

Nishati Expedition™ 450 Portable Solar Array

450-Watt+ Military-grade Portable Solar Array for Off-grid Solar & Hybrid Power

Ruggedized, lightweight solar array - packages into small volume & generates power in minutes

Four tri-fold solar panels & roll-able stand package into a single waterproof and rugged case

Designed to maximize solar energy capture, minimize size and weight, simplify use



Scalable, Compact, Rugged

- **Modular and scalable:** Plugs into solar and hybrid controllers for up to 5kW of power
- **Transportable:** Lightweight; small volume
- **Durable:** Glass-free; Mil-std 810G qualified; Revolutionary Merlin™ solar panel interconnect metallization for superior lifetime performance and reliability
- **Non-reflective:** Maximize light capture, reduce visual signature

Features

- Power 455 watts
- <44 lbs. solar array
<74 lbs. in transport case
- Case dimensions: 48" x 17" x 9" (~4ft³)
- Deployed foot print <4 ft. x 10 ft.
- 50 mph wind rating using sandbags
- Set solar angles of 0°, 30°, and 45°
- Set up or pack-up in < 5 minutes

- Integrated Rack carrying handles along with optional soft case or back-pack for panels and accessories
- Spread load for tactical vehicle and aircraft transport
- Spread-load for man-pack:
 - Rack <16 lbs.
 - Panels 6.6 lbs.



Available directly from Nishati™ or Search GSA Advantage for Portable Array Module

Nishati Expedition™ 450

Nishati Expedition 450M Technical Specification

General Description	
Nishati Expedition 450M Part Number	217651
Rated Power at 25°C, AM1.5, and 1000 Watts/m ²	455 Watts
Four 114W Foldable Solar Arrays (24 cells each)	217286M
Total Weight (Roll-able Array, Solar Panels, Case, Etc.)	73.5 lbs.
Solar Panel Weight Total (6.6 lbs. per Solar Panel)	26.4 lbs.
Roll-able Stand Weight	16 lbs.
Deployment Time (Removal from case to fully deployed/connected)	< 5mins
Limited Warranty	2 Years
Solar Panel Details	
Total Number of Mono-Crystalline Silicon Solar Cells per Array	96
Array Nominal Output Voltage at Max Power Point (V _{mp})	52V
Array Nominal Output Current at Max Power Point (I _{mp})	8.8A
Array Open Circuit Voltage (V _{oc})	64V
Array Short Circuit Current (I _{sc})	9.1A
Maximum System Voltage	600VDC
Maximum System Current	30A
Bypass Diode	One per solar panel
Nominal Operating Temperature	45 +/- 2 °C
Solar Cell Temperature Coefficient : Power	-0.391 %/°K
Solar Cell Temperature Coefficient : Voltage	-0.3055 %/°K
Solar Cell Temperature Coefficient : Current	0.0455 %/°K
Electrical Connections	
Wire Harness Collector Cable Length	35'
Electrical Connector (ITT Cannon PN)	CA3106F20-23SB
Solar Panel Electrical Connector Male (Amphenol PN)	H4CMC4D
Solar Panel Electrical Connector Female (Amphenol PN)	H4CFC4D
Compliance Certification of all Connectors	IP67
Size and Geometry	
Hard Case Outside Volume	4.15 ft ³
Hard Case Outside Dimensions	47.2" x 16.5" x 9.2"
Roll-able Stand Stowage Diameter	24"
Roll-able Stand Stowage Length	44"
Individual Solar Panel Stowage Dimensions (Panel + Connectors)	29" x 13.5" x 1.75"
Max Deployed Footprint @ 30° Deployed Angle	39.9 ft ²
Deployment Angles	0°, 30°, 45°
Environmental Resistance	
Operating Temperature with Solar Loading	-4 to 140 °F
Storage Temperature Limits (All Components in Hard Case)	-25 to 160 °F
Wind Load Limit From Any Direction (Note 3)	50 MPH
Transit Drop Test at 48" and Loose Cargo per MIL-STD 810G	PASS



#	Components
1	Four, Tri-fold Solar Panels
2	Roll-able Stand with Canvas Cover and Quick Look Instructions
3	Rugged Transport Case
4	Roll-able Stand with Pre-roll for easy packaging
5	Wire Harness Collector Cable
6	12 Sandbags & 10 Tent Stakes
7	Solar Panel Leads with Easy Connect/Disconnect Fittings



• Increasing Mission Effectiveness •

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