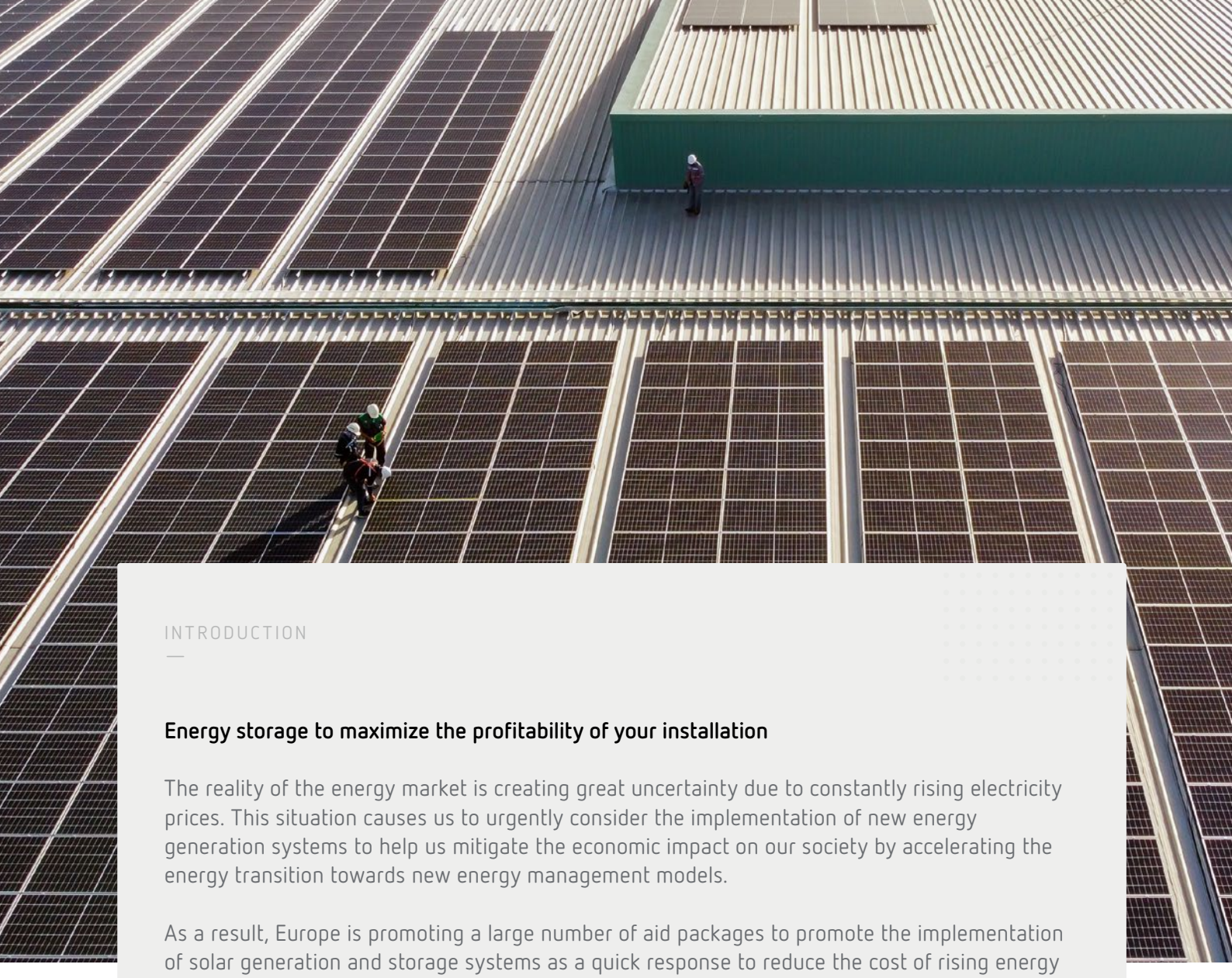
RENEWABLES

BAS battery range

Energy storage solutions

Energy storage to maximize the profitability of your installation



INTRODUCTION

Energy storage to maximize the profitability of your installation

The reality of the energy market is creating great uncertainty due to constantly rising electricity prices. This situation causes us to urgently consider the implementation of new energy generation systems to help us mitigate the economic impact on our society by accelerating the energy transition towards new energy management models.

As a result, Europe is promoting a large number of aid packages to promote the implementation of solar generation and storage systems as a quick response to reduce the cost of rising energy bills.

This new scenario, which in theory could benefit users who decide to install solar power self-supply systems and feed any surplus to the grid to get more financial benefits from their installation, can be largely unprofitable in the near future.

This is because we are reaching a point where the energy generated by renewable sources in the electrical mix excluded more expensive technologies from the system, drastically lowering the price a consumer can get from selling their electricity. Therefore, the price offered during hours of maximum sunlight will be very low, making the investment unprofitable, and the price at times when there is no solar generation will be very high.

We can thus conclude that to achieve the highest return on a solar installation, the best option is to incorporate storage with renewable generation, charging batteries during those times when the sale of electricity is not profitable and using it when the price is higher, thus maximizing the return on the installation.

Lithium battery storage solutions

MANAGEABLE AND PROFITABLE SOLAR GENERATION

Solar panels for generation and self-supply will see their future profitability compromised during hours of maximum sunlight, since the energy mix between solar generation and other renewable sources will price the electricity generated from gas out of the grid.

This decrease in the sale price means that the electricity generated does not yield a significant profit, making it irrelevant whether we consume electricity from our self-supply system or from the grid. This means we will not make money from selling our electricity during daylight hours, but we will continue to pay a high price in the night hours when there is no sunlight.

The solution to this problem is to use an energy storage system. It is during these hours that lithium batteries turn into a tool to maximize the profitability of installations with self-supply systems or solar panels. This solution allows the energy generated at times of maximum sunlight to be used during hours when the cost of energy is much higher, or to use it to cover any peak in consumption, reducing the energy cost.

The safest and most reliable energy storage solution.

Photovoltaic generation is an essential component of the energy transition towards a more sustainable model. For this reason, battery storage can be used to collect large amounts of energy, which can then be used in a short period of time as a fundamental support to make the most of an installation with solar generation.

Our energy storage solutions (BESS - Battery Energy Storage System) consist of the BAS-B73 and BAS-S154 models, which allow users to get a return on their investment in this type of installation by means of peak shaving, which uses stored energy at times of high consumption, or load shifting, which moves part of the network's energy consumption to a later time.

Benefits of lithium technology:

- Safe and reliable system
- High energy density/weight
- Long life
- Flexible and scalable system

Explore our range of BAS batteries

INDOOR SOLUTION

BAS-S154

- Rated capacity of 154 kWh from 1 to 8 inverters of 25 kVA per module and up to two modules
- LFP – Lithium ferro-phosphate
- Interior IP11
- Extendable up to four in parallel: 616 kWh (4 x 154 kWh)

OUTDOOR SOLUTION

BAS-B73

- Rated capacity of 73 kWh
- 1, 2 or 3 25-kVA inverters
- NMC – Nickel-Manganese-Cobalt
- Exterior IP 55
- Extendable up to 16 in parallel 1.1 MWh (16 x 73 kWh)

In collaboration with the best

CIRCUTOR and **INTILION** join forces.**INTILION**'s experience in developing safe plug & play solutions for lithium batteries combines with **CIRCUTOR**'s technological expertise and commitment to customer service in the energy efficiency and network quality markets.

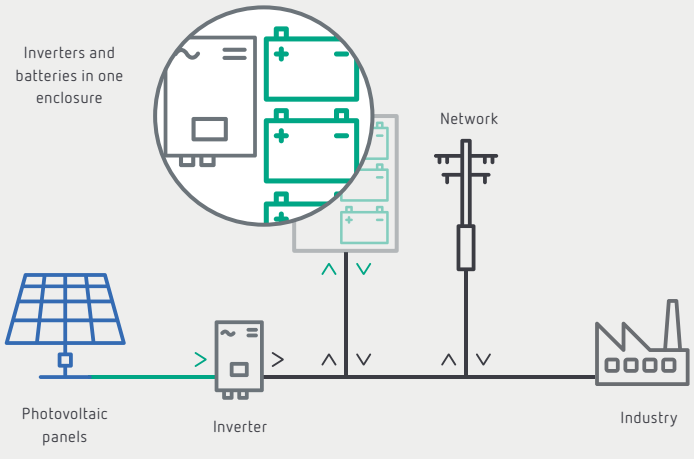
The two companies have partnered to offer their customers energy storage solutions that are ideal for optimizing solar energy production projects, shifting the use of self-produced power to the time slots when electricity is most expensive, and offering the additional power needed at times of maximum demand, thus avoiding surcharges from excess power use.

Circutor

Powered by **INTILION**

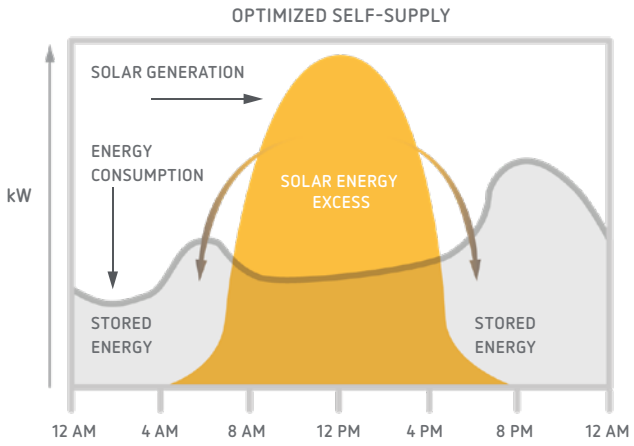
Maximize the return on your installation

The use of storage batteries is particularly suitable for buildings that have an existing grid-connected photovoltaic installation in order to sell its energy, through a DC-AC converter to couple the storage grid to the internal network, with the objective of transferring a part of the production so it can be consumed when solar radiation decreases.



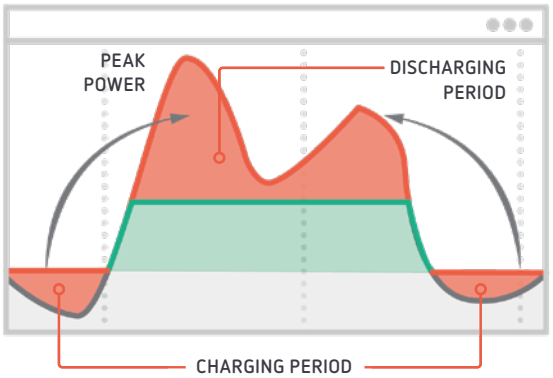
Lower your bill: Load shifting/Extension of self-supply

Take advantage of the times when the cost of energy is cheaper, due to the increased contribution from renewable sources to the electricity mix, to consume directly from the grid while storing all the photovoltaic energy you generate in the batteries, in order to then consume it when the grid price is much higher. With this method you will achieve maximum returns on your investment in your self-supply system.



Avoid surcharges: Peak shaving

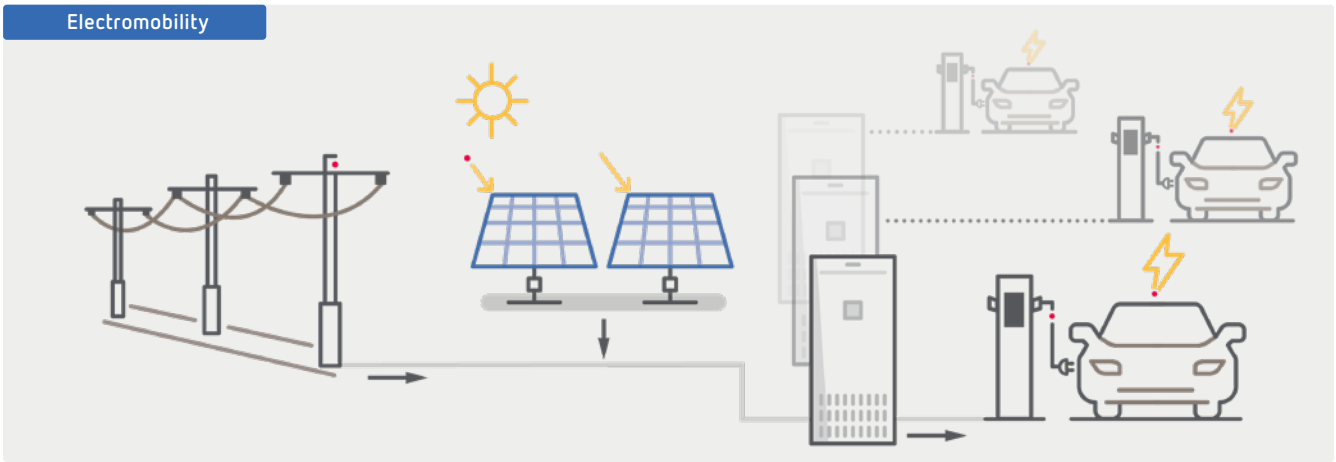
Use the energy stored in your batteries to cover occasional consumption peaks in your installation. This way, you will avoid increasing consumption in hours of higher cost and any surcharges due to exceeding the contracted power of your installation.



Guaranteed electric vehicle charging

Use the energy stored in your batteries to support the charging of the electric vehicles connected to your network at times of high demand, without having to increase the contracted power of your installation. In addition to saving on the contracted power term, you will avoid reducing the charging power of the connected vehicles and you will lower the cost of nighttime charging. It is also the **ideal complement for working as a group in installations where there are photovoltaic canopies with charging systems for electric vehicles.**

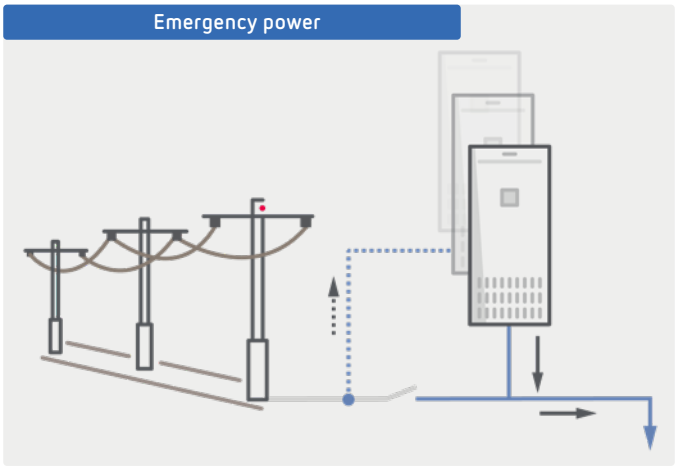
Electromobility



Guaranteed continuity of supply

Guarantee continuity of supply in applications where supply network interruptions are expected, or where consumers demand high availability, avoiding indirect costs in your processes. Installing an emergency power supply system using storage batteries lets you have electricity even if there is a power outage.

Emergency power

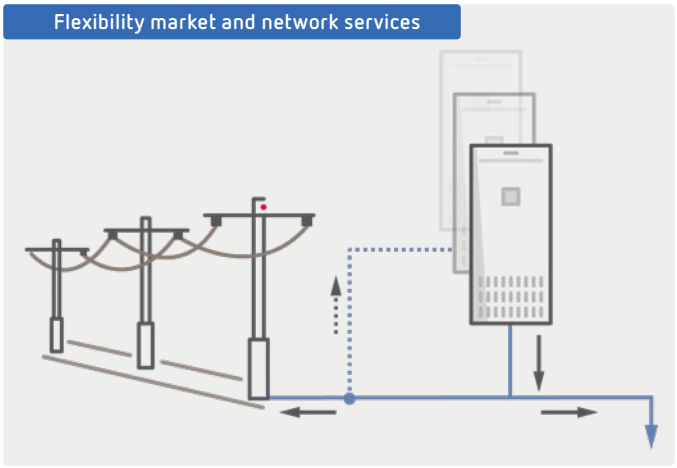


Increase your profits in the flexibility market or a tertiary market

Leverage European regulation to join the **flexibility market**. You can make additional profits by charging your batteries at zero cost and selling it at a price when the grid operator needs additional sources to supply its grid. You will also receive offers at a good price to feed the energy you have stored into the grid when the operator needs additional supply, thus making the most of the energy you have accumulated.

Being part of the tertiary market is another source of income. Use the energy stored in your batteries to help stabilize distribution lines. You can boost your profit by providing or storing electricity when the network operator needs to stabilize the voltage, by consuming or injecting energy to stabilize the grid's voltage and frequency.

Flexibility market and network services



Modular solution for indoor storage

BAS-S154 battery

New modular indoor energy storage system: the best investment for self-supply systems in municipal utilities, the public sector, heavy industry, commercial companies, agricultural holdings and small businesses.

The **BAS-S154** battery can be configured in steps of 25 kVA up to 400 kVA for various energy content specifications.

- 154-616 kWh.
- 25-400 kVA in steps of 25 kVA.
- Overall efficiency > 90%.
- High service life (15 years).
- Simple Plug & Play installation.
- High number of cycles up to 8000.
- Charging/discharging rate of 1C.
- High profitability thanks to its design structure.
- Modular design and customizable product configuration.
- Intelligent system management for optimal and safe operation.
- Integrated lightning and surge protection.

Safe

The indoor storage system uses high-quality lithium-ion cells specifically designed for use in industry, with a market-proven safety system that is based on the extensive experience that our partner INTILION has with large-scale storage products.

The **BAS-S154** battery management system complies with the strictest safety standards, and is backed by a sophisticated and proven service and maintenance concept.

Scalable

The BAS-S154 battery adapts to your needs and can be expanded at any time, even after installation. The battery can be set up with up to four 154-kWh modules to store up to 616 kW, using one to eight 25-kVA inverters per module and up to two modules.

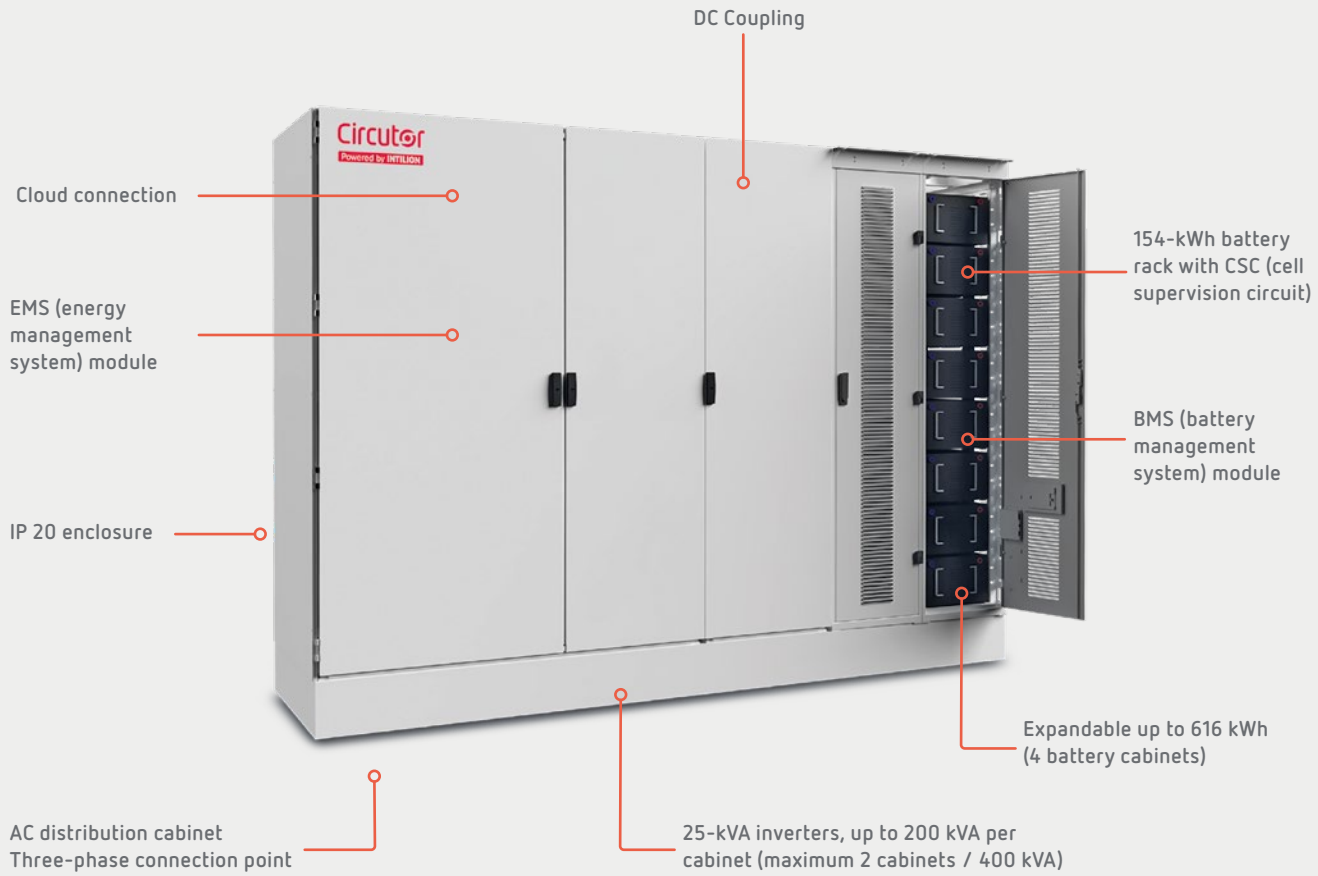
Fully protected against fires

Our exclusive FLEPS (Fire Limiter and Environmental Protection System) keeps any fire that breaks out from spreading to other modules, in accordance with the stringent German standard VDE-AR-E 2510-50, which specifies the safety requirements for energy storage systems with lithium batteries (BESS).

Affordable

Our constant compliance with the requirements that apply to internal storage systems allows us to keep the prices of our products down while avoiding unnecessary added costs.

BAS-S154 battery



Compact solution for indoor/outdoor storage

BAS-B73 battery

The **BAS-B73** battery is based on a lithium-ion battery system and provides a compact and complete solution for stationary power storage. In addition to its multiple uses in areas such as optimizing self-supply, reducing consumption peaks, emergency power supply systems and supporting electronic charging points, this commercial storage unit offers many other advantages.

Main features:

- 73 kWh
- 25 kVA, 50 kVA and 68.5 kVA
- Overall efficiency > 90%.
- High service life (15 years).
- High number of cycles up to 10000.
- Simple plug & play installation.
- Features a climate control system designed for outdoor temperatures from -30° to +55° C.
- All-in-one turnkey battery storage solution, includes inverter.
- Suitable for installation both indoors and out thanks to a climate-controlled and weatherproof enclosure (IP 55)
- Charge/discharge rate up to 1C.
- Intelligent system management for optimal and safe operation.
- Integrated lightning and surge protection.

Easy to install. All in one.

You don't have to worry about a thing: our all-in-one system is easy to set up, intrinsically safe and can be installed and put into operation in one day.

→ Resistant to surges, fire, water and dust.

Suitable for any climatic conditions

The unit has integrated temperature control to ensure its proper operation in outdoor spaces. Its watertight enclosure with an IP 55 rating allows the unit to be used in any weather conditions without compromising its operation or requiring any construction works.

Easy to install

The unit can be installed directly via the Plug & Play function, in keeping with the grid connection guidelines. All-in-one AC coupled solution with cloud connectivity.

Scalable and customizable

The system allows up to 16 batteries to be connected in parallel and groups of 4, with a total capacity of 1.1 MWh (16 x 73 kWh), to adapt to the needs of each installation, increasing capacity at any time quickly and easily.

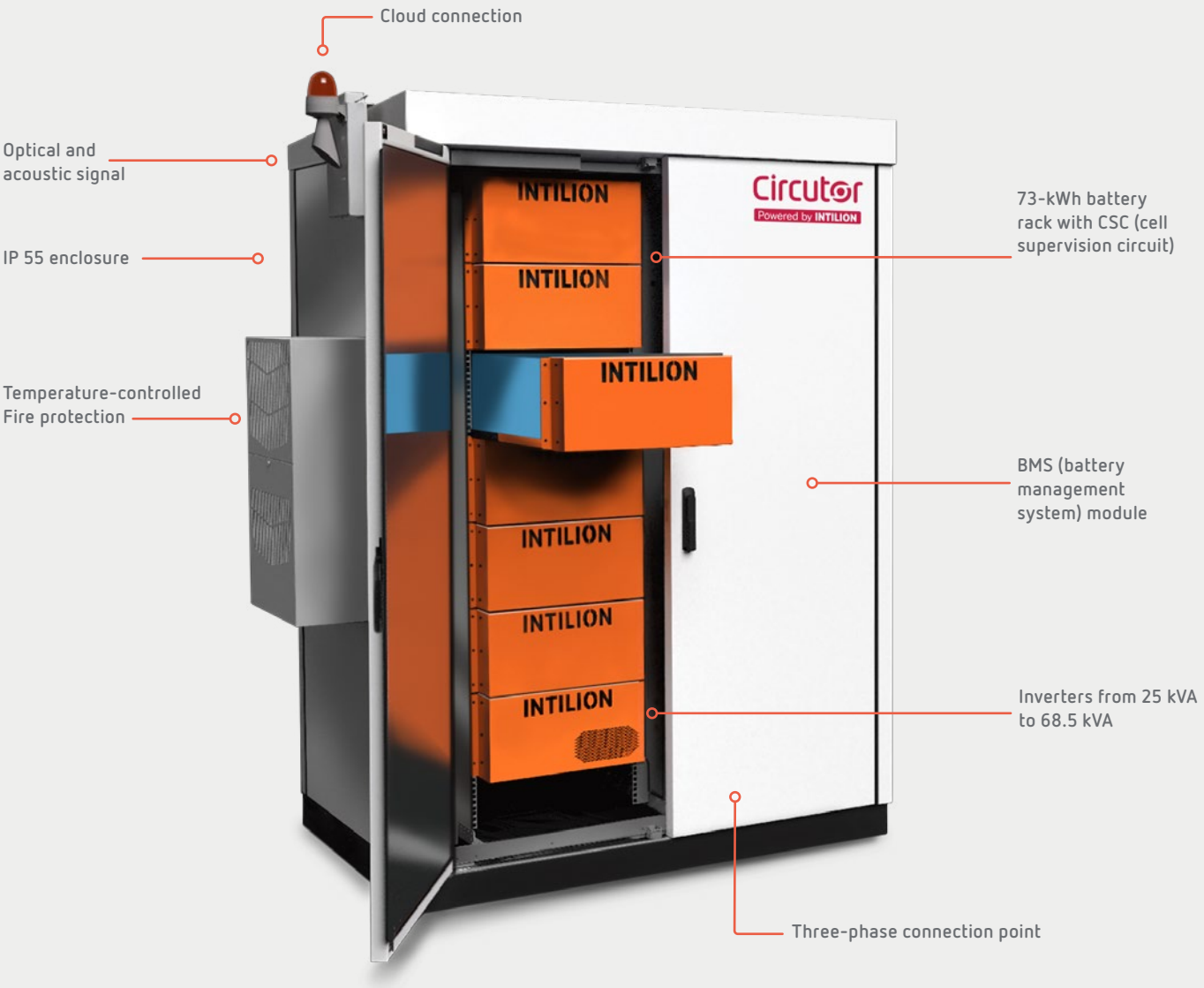
Turnkey solution

The BAS-B73 features a comprehensive system design consisting of battery storage, an inverter, and an LTE modem to remotely check the status of each module at all times.

Remotely managed

The intelligent management feature monitors the entire system to provide an additional level of safety. Its functions include checking the reliability of all the system data and regulating the HVAC function.

BAS-B73 battery



Reduction of peaks to avoid high loads

Commercial and industrial companies tend to have high energy consumption peaks. A power storage system can help reduce these peaks.

Optimize the self-supply of renewable energies

Optimize energy consumption by storing the self-generated energy surplus and using it when necessary.

Network operation for independent electrical supply

Provide an independent power supply and avoid power outages by building an island network with help from an energy storage system.

Extension of the grid connection to support electromobility

The grid was not designed to deal with the increasing number of electric vehicle charging points. Energy storage systems increase the power available and optimize the charging infrastructure.

Customized solution for large-scale storage

Our **large-scale storage** system provides a high-performance lithium-ion energy solution that offers a solid baseline for load balancing, atypical and intensive network use and other applications. Specifically designed for special projects that require a large storage capacity, from 1 MWh to 5 MWh. We have solutions based on temperature-controlled containers, with AC-coupled systems with IP55.

We work with our customers to create tailor-made solutions and ensure that the needs of each project are met.

Water and dust resistant

Its enclosure is especially designed for outdoor use and can withstand the most adverse weather conditions, thanks to its IP55 rating, which protects the storage system from both water and dust.

Fire resistant

Our solution uses high-quality lithium-ion cells that are specifically suited to special applications, both indoors and out. The system is based on our own experience and on the cell safety tests that, together with the battery management system, make this a very robust and safe product that complies with the strictest safety standards.

Surge resistant

The storage system has internal and external protection systems against surges and lightning to make sure power is available at all times.

Battery cell protection

Intelligent climate control and supervision systems maximize the useful life of the battery cells.

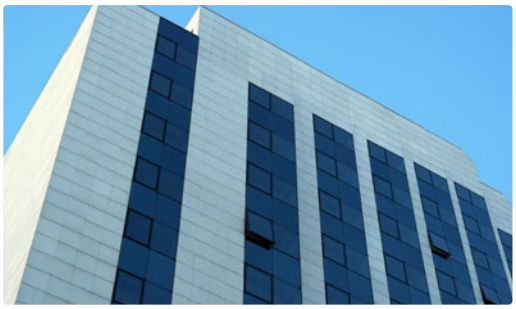
Applications

Industry

Our solutions make industries more profitable and competitive both by doing away with penalties for exceeding the contracted power during production peaks, and by avoiding the need to consume electricity from the grid during expensive periods by using the energy stored in cheaper periods.

Buildings and the tertiary sector

We harness the energy stored to reduce the energy bill of buildings, and we help maximize the performance of all those who have charging points for their employees or customers. We also provide a stable system for all the installations that are present on the flexibility or tertiary markets.



Leisure

We have tailor-made solutions for performance venues with time-constrained usage periods, such as concert halls and stadiums, where the peak consumption can be supplied by a storage system without the need for a high contracted power.

Electromobility

As fast-charging installations saturate electrical connections, our storage systems deliver the power needed for EV charging. This power can be stored during periods when no EV are being charged and the price is convenient, or when the energy can be supplied by solar cells.

Agriculture

Our energy storage systems can be used to optimize production processes in the agriculture sector, where the continuity of the electric supply is often not guaranteed due to problems such as supply interruptions and a lack of stability in the grid.

Coding

Code	Type	Power/Energy
EB1101.	BAS-B73-MI-25	25 kVA - 73 kWh
EB2502.	BAS-S154-25	25 kVA - 154 kWh

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