

**Features**

- High efficiency multi crystalline silicon solar cells.
- High transmission textured toughened glass.
- Module as per IEC-61215(2005); IEC-61730 safety class & IEC-61701 Salt Mist Test.
- Suitable for off-grid & grid connected systems.
- Narrow power tolerance for minimizing losses due to module power mismatch in an array.
- High quality screwless anodized aluminum frame to provide structural strength to the Laminate.
- TUV approved, IP65 rated 4 terminal junction box with 3 by-pass diodes (15A) for quick & safe installation.
- Bypass diodes to reduce the effect of partial shading of modules.
- Preassembled cable of length 1000 mm each with MC4 type +Ve and -Ve connectors.
- Manufacturing facility certified to ISO 9001:2008, ISO 14001:2004, BS OHSAS 18001:2007 and EN ISO 50001:2011.

**Typical Electrical Characteristics\***

Module Type	JJ-M654			
Maximum Power [P <sub>m</sub> (Wp)]	210	215	220	225
Power tolerance [Wp]	+ 4.99	+ 4.99	+ 4.99	+ 4.99
Maximum Power Voltage [V <sub>mp</sub> (V)]	25.10	25.60	26.13	26.66
Maximum Power Current [I <sub>mp</sub> (A)]	8.37	8.40	8.42	8.44
Open Circuit Voltage [V <sub>oc</sub> (V)]	32.35	32.78	33.40	33.60
Short Circuit Current [I <sub>sc</sub> (A)]	8.76	8.79	8.82	8.90
Module Efficiency [%]	14.19	14.53	14.87	15.21

\*All electrical measurements are at STC (25° C, 1.5 AM, 1000 W/m<sup>2</sup>)

\*Best in Class A Solar Sun simulator. (As per IEC 60904-9)

**Thermal Characteristics**

Temperature coefficient of P <sub>max</sub>	-0.43%/°K
Temperature coefficient of I <sub>sc</sub>	0.046%/°K
Temperature coefficient of V <sub>oc</sub>	-0.33%/°K
NOCT	45 ± 2 °C



## Mechanical Characteristics

Front Cover	Low Iron tempered glass
Solar Cells (Quantity/type/arrangement/size)	54 pcs/Multicrystalline/6 x 9/156mm x 156m
Junction Box	TUV approved, IP65 rated 4 terminal junction box with 3 by-pass diodes (15 A)
Cable (length/size)	1000 mm/ 4.0mm <sup>2</sup>
Connectors	MC4 type +Ve and -Ve
Dimensions (LxWxH)	1485 mm x 996 mm x 40 mm (± 1 mm)
Weight	18 kg approximate

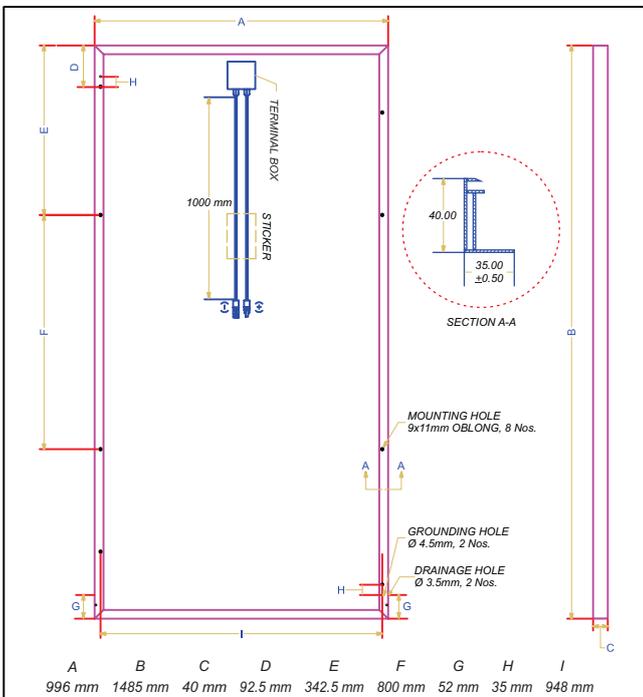
## Operating Conditions

Max. System Voltage	1000 VDC
Safety Class	II
Maximum Series fuse	15A
Operating Temperature	-40°C to +85°C

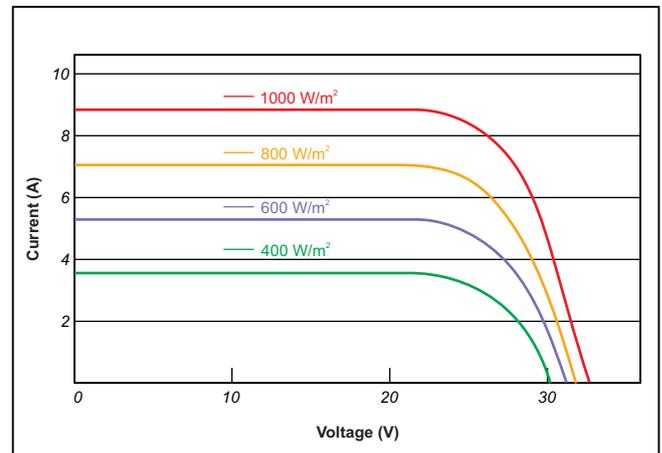
## Warranty

- Manufacturing defect & workmanship: 5 Years
- Power Production (Limited Warranty): 90% for 10 years & 80% for 25 years
- In compliance with our warranty terms and conditions. Contact Jain Irrigation System Ltd. for complete warranty details.
- For any kind of technical or design support, you may contact Jain Irrigation System Ltd.

## Module dimensions



## I-V Curves



Positive power tolerance system applied while categorizing the module in various powers ranges.

\*Above Specifications are subject to change without prior notice. The specifications may vary slightly.