

USL

Solar

Photovoltaic

Modules



KL130 / KL140 / KL150

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 130W to 150Watts of maximum power, it is used primarily in utility grid-supplemental systems, telecommunications, remote villages and clinics, pumping and load-based aids to navigation.



Series

6

Proven Materials and Construction

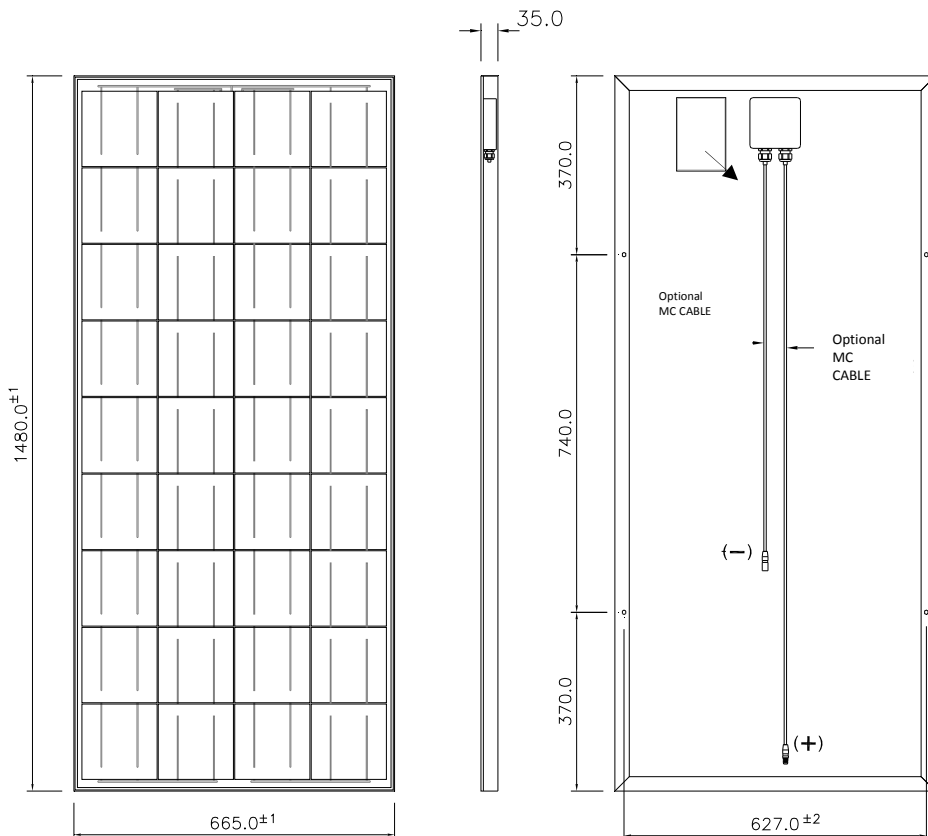
USL experience shows in every aspect of this module's construction and materials

- Anodized aluminum frame offers required strength and allows for quick and easy installation on standard array structures.
- 36 Crystalline silicon solar cells in series with by pass diodes installed.
- 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.

Electrical and Mechanical Data

Model	KL130	KL140	KL150
Maximum power (Pmax)	130 Wp	140 Wp	150 Wp
Open Circuit Voltage (Voc)	21.8 V	21.8 V	21.8 V
Maximum power point voltage (Vmpp)	17.3 V	17.3 V	18.0 V
Short circuit current (Isc)	8.42 A	9.07 A	9.10 A
Maximum power point current (Impp)	7.52 A	8.10 A	8.33 A
Tolerance	±10%	±10%	±10%
Efficiency	13.21%	14.22%	15.24%
Cell Size (mm)	156 x 156	156 X 156	156 X 156
No. of cells	36		
Dimensions (mm) ± 1	1480 x 665 x 35		
Maximum system voltage	1000		
Temperature co-efficient	NOCT (°C)45	NOCT (°C)45	NOCT (°C)45
$\frac{\partial V_{oc}}{\partial T}$ (Voc) (mV/°C)	- 105	- 105	- 105
$\frac{\partial I_{sc}}{\partial T}$ (Isc) (mA/°C)	- 0.32	- 0.32	- 0.32
$\frac{\partial P_{max}}{\partial T}$ (Pmax) (%/°C)	- 0.45	- 0.45	- 0.45
Weight (kgs)	10	10	10

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



Qualification and certificates

The Photovoltaic Modules certified to
IEC61215 & EN IEC 61730 Class A, Safety Class II

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Technical Specifications Subject to change without
prior notice due to technology upgradation.