



SOLAR STIK®

Category: Power Generation

Solar Venture 320W

Hard Case Item # 19-1000010

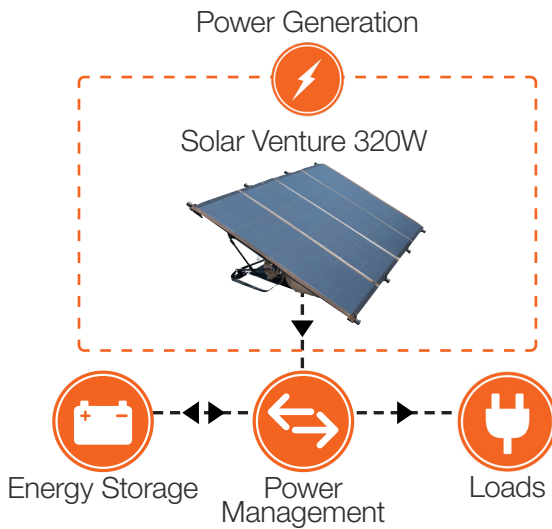
Soft Case Item # 19-1000011

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.



Hard transport case with open lid



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



Soft transport case





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General

Solar Panel Construction	<ul style="list-style-type: none"> Back Side: Tan fabric Panel Support: Carbon fiber composite
Panel Stand Construction	Stainless steel/Aluminum/Injection molded plastic
Transport Soft Case Construction	<ul style="list-style-type: none"> Hard Case: Durable MIL-SPEC plastic with foam inserts and carrying handles Soft Case: Water resistant nylon fabric with carrying strap
Ground Securing	Nylon meshes with tie downs under sandbags
Deployment Angles	30°, 60°
Certifications	<ul style="list-style-type: none"> Berry Amendment compliant Solar modules designed to UL 1703 and IEC-61215 Designed to MIL-STD-810H
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
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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"> 30° front, up to 75 mph 30° back, up to 65 mph 60° front, up to 70 mph 60° back, up to 60 mph

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"> Deployed (Open): 65.125 x 43.25 x 0.2 in (165.4175 x 109.855 x 0.508 cm) Stowed (Folded): 16.5 x 43.25 x 1.5 in (41.91 x 109.855 x 3.81 cm)
Panel Stand Weight	13.0 lb. (5.91 kg)
Panel Stand Dimensions	<ul style="list-style-type: none"> Deployed @ 30°: 65.25 x 36 x 23.5 in (165.735 x 91.44 x 59.69 cm) Deployed @ 60°: 65.25 x 23.5 x 36 in (165.735 x 59.69 x 91.44 cm) Stowed: 47 x 13.375 x 3.5 in (119.38 x 33.97 x 8.89 cm)
Deployment Footprint	<ul style="list-style-type: none"> 16.3 square feet @ 30° 10.65 square feet @ 60°
Transport Weight	<p>Hard case:</p> <ul style="list-style-type: none"> 56 lb (25.40 kg) 64 lb (29.03 kg) with 30 ft Solar MC4/Bayonet Cable <p>Soft case:</p> <ul style="list-style-type: none"> 32 lb (14.5 kg) 40 lb (18.14 kg) with 30 ft Solar MC4/Bayonet Cable
Transport Dimensions	<ul style="list-style-type: none"> Hard Case: 49.7 x 21.5 x 8.87 in (126.24 x 54.61 x 22.53 cm) Soft Case: 50 x 17 x 8 in (127 x 43.18 x 20.32 cm)

Includes

- (1) 320W Foldable Solar Panel (PN: 14-1000037)
 - (1) Solar Venture Array Stand (PN: 14-1000033)
 - (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)
- * 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 Cable**

35 ft, 6AWG - Item # 16-0800102

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

