Physical Characteristics		
Dimensions(L x W x H)	Ø106 x 36 mm	Ø106 x 40.6 mm
Weight	112 g	120 g
Sensor Measurement Info	<b>CO Detection</b> - Detection Concentration Range: 0 ~ 1000ppm	<b>Smoke Detection</b>
	<b>High Temperature Alarm (&gt;60°C)</b>	<b>High Temperature Alarm (&gt;60°C)</b>
	<b>Alarming</b> - 85dBm @ 3 meter	<b>Alarming</b> - 85dBm @ 3 meter
Ingress Protection	IP20	IP20
Operating Temperature	-20°C to 55°C	
Relative Humidity	<90% RH (non condensing)	
Storage Temperature	-40 °C ~ 85 °C	
Standards Conformance		
Regulatory Compliance	CE RED, FCC PART 15B	

■ LS200 series (TH/PT/TC)

Product	LS200-TH	LS200-PT	LS200-TC
Wireless Transmission			
Technology	LoRaWAN		
Frequency	EU868: 863–870 MHz US915: 902–928 MHz		
TX Power	US915 20dbm AS923 16dbm (optional) AU915 20dbm (optional)	EU868 16dbm KR920 14dbm (optional) IN865 20dbm (optional)	
Rx Sensitivity	-136dBm (LoRa, Spreading Factor = 12, Bitrate = 293bps) -121dBm (FSK, Frequency Deviation = 5kHz, Bitrate = 1.2kbps)		
Work Mode	OTAA/ABP Class A		
Data Interfaces			
Power Supply	2x 3.6V ER14505 AA battery in parallel (Battery not included)		
Operating Voltage	DC 3.1V~3.65V	DC 3.1V~3.65V	DC 3.1V~3.65V
Battery Life Time	5 years (25C, 15-minute reports, TxPower=20dBm, SF10)		4.8 Years (25C, 15-minute reports, TxPower=20dBm, SF10)
Standby Current	24uA	25uA	34uA
Wake-up Current (Typical value)	6.99mA	9.94mA	7.33mA
Low Battery Threshold	3.2V	3.2V	3.2V
Physical Characteristics			
Dimensions (L x W x H)	112 x 65 x 28 mm	112 x 88.19 x 32 mm	112 x 88.19 x 32 mm
Weight	141 g	141 g	186g
Sensor Dimensions	D: Ø16mm*L: 27mm,	-	-
Probe Info	-	PT1000 Platinum Thermal	Thermocouple Characteristic
Probe Temperature Detecting Range	-	-70°C to 200°C	-40°C to 125°C
Probe Wire Length	-	2m	1m
Probe Dimensions	-	5mm in diameter * 150mm in length, needle probe	-

Sensor Measurement Info	<b>Temperature Sensor</b> - Measurement Range: -20°C to 55°C - Measurement Accuracy: ±1°C  <b>Humidity Sensor</b> - Measurement Range: 0% to 100% RH - Measurement Accuracy: ±4%RH	<b>Temperature Sensor</b> - Measurement Range: -70° to 200°C	<b>Temperature Sensor</b> - Measurement Range: -40° to 125°C
Ingress Protection	IP65	IP65	IP65
Operating Temperature	-20°C to 55°C		
Relative Humidity	<90% RH (non condensing)		
Storage Temperature	-40 °C ~ 85 °C		
<b>Standards Conformance</b>			
Regulatory Compliance	CE RED, FCC PART 15B		

■ LS200 series (RF/LG/CM3)

Product	LS200-RF	LS200-LG	LS200-CM3
<b>Wireless Transmission</b>			
Technology	LoRaWAN		
Frequency	EU868: 863–870 MHz US915: 902–928 MHz		
TX Power	US915 20dbm AS923 16dbm (optional) AU915 20dbm (optional)	EU868 16dbm KR920 14dbm (optional) IN865 20dbm (optional)	
Rx Sensitivity	-136dBm (LoRa, Spreading Factor = 12, Bitrate = 293bps) -121dBm (FSK, Frequency Deviation = 5kHz, Bitrate = 1.2kbps)		
Work Mode	OTAA/ABP Class A		
<b>Data Interfaces</b>			
Power Supply	2x 3.6V ER14505 AA battery in parallel (Battery not included)		
Operating Voltage	DC 3.1V~3.65V	DC 3.1V~3.65V	DC 3.1V~3.65V
Battery Life Time	5 years (25C, 15-minute reports, TxPower=20dBm, SF10)		
Standby Current	20uA	17uA	25uA
Wake-up Current (Typical value)	7.11mA	7.5mA	127mA
Low Battery Threshold	3.2V	3.2V	3.2V
<b>Physical Characteristics</b>			
Dimensions(L x W x H)	112 x 65 x 32 mm	112 x 65 x 32 mm	112 x 88.19 x 32 mm
Weight	141 g	150g	141g
Sensor Dimensions(L x W x H)	-	-	27.5 x 25 x 42.5 mm
Sensor Weight	-	-	49.6 x 3g
Sensor Measurement Info	<b>Temperature Sensor</b> - Measurement Range: -40°C to 55°C - Measurement Accuracy: ±0.5°C  <b>Humidity Sensor</b> - Measurement Range: 0% to 100% RH - Measurement Accuracy: ±3%RH	<b>Light Sensor</b> - Illuminance Range: 0.01 LUX to 157K LUX	<b>Current</b> - Measurement Range: 100mA to 75A - Measurement Accuracy: <±1% (within 300mA to 75A) - Current Resolution: 1mA
Ingress Protection	IP65	IP65	IP53
Operating Temperature	-40°C~55°C	-20°C to 55°C	
Relative Humidity	<90% RH (non condensing)		
Storage Temperature	-40 °C ~ 85 °C		
<b>Standards Conformance</b>			
Regulatory Compliance	CE RED, FCC PART 15B		

■ LS200 series (CM/VOC/PM25)

Product	LS200-CM	LS200-VOC	LS200-PM25
<b>Wireless Transmission</b>			
Technology	LoRaWAN		
Frequency	EU868: 863–870 MHz US915: 902–928 MHz		
TX Power	US915 20dbm AS923 16dbm (optional) AU915 20dbm (optional)	EU868 16dbm KR920 14dbm (optional) IN865 20dbm (optional)	
Rx Sensitivity	-136dBm (LoRa, Spreading Factor = 12, Bitrate = 293bps) -121dBm (FSK, Frequency Deviation = 5kHz, Bitrate = 1.2kbps)		
Work Mode	OTAA/ABP Class A		
<b>Data Interfaces</b>			
Power Supply	2x 3.6V ER14505 AA battery in parallel (Battery not included)		8x 3.6V ER14505 AA battery in parallel (Battery not included)
Operating Voltage	DC 3.1V~3.65V	DC 3.1V~3.65V	DC 6.8V~7.3V
Battery Life Time	5 years (25°C, 15-minute reports, TxPower=20dBm, SF10)	2.7 years (25°C, 15-minute reports, TxPower=20dBm, SF10)	1.19 years (25°C, 60-minute reports, TxPower = 20dBm, SF10)
Standby Current	25uA	28uA	250uA
Wake-up Current (Typical value)	7mA	0.8mA-20mA	6.3mA
Low Battery Threshold	3.2V	3.2V	6.8V
<b>Physical Characteristics</b>			
Dimensions (L x W x H)	112 x 88.19 x 32 mm	88 x 65 x 19 mm	117 x 114 x 82.6 mm
Weight	141g	113g	285g
Sensor Dimensions (L x W x H)	33 x 28.5 x 43.5mm	-	-
Sensor Weight	70.1g	-	-
Sensor Measurement Info	<b>Current</b> - Measurement Range: 1A to 150A - Measurement Accuracy: <math>\pm 1\%</math> - Current Resolution: 1mA	<b>TVOC Sensor</b> - Measurement Range: 0 ppb – 60000 ppb  <b>Temperature Sensor</b> - Measurement Range: -20°C to 55°C  <b>Humidity Sensor</b> - Measurement Range: 0% to 100% RH	<b>PM2.5 Particle Concentration Sensor</b> - Particle Mass Concentration Effective Range: 0~500µg/m3 - Particle Mass Concentration Resolution: 1µg/m3  <b>Temperature Sensor</b> - Measurement Range: -20°C to 55°C - Measurement Accuracy: $\pm 1^\circ\text{C}$  <b>Humidity Sensor</b> - Measurement Range: 0% to 100% RH - Measurement Accuracy: $\pm 4\% \text{RH}$
Ingress Protection	IP53	IP65	IP30
Operating Temperature	-20°C to 55°C	-20°C to 55°C	-20°C to 55°C
Relative Humidity	<90% RH (non condensing)		
Storage Temperature	-40 °C ~ 85 °C		
<b>Standards Conformance</b>			
Regulatory Compliance	CE RED, FCC PART 15B		

■ LS200-MF8

Product	LS200-MF8
<b>Wireless Transmission</b>	
Technology	LoRaWAN
Frequency	EU868: 863–870 MHz US915: 902–928 MHz
TX Power	US915 20dbm AS923 16dbm (optional) AU915 20dbm (optional)
	EU868 16dbm KR920 14dbm (optional) IN865 20dbm (optional)

Rx Sensitivity	-136dBm (LoRa, Spreading Factor = 12, Bitrate = 293bps) -121dBm (FSK, Frequency Deviation = 5kHz, Bitrate = 1.2kbps)
Work Mode	OTAA/ABP Class A
<b>Data Interfaces</b>	
Power Supply	2x 3.0V CR2450 button battery (Battery not included)
Operating Voltage	DC 2.3 ~ 3V
Battery Life Time	2.26 years (25°C, 60-minute reports, TX power = 20dBm, SF10)
Low Battery Threshold	2.4V
<b>Physical Characteristics</b>	
Dimensions(L x W x H)	75.5 x 19.4 x 44 mm
Weight	120g
Sensor Dimensions(L x W x H)	Reed Switch: 46 x 16 x 12.9mm Glass Break Sensor: 36 x 36 x 7.9mm
Sensor Weight	-
Sensor Measurement Info	<b>Temperature Sensor</b> - Measurement Range: -20°C to 55°C - Measurement Accuracy: ±1°C
	<b>Humidity Sensor</b> - Measurement Range: 0% RH to 100% RH - Measurement Accuracy: ±7%RH
	<b>Passive Infrared Sensor</b> - Detectable Angle: 80° horizontally / 55° vertically - Detectable Range: 3m to 5m
	<b>Light Sensor</b> - Illumination Measurement Range: 1 Lux to 3000 Lux - Illumination Measurement Accuracy: <15%
	<b>Tilt Sensor</b> - Conversion Angle: 45±5 degrees - Contact Resistance: Less than 10 ohms - The Insulation Resistance: Greater than 100 mega ohms - Operating Temperature: -40°C to 85 °C - Installation Type: Suitable for PCB at vertical state
	<b>Vibration Sensor</b> - Model: Ball type omnidirectional signal trigger switch - Voltage: <6V - Current: 2uA to 10mA - Insulation Resistance: >10M Ω - Trigger Rate: 100% (amplitude > 1 mm, frequency > 20 Hz) - Trigger Frequency: >50Hz
	<b>Reed Switch Sensor</b> - Minimum Insulation Resistance 10 <sup>10</sup> Ω - Maximum Contact Resistance 100m Ω - Maximum Switching Current 0.5A
	<b>Glass Break Sensor</b> - Detection Mode: Piezoelectric buzzer - Power Supply: Self-generated voltage chip - Impedance: Normal (NC): 7Ω (max) Alarm (NO): 1MΩ (min) - Sensor Sensing Range: within 2.5M radius - Signal Sensing Time: 1-3 seconds - Loop Voltage: 15VDC (max) - Loop Current: 25mA (max) - Applicable Glass Type: In theory, as long as any glass is impacted by high frequency, its vibration frequency and amplitude can be detected to a certain extent. - Operating Temperature: -10 to 50 °C - Wire Length: 100cm - Installation: The glass at the installation position must be wiped clean first, and then the double-sided adhesive tape on the back of the detector must be torn and fixed on the glass. The detector should be installed about 10 cm from the corner of the glass frame.

Ingress Protection	IP30 reed switch - IP67 glass break - IP40
Operating Temperature	-10°C to 50°C
Relative Humidity	<90% RH (non condensing)
Storage Temperature	-40 °C ~ 85 °C
<b>Standards Conformance</b>	
Regulatory Compliance	CE RED, FCC PART 15B

■ LS250-PLUG

Product	LS250-PLUG	
<b>Wireless Transmission</b>		
Technology	LoRaWAN	
Frequency	EU868: 863–870 MHz US915: 902–928 MHz	
TX Power	US915 20dbm AS923 16dbm (optional) AU915 20dbm (optional)	EU868 16dbm KR920 14dbm (optional) IN865 20dbm (optional)
Rx Sensitivity	-136dBm (LoRa, Spreading Factor = 12, Bitrate = 293bps) -121dBm (FSK, Frequency Deviation = 5kHz, Bitrate = 1.2kbps)	
Work Mode	OTAA/ABP Class C	
<b>Data Interfaces</b>		
Power Supply	100 to 240VAC, 50/60Hz	
<b>Physical Characteristics</b>		
Dimensions(L x W x H)	95 x 58 x 42.5 mm	
Weight	135g	
Sensor Measurement Info	<b>Current</b> - Measurement Range: 100mA to 16A	
	<b>Resistive load:</b> 16A/250VAC; P:4000VA <b>Inductive load (max.):</b> 8A/220VAC; P:1760VA (COSφ=0.4)	
	<b>Rated Load:</b> - EU type: 16A/250VAC - UK type: 13A/250VAC - AU type: 10A/250VAC - US type: 15A/125VAC	
	<b>Electric motor (max.):</b> 1.5HP/240VAC	
Ingress Protection	IP20	
Operating Temperature	-20°C to 55°C	
Relative Humidity	<90% RH (non condensing)	
Storage Temperature	-40 °C ~ 85 °C	
<b>Standards Conformance</b>		
Regulatory Compliance	CE RED, FCC PART 15B	

## Ordering Information

LS100-WL	IP65 LoRaWAN Water Leak Sensor (EU868/US915 Sub 1G)
LS100-PIR	IP30 LoRaWAN Indoor Occupancy Sensor (Occupancy/Light/Temperature -20~55 degrees C, EU868/US915 Sub 1G)
LS100-DW	IP30 LoRaWAN Door and Window Sensor (EU868/US915 Sub 1G)
LS100-SMK	IP20 LoRaWAN Smoke Detector (High-Temperature Alarm, EU868/US915 Sub 1G)
LS100-CO	IP20 LoRaWAN CO Detector (High-Temperature Alarm, EU868/US915 Sub 1G)
LS200-PT	IP65 LoRaWAN Product Temperature Sensor (PT1000 Needle Probe -70~200 degrees C, EU868/US915 Sub 1G)
LS200-TH	IP65 LoRaWAN Indoor Temperature and Humidity Sensor (-20~55 degrees C, EU868/US915 Sub 1G)
LS200-TC	IP65 LoRaWAN Machine Temperature Sensor (Thermocouple -40~125 degrees C, EU868/US915 Sub 1G)
LS200-RF	IP65 LoRaWAN Refrigerator Temperature and Humidity Sensor (-40~55 degrees C, EU868/US915 Sub 1G)
LS200-LG	IP65 LoRaWAN Light Level Sensor (EU868/US915 Sub 1G)
LS200-CM3	IP53 LoRaWAN 3-phase Current Meter (3 x 75A Clamp-On CT, EU868/US915 Sub 1G)
LS200-CM	IP53 LoRaWAN 1-phase Current Meter (150A Clamp-On CT, EU868/US915 Sub 1G)
LS200-VOC	IP65 LoRaWAN TVOC Sensor (TVOC/Temperature/Humidity -20~55 degrees C, EU868/US915 Sub 1G)
LS200-PM25	IP30 LoRaWAN PM2.5 Sensor (PM2.5/Temperature/Humidity -20~55 degrees C, EU868/US915 Sub 1G)
LS200-MF8	LoRaWAN Temperature/Humidity/PIR/Tilt/Vibration/Reed Switch/Light/Glass Break Sensor (-20~55 degrees C, EU868/US915 Sub 1G)
LS250-PLUG	IP20 LoRaWAN Power Plug with Power Meter (EU868/US915 Sub 1G)

## Related Products

LCG-300	Industrial LoRaWAN Gateway with 5-Port 10/100/1000T
LCG-300W	Industrial LoRaWAN Wireless Gateway with 5-Port 10/100/1000T
LCG-300-NR	Industrial LoRaWAN + 5G NR Cellular Gateway with 5-Port 10/100/1000T
LCG-350W-NR	Industrial Outdoor LoRaWAN 5G NR Cellular Gateway
NMS-AIoT	Universal Network Management AIoT Application Server with LCD & 6 10/100/1000T LAN Ports