Manufacturer: Fronius USA

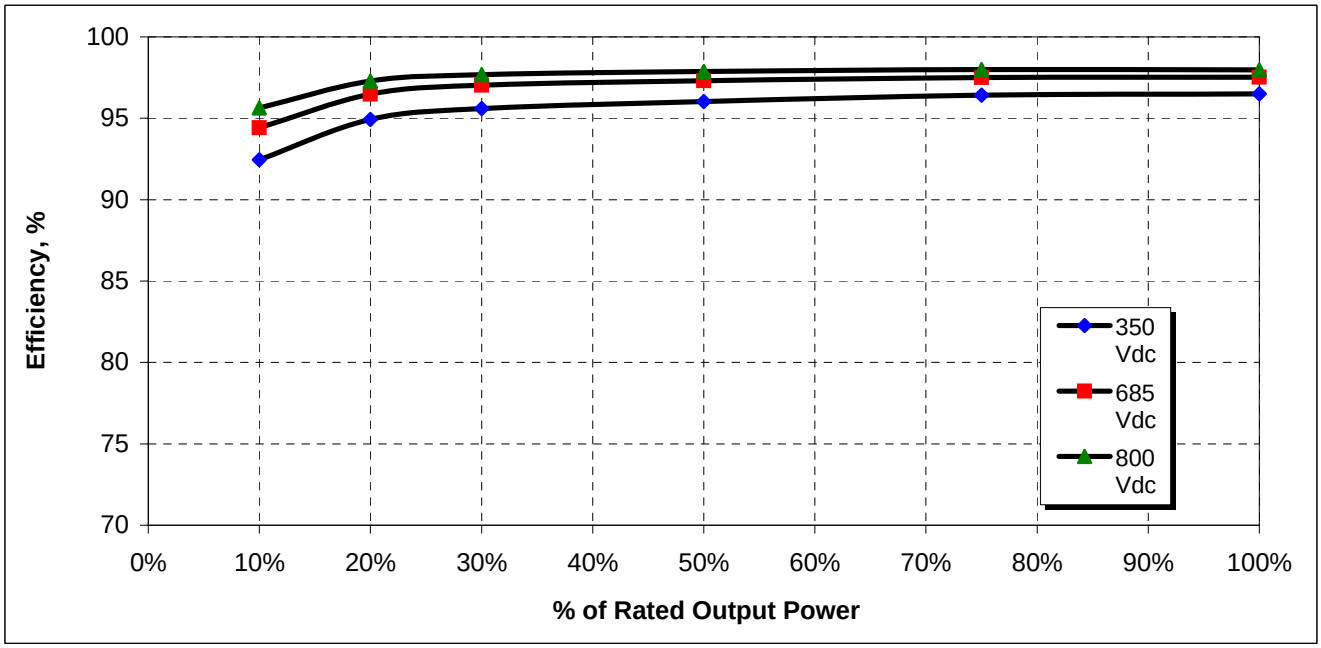
Model #: Fronius Symo-12.5-3 480

Rated Maximum Continuous Output Power: 12.495 kW  Night Tare Loss: -0.9 W

Vmin: 350 Vdc  Vnom: 685 Vdc  Vmax: 800 Vdc

| | | Power Level (%; kW) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 10% | 20% | 30% | 50% | 75% | 100% | |
| Input Voltage (Vdc) | | 1.25 | 2.50 | 3.75 | 6.25 | 9.37 | 12.50 | Wtd |
| Vmin | 350 | 92.5 | 94.9 | 95.6 | 96.0 | 96.4 | 96.5 | 96.0 |
| Vnom | 685 | 94.4 | 96.5 | 97.0 | 97.3 | 97.5 | 97.5 | 97.2 |
| Vmax | 800 | 95.6 | 97.3 | 97.7 | 97.9 | 98.0 | 98.0 | 97.8 |

**CEC Efficiency = 97.0%**



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 | 1246.60 | 350.39 | 92.45 | 1246.53 | 350.39 | 92.45 | 1246.67 | 350.39 | 92.46 | 1246.87 | 350.39 | 92.46 | 1247.00 | 350.39 | 92.46 |
| 20% | Vmin | 2734.50 | 350.40 | 94.92 | 2734.60 | 350.40 | 94.92 | 2734.33 | 350.41 | 94.92 | 2734.27 | 350.39 | 94.92 | 2734.53 | 350.41 | 94.92 |
| 30% | Vmin | 4052.40 | 350.41 | 95.60 | 4052.63 | 350.41 | 95.60 | 4052.63 | 350.41 | 95.60 | 4052.47 | 350.41 | 95.60 | 4052.20 | 350.41 | 95.60 |
| 50% | Vmin | 5631.20 | 350.41 | 96.03 | 5631.63 | 350.42 | 96.03 | 5631.37 | 350.41 | 96.03 | 5631.47 | 350.41 | 96.03 | 5631.70 | 350.41 | 96.03 |
| 75% | Vmin | 8752.20 | 350.41 | 96.43 | 8752.13 | 350.42 | 96.43 | 8752.20 | 350.42 | 96.43 | 8751.73 | 350.41 | 96.43 | 8751.77 | 350.41 | 96.43 |
| 100% | Vmin | 11886.33 | 350.45 | 96.50 | 11886.33 | 350.44 | 96.50 | 11885.67 | 350.44 | 96.50 | 11885.00 | 350.44 | 96.50 | 11884.67 | 350.44 | 96.50 |
| 10% | Vnom | 1240.47 | 683.83 | 94.40 | 1240.20 | 683.84 | 94.41 | 1240.30 | 683.84 | 94.41 | 1240.50 | 683.83 | 94.43 | 1241.27 | 683.84 | 94.42 |
| 20% | Vnom | 2738.27 | 683.82 | 96.48 | 2738.10 | 683.81 | 96.48 | 2737.80 | 683.82 | 96.48 | 2738.07 | 683.81 | 96.48 | 2738.30 | 683.82 | 96.49 |
| 30% | Vnom | 4054.93 | 683.85 | 97.02 | 4055.50 | 683.84 | 97.03 | 4055.43 | 683.85 | 97.03 | 4054.53 | 683.85 | 97.03 | 4054.73 | 683.82 | 97.03 |
| 50% | Vnom | 5625.73 | 683.85 | 97.30 | 5625.57 | 683.84 | 97.31 | 5625.43 | 683.83 | 97.30 | 5625.97 | 683.83 | 97.30 | 5625.27 | 683.85 | 97.30 |
| 75% | Vnom | 8761.07 | 683.84 | 97.50 | 8761.57 | 683.86 | 97.50 | 8762.27 | 683.86 | 97.50 | 8761.80 | 683.85 | 97.50 | 8762.47 | 683.84 | 97.50 |
| 100% | Vnom | 11887.33 | 683.82 | 97.52 | 11887.00 | 683.82 | 97.52 | 11887.00 | 683.82 | 97.52 | 11887.00 | 683.82 | 97.52 | 11887.00 | 683.83 | 97.52 |
| 10% | Vmax | 1234.33 | 801.24 | 95.64 | 1234.33 | 801.25 | 95.65 | 1234.87 | 801.24 | 95.64 | 1233.73 | 801.25 | 95.63 | 1233.83 | 801.25 | 95.64 |
| 20% | Vmax | 2735.10 | 801.32 | 97.28 | 2734.77 | 801.32 | 97.28 | 2735.40 | 801.31 | 97.28 | 2735.50 | 801.32 | 97.28 | 2735.07 | 801.32 | 97.27 |
| 30% | Vmax | 4046.37 | 801.38 | 97.67 | 4046.83 | 801.36 | 97.67 | 4046.37 | 801.36 | 97.67 | 4045.63 | 801.36 | 97.67 | 4045.30 | 801.36 | 97.67 |
| 50% | Vmax | 5636.60 | 801.43 | 97.88 | 5636.47 | 801.42 | 97.88 | 5636.83 | 801.42 | 97.88 | 5636.37 | 801.42 | 97.88 | 5636.30 | 801.42 | 97.88 |
| 75% | Vmax | 8762.87 | 801.52 | 97.99 | 8762.43 | 801.52 | 97.99 | 8762.77 | 801.52 | 97.99 | 8762.23 | 801.52 | 97.99 | 8762.37 | 801.53 | 97.99 |
| 100% | Vmax | 11887.33 | 801.57 | 97.98 | 11887.67 | 801.56 | 97.98 | 11887.00 | 801.57 | 97.98 | 11886.67 | 801.56 | 97.98 | 11886.67 | 801.56 | 97.98 |

| 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 | 1246.47 | 350.39 | 92.46 | 1246.37 | 350.39 | 92.46 | | | | | | | | | |
| 20% | Vmin | 2734.80 | 350.40 | 94.92 | 2734.63 | 350.41 | 94.92 | | | | | | | | | |
| 30% | Vmin | 4052.27 | 350.41 | 95.60 | 4052.47 | 350.41 | 95.60 | | | | | | | | | |
| 50% | Vmin | 5631.87 | 350.42 | 96.02 | 5631.90 | 350.42 | 96.03 | | | | | | | | | |
| 75% | Vmin | 8752.20 | 350.41 | 96.43 | 8751.87 | 350.41 | 96.43 | | | | | | | | | |
| 100% | Vmin | 11884.67 | 350.44 | 96.50 | 11884.00 | 350.44 | 96.50 | | | | | | | | | |
| 10% | Vnom | 1240.77 | 683.83 | 94.41 | 1240.70 | 683.84 | 94.41 | | | | | | | | | |
| 20% | Vnom | 2737.93 | 683.81 | 96.49 | 2737.70 | 683.82 | 96.49 | | | | | | | | | |
| 30% | Vnom | 4054.60 | 683.85 | 97.02 | 4054.77 | 683.83 | 97.03 | | | | | | | | | |
| 50% | Vnom | 5625.10 | 683.83 | 97.30 | 5625.23 | 683.84 | 97.30 | | | | | | | | | |
| 75% | Vnom | 8763.10 | 683.84 | 97.50 | 8762.93 | 683.87 | 97.50 | | | | | | | | | |
| 100% | Vnom | 11887.00 | 683.82 | 97.53 | 11888.00 | 683.83 | 97.52 | | | | | | | | | |
| 10% | Vmax | 1233.30 | 801.25 | 95.64 | 1233.47 | 801.25 | 95.63 | | | | | | | | | |
| 20% | Vmax | 2735.27 | 801.32 | 97.28 | 2735.57 | 801.31 | 97.28 | | | | | | | | | |
| 30% | Vmax | 4045.77 | 801.36 | 97.67 | 4045.87 | 801.36 | 97.67 | | | | | | | | | |
| 50% | Vmax | 5636.03 | 801.41 | 97.88 | 5636.60 | 801.42 | 97.88 | | | | | | | | | |
| 75% | Vmax | 8762.57 | 801.52 | 97.99 | 8762.80 | 801.52 | 97.99 | | | | | | | | | |
| 100% | Vmax | 11886.67 | 801.55 | 97.98 | 11887.33 | 801.58 | 97.98 | | | | | | | | | |