Datavenue
Device Catalogue

February 2018

orange™ Business Services

This catalogue covers a wide range of applications: Asset Tracking, Smart Metering, Smart Operations, Smart Buildings, Daily Life and offers a large choice of connected objects (gateways, modems, modules etc.).

The selection of the objects offered in this catalogue was based on numerous levels of tests, qualifications and certificates.

All objects are certified interoperable with our network and/or are LoRa Alliance™ certified. All objects are also CE certified.

Complementary tests have been carried out internally to verify the functional coverage, and to assess the level of security and autonomy, of these objects.
The reliability of suppliers has also been reviewed.

For more information on our assessments of each object, please get in touch with a sales representative.

The IoT Catalogue is part of the Datavenue offer, which encompasses a wide range of solutions and services to provide end-to-end support in the execution of IoT and Data projects.

Do you have an IoT project?
Contact a sales representative or find out more at
www.orange-business.com

Device

Smart Operations

Smart Building

Smart Metering

Asset Tracking

Daily Life

Device

Gateways

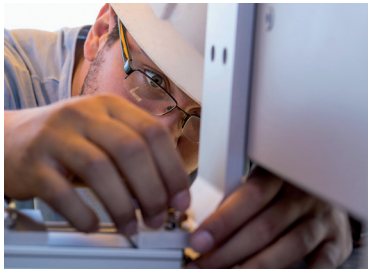
Modules

Starter Kits

Modems

Modems

Others



Smart Operations Device

Off-Street Smart Parking Sensor

oS110 OCM

Use: to detect the presence or passing of a heavy or light vehicle, in indoor and outdoor parking areas; to count and guide to spaces; count incoming and outgoing vehicles; manage specific and dedicated spaces, check on "squatter" cars (cars that remain parker beyond a certain period of time).

This sensor is bonded to the ground.

Product characteristics:

- Dimensions: Ø242.50 x H 33mm
- Weight: 654g
- Power: AA 7200mA/h lithium battery
- Network architecture: point-to-point, multipoint
- Life span: ≥ 5 years (space counting), ≥ 1 year (flow counting)
- Network interface: LoRa®
- Operating temperature: -30°C to +85°C
- Protection rating: 67 standard (fully protected against dust, protected against the effects of temporary immersion)
- Pressure ≤ 3.3 tonnes
- Fastening system: bonded using a dual-component cold coating
- Manufacturer warranty: 2 years

Operation:

Device installation service available. No road construction required. Real-time collection of changes of state linked to variations in the geomagnetic field. The detection accuracy is ≥ 98%. The data is sent to and saved on a remote server, available via API and can be viewed on our secure, dedicated web interface, or on a smartphone application.
Remote configuration, settings and update of embedded software. View battery life and automatic reporting of errors.
On-site maintenance of the active core via standard exchange.
Note that the sensor is resistant to water, snow and ice, roadsweepers and high-pressure cleaning.

Certification:

- **CE certified**
- **RoHS certified**
- **Orange LoRa® network certified**
- **Compatible with 868 MHz frequency range, 915 MHz in progress**

LoRa® battery robust customisable colour

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Smart Operations Device

Off-Street Smart Parking Sensor

oS110 OEM

Use: to detect the presence or passing of a heavy or light vehicle, in indoor and outdoor parking areas; to count and guide to spaces; count incoming and outgoing vehicles; manage specific and dedicated spaces, check on "squatter" cars (cars that remain parker beyond a certain period of time).

This sensor can be recessed.

Product characteristics:

- Dimensions: Ø146.94 x H7.50mm
- Weight: 360g
- Power: AA 7200 mA/h lithium battery
- Network interface: LoRa®
- Installation depth: 35mm
- Life span: ≥ 5 years (space counting), ≥ 1 year (flow counting)
- Operating temperature: -30°C to +85°C
- Protection rating: 67 standard (fully protected against dust, protected against the effects of temporary immersion)
- Pressure ≤ 3.3 tonnes
- Fastening system: recessed using a dual-component cold coating
- Manufacturer warranty: 2 years

Operation:

Device installation service available. No road construction required.
Real-time collection of changes of state linked to variations in the geomagnetic field. The detection accuracy is ≥ 98%. The data is sent to and saved on a remote server, available via API and can be viewed on our secure, dedicated web interface, or on a smartphone application.
Remote configuration, settings and update of embedded software. View battery life and automatic reporting of errors.
On-site maintenance of the active core via standard exchange.
Note that the sensor is resistant to water, snow and ice, roadsweepers and high-pressure cleaning.

Certification:

- **CE certified**
- **RoHS certified**
- **Orange LoRa® network certified**
- **Compatible with 868 MHz frequency range, 915 MHz in progress**

LoRa® | battery | robust | customisable colour

Smart Operations Device

On-Street Advanced Smart Parking Sensor

oS300 OEI

Use: to detect the presence of a heavy or light vehicle parked on the street, to monitor the duration of parking, to detect parked vehicles, to serve as a digital parking meter (certification of payment via a Bluetooth Beacon), and to control permitted parking time. The device can interact with public highway monitoring agents via an embedded LED.

This sensor can be recessed.

Product characteristics:

- Dimensions: Ø155 x H13mm (recessed at a depth of 130mm)
- Weight: 1486g
- Power: D 76.000 mA/h lithium battery
- Network interface: LoRa®
- Life span: ≥ 5 years (space counting), ≥ 1 year (flow counting)
- Operating temperature: -30°C to +85°C
- Protection rating: 67 standard, waterproof and impregnable
- Pressure ≤ 3.3 tonnes
- Fastening system: recessed and sealed with the dual-component adhesive
- Manufacturer warranty: 1 year

Operation:

Device installation service available: in-pavement installation enabled by side detection permitted by the use of nano-radar. Real-time collection of changes in state linked to variations in the geomagnetic field combined with the echo analysis of the embedded nano-radar.

The detection accuracy is ≥ 99.5%. The data is sent to and saved on a remote server, available via API and can be viewed on our dedicated and secure web interface or on a smartphone application. Remote configuration, settings and update of embedded software. View battery life and automatic reporting of errors. On-site maintenance of the active core via standard exchange.

Note that the sensor is resistant to water, snow and ice, roadsweepers and high-pressure cleaning.

Certification:

- **CE certified**
- **RoHS certified**
- **Orange LoRa® network certified**
- **Compatible with 868 MHz frequency range, 915 MHz in progress**

LoRa® battery robust

Smart
Operations
Device

Pavement sensor
MORS

Use: detection of the risk of ice on pavements (mainly roads) using of anti-freezing agents (salt, magnesium, calcium…).

Product characteristics:

- Dimensions: 130 x 140mm
- Cable dimension: 19 strands / Ø 8mm / l max 450m
- Weight: 1.3kg
- Power supply: select between power outlet, 12V battery or solar panel
- Temperature measurement range: -40°C to +80°C
- Freezing temperature: 0°C to -20°C
- Precision: +/- 0,1°C
- Detected antifreezing agents: NaCl, MgCl, CaCl, Urea, Nitrate, Acetate, Potassium Formate
- Manufacturer warranty: 1 year

Operation:

The pavement sensor does not incorporate connectivity. It works with a modem. It is notably compatible with the ATIM ACWS-RS modem available in the catalog.

Meteo Omnium can install the sensors.

Certification:

- **CEREMA certified (ex LRPC) : center of expertise on hazards, environment, mobility and development**

power supply

battery

robust

METEO OMNIUM

Smart Operations Device

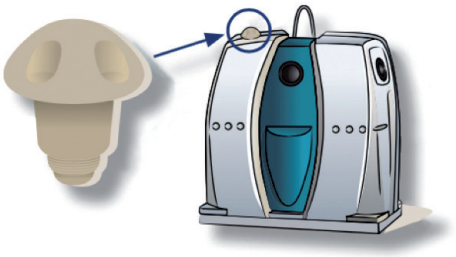
Waste sensor

Syren

Solution for optimising the collection of plastic and metal container waste, either outdoors or underground.

Use 1: measure and predict the fill rate of waste containers.

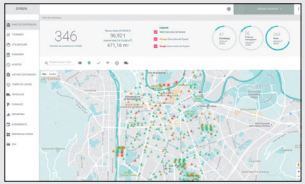
Use 2: optimise the management and collection of containers.



Product characteristics:

- Dimensions: Ø112 x 133 x 46mm
- Weight: 430g
- Power: battery
- Network interface: LoRa®
- Protection rating: 68 (fully protected against dust, submersible to 1m for 30 mins) and IK10 (resistant to container handling and high-pressure cleaning)
- Fastening system: rivets, metal bracket
- Life span: >10 years, 6 transmissions per day
- Operating temperature: -20°C to +55°C
- Maximum operating humidity level: 100%
- Manufacturer warranty: 2 years
- Accessories: fastening bracket, activation box

Operation:



Collection and feedback of data: 24 measurements of the level per day and 6 transmissions per day.

Date relayed: alarms, fire, overturning, emptying.

Business applications available: round management and event history.

API available.

Certification:

- **CE certified**
- **Orange LoRa® network certified product**
- **Product included on the Live Objects platform of Datavenue**
- **Radio standards: EN300-220-1EN300-683**
- **LoRa® frequency ranges: EU, MEA, APAC, NA**

LoRa®

Datavenue

BH technologies

Smart Operations Device

Multifunction streetlight controller

AR501L

Use: smart street lighting. The Streetlight Controller enables the connection of existing street lighting devices to a wireless mesh network based on RF 6lowpan technology using standardized pylon connectors, thereby permitting remote control of lights to save energy and to improve the quality of service. It can be used in a wide range of scenarios, such as municipal streets, parks, squares, highways, tunnels and scenic spots.

Product characteristics:

- Dimensions: Ø83.5 x H19mm
- Power: 110V AC to 250V AC through ANSIC136.41-2013 connector
- WAN network interface: RF 868 – 915Mhz with 6LoWPAN
- Range: 200m (city) – 800m (open field)
- ANSIC136.41-2013 connector
- Operating temperature: from -40°C to 65°C
- Protection rating: 66
- Manufacturer warranty: 1 year

Operation:

RF 6lowpan mesh network technology provides self-networking and self-healing.
This technology allows you to rapidly construct a robust, full coverage mesh network of street lights.

The AR501L enables you to make street lighting smart through connection to your applications. It can adjust brightness and control when the lights that it is connected to are switched on and off via a management system or a mobile application. It supports user-defined controls, scheduled controls, and controls triggered by changes to environmental factors such as brightness and traffic.

Certification:

- **CE certified**
- **RoHS certified (limitation on the use of hazardous substances)**

RF 6LoWPAN

gateway AR502EGRb-L

robust

HUAWEI

Smart Operations Device

Temperature sensor

TEM-LAB-14NS (e.g.: SENLAB T OUTDOOR)

Use: to read temperature remotely. Suitable for use in areas such as environmental monitoring, controlling heating, ventilation and air conditioning systems, the regulation of pipes and pre-emptive maintenance of machines in industry.

This sensor features a separate temperature sensor, allowing access to confined spaces.

Product characteristics:

- Dimensions: 56 x 102 x 35mm
- 1 meter of cable between the radio module and the sensitive module
- Weight: 140g
- Power: lithium battery
- Life span: up to 20 years
- Network interfaces: LoRa®
- Class C: bidirectional communication
- Range: up to 15km in open air
- Operating temperature: -20°C to +70°C
- Fastening: plastic or polyamide retainers
- Protection rating: 68 (fully protected against dust, submersible to 1m for 30 mins)
- Manufacturer warranty: 1 year

Operation:

Records temperatures ranging from -55°C to +125°C.

Data recording: 24 points/radio transmissions.

Management of thresholds for triggering alarms for exceeding the temperature limit.

Over-the-air configuration.

Certification:

- **CE certified**
- **LoRa Alliance™ certified**
- **Orange LoRa® network certified**

EMC Compliance
ETSI EN 301 489- 1, ETSI EN 301 489- 3, EN 61000- 6 - 2
Radio Compliance
EN 300 220- 1 V 2 . 4 . 1 (2012-05), EN 300 220- 2 V 2 . 4 . 1 (2012-05)
Magnetic field exposure
EN 62479 Safety IEC 60950- 1

LoRa® | 15 km range | battery | robust | temperature overrun | outdoor

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SENSING LABS
Remote sensor-to-Human

Smart Operations Device

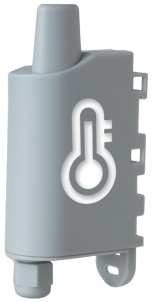
Temperature sensor

Temp LoRaWAN™ 868 (ARF8180BA)

Measuring both internal and external temperatures.

Use 1: monitoring of room temperature and heating temperatures in buildings.

Use 2: monitoring of temperatures in cold storage chambers and in warehouses.



Product characteristics:

- Dimensions: 105 x 50 x 27mm
- Weight: 131g
- Power supply: Li-SOCl2 replaceable battery
- Life span: up to 10 years
- Network interface: LoRaWAN™
- Frequency range: 863-870MHz
- Range: up to 15km
- Compatibility: LoRaWAN™ Class A
- Operating temperature: -25°C to +70 °C
- Fixing system: DIN-rail, tube, wall, necklace
- Protection rating: 67
- Manufacturer warranty: 2 years

Operation:

Temp is a sensor that measures temperature and relays the data via the LoRa® network.

This product meets the needs of users who need to remotely monitor internal and external temperatures of storage rooms, meeting rooms, cold storage chambers, etc.

This device is fitted with an internal probe, and an external probe (2m).

The product transmits the data from the sensors either periodically or in an event-based way based on top or bottom thresholds.

Certification:

- **CE certified Directive 2014/53/UE (RED)**
- **LoRa Alliance™ certified**
- **Orange LoRa® network certified**

LoRa® | battery | 15 km range | robust

adeunis
WIRELESS PRODUCTS & SOLUTIONS

Smart
Operations
Device

Temperature recorder
LoRa® SPY T0

Use: to prevent health risks. Designed by a company expert in metrology, this product monitors and safeguards the cold chain of temperature sensitive products (vaccines, medication, food products) during transit phases.

This product complies with European regulations for temperature monitoring during transportation and storage.

Product characteristics:

- Dimensions: 87 x 63 x 24mm
- Power supply: lithium battery 3,6V (interchangeable by the user)
- Life span: 2 to 4 years (according to use)
- Range: up to 15km
- Network interface: LoRa®
- Span: -40°C to +85°C
- Accuracy of measurement: ±0,5°C from -20°C to +30°C and ±0,8°C outdoor
- Memory: 10 000 timestamped measurements
- Indicators: status LED and Sensitive on/off button
- Protection rating: 68
- Fastening system: fastening eyelets
- Optional mounting and protection case
- Manufacturer warranty: 1 year

Operation:

This LoRa® SPY T0 sensor relays measurements via a LoRaWAN™ network. If the temperature limit is exceeded, alerts are transmitted in real time by SMS, phone call and e-mail.

The sensor has operating and alarm lights and an on/off button.

Ability to define the frequency of measure, the temperature limit values and the delay in exceeding the threshold.

The defining feature of this product is the precision and accuracy of its measurements.

Certification:

- **CE certified**
- **LoRa Alliance™ certified**
- **Orange LoRa® network certified**
- **RoHS certified**
- **Calibration certified Cofrac (by sample exchange)**
- **EN 12830 (regulation for the surveillance of food products)**
- **Frequency range: 868 MHz**

LoRa® | precision of measurement | battery | robust | alarm | outdoor

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Smart Operations Device

Temperature and door opening logger
LoRa® SPY T1

Use: to prevent health risks. Designed by a company expert in metrology, this product monitors and safeguards the cold chain of temperature sensitive products (vaccines, medication, food products) during transit phases. It can also detect if doors have been opened.

This product complies with European regulations for temperature monitoring during transportation and storage.

Product characteristics:

- Dimensions: 87 x 63 x 24mm
- Power supply: lithium battery 3,6V (interchangeable by the user)
- Life span: 2 to 4 years (according to use)
- Range: up to 15km
- Network interface: LoRa®
- Span: -30°C to +70°C
- Accuracy of measurement: ±0,4°C from -20°C to +40°C and ±0,5°C outdoor
- Memory: 10 000 timestamped measurements
- Internal temperature sensor and light sensor
- Indicators: status LED, LCD display and on / off button
- Protection rating: 68
- Fastening system: eyelets and integrated magnets
- Optional mounting and protection case
- Manufacturer warranty: 1 year

Operation:

This LoRa® SPY T1 sensor relays measurements via a LoRaWAN™ network. If the temperature limit is exceeded, alerts are transmitted in real time by SMS, phone call and e-mail.
The measurements are displayed on the LCD display screen.

The sensor has indicator lights and an alarm.

With fixing eyelets and an integrated magnet, installation is quick and easy.

Ability to define the frequency of measure, the temperature limit values and the delay in exceeding the threshold.

The defining feature of this product is the precision and accuracy of its measurements.

Certification :

- **CE certified**
- **LoRa Alliance™ certified**
- **Orange LoRa® network certified**
- **RoHS certified**
- **Calibration certified Cofrac (by sample exchange)**
- **EN 12830 (regulation for the surveillance of food products)**
- **Frequency range: 868 MHz**

LoRa® | precision of measurement | battery | robust | alarm | outdoor

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Smart Operations Device

Temperature recoder
LoRa® SPY T2

Use: to prevent health risks. Designed by a company expert in metrology, this product was specifically developed to monitor thermo-controlled zones using a very precise external probe (restaurant cold rooms, cold-storage warehouses, medical analysis laboratories, professional refrigerators and freezers).

Product characteristics:

- Dimensions: 87 x 63 x 24mm
- Power supply: lithium battery 3,6V (interchangeable by the user)
- Life span: 2 to 4 years (according to use)
- Range: up to 15km
- Network interface: LoRa®
- Span: -50°C to +105°C
- Accuracy of measurement: ±0,3°C from -20°C to +30°C and ±0,5°C oudoor
- Memory: 10 000 timestamped measurements
- Remote temperature sensor with 30cm or 3m cable
- Indicators: status LED, LCD display and on/off button
- Protection rating: 67
- Fastening system: eyelets and integrated magnets
- Optional mounting and protection case
- Manufacturer warranty: 1 year

Operation:

This LoRa® SPY T2 sensor relays measurements via a LoRaWAN™ network. If the temperature limit is exceeded, alerts are transmitted in real time by SMS, phone call and e-mail. The measurements are displayed on the LCD display screen.

The sensor has indicator lights and an alarm.

With fixing eyelets and an integrated magnet, installation is quick and easy.

Ability to define the frequency of measure, the temperature limit values and the delay in exceeding the threshold.

It comes with 2 colored rings which enable you to identify the sensor settings.

Certification:

- **CE certified**
- **LoRa Alliance™ certified**
- **Orange LoRa® network certified**
- **RoHS certified**
- **Calibration certified Cofrac (by sample exchange)**
- **EN 12830 (regulation for the surveillance of food products)**
- **Frequency range: 868 MHz**

LoRa® | precision of measurement | battery | robust | alarm | outdoor

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Smart Operations Device

Low temperature recorder
LoRa® SPY T3

Use: to monitor the long-term storage of samples at very low temperatures (liquid nitrogen tanks, -80° freezers). Designed by a company expert in metrology for biotechnology, hospitals, pharmaceutical industries, research institutes and blood banks, this product is fitted with a very precise external probe.

Product characteristics:

- Dimensions: 87 x 63 x 24mm
- Power supply: lithium battery 3,6V (interchangeable by the user)
- Life span: 2 to 4 years (according to use)
- Range: up to 15km
- Network interface: LoRa®
- Span: -200°C to 0°C
- Accuracy of measurement: ±0,2°C from -20°C to 0°C and ±0,5°C outdoor
- Memory: 10 000 timestamped measurements
- Remote temperature sensor with 50cm or 6m cable
- Indicator: status LED, LCD display and on/off button
- Protection rating: 65
- Fastening system: eyelets and integrated magnets
- Optional mounting and protection case
- Manufacturer warranty: 1 year

Operation:

This LoRa® SPY T3 sensor relays measurements via a LoRaWAN™ network. If the temperature limit is exceeded, alerts are transmitted in real time by SMS, phone call and e-mail. The measurements are displayed on the LCD display screen.

The sensor has indicator lights and an alarm.

With fixing eyelets and an integrated magnet, installation is quick and easy.

Ability to define the frequency of measure, the temperature limit values and the delay in exceeding the threshold.

The defining feature of this product is the precision and accuracy of its measurements.

Certification:

- **CE certified**
- **LoRa Alliance™ certified**
- **Orange LoRa® network certified**
- **RoHS certified**
- **Calibration certified Cofrac (by sample exchange)**
- **EN 12830 (regulation for the surveillance of food products)**
- **Frequency range: 868 MHz**

LoRa® | precision of measurement | battery | robust | alarm | outdoor

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Smart Operations Device

Temperature recoder
SPY® mobility (GPS / GPRS)

Use: to prevent health risks. Designed by a company expert in metrology, this product monitors and safeguards the cold chain of temperature sensitive products (vaccines, medication, foot stuffs) during transportation and storage, and makes it possible to locate them at any time

Product characteristics:

- Dimensions:
  - Standard model: 89 x 59 x 25mm
  - Long-lasting mode: 89 x 59 x 37.5mm
- Life span:
  - Standard model: 12 days
  - Long-lasting model: 50 days
- GPRS modem
- GPS: 12 canals GPS SIRF IV A-GPS included
- 3D Accelerometer - Sensitivity: <1mg
- Span:
  - T: -196°C to +80°C (depending on the type of probe)
  - T/HR: -30°C to +70°C / 0% to 100% HR
- Operating temperature:
  - Standard model: -20°C to +60°C
  - Long-lasting model: -40°C to +60°C
- Manufacturer warranty: 1 year

Operation:

In order to meet the monitoring needs of temperature-sensitive products, SPY mobility is made up of GPS/GPRS modules and a 4th generation, high metrological quality digital temperature probe. It has 4 status LEDs to signify that the product is functioning, or that the alarm has been triggered. The Cofrac calibration of the probe can be performed by a simple exchange, without interrupting the monitoring process. If the temperature limit is exceeded, alerts are sent by SMS or by e-mail, so that the necessary corrective processes can be performed to save the merchandise.
You can locate and monitor the temperature of your products in real time at each stage of their journey. Operating on the power supply is also possible (optional).

Certification:

- **CE certified**
- **RoHS certified**
- **Calibration certified Cofrac (by sample exchange)**
- **EN 12830 (regulation for the surveillance of food products)**

LoRa® | precision of measurement | battery | robust | alarm | outdoor

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Smart Operations Device

Temperature and humidity sensor
ACW-THO

Use: to measure temperature and humidity outside or in harsh conditions (buildings, livestock farming).

Product characteristics:

- Dimensions: 100 x 100 x 35mm
- Weight: 100g
- Power: 2 Lithium AA batterys
- Power supply in transmitter mode (Tx): 50mA max
- Power supply in receiver mode (Rx): 18mA max
- Power supply in sleep mode: 7µa
- Radio power: 25mW (14dBM)
- Network interface: LoRa® (868Mhz)
- Range: up to 15km
- Protection rating: compact PVC 66 (fully protected against dust and water jets)
- Fastening system: wall
- Operating temperature: -20°C to +55°C
- Manufacturer warranty: 2 years

Operation:

Eco-energy mode: from 3 to 5 years life span.

Periodic mode: 2 years of battery life with 1tx/h.

USB configuration.

SMS or email alerts.

Secure API.

Certification:

- **CE certified**
- **RoHS certified**
- **Orange LoRa® network certified**
- **Frequency ranges: 868Mhz; 915Mhz in progress**

LoRa® battery outdoor robust

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ATiM

Smart
Operations
Device

Water leak detector
ACW-WL

Use: detects water leaks via liquid presence detector.
Product suitable for urban and underground environments.

Product characteristics:

- Dimensions: 60 x 60 x 40mm
- Weight: 100g
- Power: 2 Lithium AA batterys
- Power supply in transmitter mode (Tx): 600mA max
- Power supply in receiver mode: 7µa
- Radio power: 25mW (14dBM)
- Network interface: LoRa® (868Mhz)
- Range: up to 15km
- Protection rating: 68 (fully protected against dust, submersible to 1m for 30 mins)
- Fastening system: mural
- Operating temperature: -25°C to +70°C
- Manufacturer warranty: 2 years

Operation:

Activation by magnet.

Liquid sensor integrated in the device.

SMS and email alerts.

Certification:

- **CE certified**
- **RoHS certified**
- **Orange LoRa® network certified**
- **Frequency ranges: 868Mhz; 915Mhz in progress**

LoRa® battery robust

p 20

Smart Operations Device

Customer satisfaction button

Smiley box

Use: a simple means of measuring customer satisfaction, on the spot, in real time, to help employees and managers to provide excellent customer service at all times.

Product characteristics:

- Dimensions: 50 x 127 x 13mm
- Weight: 100g
- Power: battery
- Network interface: LoRa®
- Life span: 3 years
- Operating temperature: -15°C to +40°C
- Protection rating: 67 (fully protected against dust, protected against the effects of temporary immersion)
- 3 LEDs: green, orange, red
- Fastening system: three different types of fastener and anti-theft system suited to each use
- Manufacturer warranty: 1 year

Operation:

Over the Air Configuration.

3 smiley buttons for answering a question (can be easily changed day by day) via an interface that lets users set questions.

The results are directly transmitted in real time. The results are immediately accessible via the Feedback Now application platform and/or also automatically pushed every morning in the form of Excel reports containing various analyses for decision support.

Certification:

- **CE certified**
- **FCC certified**
- **IC certified**
- **Orange LoRa® network certified**
- **Product included on the Live Objects platform of Datavenue**

LoRa® battery Datavenue

Feedback NOW

Smart Operations Device

Satisfaction terminal

Agora Opinion standard solution

Use: a means of measuring customer and employee satisfaction in real time, which enables companies and organizations to better understand the needs and expectations of their employees and their customers.

Alerts can be generated by each device allowing quick corrective actions.

Product characteristics:

- Dimensions (minimum): 13 x 7cm (for 2 buttons version)
- Weight: 0.5-2kg depending on the integration
- Power: AA LR6 standard battery
- Life span: from18 to 24 months considering the use
- Network interface: LoRaWAN™
- Operating temperature: -10°C to +60°C
- Fixation: attached to a wall, stand or counter
- Protection rating: 64, up to 66 for the waterproof version
- Support: full SLA, including maintenance
- Manufacturer warranty: 2 years

Operation:

The device measures two crucial metrics, quality of service and satisfaction. The device communicates results in real time. Operating teams receive alerts by email or SMS.

The question asked can be customized in order to collect data according to several KPIs. The support may also be customized (shape, color).

The terminal also integrates a badge function that allows time stamping, recording the passage of an individual (cleaning agent for instance).

Data is recorded on Agora Opinion servers.

A data visualization solution is available, or data may be transferred through an API.

Certification:

- **CE certified**
- **RoHS certified**
- **Orange LoRa® network certified**
- **Solution included on the Live Objects platform of Datavenue**
- **Frequency bands: 868Mhz; 915Mhz on going**

LoRa® battery Datavenue modularity

agoraopinion

Smart Operations Device

Interaction Terminal
Webbutton

Use: autonomous terminal solution that triggers real time alerts at the push of a button. The web button terminal has industrial, logistical and management applications. This IoT solution can easily be interfaced with any other information / sensor system.

Product characteristics:

- Dimensions: 13 x 7cm
- Weight: 0.5-1kg depending on terminal
- Power supply: standard double AA LR6 Batterys
- Battery life: 18 to 24 months (depending on usage)
- Network interface: LoRaWAN™
- Operating temperature: -10°C to +60°C
- Installation: wall mounted, standing or desk support
- Protection rating: 64 standard to 66 Index for waterproof device
- Available in 2, 3 or 4 buttons
- Manufacturer warranty: 2 years

Operation:

By pressing one of the two buttons, an alert is automatically sent via SMS, email or as a mobile application notification. The button pictograms are customizable according to the desired application.

The terminal also integrates a badge function that allows time stamping, recording the passage of an individual (a cleaning agent for instance).

Real-time data collection: the data is transferred through the Agora Opinion Cloud. A data visualization solution is available, or data may be transferred through an API.

Certification:

- **CE certified**
- **RoHS certified**
- **LoRa® Orange network certified**
- **Integrated with Datavenue live platform**
- **Frequency ranges: 868Mhz; 915Mhz in development**

LoRa® battery Datavenue modularity

agoraopinion

Smart Operations Device

Connected button
Smilio

Use 1: staff intervention/facility management. To alert a control center, automatically trigger staff intervention (such as maintenance, cleaning, management). Criteria can be defined by the customer directly. A magnetic sensor is built in to track time and delays interventions, and then to analyze the potential impact that these have on satisfaction level.

Use 2: real-time customer satisfaction management. Customers, passengers, visitors or employees are invited to rate a service and answer a question by pressing one 1 of 4 buttons (smileys, numbers, thumb up/thumb down). Satisfaction data may be integrated with other data, like team schedules or restaurant menus.

Product characteristics:

- Dimensions: 160 x 110 x 36mm
- Weight: 210g
- Power: 4 x replaceable AA batteries
- Life span: up to 5 years (depending on use case)
- Network interface: LoRa®
- Fixation: large panel of solutions (wall, stand, cash register or on demand)
- Protection rating: 56
- Operating temperature: -20° to +70°C
- On demand: antibacterial treatment, scratch resistant, anti UV
- Manufacturer warranty: 1 year (3 years extension available)

Operation:

Users press one, or several buttons (depending on how the device is used), and the data is transferred and logged either immediately or at set time intervals.

Magnetic sensor is used to track the time of interventions.

3 service levels are possible:

- The Smilio device only
- The Smilio device + management interface in FR, EN, SP + data export to Excel and/or API access
- The Smilio device + real-time alert system (sms, email) + supervision and data analysis tools (possible connection with other BI softwares such as PowerBI, Cognos or CMMS tools such as Maximo)

Certification:

- **CE certified**
- **Orange LoRa® network certified**
- **Frequency ranges : 868 and 915 Mhz**

LoRa® battery customizable colour

p 24

skiply
Analytics come alive

Smart Operations Device

Smart button
Live Button

Use case 1: in case of emergency, an alert button to send a distress message, to ask for help from a specific person or organization (a hotline, a lone worker).

Use case 2: after sales service to contact a technician, or to be put in direct contact with an after sales service for a distributer or manufacturer in case of break down or a shortage.

Use case 3: customer service, to automatically restock a popular product, to manage queues, to call a salesman or a taxi while in a hotel foyer.

Product characteristics:

- Dimensions: Ø65 x H20mm
- Weight: approximatively 45 grams
- Power: battery 700mAh, rechargeable via a micro USB
- Battery life for 1 message/day: several months to several years
- Short-range connectivity: Bluetooth Low Energy (BLE)
- Long-range connectivity: LoRa® or GSM
- Motion detection: accelerometer
- Operating temperature: 0°C to +45°C
- Mount: magnets, screws, velcro, glue
- Customizations available off the shelf: push button color, housing color, logo
- Protective case: water/dust/impact ongoing
- Manufacturer warranty: 2 years

Operation:

Stand alone product, free from WiFi or smartphone thanks to GSM or LoRa®.

Notifications: visual (LEDs), sound (buzzer) and haptic (vibrate).

Localization: zoning through GSM antennas or LoRa® network.

Customizable trigger actions thanks to an admin web portal: mail, SMS, URL, devices control.

Fleet management: 40 parameters to adapt to your needs: push duration, battery level, zoning, notifications, sleep mode…

Connection to an external IT: through URL call (without developments) or through a connector (Live Button APIs).

Compatible with a mobile app and web app.

Certification:

- **CE Certified**
- **LoRa® Orange network certified**
- **Integrated to Live Objects platform of Datavenue**

BLE+GSM / BLE+LoRa® | battery | modular and customizable | third IT | free from any gateway

orange

Smart Building Device

Wall presence sensor
IR868LR - IRUS915LR

Use: to detect body heat and set off an alarm in case of intrusion.
Product suited to indoor uses: apartments, offices, buildings, shops.

Product characteristics:

- Dimensions: 120 x 60 x 45mm
- Weight: 86g
- Power: 3.6V lithium battery
- Life span: 4 years
- Network interface: LoRa®
- Operating temperature: -10°C to +55°C
- Detection zone: 16m
- Fastening: directly to the wall or using a bracket
- Pyroelectric effect
- Protection rating: 40 (protected against solid objects larger than 1mm, no protection against water intrusion)
- Manufacturer warranty: 1 year

Operation:

3 operating modes: signal transmitted each time body heat is detected, when a preset level is met, or when a predefined time has is reached.

Buzzer triggered when the battery is low.

Certification:

- CE certified
- Orange LoRa® network certified

Radio standards:

- EN 301 489-3
- EN 300 220-1
- EN 60950

Frequency ranges:
Compatible with LoRa®
868 and 915 MHz

LoRa® | battery | IR infrared | alarm | indoor

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Smart Building Device

Wall presence sensor
D013-421 B-E

Product suited to indoor uses.

Use 1: detect presence and send an action to another EnOcean compatible device.

Use 2: enables scenario management by combining presence detection with the triggering of an action (switching on or off a light or fan, sending an alert or activating an alarm, etc.).

Product characteristics:

- Dimensions: 148 x 64 x 46mm
- Weight: 116g
- Power: solar cell
- Life span: 34 hrs for 3 hrs of light at 200 lux. A CR2032 battery can be installed if necessary for longer operation
- Network interface: EnOcean
- Operating temperature: -10°C to +40°C
- Fastening: screws or adhesive tape
- Protection rating: 40
- Range: 25m masonry, through maximum of 3 walls
- Manufacturer warranty: 1 year

Operation:

Position the sensor in a place with suitable light exposure (at least 200 lux), given that a room with standard brightness is 600 lux.
The sensor must be positioned at a height of between 1.8m and 2.4m and an area of 1.2m must be kept free around the device.
The detector is permanently active. A radio message is sent when motion is detected. If this motion is not interrupted, a radio message is sent every 2 mins.
When the motion is no longer detected, the module sends a non-presence message, ending with a detection message 10 mins and 30 mins later.
This sensor is compatible with receivers (finished product) such as the USB310 with a separate antenna or the EnOcean micromodule, as well as the EnOcean PI (starter kit module).

Certification:

- **CE certified**
- **EnOcean Alliance certified**

EnOcean

indoor

Giga-concept Electronic components

Smart Building Device

Ceiling presence sensor
D013-411 B-E

Sensor suited to indoor uses.

Use: enables scenario management by combining presence detection with the triggering of an action (switching on or off a light or fan, sending an alert or activating an alarm, etc.).

Product characteristics:

- Dimensions: 160 x 60 x 37mm
- Weight: 116g
- Power: solar cell
- Life span: 34 hrs for 3 hrs of light at 200 lux. A CR2032 battery can be installed if necessary for longer operation
- Network interface: EnOcean
- Operating temperature: -10°C to +40°C
- Fastening: screws or mounting support
- Protection rating: 40
- Range: 25m masonry, through maximum of 3 walls

Operation:

Position the sensor in a place with suitable light exposure (at least 200 lux), given that a room with standard brightness is 600 lux.

The sensor must be positioned at a height of between 2.1m and 3m and an area of 1.2m must be kept free around the device.

The detector is permanently active; a radio message is sent when motion is detected. If this motion is not interrupted, a radio message is sent every 2 mins.
When the motion is no longer detected, the module sends a non-presence message, ending with a detection message 10 mins and 30 mins later.

This sensor is compatible with receivers (finished product) such as the USB310 with a separate antenna or the EnOcean micromodule, as well as the EnOcean PI (starter kit module).

Certification:

- **CE certified**
- **EnOcean Alliance certified**

EnOcean

indoor

Giga-concept Electronic components

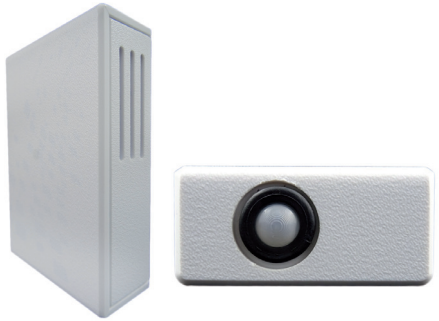
Smart Building Device

Footfall activity reporting sensor

PIR-LAB-21NS (e.g.: SENLAB M INDOOR)

Use: communicating radio sensor featuring an infrared sensor for detecting human bodies. It can be used to detect a risk of intrusion in a room, to check the occupation of a room or to monitor an activity.

This device is designed for indoor use.



Product characteristics:

- Dimensions: 53 x 85 x 25mm
- Weight: 75g
- Life span: up to 10 years
- Range: 15km
- Power: non-rechargeable lithium battery
- Sensitivity: -137dBm
- Radio power: +14dBm (25mW)
- Network interface: LoRa®
- Class A: bidirectional communication
- Operating temperature: 0°C to +55°C
- Fastening: plastic or polyamide screw, double-sided adhesive tape
- Protection rating: 30 (fully protected against dust, not protected against water intrusion)
- Manufacturer warranty: 1 year

Operation:

Data recording: 24 points/radio transmissions.

Over-the-air configuration.

Certification:

- **CE certified**
- **LoRa Alliance™ certified**
- **Orange LoRa® network certified**

EMC Compliance
ETSI EN 301 489- 1, ETSI EN 301 489- 3, EN 61000- 6 - 2
Radio Compliance EN 300 220- 1 V 2 . 4 . 1 (2012-05), EN 300 220- 2 V 2 . 4 . 1 (2012-05)
Magnetic Field exposure EN 62479
Safety IEC 60950- 1

LoRa® | 15 km | battery | indoor

SENSING LABS
Remote sensor-to-Human

Smart Building Device

Temperature, humidity, light sensor

Temperature Humidity LUX SENSOR

Use: to measure temperature, light and relative surrounding humidity, and assess the measurement of light. Suitable for various fields of application, such as Smart Buildings, monitoring the cold chain, logistics, server rooms, heating / ventilation / air conditioning systems.

Product characteristics:

- Dimensions: 81 x 73 x 20mm
- Power: self powered via solar cell harvesting energy. In the absence of light, 3.6 V/10mAh lithium battery with 3-month Life span for 24 measurements and 1 transmission per day
- Network interface: LoRa®, class A
- 1 LED
- 1 reset and on / off switch
- Operating temperature: -20°C to +50°C

Operation:

Activate the device in OTAA (Over TheAir Activation) or ABP (Activation byPersonalisation) mode.

1 report is generated per hour.

The measurement settings can be stored locally, concatenated and compressed.

Certification:

- **Orange LoRa® network certified**
- **CE certified (863-870 MHz)**
- **FCC certified (902-928 MHz)**
- **RoHS certified (limitation on the use of hazardous substances)**

LoRa®

multi-function

nke WATTECO

Smart Building Device

Outdoor Temperature Sensor

TEM-LAB-13NS (e.g.: Senlab T IP68)

Use: remotely read temperature in the following fields of application: Smart buildings and environmental monitoring. This sensor is extremely accurate (±0.2°C) and is suited to outdoor uses.

Product characteristics:

- Dimensions: 56 x 102 x 35mm
- Weight: 140g
- Life span: up to 20 years
- Range: 15km
- Power: battery
- Network interface: LoRa®
- Class C: bidirectional communication
- Operating temperature: -20°C to +70°C
- Fastening: plastic or polyamide retainers
- Protection rating: 68 (fully protected against dust, submersible to 1m for 30 mins)
- Manufacturer warranty: 1 year

Operation:

Data recording: 24 points/radio transmissions.

Management of temperature threshold overrun alarms.

Over-the-air configuration.

Certification:

- **CE certified**
- **LoRa Alliance™ certified**
- **Orange LoRa® network certified**

EMC Compliance ETSI EN 301 489- 1, ETSI EN 301 489- 3, EN 61000- 6 - 2
Radio Compliance EN 300 220- 1 V 2 . 4 . 1 (2012-05), EN 300 220- 2 V 2 . 4 . 1 (2012-05)
Magnetic Field exposure EN 62479 Safety IEC 60950- 1 Safety IEC 60950- 1

LoRa® | 15 km | battery | temperature overrun | robust | outdoor

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SENSING LABS
Remote sensor-to-Human

Smart Building Device

Indoor Temperature Sensor

TEM-LAB-21NS (e.g.: SENLAB T INDOOR)

Use: remotely read temperature in smart buildings.
This sensor is extremely accurate (±0.2°C) and is suited to indoor uses.

Product characteristics:

- Dimensions: 53 x 85 x 25mm
- Weight: 75g
- Life span: up to 10 years
- Range: 15km
- Power: battery
- Network interface: LoRa®
- Class C: bidirectional communication
- Operating temperature: 0°C to +55°C
- Fastening: plastic or polyamide screw, double-sided adhesive tape
- Protection rating: 30 (fully protected against dust, not protected against water intrusion)
- Manufacturer warranty: 1 year

Operation:

Data recording: 24 points/radio transmissions.

Management of thresholds for triggering alarms for exceeding the temperature limit.

Over-the-air configuration.

Certification:

- **CE certified**
- **LoRa Alliance™ certified**
- **Orange LoRa® network certified**

EMC Compliance
ETSI EN 301 489- 1, ETSI EN 301 489- 3, EN 61000- 6 - 2
Radio Compliance
EN 300 220- 1 V 2 . 4 . 1 (2012-05), EN 300 220- 2 V 2 . 4 . 1 (2012-05)
Magnetic Field exposure
EN 62479 Safety IEC 60950- 1

LoRa® | 15 km | battery | temperature overrun | robust

SENSING LABS
Remote sensor-to-Human

Smart Building Device

Temperature and humidity sensor

THY-LAB-61NS (e.g.: SENLAB H INDOOR)

LoRa® transmitter for energy meter.

Use: atmosphere regulation applications (temperature and humidity) for indoor uses such as Smart Buildings.

This device accurately measures temperature (±0.4°C accuracy) and humidity (±3% RH maximum).

Product characteristics:

- Dimensions: 53 x 85 x 25mm
- Weight: 75g
- Power: lithium battery
- Life span: up to 10 years
- LED
- Network interface: LoRa®
- Range: up to 15km in open air
- Operating temperature: 0°C to +55°C
- Fastening: wall or coupler
- Protection rating: 30 (fully protected against dust, not protected against water intrusion)
- Manufacturer warranty: 1 year

Operation:

Data recording: 24 points/radio transmissions.

Management of thresholds for triggering alarms for exceeding the temperature limit.

Over-the-air configuration.

Certification:

- **CE certified**
- **LoRa Alliance™ certified**
- **Orange LoRa® network certified**

EMC Compliance
ETSI EN 301 489- 1, ETSI EN 301 489- 3, EN 61000- 6 - 2
Radio Compliance EN 300 220- 1 V 2 . 4 . 1 (2012-05), EN 300 220- 2 V 2 . 4 . 1 (2012-05)
Magnetic Field exposure EN 62479
Safety IEC 60950- 1

LoRa® | 15 km | multi-function

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SENSING LABS
Remote sensor-to-Human

Smart Building Device

Temperature and humidity sensor

D011-61B-E

Use: to measure room temperature and humidity and transmit readings to a receiver (box, gateway, etc.). This device is primarily designed for indoor uses, such as in Smart Buildings.

Product characteristics:

- Dimensions: 25 x 80 x 16mm
- Weight: 12g
- Power: solar cell
- Life span: 48 hrs in darkness
- Network interface: EnOcean
- Temperature measurement range: 0°C to +40°C
- Humidity measurement range: 0 to 100%
- Fastening : with double-sided tape on the rear
- Protection rating: 40 (protected against solid objects larger than 1mm, no protection against water intrusion)
- Range: 30m through 5 walls max for plasterboard and wood, 20m with 3 walls max for masonry, 10m with one wall max for reinforced concrete
- Manufacturer warranty: 1 year

Operation:

Temperature and humidity are measured every 100 seconds. If the temperature variation between two measurements exceeds +/-0.5°C and or +/- 5% for humidity, a message is sent.

If the temperature variation is not sufficient, the information is transmitted around every 15 minutes.The extremely accurate measurements (0.16°C and 0.4% humidity) ensure user comfort.

The signal is transmitted several times to guarantee the transmission of the radio signal.

Certification:

- **CE certified**
- **EnOcean Alliance certified**

EnOcean

multi-function

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Giga-concept Electronic components

Smart Building Device

Temperature and humidity recorder
LoRa® SPY TH

Use: to prevent health risks. Designed by a company expert in metrology, this product monitors surrounding air conditions for comfort and HVAC applications (data centers, museums, archives, pharmaceutical warehouses...).

Product characteristics:

- Dimensions: 87 x 63 x 24mm
- Power supply: lithium battery 3,6V (interchangeable by the user)
- Battery life: 2 to 4 years (according to use)
- Range: up to 15km
- Network interface: LoRa®
- Span: -30°C to +70°C and 0% to 100% HR
- Accuracy of measurement: ±0,4°C from -20°C to +40°C and ±0,5°C outdoor ±2%HR from 20 to 80% (between 15 and 25°C) and ±4%HR from 0% to 20% and from 80 to 100% (between 15 and 25°C)
- Memory: 10000 timestamped measurements
- Indicator: status LED, LCD display and on/off button
- Protection rating: 40
- Fastening system: eyelets and integrated magnets
- Optional mounting and protection case
- Manufacturer warranty: 1 year

Operation:

The LoRa® SPY TH sensor measures and records temperature and humidity.
It communicates the measurements via the LoRaWAN™ public network.

If limits are exceeded, alerts are transmitted in real time by SMS, phone call, and email.

Measurements taken via a remote sensor are visible on the LCD display.
The sensor has operating and alarm lights.
With fixing eyelets and an integrated magnet, installation is easy and fast.

Ability to define the frequency of measure, the temperature limit values and the delay in exceeding the threshold.

Certification:

- **CE certified**
- **LoRa Alliance™ certified**
- **Orange LoRa® network certified**
- **RoHS certified**
- **Calibration certified Cofrac (by sample exchange)**
- **EN 12830 (regulation for the surveillance of food products)**
- **Frequency range: 868 MHz**

LoRa® precisionof measurement battery

p 35

Smart Building Device

Temperature and humidity sensor
ACW-THI

Use: to measure the room temperature and humidity indoors.
Product suited for optimizing energy usage of buildings in industry or in the service sector.

Product characteristics:

- Dimensions: 80 x 80 x 35mm
- Weight: 100g
- Power: 2 Lithium AA batterys
- Power supply in transmitter mode (Tx): 50mA max
- Power supply in receiver mode (Rx): 18mA max
- Power supply in sleep mode: 7µa
- Radio power: 25mW (14dBM)
- Network interface: LoRa® (868Mhz)
- Range: up to 15km
- Protection rating: 30
- Fastening system: rail-DIN
- Operating temperature: -20°C to +55°C
- Manufacturer warranty: 2 years

Operation:

Eco-energy mode: battery life prolonged up to 5x (depending on use), 3 to 5 years.

Periodic mode: 2 years of battery life with 1 tx/h.

USB configuration.

SMS and email alerts.

Secure API.

Certification:

- **CE certified**
- **RoHS certified**
- **Orange LoRa® network certified**
- **Frequency ranges: 868Mhz; 915Mhz in progress**

LoRa® battery indoor

p 36

Smart Building Device

Temperature and humidity sensor
Green Comfort

Use: remotely monitor room temperature and humidity levels in indoor spaces.
Green Comfort enables centralised monitoring of multiple sites.

Product characteristics:

- Dimensions: 65 x 34 x 99cm
- Weight: 110g
- Power: two 3.6V lithium batterys
- Network interface: LoRa®
- Life span: up to 12 years
- Operating temperature: -20°C to +55°C
- Not waterproof
- 1 amber LED
- Fastening system: screws
- Manufacturer warranty: 1 year

Operation:

Collection of temperature, humidity and battery voltage information.

Data sent to and stored in the Connit cloud.

Over-the-air reconfiguration.

Data available via API, web portal and mobile application.

Certification:

- **CE certified**
- **Orange LoRa® network certified**

LoRa® battery modularity

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CONNIT

Smart Metering Device

Remote water meter sensor

Sens'o

Transmits the water meter index and triggers an alarm in case of water leaks, reverse flow, risk of sensor freezing and low battery level.

Use 1: remotely read water consumption from individual water meters managed by public or private enterprises, local authorities, housing associations, etc.

Use 2: manage water resources: detect leaks, detect water backflow, calculate min and max speeds every 24 hours, calculate the consumption chart.

Product characteristics:

- Dimensions: 97 x 76.23 x 105.5mm
- Weight: 100g
- Power: 3.6V lithium battery, 3,600mA
- Life span: 15 years
- Interface: LoRa®, class A
- Operating temperature: -20°C to +50°C
- Protection rating: 68 (fully protected against dust, submersible to 1m for 30 mins)
- Fastening: clips to the head of the water meter
- Manufacturer warranty: 24 months

Operation:

Device activated in OTAA (Over The Air Activation) or ABP (Activation by Personalisation) mode. Data transmitted every 10 mins, 1 hr or 12 hrs or depending on the settings chosen in the network. Alert transmitted when the following situations are detected: water leak, water reverse flow, water meter disconnected, low battery voltage. Data processing capabilities: water leak detection, reverse flow detection, detection of risk of water sensor freezing, calculation of min. and max. water flow every 24 hours, calculation of the water consumption chart.
The measured and calculated data can be stored in the local memory and compressed before being transmitted.

Certification:

- **CE certified**
- **Orange LoRa® network certified**
- **RoHS certified (limitation of hazardous substances uses)**
- **Compatible LoRa® frequency ranges: EU (863-870) and US (902-928) on request**

LoRa® battery alarm

p 38

nke WATTECO

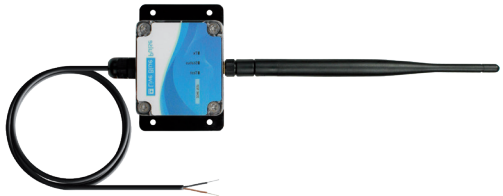
Smart Metering Device

Remote water meter sensor

Blue Pulse

Use 1 : remotely monitor water consumption and optimise water networks. The sensor is connected behind a water meter that has a pulse generator integrated, or coupled with the sensor itself.

Use 2 : to detect water leak alerts.



Product characteristics:

- Dimensions: 65 x 34 x 99cm
- Weight: 110g
- Power: two 3.6V lithium batterys
- Network interface: LoRa®
- Life span: up to 12 years
- Operating temperature: -20°C to +55°C
- Not waterproof
- 1 amber LED
- Fastening system: screws
- Manufacturer warranty: 1 year

Operation:

Collection of temperature, humidity and battery voltage information.

Data sent to and stored in the Connit cloud.

Over-the-air reconfiguration.

Data available via API, web portal and mobile application.

Certification :

- **CE certified**
- **Orange LoRa® network certified**

LoRa® battery modularity

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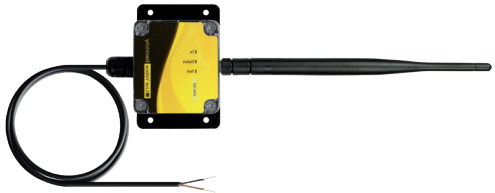
CONNIT

Smart Metering Device

Electric telemetry

Yellow TIC

Use: converts an electricity meter with a TIC output into a communicating meter, which allows users to remotely monitor electricity consumption and be alerted about anomalies.



Product characteristics:

- Dimensions: 89 x 59 x 35cm (excluding antenna)
- Weight: 175g
- Power: 3.6V lithium battery
- Network interface: LoRa®
- Life span: up to 12 years
- Operating temperature: -20°C to +55°C
- Protection rating: 67 (fully protected against dust, protected against the effects of temporary immersion)
- 3 amber LEDs
- Fastening system: screws or hose clamps
- Manufacturer warranty: 1 year

Operation:

Read operating data from the subscriber's meter.

Over-the-air reconfiguration.

Data collected: electricity consumption, and all data from the sensor such as indoor temperature and battery voltage.

Data sent to and stored in the Connit cloud.

Data available via API, web portal and mobile application.

Certification:

- **CE certified**
- **Orange LoRa® network certified**

LoRa® battery modularity

p 40

CONNIT

Smart Metering Device

Remote Energy meter reading sensor

Ox-Line IoT: OxL01-LwD-ModM-Cpt-1R

Use: remote reading of electrical energy consumption from EIA-485 Modbus meters.

Product characteristics:

- Dimensions: 24 x 110 x 92mm (excluding antenna)
- Network interface: LoRa®
- Class C: bidirectional communication
- Antenna Connector: SMA
- QR Code for reading network identification settings
- Micro USB-b plug
- 2 diagnostic LEDs
- Galvanically isolated EIA-485 fieldbus
- Power supply: 9 to 36Vdc, 2W
- Operating temperature: -20°C to +70°C / 10-80% RH
- Protection rating: 20
- Fastening: DIN rail
- Manufacturer warranty: 2 years

Operation:

A configurator from a PC (using a micro USB plug and software) enables the configuration of the serial communication, the address of the double Modbus register containing the counter value and the period of radio transmission (set by default to 10 minutes).

A push button on the front makes it possible to force the transmission, in order to validate the installation on site.

The transmission of a communication diagnosis for each meter and a sequence transmission counter makes operation easier.

An automatic detection of the number of connected meters makes the installation scalable without the need for reconfiguration.

Certification:

- **CE certified**
- **RoHS certified**
- **Orange LoRa® network certified**
- **Inflamability: UL94-VO**

LoRa® power supply small size

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Occitaline Automation Driven

Smart Metering Device

Remote sensor for electrical installation

Ox-Line IoT: Ox01-LwD-IO-TIC-ModM-Elec

Use: to read remotely the electrical energy consumption from the Customer Information System of an electrical meter, EIA-485 Modbus meters and to trigger an alert in case of electrical disjunctions.

Product characteristics:

- Dimensions: 24 x 110 x 92mm (excluding antenna)
- Network interface: LoRa®
- Class C: bidirectional communication
- Antenna Connector: SMA
- QR Code for reading network identification settings
- Micro USB-b plug
- 2 diagnostic LEDs
- 3 digital inputs 24Vdc PNP
- EIA-485 fieldbus / Customer Information System (Euridis or EIA-232)
- Power supply: 9 to 36Vdc, 2W
- Operating temperature: -20°C to +70°C / 10-80% RH
- Protection rating: 20
- Fastening: DIN rail
- Manufacturer warranty: 2 years

Operation:

Usual information from the CIS is selected periodically by the user via an electrical meter are transmitted based on their characteristics (set by default to be every 10 min). After configuration, the double Modbus registers up to 3 energy meters. Data is transmitted within the same time frame. A disjunction alert is triggered upon failing and resetting of circuit breakers. Setup from a PC (executing a software which emulates a terminal) connected on to micro USB-b. A push button on the front makes it possible to force the radio transmission in order to validate the installation on site. The transmission of a communication diagnosis for each meter and a sequence transmission counter makes operation easier. An automatic detection of the number of connected meters makes the installation scalable without the need for reconfiguration.

Certification:

- **CE certified**
- **RoHS certified**
- **Orange LoRa® network certified**

LoRa®

power supply

small size

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Occitaline Automation Driven

Smart Metering Device

Generic remote meter reading sensor

Pulse Sens'o

Use: smart meter radio module for optimizing electricity consumption via the remote reading of any type of pulse (water, gas, electricity, energy).

All sensors fitted with pulse outputs can therefore be connected to the Pulse Sens'o. The Pulse Sens'o can manage up to 3 pulse output sensors.

Product characteristics:

- Dimensions: 84 x 82 x 85mm
- Power: 3.6V lithium battery, 3,600mA
- Life span: 12 years at an average of one measurement and transmission per day
- Network interface: LoRa®, class A
- 3 LEDs
- 1 reset and on/off magnetic switch
- Operating temperature: -20°C to 50°C
- Compatible with all pulse output sensors
- Available in two versions. Protection rating: 55 or 68

Operation:

Device activated in OTAA (Over The Air Activation) or ABP (Activation by Personalisation) mode.

Data transmitted every 10 mins, 1 hr or 12 hrs or depending on the settings chosen in the network.

The measurement settings can be stored locally, concatenated and compressed.

Certification:

- **CE certified**
- **Orange LoRa® network certified**
- **LoRa Alliance™ certified in progress**
- **RoHS certified (limitation on the use of hazardous substances)**
- **Certified ATEX Zone II compliant**
- **Radio standards: EN 61000-4-2, EN 300-220-1, EN 301 489**

LoRa® | battery | water, gas, electricity, energy

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nke WATTECO

Smart Metering Device

Programmable Remote reading Sensor

Ox-Line IoT: Lx01-LwD-IO-TIC-485-232

Use 1: remote reading of multi-consumption data (electric, gas, heat, water) that may come from a Customer Information System electrical meter, EIA-485 Modbus meters, Mbus meters (adapter required) and pulse counters (totalizer or duration).

Use 2: transmission of electrical disjunction alerts.

Product characteristics:

- Dimensions: 24 x 110 x 92mm (excluding antenna)
- Network interface: LoRa®
- Class A/C: selection from the development kit
- Antenna Connector: SMA
- QR Code for reading network identification settings
- MK21 processor (NXP) clocked at 120Mhz
- 128K RAM memory / 1MB Flash
- 2 diagnostic LEDs
- Micro SD card slot and micro USB-b plug
- Push button on the front
- Power supply: 9 to 36Vdc, 2W
- Operating temperature: -20°C to +70°C / 10-80% RH
- Protection rating: 20
- Fastening: DIN rail
- Manufacturer warranty: 2 years

Operation:

This sensor was designed to meet the requirements of an industrial product with its inputs/outputs and communication ports galvanically isolated: 3 digital inputs 24Vdc PNP/5 digital outputs 24Vdc PNP/EIA-485 fieldbus port/Electrical meter communication line for TIC Euridis/EIA-232 communication line (TIC meter PME/PMI) or Mbus fieldbus (external adaptor required).
A slot for a removable micro SD card (not included) allows local data storage combined with radio transmission.
A battery backup RTC (hour/date) allows, for example, data timestamping at the source, the management of time schedules, etc.

Certification:

- **CE certified**
- **RoHS certified**
- **Orange LoRa® network certified**

LoRa® | power supply | multi-function | modularity | customisable | small size

p 44

Occitaline Automation Driven

Smart Metering Device

Generic remote meter sensor
Pulse LoRaWAN™ 868 (ARF8046PA)

Use: **transmission of index from impulse meters (water, gas, electricity).**

Product characteristics:

- Dimensions: 105 x 50 x 27 mm
- Weight: 80g
- Power supply: Li-SOCl2 soldered battery
- Battery life: up to 15 years
- Network interface: LoRaWAN™
- Frequency range: 865-870 MHz
- Range: up to 10km
- Compatibility: LoRaWAN™ Class A
- Operating temperature: -20°C /+75°C
- Fixing system: DIN-rail, tube, wall, necklace
- Protection rating: 67
- Manufacturer warranty: 2 years

Operation:

Pulse is a radio transmitter that can be used to transform any type of meter into a wireless meter (smart meter).

Connection to meters (water, gas, electric) is simple via a system that is compatible with pulse interfaces. Configuration is intuitive via mechanical switches.

Two meters can be controlled by a single Pulse transmitter thus permitting a significant reduction in implementation and deployment costs.

An embedded application is used to adjust the data transmission cycle and alerts concerning tampering.

Certification:

- **CE certified Directive 2014/53/UE (RED)**
- **Orange LoRa® network certified**
- **LoRa Alliance™ certification (pending)**

LoRa® | battery | 10 km range | robust

adeunis
WIRELESS PRODUCTS & SOLUTIONS

Smart Metering Device

Remote Customer Sensor

Self Powered TIC Sensor

Use: to collect all information on electrical activity in homes, offices, administrative centers and small industrial premises. The remote model enables constant monitoring of consumption as well as real time transmission.

Product characteristics:

- Dimensions: for DIN rail 90 x 60mm thick.17.5mm
- Weight: 70g
- Power: self-powered, recharge from the meter's TIC output
- Network interface: LoRa®, class A
- 1 LED
- 1 reset and on/off switch
- Operating temperature: -20°C to +50°C
- Protection rating: 20
- Fastening: electric panel via a DIN rail (metal bar)

Operation:

Installed on the electricity meter at the tele-information on customer connection.

Device activated in OTAA (Over The Air Activation) or ABP (Activation by Personalisation) mode.

Information feedback: up to 1 or 2 frames per minute.

A notification is automatically generated if there is a variation in consumption relative to a standard level defined by the user.

The measurement settings can be stored locally, concatenated and compressed.

Certification:

- **CE certified (863-870 MHz)**
- **Orange LoRa® network certified**
- **RoHS certified (limitation on the use of hazardous substances)**

LoRa®

nke WATTECO

Smart Metering Device

Customer Information System sensor and LoRa® Modem

Ox-Line IoT: OxL01-LwD-IO-TIC-ModS-GW

Use: to select, process and transmit data, as well as complementary data (processing data, alerts…), from the Customer Information System from an electric meter under the control of a Modbus PLC.

Product characteristics:

- Dimensions: 24 x 110 x 92mm (excluding antenna)
- Network interface: LoRa®
- Class C: bidirectional communication
- Antenna Connector: SMA
- QR Code for reading network identification settings
- Micro USB-b plug
- 2 diagnostic LEDs
- 3 digital inputs 24Vdc PNP
- 5 digital outputs 24Vdc PNP
- EIA-485 fieldbus/Customer Information System (Euridis or EIA-232)
- Power supply: 9 to 36Vdc, 2W
- Operating temperature: -20°C to +70°C/10-80% RH
- Protection rating: 20
- Fastening: DIN rail
- Manufacturer warranty: 2 years

Operation:

A PLC communicates with this sensor, in accordance with the Modbus protocol, and selects from the complete list of customer information provided by an electrical meter, the data required for the device to function automatically and for radio transmission.

Therefore, the load curve of electrical energy consumption can be obtained by radio transmission every 10 minutes, or treated locally with a lower rate of energy management. According to the same protocol, the PLC also accesses the state of inputs and controls the outputs of the Ox-Line IoT sensor.

A push button located on the front makes it possible to force the radio transmission in order to validate the installation on site.

Certification:

- CE certified
- RoHS certified
- Orange LoRa® network certified

LoRa® | power supply | multi-function | small size

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Occitaline Automation Driven

Asset Tracking Device

Asset tracker
Master tracker

Product suitable for indoor and outdoor tracking uses.

Use 1: monitor and track worksite tools, dumpster tracks, non-powered equipment in airports (trolleys), containers in ports, freight during unloading.

Use 2: to work out the usage time of the device (the GPS is only triggered by motion).

Product characteristics:

- Dimensions: 145 x 76 x 42mm
- Weight: 240g
- Integrated 3-axis accelerometer
- Integrated temperature sensor
- 1 non-rechargeable battery: 3.6V, 19Ah, size D
- Life span: variable depending on the tracking modes chosen:10 years on average for the on-demand mode, 4 years for regular use (6 positions per day)
- Network interfaces: LoRa®
- Operating temperature: -10°C to +65°C
- Protection rating: 65 (tests in progress following modification to housing)
- Manufacturer warranty: 2 years

Operation:

The Master Tracker uses three technologies to guarantee seamless geolocation: GPS, assisted GPS (Abeeway proprietary technology enabling rapid location in 10 seconds and battery savings), and Wi-Fi (for indoor and urban uses).

The GPS mode is accurate up to 5 meters; location time: 15 secs for hot start, 1 min for cold start. The assisted GPS mode is accurate up to 10 meters; location time: 10 secs. The Wi-Fi mode is accurate up to 30 meters; location time: 5 secs.

Three geolocation modes are available: on-demand, motion tracking, rapid. Geofencing function: alert when entering or exiting an area.

Certification:

- **CE certified**
- **LoRa Alliance™ certification in progress**
- **LoRa® Orange network certified**
- **Available on the following frequency ranges: Europe (863-870 MHz), US (902-928 MHz)**

LoRa® accuracy geolocation multi-technology

p 48

abeeway
Smart geolocation technology

Asset Tracking Device

Asset tracker
Micro tracker

Product suitable for tracking devices, people and animals.

Use 1: to track lone workers. Interaction with the worker via the alert button and the LEDs.

Use 2: to control safety zones and trigger geofencing if a person approaches a prohibited access zone.

Product characteristics:

- Dimensions: 59.5 x 34 x 13mm
- Weight: 16g
- LEDS
- 1 integrated low-consumption GPS antenna
- 3-axis accelerometer, integrated pressure and temperature sensor, 1 integrated alert button
- Power: battery rechargeable via micro USB type B
- Life span: 1 year in on-demand mode; 1.5 days in regular mode with position sent every 10 mins
- Network interface: LoRa®
- Operating temperature: -10°C to +65°C
- Protection rating: 64 (protected against solid objects larger than 1mm, protected against water projections from any direction)
- Manufacturer warranty: 2 years

Operation:

Two geolocation modes are available: «on-demand» (when the GPS is used) or «regular» (periodic location at regular intervals; the intervals are configurable).

Geofencing function: alert when entering or exiting an area.

Product worn or hung, for example on a keyring.

Certification:

- **CE certified**
- **LoRa Alliance™ certification in progress**
- **LoRa® Orange network certified**
- **Frequency ranges Europe (863-870 MHz)**

LoRa®

location frequency configurable

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abeeway
Smart geolocation technology

Asset Tracking Device

Asset tracker
EG1114-D61N

Track objects in a closed environment.
Use 1: geolocation.
Use 2: tracking.

Product characteristics:

- Dimensions: 90 x 65 x 35mm
- Weight: 160g
- Internal battery
- Network interfaces: LoRaWAN™, Bluetooth V4.0
- Operating temperature: -30°C to +60°C
- Protection rating: 67–69k
- Fastening system: clamps, plate, clip, DIN rail
- Accelerometer
- Dedicated secure OS with possibility of SDK for specific application developments
- Manufacturer warranty: 2 years

Operation:

Geofencing and Geolocation.

Certification:

- **CE certified**
- **Orange LoRa® network certified**

BLE, LoRa®

robust

ercogener

Asset Tracking Device

Cellular asset tracker
T355 V2

Highly suited to uses in the industrial sector due to its sealing and its resistance to dust and impacts.

Use: real-time traceability of goods, valuable items, equipment and other assets.

Product characteristics:

- Power: 7400mAh/3.7V
- Network interfaces: 850/900/1800/1900MHz
- Internal GSM antenna
- Internal GPS antenna
- 1 impact alarm, 1 acceleration alarm
- Fastening: magnet system
- 1 two-colour blue and red LED
- 1 USB port, one micro SD card slot
- 1 SIM card slot
- Compatibility: Orange universal location offering (Smart SIM)
- Operating temperature: -15°C to +65°C
- Protection rating: 66 (fully protected against dust, protected against strong water jets from any direction)

Operation:

Very easy and quick to install using the integrated magnet system.

An alarm is automatically sent in the event of a fall.

Geofencing capabilities (alert generated if exiting an area).

The hardware and software can be customised on request.

Certification:

- **CE certified**
- **FCC certification in progress**
- **IC certification in progress**
- **355 V1 is CE certified**

GSM geolocation robust

meitrack

Asset Tracking Device

Multi-function asset tracker

KCS TM-901 / N1C2

Remotely monitor and track a variety of objects, people or livestock indoors and/or outdoors.

Use: logistics, traceability of animals, asset supervision, security and monitoring, anti-theft.

Product characteristics:

- Dimensions: 53 x 15mm
- Weight: 3g
- Internal low-consumption GPS antenna
- Temperature sensor, 3D accelerometer, pressure button
- Optional: humidity sensor, magnetometer, altimeter
- Network interfaces: BLE, LoRa® (868MHz / 915MHz) and 2.4Ghz RF
- Up to 3 LEDs
- 1 integrated USB port but special cable required
- Life span: up to 15 years depending on use
- Integrated solar charger
- Operating temperature: -30°C to +85°C
- Protection rating: 67 (fully protected against dust, protected against the effects of temporary immersion)
- Manufacturer warranty: 1 year

Operation:

Complete version: various traceability technologies are embedded within the same BCS product: GPS, BLE LE, ANT / ANT+ and proprietary radio frequency. They can be combined depending on uses.

Basic version: does not include GPS.

The combination of the LoRa® and 2.4Ghz RF technologies gives a range of over 60km.

This technique also gives a geolocation accuracy of up to 1.5m.

The firmware and the configuration files can be remotely updated. Interaction possible with the end user via the 3 LEDs and the action button.

Certification:

- **CE certified**
- **R&TTE (Radio and Terminal Telecommunication Equipment) certified**
- **RED certified**
- **LoRa Alliance™ certified for the European Union and the US**
- **Orange LoRa® network certified**

LoRa® | long range | accuracy | small size | battery

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Asset Tracking Device

Presence detector
Movee CS-10000A0U

Suited to multiple indoor and outdoor uses in the industrial sector.

The button and the LED can be used for interactions with users.

Use 1: supervision and management of assets.

Use 2: preventive and predictive maintenance.

Product characteristics:

- Dimensions: 75 x 22 x 50mm
- Weight: 60g
- 3 impact detection axes
- 3 inclination and orientation detection axes
- Vibration measurement
- Temperature sensor
- Integrated action button
- Life span: 7 years at an average of 4 frames per day
- Network interface: LoRa®
- 1 RGB LED
- Operating temperature: -25°C to +70°C
- Possible fastenings: screws, rivets, hose clamps, adhesive, glue
- Protection rating: 68 (fully protected against dust, submersible to 1m for 30 mins)

Operation:

Activation and/or debugging of the transmission frame via the action button to check the solution is operational on start-up.

The Movee connects to a public or private LoRa® network (OTAA or ABP).

All of the functions and algorithms are integrated into the sensor, programmed and activated via the LoRa® network and a user interface.

Certification:

- **CE certified**
- **Orange LoRa® network certified**
- **Product included on the Live Objects platform of Datavenue**

LoRa® battery robust customisable

éolane

Asset Tracking Device

Generic multi-function sensor

Siconia AT 868 C1

For all indoor and outdoor purposes using one or several of the following functions: temperature, accelerometer, button, LED. The customer combines the desired components as required as part of an industrial production.

Use 1: location of pallets/control cold chain.

Use 2: detect impacts on infrastructures/engine vibrations (preventive maintenance).

Product characteristics:

- Dimensions: 40 x 25 x 23mm
- Weight: 25g
- Power: 850mAh battery
- Life span: depends on the scenario (typically between 4 and 6 years)
- Network interfaces: LoRa® 1.0.1, OTAA mode
- 1 triple-colour red, green and orange LED
- 1 action button
- Operating temperature: -20°C to +70°C
- Fastening: screws
- Protection rating: 65 standard (fully protected against dust, protected against water projections from any direction)
- Manufacturer warranty: 2 years

Operation:

Device easily programmable by JavaScript. Script downloadable by NFC (or USB for development model).

Configurable payload. Encoding to be provided by Orange.

Certification:

- **CE certified**
- **LoRa Alliance™ certified**
- **Product included on the Live Objects platform of Datavenue**

LoRa®, NFC | customisable | compact | multi-function | advanced antenna

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Sagemcom

Daily Life Device

Smoke detector

Use 1: protect homes against environmental risks.

Use 2: be quickly notified in the event of a fire alert.

Use 3: reduce the extent of incidents thanks to a rapid response.

Product characteristics:

- Dimensions: Ø110 x H 61mm
- Weight: 162g
- Power: non-replaceable battery
- Battery monitoring: audio and light signal in case of SMS failure
- Operating temperature: 0°C to +55°C
- Acoustic power: over 85dB at 3m
- Fastening: screw and plug kit supplied for solid materials
- Range: 100m in open air

Operation:

Detects smoke from the start of a fire and emits a powerful audio signal.

It escalates the transmitted alerts and notifications to the gateway (Live Intercom or Myplug) then to a third party (platform or end user).

It does not detect heat, gases or flames.

Certification:

- **CE certified**
- **NF certified**
- **Compatible with the social standard EN 50134**
- **Product included on the Live Objects platform of Datavenue**

Myplug | battery | alarm | Live Intercom | Datavenue

p 55

FINSECUR Solutions de sécurité incendie

Daily Life Device

Water leak detector

Use 1: protect homes against environmental risks.

Use 2: be quickly notified in the event of water damage.

Use 3: reduce the extent of incidents thanks to a rapid response.

Product characteristics:

- Dimensions: 64 x 39 x 15mm
- Weight: 20g
- Power: CR2032 button battery
- Operating temperature: 0°C to +35°C
- Maximum operating humidity level: 80%
- Range: 100m
- LED: 1 orange LED
- Manufacturer warranty: 2 years

Operation:

Turn over the water leak detector.

You will see two metal contacts.

In the event of a leak, the water connects the two contacts and the water leak detector sends an alert to the gateway (Myplug or Live Intercom), then to a third party (platform or user).

Should preferably be installed in a location where a leak is likely to occur: underneath a sink, a toilet, behind a washing machine, a dishwasher, underneath a water heater, etc.

Certification:

- **CE certified**
- **RoHS certified**
- **Compatible with the social standard EN 50134**
- **Product included on the Live Objects platform of Datavenue**

Myplug alert Live Intercom Datavenue

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orange™

Daily Life Device

Door/window sensor
SZ-DWS04

Use 1: home care. Reports the number of door openings and closings, as well as the frequency of eldery people leaving and entering their homes.

Use 2: anti-intrusion. Detects risks of intrusion (alarm system activation required).

Product characteristics:

- Dimensions:
  module on the chassis: 8.2 x 26.8 x 51.4mm
  magnet on the door: 8.2 x 16.28 x 28.78mm
- Suitable for door and window
- Composed of two modules: one fixed and one mobile modules
- Battery life: 2 years
- 1 green LED
- Radio frequency: 2,4Ghz
- Operating temperature : 0° to +40°C
- Temperature sensor
- Installation with screws or adhesive tape.
  4 screws are included (2 for the sensor, 2 for the magnet); adhesive tape is also provided

Operation:

The fixed module is to fix on the door chassis, and the magnet on the mobile element.

These two elements must be face to face.
No notification is sent as long as the door and window are closed and the sensor and magnet are face to face.

When the magnet is moved away from the sensor, a signal is sent to the control panel that sets off an alarm if the security system is armed.

There is a LED to indicate various status conditions.

Reports door opening, door closing, tamper, signal supervision, temperature, and low battery events.

Certification:

- **CE certified**
- **Zigbee HA 1.2 certified**
- **FCC certified**

battery | zigbee HA 1.2. | 40m range | 33mm max.

SERCOM

Daily Life Device

HD outdoor camera

KW5618P

Use: keep an eye on your home, garden or car wherever you are. Remotely view and listen live 24 hours per day, during the day or at night.

Product initially intended for BtoC use, extended to BtoB use by the development of a «partner API» by Kiwatch. This involves managing the account for accessing the Kiwatch server for users, which is to be managed by customer B.

Product characteristics:

- Dimensions: 97 x 67 x 64mm
- Weight: 205g
- HD resolution: 1 280 x 720
- Wide 120-degree angle
- No audio alarm
- Integrated motion sensor
- Detection distance: 10 meters
- Infrared LEDs (up to 20 meters of lighting)
- Network interface: Ethernet 10Base-T/100Base-TX and Wi-Fi IEEE802.11b/g/n
- Protection rating: 66
- External Wi-Fi antenna to amplify the signal
- Power: power outlet, 12V DC, 1A outlet
- Operating temperature: -10°C to +60°C
- Manufacturer warranty: 2 years

Operation:

Takes video sequences of around 25 seconds. Photos cannot be taken in BtoB mode.

Recordings are stored on the Kiwatch servers.

Remote live viewing and listening.

Can be connected to a computer, smartphone or tablet for remote management and manually activating recording.

Certification:

- **CE certified 2004108EC**
- **R&TTE Directive 19995EC certified**
- **FCC-ID certified: ZDEFI9900P**
- **IC certified: 12558A-FI9900P**
- **WEEE label**
- **Product included on the Live Objects platform of Datavenue**

power supply | wifi | HD | Datavenue

Kiwatch
vidéo bienveillance

Daily Life Device

HD indoor camera

KW1608P

Use: view, listen and speak, day or night, within the monitored location.

Product initially intended for BtoC use, extended to BtoB use by the development of a «partner API» by Kiwatch. This involves managing the account for accessing the Kiwatch server for users, which is to be managed by customer B.

Product characteristics:

- Dimensions: 59.5 x 29 x 11mm
- Resolution: 1920 x 1080 up to 30 images per second
- 120-degree viewing angle
- Integrated 90 dB deterrent alarm
- Integrated motion sensor
- Detection distance: 8 meters
- Integrated night vision sensor
- Network interface: Ethernet and Wi-Fi IEEE802.11
- Weight: 105 g
- Life span: electrical power only
- Operating temperature: -10 to +55 degrees
- Manufacturer warranty: 2 years

Operation:

Shoot videos only in BtoB mode, possibility to add the photo mode on demand.

Video sequences of around 20 seconds.

Recordings are stored on the Kiwatch servers.

Remote live viewing and listening.

Certification:

- **CE certified 2004108EC**
- **RTTE certified, directive 19995EC**
- **FCC-ID certified: ZDEFI9900P**
- **IC certified: 12558A-FI9900P**
- **WEEE label**
- **RoHS certified**
- **Product included on the Live Objects platform of Datavenue**

power supply | wifi | HD | alarm | night vision | Datavenue

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Kiwatch
vidéo bienveillance

Daily Life Device

Personal telecare alarm

Sensor used for home support.

Use 1: quickly send a notification about an event in the home (illness, fall).

Use 2: rapid assistance by a third party without having to make arrangements.

Product characteristics:

- Dimensions: 42 x 42 x 11mm
- Protection rating: 55
- Power: battery
- Life span: 3 years
- Operating temperature: 0°C to +35°C
- Maximum operating humidity level: 80%
- Warranty: 2 years
- Accessories: necklace, bracelet, belt
- The locket has a clip on the back for directly attaching it to a pocket or belt

Operation:

When the button is pressed it sends an alert to Live Intercom, which transmits the alert to a third party (family, remote assistance centre, etc.).

The bracelet fits into the locket, allowing it to be worn on the wrist.

The necklace fits into the locket, allowing it to be worn around the neck.

Certification:

- **CE certification**
- **RoHS certified**
- **Compatible with the social standard EN 50134**
- **Product included on the Live Objects platform of Datavenue**

Myplug | battery | alarm | Live Intercom | Datavenue

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orange™

Daily Life Device

Plug

Smart plug

Use 1 : product suited to smart home uses for monitoring, checking and tracking electronic devices in the home, as well as the quality of the power line: remotely switch live devices on / off, turn on / off the programming of devices, monitor the electrical consumption of devices, monitor the voltage of the power line, analyze electrical disturbances.

Use 2 : receive downlink data (class C) to electronic devices in the home.

Product characteristics:

- Dimensions: 62 x 114 x 40mm
- Power: Power supply
- Network interface: LoRa®, class C
- 1 LED
- 1 reset and on / off button
- Operating temperature: -20°C to +50°C
- Fastening: power outlet

Operation:

Device activated in OTAA (Over The Air Activation) or ABP (Activation by Personalisation) mode.

Data transmitted every 10 mins, 1 hr or 12 hrs or depending on the settings chosen in the network.

A notification is automatically generated if there is a variation in the electrical frequency relative to a standard level defined by the user.

The measurement settings can be stored locally, concatenated and compressed.

Certification :

- **Orange LoRa® network certified**
- **CE certified (230V, 863-870 MHz version)**
- **FCC certified (110V, 902-928 MHz version)**
- **RoHS certified (limitation on the use of hazardous substances)**
- **Radio standards: EN 61000-4-2, EN 300-220-1, EN 301 489**

LoRa® | power supply | EU and US version

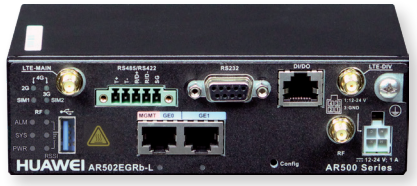
nke WATTECO

Multifunction Gateway

AR502EGRb-L

Use 1: Smart Street Lighting. Gateway is in the street as a hub and a command center that wirelessly controls street lighting.

Use 2: Smart Building / Energy Management. Gateway intelligently controls key devices within the building (such as lights, air conditioners, heaters…) while receiving information from sensors (temperature, motion…) to dynamically optimize energy efficiency.



Product characteristics:

- Dimensions: 150 x 100 x 44mm
- Weight: 850g
- Power supply: external power supply
- LAN Network interface : 2 Giga Ethernet, RF 868 – 915Mhz with 6LoWPAN
- Range: 200m (city) – 800m (open field)
- WAN network interface: dual SIM 2G / 3G / 4G with 2 external antennas, or through Giga-Ethernet
- Serial Interface: USB-2.0, RS232, RS485 / RS422, six DI / DO
- Operating temperature: from -25°C to 70°C
- Protection rating: 30
- Manufacturer warranty: 1 year

Operation:

Light on / off schedule calculated by longitude and latitude.

Support off-line working mode.

The gateway collects the data and processes it locally thanks to its through it strong Edge Computing capability, and finally synchronizes them with a cloud application.

The rich diversity of interfaces (wired and wireless) allows a large ecosystem of devices and sensors to connect.

Dual SIM cards allow services to be rapidly switched.

Upgrade Over The Air or through USB port.

Certification:

- **CE certified**
- **RoHS certified (limitation on the use of hazardous substances)**

2G / 3G / 4G | power supply | small size | multi-function

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HUAWEI

Automative gateway

AR503GW-LM7

Use: the gateway can be deployed in a bus, a truck or a train to provide a mobile interconnection solution, as well as Edge Computing resource for local data processing.
It is a secured wifi hotspot portal in the vehicle.
It collects information from the vehicle (position, video camera, technical data…), processes it locally and synchronizes it with a cloud application.
It has a high-capacity storage that can be used to store multimedia resources for local services.
It can be used as an Industrial fleet management connectivity device.

Product characteristics:

- Dimensions: 200 x 160 x 44mm
- Weight: 1.4kg
- Power: external power supply
- LAN network interface: dual-band AP (2.4GHz and 5GHz), 2x2 MIMO 802.11a/b/g/n (option for 3x3 802.11ac), 1x GiGa-Ethernet
- WAN Network interface: 2G /3G /4G
- GPS localization
- Serial Interface: USB-2.0
- Range: wifi 30m (open field)
- Operating temperature: from -10°C to +50°C (option for -10°C to +70°C)
- Protection rating: 41 (option for protection rating: 54)
- Manufacturer warranty: 1 year

Operation:

Connected within a vehicle, it will collect data, processes it locally thanks to its Edge Computing capability to synchronize it with your cloud application by using a high performance network interface.

The powerful hotspot capabilities will enable deployment of new services within the vehicle, supported by large memory storage for local content and a secured portal.

Upgrade Over The Air or through USB port.

Certification:

- **CE certified**
- **RoHS certified (limitation on the use of hazardous substances)**

2G/3G/4G / hotspot wifi **power supply** **localization**

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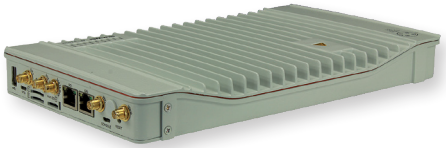
HUAWEI

Automative gateway
AR511GW-LAV2M3



Use 1: connected truck/Bus. It can be deployed in a bus, a truck or a train to provide a mobile interconnection solution, as well as Edge computing resource for local data processing.
It is a secured wifi hotspot portal in the vehicle. It collects information from the vehicle (position, video camera, technical data…), processes it locally and synchronizes it with a cloud application. It has a high-capacity storage that can be used to store multimedia resources for local services. It integrates audio and video interfaces that can be used to connect to multimedia terminals in the vehicle
Use 2: digital signage. It can be deployed to provide accurate multimedia resource delivery in places such as exhibition halls, shopping malls, and newspaper stands.

Product characteristics:

- Dimensions: 275x160x30mm
- Weight: 1.3kg
- Power: external power supply
- Multimedia output: HD video 1080p (2x output: HDMI, CVBS, or YPbPr), 2x Stereo Output, 1x Stereo input
- LAN network interface: dual-band AP (2.4GHz and 5GHz), 2x2 MIMO 802.11a/b/g/n, 2x giga-ethernet
- WAN network interface: 2G/3G/4G
- GPS localization
- Serial interface: USB-2.0 (1x Host & 1x OTG)
- Range: wifi 30m (open field)
- Operating temperature: -10°C to 60°C
- Protection rating: 40 (option for protection rating: 54)
- Manufacturer warranty: 1 year

Operation:

The AR511 integrates A/V interfaces that can be used to connect to multimedia terminals in vehicles (bus, train, police car, and school bus), bus stops, advertising boards, restaurants, exhibition displays, and provide HD video services.

The AR511 has a high-capacity storage medium that can pre-store multimedia resources, provides the content service to a screen, and updates multimedia resources online.

The powerful hotspot capabilities will enable deployment of new services within the vehicle, supported by large memory storage for local content and secured portal.

Certification:

- **CE certified**
- **RoHS certified (limitation on the use of hazardous substances)**

2G/3G/4G / hotspot wifi **power supply** **localization**

HUAWEI

Smart agriculture hub
Peek

Use: remotely monitor and track agricultural production spaces via the regular transmission of multimedia content (images, videos) synchronised with digital data from multiple sensors (e.g.: climate ambiance measurement, humidity, temperature, light, etc.).

Product characteristics:

- Dimensions: 160 x 120 x 80mm
- Weight: 600g
- Power: 5V – 2.1 A battery
- Network interfaces: LoRa®, Wi-Fi, 3G / 4G
- Life span: 1 month (with the one image per day setting)
- Integrated photo / video sensor
- GPS
- Protection rating: 67 standard (fully protected against dust, protected against the effects of temporary immersion)
- 3 LEDs (internet activity, LoRa®, shooting images)
- Fastening system: clamp and bracket screwable into PVC or metal
- Manufacturer warranty: 1 year

Operation:

Permanent collection of data fed back by the sensors.

Regular information concerning the status of the unit.

Take images and videos at the frequency configured by the user.

Geolocation and geofencing system (in case of theft).

Collaborative space for three users per unit: dashboard, dialogue between users via the browser in the solution.

Data stored in the Copeeks cloud.

Certification:

- **Orange LoRa® network certified**
- **CE certification in progress**

LoRa®, WiFi, 3G/4G

battery

p 65

COPEEKS

Live Intercom

Device used for home support.

Use 1 : quickly alert or reassure the family or friends of an isolated individual in case of a domestic accident.

Use 2 : encourage social link.

Product characteristics:

- Dimensions: Ø135 x H 130mm
- Weight: 700g
- Power: connect to a power outlet
- 2 buttons: routing of calls pending definition
  Use example: handle an emergency, make a friendly call
- Components:
  - speaker
  - microphone
  - SIM card
- Network: works on the 2G / 3G cellular network, no need for the end customer to have an internet connection

Operation:

To start a call, just press the button on the interphone.

It collects the alerts and notifications transmitted by the sensors in the home: water leak detector, smoke detector.

It sends the alerts and notifies them to third parties.

Voice communication in hands-free mode.

Certification :

- **CE certification**
- **RoHS certified (limitation on the use of hazardous substances)**
- **Product included on the Live Objects platform of Datavenue**

GSM alarm speaker Datavenue

p 66

orange™

Multi-function device
Live Module

Use 1: geolocation and tracking solution. Geolocate objects or people indoor and outdoor (bicycles, cars, animals, machines, palettes, people), detect movements, orientations or activities (monitor animals, detect falls).
Use 2: BLE gateway. Connect and feed back data from BLE devices (medical devices, weather station cubes, pollen and pollution sensors, etc.).
Use 3: alerts. Send an emergency message to a third party (lone workers, emergency situation, industrial machine experiencing a fault).

Product characteristics:

- Dimensions: 65 x 33 x 12mm
- Weight: 27g
- LCD screen: 23 x 23mm (128 x 128 pixels)
- Network connectivity: 2G & GPRS, BLE 4.0
- GPS
- Power: 320mAh battery rechargeable via micro USB port
- Accelerometer: 3 x,y,z accelerometer axes and 3 x,y,z gyroscope axes
- 2 interaction buttons
- 1 RGB LED
- Protection rating: 68 waterproof product (fully protected against dust, submersible to 1m for 30 mins)
- Operating temperature: -10°C to +35°C
- Manufacturer warranty: 12 months (excluding battery)

Operation:

Indoor or outdoor geolocation: GPS or zoning via the GSM network. Geofencing and alerting: send and receive messages if exiting an area predefined on the portal. Compatible with all BLE beacons. Detect variations in orientation and activities. Customise the Live Module with provision of a generic SDK + white label screen printing (colour, logo). Encapsulation possible in the smart object by submitting dimensions. Interaction possible with the end user via the two buttons and the screen. Tactile (vibration) and visual (LED and screen messages) notification. Manage the Live Module fleet via a dedicated administration interface: create/manage groups, associate the Live Module with groups, development environments, over-the-air firmware updates.

Certification:

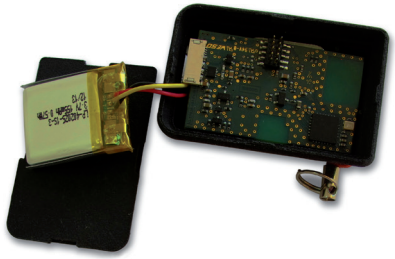
- **CE certification in progress**
- **GCF certified (radio certification via The Global Certification Forum)**

GPRS, 2G | GPS, GSM zoning | customisable | multi-function | robust

p 67

orange™

Reference design
D011-61E-B



Use: specially suited to tracking, metering, transport, industry and wearables.

The reference design includes:

- **a unit equipped with a LoRa® transmitter + sensors and GPS for locating the object. It is battery powered.**
- **software and smartphone application development tool.**

Product characteristics:

- Dimensions: 38 x 22 x 5mm for tracker with GPS
- Life span: >15 hours with 155mAh battery and average consumption of 10mA
- Power: LiPo battery
- Network interface: LoRa®
- Operating temperature: 0°C to +40°C (can be extended as required)
- LED

Operation:

Collect a variety of data from sensors, GPS, battery status, etc.

The platform is intended to be adapted on a case-by-case basis according to customer specifications.

Numerous personalisations possible based on the platform provided:

- Add functions (sensors etc.)
- GUI (LED, button, reset, etc.)
- Battery-powered
- Optimisation of Life span
- Specific housing
- Form factor

Certification:

- **No certification on the module**
- **The certificates will be applicable for the finished products**

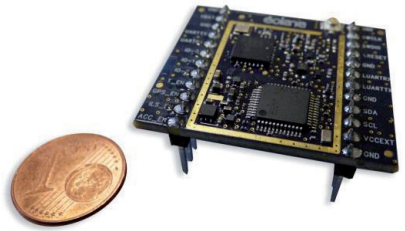
LoRa® battery modular

p 68

Goobie
Pour des idées qui se produisent

Reference design
LoRa® Development Kit

Use: enable R&D and innovation teams to accelerate the development of LoRa® sensors for proofs of concept and industrial production. It is supplied with an SDK, including a variety of interfaces, and is based on an ARM Cortex M3/M0+ low-consumption microcontroller architecture.



Product characteristics:

- Dimensions: 18x26mm
- Operating temperature: -25°C to +75°C
- Eclipse IDE
- Compatible with class A and class C LoRaWAN™1 sensors
- API protocol and application codes for embedded sensors
- SMA connector for external antenna

Operation:

This reference design is supplied with an SDK.

It is aimed at innovation and R&D teams to help them develop their LoRa® sensor projects while guaranteeing a rapid time to market.

Compatible embedded sensors: GPS, accelerometer, gyroscope, temperature, humidity, magnetic switch.

Varied digital interfaces: 7x DIO, 1x I2C, 2x UART, 1x SWD (debug)

Certification:

- **Orange LoRa® network certified**

LoRa®

éolane

Optical reader for electricity meter
Belsenso FM 230e

Use: measure electricity consumption for electronic meter only.

Various fields of application: large buildings (hypermarkets, local authorities, hospitals), medium-sized buildings (schools, retirement homes, supermarkets), small buildings (shops, bank branches, artisans, large residences).

Product characteristics:

- Dimensions: 35 x 25 x 17mm
- Weight: 16g
- Power: 3.6V lithium battery, 6 AmpH. Replaceable battery.
- Life span: 5 years
- Input / maximum speed of flashes: 5 flashes per second
- Pulse output: 2 threads, pulse duration of 78ms, 3V to 24V polarised voltage
- Operating temperature: -20°C to +45°C
- Fastening: adhesive (3M)
- Activation validation diode (red and green)
- Manufacturer warranty: 2 years (excluding battery)

Operation:

Generates pulses according to the flashing of the diode: counts the number of flashes corresponding to the active power consumed.

Product does not have embedded connectivity.

It is compatible with modems such as Atim, Adeunis, Amber, Elster / Wavenis, Veolia / Pulsetrack, Enless and Sensing LaBs.

Certification:

- **CE certified**
- **RoHS certified**

battery

electronic meter

Fludia
Smart Energy Components

Optical reader for electricity meter

Belsenso FM 230m

Use: measure electricity consumption for electromechanical meter only.

Various fields of application: large buildings (hypermarkets, local authorities, hospitals), medium-sized buildings (schools, retirement homes, supermarkets), small buildings (shops, bank branches, artisans, large residences).

Product characteristics:

- Sensor dimensions: 73 x 32 x 93mm
- Sensor weight: 23g
- Battery unit dimensions: 40 x 24 x 19mm
- Battery unit weight: 19g
- Power: 3.6V lithium battery, 6 AmpH. Replaceable battery. 5-year Life span
- Input/maximum speed of discs: 5 revolutions per second
- Pulse output: 2 threads, pulse duration of 78ms, 3V to 24V polarised voltage
- Operating temperature: -20°C to +45°C
- Fastening: adhesive (3M)
- Activation validation diode (red and green)
- Manufacturer warranty: 2 years (excluding battery)

Operation:

Generates pulses according to the disc revolutions: counts the number of disc revolutions corresponding to the active power consumed.

Product does not have embedded connectivity.

It is compatible with modems such as Atim, Adeunis, Amber, Elster/Wavenis, eolia/Pulsetrack, Enless and Sensing LaBs.

Certification:

- **CE certified**
- **RoHS certified**

battery

mechanical electronic meter

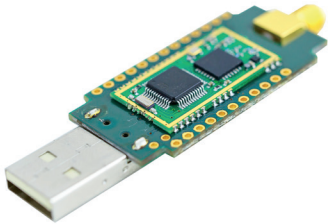
Fludia
Smart Energy Components

LoRa® modem USB version

MK002-L-EU

Use 1: LoRa® modem, in USB stick format, controlled via AT command and enables communication via the LoRa® network (compatible with the LoRa® 1.0.x EU version / the next LoRa® 1.1 EU version is in development).

Use 2: can be used with any type of system (Raspberry Pi etc.) and OS (Linux/Windows).



Product characteristics:

- Power: 5V / USB
- Maximum power: +14dBm
- Interface: AT command on USB interface
- Compatibility: FSK, LoRa®, LoRaWAN™ 1.0.x EU
- Operating temperature: -20°C to +60°C
- Supplied with an external antenna and a Java application
- Manufacturer warranty: 1 year

Operation:

The product MK002 is a USB stick solution based on the MM002 LoRa® 1.0.x USB Class A&C modem from NEMEUS.

This product is part of a range of modem solutions for covering different regions of the world:

- MK002-LS-EU: LoRa® / SigFox dual-mode modem
- MK002-L-JP: LoRa® modem for Japan
- MK002-L-US: LoRa® modem for US / Canada

Certification:

- **CE certified**
- **RoHS / UL certified**
- **Orange LoRa® network certified**
- **FCC / IC certification in progress (US/Canada)**
- **MIC certified (Japan)**

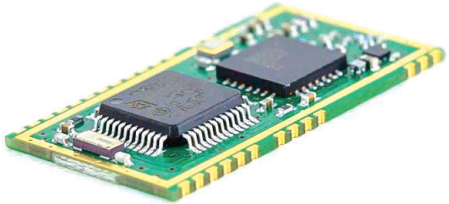
LoRa®

NEMEUS

LoRa® module
MM002-xx

LoRaWAN™ radio module controlled by AT commands via UART interface (compatible with LoRaWAN™ 1.0.x EU protocol/the next LoRaWAN™ 1.1 EU version is in development).

Use: can be used with any object requiring LoRaWAN™ network connectivity.



Product characteristics:

- Dimensions: 14.4 x 26.4 x 2.5mm (3mm with shield)
- Power: 3V (nominal)
- Max output power: +14dBm
- Consumption:
  - < 2 uA IDLE
  - 39.5mA en mode Tx @ 14dBm
  - 11.7mA en mode Rx
- Interface: AT commands on UART
- Compatibility: FsK, LoRa®, LoRaWAN™ 1.0.x
- Temperature: -20°C to +60°C
- Manufacturer warranty: 1 year

Operation:

The MM002 module supports classes A & C.

It is implemented with its UART interface and the use of AT commands. The customer application software can be integrated into the module by agreement. This industrial solution is supplied in a reel ready to mount in a machine (tape & reel).

This module includes the range of modules with the same form factor and the same AT interface dedicated to different networks and geographical regions:

- MM002-LS-EU: LoRa®/SigFox dual-mode modem solution (EU)
- MM002-L-JP: LoRa® modem solution (Japan)
- MM002-L-US: LoRa® modem solution (US/Canada)

Certification:

- **CE certified**
- **RoHS/UL certified**
- **Orange LoRa® network certified**
- **FCC/IC certification in progress (US/Canada)**
- **MIC certified (Japan)**

LoRa®

NEMEUS

SMART IoT Sensor

MS004

Use: multi-function sensor designed for prototyping IoT solutions using various connectivities as part of a proof of concept: LoRaWAN™ 1.0.x EU / Bluetooth™ Low Energy / GPS etc.

Customers can develop their own application in the Arduino software development environment.

Product characteristics:

- Dimensions: 80 x 40 x 20mm
- Weight: 40g
- Network interfaces: LoRa®, FSK
- Bluetooth NRF 51822
- GPS / GLONASS / Galileo
- USB port
- GPIO
- Accelerometer / temperature / pressure
- Pushbutton
- Integrated antennas (ISM, BLE, GPS)
- Non-waterproof housing
- 2 LEDs, including 1 programmable RGB
- Battery: 300mAh
- Manufacturer warranty: 1 year

Operation:

This product is based on an architecture that is fully compatible with the Arduino development environment.

The electronics were developed based on an Atmel ARM Cortex M0+ MCU microcontroller, industrial connectivity modules and various sensors and GPIO, enabling a wide range of applications to be covered.

Lastly, the integrated antenna was specially developed to achieve optimal performances.

Certification:

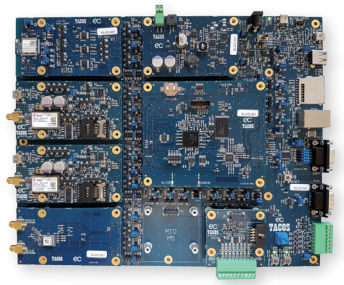
- **CE certified**
- **RoHS / UL certified**
- **Orange LoRa® network certified**

LoRa®

NEMEUS

Generic motherboard

Tacos



A tailor-made motherboard for integrating electronic components from a catalogue and optimising development andmanufacturing costs.

Use 1: asset tracking for high value-added equipment/projects (large volumes and/or high equipment costs).

Use 2: automation of equipment in agriculture fields.

Catalogue of possible electronic components:

- Accelerometer
- GPS
- GSM
- Satellite
- Wi-Fi
- LoRa®
- Bluetooth
- NFC
- RFID
- Radio module
- Gyroscope
- Power optimisation
- Powered by heavy battery/light battery/Power supply
- CAN bus
- RS232 series link
- RS485
- Digital inputs/outputs
- Analogue inputs/outputs
- Software specially developed according to customer's business needs

Operation:

The customers define their requirements in terms of components.

Electronique Concept adapts the generic motherboard according to the customer's needs.

The final unit is customisable (name, colour, material, sealing, resistance).

Electronique Concept designs the prototype of the motherboard.

At the customer's request, Electronique Concept mass-produces the motherboard based on the customer's desired volumes.

Certification:

- **Certifications to be produced for each customer's finished product (as a specific product is designed)**

modular, customisable

ELECTRONIQUE CONCEPT

Cellular module with prepaid connectivity included

Live Booster

Live Booster is an integrated module for object makers to bring 2G cellular connectivity to IoT products without any need for a subscription. It is suitable for indoor and outdoor products across Europe. The ready-to-use pre-paid connectivity and low power consumption allows you to control your costs and business plans from the design to commercialization, and your IoT products benefit from long-term autonomous connection across Europe and security of data transmission.

Uses: specially suited to tracking, metering, transport, industry or wearables.

Product characteristics:

- Dimensions: 15.8 x 17.8 x 2.4mm
- Weight: ~ 1.5g
- Wide supply voltage range: 3.4 ~ 4.4V
- Battery life: firmware optimized with low power consumption features
- Network interfaces: GSM / GPRS quad-band 850 / 900 / 1800 / 1900MHz
- Data transmission: max. 85.6kbps (Downlink / Uplink)
- Interface: AT cellular command interface
- Operating temperature: -40°C à +85°C
- IP protocols: TCP / UDP, FTP / HTTP

4 prepaid connectivity offers: small: 10 MB \ medium: 40 MB \ large: 200 MB \ extra-Large: 500 MB.

Operation:

The solution consists of a quad-band module GSM / GPRS with an industrial SIM Card soldered in the module and a prepaid offer covering Europe (European economic area, Switzerland, Andorra).

Connection directly to a cellular network with no dependence on a smartphone, Wi-Fi hotspot or gateway.

Zero configuration required: Live Booster was designed to be used out-of- the-box with no setup required.

Secure by design via the cellular network and encryption integrated in the SIM Card.

An evaluation board is available for testing and prototyping purposes.

Certification:

- **Certified CE**
- **Certified RoHS**
- **Certified REACH**
- **Certified RED**
- **Certified Orange cellular network**

GSM / GPRS | **multi-features** | **small size** | **secure**

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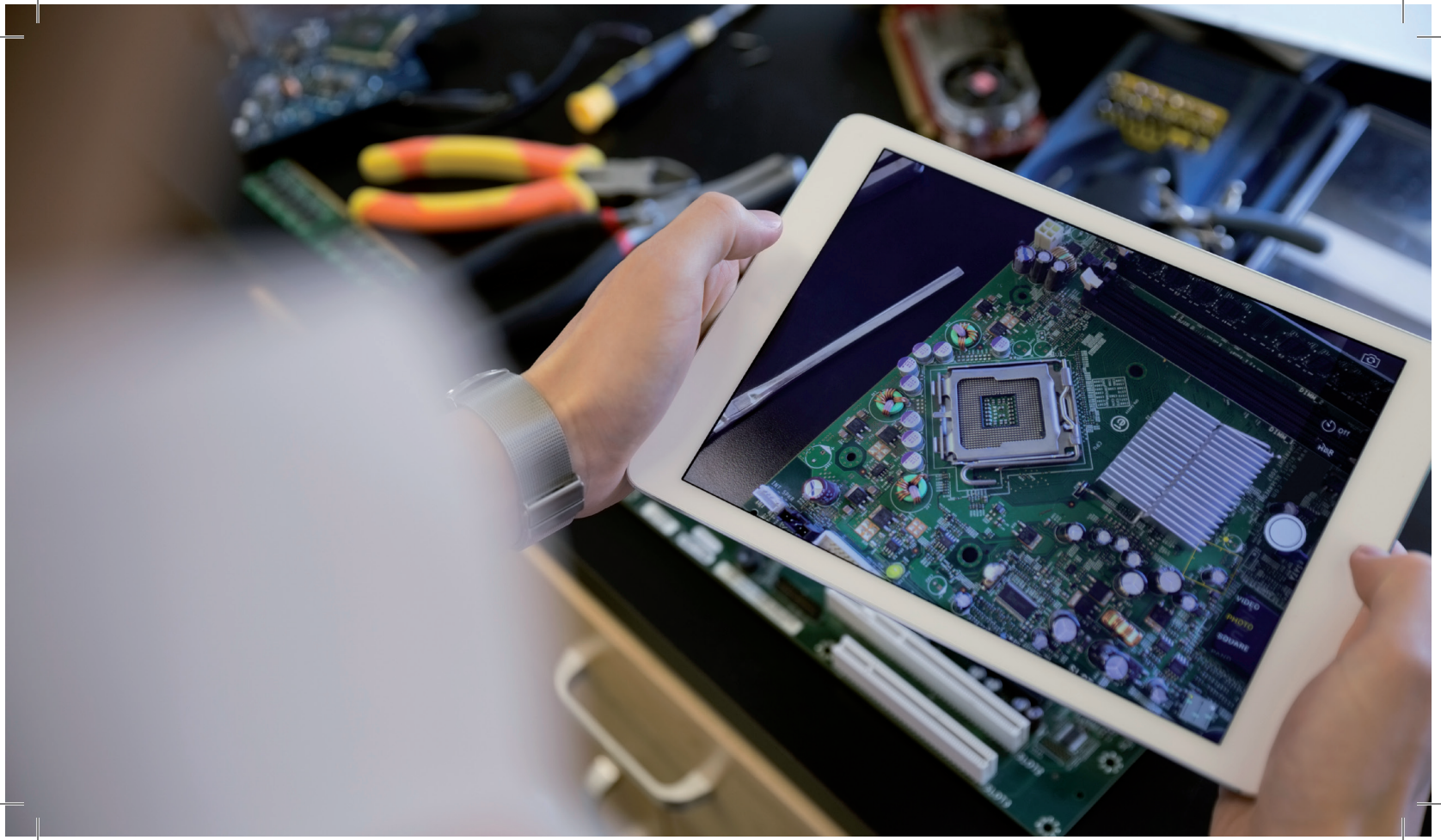
In partnership with orange™ and EBV Elektronik — An Avnet Company

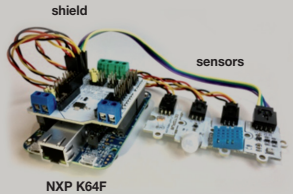

VIDEO
PHOTO
SQUARE

Starter kit

Linux / Raspberry IoT Soft Box

Use: IoT Soft Box is aimed at developers who want to learn about IoT, as well as start-ups and large companies that want to begin developing smart objects.

Linux / Raspberry IoT Soft Box is an SDK that allows them to develop end-to-end solutions quickly and easily while minimizing risks and accelerating time to market.



Product characteristics:

- Compatible with the following development boards:
  - Raspberry Pi 2 model B, ARM Cortex-A7 quad-core CPU
  - Raspberry Pi 3 model B, ARMv8 quad-core CPU

Operation:

Collection of data and secure dispatch to the Live Objects platform of Datavenue (ability to use the TLS).

Device management functionalities of the Live Objects platform by Datavenue: update the device's status, configure settings, send commands and resources from the platform.

Collection of data and secure dispatch to Datavenue (ability to use the TLS).

Certification:

- **The final product designed based on the SDK must be certified**

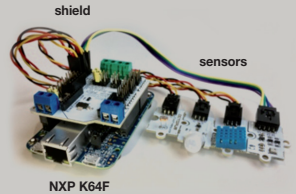
multi-use

orange™

Starter kit
mbed OS IoT Soft Box

Use: IoT Soft Box is aimed at developers who want to learn about IoT, as well as start-ups and large companies that want to begin developing smart objects.

mBed IoT Soft Box is an SDK that allows them to develop end-to-end solutions quickly and easily while minimizing risks and accelerating time to market.



Product characteristics:

- Compatible with MCU ARM Cortex-M with 64KB of RAM and 256BB of flash memory
- Tested with the following two development boards:
  - NXP K64F, MCU (MK64FN1M0VLL12) Cortex M4 from ARM, 256 KB RAM + 1MB flash memory
  - ST Microelectronics NUCLEO-F429ZI, STM32 MCU Cortex M4 from ARM, 256+4 KB SRAM, 2048 KB Flash

Operation:

Collection of data and secure dispatch to the Live Objects platform of Datavenue (ability to use the TLS).

Device management functionalities of the Live Objects platform by Datavenue: update the device's status, configure settings, send commands and resources from the platform.

Collection of data and secure dispatch to Datavenue (ability to use the TLS).

Certification:

- **The final product designed based on the SDK must be certified**

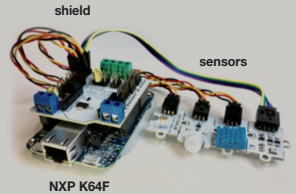
multi-use

orange™

Starter kit
Arduino IoT Soft Box

Use: IoT Soft Box is aimed at developers who want to learn about IoT, as well as start-ups and large companies that want to begin developing smart objects.

Arduino IoT Soft Box is an SDK that allows them to develop end-to-end solutions quickly and easily while minimizing risks and accelerating time to market.



Product characteristics:

- Compatible with Arduino development boards (and Arduino IDE)
- Tested with the following two development boards:
  - Arduino Mega 2560 Rev3 (no TLS (Transport Layer Security)), 8KB SRAM + 256KB flash
  - Mediatek LinkIt One, MPU ARM7EJ-S™, 4M RAM,16M Flash

Operation:

Collection of data and secure dispatch to the Live Objects platform of Datavenue (ability to use the TLS).

Device management functionalities of the Live Objects platform by Datavenue: update the device's status, configure settings, send commands and resources from the platform.

Collection of data and secure dispatch to Datavenue (ability to use the TLS).

Certification:

- **The final product designed based on the SDK must be certified**

multi-use

orange™

LoRa® Explorer kit

Development kit aimed at developers for conducting PoC (proofs of concept).

Use: complete development kit for prototyping a smart object on LoRa® technology, connectable to Orange's LoRa® network in France.

Product characteristics:

- LoRa® connectivity (RN2483 module)
- 256KB flash memory + 4MB on external flash memory
- Integrated analogue sensor (temperature sensor)
- Programmable pushbutton
- Standard connectors, Arduino shield compatible
- Integrated battery and antenna (external battery and antenna can be used)
- Bluetooth
- Programmable RGB LED and blue LED
- Micro USB port, cables supplied

Operation:

Autonomous, communicating prototyping board (LoRa®). Compatible with the Orange LoRa® network in France.

Pre-configured for exchanging data via the Live Objects platform of Datavenue.

Enables all types of sensors to be connected (compatible with Arduino M0 boards). Getting started guide, examples of executable codes.

Support via email.

LoRa® connectivity offering (mainland France) and access to an account on the Live Objects platform of Datavenue, to be taken out separately.

Certification:

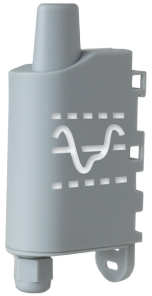
- **The finished product created based on this starter kit will have its own certifications**

LoRa®

multi-use

orange™

Analog/digital transmitter
ARF8045PA



Radio transmitter for converting any type of 0-10V, 4-20MA or AON (All or Nothing) sensor into a wireless sensor. 2 operating modes depending on uses.

Use 1: the product transmits a frame on an event whenever there is a change of state in the two AON inputs.

Use 2: the product periodically transmits a frame according to the chosen configuration. This operating mode is only available when the two paths are configured in analogue.

Product characteristics:

- Dimensions: 105x50x27mm
- 2 analogue inputs (O-10V, 4-20mA) or 2 AON (All or Nothing) inputs
- Power voltage: 3.6 V nominal
- Power: integrated Li-SOCI2 battery
- Operating temperature: -25°C to 70°C
- Fastening: with hose clamp to a DIN rail
- Protection rating: 67 (fully protected against dust, protected against the effects of temporary immersion)
- Manufacturer warranty: 2 years

Operation:

The ARF8045 from Adeunis can be integrated into any network previously rolled out.

Two sensors can be handled by one Adeunis transmitter.

Compatible in particular with the Osiswitch limit switch in our catalogue.

Certification:

- **CE certified**
- **Orange LoRa® network certified**
- **Product included on the Live Objects platform of Datavenue**
- **Radio standards: EN 300220 EN 301489 EN 60950**

LoRa® battery robust Datavenue

adeunis
WIRELESS PRODUCTS & SOLUTIONS

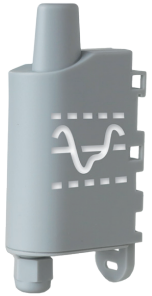
Transmitter with Analog interface

Analog PWR LoRaWAN™ 868 (ARF8190BA)

To make 0-10V / 4-20mA wired sensors communicate.

Use 1: pressure, CO^2, humidity.

Use 2: tank Filling, Gas Level, Speed.



Product characteristics:

- Dimensions: 105 x 50 x 27mm
- Weight: 70 g
- Power supply: Li-SOCI2 replaceable battery
- Autonomy : up to 15 years
- Network interface: LoRaWAN™
- Frequency range: 863-870MHz
- Range: up to 15km
- Compatibility: LoRaWAN™ Class A
- Operating temperature: -25°C to +70°C
- Fixing system: DIN-rail, tube, wall, necklace
- Protection rating: 67
- Manufacturer warranty: 2 years

Operation:

Analog LoRWAN™ is a radio transmitter enabling any type of 0-10V or 4-20mA wired sensor to be converted into a wireless sensor.

This product meets the needs of users who need to remotely monitor data of any kind (temperature, pressure, level, humidity, CO^2, speed, brightness, opening, etc).

Two sensors can be supported by a single analog LoRaWAN™ transmitter.

The product transmits the data from the sensors either periodically or in an event-related way, based on top or bottom thresholds or on detection of a change of state on its digital inputs.

Certification :

- **CE certified Directive 2014/53/UE (RED)**
- **Orange LoRa® network certified**
- **LoRa Alliance™ certified**

LoRa® | battery | 15 km range | robust

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WIRELESS PRODUCTS & SOLUTIONS

Digital transmitter/actuator

Dry Contacts LoRaWAN™ 868 (ARF8170BA)

Reporting states 0-1 (ascending) and control relays (descending).

Use 1: turn on or restart devices remotely.

Use 2: signal faults or level alerts, access control.

Use 3: count the number of state changes.

Product characteristics:

- Dimensions: 105 x 50 x 27mm
- Weight: 93g
- Power supply: Li-SOCl2 replaceable battery
- Battery life: up to 15 years
- Network interface: LoRaWAN™
- Frequency range: 863-870MHz
- Range: up to 15km
- Compatibility: LoRaWAN™ Class A
- Operating temperature: -25°C to +70°C
- Fixing system: DIN-rail, tube, wall, necklace
- Protection rating: 67
- Manufacturer warranty: 2 years

Operation:

Dry Contacts is a radio transmitter/receiver enabling the user on the one hand to collect statuses and alarms on a LoRa® network and on the other to control relays via the same network.

This product meets the needs of users who need to remotely monitor (or control) simple on-off digital data: door opening detection, presence, machine starting, warning, etc.

Dry Contacts is equipped with 4 configurable digital inputs/outputs.

The product emits data either periodically or in an event-related way on a change of state.

Certification:

- **CE certified Directive 2014/53/UE (RED)**
- **Orange LoRa® network certified**
- **LoRa Alliance™ certified**

LoRa® | battery | 15 km range | robust

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WIRELESS PRODUCTS & SOLUTIONS

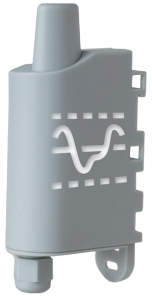
Transmitter with Analog interface

Analog PWR LoRaWAN™ 868 (ARF8200AA)

To make 0-10V/4-20mA wired sensors communicate.

Use 1: pressure, CO^2, Hygrometry.

Use 2: tank Filling, Gas Level, Speed.



Product characteristics:

- Dimensions: 105 x 50 x 27mm
- Weight: 49g
- Power supply: external 6-24V DC
- Network interface: LoRaWAN™
- Frequency range: 863-870MHz
- Range: up to 15km
- Compatibility: LoRaWAN™ Class A
- Operating temperature: -25°C to +70 °C
- Fixing system: DIN-rail, tube, wall, necklace
- Protection rating: 67
- Manufacturer warranty: 2 years

Operation:

Analog PWR (power) is a radio transmitter enabling any type of 0-10V or 4-20mA wired sensor to be converted into a wireless sensor. This product meets the needs of users who need to remotely monitor data of any kind (temperature, pressure, level, humidity, CO^2, speed, brightness, opening, etc).

Two sensors can be supported by a single Analog PWR transmitter.

The product transmits the data from the sensors either periodically or in an event-related way based on top or bottom thresholds or on detection of a change of state on its digital inputs.

The PWR version does not have a battery and allows the use of an external power source.

Certification:

- **CE certified Directive 2014/53/UE (RED)**
- **Orange LoRa® network certified**
- **LoRa Alliance™ certified**

LoRa® | battery | 15 km range | robust

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WIRELESS PRODUCTS & SOLUTIONS

Change of state detector
ACW-DI4

Use 1 : to enable the transfer of dry contacts to the Cloud as well as triggering warning messages in the event of a change in state in AoN inputs (All-or-Nothing).

Use 2 : enables index sensor transmission at regular intervals or in case of threshold (alert mode).

Product characteristics:

- Dimensions: 160 x 53 x 53mm
- Weight: 100g
- Power supply: in transmitter mode (Tx): 50mA max; in receiver mode (Rx): 18mA; in sleep mode: 7µa
- Radio power: 25mW (14dBM)
- Network interface: LoRa® (868Mhz)
- Range: up to 15km
- Protection rating: 65 waterproof unit (fully protected against dust, submersible to 1m for 30 mins)
- Fastening system: wall, tube or pole, rail-DIN
- Operating temperature: -20°C to +55°C
- Storage temperature: -40°C to +70°C
- Manufacturer warranty: 2 years

Operation:

Multipurpose radio modem: link in transparent point-to-point or multipoint mode, or serial gateway to LoRaWAN™.

USB configuration.

Button to submit.

SMS and email alerts.

Secure API.

Certification :

- **CE certified**
- **RoHS certified**
- **Orange LoRa® network certified**
- **Frequency ranges: compatible with 868Mhz ; 915Mhz in progress**

LoRa® power supply robust

p 86

Serial port radio modem
ACW-RS

This modem can be used to interface any electronic system that has a serial link and is designed to communicate on LoRa®.

Use 1: used behind automatons or measurement acquisition systems that have a serial link for feeding back data (class A uplink).

Use 2: received downlink data via LoRa® (class C downlink).

Product characteristics:

- Dimensions: 160 x 53 x 53mm
- Weight: 100g
- Amperage recommended: 100mA in 10V
- Power: 12-30V outside
- Power supply in transmitter mode (Tx): 35mA on 10V
- Power supply in receiver mode (Rx): 20mA max on 10V
- Radio power (ACW/xxx-RS): 25mW/14dBm
- Radio power (ACW/xxx+RS): 500mW/27dBm
- Network interface: LoRa® (868 Mhz)
- Range: 10km outside
- Protection rating: 65
- Fastening system: wall, tube, DIN-Rail
- Operating temperature: -20°C to +55°C
- Manufacturer warranty: 2 years

Operation:

Multipurpose radio modem: link in transparent point-to-point or multipoint mode, or serial gateway to LoRaWAN™.

Modbus master gateway.

Modbus slave gateway.

Transparent gateway (serial transmission to radio, radio to serial without apRange modification).

Compatible with any system that has a serial link (automaton, sensor), notably with the Météo Omnium MORS pavement sensor in our catalogue.

Certification:

- **CE certified**
- **RoHS certified**
- **Orange LoRa® network certified**
- **Product included on the Live Objects platform of Datavenue**
- **Frequency ranges: 868Mhz; 915Mhz in progress**

LoRa® | power supply | Datavenue | robust

p 87

Analogue inputs radio modem
ACW-DINDA

Use: this modem gives data feedback cyclically from 4/20MA or 0/10V analogue input.
Product adapted to isolated sensors, for example to measure water level or fill rate of tank.

Product characteristics:

- Dimensions: 90 x 57 x 17.9mm
- Weight: 100g
- Power: 10–30V outside
- Power supply in transmitter mode (Tx): 50mA
- Power supply in receiver mode (Rx): 18mA
- Radio power: 25mW (14dBm)
- Network interface: LoRa® (868Mhz)
- Range: up to 15km
- Protection rating: DIN compact format
- Operating temperature: -20°C to +55°C
- Fixation: rail DIN
- Manufacturer warranty: 2 years

Operation:

Compatible with any system that has a serial link (automaton, sensor).

Also compatible with class A (uplink).

USB configuration.

SMS and email alerts/secure API.

Certification:

- **CE certified**
- **RoHS certified**
- **Orange LoRa® network certified**
- **Frequency ranges: 868Mhz; 915Mhz in progress**

LoRa®

power supply

p 88

Serial link radio modem
ACW-DINRS

Use 1 : enables interconnection between two electronic systems equipped with an RS232 or RS485 serial link (peer to peer or multi-points).

Use 2 : retrieves data from device and sends it to LoRa® network when it is configured as master or slave Modbus modem. This product is commonly used behind automations or acquisition systems of measurement: weather station, sensors, etc.

Product characteristics:

- Dimensions: 90 x 57 x 17.9mm
- Weight: 100g
- Power: 10 – 30Vcc
- Power supply in transmitter mode (Tx): 35mA max
- Power supply in receiver mode (Rx): 20mA max
- Radio power (-RS): 25mW (14dBM)
- Radio power (+RS): 500mW (27dbm)
- Network interface: LoRa® (868 Mhz)
- Range: up to 15km
- Protection rating: DIN compact format
- Fastening system: rail-DIN
- Operating temperature: -20°C to +55°C
- Manufacturer warranty: 2 years

Operation:

Bridge mode.

Gateway mode.

USB configuration.

SMS and email alerts.

Secure API.

Certification :

- **CE certified**
- **RoHS certified**
- **Orange LoRa® network certified**
- **Frequency ranges: 868Mhz ; 915Mhz in progress**

LoRa®

power supply

p 89

Radio transmitter
ACW-MR2

This modem enables accurate recording and reporting of data consumption.

Use: remote monitoring of equipment in an urban environment. This product is particularly suitable for use in harsh environments.

Product characteristics:

- Dimensions: 160 x 53 x 53mm
- Weight: 100g
- Power: 1 battery Lithium (1 more as an option)
- Power supply in transmitter mode (Tx): 60mA
- Power supply in receiver mode (Rx): 35mA
- Radio power: 25mW / (14dBm)
- Network interface: LoRa® (868Mhz)
- Range: up to 15km
- Protection rating: 68 (fully protected against dust, submersible to 1m for 30 mins)
- Fastening system: wall, tube, rail-DIN
- Operating temperature: -20°C to +55°C
- Manufacturer warranty: 2 years

Operation:

Configuration via 4 DIP switches: 1 link for the change of state and 3 related to the cycle time.

Reading of counting index or detection of a change of state.

The counting can be set (3 or 4 times a day in general).

Fixed time measurement possible.

Transmission at regular intervals.

Certification:

- **CE certified**
- **RoHS certified**
- **Orange LoRa® network certified**
- **Frequency ranges: 868Mhz; 915Mhz in progress**

LoRa® battery Datavenue robust

p 90

Modem radio comptage
ACW-MR2-Ex

This modem allows detailed and accurate reporting of gas consumption to a cloud platform. It raises the counting index and transmits it at regular intervals. This product is certified ATEX Zone 2 and is equipped with 2 meter inputs and a cable break (to check if the cable is still plugged in).

Use: remote equipment supervision in an urban environment. This product is particularly suitable for use in harsh environments.

Product characteristics:

- Dimensions: 160 x 53 x 53mm
- Components: ATEX Zone 2 certified
- Weight: 100g
- Power: LS 14500Ex battery
- Power supply in transmitter mode (Tx): 60mA
- Power supply in receiver mode (Rx): 35mA
- Radio power: 25mW / (14dBm)
- Network interface: LoRa® (868Mhz)
- Range: up to 15km
- Protection rating: 68 (fully protected against dust, submersible to 1m for 30 mins)
- Fastening system: wall, tube, rail-DIN
- Operating temperature: -20°C to +55°C
- Manufacturer warranty: 2 years

Operation:

Configuration via 4 DIP switches: 1 link for the change of state and 3 related to the cycle time.

Reading of counting index or detection of a change of state.

The counting can be set (3 or 4 times a day in general).

Fixed time measurement possible.

Transmission at regular intervals.

ATEX environment.

Certification:

- **CE certified /<Ex> II 3G Ex ic IIB T4 Gc**
- **RoHS certified**
- **Orange LoRa® network certified**
- **Frequency ranges: 868Mhz; 915Mhz in progress**

LoRa® battery Datavenue robust

p 91

Temperature radio modem
ACW-TM

This modem measures temperature with a remote PT100 sensor and relays the data to the Cloud.

Use: remote equipment supervision in an urban environment.

Product characteristics:

- Dimensions: 160 x 53 x 53mm
- Weight: 100g
- Power: 2 Lithium AA batteries
- Power supply in transmitter mode (Tx): 50mA
- Power supply in receiver mode (Rx): 18mA
- Power supply in sleep mode: 0,6µa
- Radio power: 25mW/(14dBm)
- Network interface: LoRa® (868Mhz)
- Range: up to 15km
- Protection rating: 65 (fully protected against dust, submersible to 1m for 30 mins)
- Fastening system: wall, tube, rail-DIN
- Operating temperature: -20°C to +55°C
- Manufacturer warranty: 2 years

Operation:

USB configuration.

SMS or email alerts.

Secure API.

Measured temperature by analogue sensor (PT100 or PT1000).

Certification:

- **CE certified**
- **RoHS certified**
- **Orange LoRa® network certified**
- **Frequency ranges: 868Mhz; 915Mhz in progress**

LoRa® battery Datavenue robust

p 92

Temperature radio modem
ACW-TMxD

This modem allows up to two digital temperature probes to transmit data via radio to the cloud.

Use: remote equipment supervision in an urban environment.

Product characteristics:

- Dimensions: 160 x 53 x 53mm
- Weight: 100g
- Power: 1 Lithium 3.6V battery
- Power supply in transmitter mode (Tx): 50mA
- Power supply in receiver mode (Rx): 18mA
- Power supply in sleep mode: 0,6µa
- Radio power: 25mW/(14dBm)
- Network interface: LoRa® (868Mhz)
- Range: up to 15km
- Protection rating: 65 (fully protected against dust, submersible to 1m for 30 mins)
- Fastening system: wall, tube, rail-DIN
- Operating temperature: -20°C to +55°C
- Manufacturer warranty: 2 years

Operation:

USB configuration.

SMS or email alerts.

Secure API.

1 or 2 remote digital probes.

Certification:

- **CE certified**
- **RoHS certified**
- **Orange LoRa® network certified**
- **Frequency ranges: 868Mhz; 915Mhz in progress**

LoRa® battery Datavenue robust

p 93

LoRa® modem
NU LoRaTIC®

Use: the unit connects to the TIC output of the ERDF meter, transfers data to a remote server using LoRa® radio communication technology.

This gateway converts the ERDF meter into an internet-connected object via the LoRaWAN™ protocol.

Product characteristics:

- Dimensions: 72 x 19.2mm x 87mm
- Weight: 22g
- IP 2X (sealing not tested)
- TIC interface: RJ45 connector, compatible with standard and historical TIC, high-impedance input, speed of between 1,200 and 19,600 Bauds
- Radio interface: LoRa®, range of up to 15km, SMA antenna connection, radiated RF power 14dBM
- Power: 230V Power supply
- Operating temperature: -25°C to +70°C
- Manufacturer warranty: 1 year

Operation:

LoRaTIC® has a robust AC/DC power supply that is not sensitive to fluctuations and brief outages on the line.

OTTA and ABP configuration.

It is compatible with all electronic sensors fitted with a TIC output: PME-PMI, ICE, SAPHIR, LINKY, CBE.

In 10-minute increments, LoRaTIC® acquires the main metering data (production/consumption) delivered by the TIC of the electrical sensor and transmits it by radio via the LoRaWAN™ network to the data server.

LoRaTIC® transmits an identical payload regardless of the industrial meter.

A web portal of energy services for viewing, analysing and exporting the data.

Certification:

- **Orange LoRa® network certified**
- **Requirements of the directive 89/336/EEC - «Electromagnetic compatibility»**
- **Requirements of the harmonised generic or specific standards R&TTE 1999/5/EC - ETS 300-200**
- **EN 55022 , EN 61000-4-2, EN 61000-4-3,**
- **EN 61000-4-5, EN 61000-4-6, EN 61000-4-11**

LoRa®

power supply

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ixel
Branchez, c'est connecté!

Radio transmitter

4MA-LAB-33NS (e.g.: SENLAB 4-20M OUTDOOR)

Use: provide communication capability for any probe or measurement device with a 4-20 mA output (weather sensor, accelerometer, pressure sensor, etc.).

This device is primarily used in industrial environments.

Product characteristics:

- Dimensions: 56 x 102 x 35mm
- Weight: 140g
- Life span: up to 20 years
- Range: 15km
- Power: battery
- Network interface: LoRa®
- Operating temperature: -20°C to +70°C
- Fastening: plastic or polyamide retainer
- Protection rating: 68 (fully protected against dust, submersible to 1m for 30 mins)
- Manufacturer warranty: 1 year

Operation:

Saves 24-point/radio transmission data.

Over-the-air configuration.

Certification:

- **CE certified**
- **LoRa Alliance™ certified**
- **Orange LoRa® network certified**

EMC Compliance
ETSI EN 301 489- 1, ETSI EN 301 489- 3, EN 61000- 6 - 2
Radio Compliance EN 300 220- 1 V 2 . 4 . 1 (2012-05), EN 300 220- 2 V 2 . 4 . 1 (2012-05)
Magnetic Field exposure EN 62479
Safety IEC 60950-1

LoRa® | 15 km | battery | robust | 4.20 mA compatible

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SENSING LABS
Remote sensor-to-Human

Radio transmitter

LED-LAB-21NS (e.g.: SENLAB LED INDOOR)

Use: radio transmitter fitted with a pulse light sensor that connects to the optical pulse output of the monitored device. This device is generally used for electricity meters.

The optical probe allows various uses suited to multiple electricity meters.

Product characteristics:

- Dimensions: 53 x 85 x 25mm
- Weight: 75g
- Life span: up to 10 years
- Range: 15km
- Power: battery
- Network interface: LoRa®
- Radio sensitivity: -137dBm
- Radio power: +14dBm (25mW)
- Operating temperature: 0°C to +55°C
- Fastening: plastic or polyamide screw, double-sided adhesive tape
- Protection rating: 30 (fully protected against dust, not protectedagainst water intrusion)
- Manufacturer warranty: 1 year

Operation:

Data recording: 24 points/radio transmissions.

Starter kit.

Over-the-air configuration.

Certification:

- **CE certified**
- **LoRa Alliance™ certified**
- **Orange LoRa® network certified**

EMC Compliance
ETSI EN 301 489- 1, ETSI EN 301 489- 3, EN 61000- 6 - 2
Radio Compliance EN 300 220- 1 V 2 . 4 . 1 (2012-05), EN 300 220- 2 V 2 . 4 . 1 (2012-05)
Magnetic Field exposure EN 62479
Safety IEC 60950-1

LoRa® 15 km battery

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SENSING LABS
Remote sensor-to-Human

Radio transmitter

TOR-LAB-13NS (e.g.: SENLAB D INDOOR)

Use: radio transmitter for conducting remote on / off or open / closed monitoring. For example, this device can detect the status of transistors or switches.

It is more commonly used in the following fields of application: monitoring the status of machines and engines, garage door or fire door opening alarm.

Product characteristics:

- Dimensions: 56 x 102 x 35mm
- Weight: 140g
- Life span: up to 20 years
- Range: 15km
- Power: battery
- Network interface: LoRa®
- Operating temperature: -20°C to +70°C
- Fastening: plastic or polyamide retainers
- Protection rating: 68 (fully protected against dust, submersible to 1m for 30 mins)
- Manufacturer warranty: 1 year

Operation:

Data recording: 24 points/radio transmissions.

This device can operate either in metering mode or alert mode:

- in metering mode, the user regularly receives the number of changes of state in the monitored device
- in alert mode, the user receives a message whenever the device detects a change of state.

Certification:

- **CE certified**
- **LoRa Alliance™ certified**
- **Orange LoRa® network certified**

EMC Compliance
ETSI EN 301 489- 1, ETSI EN 301 489- 3, EN 61000- 6 - 2
Radio Compliance EN 300 220- 1 V 2 . 4 . 1 (2012-05), EN 300 220- 2 V 2 . 4 . 1 (2012-05)
Magnetic Field exposure EN 62479
Safety IEC 60950-1

LoRa® | 15 km | battery | robust

SENSING LABS
Remote sensor-to-Human

Impulse radio transmitter

PUL-LAB-13NS (SENLAB M OUTDOOR)

LoRa® transmitter for water, gas and electricity meter.

Use: a smart metering radio sensor that collects information from water, gas and electricity meters. It is suited to uses that require the reading of pulse transmitters on the sensors.

This sensor connects to most sensors on the market fitted with a pulse output or a pulse transmitter and is suited to outdoor uses.

Product characteristics:

- Dimensions: 102 x 562 x 35mm
- Weight: 130g
- Power: 3.6mAh lithium battery
- Life span: up to 20 years
- Battery level indication
- Network interface: LoRa®
- Range: up to 15km in open air
- Operating temperature: -20°C to +70°C
- Fastening: wall or coupler
- Protection rating: 68
- Manufacturer warranty: 1 year

Operation:

Data recording: 24 points/radio transmissions.

Manage battery end-of-life alarms.

Over-the-air configuration.

Certification:

- **CE certified**
- **LoRa Alliance™ certified**
- **Orange LoRa® network certified**
- **Product included on the Live Objects platform of Datavenue**
- **EN300-220**

LoRa® | 15km | robust | Datavenue

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SENSING LABS
Remote sensor-to-Human

LoRa® Network coverage & tracking
Field Test Device LoRaWAN™ 868 (ARF8123AA)

Use 1: **Check the network coverage.**

Use 2: **Ensure the correct positioning of the devices.**

Product characteristics:

- Dimensions: 187 x 76 x 23mm
- Weight: 140g
- Power supply: rechargeable Li-Ion battery
- Battery life: 1 day
- Network interface: LoRaWAN™
- Frequency range: 865-870 MHz
- Range: up to 15km
- Integrated hight precision GPS
- Compatibility: LoRaWAN™ Class A
- Operating temperature: -20°C / +75°C
- Manufacturer warranty: 2 years

Operation:

The Field Test Device is a ready-to-use system which provides connection to any operated network using the LoRaWANTM 1.0 protocol.

It allows you to transmit, receive and instantly view the radio frames on the used network.

Equipped with a large LCD screen, you can check all operating information relating to the network (Uplink, Downlink, Spreading Factor, RSSI, Signal Noise Ratio, Packet Error Rate, etc) and from the embedded sensors (GPS coordinates, temperature).

Certification:

- **CE certified Directive 2014/53/UE (RED) Radio standards: EN300-220**
- **Orange LoRa® network certified**
- **LoRa Alliance™ certification (pending)**

LoRa® GPS battery 15km range

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WIRELESS PRODUCTS & SOLUTIONS

Notes

In order to be referenced in our connected objects catalogue,

contact us at : iot.info@orange.com

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