

USL



Solar

Photovoltaic

Modules

USP50 / USP55 / USP60

USL provides cost-effective photovoltaic power for general use, operating DC directly or, in an inverter-equipped system, AC loads. The 36 cells in series provides 50W, 55W & 60Watts 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

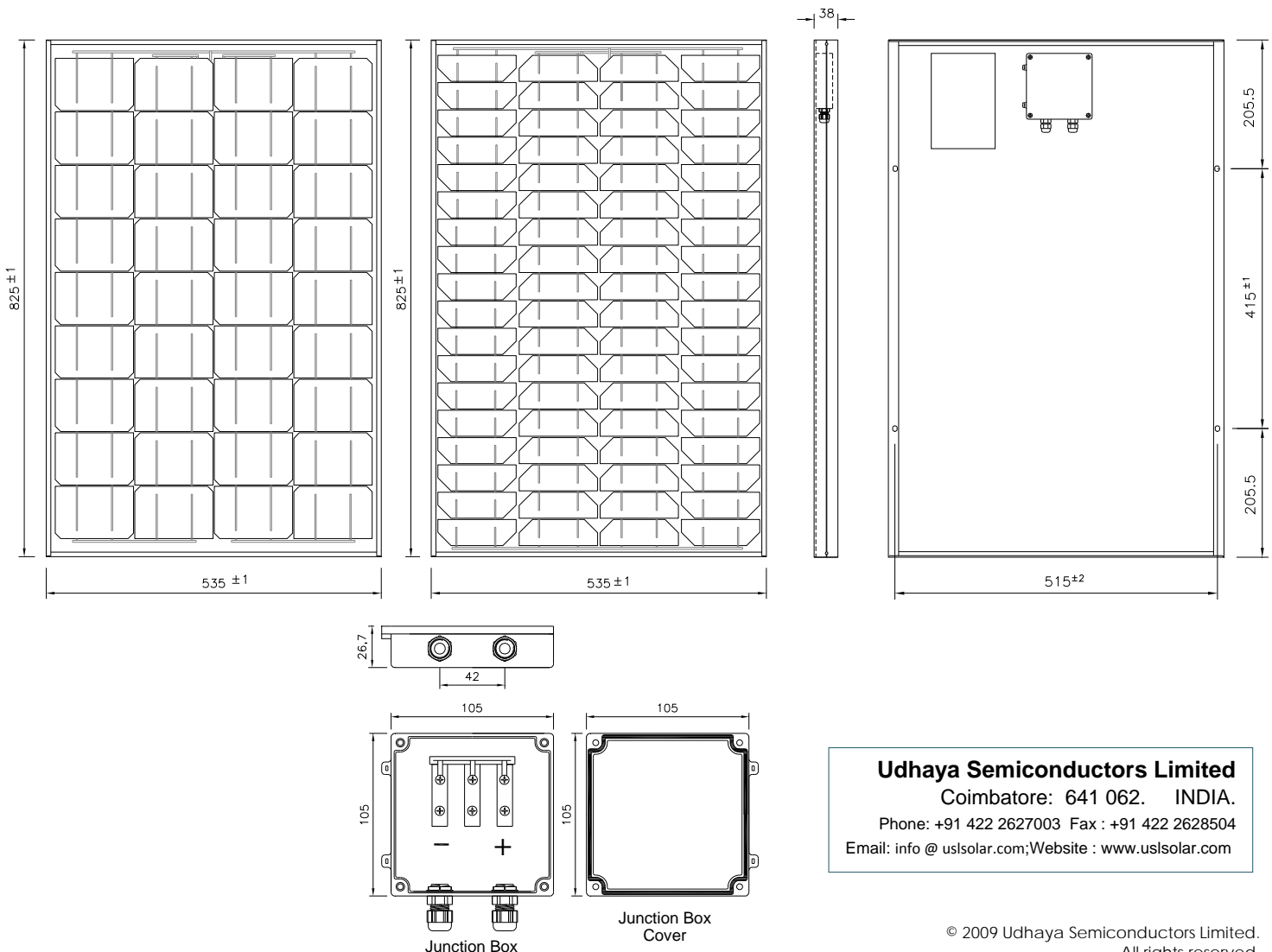
Model	USP50	USP55	USP60
Maximum power (Pmax)	50 Wp	55 Wp	60 Wp
Open Circuit Voltage (Voc)	21.5 V	21.8 V	21.8 V
Maximum power point voltage (Vmpp)	17.1 V	17.3 V	17.3 V
Short circuit current (Isc)	3.28 A	3.56 A	3.88 A
Maximum power point current (Impp)	2.93 A	3.18 A	3.47 A
Tolerance	±10%	±10%	±10%
Cell Size (mm)	83.5 x 125 / 41.5 x 125	83.5 x 125 / 41.5 x 125	83.5 x 125 / 41.5 x 125
No. of cells	36 / 72	36 / 72	36 / 72
Dimensions (mm) ± 1	825 x 535 x 38	825 x 535 x 38	825 x 535 x 38
Maximum system voltage	600	600	600
Temperature co-efficient	NOCT (°C)45	NOCT (°C)45	NOCT (°C)45
$\frac{dVoc}{dT}$ (Voc) (mV/°C)	- 105	- 105	- 105
$\frac{dIsc}{dT}$ (Isc) (mA/°C)	- 0.32	- 0.32	- 0.32
$\frac{dPmax}{dT}$ (Pmax) (%/°C)	- 0.45	- 0.45	- 0.45
Weight (kgs)	5.5	5.5	5.5

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

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.
- 36 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 are standard in all modules.
- Each module is flash tested in a Sun simulator to ensure conformity to specification.



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