Manufacturer: Ablerex Electronics Co., Ltd.

Model #: ES 4200-US-240 (240 Vac)

Rated Maximum Continuous Output Power: 4.16 kW  
Night Tare Loss: 0.20 W

Vmin: 150 Vdc  
Vnom: 380 Vdc  
Vmax: 400 Vdc

<table>
<thead>
<tr>
<th>Input Voltage (Vdc)</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>50%</th>
<th>75%</th>
<th>100%</th>
<th>Wtd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vmin 150</td>
<td>90.6</td>
<td>93.8</td>
<td>94.5</td>
<td>94.8</td>
<td>94.6</td>
<td>94.2</td>
<td>94.4</td>
</tr>
<tr>
<td>Vnom 380</td>
<td>91.4</td>
<td>95.0</td>
<td>95.7</td>
<td>96.1</td>
<td>96.2</td>
<td>95.9</td>
<td>95.9</td>
</tr>
<tr>
<td>Vmax 400</td>
<td>90.7</td>
<td>94.7</td>
<td>95.5</td>
<td>96.1</td>
<td>96.1</td>
<td>95.9</td>
<td>95.7</td>
</tr>
</tbody>
</table>

CEC Efficiency = 95.5%

Equipment Used:

<table>
<thead>
<tr>
<th>Asset#</th>
<th>Description</th>
<th>Mfg</th>
<th>Model</th>
<th>Cal Date</th>
<th>Cal Due</th>
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<tbody>
<tr>
<td>EC0233</td>
<td>Hybrid Recorder</td>
<td>YOKOGAWA</td>
<td>DR 230</td>
<td>Nov. 18, 2010</td>
<td>Nov. 17, 2011</td>
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<td>EC0229</td>
<td>Humidity Chamber</td>
<td>TERCHY</td>
<td>MHU-800LSA</td>
<td>Jul. 9, 2010</td>
<td>Jul. 8, 2011</td>
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Test Engineer: Alan Weng  
Date: Feb. 21 - Mar. 8, 2011
## Inverter Efficiency Data

Minimum of 5 samples required

### Specified Sample #1 Sample #2 Sample #3 Sample #4 Sample #5

<table>
<thead>
<tr>
<th>Specified</th>
<th>Output Power (kW)</th>
<th>Input Voltage (Vdc)</th>
<th>Efficiency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10% Vmin</td>
<td>0.39</td>
<td>160.62</td>
<td>90.82</td>
</tr>
<tr>
<td>20% Vmin</td>
<td>0.91</td>
<td>155.29</td>
<td>93.81</td>
</tr>
<tr>
<td>30% Vmin</td>
<td>1.35</td>
<td>154.62</td>
<td>94.50</td>
</tr>
<tr>
<td>50% Vmin</td>
<td>2.09</td>
<td>152.35</td>
<td>94.82</td>
</tr>
<tr>
<td>75% Vmin</td>
<td>2.92</td>
<td>152.05</td>
<td>94.67</td>
</tr>
<tr>
<td>100% Vmin</td>
<td>3.93</td>
<td>151.97</td>
<td>94.16</td>
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<tr>
<td>10% Vnom</td>
<td>0.39</td>
<td>405.47</td>
<td>91.68</td>
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<tr>
<td>20% Vnom</td>
<td>0.91</td>
<td>390.96</td>
<td>94.48</td>
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<tr>
<td>30% Vnom</td>
<td>1.37</td>
<td>389.89</td>
<td>95.72</td>
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<tr>
<td>50% Vnom</td>
<td>2.12</td>
<td>387.75</td>
<td>96.23</td>
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<tr>
<td>75% Vnom</td>
<td>2.96</td>
<td>384.96</td>
<td>96.00</td>
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<tr>
<td>100% Vnom</td>
<td>4.01</td>
<td>387.49</td>
<td>95.96</td>
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<tr>
<td>10% Vmax</td>
<td>0.39</td>
<td>426.66</td>
<td>90.28</td>
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<tr>
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<td>0.91</td>
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<td>95.45</td>
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<td>96.04</td>
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<tr>
<td>75% Vmax</td>
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<td>96.14</td>
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<tr>
<td>100% Vmax</td>
<td>4.01</td>
<td>403.87</td>
<td>95.92</td>
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### Specified Sample #6 Sample #7 Sample #8 Sample #9 Sample #10

<table>
<thead>
<tr>
<th>Specified</th>
<th>Output Power (kW)</th>
<th>Input Voltage (Vdc)</th>
<th>Efficiency (%)</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

### Specified Sample #11 Sample #12 Sample #13 Sample #14 Sample #15

<table>
<thead>
<tr>
<th>Specified</th>
<th>Output Power (kW)</th>
<th>Input Voltage (Vdc)</th>
<th>Efficiency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10% Vmin</td>
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</tr>
<tr>
<td>20% Vmin</td>
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<tr>
<td>30% Vmin</td>
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<tr>
<td>50% Vmin</td>
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<tr>
<td>75% Vmin</td>
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<tr>
<td>100% Vmin</td>
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</tr>
<tr>
<td>10% Vnom</td>
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<tr>
<td>20% Vnom</td>
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<tr>
<td>75% Vnom</td>
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<tr>
<td>100% Vnom</td>
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</tr>
<tr>
<td>10% Vmax</td>
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