

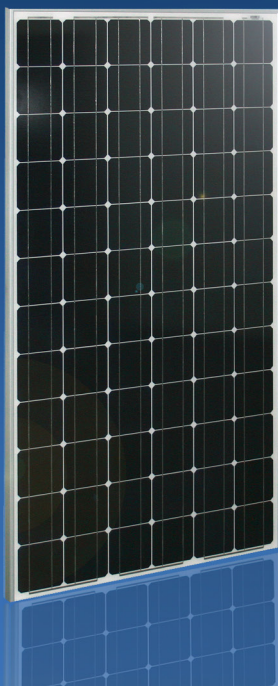


## Monocrystalline solar module HAREON

Hareon is one of the largest silicon wafer production bases in China. Ever since its foundation in 2004, Hareon has witnessed rapid growth of its major business. It is specialized in producing mono silicon stick/multi cast ingots, and wafer cutting in the upper stream of the photovoltaic industry. Jiangyin Hareon Solar Technology Co., Ltd and Altusvia (Taicang) Energy Co., Ltd, wholly funded subsidiaries under Hareon, are specialized in producing solar cells and modules. Thus, Hareon has a complete photovoltaic chain integrating production of silicon stick (ingot), wafer, solar cell and solar module.

They have been improving their manufacturing process, tightening quality control, and lowering the production cost, so as to convey to customers the best photovoltaic power and promote extensive application of photovoltaic power worldwide.

Hareon's products are well sold in many European countries like Germany, Spain, Italy and France. In Europe, we have established localized sales teams to better serve the customers. Meanwhile, Hareon has turned its eyes to some emerging photovoltaic markets like the US, Korea, India and Australia.



### Features:

- Long performance and high quality reliability
- High cell efficiency up to 17.04%
- Plus power tolerance +3%
- Product warranty: 10 years
- Performance warranty: 90% 12 years / 80% 25 years
- Junction box with integrated By-Pass-diodes
- First class workmanship and esthetical design
- Fast and easy delivery from European warehouse
- Optimal packing for a fast module control and mounting of the PV installation.



# Monocrystalline solar module HAREON HR-160-24/Aa - HR-190-24/Aa

## Technical data

On the basis of its world-leading production facilities and a research team composed of eminent experts, Hareon is devoted to development of the photovoltaic industry, with a purpose to providing fine photovoltaic products and services to customers and creating green solar power comparable to conventional energy, and, finally, presenting a comfortable life for human beings.

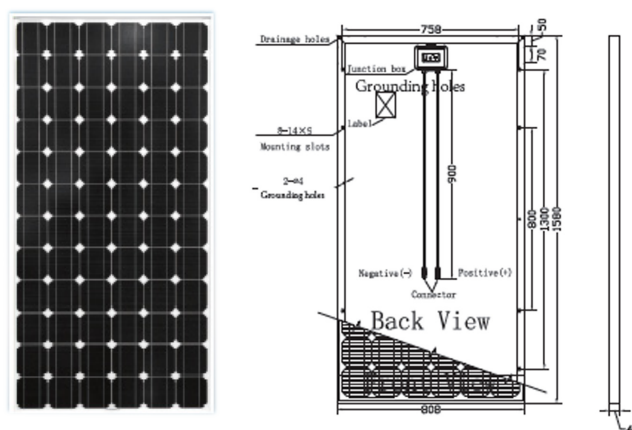
### ELECTRICAL CHARACTERISTICS

Type	HR-160W	HR-165W	HR-170W	HR-175W	HR-180W	HR-185W	HR-190W
Power max P <sub>m</sub> (W)	160	165	170	175	180	185	190
Rated voltage V <sub>m</sub> (V)	35.01	35.20	35.61	35.87	36.02	36.42	36.50
Rated current I <sub>m</sub> (A)	4.58	4.69	4.78	4.88	5.00	5.08	5.21
Open circuit voltage V <sub>oc</sub> (V)	43.70	44.20	44.40	44.72	44.81	45.05	45.20
Short circuit current I <sub>sc</sub> (A)	4.82	4.91	5.16	5.17	5.28	5.41	5.53
Module efficiency (%)	12,53	12.92	13.16	13.71	14.10	14.49	14.88
Max. system voltage (VCD)	1000 VDC						
Cell type	Monocrystalline cells/ 72 pieces						
Cell size	125 x 125 mm						
P <sub>max</sub> temperature coefficient	-0.51 %/ °C						
I <sub>sc</sub> temperature coefficient	0,035 % / °C						
V <sub>oc</sub> temperature coefficient	-0,34 % / °C						
NOCT-Cell temp.	45°C ± 3°C						

### MECHANICAL CHARACTERISTICS

Dimensions (mm)	1580*808*45
Weight (Kg)	16
Front glas, type, thickness	Front: High transmission 3.2mm tempered glass. Rear. White backsheet; Encapsulant: EVA.
Frame	Silver coloured anodized aluminium frame
Packing	2 pieces per packing unit
Front & rear static load test (wind)	2400 Pa
Front load test (snow)	5400 Pa

### Dimensions HAREON HR-160-24/Aa - 190-24/Aa



The electrical data apply under standard testing conditions (STC): Incident radiation 1.000 W/m<sup>2</sup> with AM 1.5 light spectrum at a cell temperature of 25 °C.

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