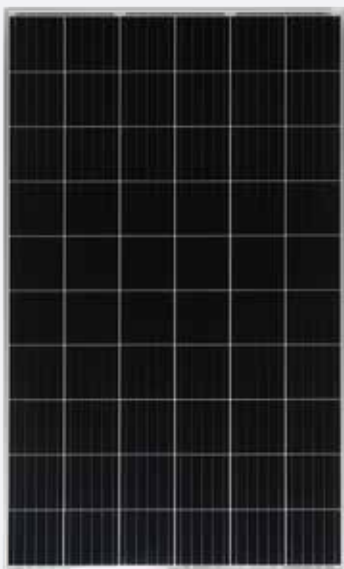


**YGE
60 CELL
SERIES 2
BLACK SILICON**

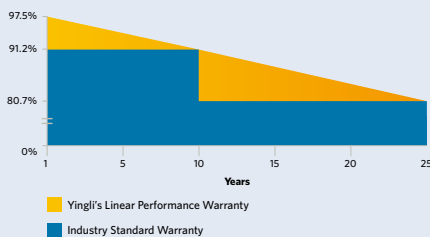


19.0%
CELL EFFICIENCY

10 YEAR
PRODUCT WARRANTY

0-5W
POWER TOLERANCE

25 Year Linear Warranty



**BLACK POWERFUL
HIGH-TECH FOR YOUR SYSTEM**

YGE Black Silicon modules are another milestone in Yingli's 20 year R&D history. A special production process leads to a black cell surface which absorbs most of the sunlight. More absorbed light means less reflection and a higher energy conversion efficiency and electricity output, boosting the power of your system.

+ $\frac{W}{m^2}$ High Power Density
An increased power density of the modules leads to a smaller footprint of your system and a decrease in specific system costs.

☀️ Low Light Behavior
YGE Black Silicon Series modules are highly sensitive for photons and continue to produce energy even at low light levels.

🚫 PID Resistant
Tested to the industry's most rigorous durability standards, YGE Black Silicon Series modules are PID-resistant in accordance to IEC 62804. To ensure PID-resistance at higher system voltages, these cells receive an extra layer of protective silicon nitride.

☀️ Advanced Glass
Our high-transmission glass features a unique anti-reflective coating that directs more light on the solar cells, resulting in a higher energy yield.

Yingli Green Energy

Yingli Green Energy Holding Company Limited (NYSE: YGE), known as "Yingli Solar," is one of the world's leading solar panel manufacturers with the mission to provide affordable green energy for all. Yingli Solar makes solar power possible for communities everywhere by using our global manufacturing and logistics expertise to address unique local challenges.

YGE 60 CELL SERIES 2 BLACK SILICON

ELECTRICAL PERFORMANCE

Electrical parameters at Standard Test Conditions (STC)

Module type	YLxxxP-29b(XXX=Pmax)							
	P_{max}	W	280	275	270	265	260	255
Power output	P_{max}	W	280	275	270	265	260	255
Power output tolerances	ΔP_{max}	W	0/+5					
Module efficiency	η_m	%	17.1	16.8	16.5	16.2	15.9	15.6
Voltage at P_{max}	V_{mpp}	V	31.4	31.0	30.7	30.5	30.3	30.0
Current at P_{max}	I_{mpp}	A	8.92	8.90	8.80	8.70	8.59	8.49
Open-circuit voltage	V_{oc}	V	38.2	37.9	37.9	37.8	37.7	37.7
Short-circuit current	I_{sc}	A	9.45	9.35	9.27	9.18	9.09	9.01

STC: 1000W/m² irradiance, 25°C module temperature, AM1.5g spectrum according to EN 60904-3.
Average relative efficiency reduction of 3.3% at 200W/m² according to EN 60904-1.

Electrical parameters at Nominal Operating Cell Temperature (NOCT)

Power output	YLxxxP-29b(XXX=Pmax)							
	P_{max}	W	204.4	200.6	196.9	193.3	189.7	186.0
Power output	P_{max}	W	204.4	200.6	196.9	193.3	189.7	186.0
Voltage at P_{max}	V_{mpp}	V	28.6	28.2	28.0	27.8	27.6	27.4
Current at P_{max}	I_{mpp}	A	7.14	7.12	7.04	6.96	6.87	6.79
Open-circuit voltage	V_{oc}	V	35.3	35.0	35.0	34.9	34.8	34.8
Short-circuit current	I_{sc}	A	7.64	7.56	7.49	7.42	7.35	7.28

NOCT: open-circuit module operation temperature at 800W/m² irradiance, 20°C ambient temperature, 1m/s wind speed.

THERMAL CHARACTERISTICS

Nominal operating cell temperature	NOCT	°C	46 +/- 2
Temperature coefficient of P_{max}	γ	%/°C	-0.42
Temperature coefficient of V_{oc}	β_{Voc}	%/°C	-0.32
Temperature coefficient of I_{sc}	α_{Isc}	%/°C	0.05

OPERATING CONDITIONS

Max. system voltage	1000V _{DC}
Max. series fuse rating	15A
Limiting reverse current	15A
Operating temperature range	-40°C to 85°C
Max. static load, front (e.g., snow)	5400Pa
Max. static load, back (e.g., wind)	2400Pa
Max. hailstone impact (diameter / velocity)	25mm / 23m/s

CONSTRUCTION MATERIALS

Front cover (material / thickness)	low-iron tempered glass / 3.2mm
Cell (quantity / material / dimensions / number of busbars)	60 / multicrystalline silicon / 156.75mm x 156.75mm (+/-0.25) / 4 or 5
Frame (material)	anodized aluminum alloy
Junction box (protection degree)	≥ IP67
Cable (length / cross-sectional area)	1000mm / 4mm ²
Plug connector (type / protection degree)	MC4 / IP68 or YT08-1S / IP67 or Amphenol H4 / IP68 or Forsol SIKE4 / IP68 or Renhe RH05-6 / IP67

- Due to continuous innovation, research and product improvement, the specifications in this product information sheet are subject to change without prior notice. The specifications may deviate slightly and are not guaranteed.
- The data do not refer to a single module and they are not part of the offer, they only serve for comparison to different module types.

QUALIFICATIONS & CERTIFICATES

IEC 61215, IEC 61730, CE, MCS, ISO 9001:2008, ISO 14001:2004, BS OHSAS 18001:2007, PV Cycle, SA 8000



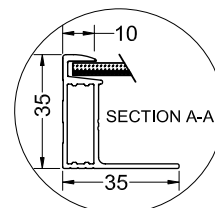
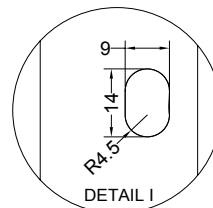
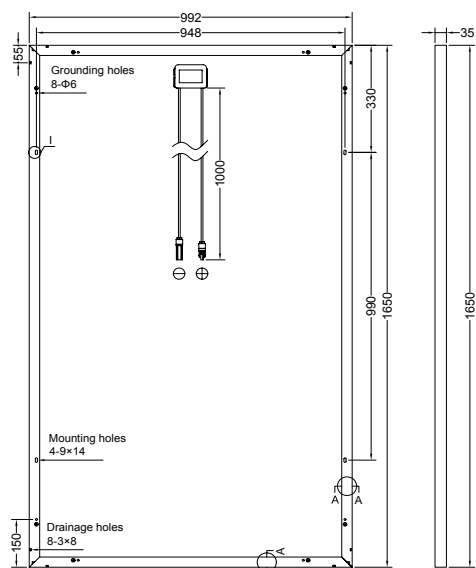
GENERAL CHARACTERISTICS

Dimensions (L / W / H)	1650mm/992mm/35mm
Weight	18.5kg

PACKAGING SPECIFICATIONS

Number of modules per pallet	30
Number of pallets per 40' container	28
Packaging box dimensions (L / W / H)	1700mm/1135mm/1165mm
Box weight	588kg

Unit: mm



Warning: Read the Installation and User Manual in its entirety before handling, installing and operating Yingli Solar modules.

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