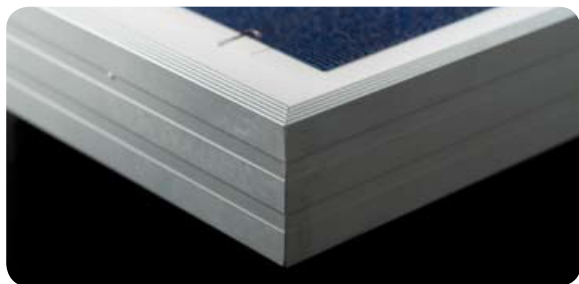


## YL230P-29b/1650x990 Series

YL230P-29b . YL220P-29b . YL210P-29b . YL200P-29b



### ABOUT YINGLI SOLAR

Yingli Solar is a vertically integrated manufacturer of solar photovoltaic modules. Under one roof we manufacture our ingots, wafers, cells and modules. This ensures that we can tightly control our material and production quality, offering our customers leading product durability and sustainable performance backed by our 25 year limited power warranty\*.

### PERFORMANCE

- >> High efficiency, polycrystalline solar cells with high transmission and textured glass delivering a module series efficiency of up to 14.1%, minimising installation costs and maximising the kWh output of your system per unit area.
- >> Power tolerance of +/-3% minimising PV system mismatch losses.

### QUALITY & RELIABILITY

- >> Robust, corrosion resistant aluminium frame independently tested to withstand wind loads of 2.4KPa ensuring a stable mechanical life for your modules.
- >> Take confidence in our modules with a 5 year limited product warranty and a 25 year limited power warranty\*.
- >> Modules protected by box during transportation and with 18 modules in a box on-site waste is minimised.
- >> Modules independently tested to ensure conformance with certification and regulatory standards.
- >> Manufacturing facility certified to ISO9001 Quality Management System standards which qualified by TÜV Rheinland.

### WARRANTIES

5-year limited product warranty\*

Limited power warranty\*: 10 years at 90% of the minimal rated power output, 25 years at 80% of the minimal rated power output

### QUALIFICATIONS AND CERTIFICATES

Safety Class II , ISO 9001 , Certificate of N&R Energy Center (Korea)



\* In compliance with our Warranty Terms and Conditions

# YL230P-29b/1650x990 Series

## ELECTRICAL PARAMETERS

Electrical parameters at STC (1000 W/m<sup>2</sup>, 25°C, AM 1.5 according to EN 60904-3)

Module type		YL230P-29b	YL220P-29b	YL210P-29b	YL200P-29b
Power output	[W]	230.0	220.0	210.0	200.0
Power output tolerances	[%]	+/- 3	+/- 3	+/- 3	+/- 3
Module Efficiency	[%]	14.1	13.5	12.9	12.2
Voltage at Pmax. V <sub>mpp</sub>	[V]	29.5	29.0	28.5	28.5
Current at Pmax. I <sub>mpp</sub>	[A]	7.80	7.59	7.37	7.02
Open circuit voltage V <sub>oc</sub>	[V]	37.0	36.5	36.0	36.0
Short circuit current I <sub>sc</sub>	[A]	8.40	8.15	7.95	7.68
Max. System Voltage	[V]	1,000 VDC			

## Parameters of the thermal characteristics

Nominal Operating Cell Temperature (NOCT)	[ °C ]	46 +/- 2
Temperature coefficient of the short circuit current I <sub>sc</sub>	[%/K]	+ 0.06
Temperature coefficient of the open circuit voltage V <sub>oc</sub>	[%/K]	- 0.37
Temperature coefficient of the MPP power P <sub>mpp</sub>	[%/K]	- 0.45

## MECHANICAL PARAMETERS

Dimensions (length [mm]/width [mm]/thickness [mm])	1650/990/50
Thickness with junction box [mm]	50
Weight [kg]	19.8
Junction box (manufacturer/material/number of diodes)	CIXI/PP0/6
Junction box dimensions (length/width/depth [mm])	151/122/25
Positive cable (manufacturer/length [mm]/cable cross-section [mm <sup>2</sup> ])	CIXI/1200/4
Negative cable (manufacturer/length [mm]/cable cross-section [mm <sup>2</sup> ])	CIXI/1200/4
Plug connector (manufacturer)	CIXI/UV resistance and self-locking/IP65
Front cover (material/thickness [mm])	Tempered Glass, 3.2mm
Cell type (quantity/technology)	60 / polycrystalline / 156 x 156
Encapsulation material	Ethylen Vinyl Acetate (EVA)
Rear cover (material/thickness [mm])	TPT/0.35
Frame (material)	robust anodized aluminium alloy

## OPERATING CONDITIONS

Operating temperature [°C]	- 40 to + 85
Max. wind load [Pa]	2.4K

## PACKAGING

Number of modules per box	18
Box size (length [mm]/width [mm]/depth [mm])	1700 / 1120 / 1020
Box Gross weight in Kg	416
Boxes per pallet	1

\* The data does not refer to a single module and they are not part of the offer. they serve for comparison only to different module types.

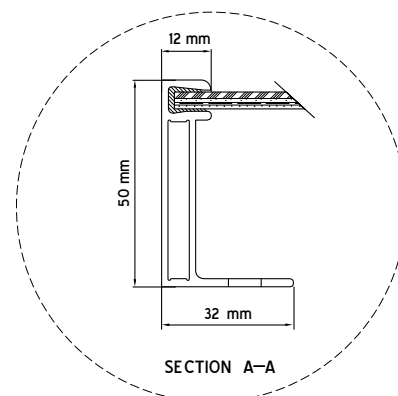
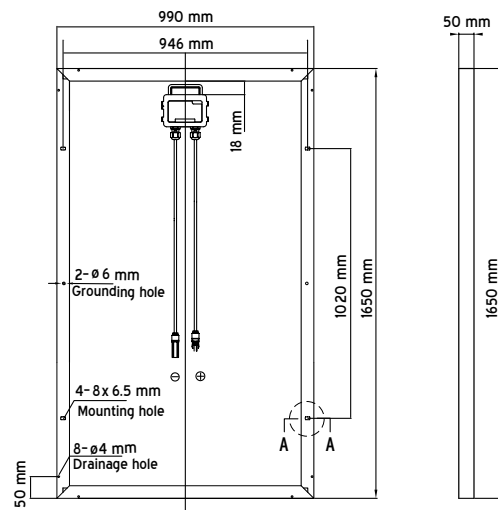
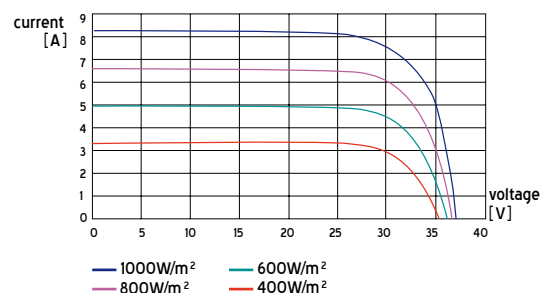
Yingli Green Energy Holding Co.,Ltd.

commerce@yinglisolar.com

0086-(0)312-8929802

Subject to modifications and errors

## IV CURVES



Electrical equipment,  
check with your installer

