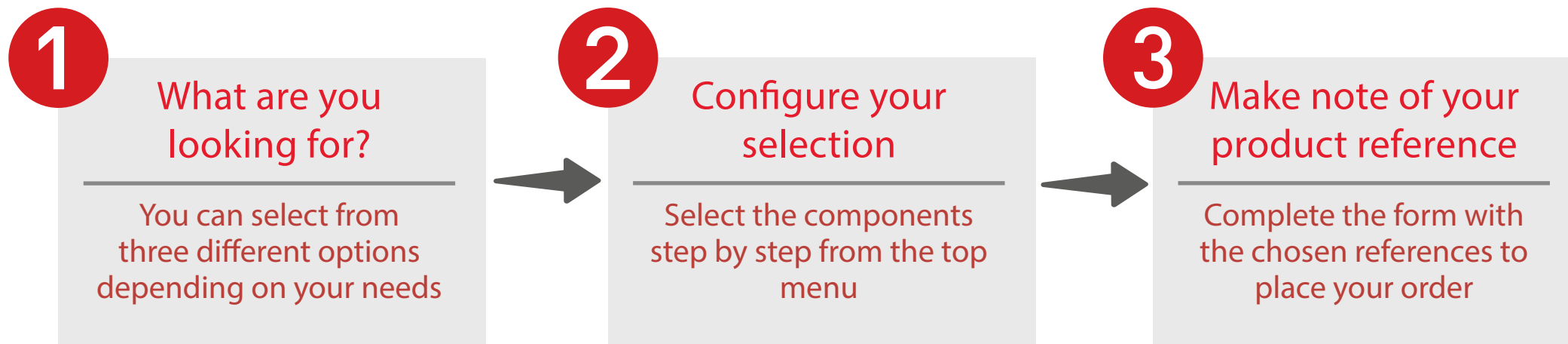



product catalogue 2020



FOLLOW THESE STEPS TO FIND YOUR LIBELIUM SOLUTION




Try our technology for IoT
Out-of-the-Box IoT Vertical Kits



Ready to install solution
Waspnote Plug & Sense!



Research and development
Waspnote OEM



1° Customize your device
Sensors + Connectivity + Power Options

+




2° Decide the way to access the data
Extracting the Data


+




3° Choose Support & Training options
Support Section



Make note
Product reference



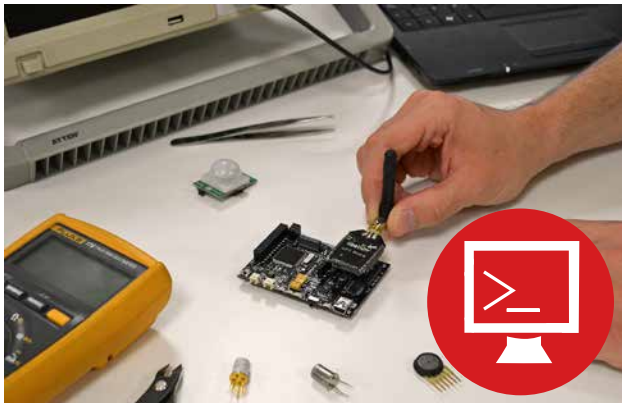


Complete the
Order Form



Send to your
Sales agent

WHAT ARE YOU LOOKING FOR?

You are	<h3>Testing IoT Market!</h3> 	<h3>Looking for a ready to install solution</h3> 	<h3>Doing research and development</h3> 
You need to	<ul style="list-style-type: none"> • Decide quickly the components to test • Use your time to check if technology meets your requirements, not programming • Maximize your budget: test the market with the minimum risk 	<ul style="list-style-type: none"> • Reduce your time to market. • Save in development costs • Focus on the solution 	<ul style="list-style-type: none"> • Get the maximum flexibility in programming • Use your extra time to save on support options
The best option	<h3>Out-of-the-Box IoT Vertical Kits</h3> <ul style="list-style-type: none"> • Out-of-the-Box working demos • Data visualization tool • Includes online Premium Technical Support bonus View Section	<h3>Wasp mote Plug & Sense!</h3> <ul style="list-style-type: none"> • Encapsulated and robust solution ready to install outdoors • Factory programmed and configured devices • Customized online support View Section	<h3>Wasp mote OEM</h3> <ul style="list-style-type: none"> • Select the components one by one to test at the laboratory • Free support through documentation • Join our Free Overview Webinars to get quick insights about our technology View Section

Ready-to-install kits available at The IoT Marketplace!



The IoT Marketplace
————— **Make it real** —————

Interested in complete IoT kits?

Check our out-of-the-box kits containing programmed sensor devices connected to the best Cloud applications for use in pilots or proof of concept projects in the minimum time to market.

Get fully integrated solutions from hardware sensors to cloud applications to speed up IoT adoption.

www.the-iot-marketplace.com

MySignals SW and HW Complete Kits



MySignals is a development platform for medical devices and eHealth applications. You can use MySignals to develop your eHealth web, Android or iOS applications or even to add your own sensors to build new medical devices.

MySignals Kits include many sensors which can be used to monitor biometric signals; now they can be plugged on-the-fly. All the data gathered by MySignals is encrypted and sent via secure HTTPS to the user's private account at Libelium Cloud through WiFi or Bluetooth. The data can be displayed on the node's TFT screen or on a tablet or smartphone with Android or iPhone apps. Developers may use their own Cloud too to store the information.

Libelium offers an API's for developers to access the information. The API Cloud allows to access to the user's private account and get the information previously stored, to be displayed on a third party platform (data can also be stored in a third party Cloud).

More info at:
<http://www.my-signals.com>

There are plans for regular users and for developers depending on what usage you want to give to MySignals.

**2 To avoid illicit use of the network, there is a daily max transmission rate*

**3 For specific plans contact our Business Dev Team (sales@libelium.com)*

User Cloud Plans

The user plans are meant to be used to test the performance of MySignals. These are the best plans if you want to try in a quick and easy way the MySignals Kit including all the sensors on different users as each one can have its own profile. All the data is sent to the Libelium Cloud, so users do not need to set up their own servers.

	Basic	PRO	Elite
Usage	Platform testing	Small Dev. Deployment	Professional Dev. Deployment
User profiles (members)	5	50	Unlimited
Departments	1	10	Unlimited
MySignals devices ¹	1	1	1
Database storage	0.1 GB (10 Million registers Approx)	2 GB (200 Million registers Approx)	6 GB ³ (600 Million registers Approx)
Traffic I/O ²	2 GB	5 GB	15 GB ³
Android / iOS Apps	✓	✓	✓
Point-to-point encryption	✓	✓	✓
Libelium Cloud access	✓	✓	✓
API Cloud (necessary to extract the information in third party servers)	X	X	X
Price	99 €/year	199 €/year	499 €/year

Important: You can always use MySignals at no cost in the standalone mode

**1 Note that each licence is per MySignals Device*

Developer Cloud Plans

The developers plans are the best option for users who want to store the data gathered by MySignals in their own servers. This type of plans allow to use the Cloud API to read the information from the Libelium Cloud and write it in their own Cloud platforms.

	Basic	PRO	Elite
Usage	Platform testing	Small Dev. Deployment	Professional Dev. Deployment
User Profiles (members)	5	50	Unlimited
Departments	1	10	Unlimited
MySignals Devices ¹	1	1	1
DB storage	0.1 GB (10 Million registers Approx)	2 GB (200 Million registers Approx)	6 GB ³ (600 Million registers Approx)
Traffic I/O ²	5 GB	15 GB	50 GB ³
Android / iOS Apps	✓	✓	✓
Encryption Point to Point	✓	✓	✓
Libelium Cloud Access	✓	✓	✓
API Cloud (Necessary to extract the information to a third party server)	✓	✓	✓
Price	199€/year	299€/year	599€/year

Important: You can always use MySignals at no cost in the standalone mode

^{*1} Note that each licence is per MySignals Device

^{*2} To avoid illicit use of the network, there is a daily max transmission rate

^{*3} For specific plans contact our Business Dev Team (sales@libelium.com)

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Wasmote Plug & Sense!: technology ready to install

Wasmote Plug & Sense! is the the best option to use in commercial deployments. It has been designed with a robust waterproof enclosure that simplifies installation and maintenance process. Moreover, you can order them factory-programmed saving you development costs and time. The result is a ready to install and easy to deploy sensor device that reduces time to market in any application. You can focus on your customer and forget about the sensing part. Besides, the platform is market-ready because it is certified for the main regions in the world.

Any scenario	<ul style="list-style-type: none"> • 120+ sensors available, up to 6 sensors per sensor device • Communication: 802.15.4, ZigBee, 868 MHz, 900 MHz, WiFi, 4G, Sigfox and LoRaWAN • Industrial protocols: RS-485, Modbus, CAN Bus • GPS receiver
For real projects	<ul style="list-style-type: none"> • Robust waterproof IP65 enclosure • Solar powered, external panel option
Fast installation	<ul style="list-style-type: none"> • Factory-programmed and configured • Special holders and brackets to install in street lights and building fronts • On / Off external button • External socket for SIM card
Easy maintenance	<ul style="list-style-type: none"> • Remote firmware upgrades of multiple nodes at once (OTAP) • Replace or add a sensor probe in seconds • External, contactless device-reset with magnet
Fully certified	<ul style="list-style-type: none"> • CE (Europe) • FCC (US) • IC (Canada)



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Configuring your Plug & Sense! device

You can customize any Wasmote Plug & Sense! model by choosing the radio, power option, sensors and optional accessories. Any Plug & Sense! always comes with a rechargeable 6600 mA·h battery included.

Since each sensor has different power requirements and dedicated circuitry, sensor probes can be attached only to certain sockets (named A - F in the figure). There is a sensors table in all the models explaining all the possible connections between sensor probes and sockets.

Each socket supports **one sensor at the same time**

Each socket supports one sensor at the same time



Sensor	Sockets					
	A	B	C	D	E	F
Temperature	✓					
Humidity		✓				
CO ₂			✓			
NO ₂				✓		
O ₂					✓	
CO	✓					✓

In this example the CO Sensor can be connected to the socket A or F indistinctly



Technology for evaluators

This kit is designed to compare different radio technologies or create customized demos. It contains the most demanded products in our Catalogue, so that you do not need to spend lots of time configuring your order. Four different versions are available for the markets of Europe, US&Canada, Brazil and Australia.

To ensure you start testing the products as soon as possible, we include 1 attendee place at Libelium Basic Training Course where you will learn from installing the IDE to program Waspote (more info about training courses on section Support).

Finally, we also include a 3-hour package of online Premium Technical Support, to solve quickly any doubt you may have when getting your hands on Waspote. Both training courses and support hours are driven by Libelium R&D engineers.

	Model	Pieces
Communication	Waspote 802.15.4 5 dBi (EU version of the radio is provided for the European kit)	4
	Waspote Gateway 802.15.4 5 dBi (EU version of the radio is provided for the European kit)	1
	NB-IoT / Cat-M Module (includes a GPS receiver)	1
	GPS Module	1
	4G Module (EU/BR v2, US v2 or AU versions are provided, depending on kit) (no version features a GPS receiver)	1
	Bluetooth module for device discovery PRO 5 dBi	1
	RS-485 Serial / Modbus Module, DB9 cable	1

	Model	Pieces
Sensor Boards	Events Board	1
	Smart Cities PRO Board	1
	Agriculture PRO Board	1
	Smart Water	1
	4-20 mA (Current Loop)	1
	Expansion Radio Board Module	2

** Does NOT include Sigfox connectivity, the user must hire this service directly from Sigfox. Check network Ref/
 Price WEVA-EU/ 3,300 €** ~4,600 €
 Ref/Price WEVA-US/ 3,300 €** ~4,600 €
 Ref/Price WEVA-BR/ 3,300 €** ~4,600 €
 Ref/Price WEVA-AU/ 3,300 €** ~4,600 €*

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	Model	Pieces
Sensors	Temperature, humidity and pressure sensor	2
	Presence sensor (PIR)	1
	Luminosity (Luxes accuracy) sensor	1
	Oxygen (O2) [Calibrated]	1
	Ultrasound sensor (indoor)	1
	Soil / Water temperature sensor	1
	Soil moisture sensor	1
	Solar radiation (PAR) sensor	1
	Weather Station WS-3000 (anemometer + wind vane + pluviometer)	1
	Conductivity	1
	pH	1
Accessories	Rigid Solar Panel 7V – 500mA	1
	6600 mAh rechargeable battery	1
	MicroSD 16 GB card pack (5 units)	1
	Conductivity calibration kit, K=1	1
	pH calibration kit	1
Support	Attendee place at Libelium Basic Training Course*	1
	Premium Technical Support – 3 hours package	1



* Please check our website or Support section for training courses calendar.

** When purchased as a kit, you save ~39% on the retail price of these separate items.

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Choosing your Plug & Sense! model

Smart Agriculture PRO



- Soil / Water temperature
- Solar radiation (PAR)
- Trunk diameter
- Stem diameter
- Fruit diameter
- Temperature, Humidity and Pressure
- Soil moisture (1.5, 4.5, 8 m)
- Leaf wetness
- Anemometer + Wind vane + Pluviometer
- Luminosity (Luxes accuracy)
- Ultrasound (outdoor IP67)

Smart Agriculture Xtreme



- Non-contact surface temperature measurement SI-411
- Leaf and flower bud temperature SF-421
- Conductivity, water content and soil temperature GS3
- Volumetric water content and soil temperature TERSO 11
- Conductivity, water content and soil temperature TERSO 12
- Conductivity, water content and soil temperature 5TE
- Soil temperature and volumetric water content 5TM
- Vapor pressure, humidity, temperature, and atmospheric pressure in soil and air VP-4
- Soil water potentials TERSO 21
- Leaf wetness Phytos 31
- Wind and precipitations
- Solar radiation (PAR) SQ-110
- Ultraviolet radiation SU-100
- Trunk diameter DC2
- Soil oxygen level SO-411
- Shortwave radiation SP-510
- Stem diameter DD-S
- Fruit diameter DF
- Temperature, Humidity and Pressure
- Luminosity (Luxes accuracy)
- Ultrasound (outdoor IP67)
- Weather station GMX-100 (PO)
- Weather station GMX-101 (R)
- Weather station GMX-200 (W)
- Weather station GMX-240 (W-PO)

Smart Environment PRO



- Particle Matter (PM1 / PM2.5 / PM10) Dust
- CO - H₂S
- CO₂ - NH₃
- O₂ - SO₂
- O₃
- NO
- NO₂
- CH₄ (and other combustible gases)
- Temperature, Humidity and Pressure
- Luminosity (Luxes accuracy)
- Ultrasound (outdoor IP67)

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Smart Water



- Soil / Water temperature
- Conductivity
- Dissolved Oxygen
- pH
- Oxidation-Reduction Potential

Smart Water Xtreme



- Optical dissolved oxygen and temperature OPTOD
- Titanium optical dissolved oxygen and temperature OPTOD
- pH, ORP and temperature PHEHT
- Conductivity, salinity and temperature C4E
- Inductive conductivity, salinity and temperature CTZN
- Turbidity and temperature NTU
- Suspended solids, turbidity, sludge blanket and temperature MES5
- COD, BOD, TOC, SAC254 and temp StacSense, 2 mm path
- COD, BOD, TOC, SAC254 and temp StacSense, 50 mm path
- Radar level VEGAPULS C21
- Temperature, Humidity and Pressure
- Luminosity (Luxes accuracy)
- Ultrasound (outdoor IP67)
- Manta+ 35A and Manta+ 35B
- Chlorophyll
- BGA
- Nitrate
- Organic matter CDOM/FDOM
- Chloride
- Sodium
- Calcium
- Ammonium
- Bromide
- Total Dissolved Gas TDG
- Rhodamine
- Crude oil
- Refined oil
- Fluorescein
- Optical brighteners
- Tryptophan
- Total coliform bacteria, TLF, turbidity and temperature Proteus

Smart Water Ions



- Ammonium (NH_4^+)
- Bromide (Br^-)
- Calcium (Ca^{2+})
- Chloride (Cl^-)
- Cupric (Cu^{2+})
- Fluoride (F^-)
- Iodide (I^-)
- Lithium (Li^+)
- Nitrate (NO_3^-)
- Nitrite (NO_2^-)
- Magnesium (Mg^{2+})
- Perchlorate (ClO_4^-)
- Potassium (K^+)
- Silver (Ag^+)
- Sodium (Na^+)
- pH
- Soil / Water Temperature

Smart Cities PRO



- Noise / Sound Level
- Particle Matter (PM1 / PM2.5 / PM10) – Dust
- CO - NH_3
- CO_2 - H_2S
- O_2
- O_3
- NO
- NO_2
- SO_2
- CH_4 (and other combustible gases)
- Temperature, Humidity and Pressure
- Luminosity (Luxes accuracy)
- Ultrasound (outdoor IP67)

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Smart Parking	Smart Security	4 - 20 mA (Current Loop)	Ambient Control	Traffic Detection
				
<ul style="list-style-type: none"> - Radar - Magnetic field (3 axis): <ul style="list-style-type: none"> · X axis · Y axis · Z axis 	<ul style="list-style-type: none"> - Temperature, Humidity and Pressure - Presence (PIR) - Horizontal liquid level (water / combustibles) - Water leakage (point / line) - Hall effect - Water flow small - Water flow medium - Relay Input-Output - Luminosity (Luxes accuracy) - Ultrasound (outdoor IP67) 	<ul style="list-style-type: none"> - Sensors and instruments - Remote transducers - Monitoring processes - Data transmission in industrial ambients - The user can choose among a wide variety of standard sensors 	<ul style="list-style-type: none"> - Temperature, Humidity and Pressure - Luminosity (LDR) - Luminosity (Luxes accuracy) 	<ul style="list-style-type: none"> - As well as working as IoT gateway for the Wasmote and Plug & Sense! sensor nodes, Meshlium can detect WiFi and Bluetooth devices, like smart-phones and tablets. This enables the user to calculate the number of people passing through the range area.

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Smart Agriculture PRO

This model allows the deployment of any Precision Agriculture application.

Communication options	Ref.	Price
Plug & Sense! SA-PRO 802.15.4 EU	SAPB-802-EU	600 €
Plug & Sense! SA-PRO 802.15.4	SAPB-802	600 €
Plug & Sense! SA-PRO ZigBee 3 EU	SAPB-ZB3-EU	600 €
Plug & Sense! SA-PRO WiFi	SAPB-W	600 €
Plug & Sense! SA-PRO 868	SAPB-868	601 €
Plug & Sense! SA-PRO 900 US	SAPB-900-US	636 €
Plug & Sense! SA-PRO 900 BR	SAPB-900-BR	636 €
Plug & Sense! SA-PRO 900 AU	SAPB-900-AU	636 €
Plug & Sense! SA-PRO 4G EU/BR V2	SAPB-4G-EU/BR-V2	824 €
Plug & Sense! SA-PRO 4G US V2	SAPB-4G-US-V2	824 €
Plug & Sense! SA-PRO 4G AU	SAPB-4G-AU	792 €
Plug & Sense! SA-PRO LoRaWAN EU	SAPB-LW-EU	570 €
Plug & Sense! SA-PRO LoRaWAN US	SAPB-LW-US	570 €
Plug & Sense! SA-PRO LoRaWAN AU	SAPB-LW-AU	570 €
Plug & Sense! SA-PRO LoRaWAN IN	SAPB-LW-IN	570 €
Plug & Sense! SA-PRO LoRaWAN ASIA-PAC / LATAM	SAPB-LW-APL	570 €
Plug & Sense! SA-PRO LoRaWAN JP / KR	SAPB-LW-JP-KR	650 €
Plug & Sense! SA-PRO Sigfox EU *	SAPB-SF-EU	570 €
Plug & Sense! SA-PRO Sigfox US *	SAPB-SF-US	582 €
Plug & Sense! SA-PRO Sigfox AU / APAC / LATAM *	SAPB-SF-AAPL	582 €



Looking for a working and programmed demo with this product?
Try our out-of-the-box IoT Vertical kits!

* Does NOT include Sigfox connectivity, the user must hire this service directly from Sigfox. Check network availability in your country.



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Sensors available:

Sensor	Sockets						Ref.	Price
	A	B	C	D	E	F		
Temperature, Humidity and Pressure				✓		✓	9370-P	55 €
Soil/Water temperature (Pt-1000)				✓			9255-P	40 €
Solar radiation (PAR)		✓					9251-P	250 €
Ultraviolet		✓					9257-P	315 €
Soil moisture 1.5 m		✓	✓		✓		9248-P	65 €
Soil moisture 4.5 m		✓	✓		✓		9324-P	80 €
Soil moisture 8 m		✓	✓		✓		9323-P	90 €
WS-3000 (anemometer + wind vane + pluviometer)	✓						9256-P	75 €
Leaf wetness					✓		9249-P	10 €
Trunk diameter			✓				9252-P	540 €
Stem diameter			✓				9253-P	490 €
Fruit diameter			✓				9254-P	510 €
Luminosity (Luxes accuracy)				✓		✓	9325-P	47 €
Ultrasound				✓		✓	9246-P	275 €

An accessory composed of a mounting bracket and a leveling plate is advised for the Solar radiation (PAR) and Ultraviolet sensor probes (check delivery time with your Sales agent):

Item	Ref.	Price
Solar Sensors Mounting Accessory	SSMA	85 €

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Smart Agriculture Xtreme

This Plug & Sense! is an evolution of our Agriculture line with a new selection of high-end professional sensors. There are sensors for atmospheric and soil monitoring and plants health. More than 35 sensors can be connected.

Communication options	Ref.	Price
Plug & Sense! SA-XTR 802.15.4 EU	SAXB-802-EU	650 €
Plug & Sense! SA-XTR 802.15.4	SAXB-802	650 €
Plug & Sense! SA-XTR ZigBee 3 EU	SAXB-ZB3-EU	650 €
Plug & Sense! SA-XTR WiFi	SAXB-W	650 €
Plug & Sense! SA-XTR 868	SAXB-868	651 €
Plug & Sense! SA-XTR 900 US	SAXB-900-US	686 €
Plug & Sense! SA-XTR 900 BR	SAXB-900-BR	686 €
Plug & Sense! SA-XTR 900 AU	SAXB-900-AU	686 €
Plug & Sense! SA-XTR 4G EU/BR V2	SAXB-4G-EU/BR-V2	874 €
Plug & Sense! SA-XTR 4G US V2	SAXB-4G-US-V2	874 €
Plug & Sense! SA-XTR 4G AU	SAXB-4G-AU	842 €
Plug & Sense! SA-XTR LoRaWAN EU	SAXB-LW-EU	620 €
Plug & Sense! SA-XTR LoRaWAN US	SAXB-LW-US	620 €
Plug & Sense! SA-XTR LoRaWAN AU	SAXB-LW-AU	620 €
Plug & Sense! SA-XTR LoRaWAN IN	SAXB-LW-IN	620 €
Plug & Sense! SA-XTR LoRaWAN ASIA-PAC / LATAM	SAXB-LW-APL	620 €
Plug & Sense! SA-XTR LoRaWAN JP / KR	SAXB-LW-JP-KR	700 €
Plug & Sense! SA-XTR Sigfox EU *	SAXB-SF-EU	620 €
Plug & Sense! SA-XTR Sigfox US *	SAXB-SF-US	632 €
Plug & Sense! SA-XTR Sigfox AU / APAC / LATAM *	SAXB-SF-AAPL	632 €

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Sensors available:

Sensor	Sockets						Ref.	Price
	A	B	C	D	E	F		
Non-contact surface temperature measurement SI-411	✓	✓	✓	✓			9468-P	810 €
Leaf and flower bud temperature SF-421	✓	✓	✓	✓			9467-P	275 €
Soil oxygen level SO-411	✓	✓	✓	✓			9469-P	475 €
Shortwave radiation SP-510		✓	✓		✓	✓	9470-P	350 €
Solar radiation (PAR) SQ-110 for Smart Agriculture Xtreme		✓	✓		✓	✓	9251-PX	250 €
Ultraviolet radiation SU-100 for Smart Agriculture Xtreme		✓	✓		✓	✓	9257-PX	315 €
Temperature, air humidity and pressure	✓			✓			9370-P	55 €
Conductivity, water content and soil temperature GS3	✓	✓	✓	✓			9464-P	390 €
Volumetric water content and soil temperature TEROS 11	✓	✓	✓	✓			9512-P	350€
Conductivity, water content and soil temperature TEROS 12	✓	✓	✓	✓			9499-P	415€
Conductivity, water content and soil temperature STE	✓	✓	✓	✓			9402-P	455 €
Soil temperature and volumetric water content 5TM	✓	✓	✓	✓			9460-P	270 €
Soil water potentials TEROS 21	✓	✓	✓	✓			9465-P	330 €
Vapor pressure, humidity, temperature, and atmospheric pressure in soil and air VP-4	✓	✓	✓	✓			9471-P	410 €
Leaf wetness Phytos 31		✓					9466-P	180 €
Trunk diameter DC2 for Smart Agriculture Xtreme			✓				9252-PX	500 €
Stem diameter DD-S for Smart Agriculture Xtreme			✓				9253-PX	475 €
Fruit diameter DF for Smart Agriculture Xtreme			✓				9254-PX	475 €
Solar radiation and temperature Datasol MET ³					✓		9496-P	475 €
Luminosity (Luxes accuracy)	✓			✓			9325-P	47 €
Ultrasound	✓			✓			9246-P	275 €



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Sensor	Sockets						Ref.	Price
	A	B	C	D	E	F		
Weather station GMX-100 (PO)					✓		9472-P	800 €
Weather station GMX-101 (R)					✓		9473-P	1,370 €
Weather station GMX-200 (W) ¹					✓		9474-P	1,140 €
Weather station GMX-240 (W-PO) ¹					✓		9463-P	1,550 €
Weather station GMX-300 (T-H-AP)					✓		9475-P	870 €
Weather station GMX-301 (T-H-AP-R)					✓		9476-P	2,040 €
Weather station GMX-400 (PO-T-H-AP)					✓		9477-P	1,390 €
Weather station GMX-500 (W-T-H-AP) ¹					✓		9478-P	1,530 €
Weather station GMX-501 (W-T-H-AP-R) ¹					✓		9479-P	3,060 €
Weather station GMX-531 (W-PT-T-H-AP-R) ¹					✓		9480-P	3,500 €
Weather station GMX-541 (W-PO-T-H-AP-R) ¹					✓		9481-P	3,380 €
Weather station GMX-550 (W-x-T-H-AP) ^{1, 2}					✓		9482-P	1,950 €
Weather station GMX-551 (W-x-T-H-AP-R) ^{1, 2}					✓		9483-P	3,210 €
Weather station GMX-600 (W-PO-T-H-AP) ¹					✓		9484-P	2,600 €

1: This item can be ordered with a special accessory: a GPS receiver for wind corrections. Available on demand.

2: This item can accept a precipitation sensor (Kalyx rain gauge by Gill). Special accessory, on demand.

3: This item includes a fixation hook for secure fastening



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Several accessories are available:

Item	Ref.	Price
Solar Sensors Mounting Accessory	SSMA	85 €
Mounting bracket accessory	9462	40 €
Diffusion head accessory for Soil oxygen level sensor*	9461	40 €
Socket splitter probe (RS-485) for Smart Agriculture Xtreme**	SS485-P	69 €

** Highly recommended to keep the sensor opening clear from soil and ensure accurate readings
 **Needed if you plan to plug more than one RS-485 probe (Gill, Datasol, etc)

This table shows differences between the 14 weather stations:

Weather station	Wind and compass	Precipitation	Temperature, relative humidity and pressure	Solar radiation	GPS
GMX-100 (PO)		✓ (optical)			
GMX-101 (R)				✓	
GMX-200 (W)	✓				Optional
GMX-240 (W-PO)	✓	✓ (optical)			Optional
GMX-300 (T-H-AP)			✓		
GMX-301 (T-H-AP-R)			✓	✓	
GMX-400 (PO-T-H-AP)		✓ (optical)	✓		
GMX-500 (W-T-H-AP)	✓		✓		Optional
GMX-501 (W-T-H-AP-R)	✓		✓	✓	Optional
GMX-531 (W-PT-T-H-AP-R)	✓	✓ (Tipping bucket)	✓	✓	Optional
GMX-541 (W-PO-T-H-AP-R)	✓	✓ (Optical)	✓	✓	Optional
GMX-550 (W-x-T-H-AP)	✓	Optional (Tipping bucket)	✓		Optional
GMX-551 (W-x-T-H-AP-R)	✓	Optional (Tipping bucket)	✓	✓	Optional
GMX-600 (W-PO-T-H-AP)	✓	✓ (Optical)	✓		Optional

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Smart Environment PRO

This model has been created as an evolution of Smart Environment. It enables the user to implement pollution, air quality, industrial, environmental or farming projects with high requirements in terms of high accuracy, reliability and measurement range as the sensors come calibrated from factory.

Communication options	Ref.	Price
Plug & Sense! SE-PRO 802.15.4 EU	SEP-B-802-EU	588 €
Plug & Sense! SE-PRO 802.15.4	SEP-B-802	588 €
Plug & Sense! SE-PRO ZigBee 3 EU	SEP-B-ZB3-EU	588 €
Plug & Sense! SE-PRO WiFi	SEP-B-W	588 €
Plug & Sense! SE-PRO 868	SEP-B-868	611 €
Plug & Sense! SE-PRO 900 US	SEP-B-900-US	630 €
Plug & Sense! SE-PRO 900 BR	SEP-B-900-BR	630 €
Plug & Sense! SE-PRO 900 AU	SEP-B-900-AU	630 €
Plug & Sense! SE-PRO 4G EU/BR V2	SEP-B-4G-EU/BR-V2	734 €
Plug & Sense! SE-PRO 4G US V2	SEP-B-4G-US-V2	734 €
Plug & Sense! SE-PRO 4G AU	SEP-B-4G-AU	708 €
Plug & Sense! SE-PRO LoRaWAN EU	SEP-B-LW-EU	528 €
Plug & Sense! SE-PRO LoRaWAN US	SEP-B-LW-US	528 €
Plug & Sense! SE-PRO LoRaWAN AU	SEP-B-LW-AU	528 €
Plug & Sense! SE-PRO LoRaWAN IN	SEP-B-LW-IN	528 €
Plug & Sense! SE-PRO LoRaWAN ASIA-PAC / LATAM	SEP-B-LW-APL	528 €
Plug & Sense! SE-PRO LoRaWAN JP / KR	SEP-B-LW-JP-KR	608 €



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Communication options	Ref.	Price
Plug & Sense! SE-PRO Sigfox EU*	SEPB-SF-EU	528 €
Plug & Sense! SE-PRO Sigfox US*	SEPB-SF-US	540 €
Plug & Sense! SE-PRO Sigfox AU/APAC/LATAM*	SEPB-SF-AAPL	540 €

* Does NOT include Sigfox connectivity, the user must hire this service directly from Sigfox. Check network availability in your country.

Sensor	Sockets						Ref.	Price
	A	B	C	D	E	F		
Temperature, Humidity and Pressure					✓		9370-P	55 €
Carbon Monoxide (CO) for low concentrations (Calibrated) ¹	✓	✓	✓				9371-LC-P	276 €
Carbon Dioxide (CO ₂) (Calibrated)* ⁽¹⁾	✓	✓	✓			✓	9372-P	648 €
Oxygen (O ₂) (Calibrated) ⁽¹⁾	✓	✓	✓			✓	9373-P	240 €
Ozone (O ₃) (Calibrated) ⁽¹⁾	✓	✓	✓			✓	9374-P	348 €
Nitric Oxide (NO) for low concentrations (Calibrated) ⁽¹⁾	✓	✓	✓			✓	9375-LC-P	288 €
Nitric Dioxide high accuracy (NO ₂) (Calibrated) ⁽¹⁾	✓	✓	✓			✓	9376-HA-P	276 €
Sulfur Dioxide high accuracy (SO ₂) (Calibrated) ⁽¹⁾	✓	✓	✓			✓	9377-HA-P	276 €
Ammonia (NH ₃) for low concentrations (Calibrated) ⁽¹⁾	✓	✓	✓			✓	9378-LC-P	444 €
Ammonia (NH ₃) for high concentrations (Calibrated) ⁽¹⁾	✓	✓	✓			✓	9378-HC-P	485 €
Methane (CH ₄) and Combustible Gas (Calibrated)* ⁽¹⁾	✓	✓	✓			✓	9379-P	246 €
Hydrogen Sulfide (H ₂ S) (Calibrated) ⁽¹⁾	✓	✓	✓			✓	9381-P	228 €
Particle Matter (PM1 / PM2.5 / PM10) - Dust ⁽¹⁾				✓			9387-P	1,380 €
Luminosity (Luxes accuracy)					✓		9325-P	47 €
Ultrasound					✓		9246-P	275 €

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Smart Water

With this platform you can measure more than 6 parameters, including the most relevant for water control such as dissolved oxygen, oxidation-reduction potential, pH, conductivity and temperature.

Communication options	Ref.	Price
Plug & Sense! SW 802.15.4 EU	SWB-802-EU	636 €
Plug & Sense! SW 802.15.4	SWB-802	636 €
Plug & Sense! SW ZigBee 3 EU	SWB-ZB3-EU	636 €
Plug & Sense! SW WiFi	SWB-W	636 €
Plug & Sense! SW 868	SWB-868	636 €
Plug & Sense! SW 900 US	SWB-900-US	672 €
Plug & Sense! SW 900 BR	SWB-900-BR	672 €
Plug & Sense! SW 900 AU	SWB-900-AU	672 €
Plug & Sense! SW 4G EU/BR-V2	SWB-4G-EU/BR-V2	956 €
Plug & Sense! SW 4G US V2	SWB-4G-US-V2	956 €
Plug & Sense! SW 4G AU	SWB-4G-AU	900 €
Plug & Sense! SW LoRaWAN EU	SWB-LW-EU	636 €
Plug & Sense! SW LoRaWAN US	SWB-LW-US	636 €
Plug & Sense! SW LoRaWAN AU	SWB-LW-AU	636 €
Plug & Sense! SW LoRaWAN IN	SWB-LW-IN	636 €
Plug & Sense! SW LoRaWAN ASIA-PAC / LATAM	SWB-LW-APL	636 €
Plug & Sense! SW LoRaWAN JP / KR	SWB-LW-JP-KR	716 €
Plug & Sense! SW Sigfox EU *	SWB-SF-EU	636 €
Plug & Sense! SW Sigfox US *	SWB-SF-US	648 €
Plug & Sense! SW Sigfox AU/APAC/LATAM *	SWB-SF-AAPL	648 €

Looking for a working and programmed demo with this product?
Try our out-of-the-box IoT Vertical kits!



** Does NOT include Sigfox connectivity, the user must hire this service directly from Sigfox. Check network availability in your country.*



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Sensors available:

Sensor	Sockets						Ref.	Price
	A	B	C	D	E	F		
Soil/Water temperature (Pt-1000)*						✓	9255-P	40 €
Conductivity			✓				9326-P	59 €
Dissolved Oxygen		✓					9327	750 €
pH	✓						9328	30 €
Oxidation Reduction Potential					✓		9329	70 €

* Each Smart Water node includes a Soil/Water temperature probe in the price.

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For Smart Water sensors, it is highly recommended to purchase calibration solutions to calculate accurate measurement. One kit is enough for several sensor units.

Calibration Kit	Ref.	Price
Conductivity Calibration Kit, K=0.1	9339	38 €
Conductivity Calibration Kit, K=1	9340	28 €
Conductivity Calibration Kit, K=10	9341	38 €
DO Calibration Solution	9342	42 €
Dissolved Oxygen Maintenance Kit	9450	144 €
pH Calibration Kit	9343	63 €
ORP Calibration Solution	9344	42 €



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Smart Water Xtreme

This model was created as an evolution of Smart Water and integrates high-end sensors, calibrated in factory, with enhanced accuracy and performance. Their reduced recalibration requirements and robust design enlarge maintenance periods, making it more affordable to deploy remote Smart Water applications.

Looking for a working and programmed demo with this product?
Try our out-of-the-box IoT Vertical kits!

Communication options	Ref.	Price
Plug & Sense! SW-XTR 802.15.4 EU	SWXB-802-EU	686 €
Plug & Sense! SW-XTR 802.15.4	SWXB-802	686 €
Plug & Sense! SW-XTR ZigBee 3 EU	SWXB-ZB3-EU	686 €
Plug & Sense! SW-XTR WiFi	SWXB-W	686 €
Plug & Sense! SW-XTR 868	SWXB-868	686 €
Plug & Sense! SW-XTR 900 US	SWXB-900-US	722 €
Plug & Sense! SW-XTR 900 BR	SWXB-900-BR	722 €
Plug & Sense! SW-XTR 900 AU	SWXB-900-AU	722 €
Plug & Sense! SW-XTR 4G EU/BR V2	SWXB-4G-EU/BR-V2	1,006 €
Plug & Sense! SW-XTR 4G US V2	SWXB-4G-US-V2	1,006 €
Plug & Sense! SW-XTR 4G AU	SWXB-4G-AU	950 €
Plug & Sense! SW-XTR LoRaWAN EU	SWXB-LW-EU	686 €
Plug & Sense! SW-XTR LoRaWAN US	SWXB-LW-US	686 €
Plug & Sense! SW-XTR LoRaWAN AU	SWXB-LW-AU	686 €
Plug & Sense! SW-XTR LoRaWAN IN	SWXB-LW-IN	686 €
Plug & Sense! SW-XTR LoRaWAN ASIA-PAC / LATAM	SWXB-LW-APL	686 €
Plug & Sense! SW-XTR LoRaWAN JP / KR	SWXB-LW-JP-KR	766 €
Plug & Sense! SW-XTR Sigfox EU *	SWXB-SF-EU	686 €
Plug & Sense! SW-XTR Sigfox US *	SWXB-SF-US	698 €
Plug & Sense! SW-XTR Sigfox AU / APAC / LATAM *	SWXB-SF-AAPL	698 €



* Does NOT include Sigfox connectivity, the user must hire this service directly from Sigfox. Check network availability in your country.


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Sensors available:

Sensor	Sockets						Ref.	Price
	A	B	C	D	E	F		
Optical dissolved oxygen and temperature OPTOD	✓	✓	✓	✓	✓		9488-P	1,050 €
Titanium optical dissolved oxygen and temperature OPTOD	✓	✓	✓	✓	✓		9489-P	1,250 €
pH, ORP and temperature PHEHT	✓	✓	✓	✓	✓		9485-P	1,025 €
Conductivity, salinity and temperature C4E	✓	✓	✓	✓	✓		9486-P	825 €
Inductive conductivity, salinity and temperature CTZN	✓	✓	✓	✓	✓		9487-P	1,300 €
Turbidity and temperature NTU	✓	✓	✓	✓	✓		9353-PX	3,594 €
Suspended solids, turbidity, sludge blanket and temperature MES5	✓	✓	✓	✓	✓		9490-P	4,900 €
COD, BOD, TOC, SAC254 and temp StacSense, 2 mm path	✓	✓	✓	✓	✓		9500-P	6,500 €
COD, BOD, TOC, SAC254 and temp StacSense, 50 mm path	✓	✓	✓	✓	✓		9501-P	6,500 €
Radar level VEGAPULS C21	✓	✓	✓	✓			9514-P	1,250€
Temperature, Humidity and Pressure	✓			✓			9370-P	55 €
Luminosity (luxes accuracy)	✓			✓			9325-P	47 €
Ultrasound	✓			✓			9246-P	275 €
Manta+ 35A						✓	9502-P	12,600 €
Manta+ 35B						✓	9503-P	12,600 €
Chlorophyll sensor for Manta probe*							72470	3,700 €



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Sensor	Sockets						Ref.	Price
	A	B	C	D	E	F		
BGA sensor for Manta probe*							72471	3,700 €
Organic matter sensor CDOM/FDOM for Manta probe*							72472	4,100 €
Ammonium sensor for Manta probe*							72473	1,350 €
Nitrate sensor for Manta probe*							72474	1,350 €
Chloride sensor for Manta probe*							72475	1,350 €
Sodium sensor for Manta probe*							72476	1,350 €
Calcium sensor for Manta probe*							72477	1,350 €
Bromide sensor for Manta probe*							9504-P	1,800 €
Total Dissolved Gas TDG sensor for Manta probe*							9505-P	2,000 €
Rhodamine sensor for Manta probe*							9506-P	4,600 €
Crude oil sensor for Manta probe*							9507-P	7,200 €
Refined oil sensor for Manta probe*							9508-P	12,000 €
Flourescein sensor for Manta probe*							9509-P	4,800 €
Optical brighteners sensor for Manta probe*							9510-P	5,100 €
Tryptophan sensor for Manta probe							9511-P	12,000 €
Total coliform bacteria, TLF, turbidity and temperature Proteus**						✓	-	*Ask for a quote

* These sensor probes need a Manta probe. Available on demand. Check compatibility and leadtime with your Sales agent.

** E. coli is a type of coliform bacteria. Sensor on demand. Ask your Sales agent to know price and lead.

Confidential Document / Version: v18.8 / Date: June 2020

This catalogue supersedes any previously released and is valid until publication of another to replace it.


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For Smart Water Xtreme sensors, it is highly recommended to purchase calibration solutions to calculate accurate measurements. One kit is enough for several sensor units. Some sensors need storage solutions too. Also, we provide an accessory for protecting a sensor mechanically; from aquatic fauna, for instance:

Accessory	Ref.	Price
Conductivity Calibration Kit, K=0.1	9339	38 €
Conductivity Calibration Kit, K=1	9340	28 €
Conductivity Calibration Kit, K=10	9341	38 €
DO Calibration Solution	9342	42 €
pH Calibration Kit	9343	63 €
ORP Calibration Solution	9344	42 €
Turbidity calibration solution, 4000 NTU	72465	55 €
Storage solution for PHEHT probe	72464	20 €
Sensor protection accessory	9493	300 €


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For those users interested in measuring directly inside pipes, there are pipe segments with a protected measurement point. As an optional accessory for this sensor, Libelium offers pipe mounting adapters which can be connected to those special pipe segments:

Mounting accessory	Ref.	Price
PVC pipe mounting accessory for OPTOD sensor probe	72454	310 €
PVC pipe mounting accessory for PHEHT sensor probe	72455	315 €
PVC pipe mounting accessory for C4E or sensor NTU probes	72456	240 €
PVC pipe mounting accessory for CTZN sensor probe	72457	220 €
PVC pipe mounting accessory for MES5 sensor probe	72458	340 €
Steel pipe mounting accessory for OPTOD sensor probe	72459	710 €
Steel pipe mounting accessory for PHEHT sensor probe	72460	740 €
Steel pipe mounting accessory for C4E or NTU sensor probes	72461	1,050 €
Steel pipe mounting accessory for CTZN sensor probe	72462	1,050 €


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Smart Water Ions

The Smart Water Ions model specializes in the measurement of ions concentration for drinking water quality control, agriculture water monitoring, swimming pools or waste water treatment.

The PRO sensors have higher performance than the former Single and Double sensors.

Communication options	Ref.	Price
Plug & Sense! SWI PRO 802.15.4 EU	SWIB-P-802-EU	1,092 €
Plug & Sense! SWI PRO 802.15.4	SWIB-P-802	1,092 €
Plug & Sense! SWI PRO ZigBee 3 EU	SWIB-P-ZB3-EU	1,092 €
Plug & Sense! SWI PRO WiFi	SWIB-P-W	1,104 €
Plug & Sense! SWI PRO 868	SWIB-P-868	1,134 €
Plug & Sense! SWI PRO 900 US	SWIB-P-900-US	1,134 €
Plug & Sense! SWI PRO 900 BR	SWIB-P-900-BR	1,134 €
Plug & Sense! SWI PRO 900 AU	SWIB-P-900-AU	1,134 €
Plug & Sense! SWI PRO 4G EU/BR V2	SWIB-P-4G-EU/BR-V2	1,028 €
Plug & Sense! SWI PRO 4G US V2	SWIB-P-4G-US-V2	1,028 €
Plug & Sense! SWI PRO 4G AU	SWIB-P-4G-AU	996 €
Plug & Sense! SWI PRO LoRaWAN EU	SWIB-P-LW-EU	972 €
Plug & Sense! SWI PRO LoRaWAN US	SWIB-P-LW-US	972 €
Plug & Sense! SWI PRO LoRaWAN AU	SWIB-P-LW-AU	972 €
Plug & Sense! SWI PRO LoRaWAN IN	SWIB-P-LW-IN	972 €
Plug & Sense! SWI PRO LoRaWAN ASIA-PAC / LATAM	SWIB-P-LW-APL	972 €

Communication options	Ref.	Price
Plug & Sense! SWI PRO LoRaWAN JP / KR	SWIB-P-LW-JP-KR	1,052 €
Plug & Sense! SWI PRO Sigfox EU *	SWIB-P-SF-EU	972 €
Plug & Sense! SWI PRO Sigfox US *	SWIB-P-SF-US	984 €
Plug & Sense! SWI PRO Sigfox AU/APAC/LATAM *	SWIB-P-SF-AAPL	984 €


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These are the PRO sensors available:

Sensor	Sockets						Ref.	Price
	A	B	C	D	E	F		
Soil/Water temperature (Pt-1000)*						✓	9255-P	40 €
Reference [PRO]*					✓		9410	504 €
Ammonium Ion (NH ₄ ⁺) [PRO]	✓	✓	✓	✓			9412	504 €
Bromide Ion (Br ⁻) [PRO]	✓	✓	✓	✓			9413	918 €
Calcium Ion (Ca ²⁺) [PRO]	✓	✓	✓	✓			9414	504 €
Chloride Ion (Cl ⁻) [PRO]	✓	✓	✓	✓			9415	504 €
Cupric Ion (Cu ²⁺) [PRO]	✓	✓	✓	✓			9416	918 €
Fluoride Ion (F ⁻) [PRO]	✓	✓	✓	✓			9417	918 €
Iodide Ion (I ⁻) [PRO]	✓	✓	✓	✓			9418	918 €
Lithium Ion (Li ⁺) [PRO]	✓	✓	✓	✓			9419	918 €
Magnesium Ion (Mg ²⁺) [PRO]	✓	✓	✓	✓			9420	504 €
Nitrate Ion (NO ₃ ⁻) [PRO]	✓	✓	✓	✓			9421	504 €
Nitrite Ion (NO ₂ ⁻) [PRO]	✓	✓	✓	✓			9422	918 €
Perchlorate Ion (ClO ₄ ⁻) [PRO]	✓	✓	✓	✓			9423	918 €
Potassium Ion (K ⁺) [PRO]	✓	✓	✓	✓			9424	504 €
Silver Ion (Ag ⁺) [PRO]	✓	✓	✓	✓			9425	918 €
Sodium Ion (Na ⁺) [PRO]	✓	✓	✓	✓			9426	504 €
pH (for Smart Water Ions) [PRO]	✓	✓	✓	✓			9411	504 €

* Each Smart Water Ions node, Pro variant, includes a Soil/Water temperature probe and a Pro Junction Reference probe in the price.

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For Smart Water Ions sensors, it is highly recommended to purchase calibration solutions to calculate accurate measurement. One kit is enough for several sensor units.

Calibration Kit	Ref.	Price
Reference Sensor Probe [PRO] Maintenance Solution	9449	119 €
Multi-Ions Calibration Kit (Ammonium, Calcium, Chloride, Magnesium, Nitrate, Potassium, Sodium)	9445	144 €
Bromide Calibration Kit	9388	119 €
Calcium Calibration Kit	9366	119 €
Chloride Calibration Kit	9389	119 €
Cupric Calibration Kit	9390	119 €
Fluoride Calibration Kit	9367	119 €
Iodide Calibration Kit	9391	119 €
Lithium Calibration Kit	9446	144 €
Nitrate Calibration Kit	9369	119 €
Nitrite Calibration Kit	9447	144 €
Perchlorate Calibration Kit	9448	144 €
Silver Calibration Kit	9392	119 €
pH Calibration Kit	9343	63 €



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Smart Cities PRO

This model allows to deploy many Smart Cities and Smart Buildings applications.

Communication options	Ref.	Price
Plug & Sense! SCP 802.15.4 EU	SCPB-802-EU	588 €
Plug & Sense! SCP 802.15.4	SCPB-802	588 €
Plug & Sense! SCP ZigBee 3 EU	SCPB-ZB3-EU	588 €
Plug & Sense! SCP WiFi	SCPB-W	588 €
Plug & Sense! SCP 868	SCPB-868	611 €
Plug & Sense! SCP 900 US	SCPB-900-US	624 €
Plug & Sense! SCP 900 BR	SCPB-900-BR	624 €
Plug & Sense! SCP 900 AU	SCPB-900-AU	624 €
Plug & Sense! SCP 4G EU/BR-V2	SCPB-4G-EU/BR-V2	752 €
Plug & Sense! SCP 4G US V2	SCPB-4G-US-V2	752 €
Plug & Sense! SCP 4G AU	SCPB-4G-AU	720 €
Plug & Sense! SCP LoRaWAN EU	SCPB-LW-EU	546 €
Plug & Sense! SCP LoRaWAN US	SCPB-LW-US	546 €
Plug & Sense! SCP LoRaWAN AU	SCPB-LW-AU	546 €
Plug & Sense! SCP LoRaWAN IN	SCPB-LW-IN	546 €
Plug & Sense! SCP LoRaWAN ASIA-PAC / LATAM	SCPB-LW-APL	546 €
Plug & Sense! SCP LoRaWAN JP / KR	SCPB-LW-JP-KR	626 €
Plug & Sense! SCP Sigfox EU *	SCPB-SF-EU	546 €
Plug & Sense! SCP Sigfox US *	SCPB-SF-US	558 €
Plug & Sense! SCP Sigfox AU/APAC/LATAM *	SCPB-SF-AAAPL	558 €





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Sensors available:

Sensor	Sockets						Ref.	Price
	A	B	C	D	E	F		
Temperature, Humidity and Pressure	✓	✓	✓		✓	✓	9370-P	55 €
Noise Level (dBA)*	✓						NLS	995 €
Carbon Monoxide (CO) for low concentrations (Calibrated) ¹		✓	✓			✓	9371-LC-P	276 €
Carbon Dioxide (CO ₂) (Calibrated) ^{1**}		✓	✓			✓	9372-P	648 €
Oxygen (O ₂) (Calibrated) ¹		✓	✓			✓	9373-P	240 €
Ozone (O ₃) (Calibrated) ¹		✓	✓			✓	9374-P	348 €
Nitric Oxide (NO) for low concentrations (Calibrated) ¹		✓	✓			✓	9375-LC-P	288 €
Nitric Dioxide high accuracy (NO ₂) (Calibrated) ¹		✓	✓			✓	9376-HA-P	276 €
Sulfur Dioxide high accuracy (SO ₂) (Calibrated) ¹		✓	✓			✓	9377-HA-P	276 €
Ammonia (NH ₃) for low concentrations (Calibrated) ¹		✓	✓			✓	9378-LC-P	444 €
Ammonia (NH ₃) for high concentrations (Calibrated) ¹		✓	✓			✓	9378-HC-P	485 €
Methane (CH ₄) and Combustible Gas (Calibrated) ^{1**}		✓	✓			✓	9379-P	246 €
Hydrogen Sulfide (H ₂ S) (Calibrated) ¹		✓	✓			✓	9381-P	228 €
Particle Matter (PM1 / PM2.5 / PM10) - Dust 1				✓			9387-P	1,380 €
Luminosity (Luxes accuracy)							9325-P	47 €
Ultrasound	✓	✓	✓		✓	✓	9246-P	275 €

* Does NOT include Sigfox connectivity, the user must hire this service directly from Sigfox. Check network availability in your country.

Sensor	Sockets						Ref.	Price
	A	B	C	D	E	F		

1: Calibrated gas sensors are manufactured once the order has been placed to ensure maximum durability of the calibration feature. Manufacturing process and delivery may take from 4 to 6 weeks. Lifetime of calibrated gas sensors is 6 months working at maximum accuracy. We strongly encourage our customers to buy extra gas sensor probes to replace the original ones after that time to ensure maximum accuracy and performance.

*: This sensor includes all the needed accessories (sensor, windshield, enclosure, cables, mounting kit, roof, etc). **: Due to high power requirements, these sensors cannot work at the same time in the same Plug & Sense!.

Smart Parking

This model allows to detect free parking spots. It is designed to be screwed on the surface of parking slots and to detect the arrival and departure of vehicles with its advanced radar sensor and an electromagnetic field sensor. It includes a robust polyamide enclosure for a fast and easy surface installation.

This node comes with a LoRaWAN radio, which benefits from all the LPWAN characteristics. The device provisioning is immediate and can even be reconfigured with the Remote Configuration Form, from the cloud. This model comes with a non-rechargeable battery of 10.4 Ah.



Looking for a working and programmed demo with this product?

[Try our out-of-the-box IoT Vertical kits!](#)


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Item	Ref.	Price
Smart Parking Node 6 Units Bundle, Europe version ¹	SP-6-E	1,400 €
Smart Parking Node 10 Units Bundle, Europe version ¹	SP-10-E	2,350 €
Smart Parking Node 6 Units Bundle, America version ¹	SP-6-A	1,400 €
Smart Parking Node 10 Units Bundle, America version ¹	SP-10-A	2,350 €
Smart Parking Node 6 Units Bundle, APAC / LATAM / AU / AU915 version ^{1,2}	SP-6-APLA-AU	1,400 €
Smart Parking Node 10 Units Bundle, APAC / LATAM / AU / AU915 version ^{1,2}	SP-10-APLA-AU	2,350 €
Smart Parking Node 6 Units Bundle, IN version ^{1,3}	SP-6-IN	1,400 €
Smart Parking Node 10 Units Bundle, IN version ^{1,3}	SP-10-IN	2,350 €
Smart Parking Node 6 Units Bundle, APAC / LATAM / AU / AS923 version ^{1,4}	SP-6-APLA-AS	1,400 €
Smart Parking Node 10 Units Bundle, APAC / LATAM / AU / AS923 version ^{1,4}	SP-10-APLA-AS	2,350 €
Smart Parking Installation Kit ⁵	SP-INST	102 €
Smart Parking Chemical Fixing Cartridge ⁶	SP-CFC	9 €

¹ Any Smart Parking bundle includes 'n' nodes. Each node includes, among others, PCB, battery, antenna, enclosure, rubber isolators, 4 private ground screws and 4 ground screw anchors.

² The radio of this version is valid for Australia.

³ The radio of this version is valid for India.

⁴ The radio of this version is valid for AS-923 countries (ASIA-PAC, LATAM, AU).

⁵ The Smart Parking Installation Kit includes a magnet for contactless reset, a private screw key and a micro-USB cable. This Installation Kit is not included in Smart Parking bundles, so remember to order at least one.

⁶ Any node needs to be installed with chemical fixing. This special mortar secures the 4 anchors to any substrate. The user can purchase this cartridge from Libelium (volume for up to 6 nodes) or can look for another similar resin.

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Smart Security

This model is designed to allow the detection of different events like movement, presence or water levels. Besides, a relay system allows this model to interact with external electrical machines.

Communication options	Ref.	Price
Plug & Sense! SS 802.15.4 EU	SSB-802-EU	546 €
Plug & Sense! SS 802.15.4	SSB-802	546 €
Plug & Sense! SS ZigBee 3 EU	SSB-ZB3-EU	546 €
Plug & Sense! SS WiFi	SSB-W	546 €
Plug & Sense! SS 868	SSB-868	561 €
Plug & Sense! SS 900 US	SSB-900-US	582 €
Plug & Sense! SS 900 BR	SSB-900-BR	582 €
Plug & Sense! SS 900 AU	SSB-900-AU	582 €
Plug & Sense! SS 4G EU/BR V2	SSB-4G-EU/BR-V2	776 €
Plug & Sense! SS 4G US V2	SSB-4G-US-V2	776 €
Plug & Sense! SS 4G AU	SSB-4G-AU	744 €
Plug & Sense! SS LoRaWAN EU	SSB-LW-EU	516 €
Plug & Sense! SS LoRaWAN US	SSB-LW-US	516 €
Plug & Sense! SS LoRaWAN AU	SSB-LW-AU	516 €
Plug & Sense! SS LoRaWAN IN	SSB-LW-IN	516 €
Plug & Sense! SS LoRaWAN ASIA-PAC / LATAM	SSB-LW-APL	516 €
Plug & Sense! SS LoRaWAN JP / KR	SSB-LW-JP-KR	596 €
Plug & Sense! SS Sigfox EU *	SSB-SF-EU	516 €
Plug & Sense! SS Sigfox US *	SSB-SF-US	528 €
Plug & Sense! SS Sigfox AU/APAC/LATAM *	SSB-SF-AAPL	528 €



Looking for a working and programmed demo with this product?
Try our out-of-the-box IoT Vertical kits!

* Does NOT include Sigfox connectivity, the user must hire this service directly from Sigfox. Check network availability in your country.



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Sensors available:

Sensor	Sockets						Ref.	Price
	A	B	C	D	E	F		
Temperature, Humidity and Pressure	✓		✓	✓	✓		9370-P	55 €
Water flow small		✓					9296-P	37 €
Water flow medium		✓					9297-P	50 €
Terminal box probe (accessory for Plug & Sense!)						✓	9270-P	30 €
Presence (PIR)	✓		✓	✓	✓		9212-P	64 €
Water Leakage / Liquid Detection (Point)	✓		✓	✓	✓		9243-P	27 €
Water Leakage / Liquid Detection (Line)	✓		✓	✓	✓		9295-P	114 €
Horizontal liquid level (combustibles)	✓		✓	✓	✓		9239-P	36 €
Horizontal liquid level (water)	✓		✓	✓	✓		9240-P	42 €
Hall Effect	✓		✓	✓	✓		9207-P	22 €
Luminosity (Luxes accuracy)	✓		✓	✓	✓		9325-P	47 €
Ultrasound	✓		✓	✓	✓		9246-P	275 €

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4-20 mA (Current Loop)

The applications for this Plug & Sense! model are focused on adding wireless connectivity to 4-20 mA devices and connecting them to the Cloud.

Communication options	Ref.	Price
Plug & Sense! 4-20 mA 802.15.4 EU	420B-802-EU	526 €
Plug & Sense! 4-20 mA 802.15.4	420B-802	526 €
Plug & Sense! 4-20 mA ZigBee 3 EU	420B-ZB3-EU	526 €
Plug & Sense! 4-20 mA WiFi	420B-W	526 €
Plug & Sense! 4-20 mA 868	420B-868	526 €
Plug & Sense! 4-20 mA 900 US	420B-900-US	556 €
Plug & Sense! 4-20 mA 900 BR	420B-900-BR	556 €
Plug & Sense! 4-20 mA 900 AU	420B-900-AU	556 €
Plug & Sense! 4-20 mA 4G EU/BR-V2	420B-4G-EU/BR-V2	786 €
Plug & Sense! 4-20 mA 4G US V2	420B-4G-US-V2	786 €
Plug & Sense! 4-20 mA 4G AU	420B-4G-AU	746 €
Plug & Sense! 4-20 mA LoRaWAN EU	420B-LW-EU	506 €
Plug & Sense! 4-20 mA LoRaWAN US	420B-LW-US	496 €
Plug & Sense! 4-20 mA LoRaWAN AU	420B-LW-AU	496 €
Plug & Sense! 4-20 mA LoRaWAN IN	420B-LW-IN	496 €
Plug & Sense! 4-20 mA LoRaWAN ASIA-PAC / LATAM	420B-LW-APL	496 €
Plug & Sense! 4-20 mA LoRaWAN JP / KR	420B-LW-JP-KR	576 €
Plug & Sense! 4-20 mA Sigfox EU *	420B-SF-EU	496 €
Plug & Sense! 4-20 mA Sigfox US *	420B-SF-US	516 €
Plug & Sense! 4-20 mA Sigfox AU/APAC/LATAM *	420B-SF-AAPL	516 €





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Sensors available:

Sensor	Sockets						Ref.	Price
	A	B	C	D	E	F		
Terminal box probe	✓	✓	✓	✓			9270-P	30 €
DB9 probe	✓	✓	✓	✓			DB9-P	25 €

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Ambient Control

This model is advised for the large amount of scenarios that only need to monitor temperature, humidity, pressure and luminosity sensors.

Communication options	Ref.	Price
Plug & Sense! AC 802.15.4 EU	ACB-802-EU	480 €
Plug & Sense! AC 802.15.4	ACB-802	480 €
Plug & Sense! AC ZigBee 3 EU	ACB-ZB3-EU	480 €
Plug & Sense! AC WiFi	ACB-W	480 €
Plug & Sense! AC 868	ACB-868	486 €
Plug & Sense! AC 900 US	ACB-900-US	516 €
Plug & Sense! AC 900 BR	ACB-900-BR	516 €
Plug & Sense! AC 900 AU	ACB-900-AU	516 €
Plug & Sense! AC 4G EU/BR V2	ACB-4G-EU/BR-V2	704 €
Plug & Sense! AC 4G US V2	ACB-4G-US-V2	704 €
Plug & Sense! AC 4G AU	ACB-4G-AU	672 €
Plug & Sense! AC LoRaWAN EU	ACB-LW-EU	468 €
Plug & Sense! AC LoRaWAN US	ACB-LW-US	468 €
Plug & Sense! AC LoRaWAN AU	ACB-LW-AU	468 €
Plug & Sense! AC LoRaWAN IN	ACB-LW-IN	468 €
Plug & Sense! AC LoRaWAN ASIA-PAC / LATAM	ACB-LW-APL	468 €
Plug & Sense! AC LoRaWAN JP / KR	ACB-LW-JP-KR	576 €
Plug & Sense! AC Sigfox EU *	ACB-SF-EU	468 €
Plug & Sense! AC Sigfox US *	ACB-SF-US	480 €
Plug & Sense! AC Sigfox AU/APAC/LATAM *	ACB-SF-AAPL	480 €



* Does NOT include Sigfox connectivity, the user must hire this service directly from Sigfox. Check network availability in your country.

Sensors available:

Confidential Document / Version: v18.8 // Date: June 2020

This catalogue supersedes any previously released and is valid until publication of another to replace it.



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Sensor	Sockets						Ref.	Price
	A	B	C	D	E	F		
Temperature, Humidity and Pressure	✓						9370-P	55 €
Luminosity (LDR)		✓					9205-P	15 €
Luminosity (luxes accuracy)			✓				9325-P	47 €

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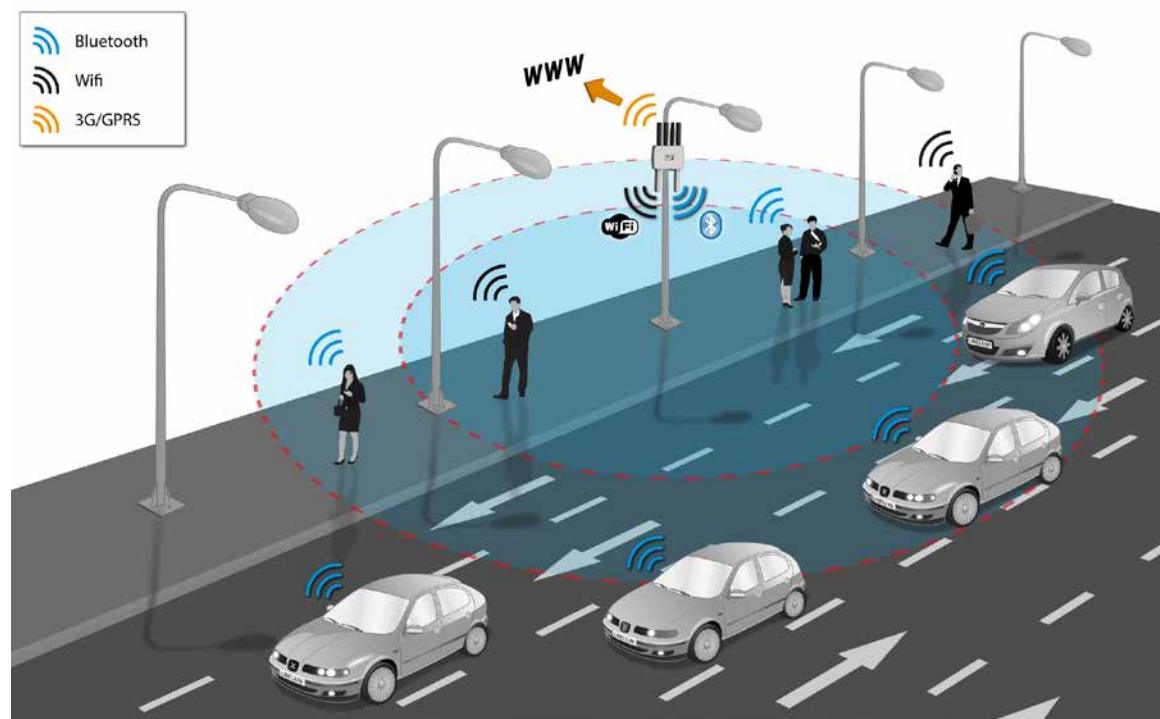
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Smartphone detection for traffic detection and pedestrian counting

This application is performed with Meshlium and it is the only one that does not allow to attach any sensor. Meshlium can detect any smartphone in the area by measuring WiFi and Bluetooth activity. This way, pedestrian and traffic congestion can be determined in real time. Meshlium is also the Internet Gateway for Waspnote Plug & Sense! For more information about Meshlium models and prices [see Meshlium section](#).



* Does NOT include Sigfox connectivity, the user must hire this service directly from Sigfox. Check network availability in your country.



Power options

One of the following options is necessary for each Plug & Sense! unit.

Power options	Smart Environment PRO	Smart Agriculture	Smart Water	Smart Water Ions	Smart Cities PRO	Smart Parking ⁽³⁾	Smart Security	4-20 mA	Ambient Control	Ref.	Price
External solar panel 7V - 500mA (power accessory for Plug & Sense!)	✓	✓	✓	✓	✓	X	✓	✓	✓	PAPS-ESP	42 €
220V adapter (power accessory for Plug & Sense!)	✓	✓	✓	✓	✓	X	✓	✓	✓	PAPS-220V	4 €
220V adapter + outdoors USB cable (power accessory for Plug & Sense!) ⁽¹⁾	✓	✓	✓	✓	✓	X	✓	✓	✓	PAPS-220V-OUT	16 €
220V adapter + international plug adapter (power accessory for Plug & Sense!) ⁽²⁾	✓	✓	✓	✓	✓	X	✓	✓	✓	PAPS-220V-J	11 €

1.- Includes a special USB cable, waterproof in the Plug & Sense! end.

2.- Includes a plug adapter for the mains electricity in countries like USA, UK, Australia, Canada, China, Japan, Singapore or Hong Kong.

3.- Smart Parking comes by default with a 10.4 Ah non-rechargeable battery; other power options do not make sense.

You can also add this item as a power accessory (only valid for Plug & Sense! with rechargeable battery):

Power options	PAPS-ESP	PAPS-220V	PAPS-220V-OUT	PAPS-220V-J	Smart Parking	Ref.	Price
External Battery Module	✓	✓	✓	✓	X	EBM	230 €

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Industrial Protocols for Plug & Sense!

Plug & Sense! can incorporate an Industrial Protocol module as a secondary communication option. This feature opens a wide variety of applications for industrial sensing and automation, military, automobile, vehicle tracking or remote factory management. You can add the following accessories to your Plug & Sense! units:

Accessories	Smart Env. PRO	Smart Agric.	Smart Water	Smart Water Ions	Smart Cities PRO	Smart Parking	Smart Security	4-20 mA	Ambient Control	Ref.	Price
RS-485 / Modbus Module	✓	✓	✗	✗	✓	✗	✓	✓	✓	RS-485-PS	120 €
RS-485 / Modbus Module (4G models)	✓	✓	✗	✗	✓	✗	✓	✓	✓	RS-485-PS-4G	90 €
CAN Bus Module	✓	✓	✗	✗	✓	✗	✓	✓	✓	CAN-PS	110 €
CAN Bus Module (4G models)	✓	✓	✗	✗	✓	✗	✓	✓	✓	CAN-PS-4G	85 €



Note: These accessories need special Plug & Sense! versions (called "Industrial Protocols ready"). Just remember to indicate to your Sales agent the Plug & Sense! units where you want to use the Industrial modules.

In the case you chose any of the above options, you will need one or more of these accessories to connect you

Sensor	Ref.	Price
Terminal box probe	9270-P	30 €
DB9 probe	DB9-P	25 €




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Accessories

The following items are optional. Feel free to choose!

Accessories	Ambient Control	Smart Cities PRO	Smart Parking	Smart Environment PRO	Smart Agriculture	Smart Security	Smart Water	Smart Water Ions	4-20 mA	Radiation Control	Ref.	Price
GPS Module ⁽¹⁾	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	GPS-PS	65 €
Extension cord 1.5 m ⁽²⁾	✓	✗	✗	✗	✓	✓	✓ ⁽³⁾	✓ ⁽³⁾	✓	✗	10250	12 €
Extension cord 3 m ⁽²⁾	✓	✗	✗	✗	✓	✓	✓ ⁽³⁾	✓ ⁽³⁾	✓	✗	10251	14 €
Magnet for contactless reset ⁽⁴⁾	✓	✓	✓ ⁽⁵⁾	✓	✓	✓	✓	✓	✓	✓	10342	30 €
Adeunis LoRaWAN Field Test Device, EU version	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	ALRWFTD-EU	210 €
Adeunis LoRaWAN Field Test Device, US version	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	ALRWFTD-US	280 €

1.- You can add a GPS receiver to your Plug & Sense! units. That is great for locating each node and tracking applications.

The GPS accessory needs special Plug & Sense! versions (called "GPS-ready").

Just remember to indicate to your Sales agent the Plug & Sense! units where you want to have a GPS.

2.- Extension cords are compliant with most sensor probes (not compliant for example with I2C probes or other digital probes). One extension cord per sensor required.

3.- In Smart Water or Smart Water Ions, extension cords are only compliant with the Soil/Water temperature probe.

4.- A single magnet can be used for many motes. It is highly recommended.

5.- The magnet is EXTREMELY recommended for Smart Parking.

We provide prices in USD to US customers. Please submit your RFQ, and we will provide you with the USD prices.

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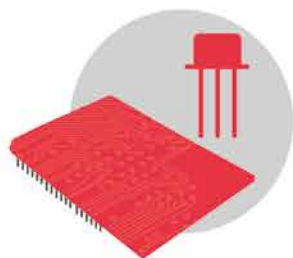
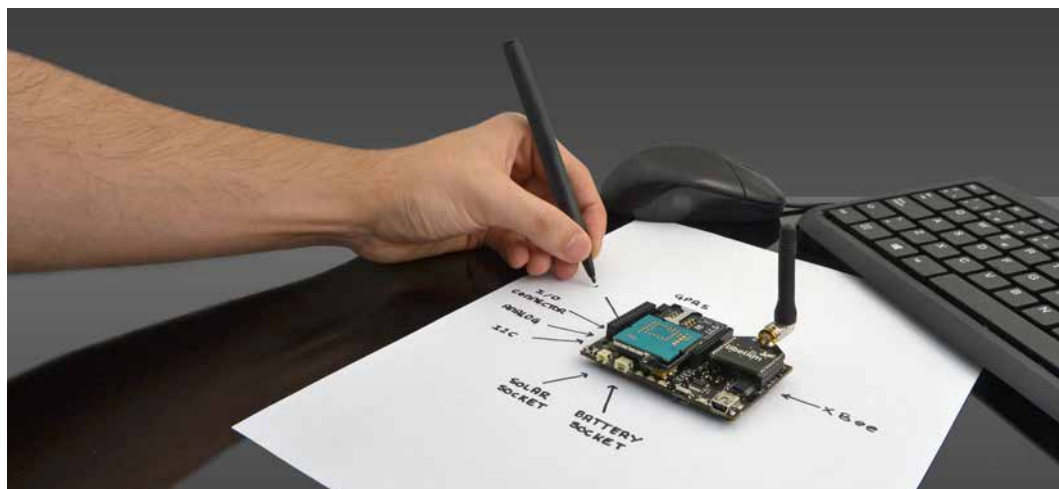
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Wasmote OEM: technology for developers

Wasmote OEM is the best option to research and develop. With a good C++ programming level, you can explore multiple possibilities with its Open Source API, 400+ online code examples and documentation.

Since it has no enclosure, you can try all kind of different hardware combinations, it is more handy to work with it at your lab table and you can use that extra money in getting more sensors and communication modules.

For configuring your hardware you will have to choose:



Board + Sensors

+



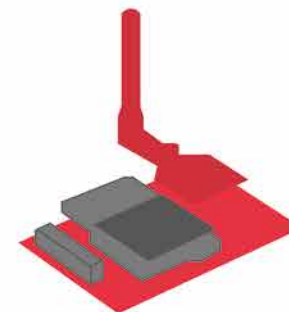
Communication Protocol

+



Power Supply

=



Your Custom Device

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Sensors

To make the deployment of IoT sensor networks easier, we have created 9 sensor boards to integrate more than 120 different sensors.

Gases PRO



Events



Cities PRO



Parking *



- Particle Matter (PM1 / PM2.5 / PM10) – Dust Sensor ⁽¹⁾
- CO
- CO₂
- O₂
- O₃
- NO
- NO₂
- SO₂
- NH₃
- H₂S
- CH₄ (and other combustible gases)
- Temperature, Humidity and Pressure
- Luminosity (Luxes accuracy)
- Ultrasound (outdoor IP67)

WGASPRO - 50 €

- Temperature, Humidity and Pressure
- Presence PIR
- Horizontal liquid level (combustibles) / (water)
- Vertical liquid level (water)
- Water presence (point/line)
- Hall effect ⁽²⁾
- Water flow small
- Water flow medium
- Relay Input-Output *
- Luminosity (Luxes accuracy)
- Ultrasound (outdoor IP67)

WEVENTS - 55 €

- Noise / Sound Level ^(*)
- Particle Matter (PM1 / PM2.5 / PM10) – Dust Sensor ⁽³⁾
- CO
- CO₂
- O₂
- O₃
- NO
- CH₄
- NO₂
- H₂S
- SO₂
- NH₃ (and other combustible gases)
- Temperature + Humidity + Pressure
- Temperature, Humidity and Pressure
- Luminosity (Luxes accuracy)
- Ultrasound (outdoor IP67)

WCITIESP - 55 €

- Radar (distance)
- Magnetic Field (3 axis):

* Always supplied with a Waspnote.

Note: Smart Parking is only available with the Plug & Sense! line.

1. Only available in the Plug & Sense! Smart Environment PRO line.

2. For doors and windows.

* Only available in the Plug & Sense! Smart Security line. 3. Only available in the Plug & Sense! Smart Cities PRO line.

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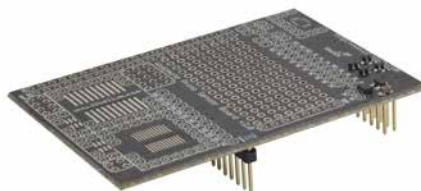
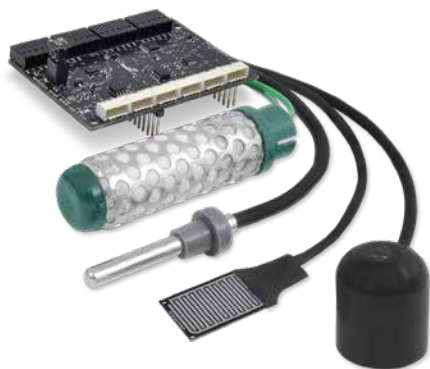
Support

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Agriculture PRO

Prototyping

4-20 mA (Current Loop)



- Temperature, Humidity and PressureHumidity
- Anemometer + wind vane + pluviometer
- Soil moisture ⁽⁴⁾ (1.5, 4.5, 8 m)
- Leaf wetness
- Luminosity (Luxes accuracy)
- Ultrasound (outdoor IP67)
- Soil/Water temperature
- Solar radiation (PAR)
- Trunk diameter
- Stem diameter
- Fruit diameter

- Pad Area
- Integrated Circuit Area
- Analog-to-Digital Converter (16b)

- Sensors and Instruments
- Remote transducers
- Monitoring processes
- Data transmission in industrial ambients

The user can choose among a wide variety of standard sensors

WAGRPRO - 99 €

WPROT - 35 €

W420 - 54 €

↓ chart continues

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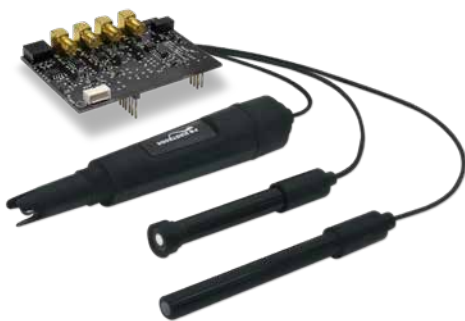
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Smart Water *



- Soil/Water Temperature
- Conductivity
- Dissolved Oxygen
- pH
- Oxidation-Reduction Potential

* Contains Soil/Water temperature sensor and 4 BNC pigtails.

WWATER - 228 €

Smart Water Ions



- Ammonium (NH_4^+)
- Bromide (Br^-)
- Calcium (Ca^{2+})
- Chloride (Cl^-)
- Cupric (Cu^{2+})
- Fluoride (F^-)
- Iodide (I^-)
- Lithium (Li^+)
- Nitrate (NO_3^-)
- Nitrite (NO_2^-)
- Magnesium (Mg^{2+})
- Perchlorate (ClO_4^-)
- Potassium (K^+)
- Silver (Ag^+)
- Sodium (Na^+)
- pH
- Soil / Water Temperature

* Contains Soil/Water temperature sensor and 5 BNC pigtails. Ion sensors need Reference Probe.

WWIONS - 240 €



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An accessory composed of a mounting bracket and a leveling plate is advised for the Solar radiation (PAR) and Ultraviolet sensor probes (check delivery time with your Sales agent):

Item	Ref.	Price
Solar Sensors Mounting Accessory	SSMA	85 €

For Smart Water and for Smart Water Ions sensors it is highly recommended to purchase calibration solutions to calculate accurate measurement. One kit is enough for several sensor units:

Calibration Kit	Ref.	Price
Conductivity Calibration Kit, K=0.1	9339	38 €
Conductivity Calibration Kit, K=1	9340	28 €
Conductivity Calibration Kit, K=10	9341	38 €
DO Calibration Solution	9342	42 €
Dissolved Oxygen Maintenance Kit	9450	144 €
pH Calibration Kit	9343	63 €
ORP Calibration Solution	9344	42 €
Reference Sensor Probe [PRO] Maintenance Solution	9449	119 €
Multi-Ions Calibration Kit (Ammonium, Calcium, Chloride, Magnesium, Nitrate, Potassium, Sodium)	9445	144 €
Bromide Calibration Kit	9388	119 €
Calcium Calibration Kit	9366	119 €
Chloride Calibration Kit	9389	119 €

Calibration Kit	Ref.	Price
Cupric Calibration Kit	9390	119 €
Fluoride Calibration Kit	9367	119 €
Iodide Calibration Kit	9391	119 €
Lithium Calibration Kit	9446	144 €
Nitrate Calibration Kit	9369	119 €
Nitrite Calibration Kit	9447	144 €
Perchlorate Calibration Kit	9448	114 €
Silver Calibration Kit	9392	119 €

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Sensor	Ref.	Price
Temperature, Humidity and Pressure	9370	24 €
Luminosity (luxes accuracy)	9325	10 €
Presence (PIR)	9212	25 €
Horizontal liquid level (combustibles)	9239	12 €
Horizontal liquid level (water)	9240	24 €
Vertical liquid level (water)	9242	30 €
Water Leakage / Liquid Detection (Point)	9243	12 €
Water Leakage / Liquid Detection (line)	9295	67 €
Hall effect ⁽¹⁾	9207	7 €
CO for low concentrations (Calibrated) ⁽³⁾	9371-LC	264 €
CO ₂ (Calibrated) ⁽³⁾	9372	630 €
O ₂ (Calibrated) ⁽³⁾	9373	199 €
O ₃ (Calibrated) ⁽³⁾	9374	324 €
NO for low concentrations (Calibrated) ⁽³⁾	9375-LC	264 €
NO ₂ high accuracy (Calibrated) ⁽³⁾	9376-HA	264 €
SO ₂ high accuracy (Calibrated) ⁽³⁾	9377-HA	264 €
NH ₃ (Calibrated) for low concentrations ⁽³⁾	9378-LC	420 €
NH ₃ (Calibrated) for high concentrations ⁽³⁾	9378-HC	461 €

Sensor	Ref.	Price
CH ₄ and Combustible Gas (Calibrated) ⁽³⁾	9379	234 €
H ₂ S (Calibrated) ⁽³⁾	9381	204 €
Ultrasound (indoor)	9213	45 €
Ultrasound (outdoor IP67)	9246	110 €
Distance (by metallic pressure)	9267	40 €
Water flow small	9296	20 €
Water flow medium	9297	30 €
Soil/Water temperature ⁽⁴⁾	9255	35 €
Solar radiation (PAR)	9251	225 €
Trunk diameter	9252	540 €
Stem diameter	9253	490 €
Fruit diameter	9254	510 €
Anemometer + wind vane + pluviometer	9256	73 €
Ultraviolet radiation	9257	310 €
Soil moisture ⁽⁵⁾ (1.5m)	9248	55 €
Soil moisture ⁽⁵⁾ (4.5m)	9324	65 €
Soil moisture ⁽⁵⁾ (8m)	9323	75 €
Leaf wetness	9249	3 €

Sensor	Ref.	Price
Conductivity	9326	55 €
Dissolved Oxygen	9327	750 €
pH	9328	30 €
Oxidation Reduction Potential	9329	70 €
Ammonium Ion (NH ₄ ⁺) [PRO]	9412	504 €
Bromide Ion (Br ⁻) [PRO]	9413	918 €
Calcium Ion (Ca ²⁺) [PRO]	9414	504 €
Chloride Ion (Cl ⁻) [PRO]	9415	504 €
Cupric Ion (Cu ₂ ⁺) [PRO]	9416	918 €

Sensor	Ref.	Price
Fluoride Ion (F ⁻) [PRO]	9417	918 €
Iodide Ion (I ⁻) [PRO]	9418	918 €
Lithium Ion (Li ⁺) [PRO]	9419	918 €
Nitrate Ion (NO ₃ ⁻) [PRO]	9421	504 €
Nitrite Ion (NO ₂ ⁻) [PRO]	9422	918 €
Magnesium Ion (Mg ²⁺) [PRO]	9420	504 €
Perchlorate Ion (ClO ₄ ⁻) [PRO]	9423	918 €



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Sensor	Ref.	Price
Potassium Ion (K ⁺) [PRO]	9424	504 €
Silver Ion (Ag ⁺) [PRO]	9425	918 €
Sodium Ion (Na ⁺) [PRO]	9426	504 €
pH [PRO]	9411	504 €
Reference Probe [PRO] ⁶	9410	504 €

1. For doors and windows.

2. VOC sensors are connected to the same socket, thus, it is not possible to have them working within the same board at the same time, but they are interchangeable.

3. Calibrated gas sensors are manufactured once the order has been placed to ensure maximum durability of the calibration feature. Manufacturing process and delivery may take from 4 to 6 weeks. Lifetime of calibrated gas sensors is 6 months working at maximum accuracy. We strongly encourage our customers to buy extra gas sensors to replace the original ones after that time to ensure maximum accuracy and performance.

4. Each Smart Water or Smart Water ions board includes a Soil/Water temperature sensor.

5. In each agriculture board, 3 soil moistures can be connected in order to measure the parameter in different depth levels.

6. This reference probe is **mandatory** for any ion sensor of the PRO type. It is not valid for the single or double type sensors.

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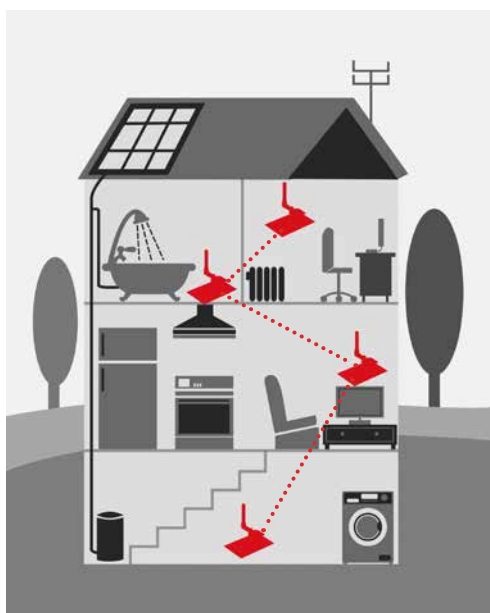
Data

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Configuring your Wasmotes: Connectivity

Wasmote model is determined by the selected communication radio. Each Wasmote model can have different types of antenna: 5dBi for 2.4 GHz models and 4.5dBi for the rest of frequencies.



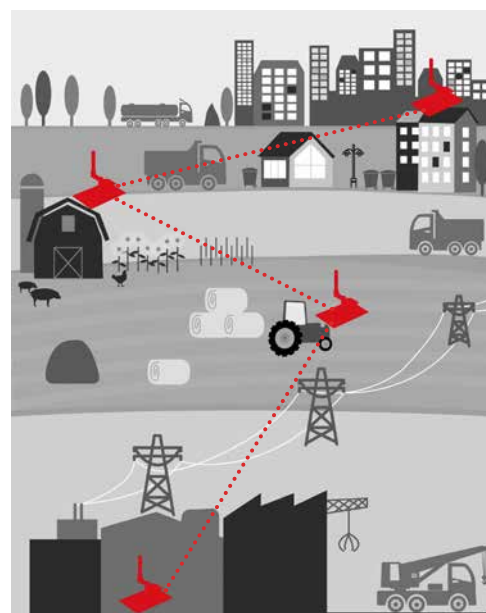
WiFi
Bluetooth
Bluetooth Low Energy

~ 0-300 m



4G - NB-IoT - Cat-M - Sigfox - LoRaWAN

Typical carrier range



802.15.4
Digimesh
ZigBee 3
868 MHz
900 MHz
LoRa

~ 7-22+ Km



RS-485
4-20 mA
CAN Bus
Modbus

~ 0-200 m

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The following table compares the features of all available options according to frequency, use zone, protocol and range.

Waspnote price chart depending on model:

Model	Frequency band	Use zone	Protocol	Distance outdoors ⁽¹⁾	Ref.	Price
Waspnote 802.15.4 5dBi EU	2.4 GHz	Europe	802.15.4	750 m	W802P-SMA5-EU	240 €
Waspnote 802.15.4 5dBi	2.4 GHz	Worldwide	802.15.4	1.6 km	W802P-SMA5	240 €
Waspnote Digimesh 5 dBi	2.4 GHz	Worldwide	Digimesh	1.5 km	WDMP-SMA5	240 €
Waspnote ZigBee 3 EU 5 dBi	2.4 GHz	Europe	ZigBee 3	1.2 km	WZB3-SMA5-EU	240 €
Waspnote 868 4.5 dBi	868 MHz	Europe	RF	8.4 km	W868-SMA4	250 €
Waspnote 900 4.5dBi US	900 MHz	USA & Canada	RF	15.5 km	W900-SMA4-US	276 €
Waspnote 900 4.5dBi BR	900 MHz	Brazil	RF	15.5 km	W900-SMA4-BR	276 €
Waspnote 900 4.5dBi AU	900 MHz	Australia	RF	15.5 km	W900-SMA4-AU	276 €
Waspnote LoRaWAN 4.5 dBi - EU	868 MHz	Europe	LoRaWAN	-km- Typical base station range	WLW-SMA4-EU	228 €
Waspnote LoRaWAN 4.5 dBi - US	900 MHz	USA & Canada	LoRaWAN	-km- Typical base station range	WLW-SMA4-US	228 €
Waspnote LoRaWAN 4.5 dBi - 433	433 MHz	Worldwide	LoRaWAN	-km- Typical base station range	WLW-SMA4-433	228 €
Waspnote LoRaWAN 4.5 dBi -AU	900 MHz	Australia	LoRaWAN	-km- Typical base station range	WLW-SMA4-AU	228 €
Waspnote LoRaWAN 4.5 dBi -IN	865 MHz	India	LoRaWAN	-km- Typical base station range	WLW-SMA4-IN	228 €
Waspnote LoRaWAN 4.5 dBi ASIA-PAC / LATAM	923 MHz	AS923	LoRaWAN	-km- Typical base station range	WLW-SMA4-APL	228 €
Waspnote LoRaWAN 1.2 dBi - JP / KR	920-923 MHz	AS923 KR920-923	LoRaWAN	-km- Typical base station range	WLW-SMA1-JP-KR	255 €
Waspnote Sigfox 4.5 dBi EU ²	868 MHz	Europe	Sigfox	-km- Typical base station range	WSF-SMA4-EU	228 €



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Waspote price chart depending on model:

Model	Frequency band	Use zone	Protocol	Distance outdoors ⁽¹⁾	Ref.	Price
Waspote Sigfox 4.5 dBi US ²	900 MHz	USA & Canada	Sigfox	-km- Typical base station range	WSF-SMA4-US	240 €
Waspote Sigfox 4.5 dBi AU / APAC / LATAM ²	900 MHz	Australia, Asia-Pacific, Latinamerica	Sigfox	-km- Typical base station range	WSF-SMA4-AAPL	240 €
Waspote LoRa 4.5 dBi - 868	868 MHz	Europe	RF	22+ Km	WLoRa-SMA4-868	178 €
Waspote LoRa 4.5 dBi - 900	900 MHz	USA & Canada	RF	22+ Km	WLoRa-SMA4-900	178 €
Waspote WiFi SMA5	2.4 GHz	Worldwide	802.11b/g/n	100 m	WWIFI-SMA5	264 €
Waspote NB-IoT / Cat-M ³	B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B28/B39	Worldwide	NB-IoT – Cat-M – EGPRS	- km - Typical carrier range	WA-NBCM	290 €
Waspote 4G EU/BR V2	2G: 900/1800 MHz WCDMA: 900/2100 MHz LTE: 800/900/1800/ 2100/2600 MHz	Europe & Brazil	GSM – GPRS – 3G – 4G	- km - Typical carrier range	WA-4G-EU/BR-V2	428 €
Waspote 4G US V2	WCDMA: 850/1900 MHz LTE: 700/850/1700/1900 MHz	USA & Canada	3G – 4G	- km - Typical carrier range	WA-4G-US-V2	428 €
Waspote Bluetooth 5dBi	LTE: 700/850/1700/1900 MHz	Worldwide	Bluetooth 2.1 + EDR Class 2	30-100 m	WWBTS-SMA5	234 €
Waspote Bluetooth Low Energy 5dBi	2.4 GHz	Worldwide	Bluetooth 4.0 / Bluetooth Smart	100 m	WBLE-SMA5	204 €

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Industrial Protocols

Waspote can integrate communication modules for the most common wired communication protocols: RS-485, CAN Bus and Modbus. These are widely used standards in the industrial and automation market for connecting devices and sensors, not in a wireless way but with cables. The user can interface Waspote ecosystem with these protocols.

Waspote allows to perform three main applications:

1. Connect any sensor to an existing industrial bus.
2. Add wireless connectivity to wired buses.
3. Connect to the Cloud industrial devices.

Waspote price chart depending on model:

Model	Ref.	Price
Waspote RS-485 / Modbus + DB9 cable	WA-485	210 €
Waspote CAN Bus + DB9 cable	WA-CAN	222 €



Waspote RS-485 / Modbus



Waspote CAN Bus



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Expansion Radio Board

The Expansion Board allows to connect two radios at the same time. This means a lot of different combinations are possible using any of the radios available for Wasp mote: 802.15.4, ZigBee, DigiMesh, 868 MHz, 900 MHz, LoRa, WiFi, NB-IoT, Cat-M, 4G, Sigfox, LoRaWAN, Bluetooth Pro, Bluetooth Low Energy and RFID/NFC. Besides, the Expansion Radio Board can be utilized to connect the Industrial Protocols modules.

Applications:

- Multifrequency Sensor Networks: (2.4GHz – 868/900MHz, LoRa)
- Sigfox - ZigBee hybrid networks
- NFC (RFID) applications with 4G
- LoRaWAN - WiFi hybrid networks
- Industrial Protocols – wireless hybrid networks



Expansion Radio Board: 2 radios connection



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Model	Require Expansion Radio Board?	Direct connection to Waspote	Ref.	Price
Expansion Radio Board	-	-	WEXP	30 €
XBee 802.15.4 5 dBi EU	✓		X802P-SMA5-EU	48 €
XBee 802.15.4 5dBi	✓		X802P-SMA5	48 €
XBee Digimesh 5dBi	✓		XDMP-SMA5	48 €
XBee ZigBee 3 EU 5dBi	✓		XZB3-SMA5-EU	48 €
XBee 868 4.5dBi	✓		X868-SMA4	90 €
XBee 900 4.5 dBi US	✓		X900-SMA4-US	79 €
XBee 900 4.5 dBi BR	✓		X900-SMA4-BR	79 €
XBee 900 4.5 dBi AU	✓		X900-SMA4-AU	79 €
LoRa module SMA 4.5 dBi - 868	Only for socket 0		LoRa-SMA4-868	54 €
LoRa module SMA 4.5 dBi - 900	Only for socket 0		LoRa-SMA4-900	54 €
LoRaWAN Module EU	✓		LW-SMA4-EU	70 €
LoRaWAN Module US	✓		LW-SMA4-US	70 €
LoRaWAN Module 433	✓		LW-SMA4-433	70 €
LoRaWAN Module AU	✓		LW-SMA4-AU	70 €
LoRaWAN Module IN	✓		LW-SMA4-IN	70 €
LoRaWAN Module ASIA-PAC / LATAM	✓		LW-SMA4-APL	70 €
LoRaWAN Module JP / KR	✓		LW-SMA1-JP-KR	115 €
Sigfox Module EU ¹	✓		SF-SMA4-EU	66 €

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Model	Require Expansion Radio Board?	Direct connection to Waspnote	Ref.	Price
Sigfox Module US ¹	✓		SF-SMA4-US	78 €
Sigfox Module AU/APAC/LATAM ¹	✓		SF-SMA4-AAPL	78 €
WiFi Module SMA5	✓		WIFI-SMA5	108 €
NB-IoT / Cat-M Module ²		✓	WNBCM	199 €
4G Module EU/BR-V2		✓	W4G-EU/BR-V2	224 €
4G Module US V2		✓	W4G-US-V2	224 €



Sigfox module



Waspnote 4G module

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Model	Require Expansion Radio Board?	Direct connection to Waspote	Ref.	Price
Bluetooth Module for device discovery ³ , 5 dBi antenna	✓		WBTS-SMA5	90 €
Bluetooth Low Energy Module, 5dBi antenna	✓		BLE-SMA5	78 €
RFID 13.56 MHz / NFC Module + antenna*	✓		W1356	60 €
GPS Module		✓	WGPS	60 €
RS-485 / Modbus module + DB9 cable	Only for socket 0		W485	60 €
CAN Bus module + DB9 cable	Only for socket 0		WCAN	66 €

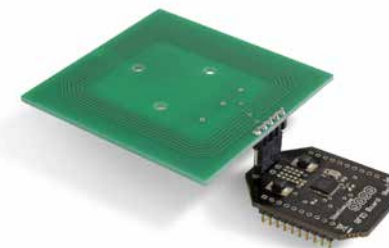
1 Does NOT include Sigfox connectivity, the user must hire this service directly from Sigfox. Check network availability in your country. 2 This radio includes a GPS receiver.

3 The Bluetooth module requires an SD card to save all data of discovered devices, see prices in the next section.

1- Tests performed with 5 dB omnidirectional antenna, line-of-sight and Fresnel zone clearance conditions.

2- Does NOT include Sigfox connectivity, the user must hire this service directly from Sigfox. Check network availability in your country.

3 - This device includes a GPS receiver.



RFID 13.56 MHz / NFC module + antenna



Waspote GPS module



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Power options

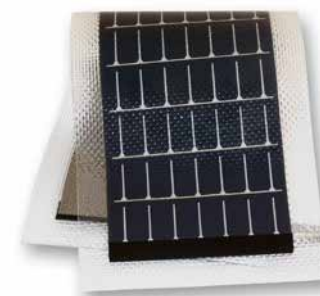
Model	Features	Ref.	Price
6600mA·h battery ⁽¹⁾	Li-ion rechargeable	6041	36 €
52 A·h ^{(1) (2)}	Non-rechargeable	6023	162 €
Rigid solar panel	7 V – 500 mA	6020	42 €
Flexible solar panel	7.2 V – 100 mA	6021	41 €
220V - USB	USB connector option	6006	4 €
International adapter	USB connector option	10280	8 €
Car lighter - USB	USB connector option	6007	4 €

1.- Each Wasp mote always requires a battery, even if it is powered from an external power supply.

2.- This power option is not available for NB-IoT, Cat-M or 4G models.



Rigid Solar Panel 7V - 500mA



Flexible Solar Panel 7.2V - 100mA

We provide prices in USD to US customers. Please submit your RFQ, and we will provide you with the USD prices.

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Accessories

Optional complements for Waspnote. Feel free to customize your Waspnotes!

Model	Features	Ref.	Price
SD card*	16 GB (5 cards pack)	WSD	40 €
13.56 MHz / NFC card	5 units pack	10156	3 €
13.56 MHz / NFC keyring	5 units pack	10157	4 €
13.56 MHz / NFC sticker	5 units pack	10166	4 €
OBD-II cable for CAN Bus Module	For connecting to compatible vehicles	OBD	29 €
Adeunis LoRaWAN Field Test Device, EU version	Checks LoRaWAN coverage	ALRWFTD-EU	210 €
Adeunis LoRaWAN Field Test Device, US version	Checks LoRaWAN coverage	ALRWFTD-US	210 €
Adeunis LoRaWAN Field Test Device, AU version	Checks LoRaWAN coverage	ALRWFTD-AU	280 €
Adeunis LoRaWAN Field Test Device, ASIA-PAC / LATAM version	Checks LoRaWAN coverage	ALRWFTD-APL	280 €

* There are many SD card models; the only model that Libelium can assure that works with Waspnote correctly is the model that Libelium distributes officially.



Now that you have configured your hardware, go to **Data** section to decide how to connect to the Cloud.

[View Section](#)



Demo Kits

Waspnote P&S!

Waspnote OEM

Data

Support

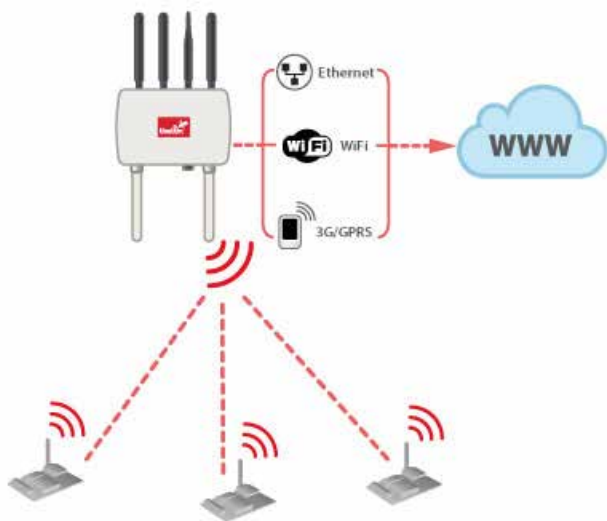
Orders

Extracting the data

The last point for configuring a sensor network is to decide the way to access the data. There are 3 alternatives:

Meshlium

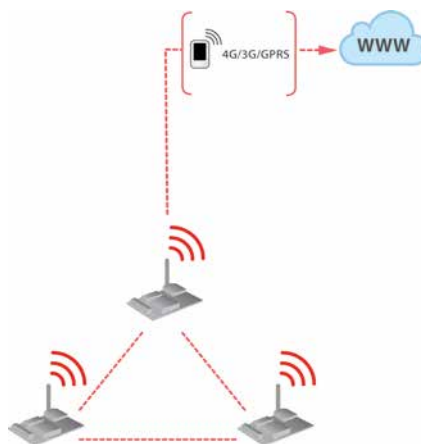
This is the most recommended option for outdoor networks since it is encased in a rugged, waterproof enclosure which protects it from the harshest conditions. It can receive, parse and store frames in its local database. Meshlium can also forward sensor data directly to the Internet via Ethernet or GPRS/4G protocols, depending on the connectivity options available in the area.



Waspnote NB-IoT / Cat-M / 4G / Sigfox / LoRaWAN

NB-IoT, Cat-M or 4G can be used in networks placed in difficult access locations, when using a single point of data collection alone or in combination with the other two options, using the cellular radio only to send SMS alert messages.

Sigfox and LoRaWAN are special cases of cellular communications: LPWAN (Low Power, Wide Area Network). They are indicated for many applications (Smart Cities, Smart Parking, security, etc). Nodes send data directly to the back-end with low power consumption and cheap fees.



Waspnote Gateway

Connected by USB to a computer. This is recommended for applications of few nodes that are indoors or for testing while configuring the network. The Waspnote Gateway is also used to send commands to the sensor network, thus at least one unit should be purchased with the first kit of Waspnotes.





Demo Kits

Waspote P&S!

Waspote OEM

Data

Support

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Meshlium

Meshlium is the best Internet Gateway for Waspote. It is a Linux-based router, totally modular and specially designed for harsh conditions without compromising flexibility in the installation. Meshlium can directly send sensor data from Waspote to many 3rd party Cloud platforms.

Any scenario	<ul style="list-style-type: none"> Communication: <ul style="list-style-type: none"> Waspote → Meshlium: 802.15.4, 868/900MHz Meshlium → Internet: Ethernet and 4G/3G/GPRS WiFi and Bluetooth interface detection to detect smartphones (traffic congestion applications) GPS receiver (US versions)
Fast configuration	<ul style="list-style-type: none"> GUI to configure in a visual and easy way (includes factory presets to make installation even faster) Integrated with 3rd party Cloud platforms, required agents installed by default in all Meshliums
Easy installation	<ul style="list-style-type: none"> Special holders and brackets to install in street lights and building fronts Elbow connectors included in all models to place antennas horizontally External socket for SIM card
Easy maintenance	<ul style="list-style-type: none"> Get the latest software version with just one click Robust waterproof IP65 enclosure Notifications buzzer
Fully certified	<ul style="list-style-type: none"> CE (Europe) FCC (US) IC (Canada) ANATEL (Brazil) RCM (Australia) PTCRB (cellular certification for US) AT&T (cellular certification for US)





Demo Kits

Wasp mote P&S!

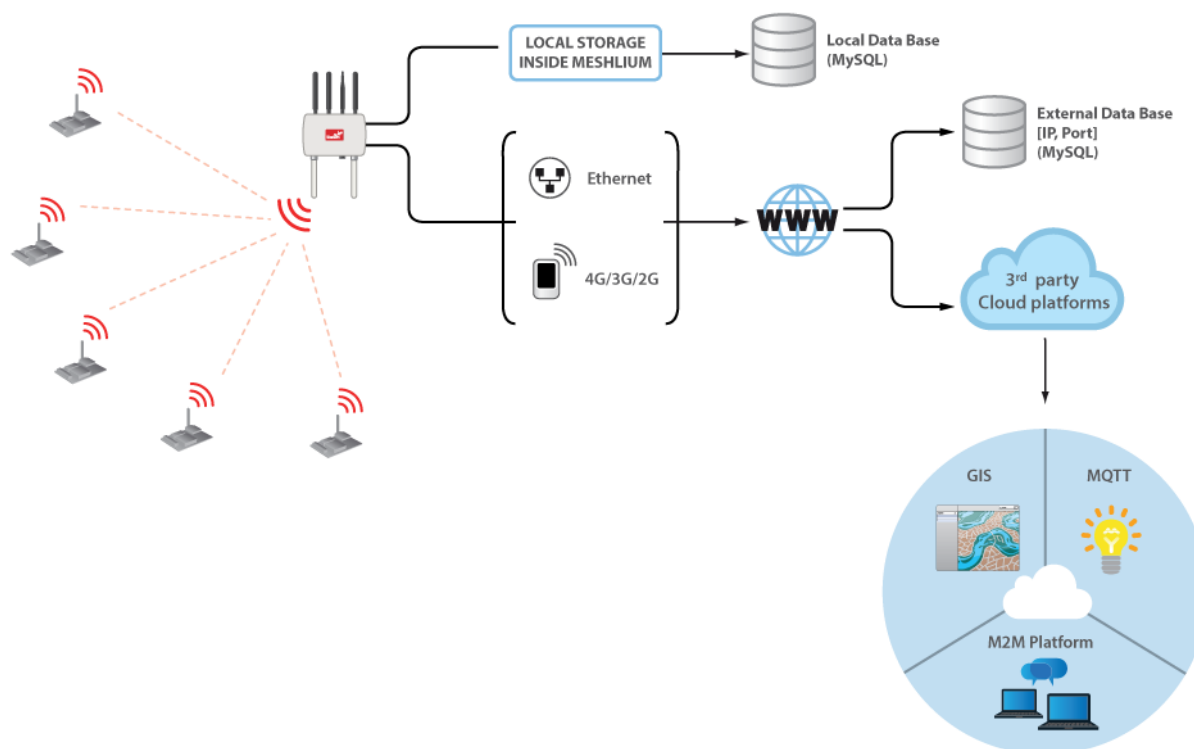
Wasp mote OEM

Data

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Orders

Libelium has partnered with the best Cloud software solution providers to offer you all the necessary components to deploy Internet of Things (IoT), machine-to-machine (M2M) or Smart Cities projects with minimum time to market. Meshlium is able to send data to the Cloud in a transparent way:





Demo Kits

Waspote P&S!

Waspote OEM

Data

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Meshlium includes internal software units called "Cloud Connectors" that allow the information gathered to be easily sent to any of the next Cloud Platforms. Note that data can be also stored in the internal database of Meshlium or even sent to any other Cloud Platform (for more info about how being part of the official Cloud Connectors Program go to <http://www.libelium.com/products/meshlium/wsn/>).





Demo Kits

Waspote P&S!

Waspote OEM

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Support

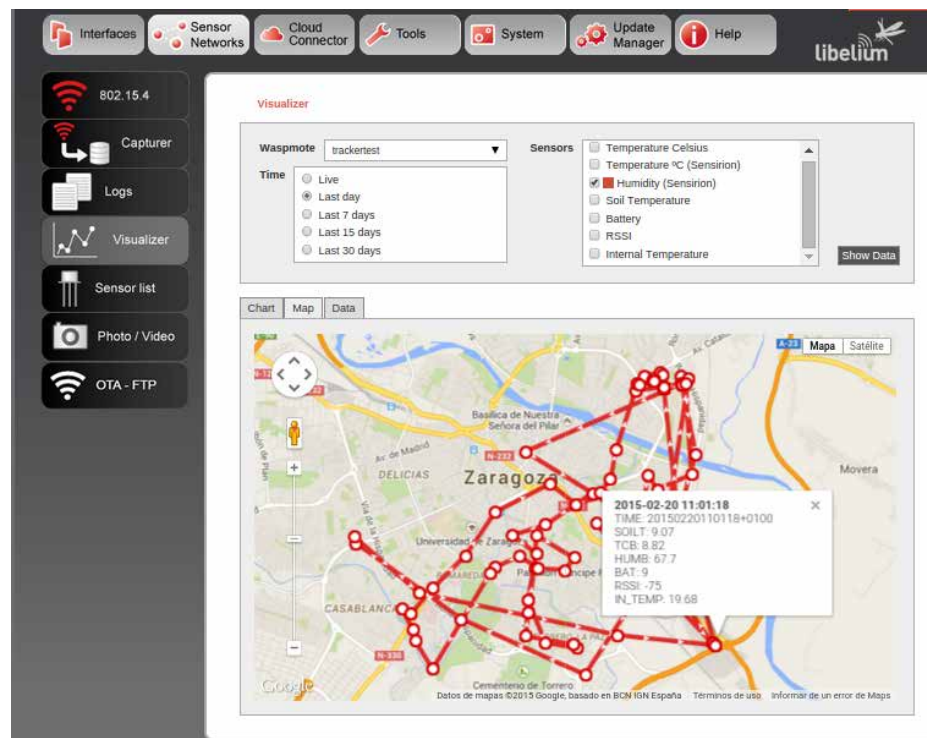
Orders

Meshlium Visualizer

This software feature allows to plot beautiful graphs with Meshlium. Meshlium Visualizer is only included in IoT Vertical Kits and Solution Kits with Meshlium. The service is valid for Libelium standard sensors.



Meshlium Visualizer showing data series



Meshlium Visualizer geo-locating a moving Plug & Sense!



Demo Kits

Waspnote P&S!

Waspnote OEM

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Meshlium price chart depending on model:

Meshlium Model	Use zone	WiFi AP	4G/3G/GPRS	GPS	802.15.4	868/900	WiFi & Bluetooth scanners	Ref.	Price
Meshlium 4G 802.15.4 AP 868 EU	Europe	✓	EU/BR version		EU version	868		M4G-802-868-EU	1,590 €
Meshlium 4G 802.15.4 AP 900 US	USA & Canada	✓	US version	✓	World version	900 US		M4G-802-900-US	1,590 €
Meshlium 4G 802.15.4 AP 900 BR	Brazil	✓	EU/BR version		World version	900 BR		M4G-802-900-BR	1,590 €
Meshlium 4G 802.15.4 AP 900 AU	Australia	✓	AU version		World version	900 AU		M4G-802-900-AU	1,590 €
Meshlium 4G AP 868 EU	Europe	✓	EU/BR version			868		M4G-868-EU	1,500 €
Meshlium 4G AP 900 US	USA & Canada	✓	US version	✓		900 US		M4G-900-US	1,500 €
Meshlium 4G AP 900 BR	Brazil	✓	EU/BR version			900 BR		M4G-900-BR	1,500 €
Meshlium 4G AP 900 AU	Australia	✓	AU version			900 AU		M4G-900-AU	1,500 €
Meshlium 4G 802.15.4 AP EU	Europe	✓	EU/BR version		EU version			M4G-802-EU	1,500 €
Meshlium 4G 802.15.4 AP US	USA & Canada	✓	US version	✓	World version			M4G-802-US	1,500 €
Meshlium 4G 802.15.4 AP BR	Brazil	✓	EU/BR version		World version			M4G-802-BR	1,500 €
Meshlium 4G 802.15.4 AP AU	Australia	✓	AU version		World version			M4G-802-AU	1,500 €
Meshlium 4G AP Scanner EU/BR	Europe & Brazil	✓	EU/BR version				✓	M4G-SCAN-EU/BR	1,650 €
Meshlium 4G AP Scanner US	USA & Canada	✓	US version	✓			✓	M4G-SCAN-US	1,650 €
Meshlium 4G AP Scanner AU	Australia	✓	AU version				✓	M4G-SCAN-AU	1,650 €



Demo Kits

Waspnote P&S!

Waspnote OEM

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The following accessory is optional.

Item	Ref.	Price
International adapter *	10280	8 €
Directional Antennas for Meshlium Scanner**	MDA	150 €

* Plug adapter for the mains electricity in countries like USA, UK, Australia, Canada, China, Japan, Singapore or Hong Kong. Highly recommended for powering Meshlium.

** This is a kit of 2 outdoors directional antennas (14 dB) for WiFi and Bluetooth, mounting kits, 3 m cables and adapters. The kit is specially indicated for Vehicle Detection applications because it enlarges the range area.



Directional antenna for Meshlium Scanner



Demo Kits

Waspnote P&S!

Waspnote OEM

Data

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Waspnote Gateway and cellular or LPWAN modules

Data extraction option	Ref.	Price
Waspnote Gateway 802.15.4 5 dBi EU	WG802P-SMA5-EU	74 €
Waspnote Gateway 802.15.4 5 dBi	WG802P-SMA5	74 €
Waspnote Gateway Digimesh 5 dBi	WGDMP-SMA5	70 €
Waspnote Gateway ZigBee 3 EU 5 dBi	WGZB3-SMA5-EU	99 €
Waspnote Gateway 868 4.5 dBi	WG868-SMA4	82 €
Waspnote Gateway 900 4.5 dBi US	WG900-SMA4-US	99 €
Waspnote Gateway 900 4.5 dBi BR	WG900-SMA4-BR	99 €
Waspnote Gateway 900 4.5 dBi AU	WG900-SMA4-AU	99 €
Waspnote Gateway LoRa 868	WGLoRa-SMA4-868	57 €
Waspnote Gateway LoRa 900	WGLoRa-SMA4-900	57 €
Waspnote Gateway Bluetooth 5 dBi	WGBTS-SMA5	69 €
Waspnote Gateway Bluetooth Low Energy 5 dBi	WGBLE-SMA5	60 €
NB-IoT / Cat-M Module *	WNBCM	199 €
4G Module EU/BR V2	W4G-EU/BR-V2	224 €
4G Module US V2	W4G-US-V2	224 €
LoRaWAN Module EU	LW-SMA4-EU	70 €
LoRaWAN Module US	LW-SMA4-US	70 €
LoRaWAN Module 433	LW-SMA4-433	70 €



Demo Kits

Waspote P&S!

Waspote OEM

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Orders

Data extraction option	Ref.	Price
LoRaWAN Module AU	LW-SMA4-AU	70 €
LoRaWAN Module IN	LW-SMA4-IN	70 €
LoRaWAN Module ASIA-PAC / LATAM	LW-SMA4-APL	70 €
LoRaWAN Module JP / KR	LW-SMA1-JP-KR	115 €
Waspote Sigfox module EU**	SF-SMA4-EU	66 €
Waspote Sigfox module US**	SF-SMA4-US	78 €
Waspote Sigfox module AU/APA/LATAM**	SF-SMA4-AAPL	78 €



Demo Kits

Waspote P&S!

Waspote OEM

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LoRaWAN and Sigfox base stations

Libelium distributes base stations for LoRaWAN networks, manufactured by several companies. All of them have different connectivity options; some feature 4G, WiFi, etc. Some are ready to work outdoors (IP6x grade) and come with PoE powering system, a mounting kit, all needed cables and antennas, etc. Most can be configured by the user to forward LoRaWAN packets to different network servers. They run the AEP operating system (enhanced closed-source Linux distro).

Model	User Zone	Connectivity	Waterproof?	Ref.	Price
Multitech Conduit LoRaWAN Base Station, 4G, AEP, EU version (embedded Network Server)	EU	Ethernet, 4G	✓	MLRWBS-4G-AEP-ENS-EU	1,400 €
Multitech Conduit LoRaWAN Base Station, 4G, AEP, US version (embedded Network Server)	US	Ethernet, 4G	✓	MLRWBS-4G-AEP-ENS-US	1,400 €
Multitech Conduit LoRaWAN Base Station, AEP, AU version (embedded Network Server)	AU	Ethernet	✓	MLRWBS-AEP-ENS-AU	1,200 €
Multitech Conduit LoRaWAN Base Station, AEP, JP / KR version (embedded Network Server)	JP KR	Ethernet	✓	MLRWBS-AEP-ENS-JP-KR	1,300 €
The Things Outdoor LoRaWAN BS, 4G, GPS, EU	EU	Ethernet, 4G	✓	TTOLRWBS-4G-GPS-EU	675 €
The Things Outdoor LoRaWAN BS, 4G, GPS, US	US	Ethernet, 4G	✓	TTOLRWBS-4G-GPS-US	675 €
The Things Outdoor LoRaWAN BS, 4G, GPS, ASIA-PAC / LATAM	ASIA-PAC / LATAM	Ethernet, 4G	✓	TTOLRWBS-4G-GPS-APL	675 €
The Things Indoor LoRaWAN BS EU (configured for TTN)	EU	WiFi	✗	TTILRWBS-TTN-EU	90 €
The Things Indoor LoRaWAN BS US (configured for TTN)	US	WiFi	✗	TTILRWBS-TTN-US	90 €
Kerlink Wirnet LoRaWAN BS, 4G, GPS, EU	EU	Ethernet, 4G	✓	KWLRWBS-4G-GPS-EU	1,100 €
Kerlink Wirnet LoRaWAN BS, 4G, GPS, US	US	Ethernet, 4G	✓	KWLRWBS-4G-GPS-US	1,100 €
Kerlink Wirnet LoRaWAN BS, 4G, GPS, IN	IN	Ethernet, 4G	✓	KWLRWBS-4G-GPS-IN	1,100 €
Kerlink Wirnet LoRaWAN BS, 4G, GPS, ASIA-PAC / LATAM	ASIA-PAC / LATAM	Ethernet, 4G	✓	KWLRWBS-4G-GPS-APL	1,100 €
Kerlink iFemtocell LoRaWAN BS EU	EU	Ethernet, WiFi	✗	KILRWBS-EU	450 €
Kerlink iFemtocell LoRaWAN BS US	US	Ethernet, WiFi	✗	KILRWBS-US	450 €
Kerlink iFemtocell LoRaWAN BS AU	AU	Ethernet, WiFi	✗	KILRWBS-AU	450 €



Demo Kits

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Model	User Zone	Connectivity	Waterproof?	Ref.	Price
Kerlink iFemtocell LoRaWAN BS IN	IN	Ethernet, WiFi	X	KILRWBS-IN	450 €
Kerlink iFemtocell LoRaWAN BS ASIA-PAC / LATAM	ASIA-PAC / LATAM	Ethernet, WiFi	X	KILRWBS-APL	450 €
Tektelic Kona Macro LoRaWAN BS, 4G, EU	EU	Ethernet, 4G	✓	TKMLRWBS-4G-EU	1,600 €
Tektelic Kona Macro LoRaWAN BS, 4G, US	US	Ethernet, 4G	✓	TKMLRWBS-4G-US	1,600 €
Tektelic Kona Macro LoRaWAN BS, 4G, AU	AU	Ethernet, 4G	✓	TKMLRWBS-4G-AU	1,600 €
Tektelic Kona Macro LoRaWAN BS, 4G, IN	IN	Ethernet, 4G	✓	TKMLRWBS-4G-IN	1,600 €
Tektelic Kona Macro LoRaWAN BS, 4G, ASIA-PAC / LATAM	ASIA-PAC / LATAM	Ethernet, 4G	✓	TKMLRWBS-4G-APL	1,600 €

You can hire the following services and our team will configure your base station for a Network Server (all the above base stations, except The Things Indoor):

Model	Ref.	Price
LoRaWAN base station configuration service for Loriot	LRWBSCS-L	100 €
LoRaWAN base station configuration service for TTN	LRWBSCS-TTN	100 €

Libelium distributes the official base station by Sigfox. It is IP67 and has Ethernet connectivity:

Model	User zone	Ref.	Price
Sigfox Access Micro Base Station Outdoors EU	EU	SAMBS-O-EU	550 €
Sigfox Access Micro Base Station Outdoors US	US	SAMBS-O-US	550 €
Sigfox Access Micro Base Station Outdoors AU / APAC / LATAM	AU / APAC / LATAM	SAMBS-O-AAPL	550 €



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MultiTech's base station



The Things Network base station



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Kerlink base station



Tektelic base station



Sigfox base station

Please note that each board is only compatible with certain sensors. Boards and sensors have to be purchased separately. Sensors are not included in the board price (unless stated otherwise)

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Getting support

Waspote Plug & Sense! devices factory-programmed

If you want to save time and development costs you do not need to program anything, we can ask you about the requirements and ship your devices factory-programmed and ready to plug and sense.

Plug & Sense! Programming Service (includes the creation of up to 3 different binaries and the upload of them into 5 Plug & Sense! nodes)

PROG

600 €

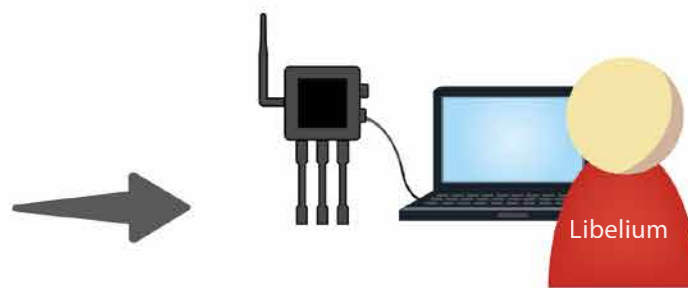
Additional Nodes Upload Service

PROG-UPL

24 € per node



Fill the features of code in the form



We program your devices



You receive ready-to-install nodes

Demo Kits

Waspnote P&S!

Waspnote OEM

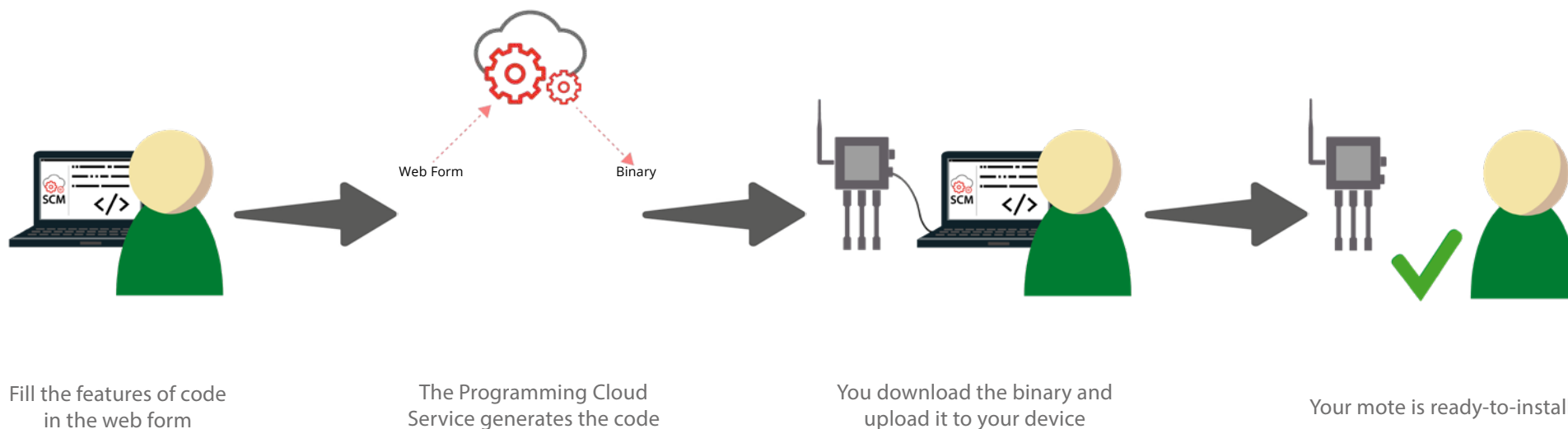
Data

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Waspnote Plug & Sense! programmer on the cloud

The **Programming Cloud Service** is an intuitive graphic interface which creates code automatically. The user just needs to fill a web form to obtain binaries for Plug & Sense!.



Demo Kits

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Advanced programming options are available, depending on the license selected:

	Basic	PRO	Elite
Nodes to program	6	20	100
Plug & Sense! models supported	All	All	All
Sensors supported	All	All	All
Actuators control (Relay on/off in Plug & Sense! Smart Security)	✓	✓	✓
Sigfox/LoRaWAN settings setup	✓	✓	✓
802.15.4 / ZigBee / RF 868/900 MHz settings setup	✓	✓	✓
4G/WiFi settings setup	✓	✓	✓
GPS settings setup	✓	✓	✓
HTTP (4G/WiFi)	✓	✓	✓
HTTPS (4G/WiFi)	✓	✓	✓
RF link encryption (802.15.4 / ZigBee / RF 868/900)	✓	✓	✓
AES-256 payload encryption	✓	✓	✓
Industrial Protocols support (Modbus over RS485, CAN Bus)	X	✓	✓
Low battery warning	✓	✓	✓
Templates manager	✓	✓	✓
Batch programming (generate up to 100 binaries in one click)	X	X	✓
Price (per year)	200 €	300 €	1,499 €
Ref.	PCS-B	PCS-P	PCS-E

Demo Kits

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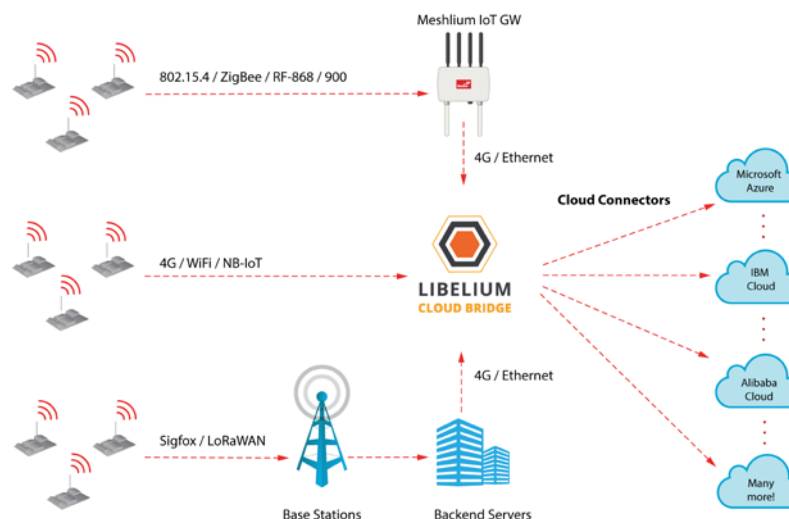
Data

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The Bridge

The **Libelium Cloud Bridge** is a service which sends information from any IoT device to the main worldwide cloud platforms simultaneously and without having to implement each specific cloud protocol or authentication methodology, including Alibaba Cloud, Amazon Web Services, Cumulocity, IBM Bluemix, Microsoft Azure, MQTT, SAP by Techedge and Telefónica.



	Freemium License	License	Extension of License
Number of register transactions	100,000	200,000	2,000,000
Price (per year)	0 €	399 €	499 €
Ref.	B-FL	B-L	B-EL



Demo Kits

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Support options

Programming Waspote on your own requires an advanced level in C++ and object oriented coding. Our [Development site](#) shows 400+ code examples, tutorials and technical guides. Do not worry if you are not a skilled programmer yet, we offer different training formulas so that you can achieve easily a good level.

 Premium Technical Support		 Training Workshops		 Free IoT Overview Webinars		 Consultancy Service	
<ul style="list-style-type: none"> • Arranged in 1 hour time-slots • Online and interactive video conference sessions: text, screen share, mic and webcam • Useful for: <ul style="list-style-type: none"> - Solving urgent questions - Guiding you step by step - Helping you to design a system architecture - Improving your program to reduce power consumption, make it more efficient, etc 		<ul style="list-style-type: none"> • Celebrated every quarter during 3 days / 21 hours • Face-to-face • Useful for: <ul style="list-style-type: none"> - Learning how to program Waspote step by step - Achieving an advanced programming level in just 3 days 		<ul style="list-style-type: none"> • Online master class • Useful for: <ul style="list-style-type: none"> - Getting an overview on the IoT market - Discovering in just 1 hour the latest trends on smart cities, smart environment, precision agriculture, smart water, logistics, IoT... - Finding the inspiration to develop new projects learning about our success stories - Taking advantage of our professional experience on IoT projects - Approaching to Libelium ecosystem 		<p>If you are developing an IoT project and need advice for the definition of devices, connectivity or the most suitable platforms, you can count on the knowledge and experience of Libelium's Business Development or Engineering team.</p> <p>This service is billed by an hourly rate via videoconference or face-to-face at Libelium facilities.</p>	
3 hours	PTS-3 → 234 € and free ¹	Basic Training course (2 first days)	Free ¹ / 1,600 € ³	Watch the videos		CS-1 → 100 €/hour	
5 hours	PTS-5 → 385 €	Advanced Training course (3 rd day)	800 € ²				
10 hours	PTS-10 → 750 €	Basic + Advanced Training course (3 days)	2,000 € ²				
20 hours	PTS-20 → 1,400 €	In-Company Training Course ³	Ask for a quote				

1.- For customers that acquired an Evaluator Kit, 3 hours of Premium Technical Support and 1 place at a Basic Training Course are included.

2.- Discounts available: 2nd attendee: 25% off. 3rd, 4th, etc, attendees: 50% off.

3.- One engineer travels to your facilities to teach standard or customized courses.

Demo Kits

Waspnote P&S!













Waspnote OEM




Data

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Calendar - Libelium Training Courses 2020

JANUARY 	FEBRUARY 	MARCH 	APRIL 
MAY 	JUNE 	JULY 	AUGUST 
SEPTEMBER 	OCTOBER 	NOVEMBER 	DECEMBER 

 Waspnote Face-to-Face Workshops
  Advanced Waspnote Face-to-Face Workshops
  Design & Architecture IoT Solutions

1- Tests performed with 5 dBi omnidirectional antenna, line-of-sight and Fresnel zone clearance conditions. 2-Does NOT include Sigfox connectivity, the user must hire this service directly from Sigfox. Check network availability in your country.



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Order placement

To place an order, you must complete the form available in: http://www.libelium.com/order_form and send it back to your Sales agent.

If Sales agent has not yet been assigned, please send it back to: sales@libelium.com

You can consult our Terms & Conditions in: <http://www.libelium.com/legal>. Should you have any doubt, please, contact our sales department.

- E-mail: sales@libelium.com
- Tlf: +34 976 54 74 92

Order Form





www.libelium.com

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