Step Up Transformers for Solar Energy Applications

**Product scope / Standard features**

- **Rating**
  - Up to 4,000 kVA Single Low Voltage winding
  - Up to 2,800 kVA Dual Low Voltage winding
- **High Voltage**
  - Aluminum windings
  - Up to 34,500 V Delta or Wye Connected
  - BIL up to 200 kV
  - Tap changer: ± 2, 2.5%
  - Loop feed
  - Dead front
  - Bushing wells
- **Low Voltage**
  - Aluminum windings
  - Up to 1200 V Delta or Wye Connected
  - BIL up to 60 kV
  - Epoxy 2 piece-bushings with 4-holes blade
- **Frequency:** 60 Hz
- **5-legged Core**
- **Electrostatic shield**
- **Temperature rise:** 65°C
- **Cooling class:** ONAN
- **Insulating fluid:** Mineral oil
- **Impedance:** 5.75% ± 7.5%
- **Impedance between Low Voltage windings:** > 8%
- **Altitude:** 3,300 FASL
- **Bay-O-Net expulsion fuses** plus partial-range current limiting fuses
- **Mild steel tank & cabinet**
- **Powder paint system:** Color: ANSI 70 or Green Munsell 7GY 3.29/1.5
- **Built to all applicable IEEE C57.12.34**

**Optional features**

- **High Voltage**
  - Copper windings
  - Tap changer with 7 positions
  - Radial feed
  - Live front
  - Bushing wells + Inserts
  - Integral bushing
  - Porcelain bushing
- **Low Voltage**
  - Copper windings
  - Epoxy, 2 pieces bushings, up to 12 holes blade
  - Epoxy, 1 piece bushings up to 12 holes blade
- **Frequency:** 50 Hz
- **Temperature rise:** 55°C, 55/65°C
- **Cooling class:** KNAN
- **Impedance** per customer request, ± 7.5%
- **Impedance between Low Voltage:** > 10%
- **Altitude** up to 14850 FASL
- **Internal switch**
- **Bay-O-Net expulsion fuses** + current limiting fuses
- **Under-oil internal arresters**
- **Stainless Steel 409 tank & cabinet**
- **Stainless Steel 304 tank & cabinet**
- **Infrared window**
- **Powder paint system** & liquid finish color per customer request
- **Solar duty calculation**
- **Seismic designs IBC Certified**

**Standards and certifications available**

Prolec GE offers step up transformers specifically designed for Solar Power Generation applications. Operational characteristics include thermal design for higher ambient temperature ranges, and core and coils designed for step up application with an electrostatic shield to protect against electrical noise coming from the grid and the inverter. Natural ester fluid (VG-100™), amorphous metal core & solar duty are environmentally-friendly options for this product.

Prolec GE Solar Transformers have the possibility to be connected to 1 or 2 inverters from any brand; using aluminum or copper windings, the transformers optimizes both the efficiency of the system and the area of the skid. Also, optional safety features include external accessories, in order to mitigate the risk of Arc Flash.
Product scope / Standard features

<table>
<thead>
<tr>
<th>Concept</th>
<th>Features</th>
<th>Value point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step Up</td>
<td>Increased margin for core over excitation, withstanding high magnetizing inrush currents</td>
<td>Prevent core saturation or ferroresonance</td>
</tr>
<tr>
<td>Electronic Protection</td>
<td>Electrostatic Shield</td>
<td>Provide a pathway to ground for any residual resonance</td>
</tr>
<tr>
<td>Network Protection</td>
<td>Electrostatic Shield</td>
<td>Prevent capacitive coupling between the grid and capacitive banks of the inverter</td>
</tr>
</tbody>
</table>

Overall typical dimensions reference

<table>
<thead>
<tr>
<th>kVA</th>
<th>A* Height</th>
<th>B* Width</th>
<th>C* Depth</th>
<th>Weight (lbs)</th>
<th>Core Material</th>
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</thead>
<tbody>
<tr>
<td>700</td>
<td>70</td>
<td>70</td>
<td>80</td>
<td>7000</td>
<td>Silicon Steel</td>
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<tr>
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<td>80</td>
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<tr>
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<td>95</td>
<td>120</td>
<td>100</td>
<td>17500</td>
<td></td>
</tr>
</tbody>
</table>

* Dimensions in inches
** Dimensions and weight are approximate and subject to change without notice and should not be used for construction purposes
*** Other ratings available upon request

For more information contact your local GE Sales Representative or visit our website at www.prolecge.com
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