



The future of mobile energy  
is personal solar power



## G24i Dye Sensitized Solar Module for Outdoor Applications

### Powered by G24i – Outdoors

G24i's patented dye-sensitized solar cell (DSSC) technology offers a lightweight, robust energy solution under a wide range of lighting conditions. Each panel is constructed in such a way as to maximize the available ambient light, converting it to useful electricity which is then made available for such things as charging batteries.

The underlying process for this technology, whereby DSSC can produce electricity, relies upon a sensitizing dye, much like colored food dyes, adsorbed onto the surface of a very thin porous, ceramic-like sponge made of titanium dioxide (TiO<sub>2</sub>), a commonly available material. The dye traps light, which is just another form of energy, and then uses this energy to inject an electron into the TiO<sub>2</sub>. These electrons become available for producing useful electricity when the TiO<sub>2</sub> is connected through an external load—such as a battery, light or other electrical device—and then closing the circuit so that the electrons are returned back to the dye.

### PRODUCT SPECIFICATIONS

Length: 254mm (10") inclusive of laminate for mounting

187mm (7.4") active aperture area

Width: 200mm (7.9") inclusive of laminate for mounting

140mm (5.5") active aperture area

Thickness: 1.8mm (.05")

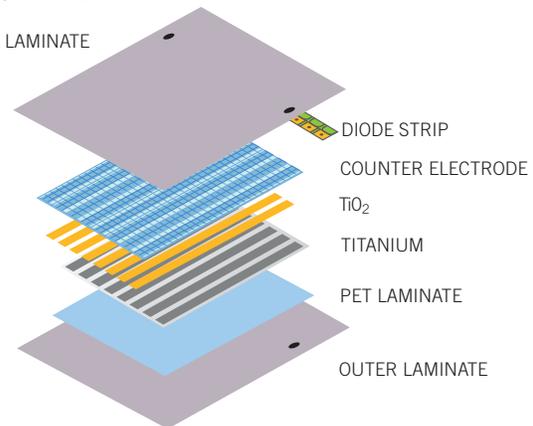
Weight: 50g (.6oz) including laminate and diodes

Operating temperature: 10 to 50 degrees C  
50 to 122 degrees F

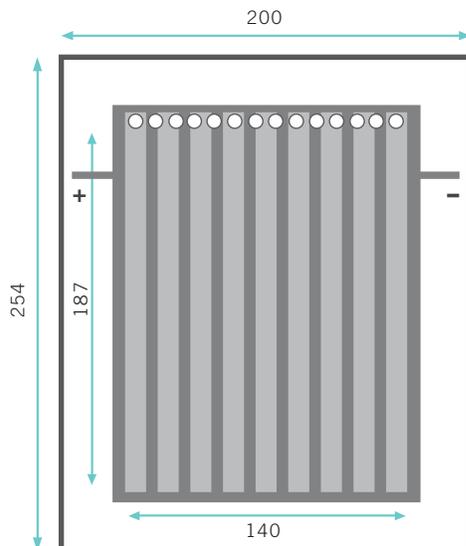
Storage temperature: -10 to 55 degrees C  
14 to 131 degrees F

### NANO MATERIAL

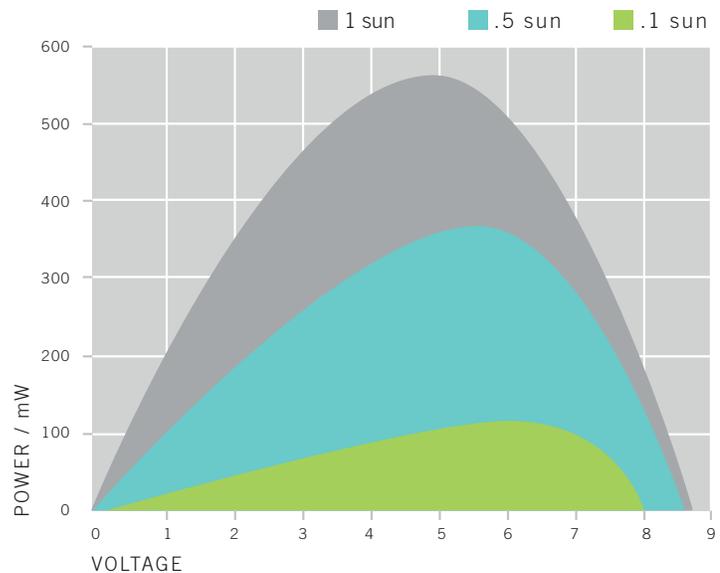
OUTER LAMINATE



### G24i THIN FILM MODULE



### TYPICAL OUTDOOR PERFORMANCE



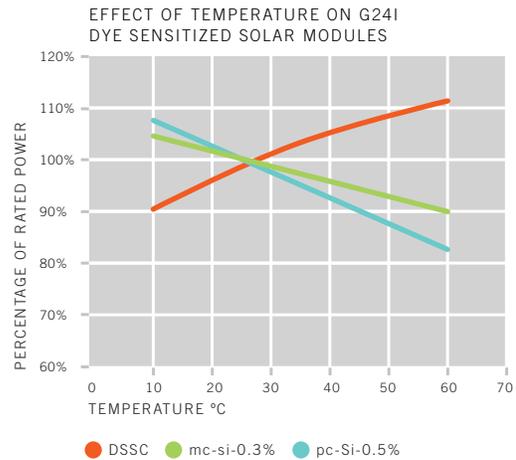
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## FEATURES

- Highly flexible: Tested to withstand flexing over 10,000 times around a 25mm radius with no measurable drop in performance.
- Durable: Because no glass components are used, modules are non-breakable.
- Thin: Module adds minimal amount of thickness to any product (approximately the thickness of a credit card)
- Lightweight: At 50 grams
- Water resistant: Exposure to a heavy downpour does not affect performance.
- Operates in broad range of lighting conditions: The G24i module captures light from dawn to dusk.
- High-temperature performance: Enhanced power generation at actual operating temperatures.
- Bypass diodes: Provide module protection and enhance yield in shaded conditions.
- Warranty: 1 year



## BENEFITS

### Broad Light Spectrum Functionality

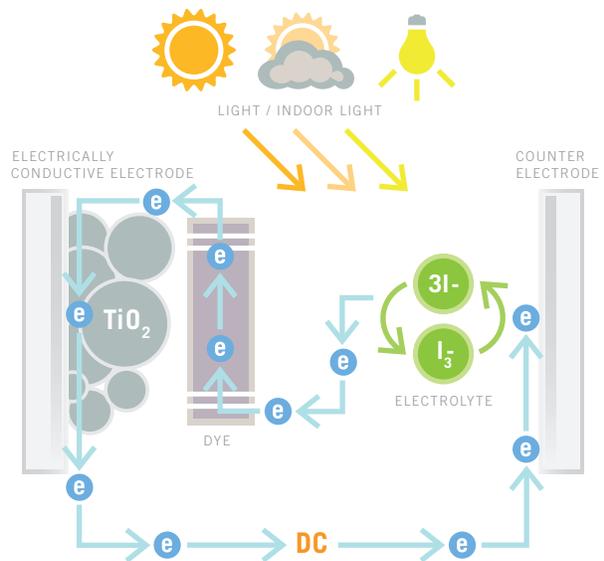
The G24i module designed for outdoor use will not only generate power in a wide range of sunlight conditions, but also generates power even indoors under fluorescent lights.

### Withstands Above-Average Temperatures

G24i technology outperforms alternate technologies in hot climates. For products that might be left in vehicles or other hot environments, G24i powered products will deliver higher, more consistent performance.

### Green Alternative

G24i powered products reduce or eliminate the need to use disposable batteries. Products that incorporate a G24i module can produce and use their own renewable energy, providing a maintenance free product that reduces landfill waste and carbon footprint.



MINIMUM OUTPUT PROVIDED BY THE G24I OUTDOOR MODULE:

PARAMETER	SYMBOL	LIGHT INTENSITY* SUNS			UNIT
		0.1	0.5	1	
OPEN CIRCUIT VOLTAGE	Voc	6.9	7.8	8.0	V
SHORT CIRCUIT CURRENT	Isc	20	77	140	mA
OPERATING VOLTAGE	Vmp	3.8	4.78	4.55	V
OPERATING CURRENT	Imp	16	62	100	mA
MAXIMUM POWER	Pmax	70	320	500	mW
OPERATING TEMPERATURE	Top	10-50/50-122			°C/F
STORAGE TEMPERATURE	Tst	-10-55/14-131			°C/F

\*SOLAR SIMULATOR – 1 SUN = 1000 Wm<sup>-2</sup>



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