

## Galaxy VS 400 V UPS for External Batteries

### Classic Battery Cabinet Runtimes for 400 V

Battery runtimes are listed in minutes at 100% load. Battery runtimes are estimated values based on battery manufacturer data for operation at 25 °C (77 °F).

Please note that not all battery solutions are available for all UPS ratings due to:

- The number of battery blocks in the specific battery solution differs from the specific UPS requirements.
- The specific battery solution would provide less than 5 minutes runtime with the specific UPS.
- The battery breaker rating in the specific battery solution does not match the specific UPS rating.

UPS rating	20 kW			30 kW			40 kW		
	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1
GVSCBC7A	34.0	29.5	25.5	20.0	16.5	14.0	13.0	10.5	9.0
GVSCBC7B	52.0	44.5	39.0	30.5	26.0	22.0	20.5	17.0	14.5
GVSCBC7C	62.0	54.0	47.5	38.0	32.5	28.5	26.0	22.5	19.5
GVSCBC10A2	88.0	77.0	67.5	54.0	47.0	41.0	38.0	32.5	28.5
GVSCBC10B2	135	115	100	84.0	73.0	64.0	59.5	51.0	45.0
2 x GVSCBC7A	81.5	71.0	62.0	49.5	43.0	37.5	34.5	29.5	25.5
2 x GVSCBC7B	120	105	94.5	75.5	65.0	56.5	52.0	44.5	39.0
2 x GVSCBC7C	140	125	110	89.0	77.0	67.5	62.5	54.0	47.5
2 x GVSCBC10A2	200	175	155	125	105	96.0	89.0	77.0	68.0
2 x GVSCBC10B2	300	260	230	190	165	145	135	115	100

UPS rating	50 kW			60 kW			80 kW			100 kW		
	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1
GVSCBC7A	9.0	7.2	5.8	6.4	NA	NA	NA	NA	NA	NA	NA	NA
GVSCBC7B	14.5	12.0	10.0	10.5	8.9	7.3	6.5	5.0	NA	NA	NA	NA
GVSCBC7C	NA	NA	NA	15.0	13.0	11.0	10.0	8.4	7.1	NA	NA	NA
GVSCBC10A2	28.5	24.5	21.0	22.5	19.0	16.5	15.0	13.0	11.0	11.0	9.3	7.9
GVSCBC10B2	45.0	38.5	33.5	35.5	30.5	26.5	24.0	20.5	17.5	17.5	14.5	12.5
2 x GVSCBC7A	25.5	21.5	18.5	20.0	16.5	14.0	13.0	10.5	9.0	9.0	7.2	5.8
2 x GVSCBC7B	39.0	33.0	28.5	30.5	26.0	22.0	20.5	17.0	14.5	14.5	12.0	10.0
2 x GVSCBC7C	NA	NA	NA	38.0	32.5	28.5	26.0	22.5	19.5	NA	NA	NA
2 x GVSCBC10A2	68.0	58.5	51.5	54.0	47.0	41.0	38.0	32.5	28.5	28.5	24.5	21.0
2 x GVSCBC10B2	100	91.0	80.0	84.0	73.0	64.0	59.5	51.0	45.0	45.0	38.5	33.5

UPS rating	120 kW			150 kW		
	0.8	0.9	1	0.8	0.9	1
GVSCBC10A2	8.4	7.0	5.8	5.8	NA	NA
GVSCBC10B2	13.0	11.0	9.1	9.1	7.4	5.9
2 x GVSCBC10A2	22.5	19.0	16.5	16.5	14.0	12.0
2 x GVSCBC10B2	35.5	30.5	26.0	26.0	22.5	19.0

# Modular Battery Cabinet Runtimes for 400 V

Battery runtimes are listed in minutes at 100% load. Battery runtimes are estimated values based on battery manufacturer data for operation at 25 °C (77 °F).

The runtimes listed here are for the Galaxy VS 9 Ah smart high capacity battery modules (GVSBTHU) used in the modular battery cabinet (GVSMODBC6 or GVSMODBC9). The GVSMODBC6 can contain up to six modular battery strings and the GVSMODBC9 can contain up to nine modular battery strings. A maximum of four modular battery cabinets can be connected to the UPS.

Due to the battery breaker capabilities in the modular battery cabinet the following applies:

- For a UPS rated 20-50 kW a minimum of one GVSMODBC6 or one GVSMODBC9 must be installed.
- For a UPS rated 60-100 kW a minimum of **two GVSMODBC6** or **one GVSMODBC9** must be installed.
- For a UPS rated 120-150 kW a minimum of **three GVSMODBC6** or **two GVSMODBC9** must be installed.

The modular battery strings must be distributed evenly among the modular battery cabinets in the UPS system.

**NOTE:** Runtimes for UPS models with N+1 power module are similar to or a little lower than the runtimes for the standard UPS models with the same power rating.

UPS rating	20 kW			30 kW			40 kW		
Power factor	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1
Number of modular battery strings									
1	5.5	NA	NA	NA	NA	NA	NA	NA	NA
2	14.5	12.5	11	8.5	7.2	6.1	5.6	NA	NA
3	24.5	21.5	18.5	14.5	12.5	11	10	8.5	7.3
4	35.5	31	27	21.5	18.5	16	14.5	12.5	11
5	47	41	35.5	28.5	24.5	21.5	19.5	17	14.5
6	58.5	51	45	36	31	27	25	21.5	18.5
7	71	61.5	54	43.5	37.5	32.5	30.5	26	23
8	83	72.5	63.5	51	44	38.5	36	31	27
9	96	83.5	73.5	59	51	45	41.5	35.5	31.5
10	105	95	83.5	67	58	51	47	41	36
11	120	105	94	75.5	65.5	57.5	53	46	40.5
12	135	115	100	84	72.5	63.5	59	51	45
13	145	130	115	92.5	80	70.5	65	56.5	49.5
14	160	140	125	100	87.5	77	71.5	61.5	54.5
15	175	155	135	110	95.5	83.5	77.5	67	59
16	190	165	145	115	100	90.5	84	72.5	64
17	205	180	155	125	110	97.5	90	78	69
18	220	190	165	135	115	100	96.5	83.5	74
19	235	205	180	145	125	110	100	89.5	79
20	250	215	190	155	135	115	110	95	84
21	265	230	200	160	140	125	115	100	89
22	280	245	215	170	150	130	120	105	94
23	295	255	225	180	155	140	130	110	99.5
24	310	270	235	190	165	145	135	115	100

UPS rating	20 kW			30 kW			40 kW		
Power factor	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1
Number of modular battery strings									
25	325	285	250	200	175	150	140	120	110
26	340	295	260	210	180	160	150	130	115
27	355	310	275	220	190	165	155	135	120
28	370	325	285	230	200	175	160	140	125
29	385	340	300	240	210	185	170	145	130
30	405	350	310	250	215	190	175	155	135
31	420	365	325	260	225	200	185	160	140
32	435	380	335	270	235	205	190	165	145
33	450	395	350	280	245	215	200	170	150
34	470	410	360	290	250	220	205	180	155
35	485	425	375	300	260	230	215	185	160
36	500	440	385	310	270	235	220	190	170

UPS rating	50 kW			60 kW			80 kW		
Power factor	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1
Number of modular battery strings									
1	NA	NA	NA	NA	NA	NA	NA	NA	NA
2	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	7.3	6.2	5.2	5.6	NA	NA	NA	NA	NA
4	11	9.4	8	8.5	7.2	6.1	5.6	NA	NA
5	14.5	12.5	11	11.5	9.9	8.5	7.8	6.5	5.6
6	18.5	16	14	14.5	12.5	11	10	8.5	7.3
7	23	19.5	17	18	15.5	13.5	12	10.5	9.2
8	27	23.5	20	21.5	18.5	16	14.5	12.5	11
9	31.5	27	23.5	25	21.5	18.5	17	14.5	12.5
10	36	31	27	28.5	24.5	21.5	19.5	17	14.5
11	40.5	35	30.5	32	27.5	24	22.5	19	16.5
12	45	39	34	36	31	27	25	21.5	18.5
13	49.5	43	37.5	39.5	34	30	27.5	23.5	20.5
14	54.5	47	41	43.5	37.5	33	30.5	26	23
15	59	51	45	47	41	36	33	28.5	25
16	64	55.5	48.5	51	44	39	36	31	27
17	69	59.5	52	55	47.5	42	38.5	33.5	29
18	74	64	56	59	51	45	41.5	36	31.5
19	79	68	60	63	54.5	48	44.5	38.5	33.5
20	84	72.5	63.5	67	58	51	47	41	36
21	89	77	67.5	71.5	62	54	50	43.5	38
22	94	81.5	71.5	75.5	65.5	57.5	53	46	40.5
23	99.5	86	75.5	79.5	69	60.5	56	48.5	42.5
24	100	90.5	79.5	84	72.5	64	59	51	45
25	110	95	83.5	88	76.5	67	62	54	47
26	115	100	87.5	92.5	80	70.5	65	56.5	49.5
27	120	100	92	96.5	84	74	68	59	52

UPS rating	50 kW			60 kW			80 kW		
Power factor	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1
Number of modular battery strings									
28	125	105	96	100	87.5	77	71.5	62	54.5
29	130	110	100	105	91.5	80.5	74.5	64.5	56.5
30	135	115	100	110	95.5	84	77.5	67	59
31	140	120	105	110	99	87.5	80.5	70	61.5
32	145	125	110	115	100	90.5	84	72.5	64
33	150	130	115	120	105	94	87	75.5	66.5
34	155	135	120	125	110	97.5	90	78	69
35	160	140	125	130	115	100	93.5	81	71.5
36	170	145	130	135	115	100	96.5	84	74

UPS rating	100 kW			120 kW			150 kW		
Power factor	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1
Number of modular battery strings									
1	NA	NA	NA	NA	NA	NA	NA	NA	NA
2	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	5.6	NA	NA	NA	NA	NA	NA	NA	NA
6	7.3	6.2	5.2	5.6	NA	NA	NA	NA	NA
7	9.2	7.7	6.6	7	5.9	5	5	NA	NA
8	11	9.4	8	8.5	7.2	6.1	6.1	5.1	NA
9	12.5	11	9.5	10	8.5	7.3	7.3	6.2	5.2
10	14.5	12.5	11	11.5	9.9	8.5	8.5	7.2	6.1
11	16.5	14	12.5	13	11	9.7	9.7	8.3	7.1
12	18.5	16	14	14.5	12.5	11	11	9.4	8
13	20.5	18	15.5	16.5	14	12	12	10.5	9
14	23	19.5	17	18	15.5	13.5	13.5	11.5	10
15	25	21.5	18.5	19.5	17	14.5	14.5	12.5	11
16	27	23.5	20	21.5	18.5	16	16	13.5	12
17	29	25	22	23	20	17	17	15	13
18	31.5	27	23.5	25	21.5	18.5	18.5	16	14
19	33.5	29	25.5	26.5	23	20	20	17	15
20	36	31	27	28.5	24.5	21.5	21.5	18.5	16
21	38	33	28.5	30.5	26	22.5	22.5	19.5	17
22	40.5	35	30.5	32	27.5	24	24	21	18
23	42.5	37	32	34	29.5	25.5	25.5	22	19
24	45	39	34	36	31	27	27	23.5	20
25	47	41	35.5	37.5	32.5	28.5	28.5	24.5	21.5
26	49.5	43	37.5	39.5	34	30	30	26	22.5
27	52	45	39.5	41.5	36	31	31	27	23.5
28	54.5	47	41	43.5	37.5	32.5	32.5	28.5	24.5
29	56.5	49	43	45.5	39	34	34	29.5	26
30	59	51	45	47	41	35.5	35.5	31	27

UPS rating	100 kW			120 kW			150 kW		
Power factor	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1
Number of modular battery strings									
31	61.5	53	46.5	49	42.5	37	37	32	28
32	64	55.5	48.5	51	44	38.5	38.5	33.5	29
33	66.5	57.5	50.5	53	46	40	40	35	30.5
34	69	59.5	52	55	47.5	41.5	41.5	36	31.5
35	71.5	61.5	54	57	49.5	43	43	37.5	32.5
36	74	64	56	59	51	44.5	44.5	39	34