






High Performance Photovoltaic Modules


5BB MONO CRYSTALLINE MODULE
190W-195W

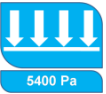
Key Features:


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10 Years Manufacturer's Warranty
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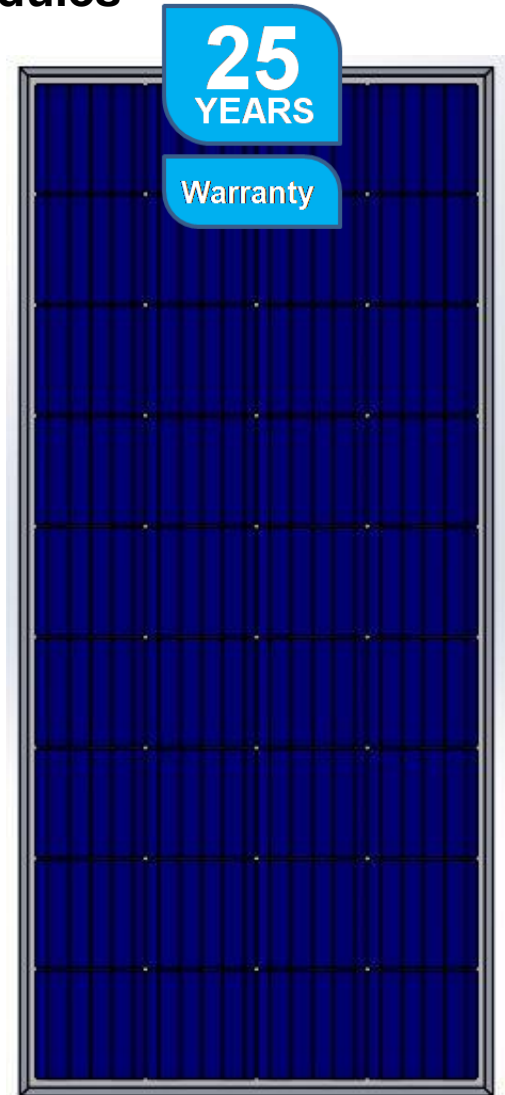
Positive Power Tolerance is Guaranteed (0 to 5 Wp)
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Excellent Low Light Performance
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Excellent Outstanding Weather-Resistance
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Maximum 5400 Pa Snow Load
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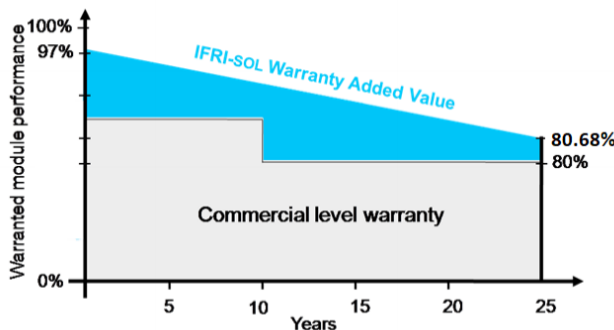
Maximum 2400 Pa Wind Load



Linear High Performance Guarantee

10 Years Product Warranty on 90.88% of the Nominal Performance¹

25 Years Linear Power Output Warranty on 80.68% of the Nominal Performance¹



Certifications

- Management system TÜV-Certified
ISO 9001:2015: **ID 011001317684**
- ISO 14001: 2015: **ID 011041317684**
- BS OHSAS 18001:2007: **ID 011131317684**
- IS 14286 / IEC 61215, IS/IEC 61730 - 1&2: **R- 41151432**



¹According to the IFRI-SOL Product and Performance Warranty

Electrical Specification

Module Type	Nominal Power Pmpp	Nominal Voltage Umpp	Nominal Current Impp	Open Circuit Voltage Uoc	Short Circuit Current Isc	Module Conversion Efficiency
IF-M190-36	190 Wp	19.83V	9.60A	23.94V	10.15A	18.41%
IF-M195-36	195 Wp	20.15V	9.74A	24.05V	10.27A	18.89%

Electrical Data at STC (STANDARD TEST CONDITIONS): 1000W/m² Irradiance, 25°C Cell Temperature, AM1.5g Spectrum According to EN 60904-3.

NMOT

Module Type	Nominal Power Pmpp	Nominal Voltage Umpp	Nominal Current Impp	Open Circuit Voltage Uoc	Short Circuit Current Isc
IF-P190-36	141.23Wp	18.31V	7.70A	22.04V	8.17A
IF-P195-36	145.10Wp	18.58V	7.81A	21.13V	8.26A

Electrical data at NMOT: 800W/m² irradiance, 20°C Ambient temperature, 1m/s Wind Speed.

Design

Front Glass	3.2mm High Transmission, Anti-Reflection Coating, Tempered Glass.
Encapsulant	Ethylene Vinyl Acetate (E.V.A)
Cell	5BB Monocrystalline High Efficiency / 36 pcs (158.75mm*158.75mm)
Backside	Composite Film (white, black, ...)
Frame	35mm Anodized Aluminum (Silver/Black)

Limit Values

Maximum System Voltage	1000VDC
Maximum Series Fuse Rating	12A
Limiting Reverse Current	12A
NMOT	45±2°C
Operating Temperature	From -40°C to 85°C
Maximum Load	2400N/m ²

Mechanical Specification

Dimensions (H×W ×D)	1498mm×689mm×35mm
Weight	13Kg

Temperature Coefficients

Voltage Uoc	-0.2586%/°C
Current Isc	+0.0031%/°C
Output Power	-0.3755%/°C

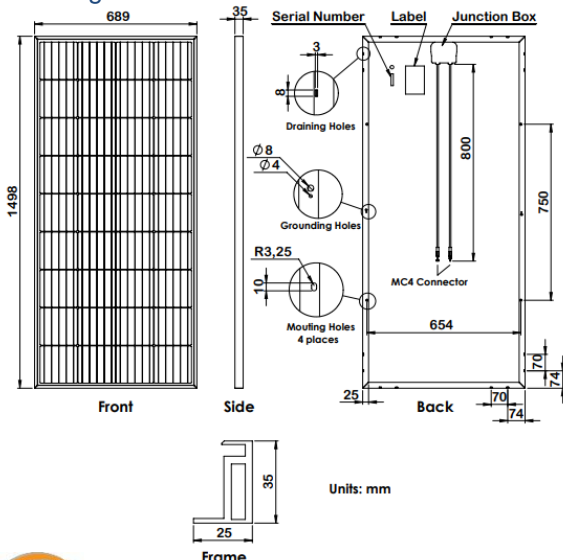
Power Connection

Junction Box	IP67 Junction Box with 2 Bypass Diodes
Solar Cable	Length 800 mm, 4mm ² Prefabricated with MC4-Combined Plug
PV Module Classification	Class II (according to IEC 61730)

Packaging Specification

Dimensions (H×W ×D)	1525mm×1120mm×815mm
Modules Qty per carton	31
Modules Qty per container 20'	651
Modules Qty per container 40'	1395

Drawings



Current-Voltage/Power-Voltage Curves, IF-M190-36

