

SBS HIGH-RATE UPS RUNTIME MATRIX (3 PHASE)

480V BUS													
240 CELLS													
40 JARS													
UPS Series													
UPS KVA RATING (assume 0.80 Pf)													
40	50	65	80	100	130	160	225	300	400	500	625	750	
WATTS PER CELL (Inverter Efficiency 0.91)													
147	183	238	293	366	476	586	824	1099	1465	1832	2289	2747	
1 STRING													
RUNTIME IN MINUTES													
12-106WFR													
12-122WFR													
12-170WFR	16	12	8										
12-210WFR	21	14	7										
12-285WFR	43	32	22	16	10	7							
12-330WFR	48	38	27	20	14	9	5						
12-381WFR	57	44	32	25	18	12	8						
12-540WFR	82	62	45	33	24	15	9						
12-690WFR	105	79	58	42	31	19	11	5					
12-710WFR	109	82	61	45	33	21	12	6					
12-800WFR	124	93	70	52	39	25	15	8					
2 STRING													
12-95WFR	14	7											
12-106WFR	24	17	5										
12-122WFR	29	25	11	5									
12-170WFR	41	30	22	16	11	8							
12-210WFR	54	41	29	21	13	7							
12-285WFR	94	74	55	42	21	23	16	9					
12-330WFR	109	85	61	48	38	27	20	12	7				
12-381WFR	118	93	70	57	44	32	25	15	9				
12-540WFR	186	143	103	82	62	45	33	20	11	5			
12-690WFR	238	184	133	105	81	58	43	28	15	9	5		
12-710WFR	247	189	138	109	85	61	46	30	17	11	7		
12-800WFR	282	216	157	125	98	71	54	35	21	14	9		
3 STRING													
12-35WFR	5												
12-95WFR	21	11											
12-106WFR	36	26	7										
12-122WFR	44	38	17	8									
12-170WFR	62	45	33	24	17	12							
12-210WFR	81	62	44	32	20	11							
12-285WFR	157	117	87	68	52	39	29	17	11	6			
12-330WFR	176	136	98	79	59	44	35	22	14	8	5		
12-381WFR	195	124	103	84	68	52	42	38	18	12	7		
12-540WFR	303	232	171	129	99	75	58	38	25	15	9		
12-690WFR	388	297	219	165	127	96	74	49	32	19	11		
12-710WFR	400	307	226	170	131	99	77	51	34	21	13	6	
12-800WFR	455	348	257	194	149	113	87	58	39	24	17	9	
4 STRING													
12-35WFR	7												
12-95WFR	28	14	5										
12-106WFR	48	34	9	6									
12-122WFR	58	50	22	12	7								
12-170WFR	82	60	44	32	21	14	5						
12-210WFR	108	82	58	42	26	16	7						
12-285WFR	217	168	120	94	74	54	42	28	17	11	8		
12-330WFR	242	187	141	109	85	61	52	32	22	14	9		
12-381WFR	274	211	133	94	84	70	63	40	28	18	13		
12-540WFR	419	326	233	185	143	102	84	55	38	25	17	5	
12-690WFR	539	418	299	237	184	131	107	71	49	33	22	11	6
12-710WFR	556	431	308	244	190	135	111	75	52	36	25	13	9
12-800WFR	631	490	350	278	216	153	126	85	59	42	29	16	12
5 STRING													
12-381WFR	455	337	239	179	139	87	74	57	60	35	16	11	7
12-540WFR	558	416	318	232	173	124	91	78	69	31	23	14	10
12-690WFR	719	533	408	297	222	159	117	98	77	39	29	16	12
12-710WFR	743	550	420	307	229	164	120	101	79	42	31	17	13
12-800WFR	837	620	474	346	258	185	136	114	90	48	35	20	17

Note: Computations are based on a 0.80 Power Factor & inverter efficiencies (dc to AC) of 91.5%. A Power factor of 0.9 will reduce runtimes while greater inverter efficiencies will increase them. Further assumptions are that the operating temperature is 77 deg F, connected loads are 50% non-linear, VRLA battery strings are new & fully charged. SBS provides this information as reference only. For exact autonomies an IEEE std. 1187 full discharge runtime load test should be conducted. Some systems require additional battery chargers above 3 strings. For additional information, contact SBS Engineering Services @ 800-554-2243 xt 3009.

SBS HIGH-RATE UPS RUNTIME MATRIX (3 PHASE)

360V BUS													
180 CELLS													
30 JARS													
UPS Series													
UPS KVA RATING (assume 0.80 Pf)													
	10	15	20	30	40	50	65	80	100	130	160	225	300
WATTS PER CELL (Inverter Efficiency 0.91)													
	49	73	97	146	194	243	316	389	486	631	777	1093	1457
1 STRING													
RUNTIME IN MINUTES													
12-95WFR	9	12											
12-106WFR	26	15	8										
12-122WFR	34	20	13	5									
12-170WFR	48	29	19	11	8	5							
12-210WFR	84	49	35	19	13	9	5						
12-285WFR	158	85	58	36	23	17	11	7					
12-330WFR	189	109	77	43	29	22	15	11	6				
12-381WFR	235	141	91	55	36	27	19	14	9	5			
12-540WFR	339	172	121	72	47	36	26	18	14	8			
12-690WFR	434	220	155	92	60	46	33	23	18	10			
12-710WFR	446	227	159	95	62	47	34	24	18	11	5		
12-800WFR	503	255	180	107	70	53	39	27	21	12	6		
2 STRING													
12-95WFR	107	67	52	27	19	15	10	8					
12-106WFR	119	75	58	30	21	17	11	9	6				
12-122WFR	137	86	67	35	25	20	13	10	7	5			
12-170WFR	191	120	93	49	35	27	18	14	10	7			
12-210WFR	236	149	115	60	43	34	23	17	13	8	5		
12-285WFR	321	202	156	82	58	46	31	23	17	11	7	5	
12-330WFR	402	281	178	109	76	57	39	30	22	15	10	8	
12-381WFR	527	313	235	143	91	72	47	37	28	19	14	11	
12-540WFR	645	421	291	177	119	88	62	48	37	25	18	15	5
12-690WFR	825	538	372	226	152	113	79	61	47	32	23	19	6
12-710WFR	849	554	383	233	157	116	82	63	49	33	24	20	7
12-800WFR	957	625	432	263	177	131	92	71	55	37	27	22	8
3 STRING													
12-35WFR	64	43	32	19	10	8	7	5					
12-95WFR	175	117	88	52	26	21	19	15	11	7	5		
12-106WFR	195	130	98	58	29	23	21	17	12	8	6		
12-122WFR	225	150	113	67	34	27	25	19	14	10	7		
12-170WFR	314	209	158	93	47	37	34	27	20	13	10	6	
12-210WFR	388	259	196	115	58	46	43	33	24	17	13	7	
12-285WFR	527	352	266	156	79	62	58	45	33	22	17	9	
12-330WFR	611	407	308	181	92	72	67	52	38	26	20	11	6
12-381WFR	752	501	379	219	159	118	99	61	47	34	24	15	9
12-540WFR	851	567	429	301	214	154	112	83	62	43	33	21	13
12-690WFR	1088	726	549	385	274	197	143	106	79	55	42	27	17
12-710WFR	1121	747	565	396	282	203	148	109	82	57	43	28	18
12-800WFR	1263	842	637	447	318	229	166	123	92	64	49	31	20
4 STRING													
12-35WFR	91	61	45	30	21	16	11	8	6				
12-95WFR	247	165	123	81	57	42	31	23	18	12	9	5	
12-106WFR	276	184	137	91	64	47	34	26	20	13	10	6	
12-122WFR	318	212	158	105	74	55	39	30	23	15	12	7	5
12-170WFR	443	296	220	146	103	76	55	41	32	21	16	10	7
12-210WFR	548	366	272	180	127	94	68	51	39	26	20	13	8
12-285WFR	744	497	370	245	173	128	92	70	53	36	28	17	11
12-330WFR	863	576	429	284	200	148	107	81	61	42	32	20	13
12-381WFR	996	665	495	328	231	171	123	93	71	48	37	23	15
12-540WFR	1413	944	702	411	293	233	158	117	86	62	49	31	22
12-690WFR	1807	1207	898	526	375	298	202	150	110	79	63	40	28
12-710WFR	1863	1244	926	541	386	307	208	154	113	82	65	42	30
12-800WFR	2099	1402	1043	610	435	346	234	174	128	92	73	47	34
5 STRING													
12-381WFR				424	317	222	171	125	91	65	49	33	21
12-540WFR				498	389	303	218	153	119	84	68	41	26
12-690WFR	EXCESSIVE RECHARGE TIMES CONSULT FACTORY					387	279	196	152	107	87	52	33
12-710WFR						399	287	202	157	111	90	54	34
12-800WFR						450	324	227	177	125	101	61	39

Note: Computations are based on a 0.80 Power Factor & inverter efficiencies (dc to AC) of 91.5%. A Power factor of 0.9 will reduce runtimes while greater inverter efficiencies will increase them. Further assumptions are that the operating temperature is 77 deg F, connected loads are 50% non-linear, VRLA battery strings are new & fully charged. SBS provides this information as reference only. For exact autonomies an IEEE std. 1187 full discharge runtime load test should be conducted. Some systems require additional battery chargers above 3 strings. For additional information contact SBS Engineering Services at 800-554-2243 xt 3009.