



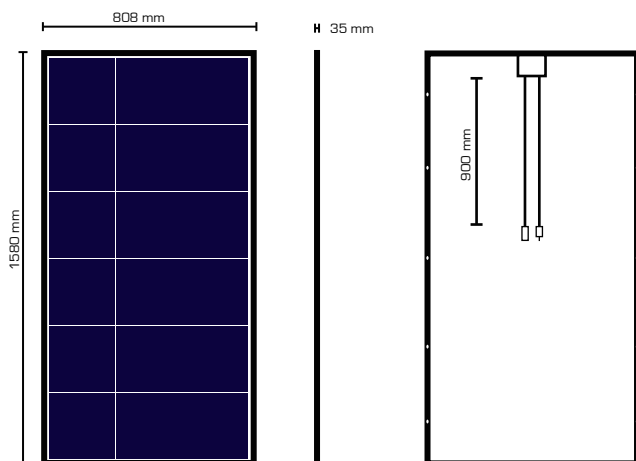
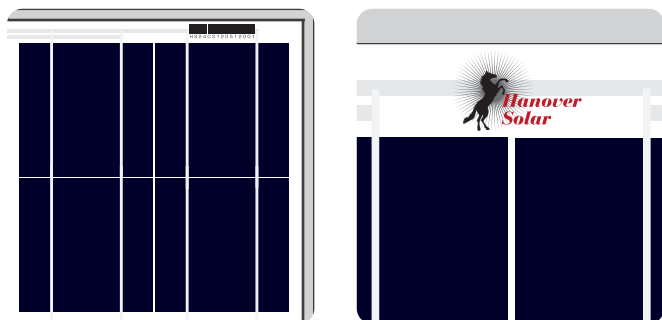
HS190P PLUS

***Polycrystalline silicon high-power panel
with a peak power rating of 190W***

- *0/+5W output tolerance ensure a high productivity*
- *12 years long-term product & 25 years achievement warranty by Germany*



Hanover Solar



WARRANTY & CERTIFICATE

Warranty period	12 years
Guaranteed power output	12 years: 90 % of nominal power rating 25 years: 80 % of nominal power rating
Certificates	TÜV: IEC 61215, IEC 61730; CE; CEC

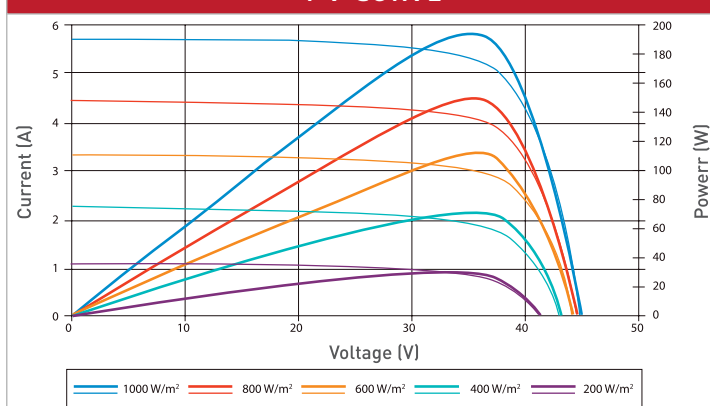
HS190P PLUS

ELECTRICAL DATA

Measured at Standard Test Conditions (STC): irradiance of 1000W/m², AM 1.5, and cell temperature 25° C

Module Type	HS190P	
Peak Power (0/+5W)	P _{max}	190 W
Cell Efficiency	η	18.3 %
Panel Efficiency	η	15.2 %
Rated Voltage	V _{mpp}	36.5 V
Rated Current	I _{mpp}	5.21 A
Open Circuit Voltage	V _{oc}	44.8 V
Short Circuit Current	I _{sc}	5.66 A
Maximum System Voltage	TÜV	1000 V DC
Temperature Coefficients	Power (P)	-0.45%/° C
	Voltage (V _{oc})	-0.35%/° C
	Current (I _{sc})	0.060%/° C
NOCT	45° C +/- 2° C	
Series Fuse Rating	15 A	

I-V CURVE



MECHANICAL CHARACTERISTICS

Solar Cell	polycrystalline (125 x 125 mm)
Cells Quantity	72 (6 x 12)
Dimensions	1580 x 808 x 35 mm
Weight	15.5 kg
Glass	3.2 mm tempered glass
Frame	anodized aluminium alloy
Junction Box	TÜV Certified / IP65 / IP67
Output Cables	900 mm / 4.0 mm ²



Clean Energy Council

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