

Wibeee Nest

Electrical energy efficiency solution
for individuals, businesses and
industries.

Change is now,
beeee part of it.



Table of contents

1. About us SMILICS TECHNOLOGIES
2. The Wibeer Nest solution
 1. Wibeer equipment
 2. The Wibeer Nest platform

Who we are SMILICS TECHNOLOGIES

The image shows a modern, multi-story building with a distinctive facade of vertical yellow and blue panels. The building is set against a clear blue sky. A street lamp is visible on the left side of the frame. In the background, other buildings and greenery are partially visible. The text is overlaid on the left side of the image.

The Yellow Nest's business ecosystem is made up of a group of 6 companies in the energy sector with a new way of understanding energy and the environment, of acting socially, offering global solutions, with a strategic vision and an eye on the future.

Within this group, SMILICS TECHNOLOGIES
we conceive, design, manufacture and provide
energy digitalisation solutions
in these market segments:



1

Since 1991, we have been dedicated to the digitalisation of energy in order to understand and improve electrical energy efficiency.

2

We have installed more than 600,000 pieces of equipment worldwide and monitored more than 150,000 transformer stations.

3

The range of meters together with the Wibeer Nest platform form the ideal solution for energy monitoring.

Extensive experience

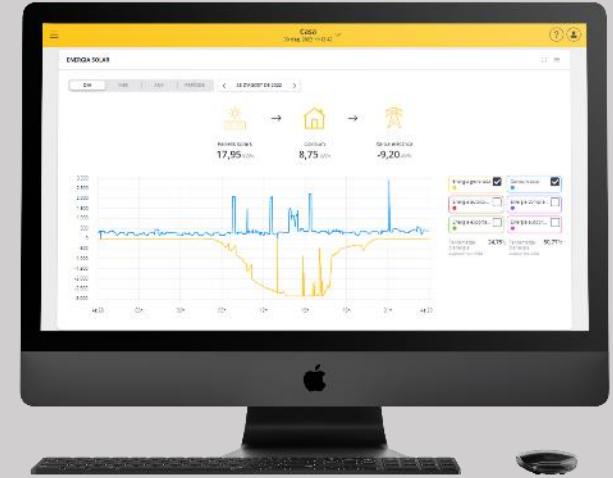
The Wibeer Nest solution



1

2 in 1 measuring equipment (measurement and communication)

- Easy installation.
- WiFi connection, NB-IoT, Modbus TCP, Modbus RTU.
- Internal memory, up to 30 days.



2

A 100% customisable platform to visualise and analyse data:

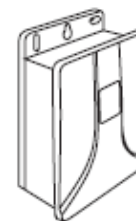
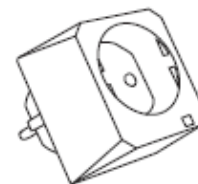
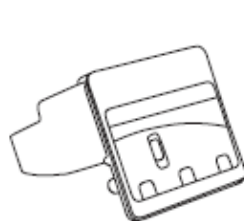
- App available on iOS and Android (for owners and guests).
- Web version specifically for administrators, supervisors, managers.
- Real-time visualisation.

Wibeee devices Measurement



Wibee Devices Selection Guide

Energy solutions for every energy need



One

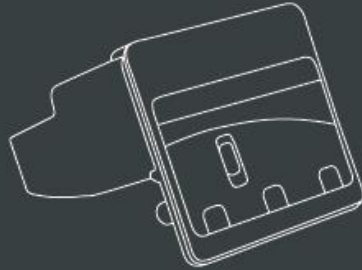
Box

Plug

Max

Connect

Electrical features	Installation	Single / Three	Single / Three	Single-phase	Three-phase	Single-phase
	Power supply	2-4W 85 - 265 V	85 - 265 V	100 - 240 V	100 - 400 V	110 - 265 V AC
		3W 105 - 440 V				
	Measurement range	2-4W 85 - 265 V	100 - 460 V	100 - 240 V	85 - 750 V	110 - 265 V
		3W 105 - 440 V				
	Current max.	63 A	60 / 100 / 300 A	10:00 AM	700 / 5kA	63 A
Consumption	2-4W 1.5 - 4.5 V	1.5 - 4.5 VA	1.5 - 4.5 VA	4.5 - 9 VA	1.5 - 4.5 VA	
	3W 3.5 - 5.5 V					
Accuracy	2 %	1 %	1 %	1 %	0.5 %	
Communication	Wi-Fi	■	■	■	■	■
	NB-Iot	□	■	□	■	□
Firmware (Fota)	Remotely Updatable	■	■	■	■	■



Wibeer One

One piece, wireless and friendly-user installation



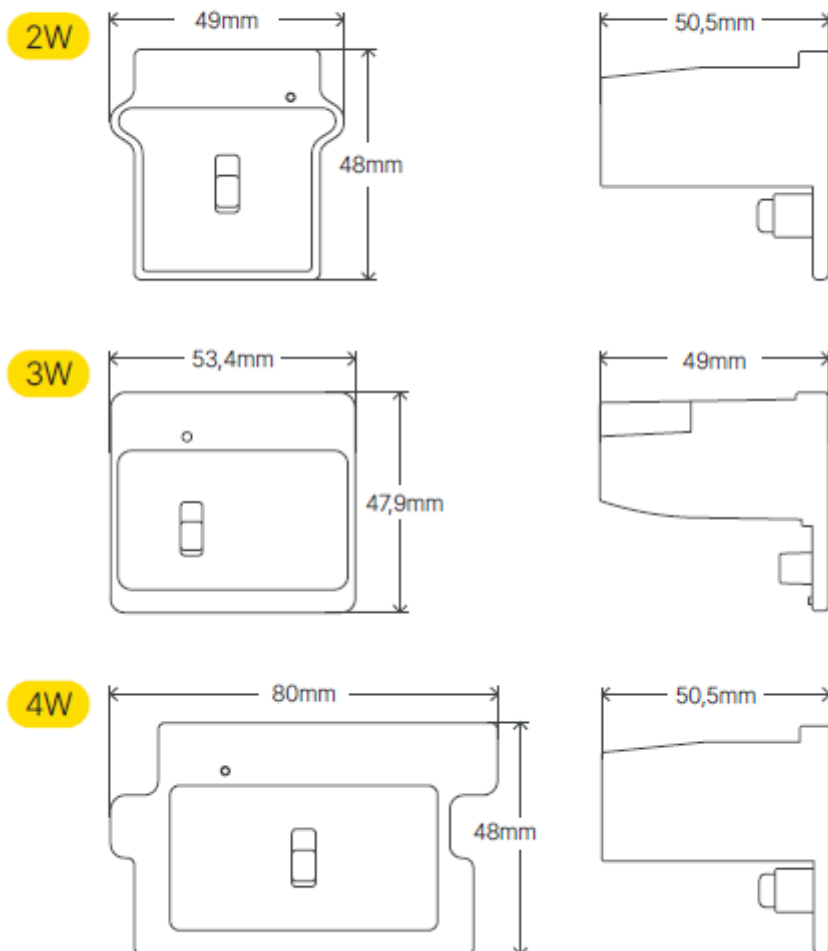
- Real-time measurement.
- Easy "Clip-on" installation.
- Single-phase and three-phase measurements.
- Storage of historical data in local mode for up to one month in case of loss of internet connection.

Wibeer One are the most compact electricity meters on the market and have a patented design for easy "clip-on" installation.

Once installed, the meter is completely concealed and integrated into the electrical panel, making it ideal for protection against tampering or removal.

Wibeee One

Dimensions



Wibeee One

Technical features

Measurement circuit	2W	3W	4W
Installation	Single / Three	Three-phase	Single / Three
Power supply	85-265V L-N	105-440V L-L	85-265V L-N
Frequency range	50 - 60Hz	50 - 60Hz	50 - 60Hz
Power consumption	1.5 - 4.5 VA	3.5 - 5.5 VA	1.5 - 4.5 VA
Nominal current	63 A	63 A	63 A
Voltage accuracy	2% (PF = 1)	2% (PF = 1)	2% (PF = 1)
Current accuracy	2% (PF = 1)	2% (PF = 1)	2% (PF = 1)
Power accuracy	4% (PF = 1)	4% (PF = 1)	4% (PF = 1)
Physical and environmental features	2W	3W	4W
Weight	18 g	64 g	52,9 g
External material	Self-extinguishing UNE 21031 90°C V0		
Operating temperature	-10 to 45°C		
Storage temperature	-40 to 85°C		
Relative humidity	10 - 90% (non-condensing)		
Protection rating	IP40		
Communications	Wi-Fi		
Type	Wi-Fi (IEEE 802.11)		
Protocol	HTTP, Modbus TCP, XML		
Frequency range	2,405 - 2,480 GHz		
Encryption	AES128		
Certification	FCC (USA), IC (Canada), ETSI (Europe)		



Wibeer Box

Excellent for homes and small businesses

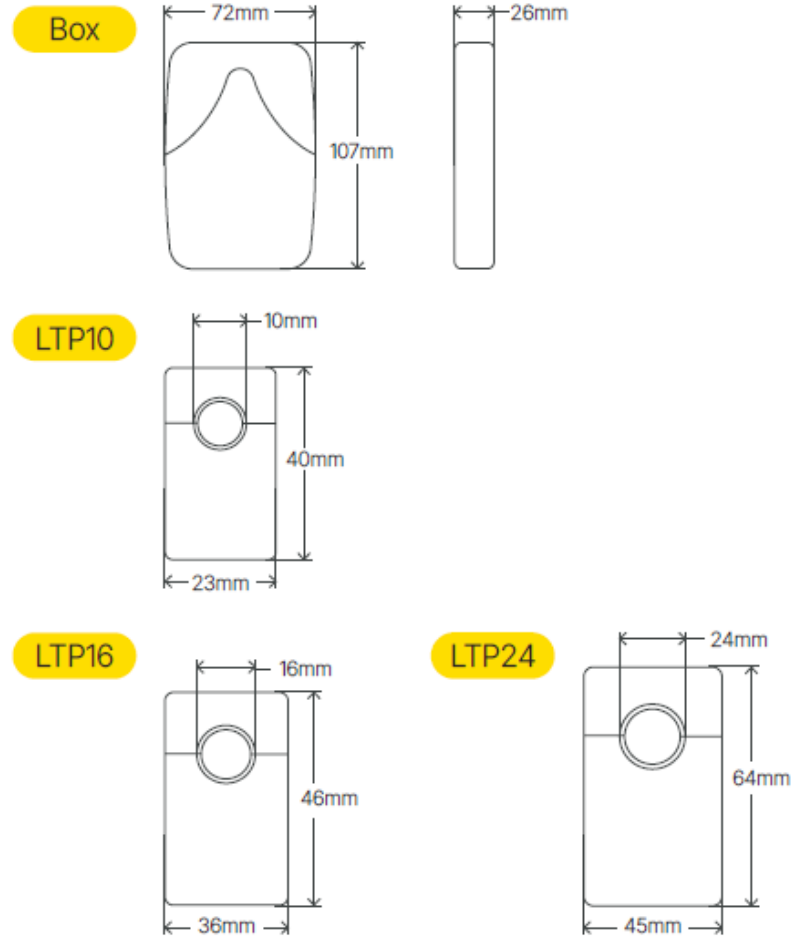


- Real-time measurement.
- Easy installation.
- Single-phase and three-phase measurements.
- Storage of historical data in local mode for up to one month in case of loss of internet connection.
- The most versatile device, a universal solution

Wibeer Box allows the connection of three current sensors to measure the consumption of the general circuit and up to two auxiliary sensors. It accurately monitors solar production or the most relevant consumptions such as electric vehicles or aerothermal energy.

Wibeee Box

Dimensions



Wibeee Box

Technical features

Measurement circuit	LTP10	LTP16	LTP24	
Installation	Single-phase / Three-phase			
Power supply	85 - 265V			
Frequency range	50 - 60Hz			
Power consumption	1.5 - 4.5 VA			
Nominal current	60A	100A	300A	
Voltage measurement range	100 - 460V F-N			
Voltage accuracy	1% (PF = 1)			
Current accuracy	1% (PF = 1)			
Power accuracy	2% (PF = 1)			
Physical and environmental features	LTP10	LTP16	LTP24	BOX
Weight	61 g	91 g	200 g	125 g
External material	Self-extinguishing UNE 21031 90°C V0			
Operating temperature	-10 to 45°C			
Storage temperature	-40 to 85°C			
Relative humidity	10 - 90% (non-condensing)			
Protection rating	IP20			
Communications	Wi-Fi	NB-IoT		
Type	Wi-Fi (IEEE 802.11)	NB-IoT		
Protocol	HTTP, Modbus TCP, XML	IPv4/IPv6/UDP/TCP		
Frequency range	2,405 - 2,480 GHz	B1, B3, B8, B5, B20, B28		
Encryption	AES128	-		
Certification	FCC (USA), IC (Canada), ETSI (Europe)	GCF/CE/ATEX/JATE/KC/ RCM/IMDA/NCC		



Wibeer Max

Highest accurate and versatile meter



- Real-time measurement.
- Single-phase and three-phase measurements.
- Historical data storage in local mode for up to one month in case of Internet connection loss.
- Industrial areas usage.
- Selection of scales (wide range of measurements).

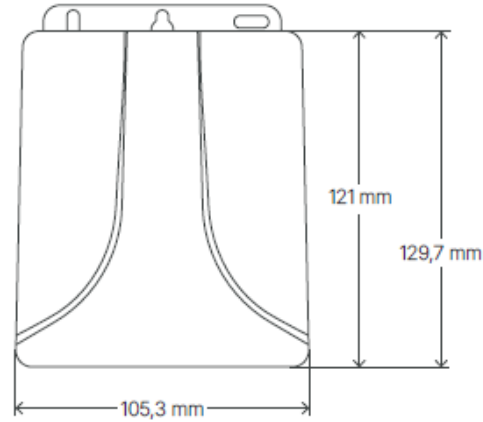
Wibeer Max is designed for use in industrial, commercial or office buildings for the sub-metering of three-phase lines for medium and high currents.

Installation requires no additional tools and can be magnetically attached to any metal panel, anchored with screws or mounted on DIN rail.

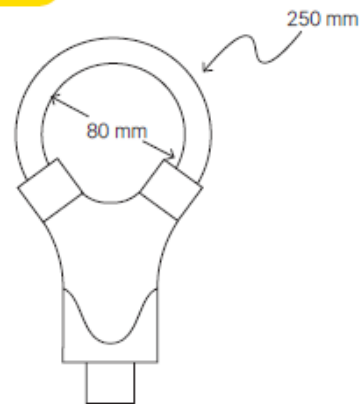
Wibeee Max

Dimensions

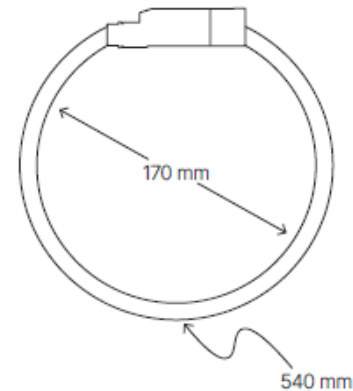
Max



AMS Flex 25



R Flex 54



Wibeee Max

Technical features

Measurement circuit

Installation	Three-phase
Power supply	100 - 400V
Frequency range	50 - 60Hz
Power consumption	4.5 - 9 VA
Voltage measurement range	85 - 750V F-N
Voltage accuracy	1% (PF = 1)
Current accuracy	1% (PF = 1)
Power accuracy	2% (PF = 1)

Current sensor	AMS Flex 25	R Flex 54
Measurement scale	350-700A	100-1k-5k A
Max. Conductor Ø	80 mm	170 mm

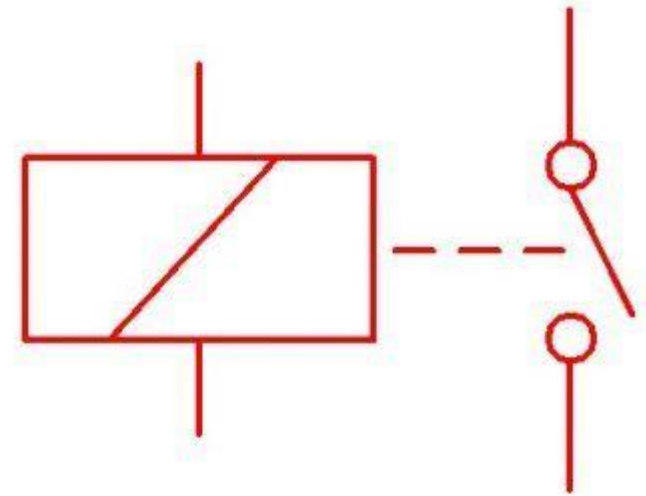
Physical and environmental features

Weight	1700g
External material	Self-extinguishing UNE 21031 90°C V0
Operating temperature	-10 to 45°C
Storage temperature	-40 to 85°C
Relative humidity	5 - 95% (non-condensing)
Protection rating	IP20

Communications	Wi-Fi	NB-IoT
Type	Wi-Fi (IEEE 802.11)	NB-IoT
Protocol	HTTP, Modbus TCP, XML	IPv4 / IPv6 / UDP / TCP
Frequency range	2,405 - 2,480 GHz	B1, B3, B8, B5, B20, B28
Encryption	AES128	-
Certification	FCC (USA), IC (Canadá), ETSI (Europa)	GCF/CE/ATEX/JATE/KC/RCM/IMDA/NCC

Wibeer devices

Relay actuation





Wibee Connect

Monitoring and control meter

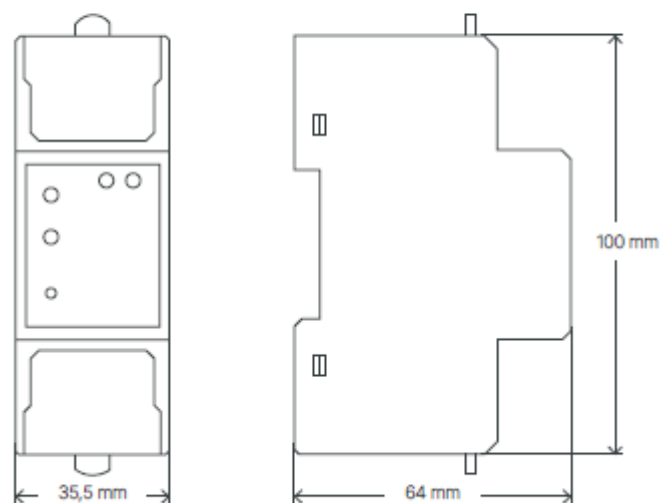


- Real-time measurement.
- Accuracy measures 62053-21 and 62053-23.
- Smart schedule to optimize its use.
- Integrated relay for a remote control.
- Industrial areas usage.

Wibee Connect meter provides electrical data acquisition in order to facilitate decision making when understanding electrical energy use. This meter is designed to be installed on a DIN rail and is completely integrated into the electrical panel as an additional module.

Wibeee Connect

Dimensions



Wibeee Connect

Technical features

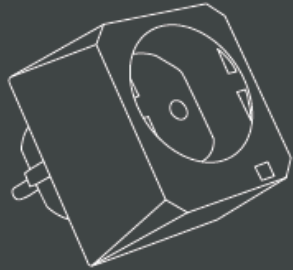
Measurement circuit

Installation	Single-phase
Power supply	110 - 265V AC
Frequency range	50 - 60Hz
Power consumption	4.5VA
Voltage measurement range	110 - 265V AC
Voltage accuracy	0,5% (PF = 1)
Current accuracy	0,5% (PF = 1)
Active power accuracy	Cl. 1
Reactive power accuracy	Cl. 2

Physical and environmental features

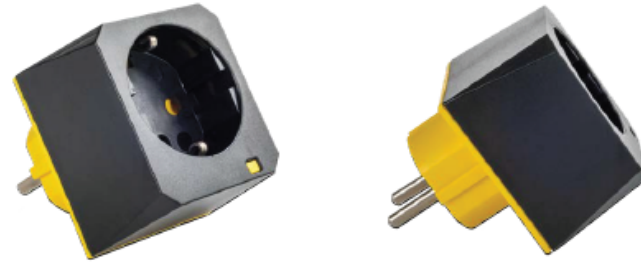
Weight	170g
External material	Self-extinguishing V0 plastic (UNE 21031 90°C)
Operating temperature	-25 to 55°C
Storage temperature	-40 to 85°C
Relative humidity	10 - 90% (non-condensing)
Protection rating	IP40

Communications	Wi-Fi	Modbus
Type	Wi-Fi (IEEE 802.11)	RS485
Protocol	HTTP, Modbus TCP, XML	Modbus RTU
Frequency range	2,405 - 2,480 GHz	-
Encryption	AES128	-
Certification	FCC (USA), IC (Canada), ETSI (Europe)	-



Wibeee Plug

Plug-in and command



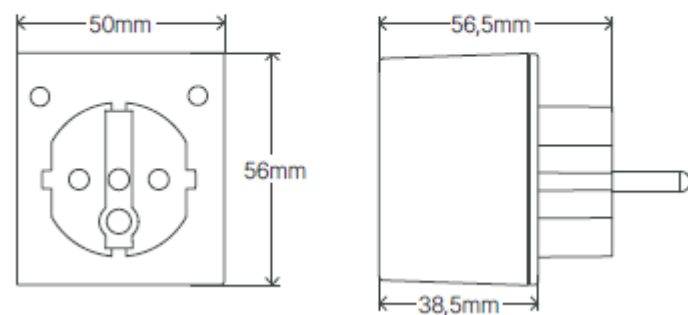
- Real-time measurement.
- Easy "Plug-in" installation.
- Smart schedule to optimize its use.
- Integrated relay for a remote control.
- Historical data storage in local mode for up to one month in case of Internet connection loss.

Wibeee Plug are plug-in electricity meters that monitor the individual consumption of any appliance or device connected to them.

It has an internal relay to switch the connected device on and off via the web platform or mobile app.

Wibeee Plug

Dimensions



Wibeee Plug

Technical features

Measurement circuit

Installation	Single-phase
Power supply	100 - 240V
Frequency range	50 - 60Hz
Power consumption	1.5 - 4.5 VA
Nominal current	10 A
Voltage accuracy	1% (PF = 1)
Current accuracy	1% (PF = 1)
Power accuracy	2% (PF = 1)

Physical and environmental features

Weight	87,5 g
External material	Self-extinguishing UNE 21031 90°C V0
Operating temperature	-10 to 45°C
Storage temperature	-40 to 85°C
Relative humidity	10 - 90% (non-condensing)
Protection rating	IP40


Communications

Wi-Fi

Type	Wi-Fi (IEEE 802.11)
Protocol	HTTP, Modbus TCP, XML
Frequency range	2,405 - 2,480 GHz
Encryption	AES128
Certification	FCC (USA), IC (Canada), ETSI (Europe)

Features to be highlighted

Of interest



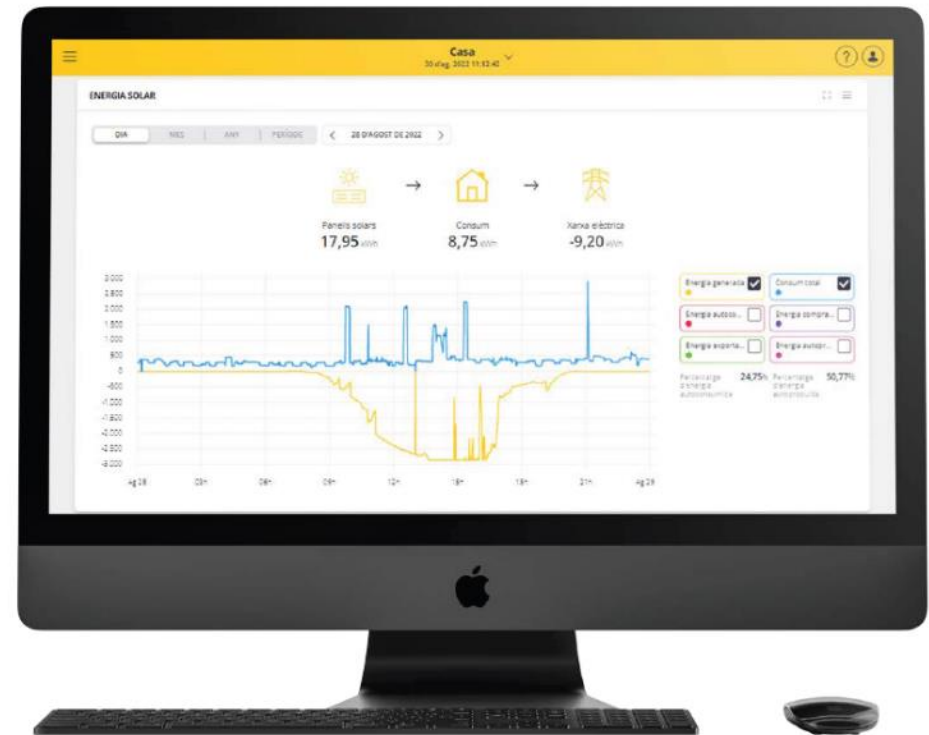
Device	Internal memory	Data
Wibeee One	30 days	By second
Wibeee Box	30 days	By second By minute if NB-IoT
Wibeee Max	30 days	By second By minute if NB-IoT
Wibeee Connect	3 day	By second
Wibeee Plug	30 days	By second

Measures collected

Description	unit
Active energy	kWh
Active power	kW
Apparent power	kVA
Capacitive reactive power	kVAr
CO ₂	g
Cost	
Current	A
Frequency	Hz
Fundamental - A	A
Fundamental - V	V
Harmonic 3 - A	A
Harmonic 3 - V	V
Harmonic 5 - A	A
Harmonic 5 - V	V

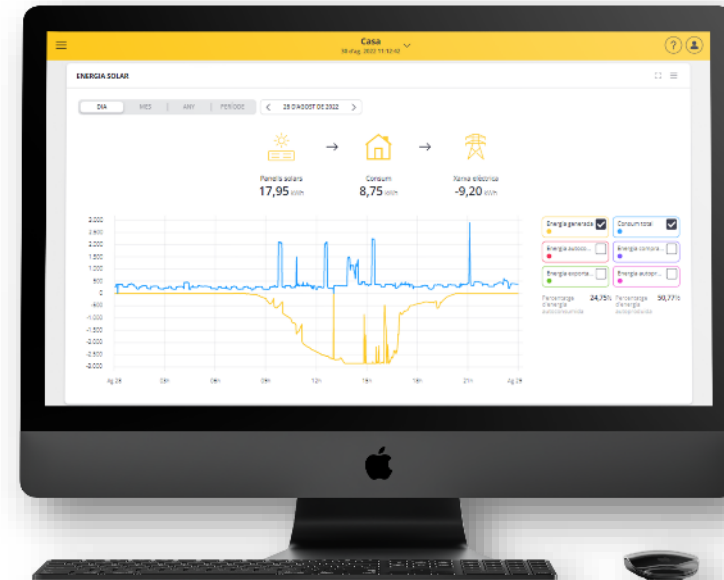
Description	unit
Harmonic 7 - A	A
Harmonic 7 - V	V
Harmonic 9 - A	A
Harmonic 9 - V	V
Harmonic 11 - A	A
Harmonic 11 - V	V
Inductive reactive power	kVAr
Power factor	
Reactive energy	kVArh
Temperature	°C
THD-A	%
THD-V	%
Voltage	V
Wireless signal	dB

The platform **Wibeee Nest**



Software as a Service Model

- **Location and Availability:** The platform is hosted on AWS, with replicas strategically placed to ensure optimal availability and performance.
- **Access and Customisation:** This is a multi-tenant solution that provides hundreds of thousands of users with access to customised services within their own dedicated environment.
- **Management and Security:** At SMILICS TECHNOLOGIES, we take full responsibility for the maintenance, security and management of the software, ensuring that each user enjoys a secure and efficient experience.



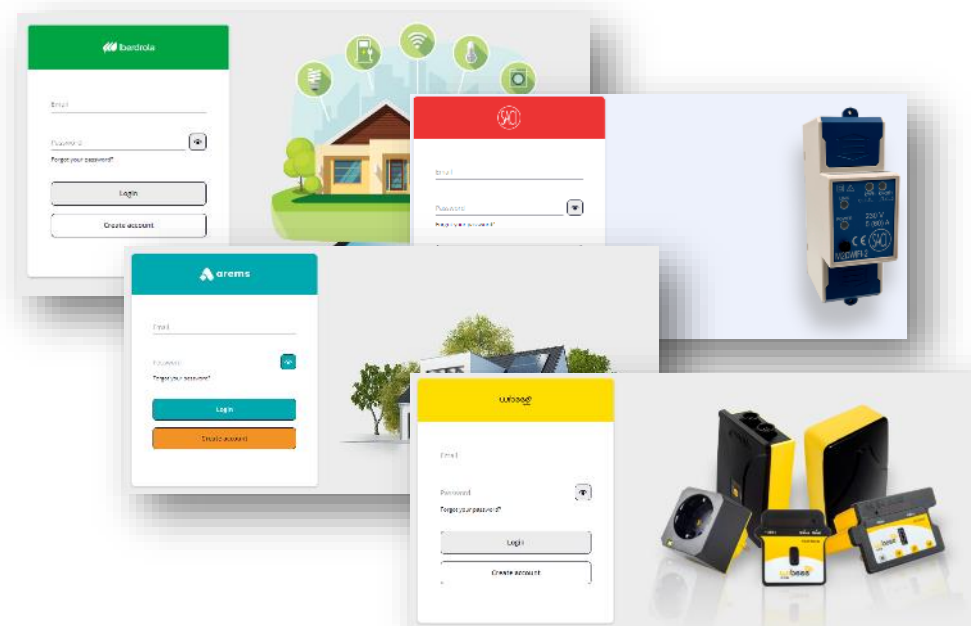
Multitenancy

In less than 5 days the solution is branded and in your market.

A multi-tenant SaaS (Software as a Service) system is a cloud software architecture model that allows multiple customers (tenants) to share a single instance of an application, while maintaining the privacy and security of their data.

In Nest, multiple customers share the same computing resources, such as servers and databases. Despite sharing resources, clients are not aware of the existence of other clients and their data is kept completely separate.

Although they all share the same software instance, each client can customise certain aspects of the application, such as the user interface.



Despite the sharing of resources, each customer has its own data schema, ensuring that **each customer's data is kept private and secure.**

Data value

Export

We export to standard formats to be able to analyse the information with third party tools.

CSV, XLSX or even PNG or JPG.

The user, from the data shown in any of the graphs provided by Nest, can request the export of the data that have been used for its generation, taking into consideration the filters or the temporality that covers the same.

Public API

Any programmer can integrate the consumption data into other applications, data lakes, etc.

Using the public API provided by Nest it is possible to create a complete application with the data collected by the meters.

The Nest API is published with Swagger and documentation is provided so that it can be used with minimal training.

The implemented token-based security prevents unauthorised access.

Differentiated data ingestion

We can send the data read from the meters to any third-party monitoring system.

Optionally, thanks to a specific architecture that provides for differentiated data ingestion, it is possible to create a data stream capable of sending readings in near real time to third parties, including other cloud providers or even local systems.

Tariff engine

Tariff engine, multi currency

It allows you to translate consumption into economic values.

Nest has a powerful engine for creating and maintaining tariffs that can inform any tariff model.

Thanks to this powerful engine, users can obtain billing simulations and receive advice on their consumption.

Peak power analysis

Understand power peaks, their frequency and range.

Nest provides peak power peaks for the last 12 months.

By comparing this information and the tariff reported by the customer, the platform is able to recommend the right power for the installation, eliminating unnecessary costs for oversized power.

Economic balance at FV

We analyse the profitability of the photovoltaic installation.

The user is able to analyse the profitability of his investment. thanks to the fact that Nest is able to, ... on the one hand, collect the values of self-consumption, self-generation and calculate the self-sufficiency of the PV installation, ... and on the other hand, apply the price of the photovoltaic surplus.



Disaggregation of household appliances

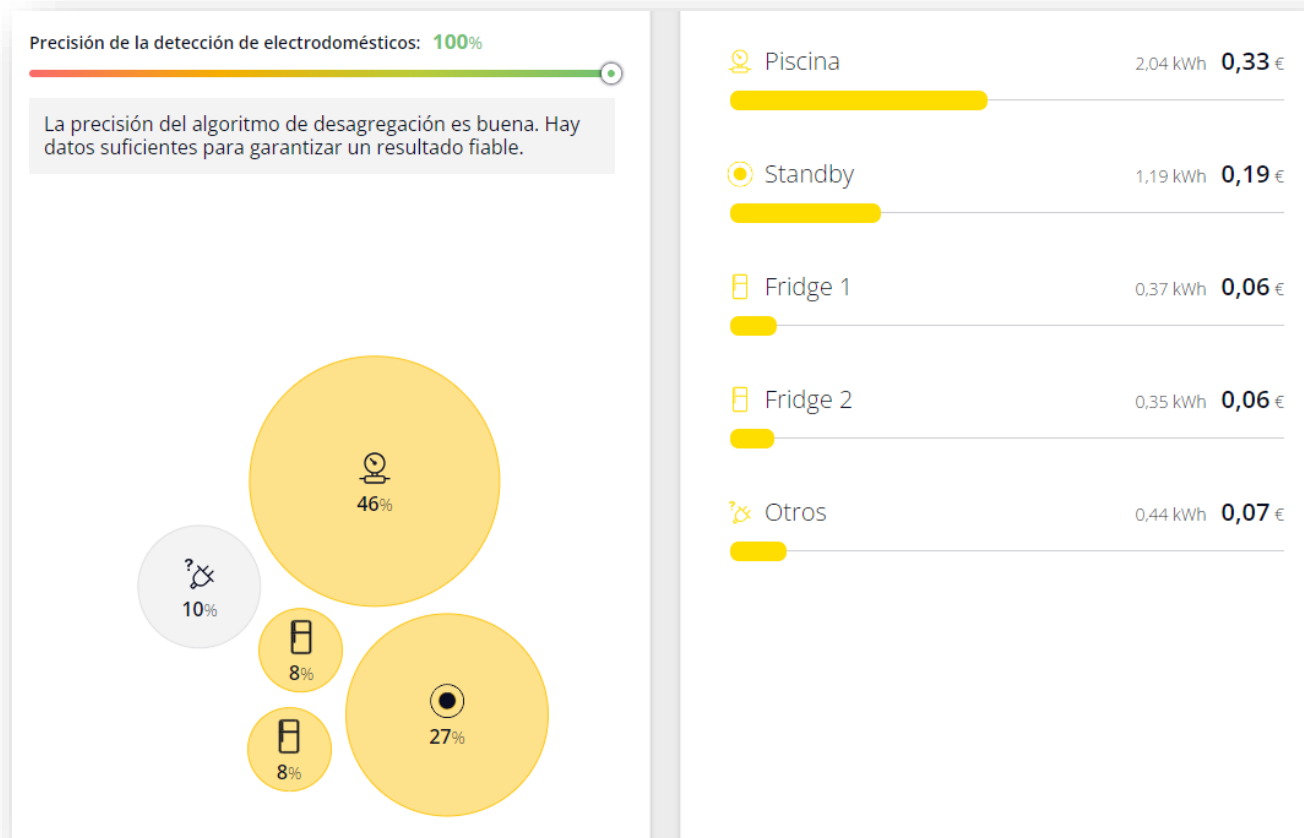
By reading data per second, it is possible to analyse the electrical signal or pattern of a multitude of everyday household appliances.

At SMILICS we analyse more than 550k appliances everyday thanks to our Inspectee machine learning algorithm.

With this information in hand, we will be able to know which appliances a user uses and when.

It will then be possible to profile users based on this information and take advantage of it to

- ... create cross-selling opportunities
- offer tariffs that are appropriate for a particular type of consumer
- gain added value for the end customer.

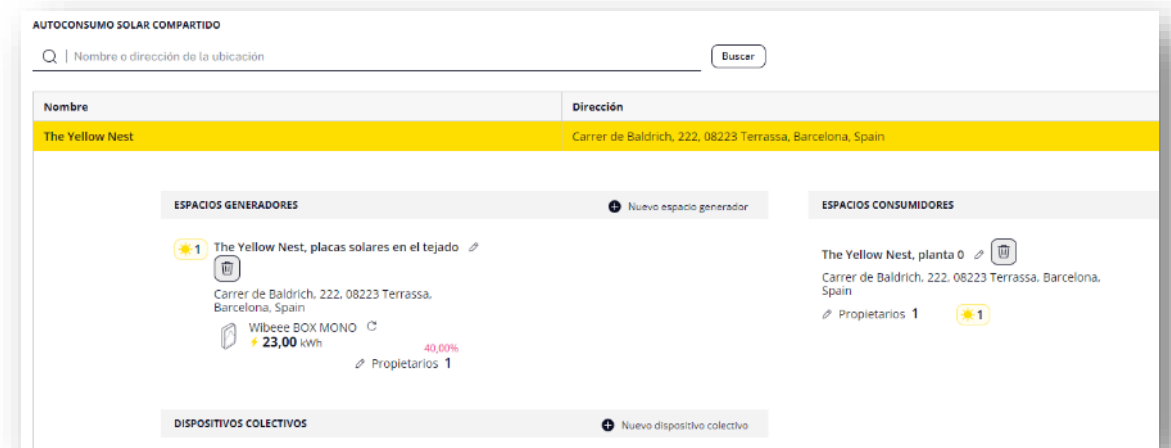


Collective solar self-consumption

We understand collective solar self-consumption as a photovoltaic installation from which several consumers can benefit simultaneously, which promotes the profitability of the systems and reduces the amortisation time.

Traditionally, the problem we encounter is that the consumer has no visibility on the production that corresponds to him.

NEST offers a set of tools that allow a percentage of the total solar production of a common space to be allocated to a group of consumers, depending on the participation of each one.



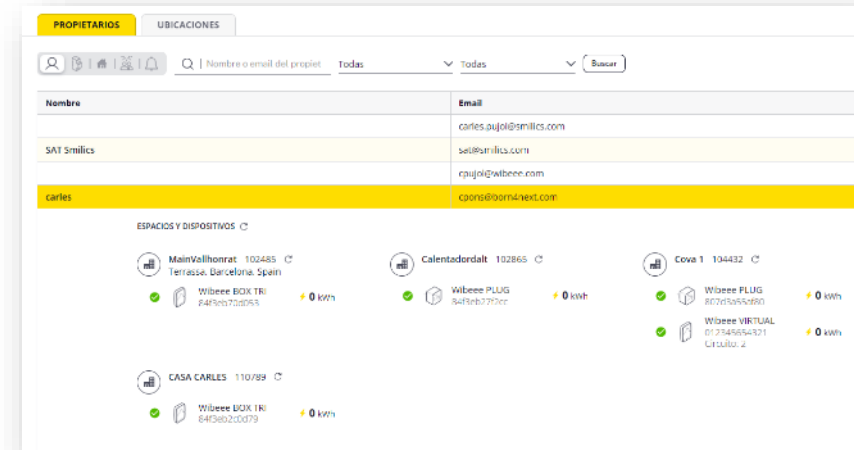
Thanks to this assignment, the consumer can normally use the web portal or the app and will enjoy the same functionalities regarding their production and consumption (including unbundling of appliances, power analysis, etc.) as if the PV installation were theirs alone.

Manager/supervisor profiles

In order to manage a large number of facilities, we need tools that provide visibility and allow individualised access.

NEST solves this problem by allowing the creation of manager or supervisor profiles; these are super users with the ability to manage a specific group of installations or all of them, respectively.

These are typically customer service profiles or PV installers themselves.



We provide these users with the capacity to impersonate as the owners of the installations with the aim of being able to carry out maintenance...
... corrective.
... proactive.

Reports, alarms

Reports

We make it easy to obtain a periodic summary of the data.

The user can create reports of different types (tables, graphs, CSV) and determine both the granularity (minutes, hours, days, months) and the frequency (daily, weekly, monthly, on demand).

Reports will be sent by automated email, only to users who are owners or guests of a space.

Alarms

We generate alerts for any event that should be brought to our attention, by means of PUSH notifications to the mobile phone.

It is possible to define an alarm on any of the recorded measurements, either for the total or only for a specific channel (circuit).

In addition, these alarms can be scheduled to be triggered only at specific times of the day or week.

Low FV production alarm

We analyse the theoretical production (weather forecast) and compare it with the actual production.

We collect the weather forecast and compare the expected diffuse solar radiation at a point with the actual solar production.

If the difference between the forecast and reality exceeds a certain percentage, we notify the manager of that installation, and optionally also the owner.

What else the platform offers

Presentation by views

The user chooses how he/she wants to see the information.

Different variables in the same graph

We can compare variables that are related.

Temporal filters

Minute to yearly granularity. 2 years of data is stored online by the system.

Spaces and groups

The correspondence between the spaces and the actual locations of the devices facilitates their organisation.

NRT near real time data

We observe consumption as it occurs; not only globally, but also detailed per channel.

Geolocation

Thanks to Google Maps we can represent facilities on a map.

Permissions

We can invite other users to view the information we generate.

smilics
TECHNOLOGIES