Circutor
Databox

MEASUREMENT AND CONTROL
—

Solutions for managing and controlling energy

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Information is power

In order to efficiently manage consumption in your installation, you have to answer some basic questions, such as: How much energy do you consume? When do you consume it? Where do you consume it? How do you consume it? The answers will require installing measuring equipment that can gather energy consumption data and evaluate its trend over time.

Circutor's DataBox platform has been designed to answer all these questions, and makes available to any kind of user, regardless of their level of knowledge, a tool that lets them view, analyse and store the energy data from their installation, structuring it for easy access.

Databox helps you conduct energy audits

⚙️ How can I manage my installation's consumption more efficiently?

📊 How much energy do I consume?

🕐 When do I consume energy?

💡 Where do I consume energy?

🏷️ **What can I save on?**
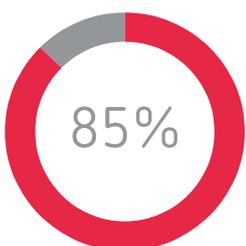
Why use Databox as a management system?

DataBox lets you implement an Energy Management System (EMS) that is compatible with **ISO 50001**, and manages all your installations and information from the cloud by using any centralized web browser. You can use the resulting data to set energy targets, generate KPIs, control your installations and, above all, create a plan to improve electrical efficiency.

ISO 50001

The goal of the **ISO 50001** standard is to make it possible for organisations to implement the systems and processes they need to improve the energy efficiency of facilities, with the clear intention of lowering their greenhouse emissions and operating energy costs.

Energy efficiency

› PVPC or Free Market? Hourly rate or flat rate? Compare all the electricity rates and maximize your savings
› Minimize penalties and reduce your consumption with our energy tips
› Manage your water, gas and electricity supplies simultaneously.

What should an energy audit be like?

The data must include

The data should be

☑ Operational updates

☑ Measured

☑ Verifiables

☑ Representatives

☑ Reliables

85%

Total energy consumption of energy

Data should be able to be stored for historical analysis and traceability of behaviour.

Databox: Your tailor-made IoT system

Learn your installation's consumption pattern

See how, where, when and how much energy your installation consumes and, if you need to, certify your installation as per **ISO 50001**. Create your own KPIs and make easy comparisons to manage the evolution of your installation.

Get billing simulations

Schedule invoice simulations to charge expenses to your customers with no complicated programming. Automatically receive your customers' invoices in your email.

Manage all your facilities from a single platform

› Report consumption.
› Compliance with energy efficiency laws.
› Verify the return on investment.
› Present the information in a way that is simpler to use.

Make multi-installation/multi-company comparisons

Compare consumption and efficiency data for any installation in order to offer a better maintenance service to customers who have multiple self-supply installations.

Solution for all types of sectors and needs

Heating and cooling	Energy management	Maintenance and management	Power distribution	M2M
Building monitoring	Industry 4.0	Smart Cities	*e-Mobility*	OEM

Manage any incident

Identify alarms and manage troubleshooting (recognized, in progress or resolved). Check the log to track every activity performed (log with date, time and person responsible).

No programming knowledge required

You don't need to hire a programming expert. User-friendly system for creating formulas to calculate operating ratios and alarms.

Save time on start-up

Create your own screens using a wide variety of pre-defined widgets in order to customize the application based on each customer's needs.

You don't need IT services

Easy to install with readings and management from the cloud. You don't need your own servers or IT staff.

Applications

Industry

Tertiary sector

Public Administration

Multi-office companies

Solutions for
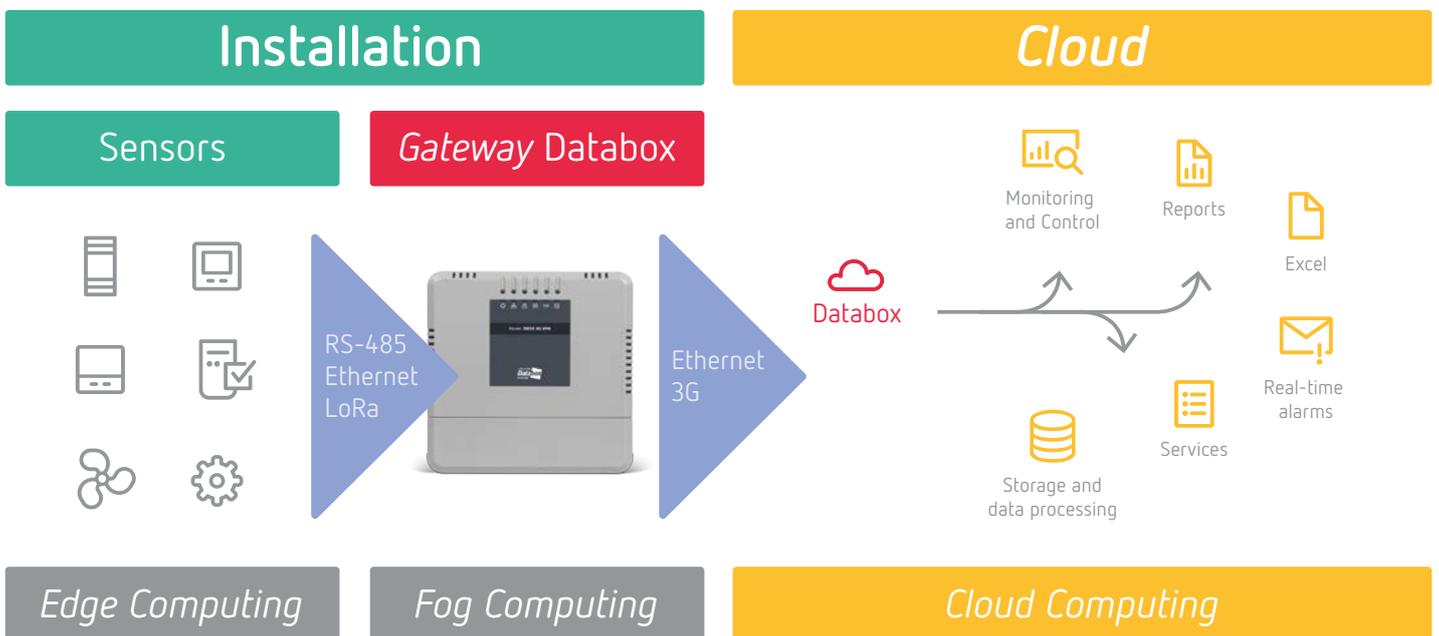# managing and controlling energy

What is Databox?

It is a cloud platform that lets you monitor, control and analyse all the data from your installation in a way that's agile, intuitive and robust.

What does Databox offer?

Managing installations from the cloud simplifies your monitoring and analysis project, from its start-up and low initial costs to its great capacity for comparison, control of multiple installations and the great scalability of the solution.

System architecture

The *Cloud* platform

It is the main part of the DataBox system.
All of the data obtained through the Gateway SBOX is controlled through it.

The main features of the web platform are:
› Data collection, storage
  and processing software.
› Cloud software with backup and redundancy
› Endlessly scalable
› Multi-device and multi-manufacturer
› Responsive
› Multi-User
› Customizable
› Dashboard display
› Real-time alarm
› Geolocation of facilities
› Reports
› Advanced comparative analysis for multiple facilities.

› SCADA Cloud Synoptic
› Device management
› Remote configuration
› User profiles
› Data analysis and KPI calculations.
› Remote action (linked/forced)
› Complete data record
› Real-time alarm system
› Email messaging with alarm details
› Connection with other SCADA and BMS
› Shorter reporting time
› Emergencies are minimized.

Elements of the Databox system

Easy start-up

Sometimes, connecting devices and transmitting all the information can be a complicated task, which is why DataBox is easy to start up, sending the information from the devices in a single click.

Connect

Assign devices

Link to Databox

Sensors and analysers

Circutor equipment and any monitoring and control device with the Modbus (RTU or TCP) or LoRa protocol.

VPN communications

Global communications worldwide, with optional VPNs across Europe. Other countries as available.

Two-way communication

We believe in open protocols. That is why DataBox can be connected to any MODBUS device, letting it access information from any device remotely.

You will find dozens of devices already configured, and if not, you can register a new device very easily by just loading the device's memory map into an Excel file.

Gateway GPRS/3G

It's the brain of the installation. It handles data collection, with the capacity to store 400,000 parameters, intelligent calculations of ratios, and alarm reporting in real time.

Platform Industrial IoT

Software to process, monitor and analyse data in the cloud. Reading of parameters, calculation of KPIs, reports and multipoint comparisons.

SBOX, two models depending on your needs

It's the brain of the installation. It is responsible for collecting data, generating alarms in real time, operating automatically and calculating KPIs.

Key features: 3G/GPRS, Ethernet, RS-485 communications, Relay and 12 VDC output

Two models. SBox VPN, with free 3G/GPRS VPN communications. SBox NET, your choice of communications.

SBox VPN	SBox NET
SIM included	SIM not included
Plug & Play	User's network configuration
3G communication	
External antenna (optional)	
12 VDC output	
Relay output	
Simultaneous RS-485 and Ethernet	
Circuit device drivers	
Generic market Modbus drivers	

Create your IoT projects to easily manage all your installations

Create your own dashboards and widgets

› Comparison between installations or offices.
› Time comparison (vs previous month, vs previous year).
› Comparisons by type of use.
› Analysis with KPIs and efficiency formulas (kwh/m2, kwh/ occupation, kwh/temp, etc.).
› Statistical functions and histogram to analyse user-defined periods.

Design your own display and control screens: SCADA synoptic

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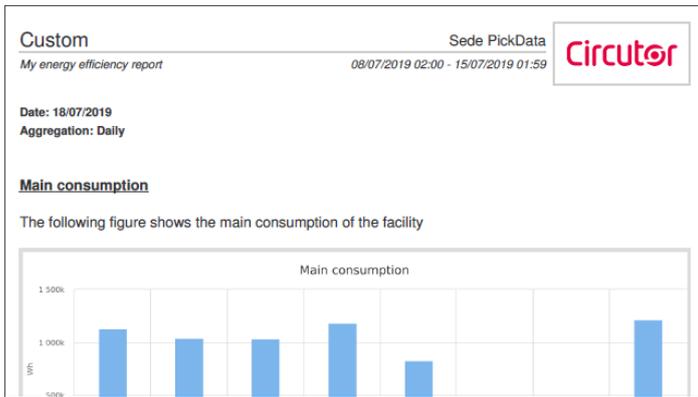› Statistical functions and histogram to analyse user-defined periods.

Real-time alarms

Alarm management:
› Status control (pending, acknowledged and cleared)
› Average resolution time, person responsible, etc.
› Specific alarm dashboard.

› Generation of real-time alarms in the Gateway, the decision is made in the installation itself.

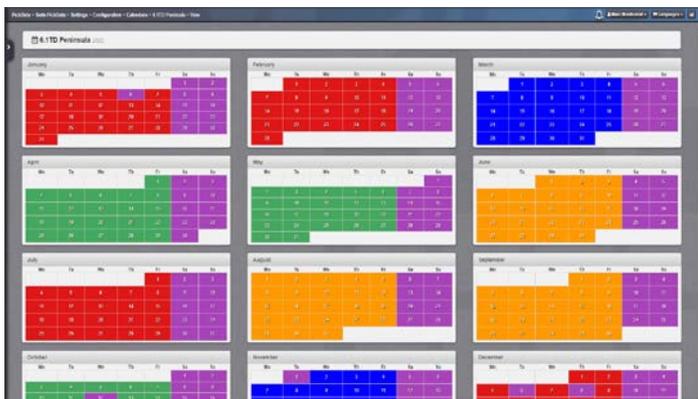› Activation/deactivation of peripheral outputs depending on the status of each alarm.

Control and calendars

› Management of non-critical systems, such as: lighting, irrigation, air conditioning.
› Remote control with on-demand actuation in real time.
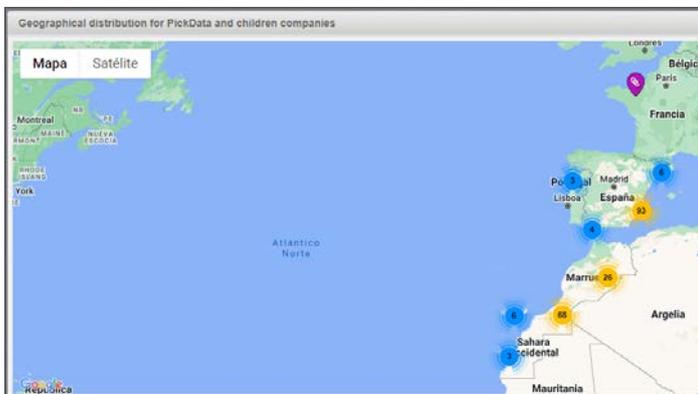› Schedule of calendar and actions by fixed timetable or astronomical control.

Automatic sending of reports and billing simulations

› Predefined reports for cost and consumption applications, invoice simulation, savings analysis, and temperature control.

› Customized reports generated based on the needs of each customer or installation.

› Statistical functions and histogram to analyse user-defined periods.

Pricing and cost calculation

› Associate your consumption to any tariff on the Spanish market (2.0 TD, 3.0TD, etc.).

› Create your own tariff/calendar and apply it to your consumption.

› Monetize energy consumption in any country in the world.

Geolocation of installations and device control

› Geolocate all your installations on an interactive map and access them at any time

›

› Remotely control all your gateways (firmware updates, remote reset, etc.).

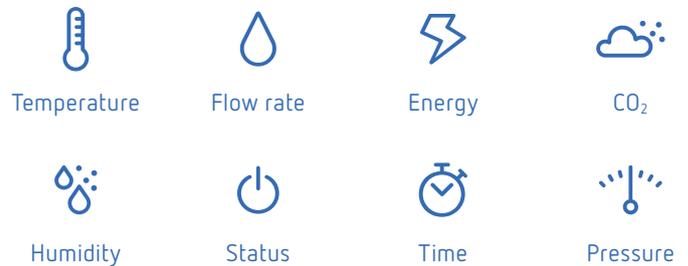## Compare data from all your installations (Analytics licence)

› Compare devices, KPIs, variables measured and imported from multiple facilities using our integrated advanced analytics tool.

› Compare data from various installations and add time and quantitative filters.

Databox lets you measure and control any variable you need

Get data from any system

Installation management not only involves receiving energy consumption data, but being able to manage all the automation systems installed in order to obtain a comprehensive picture and ensure the correct operation of your installation.

› Platform open to internal and third-party devices.
› Standard Modbus/RTU and Modbus/TCP industrial protocols.
› 100% multi-variable software:
  Monitor any parameter.

Temperature	Flow rate	Energy	CO$_2$
Humidity	Status	Time	Pressure

Control your installation remotely

Interact with your installation's sensors and systems, take actions in real time using SCADA synoptics, or automate processes using time-of-use or calendar parameters.

› Open and close a door, light or relay

› Read and write parameters in real time

› Set up calendars to automate actions.

Display information from Databox anywhere

Show the application on your corporate website

Let your customers to view your application
from a free URL (dashboards), and import the widgets created in Databox to your own website using iframes.

Import information from other systems

Integrate it with an external API to obtain weather and time data from an installation.

› Temperature, humidity and atmospheric pressure.
› Minimum and maximum temperature:
› Visibility (in metres) and percentage of cloud cover.
› Wind speed and direction.

Import data in XLS for KPIs and analysis.

You decide how to manage the installations

Databox is a platform that is ready to manage everything from one-installation projects to multipoint projects with hundreds of installations.

If you have a *Professional* licence, you can create as many projects, users and licences as you require. If you need to manage multipoint projects, the *Analytics* licence will let you perform multi-centre and multi-variable statistical and comparative analyses to give you total control from a single platform.
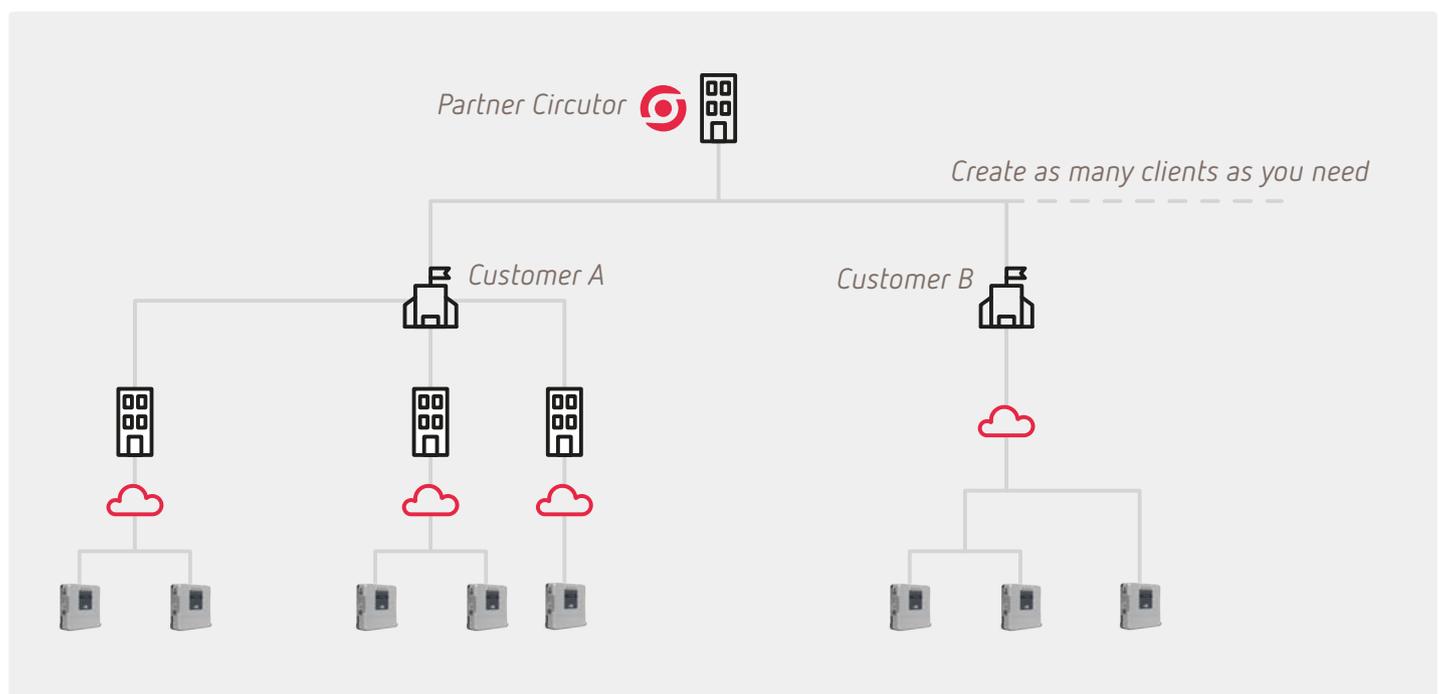If you want to personalize your own installation, the *Advanced*

licence lets you manage your own project at an operational level (change widgets, dashboard, report frequency, etc.).

For those customers who only need to view the status of their installation, the *Basic* licence lets them easily access all the data to review trends in the recorded parameters, alarm status, access invoice simulations, and easily export the data.

A licence for every need

Basic	Advanced	Analytics	Professional
Data monitoring	*Basic* Functions +	*Advanced* Functions +	*Analytics* functions +
Alarm monitoring	Personalized dashboards	Big Data Tools	Project management
Multivariable and time comparisons	Report management and configuration	Advanced comparative analysis	Remote device management
Scheduled reports received via e-mail.	Calendar management	Option to export via API and FTP	User management and registration

Partner Circutor

Create as many clients as you need

Customer A   Customer B

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