



## High performance photovoltaic modules

5BB MONO CRYSTALLINE MODULE 185 - 190 WATT

**25**  
YEARS

Warranty



### Key features:



10 years manufacturer's warranty



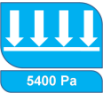
Positive power tolerance is Guaranteed (0 to 5 Wp)



Excellent low light performance



Excellent outstanding weather-resistance



Maximum 5400 Pa snow load

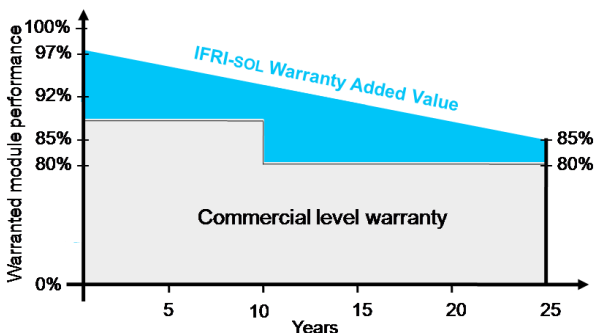


Maximum 2400 Pa wind load

### Linear high performance guarantee

10 years manufacturer's guarantee on 92 % of the nominal performance<sup>1</sup>

25 years manufacturer's guarantee on 85 % of the nominal performance<sup>1</sup>



Management system TÜV-Certified  
DIN ISO 9001:2008  
ID 9102077424

<sup>1</sup>According to the IFRI-SOL Product and Performance Guarantee

Electrical specification

Module type	Nominal power P <sub>mp</sub>	Nominal voltage U <sub>mp</sub>	Nominal current I <sub>mp</sub>	Open Circuit Voltage U <sub>oc</sub>	Short circuit current I <sub>sc</sub>	Module conversion efficiency
IF-M185-36	185 Wp	19.69V	9.44A	24.18V	9.90A	18.54%
IF-M190-36	190 Wp	20.09V	9.56A	24.48V	10.05A	19.04%

Electrical data at STC (STANDARD TEST CONDITIONS): 1000W/m<sup>2</sup> irradiance, 25°C cell temperature, AM1.5g spectrum according to EN 60904-3,

Module type	Nominal power P <sub>mp</sub>	Nominal voltage U <sub>mp</sub>	Nominal current I <sub>mp</sub>	Open Circuit Voltage U <sub>oc</sub>	Short circuit current I <sub>sc</sub>
IF-P185-36	136.21Wp	18.10V	7.54A	22.28V	7.92A
IF-P190-36	139.90Wp	18.47V	7.63A	21.56V	8.04A

Electrical data at NOCT : 800W/m<sup>2</sup> irradiance, 20°C ambient temperature, 1m/s power measurement tolerance : +/-3%,

Design

Front glass	3.2mm high transmittance and white glass
Encapsulant	E.V.A
Cell	36 monocrystalline high efficiency 156.75mm*156.75mm
Backside	Composite film (white, black, ...)
Frame	35.3mm anodized aluminum (Silver/Black)

Limit values

System voltage	1000VDC
NOCT	45±2°C
Rated current	12A
Operating temperature	From -40°C to 85°C
Maximum load	2400N/m <sup>2</sup>

Mechanical specification

Dimensions (H×W ×D)	1480mm × 674mm × 35.3mm
Weight	12.5Kg

Temperature coefficients

Voltage U <sub>oc</sub>	-0.330%/°C
Current I <sub>sc</sub>	+0.050%/°C
Output power	-0.380%/°C

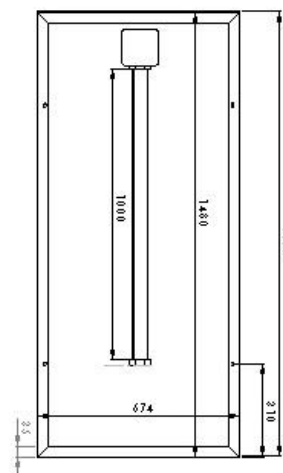
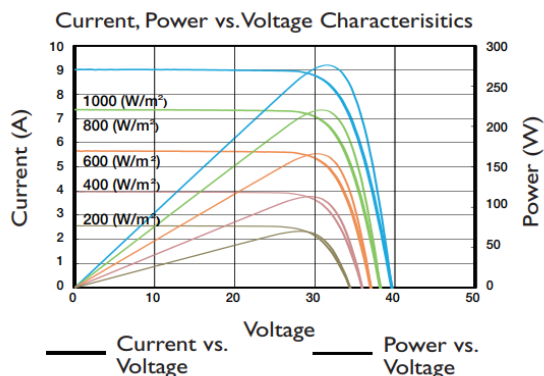
Power connection

Junction box	IP67 junction box with 2 bypass diodes
Cable solar cable	Length 800 mm, 4mm <sup>2</sup> Prefabricated with MC4-combined plug
Applicaton class	Class A (according to IEC 61730)

Packaging specification

Dimensions (H×W ×D)	1500mm × 1110mm × 800mm
Modules Qty per carton	31
Modules Qty per container 20"	651
Modules Qty per container 40"	1395

Drawings



Dimensions are in mm