

# Solar PV Modules

Polycrystalline Solar PV Modules 200-210W



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



Home lightning System



Street Light Application



Off-Grid Rooftop Systems



# TECHNICAL DATA

Module Series	HVRP048F16V200	HVRP048F16V210	HVRP072C12V200	HVRP072C12V210	HVRP072C24V200	HVRP072C24V210
Dimension-LxW (MM)	1335*990	1335*990	1335*990	1335*990	1335*990	1335*990
Cell Size (MM)	157*157	157*157	104*157	104*157	104*157	104*157
No of Cell	48	48	72	72	72	72
Max Series Fuse Rating	15A	15A	20A	20A	20A	20A
Maximum System Voltage (V)	1000	1000	1000	1000	1000	1000

## Electrical Characteristics at STC

Maximum Power Pmax (Wp)	200	210	200	210	200	210
Maximum Voltage Vmpp (V)	25.20	25.80	18.12	18.32	36.21	36.78
Maximum Current Imp (A)	7.97	8.15	11.24	11.59	5.53	5.74
Open circuit Voltage Voc (V)	29.90	30.44	22.24	22.36	43.33	43.90
Short Circuit Current Isc (A)	8.59	8.72	12.23	12.84	5.92	6.14
FF	0.78	0.79	0.75	0.74	0.78	0.78
Module Efficiency(%)	15.19	15.91	15.41	16.06	15.15	15.98

STC:1000W/m2 irradiance, 25°C cell temperature, AM1.5G spectrum according to EN 60904-3

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

## Electrical Characteristics at NOCT

Maximum Power Pmax (Wp)	146.29	153.48	146.23	153.20	146.27	153.41
Maximum Voltage Vmpp (V)	22.68	23.22	16.32	16.42	32.65	32.92
Maximum Current Imp (A)	6.45	6.61	8.96	9.33	4.48	4.66
Open circuit Voltage Voc (V)	26.40	27.20	19.80	19.96	39.20	39.60
Short Circuit Current Isc (A)	6.95	7.06	9.94	10.40	4.78	4.96

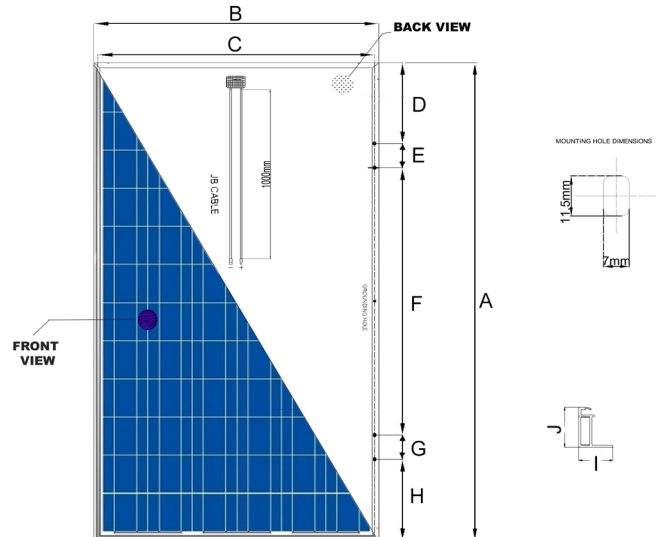
NOCT:800W/m2 irradiance, 20°C ambient temperature, Wind Speed 1m/sec

## 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

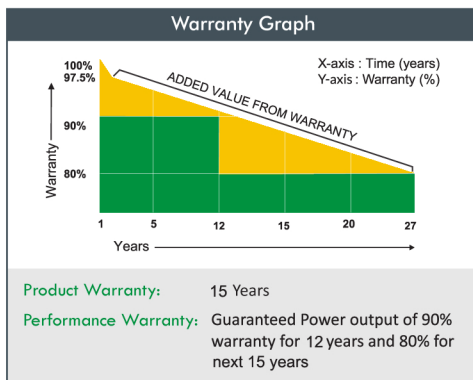
## Mechanical Data

Junction Box	IP 67/IP 68 rated with 3 Bypass diodes
Cable & Connectors	Solar cable 1000mm x 2 nos black MC4/MC4 Compatible connectors
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/m2 Maximum diameter of 24 mm with Hail impact of 83 Km/h

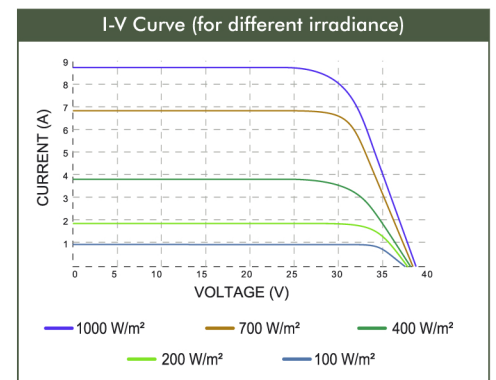


## Module & Hole Mounting Dimension

DIMENSION (in mm)	HVRP048F16V200	HVRP048F16V210	HVRP072C12V200	HVRP072C12V210	HVRP072C24V200	HVRP072C24V210
A	1335	1335	1335	1335	1335	1335
B	990	990	990	990	990	990
C	960	960	960	960	960	960
D	267.5	267.5	267.5	267.5	267.5	267.5
E	200	200	200	200	200	200
F	400	400	400	400	400	400
G	200	200	200	200	200	200
H	267.5	267.5	267.5	267.5	267.5	267.5
I	25	25	25	25	25	25
J	35	35	35	35	35	35



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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