We produce Solar PV Modules (Polycrystalline and Monocrystalline) with the Highest Energy Output & Unmatched Reliability. Our quality Product and Services includes Solar Panels, Lighting Systems, Power Packs and EPC. SunFuel makes Clean Energy available to Homeowners, Schools, Businesses, Commercial Buildings, Non-profits & Government Organizations at very Competitive Prices. SunFuel has a Global Team of Professionals with Expertise in Executing Design, Manufacturing & Distribution. We Deliver Perfection in every step from Designing, Engineering, Manufacturing, Supply, Execution to maintenance of Solar PV Systems ranging from few watts to Megawatts as per international standards (IEC, MNRE, ISO etc.)

**ABOUT US**

SUNFUEL is fully integrated Solar PV Module Manufacturing company with annual manufacturing capacity of 100 MW

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Solar Photovoltaic Modules are manufactured by Laminating a pre assembled sandwich of Stringed cells, Glass, Eva and back sheet. Cells are soldered in series/parallel to create a circuit to add up all the power in the individual cells and laminated to provide strength to the glass sandwich.

**PROCESS OF SOLAR PANELS MANUFACTURING**

- IQC of Raw material
- Cell testing/Cell cutting
- Stringing
- Lay up / Bussing
- EL Testing
- Lamination
- Framing
- Sun simulator testing
- Final Quality check
- Packing
**TECHNOLOGY**

**TESTING**
- Damp heat test
- Thermal cycling test
- Humidity freeze test
- Potential induced degradation test
- Solar cells: Cell tester
- EVA: Gel content test and peel test
- Junction box: IP 67 test
- RTV Silicone sealant: Adhesiveness test
- Electro luminescence test to detect micro cracks
- Ammonia test for anti-corrosion
- Glass: Fragmentation test
- Frame: Frame anodizing test

**QUALITY & PERFORMANCE**
- Screw less frame for high mechanical strength.
- Superior reliability with IP 67 protection in junction box, modules with a system voltage of 1,000 V DC.
- Greater than 17 micron anodization layer on aluminum frame to protect rusting of metal due to moisture and improve the insulation of module.
- Glass with anti-reflective coating to improve light transmission.
- Salt mist, Ammonia, Blowing sand and Hail Tested.
- Ability to sustain heavy snow loads (2400 Pa & 5400 Pa).
- IP 67 rated MC4 compatible connectors.
- Excellent performance in low light.
- Sand & dust storm resistant.

**TYPES OF SOLAR PANELS**

**POLYCRYSTALLINE**
- Cells: 18, 36, 60, 72
- 5-345 W

**MONOCRYSTALLINE**
- Cells: 36, 60, 72
- 45-370 W

**FEATURES**
- Super BOM and super efficient cell for superb performance.
- Positive tolerance & PID resistant.
- IEC/MNRE approved.
- Fully automated robotic manufacturing plant.

**25 Years Linear Power Warranty**

**MADE IN INDIA**
POLY CRYSTALLINE
SOLAR PV MODULES
72 Cells | 300-345 WATT

This module is ideal for large commercial applications, demonstrating financial astuteness and environmental stewardship.

PRODUCT FEATURES

POSITIVE POWER TOLERANCE
Count on Sunfuel to deliver all the watts you pay for with a positive only power tolerance of +3%.

5 BUSBAR TECHNOLOGY
5 BB technology provides low resistance path to the flow of electrons even in low light conditions resulting better output power.

HIGH PERFORMANCE
This module uses an advanced surface texturing & ARC process to increase light absorption and improve efficiency.

PID RESISTANT
Each Sunfuel module is manufactured in state of the art manufacturing environment using PID free raw material resulting high power output and less degradation.

LOW - LIGHT PERFORMANCE
Antimony Free low iron ARC textured glass and textured 5 BB solar cell combines together to perform excellent in Low Light conditions.

HIGH LOAD RESISTANT
Each Sunfuel module withstand wind load (2400 Pa) and snow load (5400 Pa).

RELIABLE
25-year limited warranty on power output and 10-year limited warranty on materials or workmanship.

ELECTROLUMINESCENCE TESTING
Dual stage EL testing assures quality analysis by recognizing real time cell breakage, surface cracks and fissures of a micron scale.

APPLICATIONS

- On-grid large scale utility systems
- On-grid rooftop residential, commercial and industrial roof top installations
- Off-grid residential systems
- Solar pumping applications
- Solar E-rickshaw

SUNFUEL TECHNOLOGIES OFFERS THE BEST COMBINED POWER AND PRODUCT WARRANTY

SUNFUEL PRODUCT & LINEAR PERFORMANCE WARRANTY

<table>
<thead>
<tr>
<th>Product Warranty</th>
<th>Performance Warranty *</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 Years</td>
<td>25 Years Linear Power Warranty</td>
</tr>
</tbody>
</table>

*Refer to Sunfuel’s warranty document for terms and conditions.
**TECHNICAL DATA**

**ELECTRIC PARAMETERS**

Electrical Parameters at Standard Test Conditions (STC)

<table>
<thead>
<tr>
<th>MODULES (SFTI)</th>
<th>72P 300</th>
<th>72P 305</th>
<th>72P 310</th>
<th>72P 315</th>
<th>72P 320</th>
<th>72P 325</th>
<th>72P 330</th>
<th>72P 335</th>
<th>72P 340</th>
<th>72P 345</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pmax (watts) (nominal)</td>
<td>300</td>
<td>305</td>
<td>310</td>
<td>315</td>
<td>320</td>
<td>325</td>
<td>330</td>
<td>335</td>
<td>340</td>
<td>345</td>
</tr>
<tr>
<td>Voltage at Pmax Vmp (V)</td>
<td>37.23</td>
<td>37.57</td>
<td>37.90</td>
<td>38.14</td>
<td>38.47</td>
<td>38.74</td>
<td>39.06</td>
<td>39.14</td>
<td>39.27</td>
<td>39.34</td>
</tr>
<tr>
<td>Current at Pmax Imp (A)</td>
<td>8.06</td>
<td>8.12</td>
<td>8.18</td>
<td>8.26</td>
<td>8.32</td>
<td>8.39</td>
<td>8.45</td>
<td>8.56</td>
<td>8.66</td>
<td>8.77</td>
</tr>
<tr>
<td>Open-circuit Voltage Voc (V)</td>
<td>43.56</td>
<td>44.06</td>
<td>44.56</td>
<td>44.78</td>
<td>45.20</td>
<td>45.50</td>
<td>45.70</td>
<td>45.90</td>
<td>46.30</td>
<td>46.50</td>
</tr>
<tr>
<td>Short Circuit Current Isc (A)</td>
<td>8.57</td>
<td>8.65</td>
<td>8.69</td>
<td>8.77</td>
<td>8.82</td>
<td>8.88</td>
<td>8.98</td>
<td>9.16</td>
<td>9.23</td>
<td>9.29</td>
</tr>
<tr>
<td>Module Efficiency (%)</td>
<td>15.43</td>
<td>15.68</td>
<td>15.94</td>
<td>16.19</td>
<td>16.45</td>
<td>16.71</td>
<td>16.97</td>
<td>17.22</td>
<td>17.48</td>
<td>17.74</td>
</tr>
</tbody>
</table>

**Module Weight (kg)**

- 22.0

**Temperature Coefficient**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tc of Open Circuit Voltage (β)</td>
<td>-0.32 ± 0.01 % /°C</td>
</tr>
<tr>
<td>Tc of Short Circuit Current (α)</td>
<td>0.03 ± 0.02% /°C</td>
</tr>
<tr>
<td>Tc of Power (γ)</td>
<td>-0.43 ± 0.02% /°C</td>
</tr>
<tr>
<td>Maximum System Voltage (V)</td>
<td>1000 V</td>
</tr>
<tr>
<td>NOCT(°C)</td>
<td>44 °C ± 2 °C</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40 °C to + 85 °C</td>
</tr>
</tbody>
</table>

**CONSTRUCTION MATERIALS**

- Junction Box: IP 67, 4 Terminal with 3 bypass diodes
- Application Class: CLASS A (Safety class II)
- Front Covers: High transmission, low Iron, tempered glass
- Cells: 72 Nos., Polycrystalline
- Cell Encapsulant: EVA (Ethylene Vinyl Acetate)
- Back Cover: Composite film (Backsheet)
- Frame: Anodized aluminium frame with twin wall profile
- Mounting Holes: Mounting hole 4 nos. (oval shape (12mm x 9mm) and 6mm Grounding hole 2 nos.

**TEMPERATURE COEFFICIENT**

**PACKAGING INFORMATION**

Individual packing, 2 modules in 1 Box

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This module is ideal for large commercial applications, demonstrating financial astuteness and environmental stewardship.

PRODUCT FEATURES

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- **5 BUSBAR TECHNOLOGY**
  5 BB technology provides low resistance path to the flow of electrons even in low light conditions resulting better output power.

- **HIGH PERFORMANCE**
  This module uses an advanced surface texturing & ARC process to increase light absorption and improve efficiency.

- **PID RESISTANT**
  Each Sunfuel module is manufactured in state of the art manufacturing environment using PID free raw material resulting high power output and less degradation.

- **LOW - LIGHT PERFORMANCE**
  Antimony Free low iron ARC textured glass and textured 5 BB solar cell combines together to perform efficient in Low Light conditions.

- **HIGH LOAD RESISTANT**
  Each Sunfuel module withstand wind load (2400 Pa) and snow load (5400 Pa).

- **RELIABLE**
  25-year limited warranty on power output and 10-year limited warranty on materials or workmanship.

- **ELECTROLUMINESCENCE TESTING**
  Dual stage EL testing assures quality analysis by recognizing real time cell breakage, surface cracks and fissures of a micron scale.

APPLICATIONS

- On-grid large scale utility systems
- On-grid rooftop residential, commercial and industrial roof top installations
- Off-grid residential systems
- Solar pumping applications
- Solar E-rickshaw

SUNFUEL TECHNOLOGIES OFFERS THE BEST COMBINED POWER AND PRODUCT WARRANTY

SUNFUEL PRODUCT & LINEAR PERFORMANCE WARRANTY

*Refer to Sunfuel’s warranty document for terms and conditions.*
TECHNICAL DATA

ELECTRIC PARAMETERS

Electrical Parameters at Standard Test Conditions (STC)

<table>
<thead>
<tr>
<th>MODULES (SFTI)</th>
<th>72P 250</th>
<th>72P 255</th>
<th>72P 260</th>
<th>72P 265</th>
<th>72P 270</th>
<th>72P 275</th>
<th>72P 280</th>
<th>72P 285</th>
<th>72P 290</th>
<th>72P 295</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pmax (watts)</td>
<td>250</td>
<td>255</td>
<td>260</td>
<td>265</td>
<td>270</td>
<td>275</td>
<td>280</td>
<td>285</td>
<td>290</td>
<td>295</td>
</tr>
<tr>
<td>Voltage at Pmax Vmp (V)</td>
<td>37.21</td>
<td>37.61</td>
<td>37.91</td>
<td>38.36</td>
<td>38.69</td>
<td>39.01</td>
<td>39.27</td>
<td>39.54</td>
<td>39.41</td>
<td>39.50</td>
</tr>
<tr>
<td>Current at Pmax Imp (A)</td>
<td>6.72</td>
<td>6.78</td>
<td>6.86</td>
<td>6.91</td>
<td>6.98</td>
<td>7.05</td>
<td>7.13</td>
<td>7.21</td>
<td>7.36</td>
<td>7.47</td>
</tr>
<tr>
<td>Open-circuit Voltage Voc (V)</td>
<td>43.56</td>
<td>44.06</td>
<td>44.57</td>
<td>44.93</td>
<td>45.29</td>
<td>45.50</td>
<td>45.86</td>
<td>46.32</td>
<td>46.70</td>
<td>46.90</td>
</tr>
<tr>
<td>Short Circuit Current Isc (A)</td>
<td>7.15</td>
<td>7.21</td>
<td>7.28</td>
<td>7.35</td>
<td>7.43</td>
<td>7.54</td>
<td>7.63</td>
<td>7.71</td>
<td>7.75</td>
<td>7.80</td>
</tr>
<tr>
<td>Module Efficiency (%)</td>
<td>15.35</td>
<td>15.66</td>
<td>15.97</td>
<td>16.28</td>
<td>16.58</td>
<td>16.89</td>
<td>17.19</td>
<td>17.51</td>
<td>17.81</td>
<td>18.12</td>
</tr>
<tr>
<td>X - Pitch (mm)</td>
<td>947</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y - Pitch (mm)</td>
<td>800</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Module Dimensions L x W x H (mm)</td>
<td>1645 x 990 x 35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Module Weight (kg)</td>
<td>18.20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dimensions

CONSTRUCTION MATERIALS

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junction Box</td>
<td>IP 67, 4 Terminal with 3 bypass diodes</td>
</tr>
<tr>
<td>Application Class</td>
<td>CLASS A (Safety class II)</td>
</tr>
<tr>
<td>Front Covers</td>
<td>High transmission, low Iron, tempered glass</td>
</tr>
<tr>
<td>Cells</td>
<td>72 Nos., Polycrystalline</td>
</tr>
<tr>
<td>Cell Encapsulant</td>
<td>EVA (Ethylene Vinyl Acetate)</td>
</tr>
<tr>
<td>Back Cover</td>
<td>Composite film (Backsheet)</td>
</tr>
<tr>
<td>Frame</td>
<td>Anodized aluminium frame with twin wall profile</td>
</tr>
<tr>
<td>Mounting Holes</td>
<td>Mounting hole 4 nos. [oval shape (12mm x 9mm) and 6mm Grounding hole 2 nos.</td>
</tr>
</tbody>
</table>

TEMPERATURE COEFFICIENT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tc of Open Circuit Voltage [β]</td>
<td>-0.32 ± 0.01 % /°C</td>
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<tr>
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<tr>
<td>Tc of Power [γ]</td>
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<tr>
<td>Maximum System Voltage (V)</td>
<td>1000 V</td>
</tr>
<tr>
<td>NOCT(°C)</td>
<td>44 °C ± 2 °C</td>
</tr>
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<td>Temperature Range</td>
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</tr>
</tbody>
</table>

PACKAGING INFORMATION

Individual packing, 2 modules in 1 Box

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POLYCRYSTALLINE
SOLAR PV MODULES
72 Cells | 200-230 WATT

This module is ideal for large commercial applications, demonstrating financial astuteness and environmental stewardship.

PRODUCT FEATURES

**POSITIVE POWER TOLERANCE**
Count on sunfuel to deliver all the watts you pay for with a positive only power tolerance of +3%.

**5 BUSBAR TECHNOLOGY**
5 BB technology provides low resistance path to the flow of electrons even in low light conditions resulting better output power.

**HIGH PERFORMANCE**
This module uses an advanced surface texturing & ARC process to increase light absorption and improve efficiency.

**PID RESISTANT**
Each Sunfuel module is manufactured in state of the art manufacturing environment using PID free raw material resulting high power output and less degradation.

**LOW - LIGHT PERFORMANCE**
Anitmony Free low iron ARC textured glass and textured 5 BB solar cell combines together to perform excellent in Low Light conditions.

**HIGH LOAD RESISTANT**
Each Sunfuel module withstand wind load (2400 Pa) and snow load (5400 Pa).

**RELIABLE**
25-year limited warranty on power output and 10-year limited warranty on materials or workmanship.

**ELECTROLUMINESCENCE TESTING**
Dual stage EL testing assures quality analysis by recognizing real time cell breakage, surface cracks and fissures of a micron scale.

APPLIANCES

- On-grid large scale utility systems
- On-grid rooftop residential, commercial and industrial roof top installations
- Off-grid residential systems
- Solar pumping applications
- Solar E-rickshaw

SUNFUEL TECHNOLOGIES OFFERS THE BEST COMBINED POWER AND PRODUCT WARRANTY

SUNFUEL PRODUCT & LINEAR PERFORMANCE WARRANTY

<table>
<thead>
<tr>
<th>Warranty Type</th>
<th>Warranty Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Warranty</td>
<td>10 Years</td>
</tr>
<tr>
<td>Linear Power Warranty</td>
<td>25 Years</td>
</tr>
</tbody>
</table>

*Refer to sunfuel's warranty document for terms and conditions.

![Graph showing power output degradation over 25 years](chart.png)

- **Sunfuel** with 2.5% for 1st year degradation and 0.67% from year 2 to year 25
- **Industrial Standard**
**TECHNICAL DATA**

**ELECTRIC PARAMETERS**

### Electrical Parameters at Standard Test Conditions (STC)

<table>
<thead>
<tr>
<th>MODULES (SFTI)</th>
<th>72P 200</th>
<th>72P 205</th>
<th>72P 210</th>
<th>72P 215</th>
<th>72P 220</th>
<th>72P 225</th>
<th>72P 230</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pmax (watts) [nominal]</td>
<td>200</td>
<td>205</td>
<td>210</td>
<td>215</td>
<td>220</td>
<td>225</td>
<td>230</td>
</tr>
<tr>
<td>Voltage at Pmax Vmp (V)</td>
<td>37.25</td>
<td>37.69</td>
<td>38.12</td>
<td>38.53</td>
<td>38.95</td>
<td>39.34</td>
<td>39.25</td>
</tr>
<tr>
<td>Current at Pmax Imp (A)</td>
<td>5.37</td>
<td>5.44</td>
<td>5.51</td>
<td>5.58</td>
<td>5.65</td>
<td>5.72</td>
<td>5.86</td>
</tr>
<tr>
<td>Open-circuit Voltage Voc (V)</td>
<td>43.70</td>
<td>44.26</td>
<td>44.78</td>
<td>45.25</td>
<td>45.75</td>
<td>46.05</td>
<td>46.30</td>
</tr>
<tr>
<td>Short Circuit Current Isc (A)</td>
<td>5.73</td>
<td>5.78</td>
<td>5.86</td>
<td>5.93</td>
<td>6.00</td>
<td>6.10</td>
<td>6.21</td>
</tr>
<tr>
<td>Module Efficiency (%)</td>
<td>16.04</td>
<td>16.44</td>
<td>15.89</td>
<td>16.27</td>
<td>16.65</td>
<td>17.03</td>
<td>17.40</td>
</tr>
<tr>
<td>X - Pitch (mm)</td>
<td>947</td>
<td>947</td>
<td>947</td>
<td>947</td>
<td>947</td>
<td>947</td>
<td>947</td>
</tr>
<tr>
<td>Y - Pitch (mm)</td>
<td>630</td>
<td>670</td>
<td>630</td>
<td>670</td>
<td>630</td>
<td>670</td>
<td>630</td>
</tr>
<tr>
<td>Module Dimensions L x W x H (mm)</td>
<td>1260 x 990 x 35</td>
<td>1340 x 990 x 35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Module Weight (kg)</td>
<td>13.0</td>
<td>14.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CONSTRUCTION MATERIALS**

- **Junction Box**: IP 67, 4 Terminal with 3 bypass diodes
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**TEMPERATURE COEFFICIENT**

- **Tc of Open Circuit Voltage (β)**: \(-0.32 \pm 0.01\% /°C\)
- **Tc of Short Circuit Current (α)**: \(0.03 \pm 0.02\% /°C\)
- **Tc of Power (γ)**: \(-0.43 \pm 0.02\% /°C\)
- **Maximum System Voltage (V)**: 1000 V
- **NOCT(°C)**: \(44 \pm 2 °C\)
- **Temperature Range**: \(-40 °C \text{ to } + 85 °C\)

**PACKAGING INFORMATION**

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POLYCRYSTALLINE
SOLAR PV MODULES
60 Cells | 250-295 WATT
This module is ideal for large commercial applications, demonstrating financial astuteness and environmental stewardship.

PRODUCT FEATURES

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- On-grid rooftop residential, commercial and industrial roof top installations
- Off-grid residential systems
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- Solar E-rickshaw

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SUNFUEL PRODUCT & LINEAR PERFORMANCE WARRANTY

<table>
<thead>
<tr>
<th>Product Warranty</th>
<th>Performance Warranty *</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 Years</td>
<td>25 Years</td>
</tr>
</tbody>
</table>

*Refer to sunfuel’s warranty document for terms and conditions.

*Performance Warranty: with 2.5% for 1st year degradation and 0.67% from year 2 to year 25.
TECHNICAL DATA

ELECTRIC PARAMETERS

Electrical Parameters at Standard Test Conditions (STC)

<table>
<thead>
<tr>
<th>MODULES (SFTI)</th>
<th>60P 250</th>
<th>60P 255</th>
<th>60P 260</th>
<th>60P 265</th>
<th>60P 270</th>
<th>60P 275</th>
<th>60P 280</th>
<th>60P 285</th>
<th>60P 290</th>
<th>60P 295</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pmax (watts) (nominal)</td>
<td>250</td>
<td>255</td>
<td>260</td>
<td>265</td>
<td>270</td>
<td>275</td>
<td>280</td>
<td>285</td>
<td>290</td>
<td>295</td>
</tr>
<tr>
<td>Voltage at Pmax Vmp (V)</td>
<td>31.02</td>
<td>31.60</td>
<td>31.33</td>
<td>31.97</td>
<td>32.26</td>
<td>32.51</td>
<td>32.72</td>
<td>32.76</td>
<td>32.81</td>
<td>32.89</td>
</tr>
<tr>
<td>Current at Pmax Imp (A)</td>
<td>8.06</td>
<td>8.23</td>
<td>8.14</td>
<td>8.29</td>
<td>8.37</td>
<td>8.46</td>
<td>8.56</td>
<td>8.70</td>
<td>8.84</td>
<td>8.97</td>
</tr>
<tr>
<td>Open-circuit Voltage Voc (V)</td>
<td>36.30</td>
<td>37.14</td>
<td>36.72</td>
<td>37.44</td>
<td>37.74</td>
<td>37.92</td>
<td>38.22</td>
<td>38.60</td>
<td>38.92</td>
<td>39.08</td>
</tr>
<tr>
<td>Short Circuit Current Isc (A)</td>
<td>8.58</td>
<td>8.73</td>
<td>8.65</td>
<td>8.82</td>
<td>8.92</td>
<td>9.05</td>
<td>9.15</td>
<td>9.26</td>
<td>9.34</td>
<td>9.41</td>
</tr>
<tr>
<td>Module Efficiency (%)</td>
<td>15.35</td>
<td>15.97</td>
<td>15.66</td>
<td>16.27</td>
<td>16.58</td>
<td>16.89</td>
<td>17.20</td>
<td>17.50</td>
<td>17.81</td>
<td>18.12</td>
</tr>
</tbody>
</table>

| X - Pitch (mm) | 947 |
| Y - Pitch (mm) | 800 |
| Module Dimensions L x W x H (mm) | 1645 x 990 x 35 |
| Module Weight (kg) | 18.20 |

CONSTRUCTION MATERIALS

- Junction Box: IP 67, 4 Terminal with 3 bypass diodes
- Application Class: CLASS A (Safety class II)
- Front Covers: High transmission, low iron, tempered glass
- Cells: 60 Nos., Polycrystalline
- Cell Encapsulant: EVA (Ethylene Vinyl Acetate)
- Back Cover: Composite film [Backsheet]
- Frame: Anodized aluminium frame with twin wall profile
- Mounting Holes: Mounting hole 4 nos. [oval shape (12mm x 9mm) and 6mm Grounding hole 2 nos.]

TEMPERATURE COEFFICIENT

- Tc of Open Circuit Voltage (β): -0.32 ± 0.01 %/°C
- Tc of Short Circuit Current (α): 0.03 ± 0.02 %/°C
- Tc of Power (γ): -0.43 ± 0.02 %/°C
- Maximum System Voltage (V): 1000 V
- NOCT(°C): 44 °C ± 2 °C
- Temperature Range: -40 °C to +85 °C

PACKAGING INFORMATION

Individual packing, 2 modules in 1 Box

DISCLAIMER: Specification included in the datasheet are subject to change without prior notice owing to continuous innovation on the Product Development and R&D activities. Sunfuel reserves the right to make any adjustment to the information.
POLYCRYSTALLINE
SOLAR PV MODULES
36 Cells | 150-180 WATT

This module is ideal for Solar Power packs applications, demonstrating financial astuteness and environmental stewardship.

PRODUCT FEATURES

- **POSITIVE POWER TOLERANCE**
  Count on sunfuel to deliver all the watts you pay for with a positive only power tolerance of +3%.

- **5 BUSBAR TECHNOLOGY**
  5 BB technology provides low resistance path to the flow of electrons even in low light conditions resulting better output power.

- **HIGH PERFORMANCE**
  This module uses an advanced surface texturing & ARC process to increase light absorption and improve efficiency.

- **PID RESISTANT**
  Each Sunfuel module is manufactured in state of the art manufacturing environment using PID free raw material resulting high power output and less degradation.

- **LOW - LIGHT PERFORMANCE**
  Antimony Free low iron ARC textured glass and textured 5 BB solar cell combines together to perform excellent in Low Light conditions.

- **HIGH LOAD RESISTANT**
  Each Sunfuel module withstand wind load (2400 Pa) and snow load (5400 Pa).

- **RELIABLE**
  25-year limited warranty on power output and 5-year limited warranty on materials or workmanship.

- **ELECTROLUMINESCENCE TESTING**
  Dual stage EL testing assures quality analysis by recognizing real time cell breakage, surface cracks and fissures of a micron scale.

SUNFUEL TECHNOLOGIES OFFERS THE BEST COMBINED POWER AND PRODUCT WARRANTY

**SUNFUEL PRODUCT & LINEAR PERFORMANCE WARRANTY**

- **Product Warranty**
  5 Years

- **Performance Warranty**
  with 2.5% for 1st year degradation and 0.67% from year 2 to year 25

*Refer to sunfuel’s warranty document for terms and conditions.*

APPLICATIONS

- Off-grid residential systems
- Solar street light applications
- Domestic Lighting System
- Railway Signaling
**TECHNICAL DATA**

**ELECTRIC PARAMETERS**

Electrical Parameters at Standard Test Conditions (STC)

<table>
<thead>
<tr>
<th>MODULES (SFTI)</th>
<th>36P 150</th>
<th>36P 155</th>
<th>36P 160</th>
<th>36P 165</th>
<th>36P 170</th>
<th>36P 175</th>
<th>36P 180</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pmax (watts) [nominal]</td>
<td>150</td>
<td>155</td>
<td>160</td>
<td>165</td>
<td>170</td>
<td>175</td>
<td>180</td>
</tr>
<tr>
<td>Voltage at Pmax Vmp (V)</td>
<td>18.62</td>
<td>18.95</td>
<td>19.19</td>
<td>19.51</td>
<td>19.48</td>
<td>19.71</td>
<td>19.78</td>
</tr>
<tr>
<td>Current at Pmax Imp (A)</td>
<td>8.06</td>
<td>8.18</td>
<td>8.34</td>
<td>8.46</td>
<td>8.73</td>
<td>8.88</td>
<td>9.10</td>
</tr>
<tr>
<td>Open-circuit Voltage Voc (V)</td>
<td>21.80</td>
<td>22.15</td>
<td>22.54</td>
<td>22.85</td>
<td>23.15</td>
<td>23.35</td>
<td>23.55</td>
</tr>
<tr>
<td>Short Circuit Current Isc (A)</td>
<td>8.59</td>
<td>8.73</td>
<td>8.84</td>
<td>8.95</td>
<td>9.25</td>
<td>9.35</td>
<td>9.48</td>
</tr>
<tr>
<td>Module Efficiency (%)</td>
<td>15.15</td>
<td>15.64</td>
<td>16.15</td>
<td>16.66</td>
<td>17.16</td>
<td>17.66</td>
<td>18.17</td>
</tr>
</tbody>
</table>

**CONSTRUCTION MATERIALS**

Junction Box: IP 65, 3 Terminal with 2 bypass diodes
Application Class: CLASS A (Safety class II)
Front Covers: High transmission, low Iron, tempered glass
Cells: 36 Nos., Polycrystalline
Cell Encapsulant: EVA [Ethylene Vinyl Acetate]
Back Cover: Composite film (Backsheet)
Frame: Anodized aluminium frame with twin wall profile
Mounting Holes: Mounting hole 4 nos. (oval shape 12mm x 9mm) and 6mm Grounding hole 2 nos.

**PACKAGING INFORMATION**

Individual packing, 5 modules in 1 master carton

**TEMPERATURE COEFFICIENT**

- Tc of Open Circuit Voltage (β): -0.32 ± 0.01% /°C
- Tc of Short Circuit Current (α): 0.03 ± 0.02% /°C
- Tc of Power (γ): -0.43 ± 0.02% /°C
- Maximum System Voltage (V): 1000 V
- NOCT(°C): 44 °C ± 2 °C
- Temperature Range: -40 °C to +85 °C

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POLYCRYSTALLINE
SOLAR PV MODULES
36 Cells | 75-130 WATT

This module is ideal for Solar Power packs applications, demonstrating financial astuteness and environmental stewardship.

PRODUCT FEATURES

**POSITIVE POWER TOLERANCE**
Count on sunfuel to deliver all the watts you pay for with a positive only power tolerance of +3%.

**5 BUSBAR TECHNOLOGY**
5 BB technology provides low resistance path to the flow of electrons even in low light conditions resulting better output power.

**HIGH PERFORMANCE**
This module uses an advanced surface texturing & ARC process to increase light absorption and improve efficiency.

**PID RESISTANT**
Each Sunfuel module is manufactured in state of the art manufacturing environment using PID free raw material resulting high power output and less degradation.

**LOW - LIGHT PERFORMANCE**
Antimony Free low iron ARC textured glass and textured 5 BB solar cell combines together to perform excellent in Low Light conditions.

**HIGH LOAD RESISTANT**
Each Sunfuel module withstand wind load (2400 Pa) and snow load (5400 Pa).

**RELIABLE**
25-year limited warranty on power output and 5-year limited warranty on materials or workmanship.

**ELECTROLUMINESCENCE TESTING**
Dual stage EL testing assures quality analysis by recognizing real time cell breakage, surface cracks and fissures of a micron scale.

APPLICATIONS
- Off-grid residential systems
- Solar street light applications
- Domestic Lighting System
- Railway Signaling

SUNFUEL TECHNOLOGIES OFFERS THE BEST COMBINED POWER AND PRODUCT WARRANTY

SUNFUEL PRODUCT & LINEAR PERFORMANCE WARRANTY

<table>
<thead>
<tr>
<th>Product Warranty</th>
<th>Performance Warranty *</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Years</td>
<td>25 years</td>
</tr>
</tbody>
</table>

with 2.5% for 1st year degradation and 0.67% from year 2 to year 25

*Refer to sunfuel’s warranty document for terms and conditions.
TECHNICAL DATA

ELECTRIC PARAMETERS

Electrical Parameters at Standard Test Conditions (STC)

<table>
<thead>
<tr>
<th>MODULES (SFTI)</th>
<th>36P 75</th>
<th>36P 80</th>
<th>36P 85</th>
<th>36P 100</th>
<th>36P 105</th>
<th>36P 110</th>
<th>36P 115</th>
<th>36P 120</th>
<th>36P 125</th>
<th>36P 130</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pmax (watts) (nominal)</td>
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<td>80</td>
<td>85</td>
<td>100</td>
<td>105</td>
<td>110</td>
<td>115</td>
<td>120</td>
<td>125</td>
<td>130</td>
</tr>
<tr>
<td>Current at Pmax Imp (A)</td>
<td>4.03</td>
<td>4.17</td>
<td>4.35</td>
<td>5.38</td>
<td>5.50</td>
<td>5.65</td>
<td>5.86</td>
<td>6.25</td>
<td>6.36</td>
<td>6.55</td>
</tr>
<tr>
<td>Open-circuit Voltage Voc (V)</td>
<td>21.80</td>
<td>22.54</td>
<td>23.10</td>
<td>21.75</td>
<td>22.40</td>
<td>22.90</td>
<td>23.25</td>
<td>22.60</td>
<td>23.00</td>
<td>23.40</td>
</tr>
<tr>
<td>Short Circuit Current Isc (A)</td>
<td>4.30</td>
<td>4.42</td>
<td>4.60</td>
<td>5.75</td>
<td>5.85</td>
<td>5.98</td>
<td>6.17</td>
<td>6.63</td>
<td>6.78</td>
<td>6.93</td>
</tr>
<tr>
<td>X - Pitch (mm)</td>
<td>632</td>
<td>632</td>
<td>632</td>
<td>632</td>
<td>632</td>
<td>632</td>
<td>632</td>
<td>632</td>
<td>632</td>
<td>632</td>
</tr>
<tr>
<td>Y - Pitch (mm)</td>
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<td>510</td>
<td>567.5</td>
<td>567.5</td>
<td>567.5</td>
<td>567.5</td>
<td>567.5</td>
<td>567.5</td>
<td>567.5</td>
<td>567.5</td>
</tr>
<tr>
<td>Module Dimensions L x W x H (mm)</td>
<td>785 x 665 x 35</td>
<td>1020 X 665 X 35</td>
<td>1135 x 665 x 35</td>
<td>1135 x 665 x 35</td>
<td>1135 x 665 x 35</td>
<td>1135 x 665 x 35</td>
<td>1135 x 665 x 35</td>
<td>1135 x 665 x 35</td>
<td>1135 x 665 x 35</td>
<td>1135 x 665 x 35</td>
</tr>
<tr>
<td>Module Weight (kg)</td>
<td>5.8</td>
<td>7.6</td>
<td>8.5</td>
<td>8.5</td>
<td>8.5</td>
<td>8.5</td>
<td>8.5</td>
<td>8.5</td>
<td>8.5</td>
<td>8.5</td>
</tr>
</tbody>
</table>

CONSTRUCTION MATERIALS

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junction Box</td>
<td>IP 65, 2 Terminal / 3 Terminal with 2 bypass diodes</td>
</tr>
<tr>
<td>Application Class</td>
<td>CLASS A (Safety class II)</td>
</tr>
<tr>
<td>Front Covers</td>
<td>High transmission, low Iron, tempered glass</td>
</tr>
<tr>
<td>Cells</td>
<td>36 Nos., Polycrystalline</td>
</tr>
<tr>
<td>Cell Encapsulant</td>
<td>EVA [Ethylene Vinyl Acetate]</td>
</tr>
<tr>
<td>Back Cover</td>
<td>Composite film (Backsheet)</td>
</tr>
<tr>
<td>Frame</td>
<td>Anodized aluminium frame with twin wall profile</td>
</tr>
<tr>
<td>Mounting Holes</td>
<td>Mounting hole 4 nos. (oval shape (12mm x 9mm) and 6mm Grounding hole 2 nos.</td>
</tr>
</tbody>
</table>

TEMPERATURE COEFFICIENT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tc of Open Circuit Voltage (β)</td>
<td>- 0.32 ± 0.01 % /°C</td>
</tr>
<tr>
<td>Tc of Short Circuit Current (α)</td>
<td>0.03 ± 0.02% /°C</td>
</tr>
<tr>
<td>Tc of Power (γ)</td>
<td>- 0.43 ± 0.02% /°C</td>
</tr>
<tr>
<td>Maximum System Voltage (V)</td>
<td>1000 V</td>
</tr>
<tr>
<td>NOCT(°C)</td>
<td>44 °C ± 2 °C</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>- 40 °C to + 85 °C</td>
</tr>
</tbody>
</table>

PACKAGING INFORMATION

Individual packing, 5 modules in 1 master carton

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POLYCRYSTALLINE SOLAR PV MODULES
36 Cells | 24-70 WATT

This module is ideal for Solar Power packs applications, demonstrating financial astuteness and environmental stewardship.

PRODUCT FEATURES

- **POSITIVE POWER TOLERANCE**
  Count on sunfuel to deliver all the watts you pay for with a positive only power tolerance of +3%.

- **5 BUSBAR TECHNOLOGY**
  5 BB technology provides low resistance path to the flow of electrons even in low light conditions resulting better output power.

- **HIGH PERFORMANCE**
  This module uses an advanced surface texturing & ARC process to increase light absorption and improve efficiency.

- **PID RESISTANT**
  Each Sunfuel module is manufactured in state of the art manufacturing environment using PID free raw material resulting high power output and less degradation.

- **LOW - LIGHT PERFORMANCE**
  Antimony Free low iron ARC textured glass and textured 5 BB solar cell combines together to perform excellent in Low Light conditions.

- **HIGH LOAD RESISTANT**
  Each Sunfuel module withstand wind load (2400 Pa) and snow load (5400 Pa).

- **RELIABLE**
  25-year limited warranty on power output and 5-year limited warranty on materials or workmanship.

- **ELECTROLUMINESCENCE TESTING**
  Dual stage EL testing assures quality analysis by recognizing real time cell breakage, surface cracks and fissures of a micron scale.

SUNFUEL TECHNOLOGIES OFFERS THE BEST COMBINED POWER AND PRODUCT WARRANTY

SUNFUEL PRODUCT & LINEAR PERFORMANCE WARRANTY

<table>
<thead>
<tr>
<th>Product Warranty</th>
<th>Performance Warranty *</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Years</td>
<td>with 2.5% for 1st year degradation and 0.67% from year 2 to year 25</td>
</tr>
</tbody>
</table>

*Refer to sunfuel’s warranty document for terms and conditions.

APPLICATIONS

- Off-grid residential systems
- Solar street light applications
- Domestic Lighting System
- Railway Signaling
- Wi-Fi Towers
**TECHNICAL DATA**

**ELECTRIC PARAMETERS**

**Electrical Parameters at Standard Test Conditions (STC)**

<table>
<thead>
<tr>
<th>MODULES (SFTI)</th>
<th>36P 24</th>
<th>36P 25</th>
<th>36P 30</th>
<th>36P 37</th>
<th>36P 40</th>
<th>36P 50</th>
<th>36P 55</th>
<th>36P 60</th>
<th>36P 65</th>
<th>36P 70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pmax (watts) (nominal)</td>
<td>24</td>
<td>25</td>
<td>30</td>
<td>37</td>
<td>40</td>
<td>50</td>
<td>55</td>
<td>60</td>
<td>65</td>
<td>70</td>
</tr>
<tr>
<td>Voltage at Pmax Vmp (V)</td>
<td>19.20</td>
<td>19.25</td>
<td>18.60</td>
<td>18.52</td>
<td>19.25</td>
<td>19.62</td>
<td>19.52</td>
<td>18.60</td>
<td>19.01</td>
<td>19.45</td>
</tr>
<tr>
<td>Current at Pmax Imp (A)</td>
<td>1.25</td>
<td>1.30</td>
<td>1.62</td>
<td>2.00</td>
<td>2.08</td>
<td>2.69</td>
<td>2.82</td>
<td>3.23</td>
<td>3.42</td>
<td>3.60</td>
</tr>
<tr>
<td>Short Circuit Current Isc (A)</td>
<td>1.35</td>
<td>1.40</td>
<td>1.72</td>
<td>2.12</td>
<td>2.22</td>
<td>2.85</td>
<td>3.00</td>
<td>3.45</td>
<td>3.64</td>
<td>3.84</td>
</tr>
<tr>
<td>Module Efficiency (%)</td>
<td>15.24</td>
<td>10.75</td>
<td>12.95</td>
<td>12.95</td>
<td>14.00</td>
<td>13.69</td>
<td>15.05</td>
<td>14.93</td>
<td>14.70</td>
<td>15.83</td>
</tr>
<tr>
<td>X - Pitch (mm)</td>
<td>320</td>
<td>632</td>
<td>632</td>
<td>632</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y - Pitch (mm)</td>
<td>332.5</td>
<td>605</td>
<td>665</td>
<td>35</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Module Dimensions L x W x H (mm)</td>
<td>350 x 665 x 22</td>
<td>430 x 665 x 35</td>
<td>550 x 665 x 35</td>
<td>605 x 665 x 35</td>
<td>665 x 665 x 35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Module Weight (kg)</td>
<td>2.25</td>
<td>3.32</td>
<td>4.2</td>
<td>4.8</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CONSTRUCTION MATERIALS**

- Junction Box: IP 65, 2 Terminal
- Application Class: CLASS A (Safety class II)
- Front Covers: High transmission, low Iron, tempered glass
- Cells: 36 Nos., Polycrystalline
- Cell Encapsulant: EVA [Ethylene Vinyl Acetate]
- Back Cover: Composite film (Backsheet)
- Frame: Anodized aluminium frame with twin wall profile
- Mounting Holes: Mounting hole 4 nos. (oval shape (12mm x 9mm) and 6mm Grounding hole 2 nos.

**TEMPERATURE COEFFICIENT**

- Tc of Open Circuit Voltage (β): -0.32 ± 0.01 % /°C
- Tc of Short Circuit Current (α): 0.03 ± 0.02% /°C
- Tc of Power (γ): -0.43 ± 0.02% /°C
- Maximum System Voltage (V): 1000 V
- NOCT(°C): 44 °C ± 2 °C
- Temperature Range: -40 °C to + 85 °C

**PACKAGING INFORMATION**

Individual packing, 5 modules in 1 master carton

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SOLAR PV MODULES

This module is ideal for large commercial applications, demonstrating financial astuteness and environmental stewardship.

PRODUCT FEATURES

- **POSITIVE POWER TOLERANCE**
  Count on Sunfuel to deliver all the watts you pay for with a positive only power tolerance of +3%.

- **5 BUSBAR TECHNOLOGY**
  5 BB technology provides low resistance path to the flow of electrons even in low light conditions resulting better output power.

- **HIGH PERFORMANCE**
  This module uses an advanced surface texturing & ARC process to increase light absorption and improve efficiency.

- **PID RESISTANT**
  Each Sunfuel module is manufactured in state of the art manufacturing environment using PID free raw material resulting high power output and less degradation.

- **LOW - LIGHT PERFORMANCE**
  Antimony Free low iron ARC textured glass and textured 5 BB solar cell combines together to perform excellent in Low Light conditions.

- **HIGH LOAD RESISTANT**
  Each Sunfuel module withstand wind load (2400 Pa) and snow load (5400 Pa).

- **RELIABLE**
  25-year limited warranty on power output and 10-year limited warranty on materials or workmanship.

- **ELECTROLUMINESCENCE TESTING**
  Dual stage EL testing assures quality analysis by recognizing real time cell breakage, surface cracks and fissures of a micron scale.

SUNFUEL TECHNOLOGIES OFFERS THE BEST COMBINED POWER AND PRODUCT WARRANTY

**SUNFUEL PRODUCT & LINEAR PERFORMANCE WARRANTY**

- **Product Warranty**
  10 Years

- **Performance Warranty**
  with 2.5% for 1st year degradation and 0.67% from year 2 to year 25

*Refer to Sunfuel’s warranty document for terms and conditions.

APPLICATIONS

- On-grid large scale utility systems
- On-grid rooftop residential, commercial and industrial roof top installations
- Off-grid residential systems
- Solar pumping applications
- Solar E-rickshaw

[Graph showing Sunfuel and Industrial Standard performance over 25 years]
TECHNICAL DATA

ELECTRIC PARAMETERS

Electrical Parameters at Standard Test Conditions (STC)

<table>
<thead>
<tr>
<th>MODULES (SFTI)</th>
<th>72M 240</th>
<th>72M 245</th>
<th>72M 250</th>
<th>72M 300</th>
<th>72M 310</th>
<th>72M 330</th>
<th>72M 340</th>
<th>72M 360</th>
<th>72M 365</th>
<th>72M 370</th>
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</thead>
<tbody>
<tr>
<td>Pmax (watts)</td>
<td>240</td>
<td>245</td>
<td>250</td>
<td>300</td>
<td>310</td>
<td>330</td>
<td>340</td>
<td>360</td>
<td>365</td>
<td>370</td>
</tr>
<tr>
<td>Voltage at Pmax (V)</td>
<td>39.90</td>
<td>40.32</td>
<td>40.79</td>
<td>39.90</td>
<td>40.62</td>
<td>38.11</td>
<td>38.48</td>
<td>39.89</td>
<td>40.07</td>
<td>40.44</td>
</tr>
<tr>
<td>Current at Pmax (A)</td>
<td>6.02</td>
<td>6.08</td>
<td>6.13</td>
<td>7.52</td>
<td>7.63</td>
<td>8.66</td>
<td>8.84</td>
<td>9.03</td>
<td>9.11</td>
<td>9.15</td>
</tr>
<tr>
<td>Open-circuit Voltage Voc [V]</td>
<td>46.51</td>
<td>47.09</td>
<td>47.59</td>
<td>46.51</td>
<td>47.40</td>
<td>44.56</td>
<td>44.91</td>
<td>46.51</td>
<td>46.94</td>
<td>47.16</td>
</tr>
<tr>
<td>Module Efficiency [%]</td>
<td>18.10</td>
<td>18.48</td>
<td>18.85</td>
<td>18.43</td>
<td>19.04</td>
<td>16.97</td>
<td>17.49</td>
<td>18.51</td>
<td>18.76</td>
<td>19.02</td>
</tr>
<tr>
<td>X - Pitch [mm]</td>
<td>947</td>
<td>947</td>
<td>953</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y - Pitch [mm]</td>
<td>670</td>
<td>800</td>
<td>1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Module Dimensions L x W x H (mm)</td>
<td>1340 x 990 x 35</td>
<td>1645 x 990 x 35</td>
<td>1965 x 990 x 40</td>
<td>1965 x 990 x 40</td>
<td>1965 x 990 x 40</td>
<td>1965 x 990 x 40</td>
<td>1965 x 990 x 40</td>
<td>1965 x 990 x 40</td>
<td>1965 x 990 x 40</td>
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<tr>
<td>Module Weight (kg)</td>
<td>14.8</td>
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CONSTRUCTION MATERIALS

<table>
<thead>
<tr>
<th>Material</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junction Box</td>
<td>IP67, 4 Terminal with 3 bypass diodes</td>
</tr>
<tr>
<td>Application Class</td>
<td>CLASS A (Safety class II)</td>
</tr>
<tr>
<td>Front Covers</td>
<td>High transmission, low Iron, tempered glass</td>
</tr>
<tr>
<td>Cells</td>
<td>72 Nos., Monocrystalline</td>
</tr>
<tr>
<td>Cell Encapsulant</td>
<td>EVA [Ethylene Vinyl Acetate]</td>
</tr>
<tr>
<td>Back Cover</td>
<td>Composite film (Backsheet)</td>
</tr>
<tr>
<td>Frame</td>
<td>Anodized aluminium frame with twin wall profile</td>
</tr>
<tr>
<td>Mounting Holes</td>
<td>Mounting hole 4 nos. (oval shape 12mm x 9mm) and 6mm Grounding hole 2 nos.</td>
</tr>
</tbody>
</table>

TEMPERATURE COEFFICIENT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tc of Open Circuit Voltage β</td>
<td>-0.32 ± 0.01 % /°C</td>
</tr>
<tr>
<td>Tc of Short Circuit Current α</td>
<td>0.03 ± 0.02% /°C</td>
</tr>
<tr>
<td>Tc of Power γ</td>
<td>-0.43 ± 0.02% /°C</td>
</tr>
<tr>
<td>Maximum System Voltage (V)</td>
<td>1000 V</td>
</tr>
<tr>
<td>NOCT(°C)</td>
<td>44 °C ± 2 °C</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40 °C to +85 °C</td>
</tr>
</tbody>
</table>

PACKAGING INFORMATION

2 Modules in 1 Box

DISCLAIMER: Specification included in the datasheet are subject to change without prior notice owing to continuous innovation on the Product Development and R&D activities. Sunfuel reserves the right to make any adjustment to the information.
60 Cells | 270-310 WATT

This module is ideal for large commercial applications, demonstrating financial astuteness and environmental stewardship.

**PRODUCT FEATURES**

1. **POSITIVE POWER TOLERANCE**
   Count on Sunfuel to deliver all the watts you pay for with a positive only power tolerance of +3%.

2. **5 BUSBAR TECHNOLOGY**
   5 BB technology provides low resistance path to the flow of electrons even in low light conditions resulting better output power.

3. **HIGH PERFORMANCE**
   This module uses an advanced surface texturing & ARC process to increase light absorption and improve efficiency.

4. **PID RESISTANT**
   Each Sunfuel module is manufactured in state of the art manufacturing environment using PID free raw material resulting high power output and less degradation.

5. **LOW - LIGHT PERFORMANCE**
   Antimony Free low iron ARC textured glass and textured 5 BB solar cell combines together to perform excellent in Low Light conditions.

6. **HIGH LOAD RESISTANT**
   Each Sunfuel module withstand wind load (2400 Pa) and snow load (5400 Pa).

7. **RELIABLE**
   25-year limited warranty on power output and 10-year limited warranty on materials or workmanship.

8. **ELECTROLUMINESCENCE TESTING**
   Dual stage EL testing assures quality analysis by recognizing real time cell breakage, surface cracks and fissures of a micron scale.

**APPLICATIONS**

- On-grid large scale utility systems
- On-grid rooftop residential, commercial and industrial roof top installations
- Off-grid residential systems
- Solar pumping applications
- Solar E-rickshaw

**SUNFUEL TECHNOLOGIES OFFERS THE BEST COMBINED POWER AND PRODUCT WARRANTY**

**SUNFUEL PRODUCT & LINEAR PERFORMANCE WARRANTY**

- **Product Warranty**: 10 Years
- **Performance Warranty**: 25 years Linear Power Warranty
  - with 2.5% for 1st year degradation and 0.67% from year 2 to year 25

*Refer to Sunfuel's warranty document for terms and conditions.*
### ELECTRIC PARAMETERS

#### Electrical Parameters at Standard Test Conditions (STC)

<table>
<thead>
<tr>
<th>MODULES (SFTI)</th>
<th>60M 270</th>
<th>60M 275</th>
<th>60M 280</th>
<th>60M 300</th>
<th>60M 305</th>
<th>60M 310</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pmax (watts) (nominal)</td>
<td>270</td>
<td>275</td>
<td>280</td>
<td>300</td>
<td>305</td>
<td>310</td>
</tr>
<tr>
<td>Voltage at Pmax Vmp (V)</td>
<td>31.47</td>
<td>31.80</td>
<td>31.97</td>
<td>33.25</td>
<td>33.45</td>
<td>33.85</td>
</tr>
<tr>
<td>Current at Pmax Imp (A)</td>
<td>8.58</td>
<td>8.65</td>
<td>8.76</td>
<td>9.03</td>
<td>9.12</td>
<td>9.16</td>
</tr>
<tr>
<td>Open-circuit Voltage Voc [V]</td>
<td>36.96</td>
<td>37.13</td>
<td>37.31</td>
<td>38.76</td>
<td>39.12</td>
<td>39.50</td>
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<tr>
<td>Module Efficiency (%)</td>
<td>16.58</td>
<td>16.89</td>
<td>17.20</td>
<td>18.43</td>
<td>18.73</td>
<td>19.04</td>
</tr>
<tr>
<td>X - Pitch (mm)</td>
<td>947</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y - Pitch (mm)</td>
<td>800</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Module Dimensions L x W x H (mm)</td>
<td>1645 x 990 x 35</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Module Weight (kg)</td>
<td>18.20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### CONSTRUCTION MATERIALS

- **Junction Box**: IP67, 4 Terminal with 3 bypass diodes
- **Application Class**: CLASS A (Safety class II)
- **Front Covers**: High transmission, low iron, tempered glass
- **Cells**: 60 Nos., Monocrystalline
- **Cell Encapsulant**: EVA (Ethylene Vinyl Acetate)
- **Back Cover**: Composite film (Backsheet)
- **Frame**: Anodized aluminium frame with twin wall profile
- **Mounting Holes**: Mounting hole 4 nos. (oval shape (12mm x 9mm) and 6mm Grounding hole 2 nos.)

#### TEMPERATURE COEFFICIENT

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tc of Open Circuit Voltage (β)</td>
<td>-0.32 ± 0.01 %/°C</td>
</tr>
<tr>
<td>Tc of Short Circuit Current (α)</td>
<td>0.03 ± 0.02%/°C</td>
</tr>
<tr>
<td>Tc of Power (γ)</td>
<td>-0.43 ± 0.02%/°C</td>
</tr>
<tr>
<td>Maximum System Voltage (V)</td>
<td>1000 V</td>
</tr>
<tr>
<td>NOCT(°C)</td>
<td>44 °C ± 2 °C</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40 °C to +85 °C</td>
</tr>
</tbody>
</table>

#### DISCLAIMER: Specification included in the datasheet are subject to change without prior notice owing to continuous innovation on the Product Development and R&D activities. Sunfuel reserves the right to make any adjustment to the information.

#### PACKAGING INFORMATION

- 2 Modules in 1 Box
**MONOCRystalline**

**SOLAR PV MODULES**

36 Cells | 45-185 WATT

This module is ideal for Solar Power packs applications, demonstrating financial astuteness and environmental stewardship.

**PRODUCT FEATURES**

- **POSITIVE POWER TOLERANCE**
  Count on sunfuel to deliver all the watts you pay for with a positive only power tolerance of +3%.

- **5 BUSBAR TECHNOLOGY**
  5 BB technology provides low resistance path to the flow of electrons even in low light conditions resulting better output power.

- **HIGH PERFORMANCE**
  This module uses an advanced surface texturing & ARC process to increase light absorption and improve efficiency.

- **PID RESISTANT**
  Each Sunfuel module is manufactured in state of the art manufacturing environment using PID free raw material resulting high power output and less degradation.

- **LOW - LIGHT PERFORMANCE**
  Antimony Free low iron ARC textured glass and textured 5 BB solar cell combines together to perform excellent in Low Light conditions.

- **HIGH LOAD RESISTANT**
  Each Sunfuel module withstand wind load (2400 Pa) and snow load (5400 Pa).

- **RELIABLE**
  25-year limited warranty on power output and 5-year limited warranty on materials or workmanship.

- **ELECTROLUMINESCENCE TESTING**
  Dual stage EL testing assures quality analysis by recognizing real time cell breakage, surface cracks and fissures of a micron scale.

**APPLICATIONS**

- Off-grid residential systems
- Solar street light applications
- Domestic Lighting System
- Railway Signaling

**SUNFUEL TECHNOLOGIES OFFERS THE BEST COMBINED POWER AND PRODUCT WARRANTY**

**SUNFUEL PRODUCT & LINEAR PERFORMANCE WARRANTY**

- **Product Warranty**
  5 Years

- **Performance Warranty** *
  with 2.5% for 1st year degradation and 0.67% from year 2 to year 25

*Refer to sunfuel’s warranty document for terms and conditions.

![Graph showing Sunfuel's power output compared to industrial standard over 25 years.](image)

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## TECHNICAL DATA

### ELECTRIC PARAMETERS

#### Electrical Parameters at Standard Test Conditions (STC)

<table>
<thead>
<tr>
<th>MODULES (SFTI)</th>
<th>36M 45</th>
<th>36M 60</th>
<th>36M 75</th>
<th>36M 90</th>
<th>36M 120</th>
<th>36M 125</th>
<th>36M 135</th>
<th>36M 140</th>
<th>36M 180</th>
<th>36M 185</th>
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<tbody>
<tr>
<td>Pmax (watts) (nominal)</td>
<td>45</td>
<td>60</td>
<td>75</td>
<td>90</td>
<td>120</td>
<td>125</td>
<td>135</td>
<td>140</td>
<td>180</td>
<td>185</td>
</tr>
<tr>
<td>Voltage at Pmax Vmp (V)</td>
<td>20.00</td>
<td>20.00</td>
<td>19.95</td>
<td>19.96</td>
<td>19.95</td>
<td>19.95</td>
<td>20.40</td>
<td>19.95</td>
<td>20.39</td>
<td>19.95</td>
</tr>
<tr>
<td>Current at Pmax Imp (A)</td>
<td>2.25</td>
<td>3.00</td>
<td>3.76</td>
<td>4.51</td>
<td>6.02</td>
<td>6.13</td>
<td>6.77</td>
<td>6.87</td>
<td>9.03</td>
<td>9.15</td>
</tr>
<tr>
<td>Open-circuit Voltage Voc (V)</td>
<td>23.36</td>
<td>23.33</td>
<td>23.26</td>
<td>23.26</td>
<td>23.26</td>
<td>23.80</td>
<td>23.26</td>
<td>23.76</td>
<td>23.26</td>
<td>23.58</td>
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<tr>
<td>Short Circuit Current Isc (A)</td>
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<td>3.19</td>
<td>3.95</td>
<td>4.77</td>
<td>6.36</td>
<td>6.45</td>
<td>7.15</td>
<td>7.25</td>
<td>9.53</td>
<td>9.64</td>
</tr>
<tr>
<td>Module Efficiency (%)</td>
<td>15.74</td>
<td>16.40</td>
<td>16.96</td>
<td>17.24</td>
<td>17.70</td>
<td>18.44</td>
<td>17.89</td>
<td>18.56</td>
<td>18.17</td>
<td>18.67</td>
</tr>
<tr>
<td>X - Pitch (mm)</td>
<td>632</td>
<td>632</td>
<td>632</td>
<td>632</td>
<td>632</td>
<td>632</td>
<td>632</td>
<td>632</td>
<td>632</td>
<td>632</td>
</tr>
<tr>
<td>Y - Pitch (mm)</td>
<td>215</td>
<td>275</td>
<td>332.5</td>
<td>392.5</td>
<td>510</td>
<td>567.5</td>
<td>745</td>
<td>745</td>
<td>745</td>
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<tr>
<td>Module Dimensions L x W x H (mm)</td>
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<td>550x665x35</td>
<td>665x665x35</td>
<td>785x665x35</td>
<td>1020x665x35</td>
<td>1135x665x35</td>
<td>1490x665x35</td>
<td>1490x665x35</td>
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<tr>
<td>Module Weight (kg)</td>
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<td>4.2</td>
<td>5.0</td>
<td>5.8</td>
<td>7.6</td>
<td>8.5</td>
<td>11.0</td>
<td>11.0</td>
<td>11.0</td>
<td>11.0</td>
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#### TEMPERATURE COEFFICIENT

<table>
<thead>
<tr>
<th>Parameter</th>
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<td>Tc of Short Circuit Current (α)</td>
<td>0.03 ± 0.02% /°C</td>
</tr>
<tr>
<td>Tc of Power (γ)</td>
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</tr>
<tr>
<td>Maximum System Voltage (V)</td>
<td>1000 V</td>
</tr>
<tr>
<td>NOCT(°C)</td>
<td>44 °C ± 2 °C</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40 °C to +85 °C</td>
</tr>
</tbody>
</table>

### CONSTRUCTION MATERIALS

- **Junction Box**: IP 65, 2 Terminal / 3 Terminal with 2 bypass diodes
- **Application Class**: CLASS A (Safety class II)
- **Front Covers**: High transmission, low Iron, tempered glass
- **Cells**: 36 Nos., Monocrystalline
- **Cell Encapsulant**: EVA [Ethylene Vinyl Acetate]
- **Back Cover**: Composite film [Backsheet]
- **Frame**: Anodized aluminium frame with twin wall profile
- **Mounting Holes**: Mounting hole 4 nos. [oval shape (12mm x 9mm) and 6mm Grounding hole 2 nos.]

### PACKAGING INFORMATION

Individual packing, 5 modules in 1 master carton

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OUR PROJECTS
MANUFACTURING TEAM
Factory Address - Plot No. 525, Phase II Barhi Industrial Area, HSIIDC, Haryana - 131101, India

Corporate Office - 47A, LU Block, DDA Market, Local Shopping Complex, Pitampura, New Delhi - 110088, India
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