

# PowerTilt™



## Key Attributes

<b>Weight</b>	2.06 lbs per square foot (10.06 kg/m <sup>2</sup> )
<b>Power Rating</b>	Industry leading 144 watts per panel
<b>Wind Rating</b>	120 mph (193 kph)
<b>Tilt</b>	15 degrees for increased performance
<b>Energy Yield</b>	10-20% more than crystalline
<b>Roof Penetration</b>	None
<b>Roof Attachment</b>	Various non-penetrating attachment mechanisms depending on roof type.
<b>Warranty</b>	Limited power output warranty: 92% at 10 years; 84% at 20 years; 80% at 25 years (of minimum power). 5-Year limited product warranty.

The *UNI-SOLAR PowerTilt* photovoltaic panel is available to solar integrators and installers. Please contact one of our many partner companies to purchase your integrated solar roofing solution today.

## Global Contact Information

**Global Headquarters**  
Auburn Hills, MI USA  
info@uni-solar.com

**European Headquarters**  
Paris, France  
franceinfo@uni-solar.com

**Italian Sales Office**  
Verona, Italy  
italyinfo@uni-solar.com

**German Sales Office**  
Mainz  
europeinfo@uni-solar.com

**Spanish Sales Office**  
Barcelona  
spaininfo@uni-solar.com

To learn more about *PowerTilt* and other *UNI-SOLAR* products, please call **1.800.528.0617**, or visit us at **uni-solar.com**

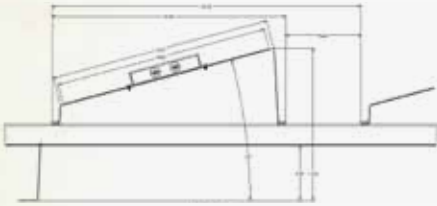
## Concrete-Ballasted Attachment



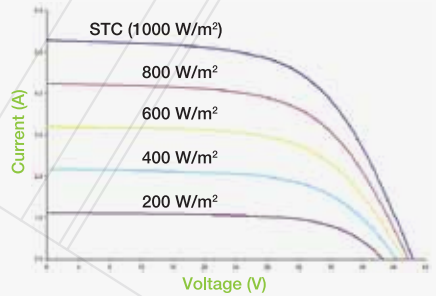
PowerTilt photovoltaic panels can be applied with a simple, concrete-ballasted attachment, adjustable to conform to uneven rooftop surfaces.

## Electrical Specifications

PV GCR: 0.66; SHADING GCR: 0.78  
DIMENSIONS: 22.50 N-S 219.25 E-W  
AREA PER TILT PAN: 33.83 SQ. FT.



IV Curves at various Levels of Irradiance at Air Mass 1.5 and 25°C Cell Temp.



### STC

(Standard Test Conditions)  
(1000 W/m<sup>2</sup>, AM 1.5, 25°C Cell Temp.)

Maximum Power (P<sub>max</sub>): 144 W  
Voltage at P<sub>max</sub> (V<sub>mp</sub>): 33.0 V  
Current at P<sub>max</sub> (I<sub>mp</sub>): 4.36 A  
Short-circuit Current (I<sub>sc</sub>): 5.3 A  
Open-circuit Voltage (V<sub>oc</sub>): 46.2 V  
Maximum Series Fuse Rating: 10 A

### NOCT

(Nominal Operating Cell Temp.)  
(800 W/m<sup>2</sup>, AM 1.5, 1 m/sec. wind)

Maximum Power (P<sub>max</sub>): 111 W  
Voltage at P<sub>max</sub> (V<sub>mp</sub>): 30.8 V  
Current at P<sub>max</sub> (I<sub>mp</sub>): 3.6 A  
Short-circuit Current (I<sub>sc</sub>): 4.3 A  
Open-circuit Voltage (V<sub>oc</sub>): 42.2 V  
NOCT: 46 °C

### Temperature Coefficients

(at AM 1.5, 1000 W/m<sup>2</sup> irradiance)

Temperature Coefficient (TC) of I<sub>sc</sub>:  
0.001/K (0.10%/°C)

Temperature Coefficient (TC) of V<sub>oc</sub>:  
-0.0038/K (-0.38%/°C)

Temperature Coefficient (TC) of P<sub>max</sub>:  
-0.0021/K (-0.21%/°C)

Temperature Coefficient (TC) of I<sub>mp</sub>:  
0.001/K (0.10%/°C)

Temperature Coefficient (TC) of V<sub>mp</sub>:  
-0.0031/K (-0.31%/°C)

$y = y_{\text{reference}} \cdot [1 + TC \cdot (T - T_{\text{reference}})]$

### Notes:

1. 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%.

2. Electrical specifications tolerance for P<sub>max</sub> is +/-5% and for other parameters is +/-10%. Electrical specifications are based on measurements performed at standard test conditions of 1000 W/m<sup>2</sup> irradiance, air mass 1.5, and cell temperature of 25°C (per ASTM E892) after long-term stabilization.

3. Actual performance may vary up to 10% from rated power due to low temperature operation, spectral and other related effects. Maximum system open-circuit voltage not to exceed 600 VDC (NEC rating).

4. Specifications subject to change without notice.