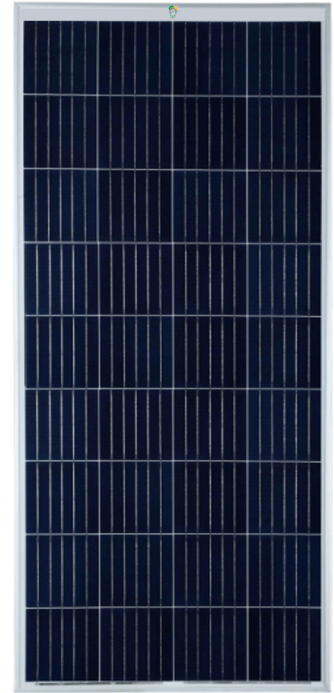


# Solar PV Modules

Polycrystalline Solar PV Modules 150-170W









-  Higher Efficiency
-  Easy Handling & Installation
-  Maximum System Voltage of 1000V DC
-  Higher Module Power Output
-  BOS Cost Reduced
-  15 Years Product Workmanship Warranty
-  27 Years Product Performance Warranty

## Why HVR Solar ?

-  Stringent Quality Control
-  Intensive R&D
-  Highly Skilled Management
-  Tier-1 Raw Material Used
-  Highest Standards of Product
-  Door-to-Door Supply Chain & Logistic

## Product Reliability Factor

-  Positive Power Tolerance
-  Withstand Harsh Environmental Conditions
-  100% EL Inspected-Micro Crack Free Module
-  High Low Light Performance
-  High Resistivity AR Coated Glass
-  PID Resistant 5/6 BB Cells & Encapsulants

## Applications



Module Series	HVRP036F12V150	HVRP036F12V155	HVRP036F12V160	HVRP036F12V165	HVRP036F12V170
Dimension-LxW (MM)	1490*665	1490*665	1490*665	1490*665	1490*665
Cell Size (MM)	157*157	157*157	157*157	157*157	157*157
No of Cell	36	36	36	36	36
Max Series Fuse Rating	15A	15A	15A	15A	15A
Maximum System Voltage (V)	1000	1000	1000	1000	1000

## Electrical Characteristics at STC

Maximum Power Pmax (Wp)	150	155	160	165	170
Maximum Voltage Vmpp (V)	18.10	18.75	18.95	19.25	19.50
Maximum Current Impp (A)	8.30	8.27	8.46	8.58	8.72
Open circuit Voltage Voc (V)	22.20	22.68	22.80	23.00	23.40
Short Circuit Current Isc (A)	8.50	8.95	9.04	9.09	9.20
FF	0.80	0.76	0.78	0.79	0.79
Module Efficiency(%)	15.16	15.65	16.18	16.68	17.16

STC:1000W/m<sup>2</sup> irradiance, 25°C cell temperature, AM1.5G spectrum according to EN 60904-3

2 Average relative efficiency reduction of <5% for every 200W/m<sup>2</sup> reduction in Irradiance, according to EN 60904-1

## Electrical Characteristics at NOCT

Maximum Power Pmax (Wp)	109.05	113.54	116.50	121.00	125.00
Maximum Voltage Vmpp (V)	16.42	16.60	16.75	16.90	17.17
Maximum Current Impp (A)	6.64	6.84	6.96	7.16	7.28
Open circuit Voltage Voc (V)	19.93	20.30	20.41	20.53	20.68
Short Circuit Current Isc (A)	6.90	7.15	7.29	7.40	7.52

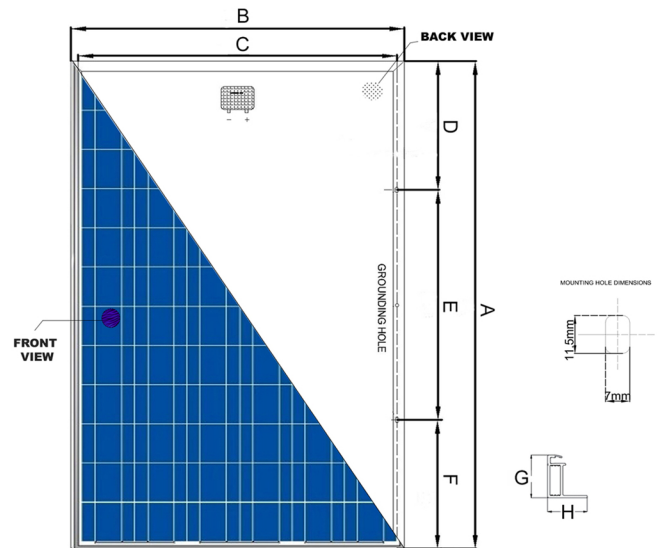
NOCT:800W/m<sup>2</sup> irradiance, 20°C ambient temperature, Wind Speed 1m/sec

## Temperature Coefficients (Tc) Permissible Operating Conditions

Tc of Open Circuit Voltage ( $\alpha$ )	-0.31%/°K
Tc of Short Circuit Current ( $\beta$ )	0.050%/°K
Tc of Power ( $\gamma$ )	-0.41%/°K
NOCT	46 ± 2°C
Temperature Range	-40°C to +85 °C
Limiting Reverse Current (Ir)	15A

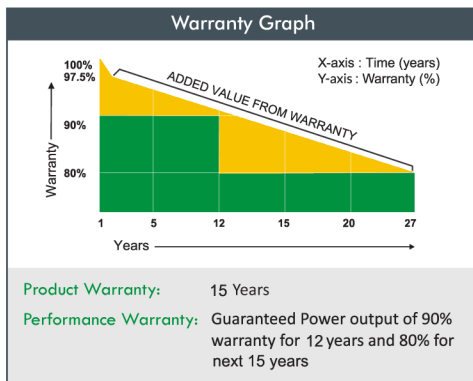
## Mechanical Data

Junction Box	IP 65 rated with Bypass diodes
Application Class	Class A (Safety class II)
Substrate (Glass)	High transmission low iron tempered glass
Solar cells & Orientation	Polycrystalline Solar Cells
Cells Encapsulant	EVA (Ethylene Vinyl Acetate) - FC/UFC
Back Sheet	Composite film - White
Frame	Silver Anodized aluminum frame with twin wall profile
Mechanical Load Test	Sustain Heavy wind & snow loads (2400 Pa & 5400 Pa or 550 Kg/m <sup>2</sup> Maximum diameter of 24 mm with Hail impact of 83 Km/h



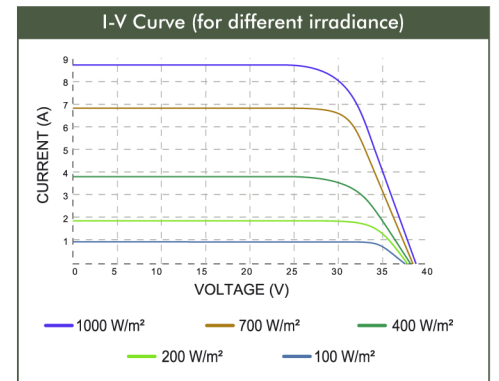
## Module & Hole Mounting Dimension

DIMENSION (in mm)	HVRP036F12V150	HVRP036F12V155	HVRP036F12V160	HVRP036F12V165	HVRP036F12V170
A	1490	1490	1490	1490	1490
B	665	665	665	665	665
C	635	635	635	635	635
D	445	445	445	445	445
E	600	600	600	600	600
F	445	445	445	445	445
G	35	35	35	35	35
H	25	25	25	25	25



### Approvals and Certification

Products:	IEC 61215 ,ROHS IEC 61730, IEC 61701, CE, UL 1703,
Manufacturing:	ISO 9001:2015, ISO 14001: 2015 ISO 45001:2018



## Corporate Office

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## Works

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