

## ....the solar panels of choice... and a must for long distance cruising

**Imagine, every time you board your yacht, all the battery power is immediately available. Satellite navigation, computer, refrigerator, engine starting and all the on board comforts and safety features for a day cruise or trip on the high seas. You too can enjoy that convenience with the right solar battery charging system.**



*SunWare solar panels are seawater resistant*

SUNWARE solar panels have the highest power output to surface area ratio of semi-flexible panels on the market. Their efficient polycrystalline cells convert sunlight to power into your battery so you can have the luxury of cool drinks and keep essential equipment like the depth sounder running too.

They have been specifically designed for marine environments and so are built to the very highest quality standard of materials and workmanship. Each solar panel is individually tested to industry standards and this is backed up by a 3 year warranty.

### **SUNWARE Solar Panels are robust, they feature:**

- A clear EVA surface which thermally seals the photovoltaic cells to protect them against water ingress and is bonded to the stainless steel substrate.
- A V4 marine grade stainless steel substrate that is totally resistant to atmospheric corrosion and salt water. The back of the panel has a white powder coat finish for extra protection.
- A structured Teflon coated surface that can be walked on in deck shoes and is designed to reduce the possibility of slipping even in wet weather.
- SUNWARE panels are slim line and flexible up to 3% (=3cm over 1m) across their length so they can be conveniently placed on curved solid surfaces.
- Each panel is supplied with 3m of seawater-tight cable and 36W and above panels also include a diode junction box kit. The latter can be installed at a convenient location before the regulator or battery to prevent reverse power from the battery in darkness
- SUNWARE Solar panels are supplied for 12V battery charging. Multiple units can be connected in parallel to increase ampere rating or in series to increase voltage to 24V. (24V panels are available to order)



*SUNWARE Marine 24W & 36W panels, shown above, are also available in a 70W model.*

### **SUNWARE High Efficiency**

**SUNWARE solar panels are particularly efficient at converting sunlight into power as all models are made up of 39 or 40 cells, a feature that has 3 distinct advantages over standard 36 cell marine solar panels:**

- 1. They run cooler and therefore deliver better performance, especially in summer months and in hotter climates.**
- 2. The additional cells assist in compensating for lost voltage in overcast & low light conditions delivering power for longer than solar panels with fewer cells.**
- 3. The additional cells keep the operating temperature lower thus avoiding a reduction in efficiency and allowing the panels to be installed directly onto the surface without the need for rear ventilation. 36 cell panels experience a fall in efficiency in high temperatures.**

**SUNWARE panels are available in two ranges:**

**Marine Modules**

SUNWARE'S 24W & 36W Marine modules are ideal for boats with low to medium battery charging requirements, They effectively maintain & replenish batteries whilst away and typically replace some of the power consumed whilst on board. The 70W Marine module is suited to live-aboards and those spending holidays on board, assisting in keeping the refrigerator and other appliances running.



Panel shown using edge mounting clips, alternatively fix with adhesive

Structured surface reduces danger of slipping when wet



**Compact Marine Modules**

The Compact range is truly space saving and with modules available in the high power range these are the module of choice for live-aboards. 2 or more units or even alongside a Rutland Windcharger these modules will reduce engine running time for live-aboards. Available in 48W & 69W the Compacts use 39 cells ensuring the best possible ratio of power generated to surface area.

*Compact 69W & 48W*

**SunWare Range and Specifications:**

Model:	Peak Watts:	Cell Quantity:	Max Current @13.8V	Open Circuit V:	Part no:	Dimensions mm. Net/Packed Weight
<b>Hi-Power Range</b>						
SunWare Marine 70	70W	40	3.3A	24.6V	CA-10/70	638x891x5mm 6.1/ 8.5 kg
SunWare Compact 69	69W	39	3.3A	24V	CA-10/69	600x890x5mm 5.4 / 7.7 kg
SunWare Compact 48	48W	39	2.2A	24V	CA-10/68	780x460x5mm 3.5 / 5 kg
<b>Mid Power Range</b>						
SunWare Marine 36	36W	40	1.65A	24.6V	CA-10/67	459x638x5mm 3.1/ 4.4 kg
SunWare Marine 24	24W	40	1.1A	24.6V	CA-10/66	459x467x5mm 2.3 / 3.2 kg

When you invest in SUNWARE photovoltaic panels you'll get a comfortable feeling about the power available on board your yacht. At Marlec we have been designing wind and solar energy systems since 1979 for marine and land based applications and we would be pleased to discuss your specific power requirements. Call us today for professional advice!

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