

# +85 years of energy Storage experience

Cegasa, a leading brand in energy storage and management systems.

- Specialising in the design and development of energy solutions for residential and industrial sectors.
- Experts in latest generation Lithium-Ion based energy accumulation technologies.
- Manufacturers of Lithium-Ion energy storage systems.
- A highly motivated and qualified team.
- A culture of quality and customer service.
- Own material characterisation laboratories.
- A European group of companies committed to innovation and sustainable development.



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**CEGASA**

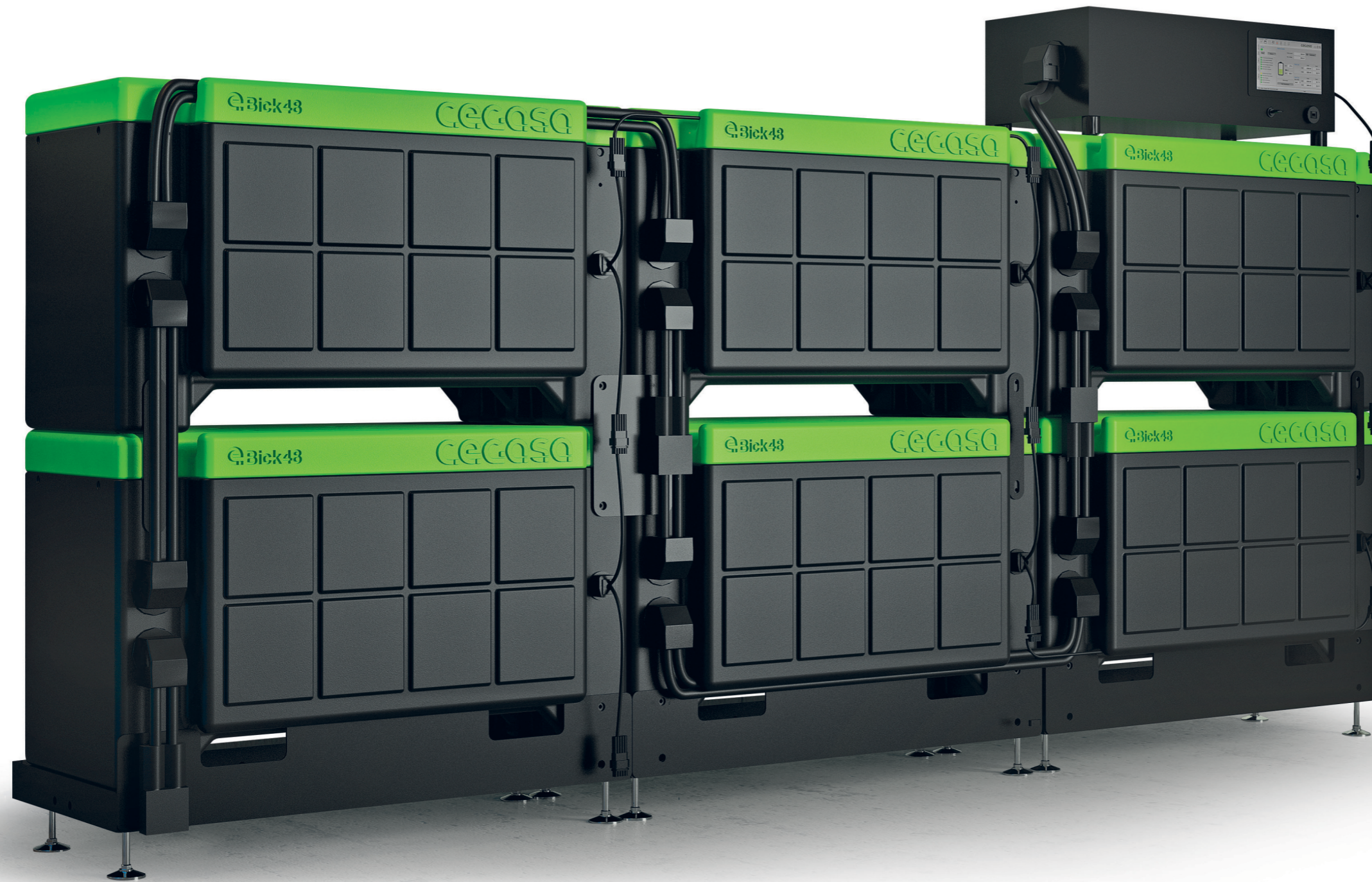
## E/Bick 280Pro

Modular high-energy density plug & play system for applications from 80 kWh to 4 MWh.



Energy you can trust

**Bornay** 



# e/Bick 280Pro

Discover the new **eBick 280 Pro**, the most versatile lithium-LFP option for energy storage. The ideal system for on-grid and off-grid commercial and industrial applications from 80 kWh to 4 MWh.

A modular, scalable solution that adapts to your needs and can be easily installed in less than an hour.

# The most cost-effective option



## Modular

*It adapts to your needs.*

eBick allows you to shape your storage system based on your energy needs. As easy as installing the number of modules you need.



## Scalable

*Your system grows with you.*

If your consumption increases, eBick grows with you. You can expand your installation by adding more modules. From 80 to 4 kWh, you set the limit.



## Compact

You will need half the space of other Lithium solutions and up to 5 times less than conventional lead ones.



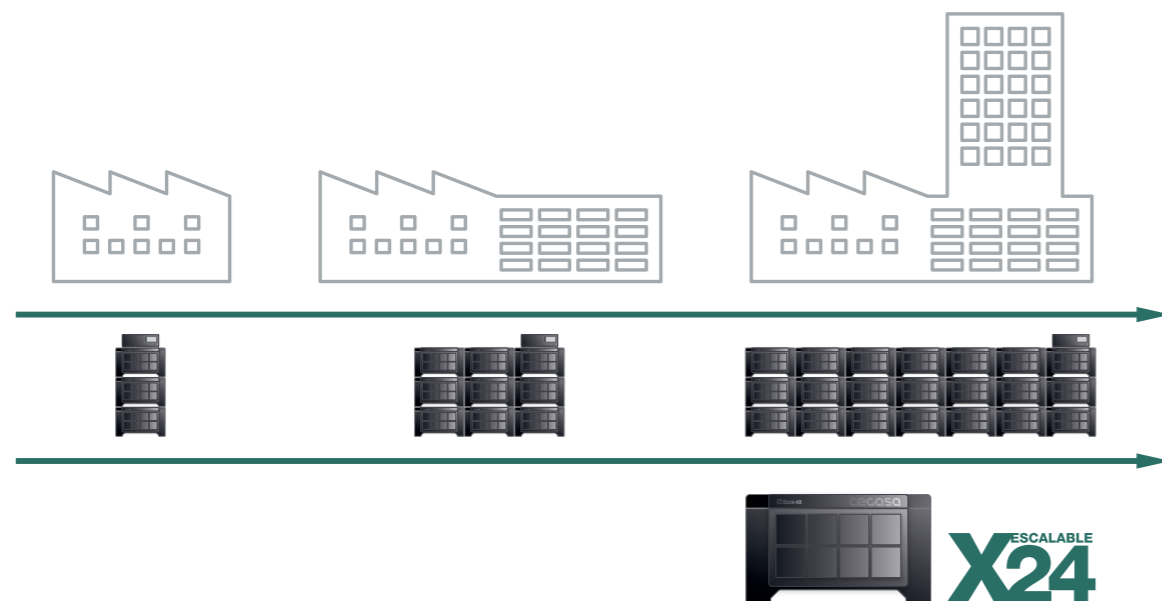
## One single battery for life

Lithium-LFP batteries from CEGASA ensure the highest number of cycles on the market, allowing you to use the same battery for the whole life of your installation. It provides 15 years useful service under heavy work conditions and up to 25 years under normal conditions.



## Eliminate 100% of your maintenance costs

No maintenance or upkeep is during the entire product life cycle.



# An easily-installed, modular, stackable system



## Plug & Play System

Simply place your eBick modules and connect them using the Anderson (parallel) and (serial) quick connectors. RJ45 communications connections.

An easily-installed system with high energy density that can be stacked up to four modules per column.



# Applications

eBick is the solution for the following functions:



## Power grid problems due to:

- The quality of the grid supply or power outages.
- Power contract limitations.

## Isolated installations

You can have energy where there is no grid supplypoint.

## Peak shaving

You can eliminate peak power demands.

## Load shifting

It allows you to shift power demand from daily peak hours to off-peak hours.

## Self-consumption

The ideal system to store the energy that you yourself produce.

## Electric car recharge

Support for the fast recharging infrastructure.

## Hybrid diesel/photovoltaic battery-charging systems

Reduced diesel consumption by optimizing generator use.

# SAT monitoring and remote service

Cegasa's Engineering Department can perform remotemonitoring and analysis of all the battery parameters by means of a router with internet connection.



Cegasa has developed user-friendly software that enables in-situ display of all the parameters provided by the BMS on a 7-inch touchscreen:

- Charge status
- Life-cycle status
- System current measurement
- String voltage measurement
- Temperature and voltage maximum and minimum measurements at both string and module levels
- Battery status (charge, discharge, balance, stand-by, etc.)
- It is also possible to connect and disconnect the contactor and to order equalization of the battery.

# Serie 280 Pro eBick module

## Battery Module eBick

Each eBick module includes 15 prismatic LFP-technology cells, the ideal option for stationary applications. Premium cells selected by CEGASA researchers in their own electrical and safety laboratories. To provide your system with the best performance and the longest life, a specific BMS has been designed for electrical and temperature control of each cell.



## Description of the battery - CEGASA eBick

General data	
Electrochemical	Lithium Iron Phosphate (LFP)
Cell type:	Prismatic
Electrical characteristics	
Rated module voltage	48 VDC
Minimum module voltage	42 VDC
Maximum module voltage	52,2 VDC
Rated capacity	280 Ah
Rated continuous charge current	140 A
Maximum continuous charge-discharge current	175 A
Recommended continuous discharge current	140 A
Peak discharge current (1-2min)	280 A
Power characteristics	
Life cycles (80% DoD)	>5000 cycles
Installed energy	13,44 kWh
Physical characteristics and protection features	
Dimensions (Width x Depth x Height)	762 x 405 x 448 mm (+2 mm)
Weight	105 Kgs.
Degree of protection	IP30
Communications	
Integration with inverter	Riello/ Ingeteam / Selectronic / Norvento
BMS (control and protection)	
Overload	OK
Over-discharge	OK
Short-circuit	OK
Over-current	OK
Over-temperature	OK
Passive balancing	OK
Installation conditions	
Recommended working temperature	From 15°C to 30 °C
Recommended working temperature	From -20°C to 55°C
Charging working temperature	From 0°C to 45 °C
Certificates	
CE Mark	*Low Voltage Directive (2014/35/UE)
Transport regulation	UN Test and Criteria, 38.3

## Control and protection module eBick

Each eBick modular system includes a protection and communication module. It includes current measurement, DC cut-off control and a 7" touchscreen HMI to display voltage, temperature, "SOC", "SOH", etc.) in addition to the CAN and Modbus communications module for connection to the inverter.



Protection and control module (Pcm) 100-480 Vdc 300 a



Protection and control cabinet (Pcc) 384-780 Vdc 300 a

General data	300 A	300 A
Rated current	300 A	300 A
Peak current	450 A	450 A
Power source	24 Vdc source self-supplied from string modules	24 Vdc source self-supplied from string modules
Customisation	Configurations of up to 864 Vdc and/or 500 A. Consult Cegasa	
Main components	Cegasa master or slave EMS (control system and string management)	
	500 A Contactor	
	Current measurement (LEM or board)	
	HMI (7" touchscreen)	
	Busbars	Master busbar
		Fuses for each intake or string module
	1 intake or module string	Customisable up to 18 intakes or module strings
Parallel string connection	Up to 18 strings by means of a combination of master and slave control modules or cabinets	
Physical characteristics and protection features		
Dimensions (Width x Depth x Height)	762 x 300 x 165 mm	600 x 800 x 300
Weight	10 Kg	45 Kg
Degree of protection	IP30	IP55
Communications	CAN and Modbus	



# Parallel280 Pro eBick module

## Battery Module eBick

Each eBick module includes 15 prismatic LFP-technology cells, the ideal option for stationary applications. Premium cells selected by CEGASA researchers in their own electrical and safety laboratories. To provide your system with the best performance and the longest life, a specific BMS has been designed for electrical and temperature control of each cell.



## Description of the battery - CEGASA eBick

General data	
Electrochemical	Lithium Iron Phosphate (LFP)
Cell type:	Prismatic
Electrical characteristics	
Rated module voltage	48 VDC
Minimum module voltage	42 VDC
Maximum module voltage	52,2 VDC
Rated capacity	280 Ah
Rated continuous charge current	140 A
Maximum continuous charge-discharge current	175A (275 A ≥ 2 modules)
Recommended continuous discharge current	140 A
Peak discharge current (1-2min)	280 A
Power characteristics	
Life cycles (80% DoD)	>5000 cycles
Installed energy	13,44 kWh
Physical characteristics and protection features	
Dimensions (Width x Depth x Height)	762 x 405 x 448 mm (+-2 mm)
Weight	105 Kgs.
Degree of protection	IP30
Communications	
Integration with inverter	Victron/SMA (Sunny Island)/Studer/Selectronic Compatible with major inverter brands
BMS (control and protection)	
Overload	OK
Over-discharge	OK
Short-circuit	OK
Over-current	OK
Over-temperature	OK
Passive balancing	OK
Installation conditions	
Recommended working temperature	From 15°C to 30 °C
Recommended working temperature	From -20°C to 55°C
Charging working temperature	From 0°C to 45 °C
Certificates	
CE Mark	*Low Voltage Directive (2014/35/UE)
Transport regulation	UN Test and Criteria, 38.3

## Control and protection module eBick

Each eBick modular system includes a protection and communication module. It includes current measurement, DC cut-off control and a 7" touchscreen HMI to display voltage, temperature, "SOC", "SOH", etc.) in addition to the CAN and Modbus communications module for connection to the inverter.



Protection and control module (Pcm) 48 vdc 300 a

Protection and control cabinet (Pcc) 48 vdc 500 a

Protection and control cabinet (Pcc) 48 vdc 1000 a

General data	300 A	500 A	1000 A
Rated current	300 A	500 A	1000 A
Rated power	14 kW	24 kW	48 kW
Peak current (1-2min)	450 A	700 A	1400 A
Peak power (1-2min)	21 kW	33 kW	57 kW
Power source	24 Vdc source self-supplied from string modules	24 Vdc source self-supplied from string modules	24 Vdc source self-supplied from string modules
Customisation	Configurations of up to 2,000 A per string. Consult Cegasa.		
Main components	Cegasa master or slave EMS (control system and string management)		
	500 A Contactor	1000A Contactor	
	Current measurement (LEM or board)		
	HMI (7" touchscreen)		
	Parallel connection of busbars		
	Includes fuse in the main busbar	Includes fuse in the main busbar	
1 intake or module string	Customisable up to 18 intakes or module strings	Customisable up to 18 intakes or module strings	
Parallel string connection	Up to 18 strings by means of a combination of master and slave control modules or cabinets		
Physical characteristics and protection features			
Dimensions (Width x Depth x Height)	762 x 300 x 165 mm	1000 x 800 x 300	1200 x 800 x 300
Weight	10 Kg	60 kg	90 kg
Degree of protection	IP30	IP55	IP55
Communications	CAN and Modbus		

