

# LIGHTWAY SOLAR MODULE

## P 1310×990 Series

### KEY FEATURES



**16.19%**  
Max Efficiency

**210W**  
Max Peak Power

**10YEAR**  
Product Warranty

**25YEAR**  
Linear Power Warranty



**Positive Tolerance 0-5W**  
Provides our customers with maximum power output



**Electric Current Classification**  
System output maximized by reducing mismatch losses up to 2% with modules sorted and package by amperage



**Excellent weak light performance**  
Relative change of module efficiency at 200W/m<sup>2</sup> is less than 4%



**Upto 5400Pa Mechanical load**  
Module certified to withstand extreme wind and snow loads

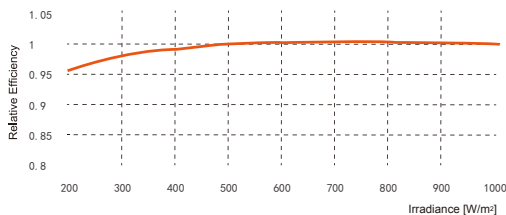


**Passed Ammonia Gas and Salt Mist Corrosion Resistance Test**  
Tested and approved by TUV Rheinland according to IEC 62716 Draft C and FprEN 61701 Ed.2

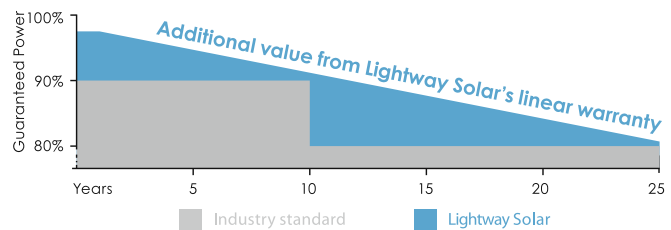


**ISO 9001:2008 - ISO 14001:2004 - OHSAS 18001:2007**

#### PERFORMANCE AT LOW IRRADIANCE



The typical relative change in module efficiency at an irradiance of 200W/m<sup>2</sup> in relation to 1000W/m<sup>2</sup> (both at 25°C and AM 1.5 spectrum) is less than 4%.



#### LINEAR WARRANTY

- 10-year warranty on materials and workmanship
- 25-year warranty > 80% power output
- 3% degradation rate the first year
- 0.68% yearly linear degradation

## ELECTRICAL DATA @ STC

Module Type		LW210(23) P1310×990	LW205(23) P1310×990	LW200(23) P1310×990	LW195(23) P1310×990	LW190(23) P1310×990	LW185(23) P1310×990
Peak Power_Pmax	W	210	205	200	195	190	185
Power tolerance_ΔPmax	W	0,+5					
Voltage at Pmax_Vmpp	V	24.28	24.15	23.91	23.67	23.59	23.51
Current at Pmax_Imp	A	8.65	8.49	8.37	8.24	8.06	7.87
Open Circuit Voltage_Voc	V	30.15	30.06	29.94	29.79	29.64	29.51
Short Circuit Current_Isc	A	9.24	9.16	9.08	8.91	8.73	8.48
Module Efficiency_η		16.19%	15.81%	15.42%	15.04%	14.65%	14.26%

Values at standard test condition STC: air mass AM 1.5, irradiance 1000W/m<sup>2</sup>, cells temperature 25 °C

## ELECTRICAL DATA @ NOCT

Module Type		LW210(23) P1310×990	LW205(23) P1310×990	LW200(23) P1310×990	LW195(23) P1310×990	LW190(23) P1310×990	LW185(23) P1310×990
Peak Power_Pmax	W	154	150	146	143	139	135
Voltage at Pmax_Vmpp	V	22.46	22.17	21.89	21.74	21.61	21.59
Current at Pmax_Imp	A	6.84	6.77	6.69	6.56	6.42	6.25
Open Circuit Voltage_Voc	V	27.84	27.75	27.62	27.46	27.30	27.16
Short Circuit Current_Isc	A	7.50	7.43	7.37	7.23	7.08	6.88

Nominal operating cell temperature NOCT: irradiance 800W/m<sup>2</sup>, ambient temperature 20 °C, wind speed 1m/s

## TEMPERATURE RATING

Nominal operating cell temperature(NOCT)	°C	45±2
Temperature Coefficient of Pmax	%/°C	-0.4204
Temperature Coefficient of Isc	%/°C	0.0654
Temperature Coefficient of Voc	%/°C	-0.3215

## MAXIMUM RATING

Max. System Voltage	1000Vdc
Operating Temperature	-40 ~ +85 °C
Max. Series Fuse Rating	15A
Max. Reverse Current	15A
Max. Mechanical load	5400Pa

## CONSTRUCTION MATERIALS

Solar cells	48-multicrystalline silicon cells, 156mm*156mm
Glass	3.2mm low-iron tempered glass
Encapsulant	ethylene vinyl acetate(EVA)
Frame	anodized aluminium alloy(Silver)
Junction Box	≥IP65 rated, 3/6 diodes
Cable	4mm <sup>2</sup> PV cable, 900mm
Connector	MC4 compatible

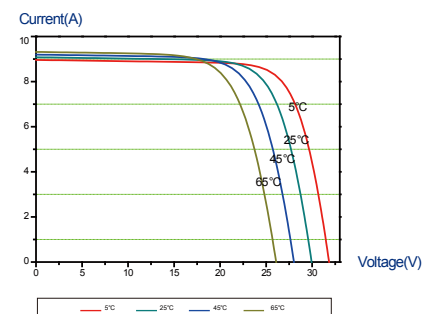
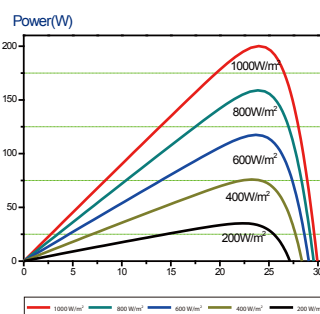
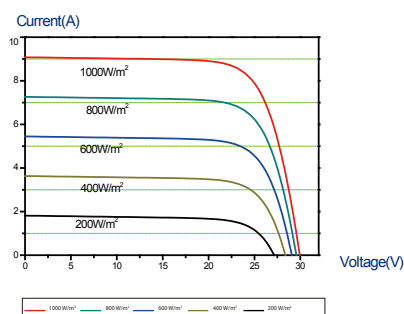
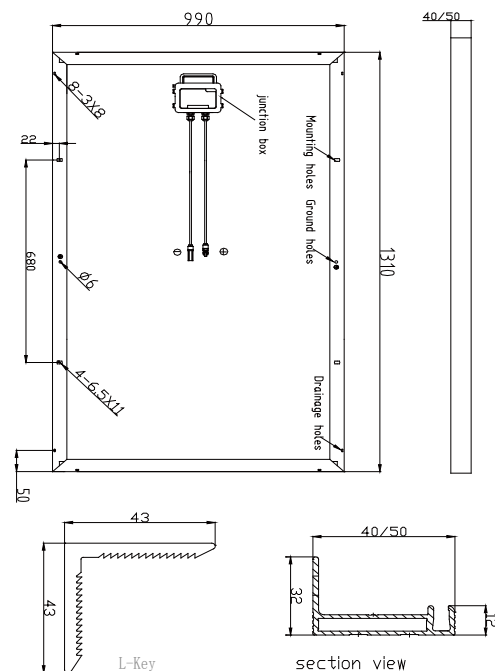
## GENERAL DATA

Module Dimension(L×W×H)	1310×990×40mm	1310×990×50mm
Weight	15.2kg	15.5kg

## PACKING

Modules per pallet	26	20
Pallets per 40' container	32	32
Packing box dimension(L×W×H)	1360×1150×1040mm	1360×1150×1040mm

Unit:mm



MKT-20130511