Manufacturer: SMA Solar Technology AG

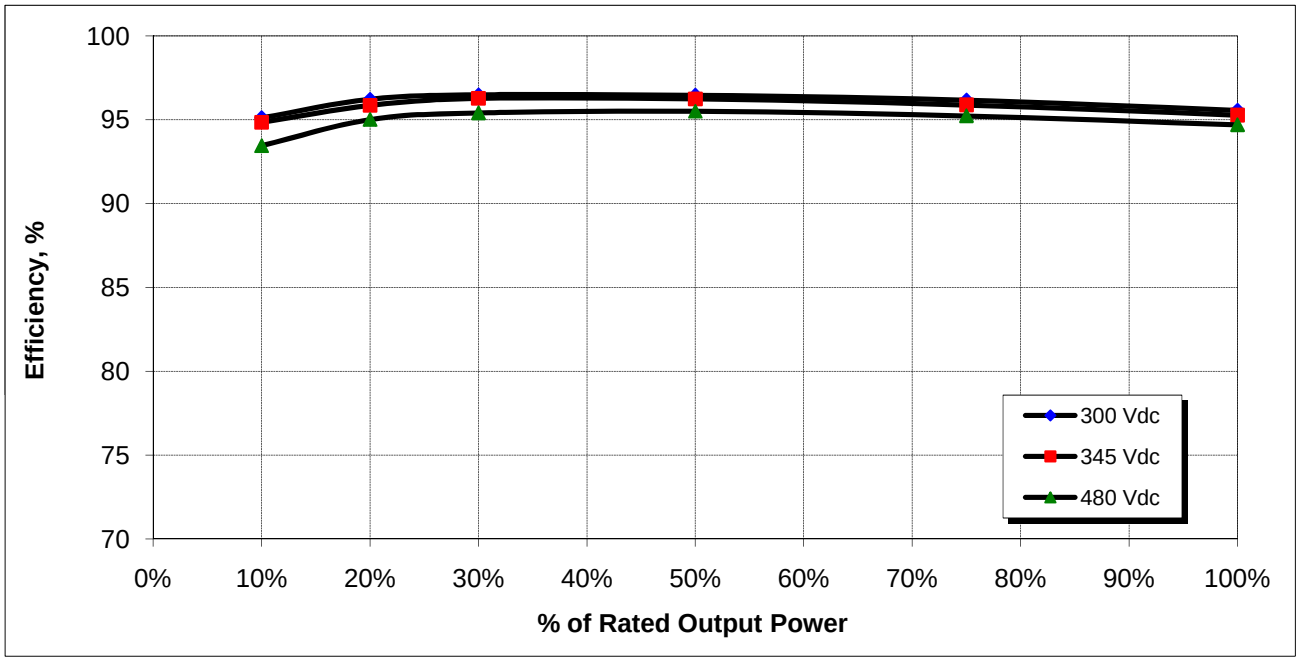
Model #: ST48 277VAC

Rated Maximum Continuous Output Power: 48.00 kW Night Tare Loss: 0.90 W

Vmin: 300 Vdc Vnom: 345 Vdc Vmax: 480 Vdc

		Power Level (%; kW)						
		10%	20%	30%	50%	75%	100%	
Input Voltage (Vdc)		4.80	9.60	14.40	24.00	36.00	48.00	Wtd
Vmin	300	95.1	96.2	96.5	96.5	96.2	95.6	96.2
Vnom	345	94.9	95.9	96.3	96.2	95.9	95.3	95.9
Vmax	480	93.5	95.0	95.4	95.5	95.2	94.7	95.2

CEC Efficiency = 96.0%



NOTE: Spreadsheet is for Unit Operating in 277 VAC Output Mode.

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	5727	301.1	95.110	5740	301.1	95.097	5735	301.1	95.130	5744	301.1	95.116	5746	301.1	95.116
20%	Vmin	10515	300.8	96.214	10510	300.8	96.211	10517	300.8	96.207	10508	300.8	96.222	10515	300.8	96.220
30%	Vmin	15552	300.4	96.484	15555	300.4	96.471	15554	300.4	96.482	15552	300.4	96.478	15555	300.4	96.493
50%	Vmin	21624	301.7	96.454	21624	301.7	96.461	21626	301.7	96.448	21625	301.7	96.456	21631	301.7	96.456
75%	Vmin	33671	300.5	96.178	33602	300.5	96.170	33596	300.5	96.170	33601	300.5	96.172	33599	300.5	96.173
100%	Vmin	45637	300.7	95.562	45649	300.7	95.564	45643	300.7	95.561	45650	300.7	95.563	45641	300.7	95.566
10%	Vnom	5705	345.6	94.777	5691	345.6	94.791	5695	345.6	94.918	5697	345.6	94.845	5697	345.6	94.907
20%	Vnom	9547.9	345.4	95.844	9548	345.4	95.844	9545	345.4	95.868	9546	345.4	95.873	9545	345.4	95.848
30%	Vnom	15555	345.1	96.270	15556	345.1	96.280	15565	345.1	96.288	15546	345.1	96.272	15553	345.1	96.270
50%	Vnom	21814	345.7	96.244	21778	345.7	96.247	21687	345.7	96.247	21680	345.7	96.237	21684	345.7	96.255
75%	Vnom	33730	345	95.889	33731	345	95.896	33725	345	95.890	33732	345	95.890	33720	345	95.887
100%	Vnom	45622	346.2	95.274	45622	346.2	95.277	45625	346.2	95.276	45624	346.2	95.280	45626	346.2	95.284
10%	Vmax	5684.1	481.2	93.455	5682	481.2	93.411	5681	481.2	93.480	5683	481.2	93.473	5682	481.2	93.471
20%	Vmax	10498	481.4	95.054	10491	481.4	95.004	10498	481.4	95.025	10497	481.4	95.012	10503	481.2	95.013
30%	Vmax	15484	481.2	95.394	15483	481.2	95.397	15482	481.2	95.403	15480	481.2	95.412	15487	481.2	95.422
50%	Vmax	21734	481	95.509	21736	481	95.511	21734	481	95.516	21731	481	95.516	21707	481	95.506
75%	Vmax	33614	482	95.206	33615	481.4	95.225	33616	481.3	95.240	33611	481.1	95.245	33609	481.1	95.245
100%	Vmax	45648	480.6	94.709	45656	480.6	94.702	45659	480.6	94.709	45664	480.6	94.698	45658	480.6	94.703

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	5745.1	301.1	95.120	5742	301.1	95.101	5737	301.1	95.096	5744	301.1	95.143	5749	301.1	95.138
20%	Vmin	10517	300.8	96.221	10517	300.8	96.226	10514	300.8	96.236	10516	300.8	96.231	10516	300.8	96.209
30%	Vmin	15550	300.4	96.506	15558	300.4	96.485	15561	300.4	96.486	15557	300.4	96.474	15552	300.4	96.470
50%	Vmin	21623	301.7	96.454	21624	301.7	96.460	21626	301.7	96.453	21631	301.7	96.457	21623	301.7	96.452
75%	Vmin	33602	300.5	96.162	33597	300.5	96.171	33595	300.5	96.162	33600	300.5	96.168	33593	300.5	96.163
100%	Vmin	45640	300.7	95.561	45638	300.7	95.562	45642	300.7	95.563	45639	300.7	95.562	45643	300.7	95.560
10%	Vnom	5691.6	345.6	94.892	5698	345.6	94.731	5682	345.6	94.952	5684	345.6	94.857	5695	345.6	94.856
20%	Vnom	9545.6	345.4	95.856	9546	345.4	95.854	9549	345.4	95.864	9547	345.4	95.875	9552	345.4	95.858
30%	Vnom	15562	345.1	96.264	15557	345.1	96.279	15552	345.1	96.281	15555	345.1	96.269	15556	345.1	96.279
50%	Vnom	21679	345.7	96.244	21635	345.7	96.251	21641	345.7	96.253	21637	345.7	96.243	21637	345.7	96.235
75%	Vnom	33724	345	95.883	33724	345	95.880	33726	345	95.881	33721	345	95.881	33720	345	95.880
100%	Vnom	45623	346.2	95.276	45626	346.2	95.276	45622	346.2	95.275	45625	346.2	95.279	45625	346.2	95.280
10%	Vmax	5684.5	481.2	93.448	5682	481.2	93.441	5683	481.2	93.452	5682	481.2	93.416	5684	481.2	93.475
20%	Vmax	10508	481	94.973	10512	481	94.995	10511	481	95.023	10508	481	95.012	10519	480.9	95.022
30%	Vmax	15484	481.2	95.412	15489	481.2	95.422	15483	481.2	95.401	15490	481.2	95.423	15490	481.2	95.432
50%	Vmax	21594	481	95.516	21688	481	95.504	21685	481	95.509	21654	481	95.525	21648	481	95.514
75%	Vmax	33609	481.1	95.244	33614	481.1	95.248	33611	481.1	95.238	33611	481.1	95.246	33619	481.1	95.243
100%	Vmax	45659	480.6	94.694	45655	480.6	94.703	45658	480.6	94.699	45664	480.6	94.698	45661	480.6	94.697