

New energy, a whole new story

Flexible, light and resilient,
resisting the harshest
environmental conditions.
Solbianflex photovoltaic modules
are made with cells that convert
more than 24% of sunlight into
electricity.

**All the energy to live your
passions without limits.**

SOLBIAN
FREEDOM POWERED BY THE SUN


MADE IN ITALY

[SOLBIAN.EU](https://solbian.eu)



Many good reasons to choose Solbian

Product quality, durability and maximum performance, always.



- ✓ Because we guarantee the quality of the product and its duration in time.
- ✓ Because our panels are very resilient, thin and extraordinarily flexible, able to adapt to curved surfaces, such as the deck of a boat or the roof of a car.
- ✓ Because our panels are ultra-lightweight: about 2 kg per square meter, compared to 12 kg and more of traditional panels.
- ✓ Because we manufacture the SP series, with the most efficient solar cells on the market: high power even in very small dimensions.
- ✓ Because our panels are customized to the client's requirements: clients can choose the number of cells, colour, shape and electrical characteristics to obtain a result that suits their needs perfectly.
- ✓ Because the ease of installation, both permanent and removable, is one of the strengths of Solbian: from structural adhesive to steel eyelets, all the different fixing methods provide easy installation.
- ✓ Because we offer a wide range of accessories, designed and manufactured for several different applications.
- ✓ Because Solbian panels have been tested in extreme conditions by great heroes of sailing: Giovanni Soldini, Ambrogio Beccaria, Boris Herrmann and many others.
- ✓ Because our products are certified according to IEC 61215, IEC 61730 and IEC 61701 (salt mist). Solbian has also obtained ISO 9001 Quality, OHSAS 18001 Safety and ISO 14001 Environmental certifications.



A sailboat is shown from a low angle on the deck, looking towards the mast and the sea. The sun is low on the horizon, creating a warm, golden glow. A large, dark solar panel array is visible in the foreground, reflecting the sunlight. The sailboat's mast and rigging are visible, and the ocean stretches out to the horizon.

Something new under the Sun

Solbianflex

No task is too hard for Solbianflex, with a wide range of power available. Three different series using three different technologies: SP, SR and SX. All with crystalline silicon cells, the most efficient and proven on the market, and using lightweight and flexible encapsulation materials.

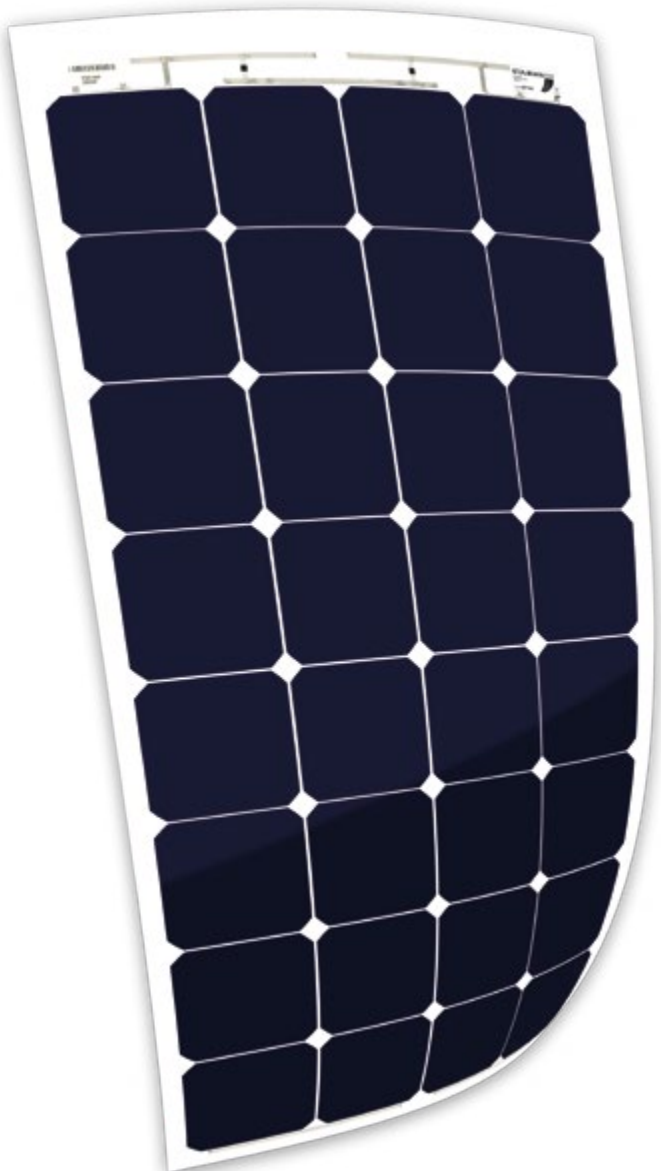
Three levels of power, all winners

Photo: SP 130 panel on the Vindo 32 owned by Maya and Aladino of the YouTube channel "Sailing Magic Carpet"

The photovoltaic set

Panel

Lightweight and extraordinarily flexible, able to adapt to curved surfaces, such as the deck of a boat.



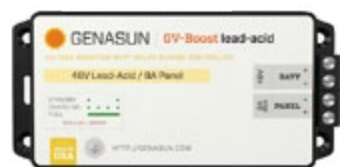
Cables

For the wiring, provided at required length.



Controller

Perfect combination between the solar panel and the battery to be charged



Connectors

Absolutely waterproof, safe and easily removable electrical connections



Power at the highest level

SP Series



The SP series is at the top of the range, thanks to the use of Maxeon back-contact solar cells, able to convert up to 25.5% of sunlight into electricity and with a pleasant appearance thanks to the electrical contacts hidden on the back. Back-contact cells represent the most advanced technology on the market, and make the SP Solbian panels the highest-efficiency flexible panels.

	SP 144	SP 130	SP 118 L	SP 118 Q	SP 104	SP 78	SP 52 L	SP 52 Q
Power (W)	144	130	118	118	104	78	52	52
Length (mm)	1490	1363	1236	855	1109	855	1109	601
Width (mm)	546	546	546	800	546	546	292	546
Thickness (mm)	2	2	2	2	2	2	2	2
Weight (kg)	2	1,8	1,6	1,6	1,5	1,1	0,8	0,8
N. of cells	4x11 (44)	4x10 (40)	4x9 (36)	6x6 (36)	4x8 (32)	4x6 (24)	2x8 (16)	4x4 (16)

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Super rugged series

SR Series



The monocrystalline high efficiency SR cells are sandwiched by two patented metallic grids. The metallic grid on the front of the cell is specifically designed to maximize the current harvesting. On the rear of the cell a second grid provides extreme resistance to cracks and over-bending. The grids essentially form a double shield that acts as a conducting reinforcement to the solar cell. Extreme crack and bend tolerance are built in, providing a guarantee of high efficiency and unmatched durability.

	SR 240	SR 180 L	SR 180 Q	SR 160	SR 120	SR 80 L	SR 80 Q	SR 70
Power (W)	240	180	180	160	120	80	80	70
Length (mm)	1381	1543	1058	1381	1058	1381	734	1220
Width (mm)	1008	694	1008	694	694	371	694	371
Thickness (mm)	2	2	2	2	2	2	2	2
Weight (kg)	3,3	2,6	2,6	2,3	1,8	1,2	1,2	1,1
N. of cells	6x8 (48)	4x9 (36)	6x6 (36)	4x8 (32)	4x6 (24)	2x8 (16)	4x4 (16)	2x7 (14)

Aesthetics, reliability and price

SX Series



In the SX series the monocrystalline solar cells are electrically connected using ultra-thin copper wires that form a very fine mesh on the cell surface, resulting in thousands of contact points. This alternative to the standard bus-bar method allows a higher module power and increases the energy yield. A technology optimally suited to flexible modules, thanks to its intrinsic insensitivity to micro-cracks, that are the most common cause of energy loss in solar modules. Another advantage is a reduced sensitiveness to shading, pushed to the extreme in the Guardian (G) models where several bypass diodes are inserted thanks to an innovative cell layout. The new connection technology, together with the use of high efficiency silicon cells, make SX panels especially powerful and reliable.

	SX 240	SX 180 L	SX 180 Q	SX 180 G	SX 160	SX 120	SX 120 G	SX 80 L	SX 80 Q	SX 70
Power (W)	240	180	180	180	160	120	120	80	80	70
Length (mm)	1381	1543	1058	1075	1381	1058	754	1381	734	1220
Width (mm)	1008	694	1008	1008	694	694	1016	371	694	371
Thickness (mm)	2	2	2	2	2	2	2	2	2	2
Weight (kg)	3,3	2,6	2,6	2,6	2,3	1,8	1,8	1,2	1,2	1,1
N. of cells	6x8 (48)	4x9 (36)	6x6 (36)	6x6 (36)	4x8 (32)	4x6 (24)	6x4 (24)	2x8 (16)	4x4 (16)	2x7 (14)

Freedom made-to-measure

Custom panels

With great versatility, Solbianflex panels are able to meet the most demanding requirements, even in the most unusual installations. They can be mounted and removed with ease, thanks to several accessories, and adapted to various surfaces.



Photo: Custom ISP panels on the rowboat of the team "Nuts over the Atlantic", Talisker Whisky Atlantic Challenge 2017.

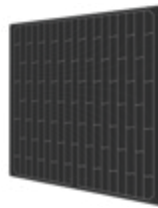
The panel

Cell



SP

No grid lines on the front of the cell means no obstacles to the absorption of sunlight. Maximum efficiency and great aesthetics.



SR

The metallic grid on the front of the cell is specifically designed to maximize the current harvesting. More power and high reliability.



SX*

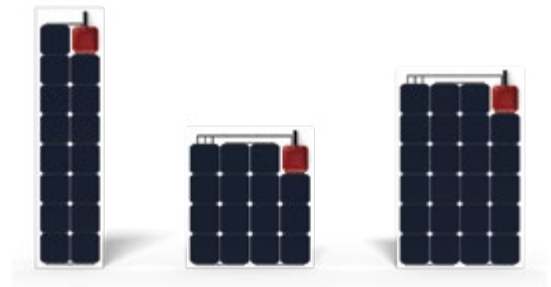
Highly conductive copper wires create a large number of connection points. A redundancy that improves the resilience of the cell.

Formula



Solar panel + charge controller

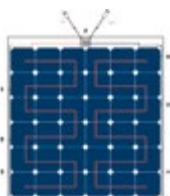
The golden rule for marine applications suggests "one panel, one controller". Solbian offers some of the most advanced charge controllers on the market, for optimal solar power management in all conditions.



ALLinONE

Solar panel and charge controller. All the electronics you need are already packed into the rugged waterproof box: a sophisticated MPPT controller capable of boosting the voltage to match with your battery pack. With the ALLinONE solution, panels can be combined simply by connecting them directly to your battery, each one being completely independent from the others. Available for 12 and 24 Volt batteries (and customizable on request), both lead and lithium.

Layout



*Guardian

Panels made with SX cells can be offered with a modified cells topology. Thanks to the way Day4Energy™ solar cells are electrically connected, a larger number of bypass diodes can be integrated in the panel. The result is a panel that is far less sensitive to shading, a clear advantage in all kind of installations but especially on sailing boats, where shadows are unavoidable.

The aesthetics

Size and shape



Size

All our products can have customized size:

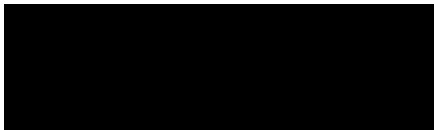
- Width: 150 mm - 1000 mm
- Length: 150 mm - 1800 mm



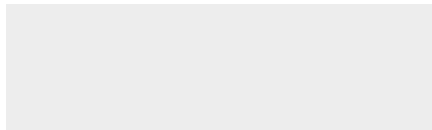
Shape

All our panels can have customized shapes to best adapt to the context for which they are intended and to make the most of the available spaces.

Backsheet



Black



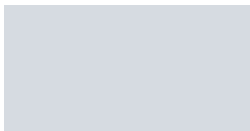
White



Transparent

Graphics

A masking layer placed over the solar cells changes the visual appearance of the solar panel, but keeps the cells efficiency largely unaffected.



Pearl



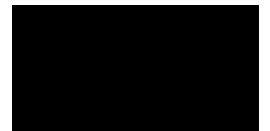
Grey beige



Terracotta



Corinthian blue



Full black

Finishing



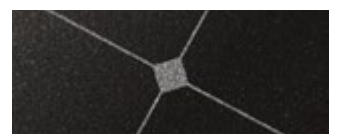
Glossy



Matte



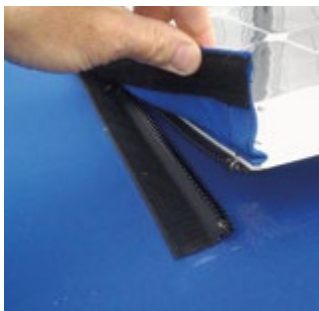
Textured



Antiskid

The final touch

Fixing options



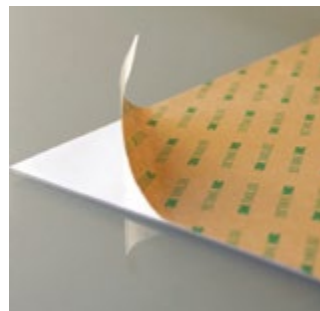
Zip and touch fastener

Easy to install and easy to remove, zipper and VELCRO® Brand hook and loop fastener are suitable for the bimini of your boat as well as for your camping tent.



Eyelets

The Solbianflex panels can be equipped with special stainless steel eyelets along the edge that allow easy installation with ropes or screws.



Adhesive

The fixing option with double-sided structural adhesive protects the panel from possible theft as it is irremovable.



LOXX® snap fasteners

LOXX® snap fasteners are suitable for fabric and sheets of plastic material as well as rigid structures like the hull of a boat.

Connections



Front or rear Junction box

The Junction Box (JB) provides a safe and sturdy electrical connection. Solbian offers premium Junction Boxes guaranteed to withstand weathering for over twenty years. The JB can be applied on the back of the panel or on its front.



Monopolar junction box

Original MC4 connectors designed to be applied on the panel surface. A solution that simplifies transport and electrical connection. Extension cables in the desired lengths and connectors are supplied.



Surface Mounting

For an invisible electrical connection, two insulated wires and a specifically designed cable gland are placed on the rear of the panel, clearly showing the electrical polarity and ensuring good contact. An alternative to the Junction Box, particularly suitable for the structural integration with adhesive.

Charge controllers



Solbian

The new 15 A MPPT Solbian solar charge controller is designed for mid-sized solar systems, it can handle up to 250 W of PV power when charging at 12V or up to 500 W for a 24V battery system. This controller is ideal for marine and mobility applications with its auxiliary output for charging a second lithium or lead acid battery. The Wi-Fi connectivity allows the controller to network and sync with other Solbian solar charge controllers and work as a single large controller, communicate with the Solbian touch-screen remote display, or be monitored from your smartphone.



Genasun

Genasun was founded by a group of engineers from MIT and all the charge controllers are equipped with the Maximum Power Point Tracking (MPPT) technology to reach a conversion efficiency greater than 99%. Not all MPPTs are the same, Genasun technology tracks the MPP 15 times per second to capture each single Watt from the panel. Genasun are the lighter, smaller, and most efficient solar charge controllers in the market. Buck or Boost technology, they are designed for lithium and lead-acid batteries and tested for the marine industry.



Victron

Victron Energy provides power solutions to marine, industrial, automotive, mobility, off-grid and solar markets around the world. Victron SmartSolar charge controllers enable automatic battery voltage recognition, intelligent battery management by load shedding, ultra-fast response times to solar irradiance and multi stage charging algorithms. Victron MPPTs are unique, having solar power limiting built in, which ensures the output power of a system will never exceed the maximum rating of the controller.



Western

Western CO. MPPT charge controllers have special integrated features, like: automatic detection of battery 12 V - 24 V, protection against deep battery discharge, polarity reversal, overload protection, and are suitable for both lithium batteries and lead-acid batteries.

A large display shows the operation status of the controller and all the most important electrical values which make them versatile solutions for every use.



WhisperPower

WhisperPower provides a wide range of solar charge controllers, PWM and MPPT, for any type of application. Suntrack MPPT Solar Charge controllers are designed for charging batteries to a 12, 24, or 48 VDC. The advanced MPPT technology applied ensures a fast and complete charge, even under cloudy and fluctuating weather circumstances. The Suntrack line comes with a monitoring APP and Bluetooth connection.

Control your boat wherever you are

Remotely monitor all Solbian sensors and charge controllers from one place



Display

Designed for flush mounting, this modern 4-inch touchscreen display will provide you with all the information you need to monitor your boat remotely. You will be able to access charge controller data, detailed battery monitoring and control your boat via sensors. Wireless, fully integrated and easy to use thanks to the wifi connection and the intuitive user interface, this display can be used to keep an eye on your boat at all times.

Control unit and Sensors

Solbian offers four different types of Wi-Fi sensors: camera, flame sensor, smoke sensor and porthole sensor to monitor the open/closed state. All devices are equipped with a rechargeable lithium battery and communicate with the control unit that sends data via Wi-Fi to the Solbian display for local monitoring or to the Cloud, via the integrated 4G module, for a complete web monitoring. Your boat in real time for added peace of mind.



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