Manufacturer: Sungrow Power Supply Co., Ltd.

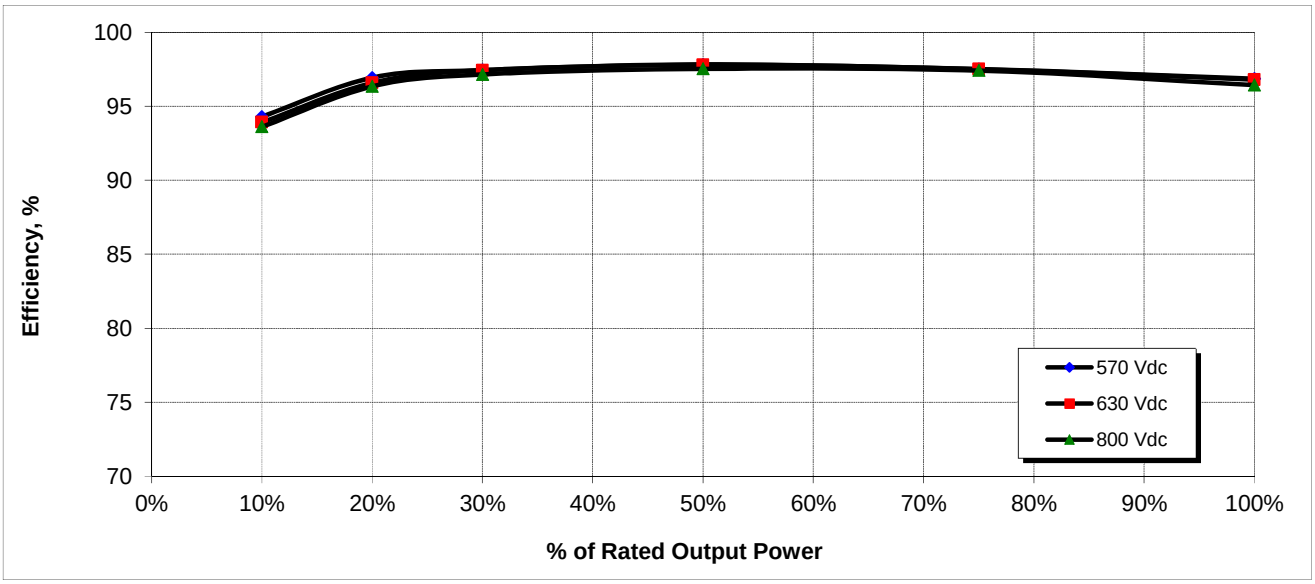
Model #: SG1000MX

Rated Maximum Continuous Output Power: 1000.0 kW  Night Tare Loss: 17 W

Vmin: 570 Vdc  Vnom: 630 Vdc  Vmax: 800 Vdc

| | | Power Level (%; kW) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 10% | 20% | 30% | 50% | 75% | 100% | |
| Input Voltage (Vdc) | | 100.00 | 200.00 | 300.00 | 500.00 | 750.00 | 1000.00 | Wtd |
| Vmin | 570 | 94.30 | 96.94 | 97.45 | 97.83 | 97.52 | 96.86 | 97.39 |
| Vnom | 630 | 93.92 | 96.58 | 97.44 | 97.80 | 97.51 | 96.81 | 97.34 |
| Vmax | 800 | 93.62 | 96.35 | 97.16 | 97.54 | 97.42 | 96.43 | 97.16 |

**CEC Efficiency of Inverter and MV TP1 Transformer = 97.5%**



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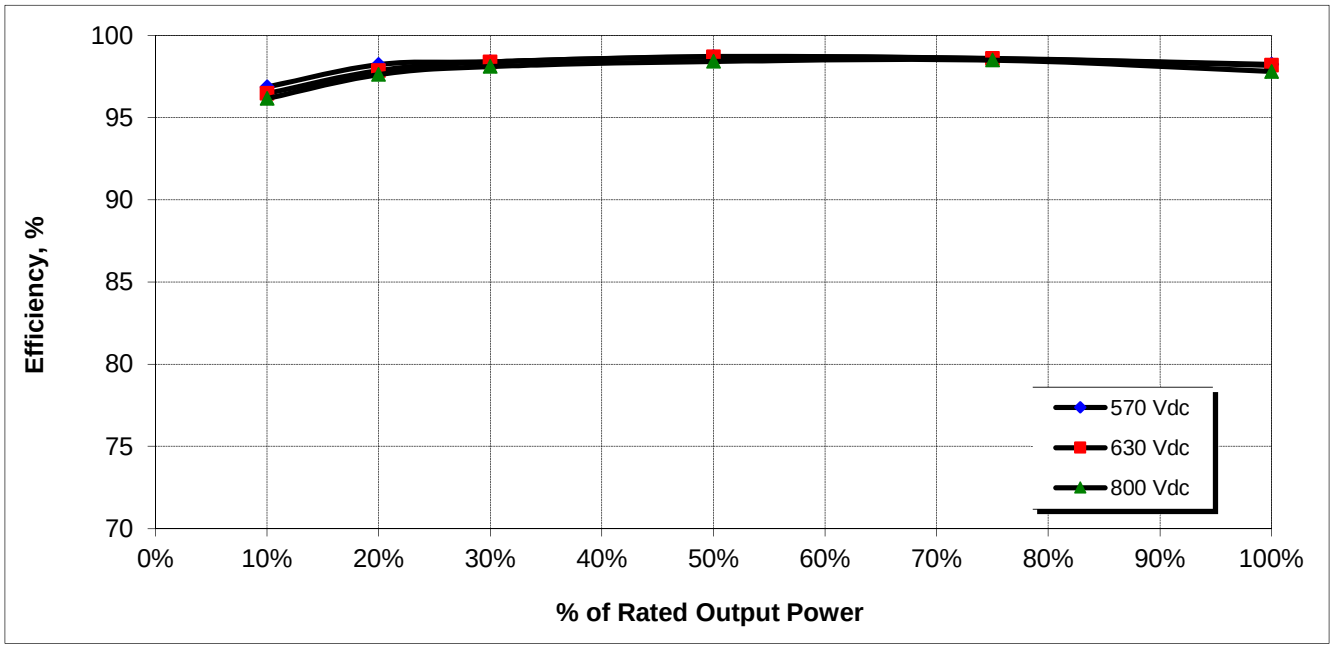
| | | Power Level (%; kW) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 10% | 20% | 30% | 50% | 75% | 100% | |
| Input Voltage (Vdc) | | 100.00 | 200.00 | 300.00 | 500.00 | 750.00 | 1000.00 | Wtd |
| Vmin | 570 | 96.87 | 98.23 | 98.41 | 98.72 | 98.60 | 98.25 | 98.50 |
| Vnom | 630 | 96.48 | 97.86 | 98.39 | 98.69 | 98.59 | 98.19 | 98.45 |
| Vmax | 800 | 96.17 | 97.63 | 98.11 | 98.42 | 98.50 | 97.81 | 98.27 |

**Inverter Efficiency only = 98.5%**




**1MVA TP1 Transformer Efficiency**

| | | Power Level (%; kW) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 10% | 20% | 30% | 50% | 75% | 100% | |
| Input Voltage (Vdc) | | 100.00 | 200.00 | 300.00 | 500.00 | 750.00 | 1000.00 | Wtd |
| Vmin | 570 | 97.35 | 98.69 | 99.03 | 99.10 | 98.90 | 98.59 | 98.87 |
| Vnom | 630 | 97.35 | 98.69 | 99.03 | 99.10 | 98.90 | 98.59 | 98.87 |
| Vmax | 800 | 97.35 | 98.69 | 99.03 | 99.10 | 98.90 | 98.59 | 98.87 |

Inverter Efficiency Data

Minimum of 5 samples required

| Specified | | Sample #1 | | | Sample #2 | | | Sample #3 | | | Sample #4 | | | Sample #5 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Output Power | Input Voltage | Output Power | Input Voltage | Efficiency | Output Power | Input Voltage | Efficiency | Output Power | Input Voltage | Efficiency | Output Power | Input Voltage | Efficiency | Output Power | Input Voltage | Efficiency |
| (% of rated) | (Vdc) | (W) | (Vdc) | (%) | (W) | (Vdc) | (%) | (W) | (Vdc) | (%) | (W) | (Vdc) | (%) | (W) | (Vdc) | (%) |
| 10% | Vmin | 100754.00 | 578.55 | 96.88 | 100651.67 | 578.31 | 96.86 | 100600.33 | 579.28 | 96.83 | 100747.67 | 576.89 | 96.86 | 100474.33 | 579.87 | 96.88 |
| 20% | Vmin | 202143.33 | 578.03 | 98.21 | 202121.33 | 576.67 | 98.23 | 202245.00 | 574.32 | 98.24 | 201906.67 | 578.42 | 98.21 | 202206.00 | 577.67 | 98.22 |
| 30% | Vmin | 302871.33 | 579.52 | 98.40 | 302930.33 | 577.51 | 98.41 | 302917.00 | 578.83 | 98.40 | 302876.33 | 579.90 | 98.40 | 303007.00 | 577.56 | 98.41 |
| 50% | Vmin | 503295.67 | 576.76 | 98.71 | 503541.00 | 577.81 | 98.72 | 503388.67 | 575.26 | 98.71 | 503558.33 | 576.47 | 98.73 | 503629.33 | 575.75 | 98.73 |
| 75% | Vmin | 751783.00 | 577.12 | 98.60 | 752085.00 | 574.21 | 98.61 | 751947.33 | 576.37 | 98.61 | 752154.67 | 575.41 | 98.60 | 752051.33 | 575.91 | 98.60 |
| 100% | Vmin | 1004763.33 | 577.99 | 98.24 | 1005076.67 | 575.63 | 98.25 | 1004920.00 | 574.99 | 98.25 | 1005106.67 | 576.50 | 98.24 | 1004946.67 | 576.31 | 98.24 |
| 10% | Vnom | 98003.00 | 635.40 | 96.55 | 97694.13 | 634.67 | 96.48 | 97496.37 | 636.86 | 96.45 | 97381.13 | 634.08 | 96.49 | 97116.07 | 634.11 | 96.42 |
| 20% | Vnom | 195197.33 | 636.87 | 97.87 | 194972.67 | 640.62 | 97.88 | 194797.67 | 640.90 | 97.85 | 194934.00 | 640.71 | 97.85 | 195066.33 | 640.12 | 97.88 |
| 30% | Vnom | 303501.67 | 640.17 | 98.38 | 303812.00 | 632.87 | 98.40 | 303406.33 | 638.79 | 98.38 | 303514.33 | 640.18 | 98.39 | 303480.67 | 640.14 | 98.38 |
| 50% | Vnom | 505548.67 | 635.45 | 98.69 | 505490.00 | 634.08 | 98.70 | 505468.00 | 636.13 | 98.69 | 505439.33 | 636.11 | 98.69 | 505409.00 | 635.74 | 98.69 |
| 75% | Vnom | 750923.67 | 632.05 | 98.59 | 750658.00 | 635.34 | 98.60 | 750801.00 | 634.99 | 98.59 | 750953.67 | 634.04 | 98.59 | 750895.00 | 634.71 | 98.59 |
| 100% | Vnom | 1003433.33 | 634.99 | 98.19 | 1003613.33 | 631.66 | 98.19 | 1003363.33 | 636.26 | 98.19 | 1003286.67 | 631.31 | 98.19 | 1003516.67 | 631.31 | 98.19 |
| 10% | Vmax | 98964.03 | 795.77 | 96.21 | 98932.27 | 795.70 | 96.15 | 98880.43 | 797.36 | 96.17 | 98921.30 | 556.67 | 96.13 | 98974.30 | 796.36 | 96.17 |
| 20% | Vmax | 199945.00 | 796.31 | 97.63 | 199878.00 | 796.73 | 97.60 | 199764.67 | 796.43 | 97.62 | 200706.33 | 798.05 | 97.67 | 200171.33 | 796.73 | 97.64 |
| 30% | Vmax | 301377.67 | 797.30 | 98.11 | 301253.67 | 797.27 | 98.12 | 300979.33 | 797.00 | 98.10 | 300866.33 | 796.51 | 98.09 | 300598.33 | 796.90 | 98.10 |
| 50% | Vmax | 503014.00 | 796.21 | 98.41 | 503660.67 | 798.80 | 98.42 | 503121.67 | 796.89 | 98.42 | 503061.00 | 795.55 | 98.43 | 502781.00 | 795.86 | 98.42 |
| 75% | Vmax | 753346.00 | 795.29 | 98.50 | 753591.33 | 791.35 | 98.51 | 753421.67 | 796.44 | 98.51 | 753314.67 | 795.29 | 98.50 | 753477.00 | 793.43 | 98.51 |
| 100% | Vmax | 1000846.67 | 797.96 | 97.81 | 1001200.00 | 795.17 | 97.81 | 1000239.33 | 799.16 | 97.81 | 1001270.00 | 791.93 | 97.81 | 1001170.00 | 795.28 | 97.81 |

| Specified | | Sample #6 | | | Sample #7 | | | Sample #8 | | | Sample #9 | | | Sample #10 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Output Power | Input Voltage | Output Power | Input Voltage | Efficiency | Output Power | Input Voltage | Efficiency | Output Power | Input Voltage | Efficiency | Output Power | Input Voltage | Efficiency | Output Power | Input Voltage | Efficiency |
| (% of rated) | (Vdc) | (W) | (Vdc) | (%) | (W) | (Vdc) | (%) | (W) | (Vdc) | (%) | (W) | (Vdc) | (%) | (W) | (Vdc) | (%) |
| 10% | Vmin | 100819.00 | 577.15 | 96.90 | 100887.00 | 574.83 | 96.87 | | | | | | | | | |
| 20% | Vmin | 201818.33 | 578.99 | 98.24 | 202131.33 | 580.41 | 98.24 | | | | | | | | | |
| 30% | Vmin | 302966.00 | 575.80 | 98.41 | 302948.67 | 579.16 | 98.40 | | | | | | | | | |
| 50% | Vmin | 503403.00 | 575.10 | 98.72 | 503656.33 | 577.06 | 98.72 | | | | | | | | | |
| 75% | Vmin | 752084.67 | 576.30 | 98.60 | 751644.00 | 577.58 | 98.60 | | | | | | | | | |
| 100% | Vmin | 1005100.00 | 575.19 | 98.24 | 1005090.00 | 573.68 | 98.25 | | | | | | | | | |
| 10% | Vnom | 97003.50 | 634.87 | 96.45 | 97850.93 | 636.25 | 96.51 | | | | | | | | | |
| 20% | Vnom | 195216.33 | 638.98 | 97.87 | 194726.67 | 639.58 | 97.84 | | | | | | | | | |
| 30% | Vnom | 303499.00 | 639.78 | 98.40 | 303727.33 | 635.13 | 98.40 | | | | | | | | | |
| 50% | Vnom | 505529.33 | 634.46 | 98.69 | 505508.00 | 632.75 | 98.70 | | | | | | | | | |
| 75% | Vnom | 751026.00 | 633.00 | 98.59 | 750914.33 | 633.68 | 98.59 | | | | | | | | | |
| 100% | Vnom | 1003533.33 | 631.99 | 98.19 | 1003566.67 | 631.29 | 98.19 | | | | | | | | | |
| 10% | Vmax | 98938.03 | 795.23 | 96.17 | 98974.30 | 796.77 | 96.17 | | | | | | | | | |
| 20% | Vmax | 199880.00 | 795.39 | 97.61 | 199880.00 | 796.80 | 97.61 | | | | | | | | | |
| 30% | Vmax | 302351.00 | 796.99 | 98.14 | 301502.67 | 797.99 | 98.11 | | | | | | | | | |
| 50% | Vmax | 503448.33 | 796.44 | 98.43 | 503645.00 | 797.50 | 98.43 | | | | | | | | | |
| 75% | Vmax | 753498.67 | 795.31 | 98.51 | 753335.67 | 797.04 | 98.51 | | | | | | | | | |
| 100% | Vmax | 1001006.67 | 797.21 | 97.81 | 1001463.33 | 791.26 | 97.81 | | | | | | | | | |