UNI-SOLAR®

Bekaert ECD Solar Systems LLC

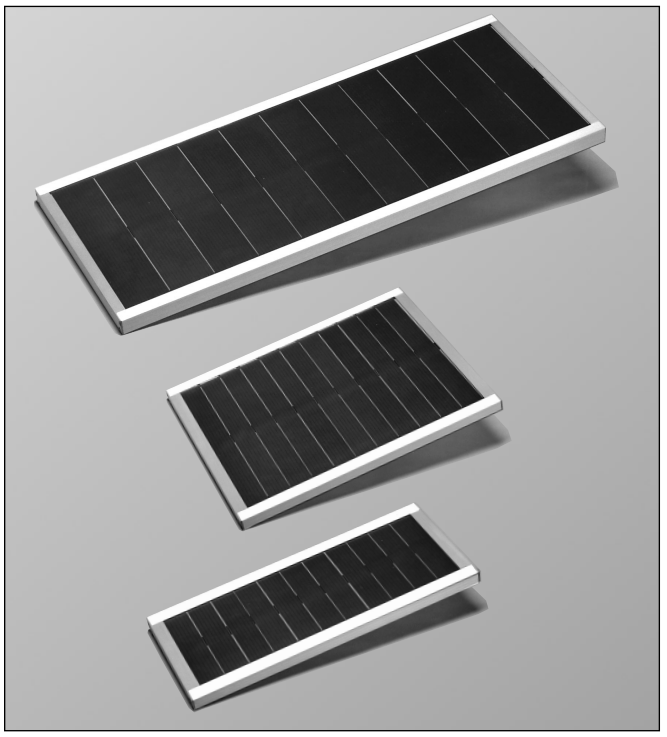
Specification Sheet

Models: US-21
US-11
US-5

- **Modules Rating: 21, 11, 5 Watts**
- **Triple Junction Silicon Solar Cells**
- **Unbreakable Construction**
- **Polymer Encapsulation - No Glass**
- **Anodized Aluminum Frame**
- **Bypass Diodes For Shadow Tolerance (US-21, US-11)**
- **Ten Year Limited Warranty**
- **UL Listed**

UNI-POWER ™

Solar Electric Modules



Each *UNI-POWER* solar electric module utilizes the proprietary Triple Junction silicon solar cells of United Solar. These cells are made in a roll-to-roll deposition process on a continuous roll of stainless steel sheet metal. The result is a unique, flexible, lightweight cell.

The modules are exceptionally durable. They are encapsulated in UV stabilized polymers and framed with anodized aluminum. A coated Galvalume steel backing plate provides stiffness. The polymer encapsulation includes EVA and fluoropolymer Tefzel®, a DuPont film.

Bypass diodes are connected across each cell, allowing the modules to produce power even when partially shaded. Each module has a weather resistant junction box designed to accept 1/2" conduit. These modules are appropriate for all applications from simple single module requirements to high voltage grid-connected installations.

Triple Junction Technology

The heart of the new *UNI-POWER* modules is the Triple Junction silicon solar cell unique to United Solar. Each cell is composed of three semiconductor junctions stacked on top of each other. The bottom cell absorbs the red light; the middle cell absorbs the green light and the top cell absorbs the blue light. This spectrum splitting capability is the key to higher efficiency.

Bekaert ECD Solar Systems LLC

Bekaert ECD Solar Systems LLC is a joint venture of United Solar Systems Corp. and Bekaert. United Solar manufactures the *UNI-SOLAR*® product mix marketed and sold by Bekaert ECD.

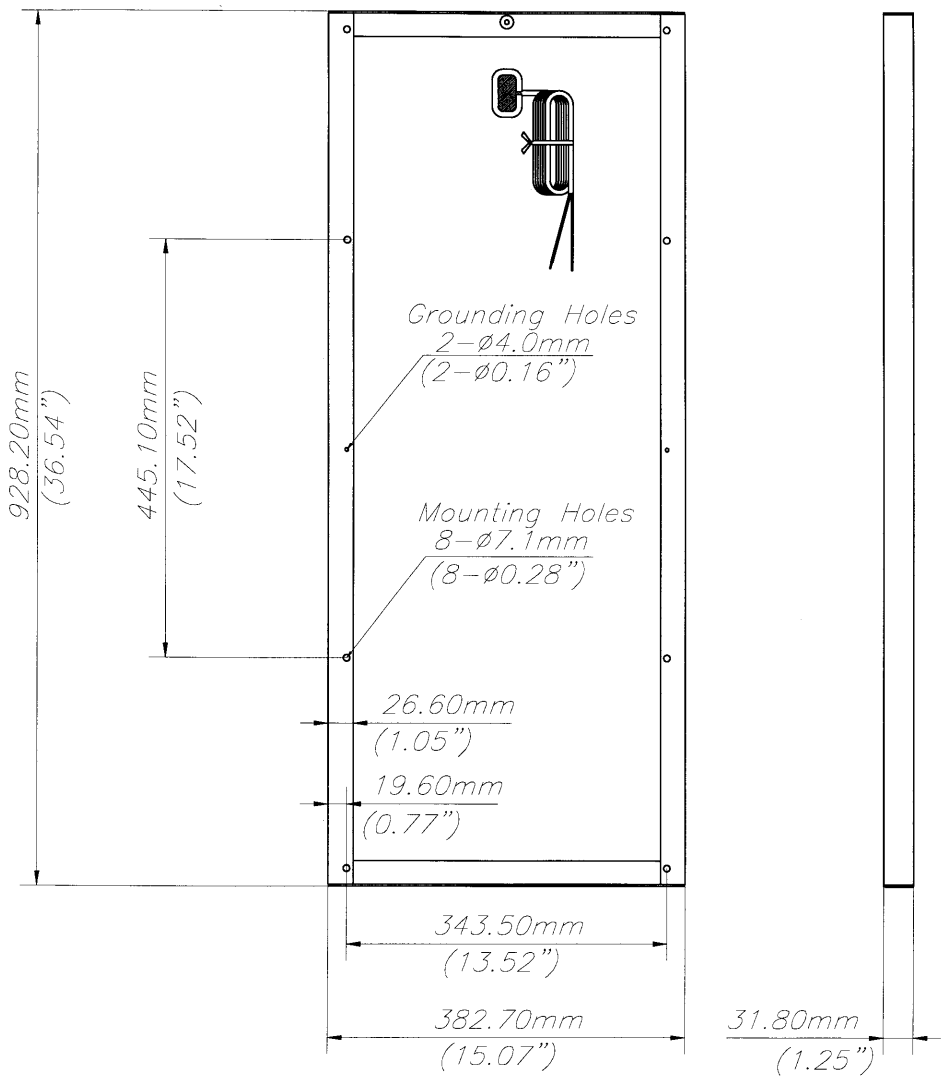
Village power
Water pumping
Telecommunications

Recreational vehicles
Traffic control signals
Remote homes

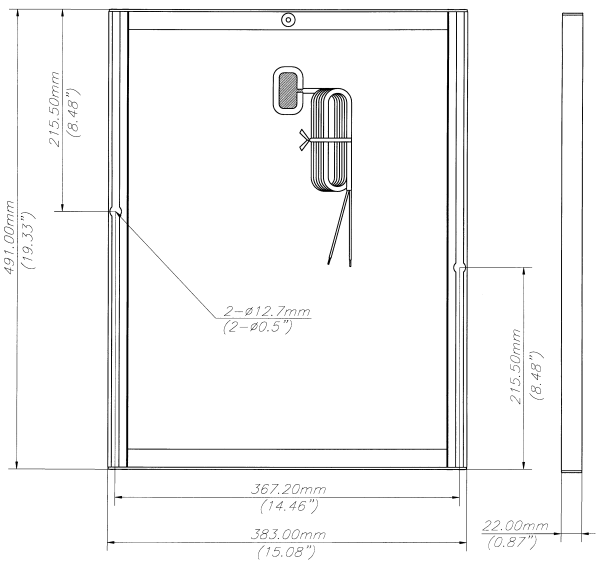
Security lighting
Parks & recreation
Grid-connected systems

Dimensions

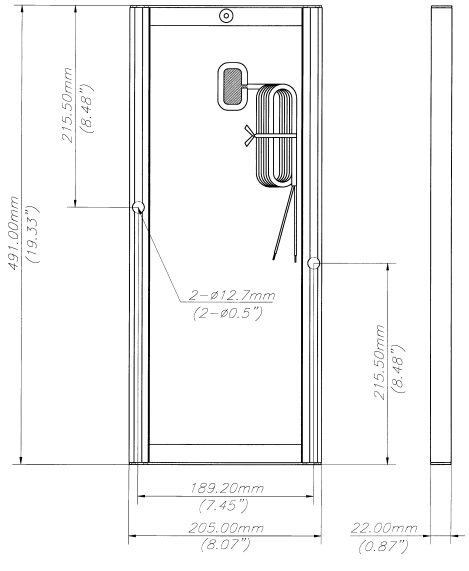
US-21



US-11



US-5



Specifications

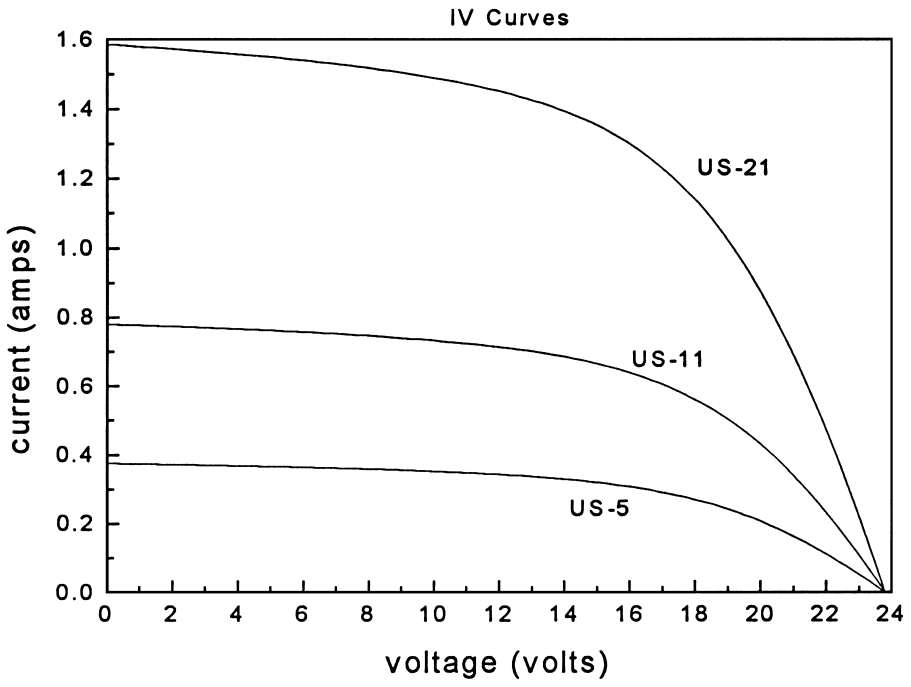
	US-21	US-11	US-5
Rated Power (Watts)	21	10.3	5.0
Operating Voltage (Volts)	16.5	16.5	16.5
Operating Current (Amps)	1.27	0.62	0.30
Open Circuit Voltage (Volts)	23.8	23.8	23.8
Open Circuit Voltage (Volts) at -10˚C and 1250 W/m^2	27.1	27.1	27.1
Short Circuit Current (Amps)	1.59	0.78	0.37
Short Circuit Current (Amps)* at 75˚C and 1250 W/m^2	2.10	1.02	0.49
Series fuse rating (Amps)	3.0	1.5	0.75
Minimum blocking diode (Amps)	3.0	1.5	1.0
Weight (lbs./kgs.)	6.6/2.99	3.6/1.63	2.5/1.13

During initial 8-10 weeks of operation, the module has higher electrical output than rated output. The output power may be higher by 15%, the 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/m^2 irradiance, Air Mass 1.5, and Cell Temperature of 25˚ C after long-term stabilization. Performance may vary up to 10% from rated power due to low temperature operation, spectral and related effects.

Maximum system open circuit voltage 600 VDC.

* Refer to section 690-8 of the National Electric Code for an additional factor of 125% which may be applicable.



Electrical Characteristics of US-21, US-11 and US-5 Modules at Standard Test Conditions of 1000 W/m^2 of AM 1.5 Irradiance and Cell Temperature of 25˚C.

Specifications subject to change without notice.

UNI-SOLAR®

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Triple Junction™ Technology