

Industrial Batteries – Sonnenschein A500  
A powerful, universal safety package.

Specifications

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- The success of A500 batteries comes from the internationally superior dryfit technology
- Excellent energy storage capacity combined with high reliability
- Maintenance-free (no topping up) during the whole service life due to the Sonnenschein dryfit technology
- Nominal capacity 1.2 – 200 Ah C<sub>20</sub>
- 7 years design life at 20°C ambient temperature (80% remaining capacity from C<sub>20</sub>)
- Grid plate construction consisting of a lead calcium alloy
- Very low gassing due to the internal gas recombination
- Shelf life up to 2 years at 20°C without recharge due to the very low self discharge rate
- Short recharging time
- Proof against deep discharge according to DIN 43 539 T5
- Trouble-free transportation of operational blocks, no restrictions for rail, road, sea and air transportation (IATA, DGR clause A 67)
- Completely recyclable



## Applications

Sonnenschein A500 batteries make an absolutely reliable means of energy source in many applications including telecommunications, security, UPS, emergency lighting, medical and other power supplies for safety systems.



Valve regulated lead acid batteries



Grid plate



Nominal capacity 1.2–200 Ah



Block battery



Design life: 7 years



Maintenance-free (no topping up)



Proof against deep discharge acc. to DIN 43 539 T5



Recyclable

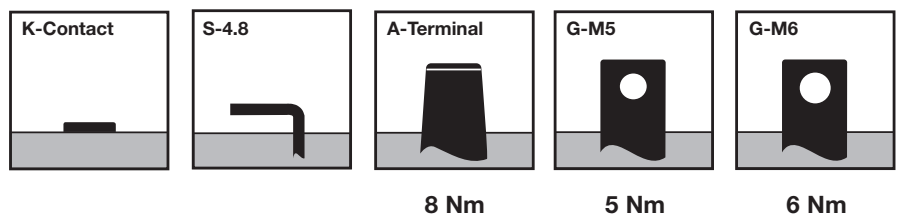
Type	Part number	Nominal voltage	Nominal capacity $C_{20}$ 1.75 V/C	Discharge current $I_{20}$	Max. load*	Length (l)	Width (b/w)	Height up to top of cover (h1)	Height over terminals (h2)	Weight	Internal resistance acc. to IEC 896-2	Short circuit current acc. to IEC 896-2	Terminal	VdS approval
		V	20°C Ah	A	approx. A	max. mm	max. mm	max. mm	max. mm	approx. kg	m Ω	A		
A502/10 S	NGA5020010HSOSA	2	10.0	0.500	80	52.9	50.5	94.5	98.4	0.70	11.2	189	S-4.8	
A504/3.5 S	NGA50403D5HSOSA	4	3.5	0.175	60	90.5	34.5	60.5	64.4	0.50	48.0	88	S-4.8	
A506/1.2 S	NGA50601D2HSOSA	6	1.2	0.060	30	97.3	25.5	51.0	54.9	0.33	165.0	38	S-4.8	
A506/3.5 S	NGA50603D5HSOSA	6	3.5	0.175	60	134.5	34.5	60.5	64.4	0.75	71.0	88	S-4.8	
A506/4.2 S	NGA50604D2HSOSA	6	4.2	0.210	60	52.0	62.3	98.0	101.9	0.90	63.8	98	S-4.8	
A506/4.2 K	NGA50604D2HSOKA	6	4.2	0.210	60	52.0	62.3	98.0	98.3	0.90	63.8	98	K-Contact	
A506/6.5 S	NGA50606D5HSOSA	6	6.5	0.325	80	151.5	34.5	94.5	98.4	1.33	48.0	131	S-4.8	
A506/10 S	NGA5060010HSOSA	6	10.0	0.500	80	151.7	50.5	94.5	98.4	2.05	34.0	189	S-4.8	G 189230
A508/3.5 S	NGA50803D5HSOSA	8	3.5	0.175	60	178.5	34.1	60.5	64.4	1.00	95.0	88	S-4.8	
A512/1.2 S	NGA51201D2HSOSA	12	1.2	0.060	30	97.5	49.5	51.0	54.9	0.66	330.0	38	S-4.8	G 195088
A512/2 S	NGA5120002HSOSA	12	2.0	0.050	40	178.5	34.1	60.5	64.4	1.00	172.0	73	S-4.8	G 191016
A512/3.5 S	NGA51203D5HSOSA	12	3.5	0.175	60	134.5	66.8	60.5	64.4	1.50	142.0	88	S-4.8	G 190045
A512/6.5 S	NGA51206D5HSOSA	12	6.5	0.325	80	151.7	65.5	94.5	98.4	2.60	95.0	131	S-4.8	G 189023
A512/10 S	NGA5120010HSOSA	12	10.0	0.500	80	152.0	98.0	94.5	98.4	4.00	66.0	189	S-4.8	G 189231
A512/16 G5	NGA5120016HSOBA	12	16.0	0.800	200	181.0	76.0	167.0	167.0	6.00	24.2	512	G-M5	G 189232
A512/25 G5	NGA5120025HSOBA	12	25.0	1.250	200	167.0	176.0	126.0	126.0	9.65	21.3	583	G-M5	G 196025
A512/30 G6	NGA5120030HSOBA	12	30.0	1.500	400	197.0	132.0	161.0	180.0	11.10	13.1	932	G-M6	G 191047
A512/40 A	NGA5120040HSOCA	12	40.0	2.000	400	210.0	175.0	175.0	175.0	14.60	11.6	1069	A-Terminal	G 191015
A512/40 G6	NGA5120040HSOBA	12	40.0	2.000	400	210.0	175.0	175.0	175.0	14.60	11.6	1069	G-M6	G 191015
A512/55 A	NGA5120055HSOCA	12	55.0	2.750	400	261.0	136.0	208.0	230.0	18.80	8.9	1403	A-Terminal	
A512/60 A	NGA5120060HSOCA	12	60.0	3.000	400	278.0	175.0	190.0	190.0	21.70	6.6	1887	A-Terminal	
A512/60 G6	NGA5120060HSOBA	12	60.0	3.000	400	278.0	175.0	190.0	190.0	21.70	6.6	1887	G-M6	
A512/65 A	NGA5120065HSOCA	12	65.0	3.250	400	353.0	175.0	190.0	190.0	24.40	8.5	1471	A-Terminal	
A512/65 G6	NGA5120065HSOBA	12	65.0	3.250	400	353.0	175.0	190.0	190.0	24.40	8.5	1471	G-M6	
A512/85 A	NGA5120085HSOCA	12	85.0	4.250	600	330.0	171.0	213.0	236.0	31.00	6.2	2018	A-Terminal	G 190046
A512/115 A	NGA5120115HSOCA	12	115.0	5.750	770	286.0	269.0	208.0	230.0	40.00	4.6	2660	A-Terminal	
A512/120 A	NGA5120120HSOCA	12	120.0	6.000	770	513.0	189.0	195.0	223.0	41.00	5.2	2475	A-Terminal	
A512/140 A	NGA5120140HSOCA	12	140.0	7.000	770	513.0	223.0	195.0	223.0	48.00	4.1	3132	A-Terminal	
A512/200 A	NGA5120200HSOCA	12	200.0	10.000	770	518.0	274.0	216.0	238.0	70.00	3.5	3606	A-Terminal	

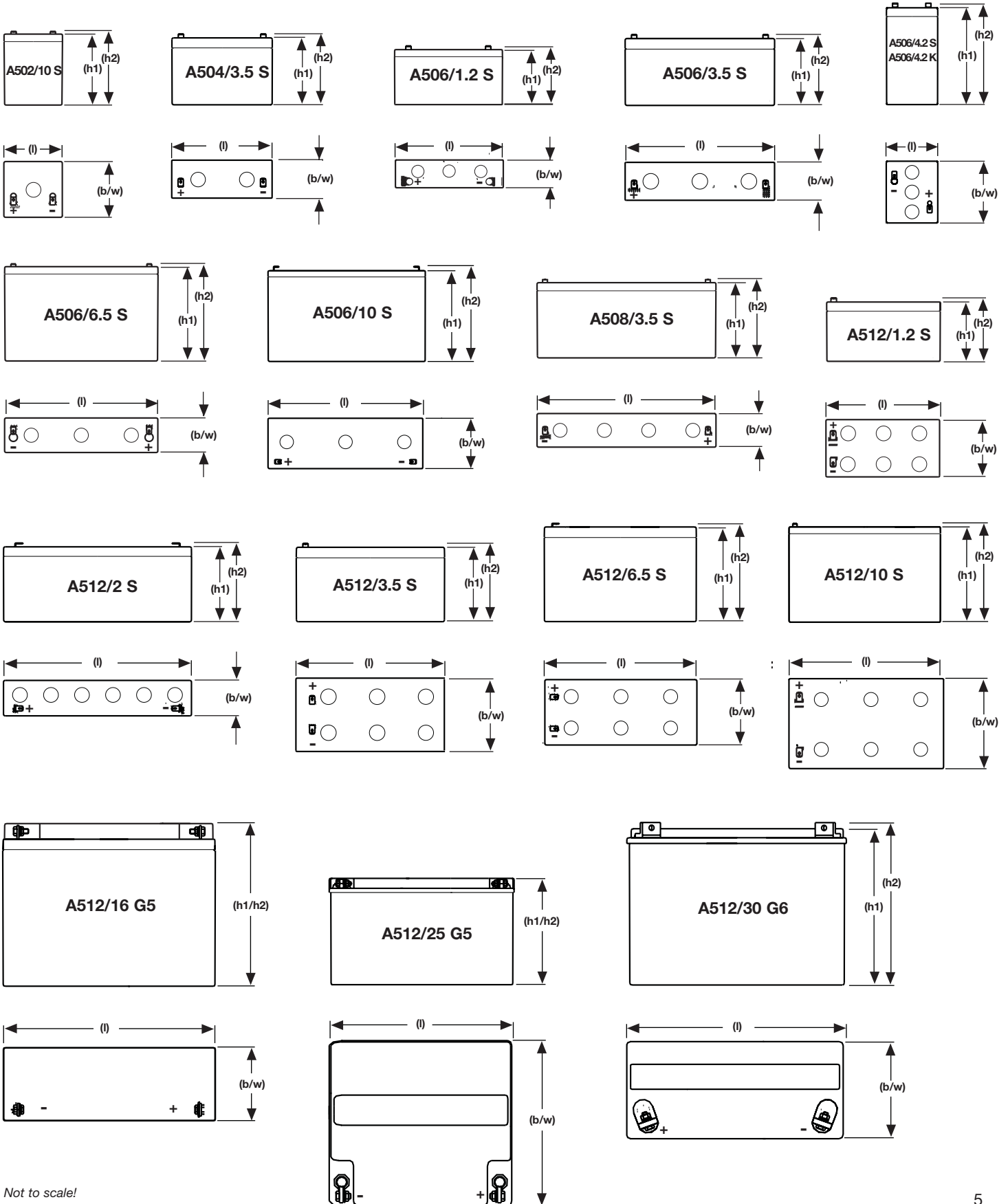
\*With suitable matching contacts

**Container, approval, terminal and torque**

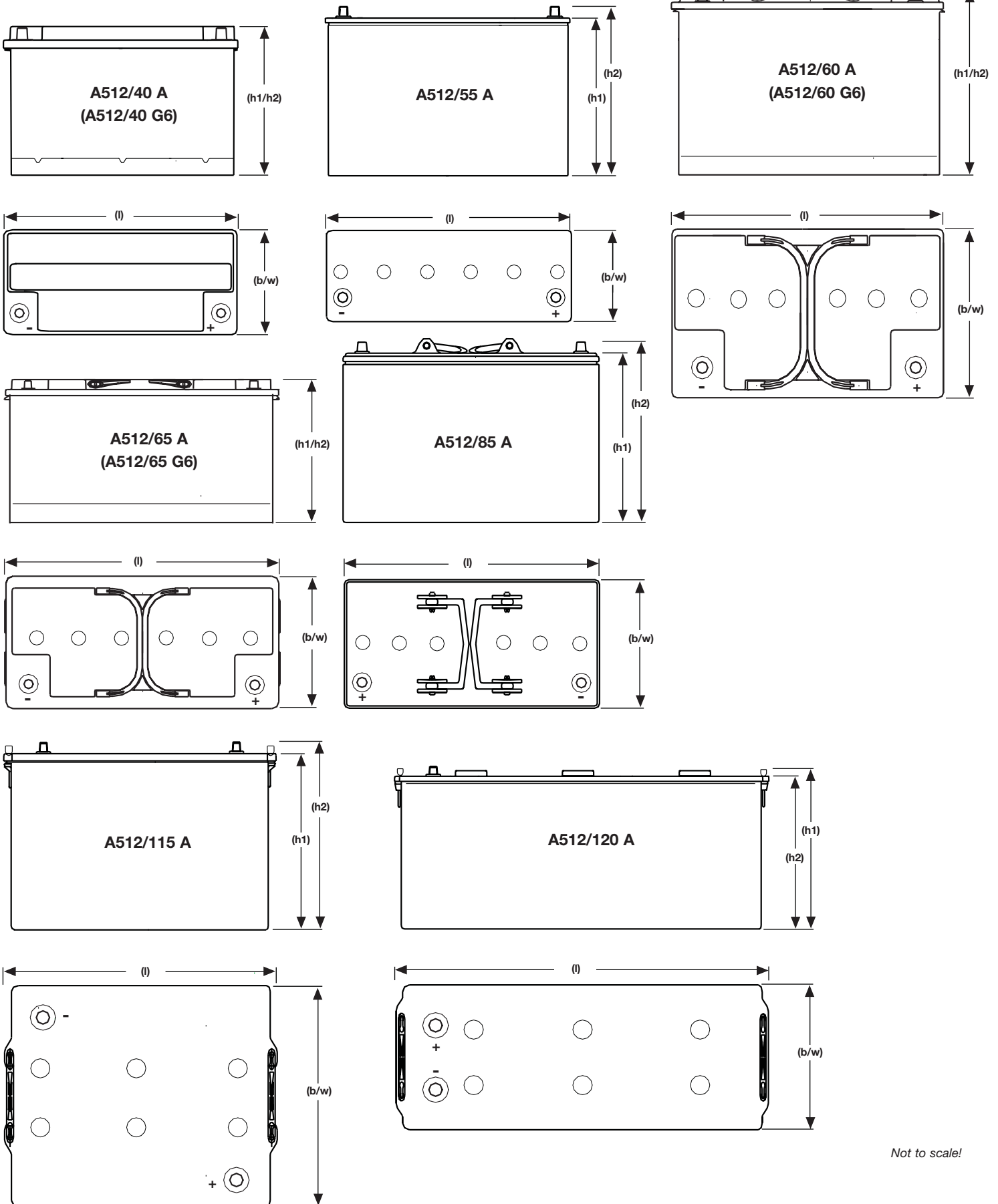
**Container:** 1.2–16 Ah = ABS  
25–200 Ah = Polypropylene (PP)

**Approval:** Underwriters Laboratories (UL), USA  
VdS (Types see above)  
DIN/Gost/TÜV, Russia

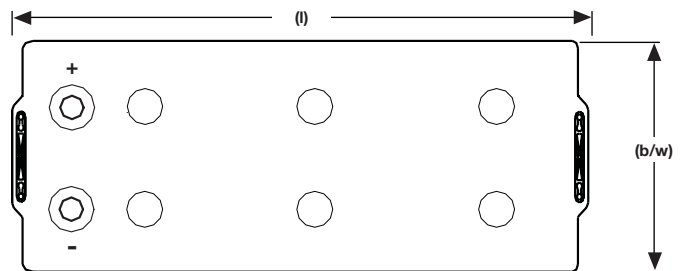
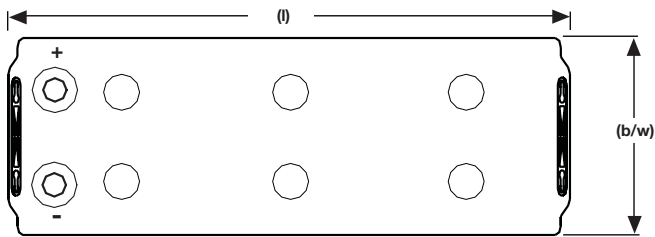
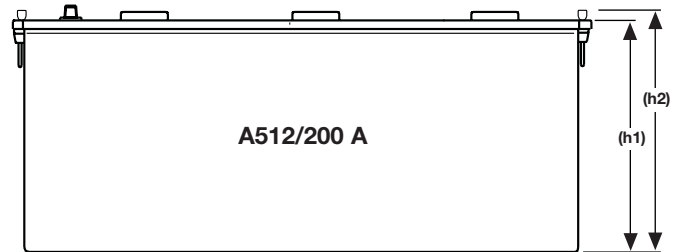
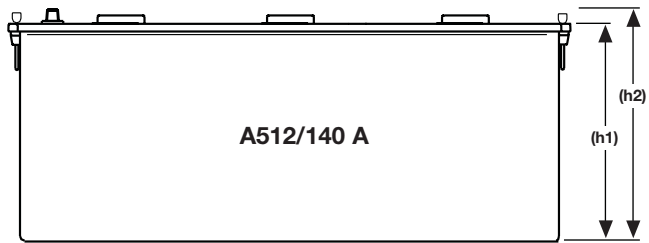




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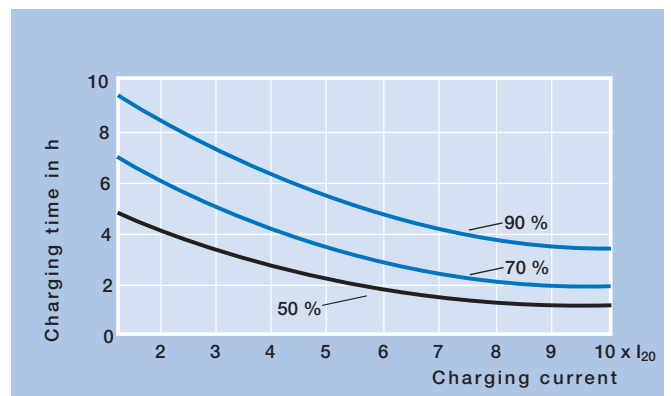
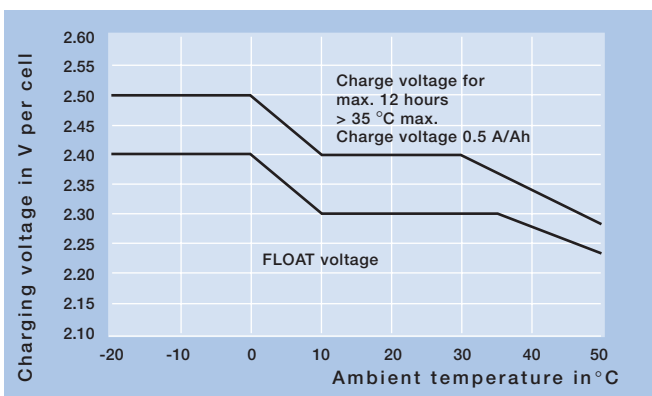


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Technical data at a glance

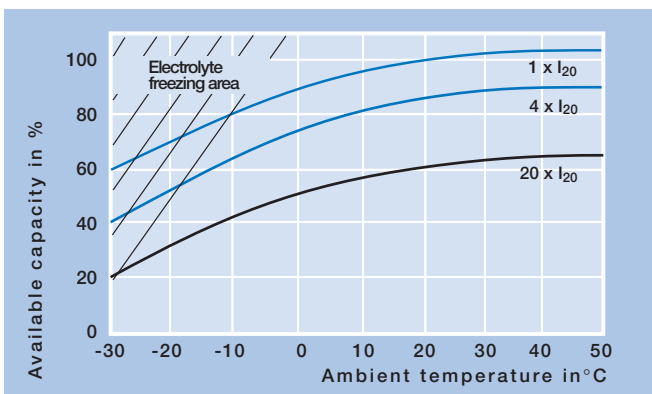


Constant charge voltages for various ambient temperatures.

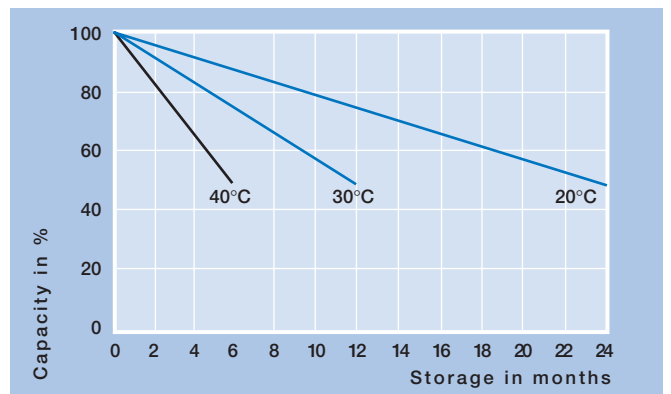
Note:

For charge voltages > 2.4 V per cell the charging current must be limited to max. 0.4 A/Ah.

Recharging time in relation to initial current up to 50%, 70% and 90% charging state, charging voltage 2.4 V/cell.



Available capacity in relation to the ambient temperature.



Self-discharge in relation to the storage temperature.





Constant current discharge



		1.65 V/C – Discharge in A at 20°C										1.60 V/C – Discharge in A at 20°C									
Type	Part number	5'	10'	20'	30'	1h	3h	5h	8h	10h	5'	10'	20'	30'	1h	3h	5h	8h	10h		
A502/10S	NGA5020010HS0SA	39.00	28.00	17.00	12.70	7.10	3.00	1.90	1.25	1.02	42.00	29.00	17.00	12.80	7.10	3.00	1.90	1.25	1.02		
A504/3.5S	NGA50403D5HS0SA	12.70	8.50	5.30	3.90	2.30	1.01	0.63	0.41	0.34	13.10	8.70	5.30	3.90	2.30	1.01	0.63	0.41	0.34		
A506/1.2S	NGA50601D2HS0SA	4.52	2.96	1.79	1.32	0.80	0.36	0.22	0.13	0.10	4.66	3.00	1.80	1.33	0.80	0.36	0.22	0.13	0.10		
A506/3.5S	NGA50603D5HS0SA	12.70	8.50	5.30	3.90	2.30	1.01	0.63	0.41	0.34	13.10	8.70	5.30	3.90	2.30	1.01	0.63	0.41	0.34		
A506/4.2S	NGA50604D2HS0SA	14.80	7.00	4.50	3.50	2.50	1.27	0.79	0.50	0.41	15.20	7.00	4.50	3.50	2.50	1.27	0.79	0.50	0.41		
A506/6.5S	NGA50606D5HS0SA	23.00	15.00	9.60	7.00	4.00	1.60	1.10	0.76	0.63	24.00	16.00	9.70	7.00	4.00	1.60	1.10	0.76	0.63		
A506/10S	NGA5060010HS0SA	39.00	28.00	17.00	12.70	7.10	3.00	1.90	1.25	1.02	42.00	29.00	17.00	12.80	7.10	3.00	1.90	1.25	1.02		
A508/3.5S	NGA50803D5HS0SA	12.70	8.50	5.30	3.90	2.30	1.01	0.63	0.41	0.34	13.10	8.70	5.30	3.90	2.30	1.01	0.63	0.41	0.34		
A512/1.2S	NGA51201D2HS0SA	4.52	2.96	1.79	1.32	0.80	0.36	0.22	0.13	0.10	4.66	3.00	1.80	1.33	0.80	0.36	0.22	0.13	0.10		
A512/2S	NGA5120002HS0SA	7.80	4.90	3.00	2.20	1.50	0.60	0.37	0.24	0.19	8.20	5.00	3.10	2.20	1.50	0.60	0.37	0.24	0.19		
A512/3.5S	NGA51203D5HS0SA	12.70	8.50	5.30	3.90	2.30	1.01	0.63	0.41	0.34	13.10	8.70	5.30	3.90	2.30	1.01	0.63	0.41	0.34		
A512/6.5S	NGA51206D5HS0SA	23.00	15.00	9.60	7.00	4.00	1.60	1.10	0.76	0.63	24.00	16.00	9.70	7.00	4.00	1.60	1.10	0.76	0.63		
A512/10S	NGA5120010HS0SA	39.00	28.00	17.00	12.70	7.10	3.00	1.90	1.25	1.02	42.00	29.00	17.00	12.80	7.10	3.00	1.90	1.25	1.02		
A512/16G5	NGA5120016HS0BA	58.0	41.0	24.0	18.0	10.6	4.6	2.9	1.8	1.5	61.0	42.0	25.0	18.0	10.7	4.6	2.9	1.8	1.5		
A512/25G5	NGA5120025HS0BA	67.5	45.4	30.2	22.7	14.4	6.2	4.1	2.7	2.2	71.8	46.9	30.7	22.9	14.5	6.2	4.1	2.7	2.2		
A512/30G6	NGA5120030HS0BA	98.9	67.0	44.0	32.4	20.1	8.2	5.3	3.4	2.8	105.1	68.7	44.4	32.6	20.1	8.2	5.3	3.4	2.8		
A512/40A	NGA5120040HS0CA	121.0	82.0	53.0	39.0	24.0	9.5	6.8	4.5	3.7	127.0	85.0	54.0	39.0	24.0	9.5	6.8	4.5	3.7		
A512/40G6	NGA5120040HS0BA	121.0	82.0	53.0	39.0	24.0	9.5	6.8	4.5	3.7	127.0	85.0	54.0	39.0	24.0	9.5	6.8	4.5	3.7		
A512/55A	NGA5120055HS0CA	161.2	112.3	73.6	54.7	35.7	14.4	9.3	6.2	5.1	169.8	116.2	74.6	55.2	35.8	14.4	9.3	6.2	5.1		
A512/60A	NGA5120060HS0CA	185.2	130.3	83.2	61.7	37.1	16.2	10.4	6.9	5.6	191.0	133.3	83.5	61.8	37.2	16.2	10.4	6.9	5.6		
A512/60G6	NGA5120060HS0BA	185.2	130.3	83.2	61.7	37.1	16.2	10.4	6.9	5.6	191.0	133.3	83.5	61.8	37.2	16.2	10.4	6.9	5.6		
A512/65A	NGA5120065HS0CA	178.5	129.8	88.8	67.0	40.9	17.9	11.7	7.6	6.3	193.1	135.7	90.3	67.7	41.1	18.0	11.7	7.6	6.3		
A512/65G6	NGA5120065HS0BA	178.5	129.8	88.8	67.0	40.9	17.9	11.7	7.6	6.3	193.1	135.7	90.3	67.7	41.1	18.0	11.7	7.6	6.3		
A512/85A	NGA5120085HS0CA	259.0	192.0	128.0	94.0	59.0	24.0	15.1	9.9	8.1	273.0	199.0	130.0	95.0	60.0	23.0	15.1	9.9	8.1		
A512/115A	NGA5120115HS0CA	332.0	222.0	156.0	116.0	67.0	28.0	19.0	13.0	10.5	343.0	227.0	158.0	117.0	68.0	28.0	19.0	13.0	10.5		
A512/120A	NGA5120120HS0CA	387.0	260.0	165.0	122.0	74.0	30.1	18.0	11.3	9.0	409.0	267.0	168.0	124.0	74.7	30.2	18.1	11.3	9.0		
A512/140A	NGA5120140HS0CA	423.0	294.0	189.0	141.0	85.4	35.4	21.2	13.3	10.6	452.0	303.0	193.0	143.0	86.3	35.4	21.2	13.3	10.6		
A512/200A	NGA5120200HS0CA	531.0	395.0	262.0	198.0	120.0	51.0	30.6	19.1	15.3	581.0	411.0	269.0	202.0	121.0	51.1	30.6	19.1	15.3		

The values are measured at 20°C and may change depending on the application or ambient temperature.



		1.65 V/C – Discharge in W/block at 20°C										1.60 V/C – Discharge in W/block at 20°C									
Type	Part number	3'	5'	10'	15'	20'	30'	45'	60'	90'	3'	5'	10'	15'	20'	30'	45'	60'	90'		
A502/10S	NGA5020010HSOSA	68.0	62.0	47.0	38.0	31.0	23.0	17.0	14.0	10.0	73.0	63.0	48.0	38.0	31.0	23.0	17.0	14.0	10.0		
A504/3.5S	NGA50403D5HSOSA	57.0	46.0	31.0	24.0	20.0	15.0	12.0	9.0	7.0	59.0	46.0	32.0	25.0	20.0	15.0	12.0	9.0	7.0		
A506/1.2S	NGA50601D2HSOSA	28.2	22.6	14.7	11.2	9.5	7.1	5.2	4.2	3.1	29.2	23.1	14.8	11.3	9.5	7.1	5.2	4.2	3.1		
A506/3.5S	NGA50603D5HSOSA	85.0	68.0	47.0	36.0	30.0	23.0	18.0	14.0	10.0	89.0	69.0	47.0	37.0	31.0	23.0	18.0	14.0	10.0		
A506/4.2S	NGA50604D2HSOSA	102.0	82.0	55.0	41.0	36.0	32.0	17.0	15.0	11.0	106.0	83.0	55.0	42.0	37.0	32.0	17.0	15.0	11.0		
A506/6.5S	NGA50606D5HSOSA	160.0	129.0	90.0	69.0	59.0	43.0	31.0	25.0	18.0	168.0	132.0	92.0	70.0	59.0	43.0	31.0	25.0	18.0		
A506/10S	NGA5060010HSOSA	205.0	186.0	142.0	114.0	93.0	68.0	52.0	42.0	30.0	218.0	190.0	144.0	115.0	94.0	68.0	52.0	42.0	30.0		
A508/3.5S	NGA50803D5HSOSA	113.0	91.0	62.0	49.0	41.0	30.0	24.0	19.0	13.0	119.0	93.0	63.0	49.0	41.0	30.0	24.0	19.0	13.0		
A512/1.2S	NGA51201D2HSOSA	56.4	45.3	29.4	22.5	18.9	14.2	10.5	8.4	6.1	58.4	46.2	29.7	22.5	19.0	14.2	10.5	8.4	6.2		
A512/2S	NGA5120002HSOSA	103.0	82.0	54.0	41.0	34.0	25.0	19.0	15.0	11.0	106.0	84.0	55.0	42.0	34.0	25.0	19.0	15.0	11.0		
A512/3.5S	NGA51203D5HSOSA	170.0	137.0	93.0	73.0	61.0	45.0	35.0	28.0	20.0	178.0	139.0	95.0	74.0	61.0	45.0	36.0	28.0	20.0		
A512/6.5S	NGA51206D5HSOSA	320.0	258.0	180.0	138.0	118.0	86.0	62.0	50.0	36.0	336.0	264.0	184.0	140.0	118.0	86.0	62.0	50.0	36.0		
A512/10S	NGA5120010HSOSA	410.0	371.0	283.0	229.0	187.0	136.0	104.0	84.0	61.0	437.0	381.0	287.0	231.0	188.0	136.0	104.0	85.0	61.0		
A512/16G5	NGA5120016HSOBA	741.0	601.0	423.0	335.0	288.0	213.0	161.0	128.0	92.0	783.0	621.0	426.0	338.0	289.0	214.0	162.0	128.0	92.0		
A512/25G5	NGA5120025HSOBA	854.0	693.0	501.0	400.0	335.0	255.0	188.0	152.0	112.0	908.0	725.0	514.0	403.0	339.0	256.0	189.0	153.0	113.0		
A512/30G6	NGA5120030HSOBA	1310.0	1095.0	746.0	569.0	471.0	351.0	276.0	217.0	155.0	1393.0	1121.0	755.0	576.0	474.0	352.0	276.0	218.0	156.0		
A512/40A	NGA5120040HSOCA	1514.0	1235.0	902.0	729.0	597.0	446.0	333.0	265.0	192.0	1577.0	1299.0	923.0	735.0	603.0	449.0	334.0	266.0	192.0		
A512/40G6	NGA5120040HSOBA	1514.0	1235.0	902.0	729.0	597.0	446.0	333.0	265.0	192.0	1577.0	1299.0	923.0	735.0	603.0	449.0	334.0	266.0	192.0		
A512/55A	NGA5120055HSOCA	2005.0	1726.0	1204.0	945.0	845.0	642.0	496.0	394.0	284.0	2107.0	1800.0	1231.0	957.0	851.0	645.0	498.0	395.0	285.0		
A512/60A	NGA5120060HSOCA	2548.0	2176.0	1404.0	1098.0	954.0	715.0	519.0	409.0	292.0	2680.0	2279.0	1439.0	1104.0	963.0	719.0	522.0	410.0	293.0		
A512/60G6	NGA5120060HSOBA	2548.0	2176.0	1404.0	1098.0	954.0	715.0	519.0	409.0	292.0	2680.0	2279.0	1439.0	1104.0	963.0	719.0	522.0	410.0	293.0		
A512/65A	NGA5120065HSOCA	2139.0	1853.0	1395.0	1171.0	976.0	749.0	582.0	466.0	341.0	2315.0	1976.0	1443.0	1183.0	987.0	754.0	584.0	468.0	342.0		
A512/65G6	NGA5120065HSOBA	2139.0	1853.0	1395.0	1171.0	976.0	749.0	582.0	466.0	341.0	2315.0	1976.0	1443.0	1183.0	987.0	754.0	584.0	468.0	342.0		
A512/85A	NGA5120085HSOCA	3115.0	2719.0	2109.0	1663.0	1410.0	1060.0	797.0	642.0	474.0	3264.0	2923.0	2190.0	1700.0	1427.0	1069.0	804.0	648.0	477.0		
A512/115A	NGA5120115HSOCA	4304.0	3582.0	2603.0	2057.0	1732.0	1296.0	980.0	776.0	557.0	4467.0	3755.0	2665.0	2073.0	1750.0	1306.0	985.0	780.0	560.0		
A512/120A	NGA5120120HSOCA	4847.0	4002.0	2761.0	2246.0	1883.0	1387.0	1022.0	843.0	640.0	5135.0	4156.0	2812.0	2276.0	1906.0	1403.0	1032.0	852.0	646.0		
A512/140A	NGA5120140HSOCA	5316.0	4435.0	3060.0	2489.0	2087.0	1538.0	1133.0	934.0	709.0	5631.0	4606.0	3117.0	2522.0	2113.0	1555.0	1144.0	945.0	716.0		
A512/200A	NGA5120200HSOCA	6786.0	5736.0	4142.0	3369.0	2825.0	2081.0	1533.0	1264.0	959.0	7189.0	5957.0	4218.0	3413.0	2860.0	2104.0	1548.0	1279.0	969.0		

The values are measured at 20°C and may change depending on the application or ambient temperature.

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