

# UNI-SOLAR®



## Commercial/Industrial Systems

Lightweight, easily installed, solar electric solutions that can be integrated with a variety of roofing materials.



## Residential Systems

SmartRoof® turnkey systems. Complete residential solar electric systems and solutions.



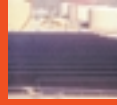
## Consumer Products

A complete line of advanced products for the marine, camping and recreational markets.



## Off-grid and Remote Applications

Electricity for remote areas of developing countries.



## Special Projects

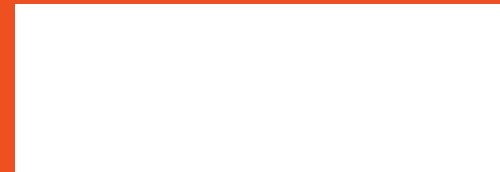
Engineered solutions for oil pumping, telecommunications and water irrigation.

## Corporate Sales & Marketing Office:

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# UNI-SOLAR®

## SOLAR ENERGY PRODUCTS



# STANDARD PRODUCT PORTFOLIO

# UNI-SOLAR®

## WHY UNI-SOLAR?

Most applications aren't designed to allow for additional loads. Yet, most PV systems use frame-mounted glass panels, which are unattractive and heavy, requiring extra support

That's why **UNI-SOLAR** standard products can be so valuable to you. Our unique photovoltaic technology is lightweight, durable, and flexible, and can be integrated into a variety of applications. **UNI-SOLAR** PV products provide more real energy than crystalline panels of the same power rating (based on independent studies\*) \*Source: NREL, ECN, and TISO. Little or no maintenance is required for ensuring the quantity of power delivered, and our modules come with up to a 20-year warranty on power output.

**UNI-SOLAR** is the world leader in thin-film solar technologies. It's a company with years of experience in photovoltaics and is backed by a U.S. technology leader in renewable energy, Energy Conversion Devices, which holds 350 U.S. patents and 800 foreign patents. Our technology has proven itself over decades and under the most extreme conditions imaginable, including satellites, ocean buoys and military applications.

Choosing **UNI-SOLAR** standard products is one of the best business decisions you'll ever make.

## RETURN ON INVESTMENT

With **UNI-SOLAR** products, you change the equation from "Solar = Investment" to "Solar = Return on Investment." That's because when you invest in this proven, effective technology, it will actually save you a lot of money. It's lightweight, thin and flexible, so it won't break or crack. And **UNI-SOLAR** modules are constructed to deliver more energy even on cloudy days.

## USAGE EXAMPLES

US-64 Solar Panel	3 US-64 Panels
Wattage	192
Amperage	11.64
A-Hrs / Day**	52

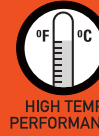
Usage Examples Per Day:	
Use 2 20-watt lamps for 4 hours	12.80
Listen to radio for 3 hours	3.00
Run fan for 4 hours	3.60
Run water pump for 45 minutes	3.75
Make 1 pot of Coffee	13.75
<b>Total</b>	<b>36.90</b> A-Hrs/Day

US-64 Solar Panel	4 US-64 Panels
Wattage	256
Amperage	15.5
A-Hrs / Day**	70

Usage Examples Per Day:	
Use 2 20-watt lamps for 4 hours	12.80
Listen to radio for 3 hours	3.00
Run fan for 4 hours	3.60
Run water pump for 45 minutes	3.75
Make 1 pot of Coffee	13.75
Watch 19" Color Television for 2 hours	16.80
<b>Total</b>	<b>53.70</b> A-Hrs/Day

During the first 8-10 weeks of operation, electrical output exceeds specified ratings. Power output may be higher by 15%, operating voltage may be higher by 11% and operating current may be higher by 4%. Electrical specifications (±10%) are based on measurements performed at standard test conditions of 1000 W/m2 irradiance. Air Mass 1.5, and Cell Temperature of 25°C after long-term stabilization. Maximum system open-circuit voltage not to exceed 600 VDC. Specifications subject to change without notice.

\*\*Based on 10% loss at the solar modules. Calculation based on 5 hours of sunlight in optimal (modules south facing, tilt-angle matches latitude, modules are clean and not shadowed) conditions. Does not include system component losses.



### PRODUCTS FOR CURVED SURFACES

5-32 watts



#### APPLICATIONS

- RV Battery Charging
- Marine Battery Charging
- Lighting • Radios • Stereos
- Refrigerators • Fish Finders • Water Pumping

**UNI-SOLAR FLX** line of Flexible Solar Battery Chargers can be mounted on curved surfaces such as hatch covers, decks and vehicle roofs or tied down on sail covers, dinghies or canvas awnings. An important use of the **FLX** battery charger line is for battery maintenance to improve battery system reliability and extend battery life. **FLX** battery chargers are flexible, reliable and cost-effective for many applications.



**UNBREAKABLE +**  
**LIGHTWEIGHT**

### PRODUCTS FOR FIXED SURFACES

3-116 watts



#### APPLICATIONS

- Village Power
- Water Pumping
- Battery Charging
- Parks and Recreation
- Electric Fence Charging
- Telecommunications • Telemetry
- Outdoor Lighting • Security Lighting
- Traffic Control Signals • Remote Homes
- Grid-Connected Systems • Bus Shelters

**UNI-SOLAR** framed panels are for permanent, fixed position mounting with optimum tilt, wind resistance and exposure to sunlight. These glass-free, lightweight, unbreakable modules can be utilized in a wide variety of applications from fence charging to telecommunications.

The larger framed panels are often used as building blocks in photovoltaic arrays, which can be assembled to meet virtually any load.



Photo Courtesy of Solar Century (UK)

### PRODUCTS FOR PORTABILITY

15 & 30 watts



#### APPLICATIONS

- Battery Charging
- Hikers • Hunters • Climbers
- Professional Photographers
- Emergency power (lighting or other)
- Portable Power for: computers, communications, field radio, mobile phones or GPS

**UNI-SOLAR** portable folding solar battery chargers convert sunlight directly into electricity using **UNI-SOLAR** Triple Junction Technology. The portable PV-modules are extremely rugged, and their unique design makes them easy to carry and deploy.

The **UNI-PAC™** can be dropped, stepped on, packed and redeployed, while continuing to operate. Designed to meet requirements for durability, performance and reliability, the **UNI-PAC** features a strong, long-lasting front cover made of ETFE.

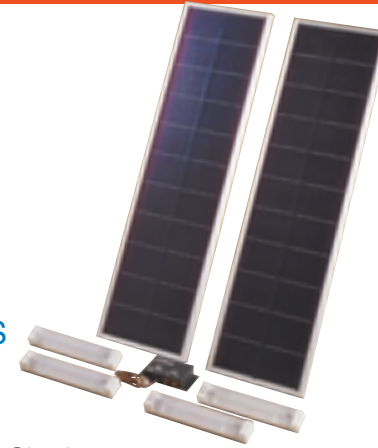


Photo Courtesy of Solar Century (UK)

The tough nylon fabric covering of the **UNI-PAC** allows the unit to be folded to a convenient book size, for easy storage and transportation.

### PRODUCTS FOR REMOTE LIGHTING

32 & 64 watts



#### APPLICATIONS

- Battery Charging
- Construction Sites
- Camp Sites • Tool Sheds
- Emergency Standby Power
- Surveying Sites • Isolated Buildings
- Utility Sheds • Garages • Remote Homes

**UNI-KIT™** solar lighting systems are designed for use in remote homes, cabins, construction sites and other remote areas without access to the power grid.

The **UNI-KIT** is a durable lighting system providing extended lighting hours. Simple plug-in connections make it easy to install. A basic power controller manages the system making it easy to use. The versatile system can also power a 12 volt radio or TV.



**MORE Amp-hrs. +**  
**LOW LIGHT PERFORMANCE**