

USL



Solar

Photovoltaic

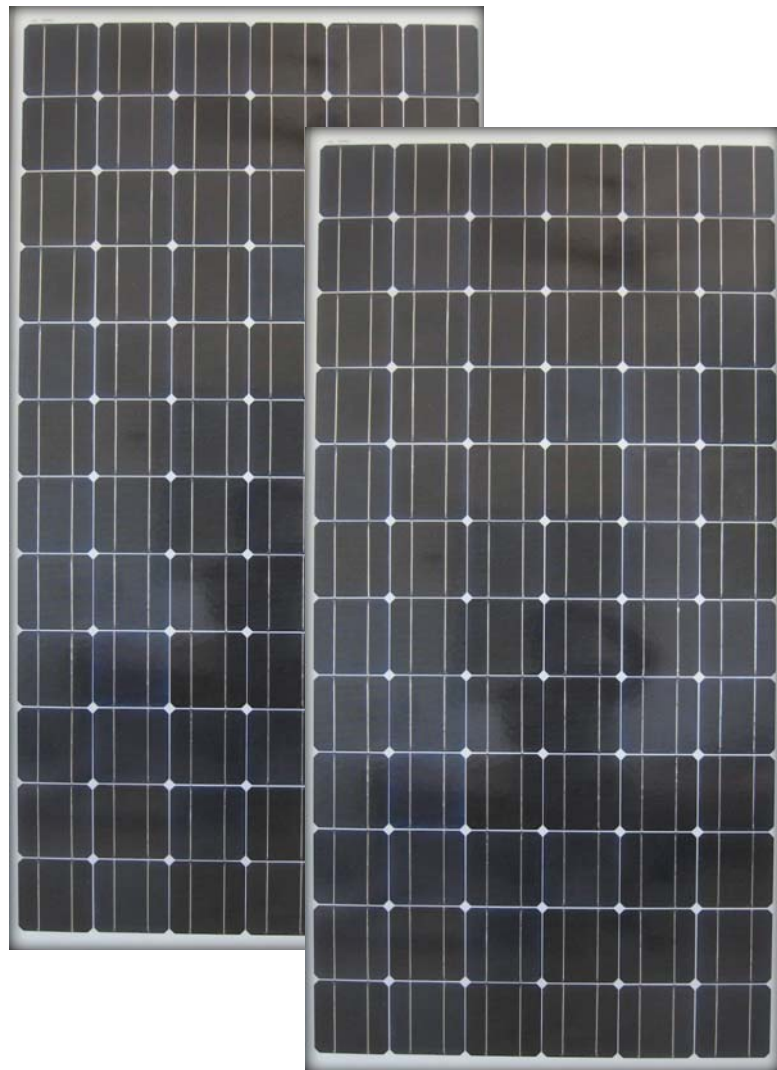
Modules

USP150 / USP165 / USP180

USL provides cost-effective photovoltaic power for general use, operating DC directly or, in an inverter-equipped system, AC loads. The 72 cells in series provides 150W, 165W & 180Watts of maximum power, it is used primarily in utility grid-supplemental systems, telecommunications, remote villages and clinics, pumping and load-based aids to navigation.

M5

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*M5 Series:
Monocrystalline modules*

Electrical and Mechanical Data

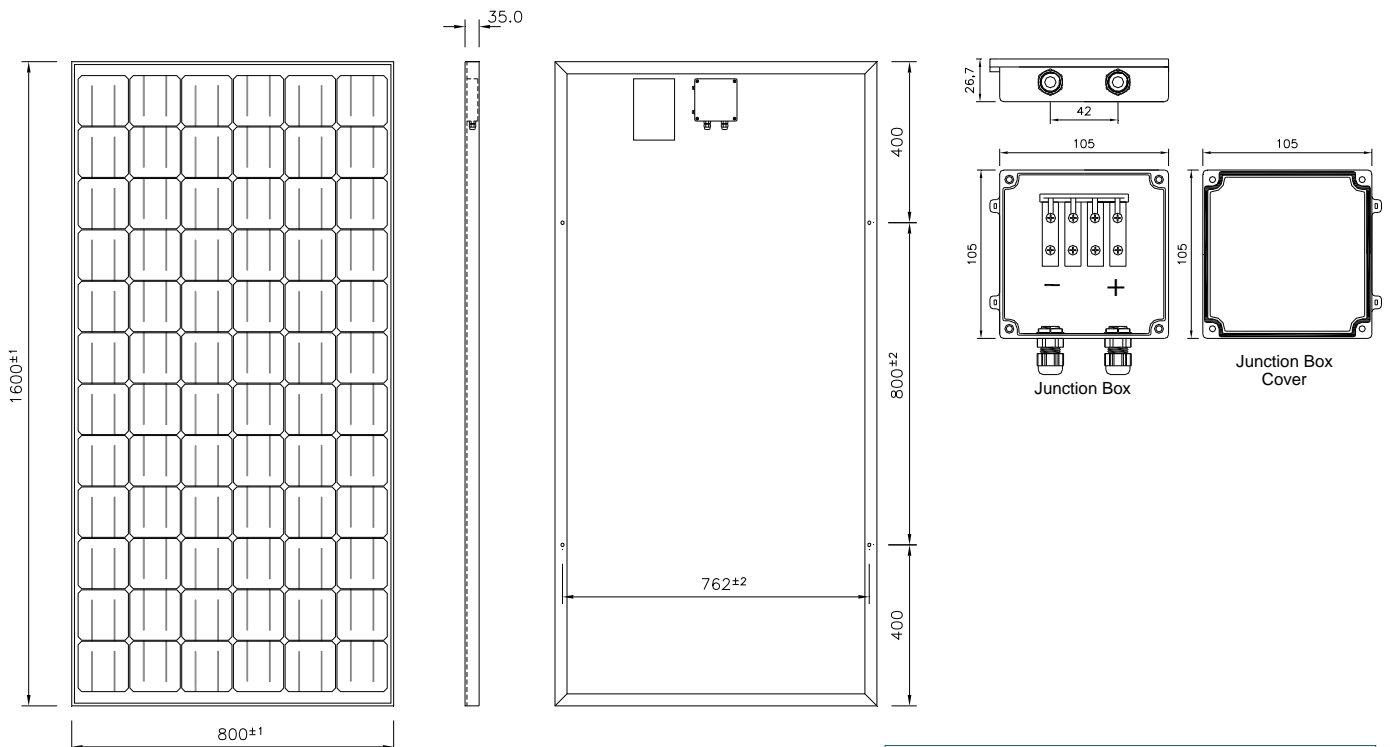
Model	USP150	USP165	USP180
Maximum power (Pmax)	150 Wp	165 Wp	180 Wp
Open Circuit Voltage (Voc)	43.00 V	43.60 V	44.60 V
Maximum power point voltage (Vmpp)	34.20 V	34.60 V	35.20 V
Short circuit current (Isc)	4.91 A	5.34 A	5.73 A
Maximum power point current (Impp)	4.39 A	4.77 A	5.12 A
Tolerance	±7.5%	±7.5%	±7.5%
Cell Size (mm)	125 x 125	125 x 125	125 x 125
No. of cells	72	72	72
Dimensions (mm) ± 1	1600 x 800 x 35	1600 x 800 x 35	1600 x 800 x 35
Maximum system voltage	1000	1000	1000
Temperature co-efficient	NOCT (°C)45	NOCT (°C)45	NOCT (°C)45
$\frac{\partial V_{oc}}{\partial T}$ (mV/°C)	- 105	- 105	- 105
$\frac{\partial I_{sc}}{\partial T}$ (mA/°C)	- 0.32	- 0.32	- 0.32
$\frac{\partial P_{max}}{\partial T}$ (%/°C)	- 0.45	- 0.45	- 0.45
Weight (kgs)	13.5	13.5	13.5

Proven Materials and Construction

USL experience shows in every aspect of this module's construction and materials

- Anodized aluminum frame offers required strength and allows for quick and easy installation on standard array structures.
- 72 Crystalline silicon solar cells in series.
- Modules are laminated in toughened low iron content PV grade glass – Ethyl Vinyl Acetate films – PV module back sheet.
- Optimized lamination process parameters ensure a stable laminate. Junction Box with PG Cable glands and bypass diodes are standard in all modules.
- Each module is flash tested in a Sun simulator to ensure conformity to specification.

Standard Test Condition : Irradiance 1,000 W/sq.m, Temperature 25deg C Air mass 1.5 spectrum)



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