

USL

Solar

Photovoltaic

Modules



KL050 / KL055 / KL060

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 & 60 Watts 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

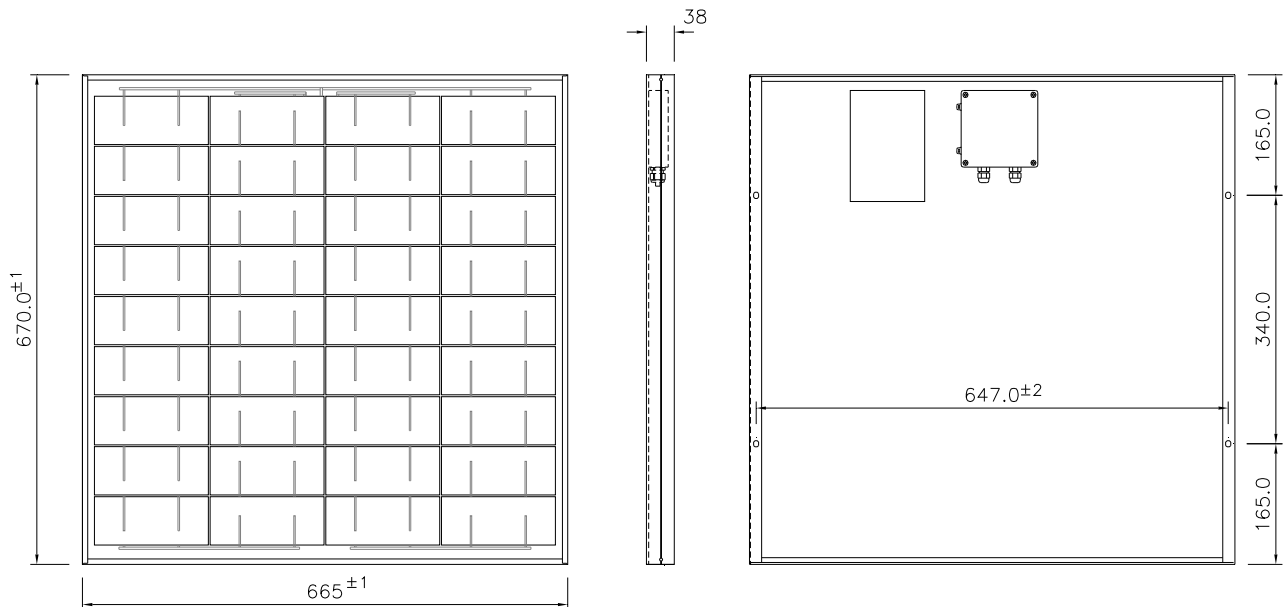
- Anodized aluminum frame offers required strength and allows for quick and easy installation on standard array structures.
- 36 Crystalline silicon solar cells in series.
- Modules are laminated in toughened low iron content PV grade glass – Ethyl Vinyl Acetate films – PV module back sheet.
- Optimized lamination process parameters ensure a stable laminate. Junction Box with IP65 class protection are standard in all modules.
- Each module is flash tested in a Sun simulator to ensure conformity to specification.

Series:6
Polycrystalline Modules

Electrical and Mechanical Data

Model	KL050	KL055	KL060
Maximum power (Pmax)	50 Wp	55 Wp	60 Wp
Open Circuit Voltage (Voc)	21.5 V	21.5 V	21.5 V
Maximum power point voltage (Vmpp)	17.1 V	17.1 V	18.0 V
Short circuit current (Isc)	3.28 A	3.60 A	3.66 A
Maximum power point current (Impp)	2.93 A	3.22 A	3.33 A
Tolerance	±10%	±10%	±10%
Module Efficiency	11.30%	12.44%	13.57%
Cell Size (mm)	63 X 156 / 30 X 156		
No. of cells	36 / 72		
Dimensions (mm) ± 1	665 x 665 x 38		
Maximum system voltage	1000	1000	1000
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

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.