

LoRaWAN Gateway and Wireless Sensor Catalog

Version: V1.4





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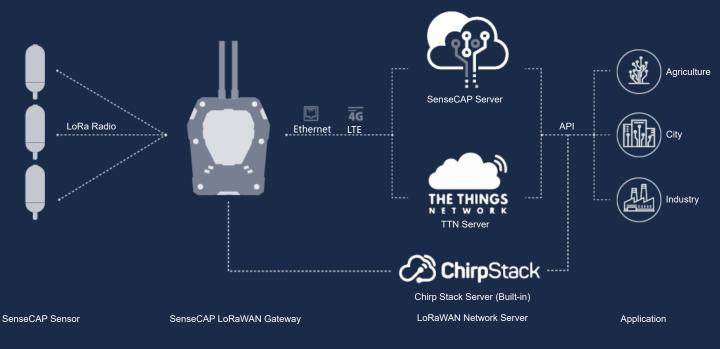
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System Architecture

SenseCAP Architecture



SenseCAP Sensor + Other LoRaWAN Gateway Architecture



SenseCAP Sensor

LoRaWAN Gateway

LoRaWAN Network Server

Application

About SenseCAP

SenseCAP is an industrial wireless sensor network that integrates easy-to-deploy hardware and data API services, enabling low-power, long-distance environmental data collection. SenseCAP includes several versions, such as LoRaWAN, SensorHub-2G, etc.

SenseCAP LoRaWAN version products include LoRaWAN Gateways and Sensor Nodes. Based on LoRaWAN protocol, it can realize one-to-many, long-distance networking, and bilateral communication. The LoRaWAN gateway supports Ethernet and 4G. The sensor node is powered by a high-capacity battery that lasts up to 3 years (uploading data once per hour). It also supports hot-swap, making it easy for maintenance and upgrading.

SenseCAP provides an easy-to-use portal. Users can scan the QR code with the App to bind the device with its respective account, manage the devices, and check sensor data on the portal. SenseCAP Portal provides API for users to develop based on the data on the portal further.

Features of SenseCAP LoRaWAN Gateway

- Support LoRaWAN protocol Class A
- Cortex A8 processor, Linux system, stable and reliable
- Ultra-wide-distance transmission: 10km in line of sight scene, 2 km in the urban scene
- Support multiple ISM bands: CN470, EU868, US915
- Support remote modification of Node collection frequency
- 4G and Ethernet connectivity, suitable for multiple scenes.
- Provides a variety of cloud services and data API interfaces
- Industrial grade protection: IP66 enclosure, suitable for outdoor applications
- Operating temperature -40 °C to +70 °C



Features of SenseCAP LoRaWAN Sensors

- Support LoRaWAN protocol Class A
- High reliability and stability
- Ultra-wide-distance transmission: 10km in line of sight scene, 2 km in the urban scene
- Battery life ≥ 3 years
- Support remote modification of Node collection frequency
- Support the local modification of EUI, AppKey, AppEui
- Rapid installation and deployment
- IP66 enclosure, suitable for outdoor applications



Application

- Smart Agriculture
- Smart Cities
- Smart Buildings
- Smart Industry
- Environmental Monitoring
- Other Wireless Sensing Applications



SenseCAP LoRaWAN Gateway can access SenseCAP Server, The Thing Network Server and The ChirpStack open-source LoRaWAN Network Server. However, it can only be used with SenseCAP Sensor.

SenseCAP Sensor can be used not only with the SenseCAP LoRaWAN Gateway but also with other standard LoRaWAN gateways. The Sensor is designed with a fixed LoRa channel, which can not be modified by users. The supported channels are as follows. Please refer to the user manual for how to connect this device with a LoRaWAN gateway.

CN470	
Uplink	Channels:[80,81,82,83,84,85,86,87] Frequency(MHz): 486.3, 486.5, 486.7, 486.9, 487.1, 487.3, 487.5, 487.7 (SF7BW125 to SF12BW125)
Downlink	Frequency(MHz): 506.7, 506.9, 507.1, 507.3, 507.5, 507.7, 507.9, 508.1 (SF7BW125 to SF12BW125) 505.3 -SF12BW125 (RX2 downlink only)

EU868	
Uplink	Channels: [0,1,2,3,4,5,6,7] Frequency(MHz): 868.1, 868.3, 868.5, 867.1, 867.3, 867.5, 867.7, 867.9 (SF7BW125 to SF12BW125)
Downlink	Multiplexing the frequency points of the 8 uplink channels. 869.525MHz -SF9BW125 (RX2 downlink only)

US915	
Uplink	Channels:[8,9,10,11,12,13,14,15] Frequency(MHz): 903.9, 904.1, 904.3, 904.5, 904.7, 904.9, 905.1, 905.3 (SF7BW125 to SF10BW125)
Downlink	Frequency(MHz): 923.3, 923.9, 924.5, 925.1, 925.7, 926.3, 926.9, 927.5 (SF7BW500 to SF12BW500)



SenseCAP Gateway - LoRaWAN





Introduction

SenseCAP LoRaWAN Gateway(*) is based on LoRaWAN[®](**) protocol, applicable for low-power, long-distance environmental data collection and monitoring in scenarios such as smart agriculture and smart city, etc. As the central device of the LoRa network, the gateway is used for collecting data from different Sensor Nodes and transmit the data to the SenseCAP Portal via 4G or Ethernet cable. Equipped with a high-performance processor and telecom-operator-level LoRa chip, this gateway ensures stable and high performance in a large-scale network. The gateway is designed with an IP66-protection-level enclosure, making it suitable for industrial applications in severe outdoor environments.

General Parameters	
UMTS Features	Support 3GPP R8 DC-HSDPA, HSPA+, HSDPA, HSUPA and WCDMA DC-HSDPA: Max 42Mbps (DL) HSUPA: Max 5.76Mbps (UL) WCDMA: Max 384Kbps (DL), Max 384Kbps (UL)
LoRa Antenna	CN470: 0.5dBi gain / Vertical polarization / Omni-directional / SMA-J connector EU868: 2.5dBi gain / Vertical polarization / Omni-directional / SMA-J connector US915: 2.5dBi gain / Vertical polarization / Omni-directional / SMA-J connector
4G Antenna	0-4 dBi gain / Linear polarization / Omni- directional / SMA-J connector
LED Indicator	Indicating network condition (online/ offline)
Grounding	Reserved 1 screw hole for GND
Power Consumption	3.6W
Power Supply	DC 12V/2A
IP Rating	IP66
UV Resistance	anti-aging (from rain/sun exposure): UL746C F1
Enclosure Material	PC
Operating Temperature	-40 °C to +70 °C
Operating Humidity	0 to 100 %RH (non-condensing)
Installation Method	Wall or pole mounting
Device Weight	777g

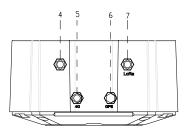
Specifications

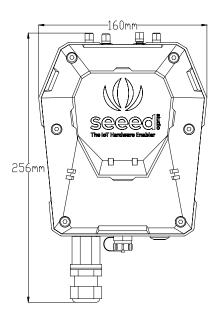
Product Model				
Model		Region		
LoRa-G-470-E/4G		Asia (China)		
LoRa-G-868-E/	4G	Europ	ean, Africa, Asia	ı (India etc.)
LoRa-G-915-E/4G		North America, South America, Oceania, Asia (Japan, Korea, Thailand, etc.)		
LoRa Paramete	ers			
Protocol	Based or	ו LoRa	aWAN v1.0.2 pro	otocol
Channel Plan	470~510	MHz	863~870MHz	902~928MHz
Power Output	24dBm		25dBm	25dBm
Sensitivity	-140dBm (SF12BW125)		-139dBm (SF12BW125)	-139dBm (SF12BW125)
General Param	eters			
CPU T		I AM3	358 Cortex-A8 1	GHz
System	L	inux D	ebian	
RAM	D	DR3 5	512MB	
Memory	8	GB eN	MMC	
Ethernet	1	00Mbp	os FE (RJ-45)	
4G Band L V		LTE-FDD: B1/B2/B3/B4/B5/B7/B8/ B12/B13/B18/B19/B20/B25/B26/B28 LTE-TDD: B38/B39/B40/B41 WCDMA: B1/B2/B4/B5/B6/B8/B19 GSM: 850/900/1800/1900MHz		
4G Features	L' M	TE-FD 1ax 15 TE-TD	0Mbps (DL), Ma	x 50Mbps (UL)

SenseCAP Gateway - LoRaWAN

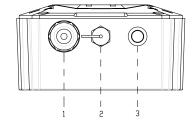
Device Dimensions

Certification









1. Ethernet Port

- 2. Power Connector
- 3. LED 4. Reserved
- 5. 4G Antenna Connector

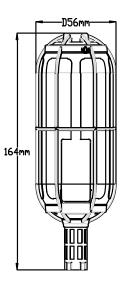
6. Reserved7. LoRa Antenna Connector

** The LoRaWAN[®] name and the associated logo are licensed by the LoRa Alliance.
* SenseCAP LoRaWAN Gateway can access SenseCAP Server, The Thing Network Server and The ChirpStack open-source LoRaWAN Network Server. However, it can only be used with SenseCAP Sensor.



SenseCAP Wireless Air Temperature and Humidity Sensor - LoRaWAN



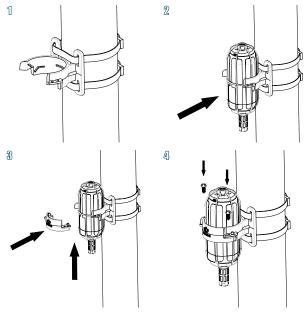


Specifications

Air Temperature	
Range	-40 ℃ to +85 ℃
Accuracy	±0.2 ℃
Resolution	0.1 ℃
Drift	< 0.03 °C /year
Air Humidity	
Range	0 to 100 %RH (non-condensing)
Accuracy	±1.5 %RH
Resolution	1 %RH
Drift	< 0.25 %RH/year
General Parameters	
Product Model	LoRa-S-470/868/915-TH-01
Microcontroller	Ultra-low-power MCU
Support Protocol	Based on LoRaWAN v1.0.2 protocol
LoRa Channel Plan	CN470 / EU868 / US915
LoRa Power Output	16 dBm (EIRP)
Sensitivity	470MHz: -140dBm(SF12, BW125KHz) 868MHz: -137.5dBm(SF12, BW125KHz) 915MHz: -136.5dBm(SF12, BW125KHz)
Current Consumption	5 μA (sleep mode) 120 mA max(active mode)
Communication Distance	2 to 10 km (depending on different antennas and environments)
Battery Life	≥ 3 year (upload data once per hour)
Battery Voltage	3.6V
Battery Capacity	19Ah (Non-rechargeable)
IP Rating	IP66 (Sensor Node) IP65 (Sensor Probe)
UV Resistance	anti-aging (from rain/sun exposure): UL746C F1
Enclosure Material	PC
Operating Temperature	-40 ℃ to +85 ℃
Operating Humidity	0 to 100 %RH (non-condensing)
Device Weight	236g
-	

Installation

Please refer to the user manual for more details.

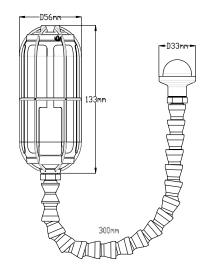






SenseCAP Wireless Light Intensity Sensor - LoRaWAN





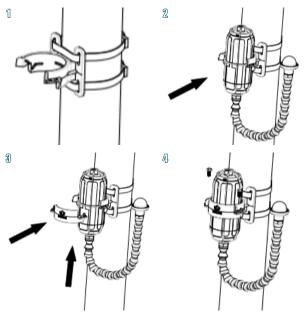
Specifications

_				

Light Intensity	
Range	0 to 188000 Lux
Sensitivity	0.045 Lux/LSB
Resolution	0.045 Lux
General Parameters	
Product Model	LoRa-S-470/868/915-Light Intensity-01
Microcontroller	Ultra-low-power MCU
Support Protocol	Based on LoRaWAN v1.0.2 protocol
LoRa Channel Plan	CN470 / EU868 / US915
LoRa Power Output	16 dBm (EIRP)
Sensitivity	470MHz: -140dBm(SF12, BW125KHz) 868MHz: -137.5dBm(SF12, BW125KHz) 915MHz: -136.5dBm(SF12, BW125KHz)
Current Consumption	5 μA (sleep mode) 120 mA max(active mode)
Communication Distance	2 to 10 km (depending on different antennas and environments)
Battery Life	≥ 3 year (upload data once per hour)
Battery Voltage	3.6V
Battery Capacity	19Ah (Non-rechargeable)
IP Rating	IP66
UV Resistance	anti-aging (from rain/sun exposure): UL746C F1
Enclosure Material	PC
Operating Temperature	-40 °C to +85 °C
Operating Humidity	0 to 100 %RH (non-condensing)
Device Weight	288g

Installation

Please refer to the user manual for more details.

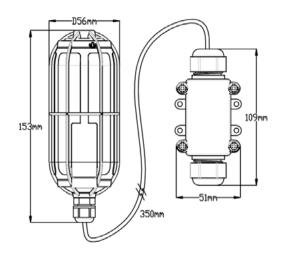






SenseCAP Wireless CO2 Sensor - LoRaWAN

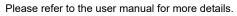


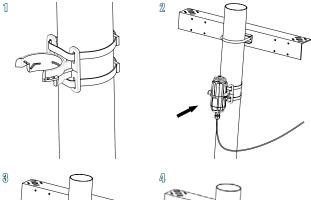


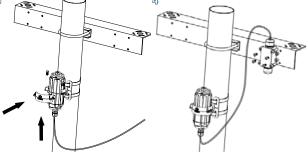
Specifications

CO2			
Parameters	Condition		Value
Range	-		0 to 40000 ppm
Accuracy	400 to	10000ppm	±(30 ppm + 3 %MV)
Resolution	-		1 ppm
Temperature Stability		o 50 °C 10000 ppm	±2.5 ppm / ℃
General Parame	ters		
Product Model		LoRa-S-470/8	68/915-CO2-01
Microcontroller		Ultra-low-powe	er MCU
Support Protocol		Based on LoR	aWAN v1.0.2 protocol
LoRa Channel P	lan	CN470 / EU86	68 / US915
LoRa Power Out	put	16 dBm (EIRP	?)
Sensitivity		868MHz: -137	dBm(SF12, BW125KHz) .5dBm(SF12, BW125KHz) .5dBm(SF12, BW125KHz)
Current Consum	ption	5 μA (sleep m 120 mA max(a	
Communication Distance			pending on different environments)
Battery Life		≥ 3 year (uploa	ad data once per hour)
Battery Voltage		3.6V	
Battery Capacity		19Ah (Non-red	chargeable)
IP Rating		IP66 (Sensor I Indoor (Senso	,
UV Resistance		anti-aging (fro UL746C F1	m rain/sun exposure):
Enclosure Mater	al	PC	
Operating Tempe	erature	0 ℃ to +50 ℃	
Operating Humidity		0 to 95 %RH	
Device Weight		319g	

Installation





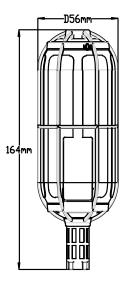






SenseCAP Wireless Barometric Pressure Sensor - LoRaWAN



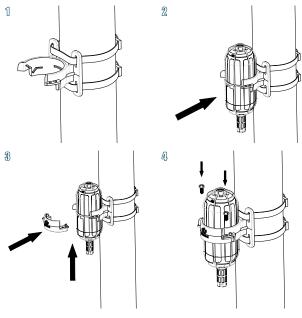


Specifications

Barometric Pressure		
Parameters	Condition	Value
Range	-	300~1100 hPa
Resolution	-	1 Pa
Relative Accuracy	700 to 900 hPa 25 to 40 ℃	±0.12 hPa
Absolute Accuracy	300 to 1100 hPa -20 to 0 ℃	±1.7 hPa
Absolute Accuracy	300 to 1100 hPa 0 to 65 ℃	±1.0 hPa
Temperature Coefficient Offset	900 hPa 25 to 40 °C	1.5 Pa/K
Drift	-	±1.0 hPa/year
General Parameters		
Product Model	LoRa-S-470/868/915	-Baro-01
Microcontroller	Ultra-low-power MCU	I
Support Protocol	Based on LoRaWAN	v1.0.2 protocol
LoRa Channel Plan	CN470 / EU868 / US	915
LoRa Power Output	16 dBm (EIRP)	
Sensitivity	470MHz: -140dBm(S 868MHz: -137.5dBm(915MHz: -136.5dBm(SF12, BW125KHz)
Current Consumption	5 μA (sleep mode) 120 mA max(active m	node)
Communication Distance	2 to 10 km (dependin antennas and enviror	
Battery Life	≥ 3 year (upload data	once per hour)
Battery Voltage	3.6V	
Battery Capacity	19Ah (Non-rechargea	able)
IP Rating	IP66 (Sensor Node) IP65 (Sensor Probe)	
UV Resistance	anti-aging (from rain/s UL746C F1	sun exposure):

Installation

Please refer to the user manual for more details.



General ParametersEnclosure MaterialPCOperating Temperature-40 to +85 °C (full accuracy: 0 to 65°C)Operating Humidity0 to 100 %RH (non-condensing)Device Weight237g

Certification

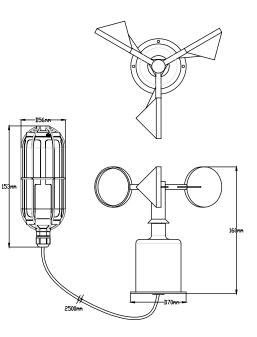


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SenseCAP Wireless Wind Speed Sensor - LoRaWAN



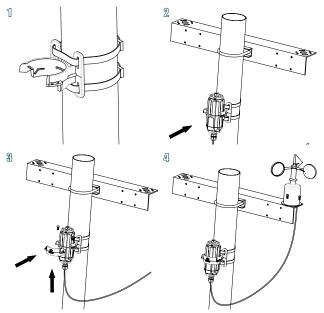


Specifications

Wind Speed	
Range	0 to 60 m/s
Accuracy	±0.3 m/s
Resolution	0.1 m/s
General Parameters	
Product Model	LoRa-S-470/868/915-Wind Speed-01
Microcontroller	Ultra-low-power MCU
Support Protocol	Based on LoRaWAN v1.0.2 protocol
LoRa Channel Plan	CN470 / EU868 / US915
LoRa Power Output	16 dBm (EIRP)
Sensitivity	470MHz: -140dBm(SF12, BW125KHz) 868MHz: -137.5dBm(SF12, BW125KHz) 915MHz: -136.5dBm(SF12, BW125KHz)
Current Consumption	5 μA (sleep mode) 120 mA max(active mode)
Communication Distance	2 to 10 km (depending on different antennas and environments)
Battery Life	≥ 3 year (upload data once per hour)
Battery Voltage	3.6V
Battery Capacity	19Ah (Non-rechargeable)
IP Rating	IP66 (Sensor Node) IP45 (Sensor Probe)
UV Resistance	anti-aging (from rain/sun exposure): UL746C F1
Enclosure Material	PC
Operating Temperature	-40 °C to +50 °C
Operating Humidity	0 to 100 %RH (non-condensing)
Device Weight	490g

Installation

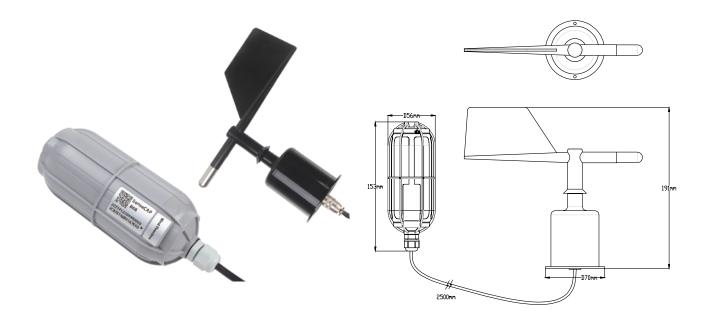
Please refer to the user manual for more details.







SenseCAP Wireless Wind Direction Sensor - LoRaWAN

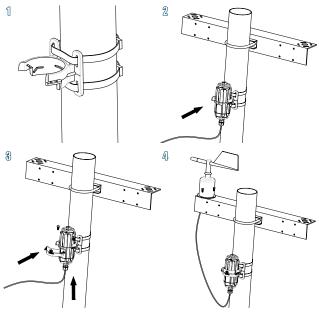


Specifications

Wind Direction	
Range	0° to 360° (clockwise)
Accuracy	±3°
Resolution	1°
General Parameters	
Product Model	LoRa-S-470/868/915-Wind Direction-01
Microcontroller	Ultra-low-power MCU
Support Protocol	Based on LoRaWAN v1.0.2 protocol
LoRa Channel Plan	CN470 / EU868 / US915
LoRa Power Output	16 dBm (EIRP)
Sensitivity	470MHz: -140dBm(SF12, BW125KHz) 868MHz: -137.5dBm(SF12, BW125KHz) 915MHz: -136.5dBm(SF12, BW125KHz)
Current Consumption	5 μA (sleep mode) 120 mA max(active mode)
Communication Distance	2 to 10 km (depending on different antennas and environments)
Battery Life	≥ 3 year (upload data once per hour)
Battery Voltage	3.6V
Battery Capacity	19Ah (Non-rechargeable)
IP Rating	IP66 (Sensor Node) IP45 (Sensor Probe)
UV Resistance	anti-aging (from rain/sun exposure): UL746C F1
Installation	Point the slot on the casing to the south
Enclosure Material	PC
Operating Temperature	-40 °C to +50 °C
Operating Humidity	0 to 100 %RH (non-condensing)
Device Weight	518g

Installation

Please refer to the user manual for more details.

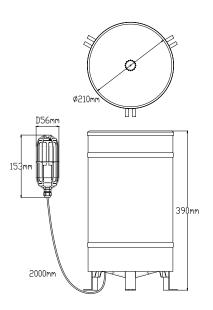






SenseCAP Wireless Rain Gauge - LoRaWAN

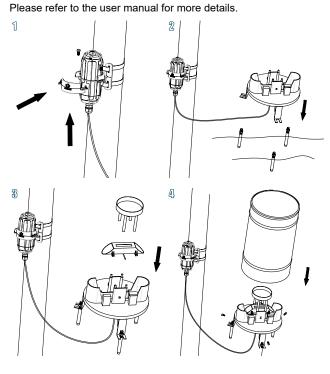




Specifications

Rainfall Volume	
Range	0~240 mm/hour
Accuracy	≤ ±2%
Resolution	0.5 mm/hour
General Parameters	
Product Model	LoRa-S-470/868/915-Rain-01
Microcontroller	Ultra-low-power MCU
Support Protocol	Based on LoRaWAN v1.0.2 protocol
LoRa Channel Plan	CN470 / EU868 / US915
LoRa Power Output	16 dBm (EIRP)
Sensitivity	470MHz: -140dBm(SF12, BW125KHz) 868MHz: -137.5dBm(SF12, BW125KHz) 915MHz: -136.5dBm(SF12, BW125KHz)
Current Consumption	5 μA (sleep mode) 120 mA max(active mode)
Communication Distance	2 to 10 km (depending on different antennas and environments)
Battery Life	≥ 3 year (upload data once per hour)
Battery Voltage	3.6V
Battery Capacity	19Ah (Non-rechargeable)
IP Rating	IP66
UV Resistance	anti-aging (from rain/sun exposure): UL746C F1
Enclosure Material	PC
Operating Temperature	0 ℃ to +50 ℃
Operating Humidity	0 to 95 %RH
Device Weight	2.3kg

Installation

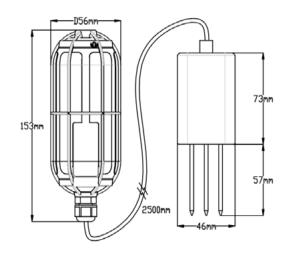






SenseCAP Wireless Soil Moisture and Temperature Sensor - LoRaWAN



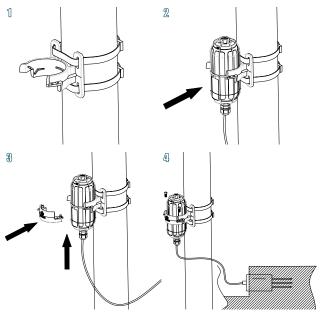


Specifications

Range-30 °C to +70 °CAccuracy ± 0.2 °CResolution0.01 °CSoil MoistureFrom completely dry to fully sat (from 0% to 100% of saturation)Accuracy $\pm 2\%$ (0 to 50 %(m³/m³))Resolution0.01 %(m³/m³)General ParametersProduct ModelProduct ModelLoRa-S-470/868/915-Soil MT-0MicrocontrollerUltra-low-power MCUSupport ProtocolBased on LoRaWAN v1.0.2 proLoRa Channel PlanCN470 / EU868 / US915LoRa Power Output16 dBm (EIRP)Sensitivity $868MHz: -137.5dBm(SF12, BW12)$ Sensitivity 5μ A (sleep mode)Current Consumption 5μ A (sleep mode)	
Resolution 0.01 °C Soil Moisture Range From completely dry to fully sat (from 0% to 100% of saturation) Accuracy ±2% (0 to 50 %(m³/m³)) Resolution 0.01 %(m³/m³) General Parameters Product Model LoRa-S-470/868/915-Soil MT-0 Microcontroller Ultra-low-power MCU Support Protocol Based on LoRaWAN v1.0.2 pro LoRa Channel Plan CN470 / EU868 / US915 LoRa Power Output 16 dBm (EIRP) Sensitivity 470MHz: -140dBm(SF12, BW1; 868MHz: -137.5dBm(SF12, BW1; 868MHz: -136.5dBm(SF12, BW1; 915MHz: -136.5dBm(SF12, BW1;	
Soil Moisture Range From completely dry to fully sat (from 0% to 100% of saturation) Accuracy ±2% (0 to 50 %(m³/m³)) Resolution 0.01 %(m³/m³) General Parameters Product Model LoRa-S-470/868/915-Soil MT-0 Microcontroller Ultra-low-power MCU Support Protocol Based on LoRaWAN v1.0.2 pro LoRa Channel Plan CN470 / EU868 / US915 LoRa Power Output 16 dBm (EIRP) Sensitivity 868MHz: -137.5dBm(SF12, BW1: Sensitivity 8142.540Bm(SF12, BW1: Support Protocol Based on LoRaWAN v1.0.2 pro	
RangeFrom completely dry to fully sat (from 0% to 100% of saturation)Accuracy±2% (0 to 50 %(m³/m³))Resolution0.01 %(m³/m³)General ParametersProduct ModelLoRa-S-470/868/915-Soil MT-0MicrocontrollerUltra-low-power MCUSupport ProtocolBased on LoRaWAN v1.0.2 proLoRa Channel PlanCN470 / EU868 / US915LoRa Power Output16 dBm (EIRP)Sensitivity470MHz: -140dBm(SF12, BW1) 868MHz: -137.5dBm(SF12, BW1) 915MHz: -136.5dBm(SF12, BW)	
(from 0% to 100% of saturation) Accuracy ±2% (0 to 50 %(m³/m³)) Resolution 0.01 %(m³/m³) General Parameters Product Model LoRa-S-470/868/915-Soil MT-0 Microcontroller Ultra-low-power MCU Support Protocol Based on LoRaWAN v1.0.2 pro LoRa Channel Plan CN470 / EU868 / US915 LoRa Power Output 16 dBm (EIRP) Sensitivity 470MHz: -140dBm(SF12, BW1: 868MHz: -137.5dBm(SF12, BW1: 915MHz: -136.5dBm(SF12, BW1: 915MHz: -136.5dBm(SF12, BW1)	
Resolution0.01 %(m³/m³)General ParametersProduct ModelLoRa-S-470/868/915-Soil MT-0MicrocontrollerUltra-low-power MCUSupport ProtocolBased on LoRaWAN v1.0.2 proLoRa Channel PlanCN470 / EU868 / US915LoRa Power Output16 dBm (EIRP)Sensitivity868MHz: -140dBm(SF12, BW1: 915MHz: -136.5dBm(SF12, BW)Support Protocol808MHz: -137.5dBm(SF12, BW1: 915MHz: -136.5dBm(SF12, BW1:	
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LoRa Channel PlanCN470 / EU868 / US915LoRa Power Output16 dBm (EIRP)Sensitivity470MHz: -140dBm(SF12, BW12)Sensitivity868MHz: -137.5dBm(SF12, BW12)915MHz: -136.5dBm(SF12, BW22)5 UA (sleep mode)	
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470MHz: -140dBm(SF12, BW1: Sensitivity 868MHz: -137.5dBm(SF12, BW 915MHz: -136.5dBm(SF12, BW 5 uA (sleep mode)	
Sensitivity 868MHz: -137.5dBm(SF12, BW 915MHz: -136.5dBm(SF12, BW	
Current Consumption 5 µA (sleep mode)	/125KHz)
120 mA max(active mode)	
Communication2 to 10 km (depending on differ antennas and environments)	ent
Measuring Area A cylinder area (with the probe center, diameter: 7cm, height: 7	
Battery Life ≥ 3 year (upload data once per	hour)
Battery Voltage 3.6V	
Battery Capacity 19Ah (Non-rechargeable)	
IP Rating IP66	
UV Resistance anti-aging (from rain/sun expose UL746C F1	ure):
Enclosure Material PC	
Operating Temperature −30 °C to +70 °C	
Operating Humidity 0 to 100 %RH (non-condensing	
Device Weight 415g	1)

Installation

Please refer to the user manual for more details.

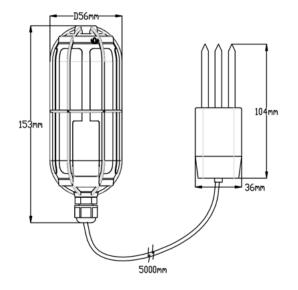






SenseCAP Wireless Soil Temperature, VWC & EC Sensor - LoRaWAN



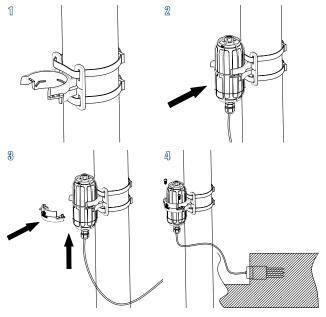


Specifications

Soil Temperature	
Range	-40 °C to +60 °C
Accuracy	±1 ℃
Resolution	0.1 ℃
Soil Volumetric Water	Content
Range	From completely dry to fully saturated (from 0% to 100% of saturation)
Accuracy	±3 %(m³/m³) typical
Resolution	0.08 %(m ³ /m ³)
Soil Electrical Conduc	tivity
Range	0 to 23 dS/m (bulk)
Accuracy	±10% (0~7dS/m), user calibration required from 7–23 dS/m
Resolution	0.01 dS/m (0~7dS/m) 0.05 dS/m (7~23dS/m)
General Parameters	
Product Model	LoRa-S-470/868/915-Soil Temp&VWC&EC-01
Microcontroller	Ultra-low-power MCU
Support Protocol	Based on LoRaWAN v1.0.2 protocol
LoRa Channel Plan	CN470 / EU868 / US915
LoRa Power Output	16 dBm (EIRP)
Sensitivity	470MHz: -140dBm(SF12, BW125KHz) 868MHz: -137.5dBm(SF12, BW125KHz) 915MHz: -136.5dBm(SF12, BW125KHz)
Current Consumption	5 μA (sleep mode) 120 mA max(active mode)
Communication Distance	2 to 10 km (depending on different antennas and environments)
Battery Life	≥ 3 year (upload data once per hour)
Battery Voltage	3.6V
Battery Capacity	19Ah (Non-rechargeable)
IP Rating	IP66

Installation

Please refer to the user manual for more details.



General Parameters	
UV Resistance	anti-aging (from rain/sun exposure): UL746C F1
Enclosure Material	PC
Operating Temperature	-40 °C to +60 °C
Operating Humidity	0 to 100 %RH (non-condensing)
Device Weight	385g

Certification

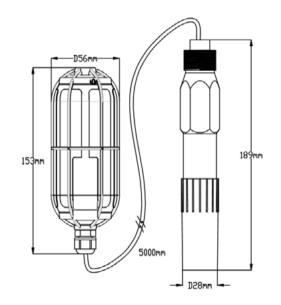


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SenseCAP Wireless pH Sensor



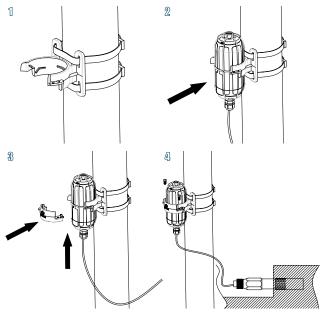


Specifications

рН	
Range	0~14 pH
Accuracy	±0.1 pH
Resolution	0.1 pH
General Parameters	
Product Model	LoRa-S-470/868/915-pH-01
Microcontroller	Ultra-low-power MCU
Support Protocol	Based on LoRaWAN v1.0.2 protocol
LoRa Channel Plan	CN470 / EU868 / US915
LoRa Power Output	16 dBm (EIRP)
Sensitivity	470MHz: -140dBm(SF12, BW125KHz) 868MHz: -137.5dBm(SF12, BW125KHz) 915MHz: -136.5dBm(SF12, BW125KHz)
Current Consumption	5 μA (sleep mode) 120 mA max(active mode)
Communication Distance	2 to 10 km (depending on different antennas and environments)
Battery Life	≥ 3 year (upload data once per hour)
Battery Voltage	3.6V
Battery Capacity	19Ah (Non-rechargeable)
IP Rating	IP66
UV Resistance	anti-aging (from rain/sun exposure): UL746C F1
Enclosure Material	PC
Operating Temperature	-20 ℃ to +50 ℃
Operating Humidity	0 to 100 %RH (non-condensing)
Device Weight	594g

Installation

Please refer to the user manual for more details.

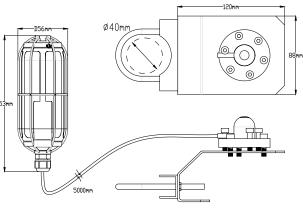






SenseCAP Wireless PAR Sensor - LoRaWAN



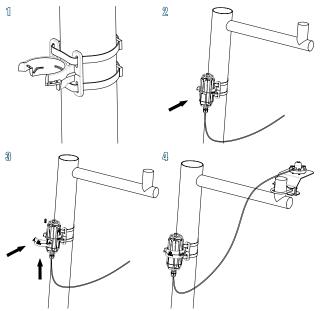


Specifications

Photosynthetically Act	ive Radiation
Range	0 to 2000 μ mol m ⁻² s ⁻¹ (410 to 655 nm)
Sensitivity	0.2 mV/µmol m ⁻² s ⁻¹
Resolution	1 µmol m ⁻² s ⁻¹
Non-stability (Long-term Drift)	< 2% / year
Measurement Repeatability	< 1 %
Field of View	180°
General Parameters	
Product Model	LoRa-S-470/868/915-PAR-01
Microcontroller	Ultra-low-power MCU
Support Protocol	Based on LoRaWAN v1.0.2 protocol
LoRa Channel Plan	CN470 / EU868 / US915
LoRa Power Output	16 dBm (EIRP)
Sensitivity	470MHz: -140dBm(SF12, BW125KHz) 868MHz: -137.5dBm(SF12, BW125KHz) 915MHz: -136.5dBm(SF12, BW125KHz)
Current Consumption	5 μA (sleep mode) 120 mA max(active mode)
Communication Distance	2 to 10 km (depending on different antennas and environments)
Battery Life	≥ 3 year (upload data once per hour)
Battery Voltage	3.6V
Battery Capacity	19Ah (Non-rechargeable)
IP Rating	IP66
UV Resistance	anti-aging (from rain/sun exposure): UL746C F1
Enclosure Material	PC
Operating Temperature	-40 °C to +70 °C
Operating Humidity	0 to 100 %RH (non-condensing)
Device Weight	326g

Installation

Please refer to the user manual for more details.





SenseCAP Application

SenseCAP App is used to bind devices to your account and check device information.





Download Application: For iOS, please search for "SenseCAP" in the App Store and download. For Android, please download SenseCAP Application from:

http://sensecap-app-download.seeed.cn





iOS

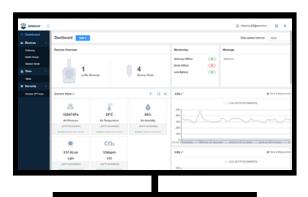
Android

SenseCAP Portal

SenseCAP Portal is a web-based platform which enables

- Device management
- Data management
- API Access Key management

Visit SenseCAP Portal: https://sensecap.seeed.cc For more info, please visit: https://solution.seeedstudio.com/product/sensecap



Dashboard

Including Device Overview, Data Upload Interval, Announcement, Scene Data, and Data Chart, etc.

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Data Management

Manage data, including Data Table and Graph section, providing methods to search for data.

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Device Management

Manage SenseCAP devices

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Access Key Management

Manage Access Key (to access API service), including: Key Create, Key Update, and Key Check.

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Application Programming Interface (API) Instructions

SenseCAP also provides API to support further development. Please visit this link for more info: https://sensecap-docs.seeed.cc

SenseCAP API Documentation			Q Search
SenseCAP API Introduction	SenseCAP API Introduction		
HTTP API			
HTTP API Quickstart			
HTTP API Access Guide	SenseCAP API is the interface to manage devices and data besides SenseCAP API consists of HTTP API and Data OpenStream API.	s the SenseCAP Web Portal.	
HTTP API Reference			
DATA OPENSTREAM API	With SenseCAP HTTP API, you can manage your LoRa and NB-IoT service, retrieve historical data in raw or segment format.	devices from your private cloud	
Data OpenStream API Quickstart	With Data OpenStream API, you can monitor the measurements fro	om sensors in realtime.	
Data OpenStream API Reference			
APPENDIX			
List of Sensor Types	Next - HTTP API		
List of measurement IDs	HTTP API Quickstart	\rightarrow	
Powered by GitBook	Last updated 11 months ago WAS THI	IS PAGE HELPFUL? 🙁 😑 🙂	
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SenseCAP Tools

SenseCAP provides a config tool to modify Sensor parameters like Device EUI, AppKey, data upload interval etc. For more details, please visit https://github.com/Seeed-Solution/SenseCAP-Node-Configuration-Tool/releases

SenseCAP Node Configuration Tool File Edit View Window		-	×
Serial Port COM5	DISCONNECT	SenseEAP	
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10 minutes	Battery 100 %	<pre>{ [u] Upgrade the firmware { [n] Return to console center * revice Type: LoFawaw # Device ED1: 2c77E1201070054 # App ED1: 000000000000006 # App Fey: 000ED84631F61009125EEEE00EF861C7 Baca interval: 10 minutes </pre>	
READ	V3.1	<pre># Battery: 100% # Eardware version: v1.0 # Software immare: v3.1 # Flease Enter your command with Enter</pre>	
	🍣 s	ENSECAP	v1.0.



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CONTACT Website: solution.seeedstudio.com Sales: iot@seeed.cc Support: sensecap@seeed.cc Phone: +86 755 3653 4305

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