R.O.M.E. DIGITAL HUB

Project funded by the National Recovery and Resilience Plan (PNRR) Mission 4 Component 2

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Index

Introduction

R.O.M.E DIGITAL HUB is a project funded by the European Union and the National Recovery and Resilience Plan.
It is managed by a public-private consortium (universities, technology parks, employers' associations, companies, etc.), in which Unidata also participates. It enables:

- SMEs to acquire and validate components, know-how, and services to improve their market positioning by offering new products.
- Public administrations to validate and test new services to meet the needs of local communities.

Unidata offers a "Test Before Invest" service for **validating IoT systems** using LoRaWAN kits (described below). Kits with a commercial value of more than €5,000 can be purchased by SMEs at a symbolic cost of €500 (with no other advance payments) and by public administrations completely free of charge. The remainder will be financed directly by the project.
SMEs that wish to do so may also apply for "De Minimis" funding for the €500 spent.

EDIH Project

IoT KITS for businesses and public administrations

R.O.M.E. DIGITAL HUB

Seal of Excellence

“Research and innovation Organization for the dissemination of knowledge on advanced technologies Digital Hub”.

NATIONAL RECOVERY AND RESILIENCE PLAN (PNRR) MISSION 4 "Education and research" COMPONENT 2 "From research to business" INVESTMENT 2.3 "Strengthening and thematic and territorial extension of technology transfer centers for industry segments

Objective: its objective is the strengthening and thematic and territorial extension of technology transfer centers for industry segments

The project is part of the European Digital Europe Programme - DIGITAL-2021-EDIH-INITIAL-01, with the aim of accelerating the digital transformation of SMEs and public administrations (PSOs), particularly in central and northern Italy, with a focus on the Lazio region.

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The catalog of services offered includes:

Key technologies: High Performance Computing, Cybersecurity, Artificial Intelligence (main technology).

Advanced digital skills: IoT, Blockchain, Computer Vision.

The project is supported by a network of partners consisting of SMEs, universities, research centers, and DIHs.

Coordination is entrusted to Tecnopolo, an organization with extensive experience in promoting innovative entrepreneurship and managing complex projects.

The project aims to:

- *Promote the digitization of businesses.*
- *Promote the adoption of advanced technologies.*
- *Offer innovation support services such as pre-investment testing, training, access to financing, networking, and awareness raising.*

Unidata is one of the project partners.

It contributes with a specific service called **"Smart Utilities and Metering**," classified as **"Test Before Invest."**
The service consists of **validating IoT systems** through LoRaWAN kits (*), divided into three configurations:

"Smart Energy" kit: gateway + sensors for electricity, water, and heat consumption.
"Environmental" kit: gateway + environmental and air quality sensors.
Smart Building Kit: gateway + electricity consumption sensors, environmental sensors, flood sensors, opening and closing sensors with temperature and humidity measurement.

The kits include a service package that includes:

- access to and use of Unidata's cloud platforms for managing IoT networks (UniOrchestra) and for viewing, managing, and processing data (UniThings).
- Customization and setup of the platforms.
- Specialized technical support.

Available for SMEs and public administrations.

(*) The composition of the KITS can be adapted to specific requirements without altering their commercial value.

End users (SMEs and public administrations) can achieve: **Reduction of losses** and **optimization of resources**. **Energy and environmental efficiency**.
Smart monitoring via sensors and cloud platform. **Support for digital transition** with consulting and ready-to-use infrastructure.
For **SMEs**:
Strengthening investment capacity.
Industrialization of R&D projects. Facilitation of mergers and integrations between similar entities.
For **public administrations**:
Better understanding of community needs. More modern and higher quality services.
Innovative approach to solving digital challenges.

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How it works

Once the end beneficiary has expressed interest in the service offered by Unidata, they proceed with **registration on the EDIH platform**. At this stage, the company or public administration registers as a customer by entering their details and selecting the "Smart Utilities and Metering" service, which includes a technology kit and specialist assistance.

During registration, the beneficiary **declares that they wish to access the state aid** provided for in the project, which covers approximately 90% of the commercial value of the service for the company and 100% for the public administration. This declaration is essential to activate the public co-financing mechanism, which can take place under the de minimis regime or in accordance with Article 27 of EU Regulation 651/2014.

Following accreditation, Unidata **provides the service** and, at the same time, **issues an electronic invoice** made out to the beneficiary, equal to the amount not covered by state aid.

Subsequently, Unidata is responsible for **transmitting the data on the aid granted** to the National Register of State Aid (RNA), using the ReGiS information system. This transmission includes the project's CUP, the amount of aid, the details of the beneficiary and the beneficial owner, and the aid scheme applied. At the same time, Unidata **reports to MIMIT** the expenses incurred for the provision of the service, which correspond to the amount of aid requested. In the meantime, the beneficiary **pays the invoice received,** completing their part of the co-financing.

Finally, Unidata **reconciles the expenses incurred and reported** with the beneficiary's receipted invoice. Together, these two elements constitute the complete justification of the total cost of the service provided, closing the operational cycle envisaged by the EDIH project.

SMART ENERGY KIT

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DESCRIPTION

The KIT (*) is designed for companies that want to test and Develop an electricity consumption monitoring service to offer to customers.
All sensors are wireless with LoraWAN technology. The KIT includes DIN rail electrical meters, single-phase current meters (three-phase on request) that do not require batteries, and ModBus Lora converters to make electrical panels wired to ModBus standards wireless.
The KIT includes a LoraWAN Gateway, access to the Uniorchestra back-end platform on a dedicated tenant, suitably configured for connectivity, access to the UniThings platform suitably configured for the USE CASE and testing.
The cost of the KIT is shown in the table below

SMART ENERGY	Quantity
Electricity meter range	4
Single-phase current meter range	2
LoRa ModBus converter	3
GW Indoor with Ethernet and 4G connectivity	1
Man-days SET UP Platform	14
Training (days/person)	1

TOTAL	€5,280.80

(*) The contents of the KIT can be adapted to specific requirements without altering the commercial value.

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SMART BUILDING KIT

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DESCRIPTION

The KIT is designed for companies that want to test and develop a smart building service to offer to their customers. All sensors are wireless with LoraWAN technology.
The KIT includes air quality environmental sensors, SPOT and capacitive cable flood sensors, opening and closing sensors with temperature and humidity measurement, and single-phase electrical power meters for DIN rails.
The KIT includes a LoraWAN Gateway, access to the Uniorchestra back-end platform on a dedicated tenant, suitably configured for connectivity, access to the UniThings platform suitably configured for the USE CASE, and testing, training, and support.
The value of the KIT is shown in the table below.

SMART BUILDING	Quantity
Indoor Environmental Sensor	2
Flood sensor with capacitive cable	1
SPOT flood sensor	2
Opening/closing sensor with temperature and humidity	4
Electricity meter	2
GW Indoor with Ethernet and 4G connectivity	1
Man-days SET UP Platforms	14
Training (days/person)	1

TOTAL	€5,265.98

(*) The contents of the KIT can be adapted to specific requirements without altering the commercial value.

ENVIRONMENTAL KIT

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DESCRIPTION

The KIT (*) is designed for companies that want to test and develop a smart outdoor air quality measurement service, to be offered to its customers.

All sensors are wireless with LoraWAN technology. The KIT includes outdoor air quality environmental sensors and a weather package.

The parameters measured by the KIT are:

Temperature, Humidity, Atmospheric pressure, PM0.5, PM1, PM2.5, PM4, PM10, Oxygen, CO_2, VOC, Wind speed and direction, Precipitation. An additional sensor is available on request, with a choice of O_3, CH_2O, CO, NO_2, SO_2, H_2S.

The KIT includes a LoraWAN Gateway, access to the Uniorchestra back-end platform on a dedicated tenant, suitably configured for connectivity, access to the UniThings platform suitably configured for the USE CASE, and testing, training, and support.

The value of the KIT is shown in the table below.

OUTDOOR AIR QUALITY	Quantity
Weather package	1
Outdoor pollution meter	1
GW Outdoor with Ethernet and 4G connectivity	1
GG/man SET UP Platform	6
Training (man-days)	1
TOTAL	**€5,158.95**

(*) The contents of the KIT can be adapted to specific requirements without altering the commercial value.

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TECHNICAL DATA SHEETS
DEVICES AND PLATFORMS

MODBUS LoraWAN® CONVERTER	
Wireless Transmission	
LoRaWAN Stack / Class	Class C; Bands: EU868, AS923
Encryption	AES 128-bit
Certification	LoRa Alliance Certified
Interfaces	
Fieldbus	Modbus RS485
USB	USB On-The-Go; node configuration and firmware update
Hardware	
CPU	ARM Cortex-M4
RTC	Integrated
EEPROM	32 KB
Flash	1 MB
Battery	Rechargeable LiPo battery
Power	
Power supply	10–36 Vdc
Ambient	
Storage temperature	-20 ~ +80 °C
Operating temperature	-10 ~ +70 °C
Physical characteristics	
Dimensions (W × H × D)	81 × 60 × 24 mm

SPOT FLOODING SENSOR

Technology	
Antenna	Internal antenna
Frequency	
Transmission power	16 dBm (868 MHz)/20 dBm (915 MHz)/19 dBm (470 MHz)
Sensitivity	-137 dBm @300bps
Mode	OTAA/ABP Class A
Measurement - Leak Detection	
Liquid type	Conductive liquid
Activation condition	When the liquid level reaches 5 mm
Sensor cable	3 m (Customizable)
Measurement - Temperature	
Range	-30°C to +70°C
Accuracy	0°C to +70°C (±0.3°C), -30°C to 0°C (±0.6°C)
Resolution	0.1°C
Measurement - Humidity	
Range	0% to 100% RH
Accuracy	10% to 90% RH (±3%), below 10% and above 90% RH (±5%)
Resolution	0.5% RH
Other	
LED	1 × LED indicator (internal)
Button	1 × Power/Reset button (internal)
Physical	
Power	1 × 4000 mAh ER18505 Li-SOCL2 (8000 mAh optional version)
Battery life	(10 min intervals + 24 triggers per day) over 10 years (SF7, EU868 & US915) around 5.6 years (SF10, EU868) around 4.1 years (SF10, US915)
Operating temperature	-30°C to +70°C
Relative humidity	0% to 100% (non-condensing)
Ingress protection	IP67
Material and color	Transmitter: ABS + PC (flame retardant), white; Sensor cable: PE + steel wire, yellow and black
Dimensions	105.6 × 85.3 × 27 mm (4.16 × 3.36 × 1.06 in)
Installation	Transmitter: Wall screws / 3M tape / Cable tie; Sensor cable: 3M tape / Cable tie
Approvals	
Regulatory approvals	CE, FCC, ISED, RCM, Telec, ICASA
Environmental approvals	RoHS

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OUTDOOR AIR QUALITY SENSOR	
Wireless technology	
LoraWAN®	
Measurement - Temperature	
Accuracy	±0.2°C (typical)
Range	-20°C to +50°C
Measurement - Humidity	
Accuracy	±2% (typical)
Range	0 – 100% RH
Measurement - Pressure	
Accuracy	±0.12 hPa (≈ ±1 m altitude)
Range	300 – 1100 hPa
Measurement - Particulate matter	
Certification	MCERTS certified
Particles measured	PM0.5, PM1, PM2.5, PM4, PM10
Concentration Range	0 – 1,000 µg/m³
Measurement – Oxygen (O_2)	
Accuracy	< 2% ppO_2; pressure ±5 mbar
Range	0 – 25% O_2
Measurement - Volatile Organic Compounds (VOC)	
Output	VOC IAQ Index and ppm (bVOC)
Range	0 – 500 IAQ
Measurement - Carbon Dioxide (CO_2)	
Accuracy	± (30, +3%) ppm (typical)
Range	0 – 5,000 ppm
Notes	
Additional gas modules	Available (e.g., CH_2O, CO, NO_2, SO_2, H_2S) — depends on model

INDOOR AIR QUALITY SENSOR	
Wireless transmission	
Technology	LoRaWAN®
Frequency	
Transmission Power	16 dBm (868 MHz)/20 dBm (915 MHz)/19 dBm (470 MHz)
Sensitivity	-137 dBm @300bps
Working mode	OTAA/ABP Class A
Technical parameters	
Temperature range	-20°C ~ 60°C
Temperature accuracy	±0.3°C (-20°C ~ 0°C), ±0.2°C (0°C ~ 60°C)
Temperature resolution	0.1°C
Humidity range	0% ~ 100% RH
Humidity accuracy	±2% RH (25°C)
Humidity resolution	0.5% RH
Motion Detection	PIR, 80°H / 55°V, 5m
Light Range	0 ~ 60000 Lux (6 levels)
TVOC Range	1.00 ~ 5.00 (IAQ Rating)
TVOC Accuracy	±1
TVOC Resolution	0.01
Barometric Pressure Range	260 ~ 1260 hPa
Barometric pressure Accuracy	±0.5 hPa
Barometric pressure resolution	0.1 hPa
CO2 Range	400 ~ 5000 ppm
CO2 Accuracy	±(30 ppm + 3% reading)
CO2 Resolution	1 ppm
PM2.5 & PM10 Range	0 ~ 1000 μg/m³
PM2.5 & PM10 Accuracy	0~100(±10 μg/m³), 100~1000(±10%)
PM2.5 & PM10 Resolution	1 μg/m³
Display	4.2'' E-Ink (AM307 & AM308)
Buttons	1 × Power + 1 × Reset
LED & Buzzer	Traffic light + Buzzer
USB	Type-C for power supply and configuration
Software Configuration	NFC app / PC NFC / USB / Downlink
Advanced Features	Calibration, Alarms, Memory, Retransmission, Key Lock
Power	4 × 2700 mAh ER14505 / 5V Type-C
Battery life	Up to 3.9 years (SF7, EU868 & US915)
Operating temperature	-20°C ~ 60°C (E-Ink: 0°C ~ 40°C)
Relative humidity	10% ~ 90% (non-condensing)
Input protection	IP30
Housing and color	ABS (UL94 HB), White
Weight	182.5g / 222.6g (with batteries)
Dimensions	100.8 × 114 × 22 mm
Installation	Wall mounting with 3M tape or screws
Approvals	CE, FCC, ISED, RoHS

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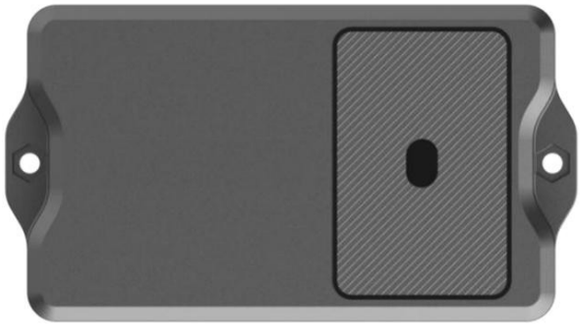
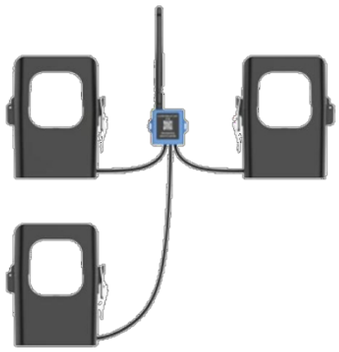
FILLING SENSOR	
Wireless Transmission	
Technology	LoRaWAN®
Frequency	
Transmission Power	16 dBm (868 MHz)/20 dBm (915 MHz)/19 dBm (470 MHz)
Sensitivity	-137 dBm @300bps
Working mode	OTAA/ABP Class A
Measurement - Distance	
Detection range	3 ~ 450 cm
Detection accuracy	± (1+0.3%*S) cm; S = distance (-15°C ~ 60°C)
Detection resolution	1 mm
Beam angle	60
Measurement - Device position	
Status	Normal/Tilt
Measurement - Temperature	
Range	-40 ~ 125°C
Resolution	0.1°C
Other	
LED	1 × LED indicator (internal)
Button	1 × Power/reset button (internal)
Software	
Power on and off	NFC button (internal)
Configuration	Mobile app (via NFC), Downlink
Physical characteristics	
Power	2 × 9000 mAh ER26500 Li-SOCl2
Battery life (LoRaWAN® version)	> 10 years (10 min intervals, 25°C); > 10 years (20 min intervals, 25°C); 5 years (12 triggers/day, 25°C)
Operating temperature	-30°C ~ 70°C
Relative humidity	≤95% (non-condensing)
Ingress protection	IP67
Dimensions	118 × 65 × 32.5 mm
Material and color	ABS + PC (UL94 V0), gray black
Weight	181.4g (batteries included)
Installation	On flat surfaces with screws
Approvals	
Regulatory approvals	CE, FCC
Environmental approvals	RoHS



FLOOD SENSOR WITH CAPACITIVE CABLE	
Wireless transmission	
Technology	LoRaWAN®, Milesight D2D
Antenna	Internal antenna
Frequency	
Transmission power (Tx Power)	16 dBm (868 MHz)/20 dBm (915 MHz)/19 dBm (470 MHz)
Sensitivity	-137 dBm @300bps
Mode	OTAA/ABP Class A
Measurement - Leak Detection	
Liquid Type	Conductive liquid
Activation condition	When the liquid level reaches 5 mm
Cable length	1.5 m (customizable)
Measurement - Temperature	
Range	-30°C to +70°C
Accuracy	0°C to +70°C (±0.3°C), -30°C to 0°C (±0.6°C)
Resolution	0.1°C
Measurement - Humidity	
Range	0% to 100% RH
Accuracy	10% to 90% RH (±3%), <10% or >90% RH (±5%)
Resolution	0.5% RH
Other	
LED	1 × LED indicator (internal)
Button	1 × Power/reset button (internal)
Physical	
Power	1 × ER18505 Li-SOCL2 4000 mAh battery (8000 mAh version optional)
Battery life	(10 min interval + 24 activations per day) Over 10 years (SF7, EU868 & US915) Approximately 5.6 years (SF10, EU868) Approximately 4.1 years (SF10, US915)
Operating temperature	-30°C to +70°C
Relative humidity	0% to 100% (non-condensing)
Ingress protection	IP67
Material and color	Transmitter: ABS + PC (flame retardant), white; Sensor probe: 316 stainless steel, white and silver
Dimensions	105.6 × 85.3 × 27 mm (4.16 × 3.36 × 1.06 in)
Installation	Transmitter: Wall screws / 3M tape / Cable tie; Sensor probe: Wall screws / 3M tape
Approvals	
Regulatory approvals	CE, FCC, ISED, RCM, Telec, ICASA
Environmental approvals	RoHS

SINGLE-PHASE CURRENT SENSOR – INDUCTIVE CHARGING – NO BATTERY	
Electrical measurement	
Detection parameter	RMS current
Sampling frequency	3.3 kHz
Operating frequency	50~60 Hz
Nominal primary current	CT101: 100 Arms; CT103: 250 Arms; CT105: 500 Arms
Nominal secondary current	CT101: 100 mArms; CT103: 125 mArms; CT105: 150 mArms
Minimum signaling current	CT101: 6 Arms (1 min), 4 Arms (10 min); CT103: 12 Arms (1 min), 6 Arms (10 min); CT105: 30 Arms (1 min), 10 Arms (10 min)
Accuracy	±1% (>5Arms), ±3% (≤ 5Arms)
Resolution	1 mA
Temperature sensor	NTC; Range: -20°C ~ 100°C; Accuracy: ±1 %
Wireless transmission	
Protocol	LoRaWAN®
Antenna connector	1 × 50 Ω SMA Connector (Center PIN: SMA Female)
Frequency	
Transmission power (Tx Power)	16 dBm (868 MHz)/22 dBm (915 MHz)/19 dBm (470 MHz)
Sensitivity	-137 dBm
Mode	OTAA/ABP Class A
Other components	
Button	1 × reset button
LED indicator	1 × Status/alarm indicator
Physical characteristics	
Power	1. Energy supplied by conductive current; 2. 5V via USB Type-C
Insulation voltage	2.5kVac(r.m.s)(1mA/1min)
Color/Material	Blue, PBT+PC (UL94 V0)
Extension cable length	1m
Operating temperature	-20°C~70°C (-4°F~158°F)
Storage temperature	-25°C~80°C (-13°F~176°F)
Relative humidity	≤ 95% (non-condensing)
Input protection	IP30
Dimensions	Transmitter: 38 × 34.5 × 16 mm; CT clamp: 68 × 86 × 41.8 mm; Cable hole: Φ16 mm / Φ36.5 mm
Weight	Transmitter: 13.05 g; CT clamp: 276.75 g; Total: 85.65 g
Installation	Transmitter: Mounted with clamp; CT clamp: Suspended on test conductor
Certifications	
Regulations	CE, FCC, UL508

THREE-PHASE CURRENT SENSOR - INDUCTIVE CHARGING - NO BATTERY	
Detection parameter	
Sampling frequency	3.3 kHz
Working frequency	50~60 Hz
Nominal primary current (per CT)	CT303: 300 Arms; CT305: 500 Arms; CT310: 1000 Arms
Nominal secondary current	150 mArms
Minimum signaling current	CT303: 25Arms (1min), 15Arms (10min); CT305: 30Arms (1min), 19Arms (10min); CT310: 60Arms (1min), 35Arms (10min)
Accuracy	±1
Resolution	1 mA
Temperature sensor	1 × NTC sensor; Range: -20°C ~ 100°C; Accuracy: ±1 %
Wireless transmission	
Protocol	LoRaWAN®
Antenna connector	1 × SMA 50 Ω connector (center PIN: SMA female)
Frequency	
Transmission power (Tx Power)	16 dBm (868 MHz)/20 dBm (915 MHz)/19 dBm (470 MHz)
Sensitivity	-137 dBm
Mode	OTAA/ABP Class A
Other components	
Button	1 × Reset button
LED indicator	1 × Status/alarm indicator
Port	1 × USB Type-C for power supply, configuration, console, or temperature sensor connection Physical characteristics
Physical characteristics	
Power	1. Induced current power supply; 2. 5V via USB Type-C port
Insulation voltage	3kVac (r.m.s) (1mA/1min)
Color/Material	Blue, PBT+PC (UL94 V0)
Cable length	1 m
Operating temperature	Transmitter: -20°C~70°C; CT clamp: -40°C~55°C
Storage temperature	Transmitter: -25°C to 80°C; CT clamp: -40°C to 55°C
Relative humidity	≤ 95% (non-condensing)
Input protection	IP30
Dimensions	Transmitter: 38 × 34.5 × 16 mm; CT303 clamp: 56.5 × 36.5 × 68.5 mm; CT305 clamp: 68 × 86 × 41.8 mm; CT310 clamp: 97.1 × 119 × 59.5 mm
Cable hole	CT303: Φ24.2 mm; CT305: Φ36.5 mm; CT310: Φ51 mm
Weight	Transmitter: 13.05 g; CT303 clamp: 250 g; CT305 clamp: 276.75 g; CT310 clamp: 855.55 g
Installation	Transmitter: Clamp mounting; CT clamp: Suspended on the test conductor
Certifications	
Regulations	CE, FCC, UL508



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OPENING/CLOSING SENSOR - TEMPERATURE - HUMIDITY	
Wireless transmission	
Technology	LoRaWAN®
Antenna	Internal antenna
Frequency	
Transmission power (Tx Power)	16 dBm (868 MHz)/20 dBm (915 MHz)/19 dBm (470 MHz)
Sensitivity	-137 dBm @300bps
Mode	OTAA/ABP Class A
Measurement – door magnet	
Detection distance	20-30 mm
Cable length	1.5
Measurement – temperature	
Range	-30°C to +70°C
Accuracy	0°C to +70°C (±0.3°C), -30°C to 0°C (±0.6°C)
Resolution	0.1°C
Measurement – humidity	
Range	0% to 100% RH
Accuracy	10% to 90% RH (±3%), <10% and >90% RH (±5%)
Resolution	0.5% RH
Other components	
LED	1 × LED indicator (internal)
Button	1 × Power/Reset button (internal)
Physical characteristics	
Power	1 × 4000 mAh ER18505 Li-SOCL2
Battery life	(10 minutes + 48 triggers per day) Over 10 years (SF7, EU868 & US915) Approximately 4.5 years (SF10, EU868) Approximately 3.2 years (SF10, US915)
Operating temperature	-30°C to +70°C
Relative humidity	0% to 100% (non-condensing)
Input protection	IP67
Material and color	Transmitter: ABS + PC (flame retardant), white; Magnet
Dimensions	Transmitter: 105.6 × 85.3 × 27 mm (4.16 × 3.36 × 1.06 in); Magnet: 31 × 14 × 7.5 mm (1.25 × 0.59 × 0.31 in)
Installation	Transmitter: Wall screw / 3M tape / cable tie; Magnet: Wall screw / 3M tape
Certifications	
Regulatory	CE, FCC, ISED, RCM, Telec, ICASA
Environmental	RoHS

ELECTRICITY METER - SINGLE-PHASE	
Wireless transmission (LoRa EU)	
Frequency	EU868
Transmission power (Tx Power)	16 dBm (868 MHz)
Sensitivity	-137 dBm @ 300 bps
Mode	OTAA / ABP
LoRaWAN class	Class A
Technical parameters	
Voltage	220 V
Current	5(60) A
Pulse constant	1600 pulses/kWh
LCD display	5+1 LCD
Frequency	50 Hz
Accuracy class	Class 1
Starting current	0.4% Ib
Temperature range	-20 ~ 70 °C
Average annual humidity	75
Maximum humidity	95
Energy consumption	
Consumption	< 2 W / < 10 VA @ Un
Network instructions	
Status LED	Green ON: working Green 1s ON / 1s OFF: network problems

MULTIPARAMETRIC WEATHER SENSOR

General Features

Waterproof / UV-proof / Salt-resistant
Internal memory for 19,000 measurements
Supports retransmission
Solar panel (15W, 1A) with 2 * 2550 mAh rechargeable batteries for backup
Alarms on adjustable thresholds
NFC configuration
IP65 (IP67 for inputs)
Operating temperature -20°C ~ 85°C / Humidity 0-95% without condensation
Material: Anodized aluminum

Temperature

-40°C ~ 85°C
± 0.3°C

Humidity

0% ~ 100% RH
Accuracy: ± 3% RH

Wind direction

0° ~ 360°
Accuracy: ± 3°

Wind speed

0 ~ 60 m/s
Accuracy: ± 0.3 m/s or ± 3% (whichever is greater)

Barometric pressure

500 ~ 1100 hPa
Accuracy: ± 0.5 hPa

Precipitation

0 ~ 1000 mm
± 0.5 mm (< 10 mm), ± 5 % (>10 mm)

Transmission technology

LoRaWAN
Internal antenna
Frequency CN470/RU864/IN865/EU868/US915/AU915/KR920/AS923-1&2&3&4Max Tx Power 16dBm (868MHz)/22dBm (915MHz)/19dBm (470MHz)
Sensitivity -137dBm @300bps
Work Mode OTAA/ABP Class A

GATEWAY CONCENTRATORS

Outdoor GW with Ethernet and 4G connectivity

8-CH
Wi-Fi / GPS / PoE PD
1 * 10/100/1000Mbps
2 * LoRa antennas + 1 * Rear mounting kit
Built-in Network Server
IP67
4G SIM slot

LoraWAN antenna

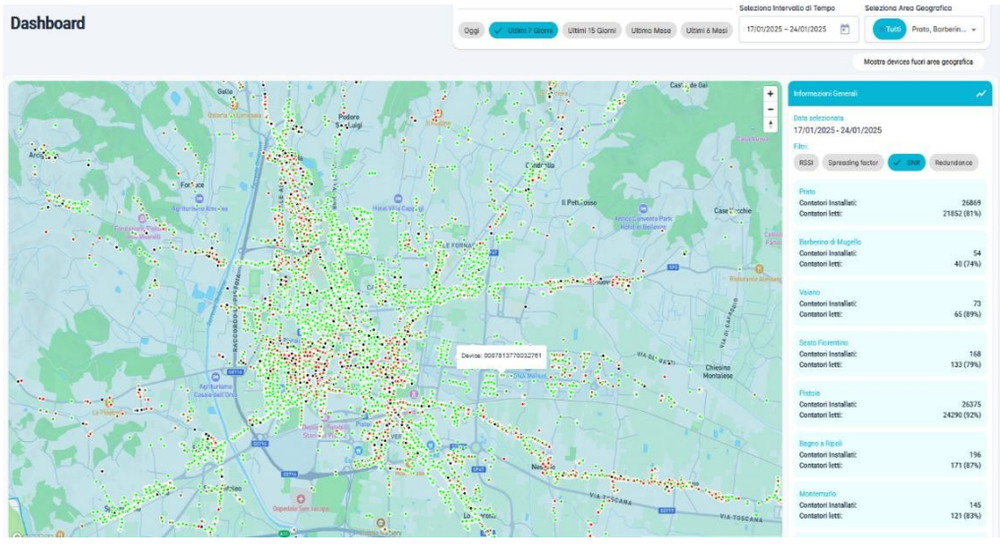
Connector Type: N male
Gain: 5 dBi
LoRaWAN Freq: 858 ~ 878 MHz / 902 ~ 930 MHz Length: 60cm
High Efficiency

Indoor GW with Ethernet and 4G connectivity

8-CH
Wi-Fi / GPS / PoE
PD 1 *
10/100/1000Mbps 1
* Built-in LoRa
Antennas Network
Server IP65
4G SIM slot

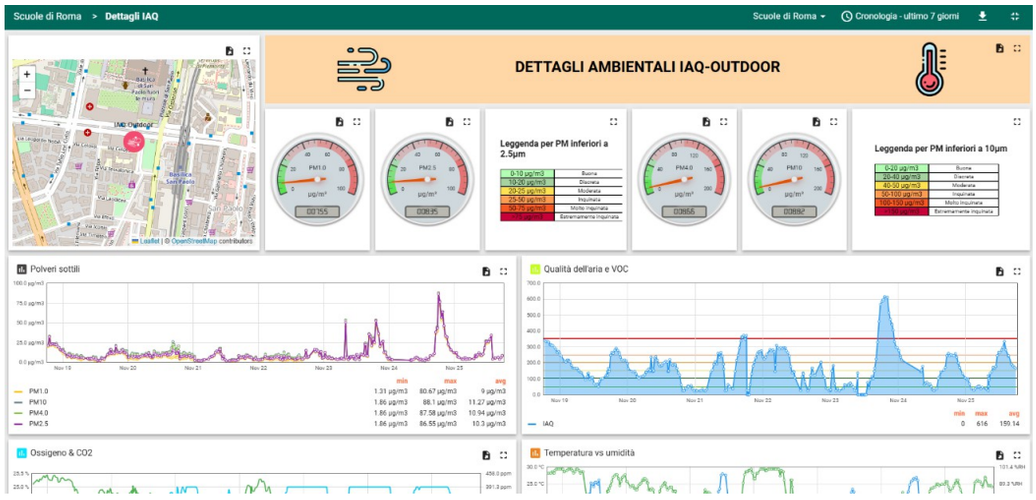
UniOrchestra

Uniorchestra is Unidata's corporate-level platform for managing LoraWAN IoT networks. Automatically scalable in the cloud to support hundreds of thousands of devices, it also allows you to check the status of each device on a map with details of all radio parameters.
Device data streams are also sent in real time to the customer's platform via API, with a JSON payload that can be configured according to the customer's specifications.



UniThings

Unithings is Unidata's enterprise-grade IoT platform for device management and visualization.
Automatically scalable in the cloud to support hundreds of thousands of devices, it also allows the implementation of real-time processing "blocks."
The data received is also saved on an internal database, accessible to the user via API.
The display dashboards are fully configurable according to customer specifications.



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