

DATASHEET

SUNBOX INDUSTRY

50-500kW



 FULL BACK-UP AND PEAK SHAVING SYSTEM

 REDUCED INSTALLATION TIMES

 SOLAR PLUG & PLAY

 ALL-IN-ONE

10
YEARS
TURBO ENERGY
WARRANTY

DATASHEET

SUNBOX INDUSTRY: MODEL

	SBI 50	SBI 100	SBI 150	SBI 200	SBI 250	SBI 300	SBI 350	SBI 400	SBI 450	SBI 500
PV String Input Data										
Max. DC Input Power (kW)	65	130	195	260	325	390	455	520	585	650
MPPT Range	450-850 V									
Max DC Input Voltage	1000V									
Start-up Voltage	180V									
No. of MPP Trackers	4	8	12	16	20	24	28	32	36	40
N° Strings Por MPPT	2									
PV Input Current	36A x N° independent MPPT									
Max. PV Isc	55A x N° independent MPPT									
Protections	Reverse Polarity Protection / Over Voltage Protection DC Cat II / Lightning Protection									

Battery Input Data

Battery Type	Li-Ion									
Battery Voltage Range	150-800 V									
Number of battery input	2	4	6	8	10	12	14	16	18	20
Max. Charging Current	50A x N° Battery Inputs									
Max. Discharging Current	50A x N° Battery Inputs									
Min Capacity in kWh	51,2	102,4	153,6	204,8	256	307,2	358,4	409,6	460,8	512
Max. Capacity in kWh	819	1638	2458	3277	4096	4915	5734	6554	7373	8192
(*) Battery Model	Lithium Series HV 5,1 kWh									
Protection	Overcurrent									

(*) Each storage tower has a capacity of 51.2 kWh

AC Output Data

Rated Power	50 kW	100 kW	150 kW	200 kW	250 kW	300 kW	350 kW	400 kW	450 kW	500 kW
Max. Power	55 kW	110 kW	165 kW	220 kW	275 kW	330 kW	385 kW	440 kW	495 kW	550 kW
Frequency and Voltage Output	50/60Hz,3L/N/PE 220/380Vac, 230/400Vac									
THD	<3%									
Max. Efficiency	0,976									
Euro Efficiency	0,97									
MPPT Efficiency	0,999									
Max. Back Up Power	50 kW	100 kW	150 kW	200 kW	250 kW	300 kW	350 kW	400 kW	450 kW	500 kW
Max. Peak Shaving Power	50kW	100 kW	150 kW	200 kW	250 kW	300 kW	350 kW	400 kW	450 kW	500 kW
Peak Shaving Capacity	Programmable									
Protections	Over Voltage CA Type III/Shortcircuit/Anti islanding									

Grid

SmartPort (Solar Production/Load) (A)	75,8/100	NO								
Max Current Gen Port (A)	90	NO								
Max Current Grid-Load	160A	250A	400A	630A	800A					

Grid Regulation

RD1699, VDE4105, IEC61727/62116, VDE0126, AS4777.2, CEI 0 21, ENS0549-1, G98, G99, C10-11, UNE217002, NBR16149/NBR16150

Safety Regulation

IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2

Dimensions

Dimensions	60 x 210									
Width	100+60T	200 + 60T	300 + 60T	480 + 60T	580 + 60T	680+ 60T	780 + 60T	900+ 60T	1000+ 60T	1100+ 60T

(*) T is the number of battery storage towers



CAUTION: READ THE INSTRUCTION AND INSTALLATION MANUAL BEFORE USING THE PRODUCT

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The specifications of the data sheet can be changed without prior notice.



SUCCESS STORY

MásyMás supermarkets. Electric vehicle charging points.

USAGE

Intelligent accumulation for use in low voltage EV chargers. Temporary uncoupling of EV chargers. Power support for EV chargers. Use of PV surpluses.



THE CHALLENGE

As a service to its customers, and in compliance with the applicable regulations in force, this supermarket network installs electric car parks in its car parks in order to provide its customers who use electric vehicles with medium-voltage EV chargers for them.

DESCRIPTION

By accumulating the solar power generation of the existing PV plant, the gap between the time of peak solar power generation and the time of peak power demand of the low voltage EV chargers can be bridged, so that this service can be covered by the solar power generation of the existing PV plant regardless of when customers need to charge their electric vehicles.

INSTALLED SUNBOX

It was concluded with the installation of a SunBox Industry with 50 kW of hybrid power and 66 kWh of storage to supply the recharging points.

SUCCESS STORY

Artisan Sauces Gil. PV self-consumption. Use of PV surpluses and BackUp mode.

USAGE

Maximise independence from the grid both through self-consumption and the use of accumulated surpluses. For production, there is a need for a BackUp security system to avoid production stoppages in the event of grid failure.



THE CHALLENGE

The client is a company in the food sector focused on the manufacture of gourmet products, being Supplier of Top3 national chain of food supermarkets. This company needed to protect itself from possible network outages.

DESCRIPTION

To maximise network independence and to have a permanent back-up of critical loads that protects the customer's production process, traceability and the cold chain in the event of network failures, a SunBox Industry is dimensioned to provide a back-up system by means of energy accumulation.

INSTALLED SUNBOX

The SunBox Industry configuration with 100 kW of hybrid power and 288 kWh of storage was chosen to protect the system from grid outages.

SUCCESS STORY

Energy storage for public lighting and for the municipal warehouse of Picassent town hall.

USAGE

Decoupling between PV production and night-time consumption + Peak shaving savings by not exceeding or lowering power.



THE CHALLENGE

Accumulation of surplus energy for public lighting at night. The aim is to use the surpluses and accumulation to supply the equipment used in the warehouse.

DESCRIPTION

With the implementation of the Sunbox Industry, it has been possible to take advantage of the surplus from the solar installation, accumulating energy to supply the use of energy and power various warehouse systems (computers, forklifts, palletisers, etc...).

INSTALLED SUNBOX

A Sunbox Industry has been connected, consisting of 50 kW of hybrid power and a storage capacity of 120 kWh capacity, which meets the above mentioned needs.

SUCCESS STORY

Energy storage in community of neighbours in Alfaz del Pi.

USAGE

Retrofit for surplus utilisation through accumulation.



THE CHALLENGE

The homeowners in this residential community did not make use of the photovoltaic surplus supplied by the On-Grid inverter. The aim was to make use of this surplus in order to be able to use the surplus energy when the solar production was not sufficient to supply all consumption.

DESCRIPTION

With the implementation of the Sunbox Industry together with the existing On-grid installation, it has been possible to store the excess production of the On-Grid inverter and to supply the consumption of all the owners of the community throughout the night when these registered their highest peaks, thus reducing the Peak Shaving.

INSTALLED SUNBOX

The community already had a 120 kWp installation connected to a 100 kW On-Grid inverter. A Sunbox Industry consisting of 50 kW of hybrid power and 200 kWh of storage capacity has been connected in parallel to the existing installation to accumulate the surplus energy in the batteries.

SUCCESS STORY

Republic of Congo Government. Off-grid Isolated rural area.

USAGE

Intelligent storage, off-grid, for public lighting and basic energy needs.



THE CHALLENGE

In an off-grid location, under the jurisdiction of the government of a country located on the African continent, the production generated by the existing photovoltaic plant needed to be managed both for daytime self-consumption and to accumulate the energy generated with two objectives: To consume energy at night and to have a BackUp as to protect critical loads both during the day and at night.

Complying at all times with the applicable regulations outside the EU.

DESCRIPTION

To work offgrid during the day and night without interruption, without access to any electricity grid and with the need for the critical loads not to run out of power; both day and night; using the solar energy generated by the two existing photovoltaic plants both for daytime self-consumption and to accumulate it in order to have a permanent back-up site, as well as to have sufficient power at night.

SUNBOX INSTALLED

2 × Sunbox Industry are installed. One with 50 kW of power and 50 kWh of storage and the other with 150 kW and 150 kWh.

SUCCESS STORY

Restaurant with shooting range facilities for training. Off-grid.

USAGE

Temporary decoupling between solar production and consumption in an off-grid installation designed to accumulate energy for decoupled use at night with the support of an electric generator.



THE CHALLENGE

The client is a isolated restaurant and a private sporty shooting club .

Needed to be able to accumulate its photovoltaic production in isolation; generated during daylight hours and in a specific location; in order to use it at night, and in this way supply power to the sports club's lighting constantly, making the most of solar energy and reducing both its cost per energy and its dependence on the grid.

DESCRIPTION

In order to be able to accumulate the daytime solar energy generated in the photovoltaic plant and to be able to use it at night, an intelligent accumulation system was required, as well as being able to use the existing generators to mitigate adverse weather conditions. The Sunbox Industry provides the necessary back-up and powers both the lighting and the shooting club restaurant.

INSTALLED SUNBOX

It was advised that the SunBox Industry with 50 kW of hybrid power and 33.6 kWh of storage was the most suitable system for this installation.

SUCCESS STORY

Repsol service station for shop support.

USAGE

Self-consumption and use of surpluses.



THE CHALLENGE

To make use of the surplus after self-consumption of solar energy generation from the photovoltaic plant at the Sagunto petrol station in Valencia.

DESCRIPTION

Energy-saving installation for petrol stations to optimise their self-consumption, make use of surpluses through storage and thus maximise savings on grid energy costs.

INSTALLED SUNBOX

With a 67 kW solar PV system and almost 100 kWh of battery storage, Turbo Energy's SunBox integrated solution for commercial and industrial projects has achieved another savings milestone at Repsol.

SUCCESS STORY

Public tender for the construction of a new school in Liria.

USAGE

Solar storage + BackUp + Emergency system.



THE CHALLENGE

Public school under construction that needs, in order to comply with regulations, both a relief site approved by the Department of Education and a system for accumulating surplus solar energy after the self-consumption of solar energy generated by the photovoltaic plant planned for the school.

DESCRIPTION

According to current and applicable regulations, all educational facilities must have a back-up site to protect critical loads in the event of a grid failure.

The tender also requires an accumulation system that manages the surplus after the self-consumption of the solar energy generated by the planned photovoltaic plant. With the use of the SunBox Industry, which is approved by the Ministry of Education as a backup site for public education facilities, the accumulation of solar energy serves as a back-up for critical loads in the event of a possible grid failure, so that a single system covers the dual need for accumulation of solar surpluses and as a backup site.

INSTALLED SUNBOX

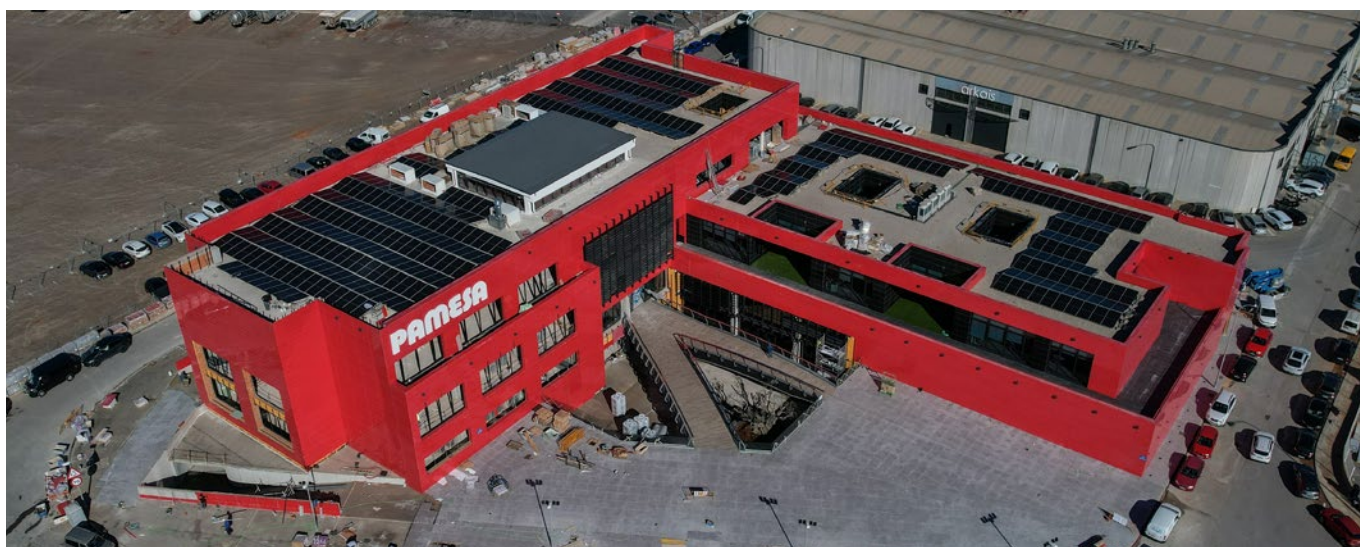
SunBox Industry with 100 kW of hybrid power and 50 kWh of storage for the management, storage and optimisation of the solar energy generated by the planned photovoltaic plant.

SUCCESS STORY

PAMESA Ceramic Group. PV Self-consumption. Exploiting Surpluses, Solar Accumulation and Peak Shaving.

USAGE

Self-consumption and Peak shaving, as every day there were energy needs with very high peak demand.



THE CHALLENGE

Leading industrial group in the ceramics sector dedicated to the design, manufacture, distribution and marketing of ceramic products.

For organisational and production reasons, there was a very high peak power demand every day in the client's two production centres, which exceeded the power contracted with the distributor, thereby increasing the cost of energy on the bill.

In addition, the aim was to maximise self-consumption at its central offices.

DESCRIPTION

Saving costs due to specific daily moments of very high power demand that exceeded the contracted power. It also aims to maximise self-consumption at its headquarters by optimising the management of its solar energy generation thanks to the existing photovoltaic plant.

INSTALLED SUNBOX

A SunBox Industry with 100 kW of hybrid power, 100 kW of ongrid power and 120 kWh of storage and a SunBox Industry with 50 kW of hybrid power and 108 kWh of storage were installed, one for each production centre.

In order to maximise the self-consumption of the central offices, a SunBox Industry with 50kW of hybrid power, 200 kW of ongrid power and 25 kWh of storage was installed.

SUCCESS STORY

Repowering of the ice factory ITV Ice Makers.

USAGE

Savings through Peak Shaving by not exceeding or lowering power. Optimise management of existing PV plants, accumulating surpluses and repowering them.



THE CHALLENGE

Use the surplus after self-consumption of solar power generation from the existing photovoltaic plant, repowering it in order to increase grid independence.

DESCRIPTION

Installation to upgrade the existing photovoltaic plant of a leading manufacturer of refrigeration equipment in order to optimise its self-consumption, utilise surpluses through storage and thus maximise savings in grid energy costs. Consumption is optimised with the installation of the Sunbox Industry.

INSTALLED SUNBOX

This is the third phase of expansion of a system that already had 2 Kaco inverters of 87 kW power and 12 SMA inverters (6 of 7 kW and 6 of 10 kW). To this system we added an SBI of 100 kW of power and 400 kWh of accumulation.

SUCCESS STORY

Spanish Army. Heavy consumer of electricity-Offgrid.

USAGE

Isolated. Day and night consumption for self-consumption in army installations.



THE CHALLENGE

The customer needed sufficient power both to manage its self-consumption and to have the necessary accumulation at two different points in its location, so that its critical loads would always be supplied both during the day and at night, as well as being able to work OFFGRID at night as normal.

DESCRIPTION

With our SunBox Industry, the Army has been able to operate in off-grid locations using intelligent storage and meeting its two main objectives: to consume energy at night and to have a BackUp to protect critical loads both day and night.

SUNBOX INSTALLED

2 × SunBox Industry with 100 kW of hybrid power and 150 kWh of storage were able to provide sufficient capacity, both in terms of power and storage, to meet these needs.