



SOLAR STIK®

Category: Power Generation

# Solar Venture 320W Kit

Hard Case Item # 19-1000012

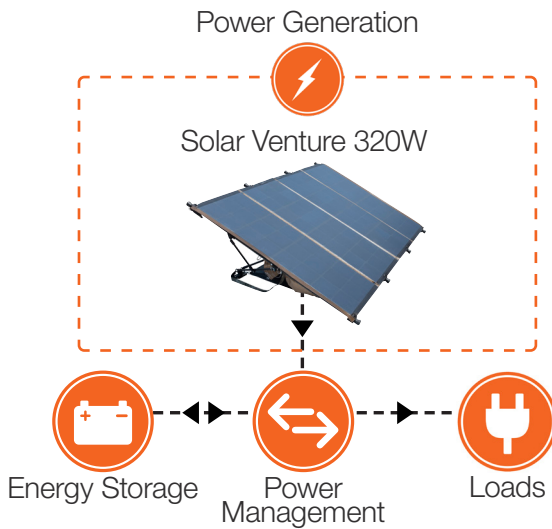
Soft Case Item # 19-1000013

## Solar at the Ready

The Solar Venture 320W features high-efficiency photovoltaic (PV) cells in a rugged setup built to withstand extreme environments. The solar array deploys in minutes and comes in a man-portable transport case. Deployment and breakdown are easily manageable by one person, and the rack design allows for maximum exposure to sunlight.

## How a Solar Expedition Works

Sunlight is absorbed by the array's PV panels. These panels turn the sunlight into DC current that is funneled through an appropriate power manager to charge batteries and/or to power loads.



## Features

- Selected as the solar array for multiple military programs
- ~1.6 kWh daily power generation\*
- Lightweight construction with accordion style stand for ease of deployment and storage
- Minimal deployment footprint
- Scalability and modularity features allow for seamless expansion and integration into multiple platforms
- Designed to MIL-STD-810H
- Built with non-glare, corrosion resistant and UV resistant materials
- Embedded bypass diodes minimize power loss when shaded
- Blocking diode allows multiple arrays to be connected in parallel without potential for reverse current flow
- Excellent power to weight ratio

\*Based on five hours of solar irradiance



Hard transport case with open lid



Soft transport case





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## General

Solar Panel Construction	<ul style="list-style-type: none"> <li>Back Side: Tan fabric</li> <li>Panel Support: Carbon fiber composite</li> </ul>
Panel Stand Construction	Stainless steel/Aluminum/Injection molded plastic
Transport Soft Case Construction	<ul style="list-style-type: none"> <li>Hard Case: Durable MIL-SPEC plastic with foam inserts and carrying handles</li> <li>Soft Case: Water resistant nylon fabric with carrying strap</li> </ul>
Ground Securing	Nylon meshes with tie downs under sandbags
Solar Cable	6AWG wire with MIL-SPEC connectors
Deployment Angles	30°, 60°
Certifications	<ul style="list-style-type: none"> <li>Berry Amendment compliant</li> <li>Solar modules designed to UL 1703 and IEC-61215</li> <li>Designed to MIL-STD-810H</li> </ul>
Warranty	1-year materials and workmanship

## Solar Panel @ 77 °F (25 °C)

Rated Power	320 W (+/-2W)
Rated Voltage ( $V_{MP}$ )	58.75 V
Open Circuit Voltage ( $V_{OC}$ )	68.45 V
Rated Current ( $I_{MP}$ )	5.79 A
Short Circuit Current ( $I_{SC}$ )	6.28 A
Cell Type	Monocrystalline silicone
Cell Efficiency	> 24.1%
# of Solar Cells	96
Power Circuitry	Series
Bypass Diode	16 embedded
Blocking Diode	1 in junction box
Temperature Co-efficiency	-0.3%C

## Connections

Solar Panel	(1) MC4 male and (1) MC4 female
Solar Cable	(1) MC4 male and (1) MC4 female for connection to solar panel (1) Bayonet for solar array output

## Environmental

Operating Temperature	-25 °F to +140 °F (-31.7 °C to +60 °C)
Storage Temperature	-40 °F to +160 °F (-40 °C to +71.1 °C)
Maximum Wind Load	<ul style="list-style-type: none"> <li>30° front, up to 75 mph</li> <li>30° back, up to 65 mph</li> <li>60° front, up to 70 mph</li> <li>60° back, up to 60 mph</li> </ul>

## Weights and Dimensions (L x W x H)

Solar Panel Weight	12.9 lb (5.86 kg)
Solar Panel Dimensions	<ul style="list-style-type: none"> <li>Deployed (Open): 65.125 x 43.25 x 0.2 in (165.4175 x 109.855 x 0.508 cm)</li> <li>Stowed (Folded): 16.5 x 43.25 x 1.5 in (41.91 x 109.855 x 3.81 cm)</li> </ul>
Panel Stand Weight	13.0 lb. (5.91 kg)
Panel Stand Dimensions	<ul style="list-style-type: none"> <li>Deployed @ 30°: 65.25 x 36 x 23.5 in (165.735 x 91.44 x 59.69 cm)</li> <li>Deployed @ 60°: 65.25 x 23.5 x 36 in (165.735 x 59.69 x 91.44 cm)</li> <li>Stowed: 47 x 13.375 x 3.5 in (119.38 x 33.97 x 8.89 cm)</li> </ul>
Deployment Footprint	<ul style="list-style-type: none"> <li>16.3 square feet @ 30°</li> <li>10.65 square feet @ 60°</li> </ul>
Transport Weight	Hard case: <ul style="list-style-type: none"> <li>64 lb (29.03 kg)</li> </ul> Soft case: <ul style="list-style-type: none"> <li>40 lb (18.14 kg)</li> </ul>
Transport Dimensions	<ul style="list-style-type: none"> <li>Hard Case: 49.7 x 21.5 x 8.87 in (126.24 x 54.61 x 22.53 cm)</li> <li>Soft Case: 50 x 17 x 8 in (127 x 43.18 x 20.32 cm)</li> </ul>

## Includes

- (1) 320W Foldable Solar Panel (PN: 14-1000037)
- (1) Solar Venture Array Stand (PN: 14-1000033)
- (1) 30' Solar Cable (PN: 16-0800102)\*
- (1) Ground Securing Kit (PN: 12-1000008)\*\*
- (1) Transport Case (hard or soft case)
  - Hard Case, Solar Venture (PN: 14-1000035)
  - Soft Case, Solar Venture (PN: 14-1000040)

\* Solar Cables in different lengths, sizes, and types also available

\*\* Includes (1) 30° mesh, (1) 60° Mesh, and (7) sandbags

## Recommended Components and Accessories



24VDC Power Hub 3500  
Item # 20-0302206



24VDC Li BOS 2400-120  
Item # 20-0205201



24VDC Solar Bayonet Extension Cable  
25 ft, 6AWG - Item # 13-0000057  
50 ft, 6AWG - Item # 13-0000066  
75 ft, 6AWG - Item # 13-0000067

