Manufacturer: SMA Solar Technology AG

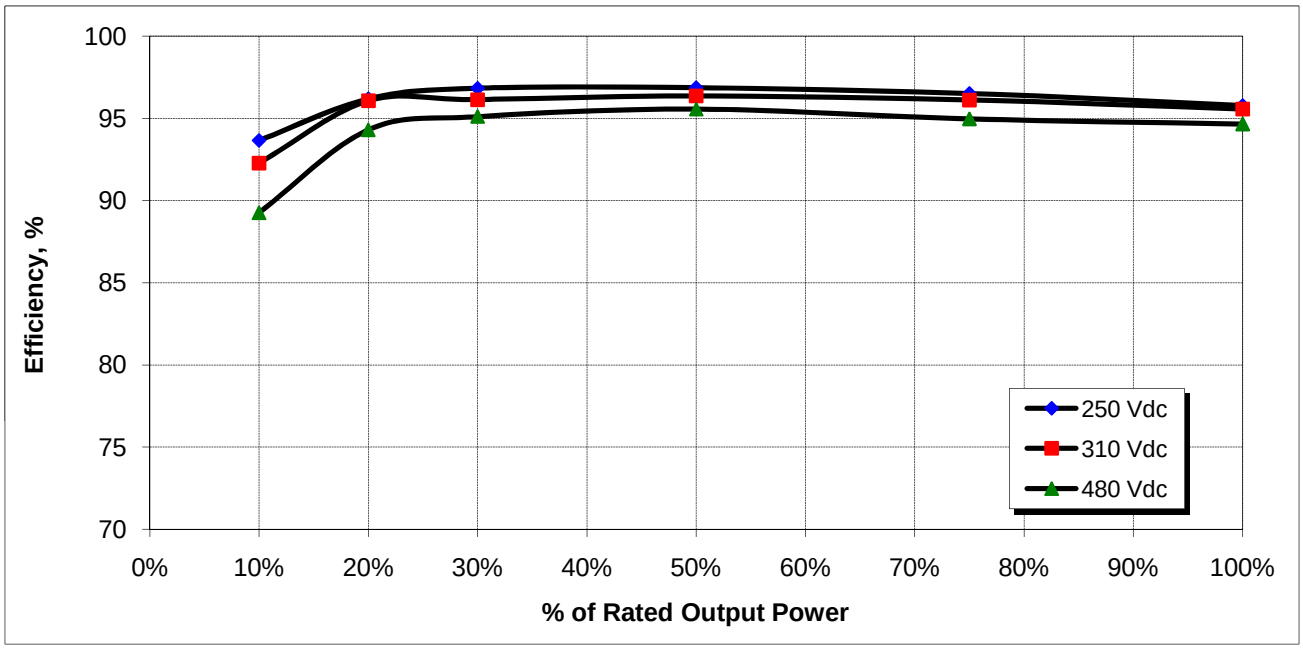
Model #: ST42 240Vac

Rated Maximum Continuous Output Power: 42.00 kW Night Tare Loss: 0.60 W

Vmin: 250 Vdc Vnom: 310 Vdc Vmax: 480 Vdc

		Power Level (%; kW)						
		10%	20%	30%	50%	75%	100%	
Input Voltage (Vdc)		4.20	8.40	12.60	21.00	31.50	42.00	Wtd
Vmin	250	93.7	96.2	96.8	96.9	96.5	95.8	96.5
Vnom	310	92.3	96.1	96.1	96.4	96.1	95.6	96.0
Vmax	480	89.3	94.3	95.1	95.6	95.0	94.7	94.8

CEC Efficiency = 96.0%



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)	(kW)	(Vdc)	(%)	(kW)	(Vdc)	(%)	(kW)	(Vdc)	(%)	(kW)	(Vdc)	(%)	(W)	(Vdc)	(%)
10%	Vmin	-4084.2	250.1	93.877	-4083	250.1	93.823	-4079	250.1	93.688	-4072	250.1	93.471	-4065	250.1	93.410
20%	Vmin	-9060	250	96.178	-9060	250	96.178	-9060	250	96.178	-9060	250	96.178	-9060	250	96.178
30%	Vmin	-13560	250	96.996	-13560	250	96.996	-13560	250	96.996	-13560	250	96.581	-13560	250	96.581
50%	Vmin	-19080	250.4	96.922	-19080	250.3	96.892	-19074	250.4	96.891	-19062	250.4	96.830	-19074	250.4	96.803
75%	Vmin	-29724	250.4	96.550	-29712	250.5	96.549	-29706	250.5	96.530	-29706	250.5	96.511	-29688	250.6	96.396
100%	Vmin	-40080	251	95.839	-40080	251	95.839	-40020	250	95.833	-40080	251	95.702	-40020	251	95.696
10%	Vnom	-4093.8	309.7	92.490	-4085	309.7	92.287	-4085	309.7	92.274	-4079	309.7	92.177	-4078	309.7	92.099
20%	Vnom	-9130.2	309.8	96.085	-9133	309.8	96.080	-9128	309.8	96.066	-9131	309.9	96.049	-9128	309.8	96.030
30%	Vnom	-13500	310	96.195	-13500	309.9	96.195	-13500	309.9	96.154	-13500	310	96.072	-13488	309.9	96.068
50%	Vnom	-19134	310	96.461	-19122	310	96.400	-19128	310	96.314	-19116	310	96.312	-19116	310	96.283
75%	Vnom	-29562	310	96.174	-29556	310.1	96.136	-29550	310.1	96.116	-29556	310.1	96.080	-29538	310.1	96.077
100%	Vnom	-40044	310.1	95.602	-40032	310.1	95.574	-40020	310.2	95.559	-40014	310.2	95.544	-40038	310.3	95.533
10%	Vmax	-4063.2	478.7	89.329	-4061	478.7	89.289	-4060	478.7	89.263	-4057	478.7	89.244	-4054	478.7	89.142
20%	Vmax	-9126.6	478.7	94.338	-9128	478.7	94.327	-9122	478.7	94.311	-9123	478.7	94.289	-9114	478.6	94.242
30%	Vmax	-13506	478.7	95.139	-13506	478.8	95.139	-13500	478.7	95.097	-13500	478.7	95.097	-13500	478.7	95.057
50%	Vmax	-19158	478.7	94.356	-19158	478.7	96.611	-19164	478.7	96.118	-19140	478.8	95.681	-19146	478.7	95.055
75%	Vmax	-29730	478.9	94.996	-29724	478.9	94.995	-29712	478.8	94.975	-29730	478.8	94.942	-29718	478.8	94.940
100%	Vmax	-39990	478.7	94.673	-39990	478.7	94.673	-39984	478.7	94.659	-39978	478.7	94.645	-39972	478.7	94.631

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															
20%	Vmin															
30%	Vmin															
50%	Vmin															
75%	Vmin															
100%	Vmin															
10%	Vnom															
20%	Vnom															
30%	Vnom															
50%	Vnom															
75%	Vnom															
100%	Vnom															
10%	Vmax															
20%	Vmax															
30%	Vmax															
50%	Vmax															
75%	Vmax															
100%	Vmax															