1. Introduction

This manual contains information regarding the safe installation and handling of photovoltaic (PV) modules produced by PV Power Tech. All the instructions given in this manual should be read carefully and understood before attempting to install the modules. If there are any questions, please contact us for further explanation. The instructions and requirements of this manual refer to the following crystalline modules manufactured by PV Power Tech.

Poly crystalline:
PV Power Tech Modules ECO Series ranging from 10W to 350W

Mono crystalline:
PV Power Tech Modules ECO M Series ranging from 170W to 400W

1.1 Disclaimer of liability

The use of this manual and the conditions or methods of installation, operation, utilization and maintenance of PV product are beyond PV Power Tech control. Therefore, PV Power Tech will not accept any responsibility and expressly denies any liability damage, or expense arising out of or in any way connected with such installation, operation, utilization or maintenance.

No responsibilities will be assumed by PV Power Tech for any infringement of patents or other rights of third parties, which may result from use of the PV module. No license is granted by implication or otherwise under any patent or patent rights. The information in this manual is based on PV Power Tech knowledge and experience and it is believed to be reliable. Nevertheless, such information including product specification (without limitations) and suggestions do not constitute a warranty, expressed or implied. PV Power Tech reserves the right to change the manual, the PV module, the specifications, or product information sheets without prior notice.

1.2 Product identification

Each module can be identified by means of the following embedded information:

Nameplate:
It is located on the reverse side of the module. According to IEC 61215 and IEC 61730-1 & 2 directives it gives information about the
main parameters of the module: Product Type, Maximum Power, Current at Maximum Power, Voltage at Maximum power, Open Circuit Voltage, Short Circuit Current, all as measured under Standard Test Conditions, weight, dimensions, Maximum System Voltage, etc.

Serial number:
Each individual module is identified by a unique serial number accompanied with a barcode. They are permanently inserted inside the laminate, under the front glass of the module, visible when viewed from the front of the module. There is only one unique serial number accompanied with one barcode on the module.

ECO XXXXXXXXX

where,

ECO – *Stands for Model Series Name*
XXXXXXXXX– *Unique Serial Number of every Module*

1.3 Quality and Safety Standards

PV Power Tech photovoltaic modules meet all the requirements of the following official Standards in terms of Quality and Safety:

- IEC 61215: design qualification and type approval
- IEC 61730-1 and 2: photovoltaic module safety qualification
- ISO 9001: quality management system for manufacture and sales of Photovoltaic Modules
- ISO 14001: environmental friendly manufacturing practices
- ISO 45001: Occupational Health and safety management system

The modules are qualified for application class A: Hazardous voltage (IEC 61730: higher 50V DC EN (Higher than 240W) where general contact access is anticipated (Modules qualified for safety through EN IEC 61730-1 and -2 within this application class are considered to meet the requirements for safety class II)

1.4 Limited warranty

The warranty conditions applied to the module by PV Power Tech are described in the document: "Limited Warranty for PV Modules" – the current version is available on our website. Ignoring the instructions in this manual may give PV Power Tech cause to invalidate the warranty where negligence can be proven (improper installation or use). Please contact us for any question about warranties.

Beyond the obligatory requirements imposed by PV Power Tech for installation and use of the modules covered by PV Power Tech Limited Warranty, this manual carries out a series of recommendations in order to facilitate, optimize or increase security and effectiveness of the module installation. In these cases in which PV Power Tech is giving just suggestions and not specific obligations, different technical choices by the installer may not cause the withdrawal of the warranty.

2. Safety

PV Power Tech PV modules have passed all the required safety tests according to the IEC EN 61730 Directive with Application Class A and they are certified as Safety Class II.

Do not disconnect the module under load.
Do not direct artificially concentrated sunlight on the module as the supplied modules are not suitable for the same.

2.1 General Safety

• All PV modules should be installed according to all local and national applicable standards, codes and regulations.
• Installation should be performed only by qualified persons. Installers should assume the risk of all injury that might occur during installation including, without limitation, the risk of electric shock.
• All safety precautions specified even for the other components of the system should be checked and followed.
• Rooftop installations should be placed over fire resistant roof coverings only.
• Do not attempt to disassemble the modules, and do not remove any attached nameplates or components from the modules.
• Do not apply paint or adhesive to module top surface.
• Do not use mirrors or other magnifiers to artificially concentrate sunlight on the modules. Do not expose back sheet foils directly to sunlight.

2.2 Handling Safety

• Do not exceed the maximum height of pallets stacked on top of each other. Maximum height is 2 pallets. Standard packaging for shipment in 40 ft. High-Cube Containers
• Modules pallet unload by the Forklift & hand trolley only.
• Do not damage or scratch the PV module surfaces.
• Do not use the junction boxes and the cables as a grip.
• Do not stand or step on module.
• Do not drop module or allow objects to fall on module.
• To avoid glass breakage, do not place any heavy objects on the module.
• Do not set the module down hard on any surface.
• Inappropriate transport and installation may break modules.

2.3 Installation Safety

• Installing solar PV systems requires specialized skills and knowledge.
• One individual module may generate DC voltages greater than 30 V when exposed to light of any intensity. Contact with a DC voltage of 30 V or more is potentially hazardous.
• To avoid electrical arcing, do not disconnect modules under load. Keep connectors dry and clean.
• PV modules will generate electricity whilst exposed to light. Generation will only stop when the PV module is either removed from light or covered with a dark opaque material. When working with modules without any cover, regard the safety regulations for live electrical equipment.
• Do not wear metallic rings, watchbands, ear, nose, lip rings or other metallic devices while installing or troubleshooting PV systems in order to avoid risk of electric shock.
• Use only insulated tools that are approved for working on electrical installations. Abide with the safety regulations for all other components used in the PV system, including wiring and cables, connectors, charging regulators, inverters, storage batteries and rechargeable batteries, etc.
• Use only equipment, connectors, wiring and support frames suitable for a solar electric system. Always use the same type of module within a particular PV system.
• Do not attempt to repair any part of the PV module.

3. Installation

3.1 Design considerations

To maximize efficiency, PV modules should be installed in a location where they will receive the maximum amount of sunlight throughout the year. In the Northern Hemisphere modules should face the South, while in the Southern Hemisphere modules should face the North. Therefore, modules facing more than 30 degrees away from true South (or North) could lose approximately 10% to30% of their power output (depending on the latitude of the installation site: the higher the latitude, the higher the loss).

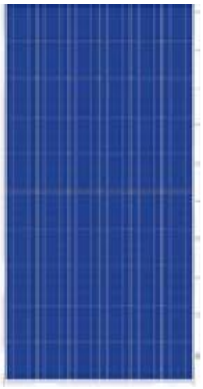
It is recommended that where PV modules are connected in series they should be installed at same orientation and tilt angle. Different orientations or angles may cause a loss of power output due to the change in sunlight exposure.

While designing the final layout of the modules in the PV system (on the ground or on the roof), we recommend the designer to keep suitable access space to allow easy maintenance and inspection works.

Ensure that PV Power Tech PV modules are installed and stored in the following conditions:

- Operating ambient temperature: from -40°C to +85°C
- Storage temperature: from -40°C to +60°C
- Humidity: below 85 RH%

Provide adequate ventilation under a module for cooling PV Power Tech recommends 10 cm minimum air space between module and mounting surface. PV Power Tech recommends that PV modules are mounted at a minimum tilt angle of 10° with respect to the horizon, in order to facilitate the self-cleaning of their front glass from dirt during ordinary raining. PV Power Tech modules should not be mounted in mobile applications (except solar trackers) or in locations where aggressive substances such as salt or salt-water or any other type of corrosive agent could affect the performance and/or safety of the PV modules.



The rooftop installation of solar module may affect the fireproofing of the house construction. Please leave a space between the modules of 150mm every 3 to 5 meter to allow access of fire fighting personnel in the event of a building fire. It is also possible to install the fireman's switch in the immediate vicinity of the PV module in the DC current line. The PV modules are automatically switched off by the under voltage release in the fireman's switch, should the fire crew get the electrical utility company to be de –energize the location of the fire or decide to locally accurate then switch

3.2 Mechanical installation

Use always structures and materials specifically developed and certified for PV modules installation.
We can connect total **x nos. *** of modules in a series, the minimum distance between two fixed modules for linear thermal expansion of the module frames should be 5 mm. Nevertheless, the recommended distance between two modules is 20 mm to allow wind circulation, in order to reduce pressure loads and improve module ventilation. The PV module should not be mounted in such a way that the drain holes of the module can become blocked.

PV Power Tech PV modules are suitable for mechanical mounting both in portrait and landscape / round orientation. In choosing the orientation, please keep in mind the internal PV module by-pass diode configuration to ensure the optimum electrical behavior from any potential shading over the modules.

Galvanic corrosion can occur between the aluminum frame of the PV module and the mounting hardware if such hardware
is composed of dissimilar metals, especially in harsh environments such as high humidity. In these cases, to prevent corrosion, neoprene tape, PVC washers or stainless steel washers should be placed between the PV module frame and the support structure. Additionally, all module support structures used to support PV modules at correct tilt angles should be wind and snow load rated by appropriate local and civil Directives prior to installation.

NOTICE: Do not disassemble the PV module and do not remove, drill or modify the frame in any way, as this will invalidate the warranty. Please contact us if module mounting procedure is not clear.

Note : x nos. = Max. system voltage / signal module Voc

3.2.1. Installation using the frame mounting holes

Modules must be securely fixed to the mounting structure using the 8nos. oblong mounting holes (**Dia 6.5 mm X 10 mm / 8 mm x 12 mm or customer require)** placed in long frames. Use stainless steel hardware (near by hole dia), spring washers and flat washers with a torque of approximately 10 newton metre [Nm] for normal installation. Galvanized or hot dipped zinc plated hardware is also acceptable.

3.2.2. Installation using pressure clamps

Installation using pressure clamps may be executed along both sides of the module.

The obligatory position of the clips along the frame depends on which side of the module is used for the installation as follows:

• Fixing on the long side: The clamps must be mounted along the frame at the position of the mounting hole, with a tolerance of 10% of the module total length to the edge of the frame.

• Fixing on the short side: The clamps must be mounted along the frame at the edges of the module, with a tolerance of 25% of the module total width to the middle of the frame.

Note that on both sides of the module the pressure clamps always should be mounted in a symmetric position with respect to the center line for a proper load distribution.

Clamps must be installed according to the manufacturer's specific instructions. Do not apply excessive pressure on the frame such that the frame deforms. PV Power Tech recommends a torque of approximately 10 Newton meter [Nm],

The clamps should have contact only with the module frame and, to avoid shadowing effects and possible damage, should not overlap onto or over the module glass.

Do not install the modules with pressure clamps mounted out of the specified areas, otherwise the module mechanical resistance may be affected.

3.2.3. Insertion systems

Insertion systems on the short sides of the module may be used with a limitation on the maximum load resistance of 2400 Pa. Insertion systems on the long side of the module are not affected by any limitation and may be used with a maximum of 5400 Pa for snow load.

When using insertion systems where the modules are installed sliding through the inner side of the rails, PV Power Tech recommends the use of PVC frame protectors in order to prevent damage to the anodized surface of the frame.

3.2.4. Module load resistance

Wind Load: 2400 Pa
Snow Load: 5400 Pa
According to IEC 61215 Directive, 2400 Pa corresponds to a wind pressure of 130 km/h (approximately +/-800 Pa) with a safety factor of 3 for gusty winds.

3.3 Electrical installation

Modules electrically connected together in a series/parallel configuration generate DC electrical energy which may be converted to AC by means of a solar inverter. The resulting PV system may be therefore connected to the local utility grid system. As local utilities' policies and technical rules on connecting a renewable energy system to their power grids vary from region to region, consult a qualified system designer or integrator to design such a system to comply with the Directives. Permits are normally required for installing a PV system and the utility will formally approve and inspect the system before its connection to the grid can be accepted.

The PV system electrical installation should be executed in accordance with the respective National Electrical Code or applicable National Regulations.

Use only insulated tools that are approved for working on electrical installations. Abide by the safety regulations for all the components used in the system, including wiring and cables, connectors, charge regulators, inverters, storage batteries etc.

Under normal conditions, a photovoltaic module is likely to experience conditions that produce more current and /or voltage than reported at Standards test Conditions. Accordingly, the values of short-circuit current and open circuit voltage marked on this module should be multiplied by a factor of 1.25 when determining component voltage rating, conductor current carrying capacity, fuse sizes, and size of controls connected to the PV output

3.3.1. General considerations

Modules are fitted with two pre-assembled sunlight resistant cable leads, which are terminated with PV fast connectors. The positive(+) terminal has a female connector while the negative (-) terminal has a male connector. These cable leads and connectors must not be removed or cut off.

Several modules are connected in series and then in parallel to form a PV array, especially for applications with high operating voltage. When modules are connected in series, the total voltage of the resulting string is the sum of the individual voltages of the modules. Do not use different types of modules in the same circuit as this will cause mismatch, power loss and/or damage to the PV system.

When selecting the size of the cables that connect the module strings to the solar inverter, it is recommended to refer to the Name plate electrical parameters of the related module type.

For electrical design considerations, the values given in the module label or datasheet of the related model type should be multiplied by a factor of 1.25 for Short Circuit Current (Isc) and 1.10 for Open Circuit Voltage (Voc), when determining component voltage ratings, conductor current ratings, fuse sizes and the rest of electrical hardware connected to the module strings.

Nevertheless, consult rated local wiring regulations to determine system wire size, type, and temperature allowed for your installation.

3.3.2. Bypass diodes
When a module is connected in series with other modules, partial shading can cause a reverse voltage across the shaded area of the module. The current generated is therefore forced through the shaded area by the other modules.

When a bypass diode is wired in parallel with the PV cell strings, such a forced current will flow through the diode and bypass the current generated by the non-shaded cells, thereby minimizing module heating, current losses, and damage to the module.
PV Power Tech PV modules are fitted with internal bypass diodes wired inside the junction box to reduce the effects of partial shadings. Do not open the junction box to change the diodes even if they are defective. This should be done only by qualified personnel.

3.3.3. PV System Grounding
PV POWER TECH modules are certified for Class A applications, Safety Class II, 1000Vdc & 1500Vdc Maximum System Voltage. Refer to respective National Electrical Code requirements and standards for safety-related grounding of racking system and/or module frames.

When executing the grounding of the module frames, PV Power Tech recommends taking into account the following considerations:
• The long frame rails are equipped with pre-drilled grounding holes in their centre (Dia 4mm). These holes should be used only for grounding purposes and not for mounting purposes.
• Proper grounding is achieved by connecting the module frame(s) and structural members contiguously using a suitable grounding conductor. The grounding wire should be properly fastened to the module frame to assure good electrical contact. Use copper, copper alloy or any other conductive material accepted by the applicable National Electrical Regulation.
• Make electrical contact by penetrating the anodized coating of the aluminum frame. To break the anodized layer, PV Power Tech suggests a stainless steel toothed washer to be inserted between the nut and the frame.
• When carrying out the grounding of the modules, the aluminum frame must not be in permanent direct contact with dissimilar Metals, this could result in a galvanic corrosion. Stainless steel flat washers may be inserted between frame and grounding lug.
• PV Power Tech recommends the use of stainless steel grounding bolts or grounding lugs specifically designed for PV applications.

4. Commissioning and maintenance
Test all electrical and electronic components of the system before using it. Follow the instructions in the manuals supplied with the components and equipment. Commission and Maintenance works should only be performed by specialized and properly trained personnel.

4.1 Commissioning
Check the Open Circuit Voltage of every string of modules connected in series with a digital multi meter. The measured overall values should correspond to the sum of the Open Circuit Voltage of the individual modules.

Be aware that the measured overall voltage can be lower than expected, due the normal decrease of Open Circuit Voltage of the individual modules, caused by the temperature rising of solar cells or low irradiance. The rated voltage at STC will be found in the name plate or technical datasheet of the module type used in the PV system.

In any case, the measured overall voltage should be never below 20% of the estimated one. Excessively low voltage is typically caused by improper connections at the terminals or defective bypass diodes. Please contact us if the problem cannot be resolved.

Once the commissioning has been executed, check the operating current through every series of the PV installation. It can be measured directly by a DC clamp meter. All measurements should be in the same value range, but they may vary from the maximum current measured at STC specified in the datasheet. The measured values are dependent on the solar inverter, but they should be proportional to the solar irradiance present at the moment.

4.2 Maintenance
PV Power Tech recommends the following maintenance in order to ensure optimum performance of the module:
• Check the electrical and mechanical connections every six months to verify that they are clean, secure and undamaged;
• Check that mounting hardware, terminal screws and grounding components are tightly secured with no corrosion;
• Check that modules are not shaded by vegetation or any unwanted obstacles;
• Do not touch live parts of cables and connectors;
• Use appropriate safety equipment (insulated tools, insulating gloves, etc.) when handling modules;
• If any problem with the system or individual module arises, have them investigated by a competent specialist;
• Replacement modules must be the same type of those to be replaced;

• Modules generate high voltage when exposed to sunlight. Please cover the front surface of modules with an opaque non scratch material when repairing. Repairing works must be performed by specialized and properly trained personnel only;

NOTICE: Follow the maintenance instructions for all components used in the system, such as support frames, charge regulators, inverters, batteries etc.

4.2.1. Cleaning

Dirt and dust can accumulate on the glass surface of the PV module over time, particularly in low inclination installations. This can cause a general decrease of power output and also sedimentation on the lower edge of the modules due to dirt accumulation. PV Power Tech recommends periodic cleaning of PV modules to ensure maximum power output, especially in regions with high quantity of dust in the air or low precipitations, as follows:

• Under most weather conditions, normal rainfall is enough to keep the PV module glass surface clean. Clean the glass surface of the module as necessary and consider that lower inclination requires more cleaning frequency;

• Always use water and a soft sponge or cloth for cleaning. A mild, non-abrasive cleaning agent can be used to remove stubborn dirt. High mineral content water is not recommended, as it may leave residual deposits on the module;

• PV POWER TECH modules may be equipped with anti-reflective coated glass. This technology provides PV POWER TECH modules with high transmittance and low reflectivity features, which improves the module power output, reduces the dust and dirt deposition and produces very low glare. To avoid any damage to this layer do not clean the modules with high pressure washers, steam or corrosive chemicals. Do not use abrasive sponges or aggressive tools that could scratch the module surface;

• To avoid a possible thermal shock clean the modules during early morning, when the module is still cold. This is specially recommended in regions with hotter temperatures;

• In cold environments with snow do not try to remove the frozen snow or ice from the module scratching on the front glass. Only soft snow can be removed gently with a soft brush in order to improve the production;

• Do not clean modules having broken glass or exposed wiring. This could cause a general electrical failure of the module and/or electrical shock hazard.

5. Series and Parallel Connections:

Modules are either connected in Series or in Parallel to form PV Arrays as per requirement. In Series Connection, voltage is additive while in Parallel Connection current is additive.
For modules in series, the open circuit voltage multiplied by the total number of module has to be less than the maximum system voltage.

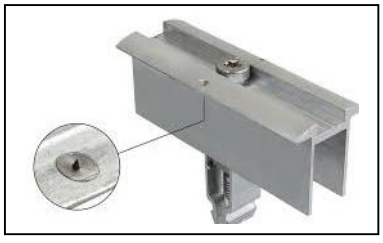
*Voc*n<MSV (where, n= total no. of modules)*

Minimum no. of modules connected in Series = (Minimum I/P Voltage of Inverter at MPP)/(Module Voltage at MPP)$_{| \text{Temp.=-70deg.C}}$

Maximum no. of modules connected in Series = (Maximum I/P Voltage of Inverter)/(Module Voc))$_{| \text{Temp.=-20deg.C}}$

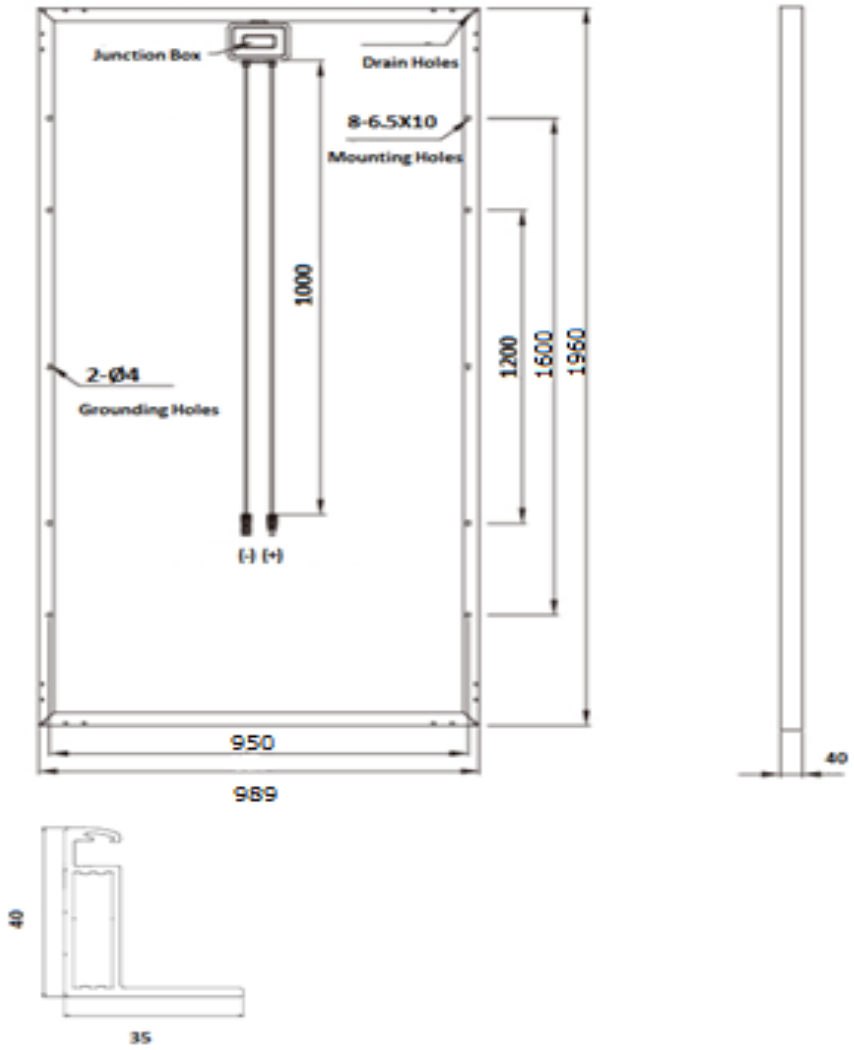
6. Grounding:

Modules of PV Power Technologies are provided with 2 grounding holes of 4mm diameter on the longer frame.
It is recommended to use stainless steel bolts or washers (corrosion resistant) to attach the grounding wires, which need to be tightened properly.



Annex-1 (for reference)

Module specifications



Plot – 60, Tarapur Textile Park Pvt. Ltd. (Sai Baba Bolevard Township), At – Gundale Village, Post – Mahagoan,
Boisar (East), Dist/Tal – Palghar, Pin Code – 40

PV POWER TECH

72 Full Cell Mono crystalline Module Parameters for 1000 VDC								
Module Name	**ECO 335M**	**ECO 340M**	**ECO 345M**	**ECO 350M**	**ECO 355M**	**ECO 360M**	**ECO 365M**	**ECO 370M**
Cell Configuration (Nos)	**12 x 6 (72) Series**							
Pmax (W) (0- +3%)	335	340	345	350	355	360	365	370
Voc (V) (± 3%)	46.25	46.50	46.60	47.10	47.25	47.60	47.75	47.90
Isc(A)(± 5%)	9.25	9.31	9.35	9.50	9.48	9.53	9.59	9.76
Vmax (V)	38.25	38.55	38.99	38.70	39.40	39.65	39.85	39.60
Imax(A)	8.76	8.82	8.85	9.05	9.02	9.08	9.16	9.35
Fill Factor(%)	78.32	78.54	79.20	78.27	79.34	79.37	79.71	79.20
Module Efficiency(%)	17.29	17.54	17.80	18.07	18.33	18.57	18.83	19.10
Max. Series Fuse Rating(A)	15							
Connectors	MC4 Compatible							
Wind Load/Snow Load(Pa)	2400/5400							
Maximum System Voltage(VDC)	1000							

72 Full Cell Polycrystalline Module Parameters for 1000 VDC							
Model Name	**ECO 300**	**ECO 305**	**ECO 310**	**ECO 315**	**ECO 320**	**ECO 325**	**ECO 330**
Cell Configuration (Nos.)	**12 x 6 (72) Series**						
Max. Power-Pmax (W) (0 to +3%)	300	305	310	315	320	325	330
Open Circuit Voltage-Voc (V) (±3%)	44.20	44.55	44.90	45.60	45.60	45.80	46.00
Short Circuit Current-Isc (A) (±5%)	8.80	8.86	8.92	9.04	9.08	9.13	9.20
Maximum Voltage-Vmax (V)	36.15	36.45	36.65	36.97	37.25	37.60	37.95
Maximum Current-Imax (A)	8.30	8.37	8.48	8.52	8.61	8.65	8.70

Fill Factor (%)	77.13	77.27	77.40	76.41	77.29	77.72	77.98
Module Efficiency (%)	15.48	15.73	15.99	16.25	16.51	16.77	17.02
Max. Series Fuse Rating(A)	15.00						
Connectors	MC4 Compatible						
Wind Load/Snow Load(Pa)	2400/5400						
Maximum System Voltage(VDC)	1000						

36 Cut Cell Polycrystalline Module Parameters for 600 VDC			
Model Name	**ECO 150**	**ECO 155**	**ECO 160**
Max. Power-Pmax (W) (0 to +3%)	150	155	160
Open Circuit Voltage-Voc (V) (±3%)	22.70	22.80	22.90
Short Circuit Current-Isc (A) (±5%)	8.80	8.75	9.10
Maximum Voltage-Vmax (V)	18.20	18.50	18.60
Maximum Current-Imax (A)	8.25	8.42	8.62
Fill Factor (%)	75.17	78.08	76.94
Module Efficiency (%)	15.37	15.95	16.41
Max. Series Fuse Rating(A)	15		
Connectors	MC4 Compatible		
Wind Load/Snow Load(Pa)	2400/5400		
Maximum System Voltage(VDC)	1000		

36 Cut Cell Polycrystalline Module Parameters for 600 VDC												
Model Name	**ECO 10**	**ECO 20**	**ECO 30**	**ECO 37**	**ECO 40**	**ECO 50**	**ECO 60**	**ECO 75**	**ECO 100**	**ECO 110**	**ECO 120**	**ECO 135**
Max. Power-Pmax (W) (0 to +3%)	10	20	30	37	40	50	60	75	100	110	120	135
Open Circuit Voltage-Voc (V) (±3%)	22.50	22.40	22.40	22.50	22.55	22.60	22.95	22.60	22.70	22.70	22.70	22.70
Short Circuit Current-Isc (A) (±5%)	0.63	1.25	1.85	2.18	2.35	2.93	3.45	4.30	5.70	6.45	6.80	7.82
Maximum Voltage-Vmax (V)	18.20	18.00	18.20	18.50	18.62	18.65	19.40	18.08	18.35	18.40	18.45	18.60
Maximum Current-Imax (A)	0.55	1.12	1.65	2.00	2.15	2.70	3.10	4.15	5.45	6.00	6.52	7.26
Fill Factor (%)	70.62	72.00	72.47	75.43	75.54	76.04	75.96	77.21	77.29	75.40	77.93	76.07
Max. Series Fuse Rating(A)	15											

Connectors	MC4 Compatible
Wind Load/Snow Load(Pa)	2400/5400
Maximum System Voltage(VDC)	600

72 Full Cell Polycrystalline Module Parameters for 1500 VDC								
Module Name	ECO 315H	ECO 320H	ECO 325H	ECO 330H	ECO 335H	ECO 340H	ECO 345H	ECO 350H
Cell Configuration (Nos)	**12 x 6 (72) Series**							
Pmax (W) (0- +3%)	315	320	325	330	335	340	345	350
Voc (V) (± 3%)	45.25	45.60	45.8	46.15	46.22	46.25	46.27	46.29
Isc(A)(± 5%)	9.10	9.08	9.13	9.15	9.26	9.31	9.35	9.45
Vmax(V)	36.95	37.25	37.6	37.90	38.06	38.15	38.26	38.32
Imax(A)	8.55	8.61	8.65	8.73	8.80	8.93	9.03	9.14
Fill Factor(%)	76.72	77.80	77.78	78.35	78.25	79.12	79.86	80.07
Module Efficiency(%)	16.30	16.55	16.78	17.07	17.28	17.57	17.82	18.07
Max. Series Fuse Rating(A)		**15**						
Connectors		**MC4 Compatible**						
Wind Load/Snow Load(Pa)		**2400/5400**						
Maximum System Voltage(VDC)		**1500**						

Plot – 60, Tarapur Textile Park Pvt. Ltd. (Sai Baba Bolevard Township), At – Gundale Village, Post – Mahagoan,
Boisar (East), Dist/Tal – Palghar, Pin Code – 401501