

Power

AlphaCell™ SMU-HR

High Rate Discharge VRLA Battery



- Power range available in 12 volts from 9 to 150Ah
- Optimized grid for high power density
- Upright, side or end mounting
- Thermally welded case to cover bond eliminates leakage
- Optional retardant ABS casing to UL94-VO
- 10 year design life
- 2 year, 100% full warranty

The AlphaCell SMU-HR, with Absorbed Glass Mat (AGM) technology, is a high discharge rate VRLA battery specifically designed for UPS, power generation, and switchgear applications. The SMU-HR's computer designed grid with lead and low calcium allows minimal gassing and ease of recycling. This long life and high rate discharge cycle battery is available in 12 volts ranging from 9 to 150 ampere-hours.



AlphaCell SMU-HR

General Specifications

Standard Warranty:	2 yr full + 8 prorated
Battery Type:	Valve Regulated Lead Acid
Range of Capacity:	9 to 150Ah
Recommended Float Voltage:	13.5VPC @ 20°C (68°F)
Operating Temperature:	25°C (77°F)
Optional:	UL 94 VO Flame Retardant Casing

Mechanical Specifications

Type	Nominal Capacity (Ah) (20Hr)	Length (in/mm)	Width (in/mm)	Height (in/mm)	Weight (lb/kg)	Terminal Type	Terminal hardware sizing
SMU-HR 12-9	9.0	5.9/151	2.6/65	4.0/101	5.9/2.7	Fast-On connector	.25" width
SMU-HR 12-18	20.4	7.1/181	3.0/77	6.6/167	13.2/6.0	Flag	5.5mm diameter
SMU-HR 12-35	35.0	7.7/195	5.1/130	7.1/180	24.3/11.0	Flag	5.5mm diameter
SMU-HR 12-55	55.0	9.0/228	5.5/139	8.9/225	38.6/17.5	Threaded Copper Insert	6.0mm diameter
SMU-HR 12-75	75.0	10.3/261	6.8/173	8.8/224	57.3/26.0	Threaded Copper Insert	6.0mm diameter
SMU-HR 12-90	92.0	12.0/305	6.6/168	8.4/212	63.7/28.9	Threaded Copper Insert	6.0mm diameter
SMU-HR 12-100	100.0	13.4/341	6.8/173	9.5/241	75.0/34.0	Threaded Copper Insert	8.0mm diameter
SMU-HR 12-150	154.0	19.1/485	6.8/172	9.5/240	99.2/45.0	Threaded Copper Insert	8.0mm diameter

Amperes to 1.60 Final Volts Per Cell at 25°C (77°F)

Type	Minutes				Hours				
	5	10	15	30	1	3	5	10	20
SMU-HR 12-9	41.4	25.7	19.4	11.8	5.69	2.50	1.53	0.83	0.48
SMU-HR 12-18	88.6	55.1	41.6	25.4	14.2	6.24	3.81	2.08	1.12
SMU-HR 12-35	165	103	77.6	47.4	23.5	10.3	6.29	3.43	1.85
SMU-HR 12-55	177	122	97.0	62.5	38.8	15.5	10.0	5.44	2.90
SMU-HR 12-75	196	136	105	77.0	49.5	23.3	14.8	7.50	3.83
SMU-HR 12-90	366	228	172	105	65.4	28.7	17.5	9.55	5.16
SMU-HR 12-100	320	218	180	114	75.0	30.0	19.1	10.0	5.25
SMU-HR 12-150	525	360	263	158	99.0	41.0	28.6	15.9	7.91

Amperes to 1.67 Final Volts Per Cell at 25°C (77°F)

Type	Minutes				Hours				
	5	10	15	30	1	3	5	10	20
SMU-HR 12-9	38.8	24.4	18.7	11.3	5.61	2.40	1.49	0.82	0.46
SMU-HR 12-18	83.2	52.3	40.0	24.3	14.0	6.00	3.73	2.06	1.08
SMU-HR 12-35	155	97.6	74.7	45.3	23.1	9.90	6.16	3.39	1.79
SMU-HR 12-55	173	121	92.0	60.0	38.5	15.4	9.80	5.12	2.85
SMU-HR 12-75	192	135	103	76.0	49.2	23.1	14.7	7.40	3.80
SMU-HR 12-90	344	216	165	100	64.5	27.6	17.2	9.46	4.98
SMU-HR 12-100	290	215	173	113	74.0	29.7	18.9	9.90	5.20
SMU-HR 12-150	473	329	255	153	98.9	40.8	28.4	15.7	7.88

Amperes to 1.75 Final Volts Per Cell at 25°C (77°F)

Type	Minutes				Hours				
	5	10	15	30	1	3	5	10	20
SMU-HR 12-9	34.9	22.8	17.6	9.78	5.18	2.17	1.43	0.81	0.44
SMU-HR 12-18	74.7	48.8	37.8	21.0	13.0	5.41	3.57	2.04	1.04
SMU-HR 12-35	139	91.2	70.6	39.1	21.4	8.93	5.90	3.37	1.71
SMU-HR 12-55	172	121	89.0	60.0	38.5	15.3	9.70	5.12	2.75
SMU-HR 12-75	190	135	103	76.0	49.0	23.0	14.4	7.30	3.75
SMU-HR 12-90	309	202	156	86.6	59.6	24.9	16.4	9.39	4.78
SMU-HR 12-100	275	212	170	112	72.0	29.0	18.5	9.80	5.00
SMU-HR 12-150	399	293	233	147	97.5	40.5	28.2	15.3	7.84



Amperes to 1.80 Final Volts Per Cell at 25°C (77°F)

Type	Minutes				Hours				
	5	10	15	30	1	3	5	10	20
SMU-HR 12-9	31.2	21.8	16.0	9.06	4.85	2.08	1.34	0.80	0.43
SMU-HR 12-18	66.9	46.6	34.3	19.4	12.1	5.20	3.36	2.00	1.01
SMU-HR 12-35	125	87.1	64.1	36.2	20.0	8.58	5.54	3.30	1.67
SMU-HR 12-55	163	117	88.0	58.7	37.5	15.3	9.70	4.96	2.70
SMU-HR 12-75	188	135	103	75.0	47.0	22.5	14.0	7.20	3.70
SMU-HR 12-90	276	193	142	80.2	55.8	23.9	15.5	9.20	4.65
SMU-HR 12-100	250	208	168	110	70.0	28.5	18.3	9.70	4.85
SMU-HR 12-150	360	272	222	143	96.3	40.4	27.9	15.0	7.56

Constant power discharge - watts to 1.60 Final Volts Per Cell at 25°C (77°F)

Type	Minutes				Hours				
	5	10	15	30	1	3	5	10	20
SMU-HR 12-9	72.6	46.5	35.4	21.3	10.3	4.43	2.58	1.71	0.95
SMU-HR 12-18	156	99.6	75.9	45.7	25.7	11.1	6.44	4.27	2.24
SMU-HR 12-35	290	186	142	85.3	42.3	18.3	10.6	7.04	3.70
SMU-HR 12-55	385	257	203	125	74.1	31.4	20.3	11.2	5.87
SMU-HR 12-75	537	368	284	181	108	49.7	33.3	16.2	7.91
SMU-HR 12-90	643	412	314	189	118	50.9	29.6	19.6	10.3
SMU-HR 12-100	740	518	405	254	154	58.0	43.3	23.7	10.5
SMU-HR 12-150	866	597	465	297	195	78.6	54.8	31.8	15.8

Constant power discharge - watts to 1.67 Final Volts Per Cell at 25°C (77°F)

Type	Minutes				Hours				
	5	10	15	30	1	3	5	10	20
SMU-HR 12-9	70.0	45.3	35.0	20.9	10.2	4.29	2.57	1.70	0.92
SMU-HR 12-18	150	97.1	75.0	44.7	25.5	10.7	6.42	4.24	2.16
SMU-HR 12-35	280	181	140	83.5	42.1	17.7	10.6	7.00	3.56
SMU-HR 12-55	373	253	198	124	73.7	31.3	20.2	11.1	5.82
SMU-HR 12-75	512	359	270	178	106	46.3	32.0	16.0	7.88
SMU-HR 12-90	620	401	310	185	117	49.3	29.5	19.5	9.94
SMU-HR 12-100	714	505	397	253	153	57.7	43.2	23.3	10.5
SMU-HR 12-150	821	590	461	291	189	78.6	54.8	31.3	15.8

Constant power discharge - watts to 1.75 Final Volts Per Cell at 25°C (77°F)

Type	Minutes				Hours				
	5	10	15	30	1	3	5	10	20
SMU-HR 12-9	65.9	44.7	34.4	19.0	9.83	4.00	2.51	1.65	0.88
SMU-HR 12-18	141	95.8	73.7	40.7	24.6	10.0	6.28	4.16	2.08
SMU-HR 12-35	264	179	138	75.9	40.6	16.5	10.4	6.86	3.43
SMU-HR 12-55	353	245	194	123	73.3	31.1	19.8	10.9	5.71
SMU-HR 12-75	484	342	265	172	103	45.0	30.8	15.8	7.84
SMU-HR 12-90	584	396	305	168	113	46.0	28.9	19.1	9.57
SMU-HR 12-100	662	475	378	245	152	57.5	43.0	23.2	10.5
SMU-HR 12-150	714	537	426	276	182	77.4	54.2	30.6	15.7

Constant power discharge - watts to 1.80 Final Volts Per Cell at 25°C (77°F)

Type	Minutes				Hours				
	5	10	15	30	1	3	5	10	20
SMU-HR 12-9	60.7	44.0	31.9	18.1	9.27	3.88	2.43	1.60	0.86
SMU-HR 12-18	130	94.4	68.4	38.8	23.2	9.71	6.08	4.11	2.06
SMU-HR 12-35	243	176	128	72.4	38.2	16.0	10.0	6.70	3.36
SMU-HR 12-55	345	239	191	122	72.6	30.9	19.5	10.8	5.66
SMU-HR 12-75	470	330	263	162	103	43.3	30.0	15.7	7.56
SMU-HR 12-90	538	390	283	160	107	44.7	28.0	18.9	9.32
SMU-HR 12-100	594	462	369	240	150	57.2	42.7	23.0	10.2
SMU-HR 12-150	641	500	401	269	179	76.4	53.3	30.0	15.1

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