



Naps Batteries for Industrial PV Systems

Low Antimony Tubular Plate Single Cells Type Classic OPzS Solar

Low antimony tubular plate 2 Volt lead-acid single cells are ideal for use in most larger industrial renewable energy systems.

Classic OPzS Solar vented single cells are 2V tubular plate lead-acid units with nominal capacities in the range 190 to 4600 Ah (C_{120}). They are normally supplied as complete batteries of the required voltage and capacity, including necessary cables and interconnects. Optionally, various rack configurations are available for complete battery systems.

Featuring the highest standards of construction, Classic OPzS Solar cells combine the excellent corrosion resistance and cycling capability of the tubular positive plate construction with the low maintenance advantages of a low antimony positive plate lead alloy. High capacity and reliability is achieved with the use of proven materials and design.

Estimation of service life in PV systems

average working temperature °C	years	if daily cycling less than
20	16	16%
25	11	23%
30	8	33%
35	6	46%
40	4	66%

of C_{10}

if daily cycling is greater than above limits lifetime will be reduced

Service life on float charge (not PV)

average working temperature °C	years
20	20
30	10
40	5

Classic OPzS Solar single cells Main Technical Characteristics

- Tubular positive plates combine excellent resistance to grid corrosion and good cycle life.
- Thick pasted negative plates ensure a long service life.
- Low antimony alloy reduces self-discharge, water consumption and corrosion throughout the lifetime of the battery.
- The 1.24 acid density ensures a long service life. The large electrolyte volume and low water consumption mean reduced maintenance.
- Long watering interval due to the low antimony alloy and the large electrolyte reserve above the plates.
- Transparent container (SAN) allows easy checking of acid level.
- Supplied dry charged for safe and economical transportation.
- Storage: Up to 2 years for dry charged cells in low temperature and low humidity conditions

Naps Classic OPzS Solar single cells

Technical Data

name	Capacity (Ah) [1]				Dimensions			Weight (kg)		Acid volume (l)	
	10h	100h	120h	240h	L mm[2]	W mm	H mm	empty	filled[3]	total	reserve[4]
OPzSSolar190	132	185	190	200	105	208	405	8.5	13.7	4.2	0.78
OPzSSolar245	173	240	245	260	105	208	405	10.2	15.2	4.0	0.77
OPzSSolar305	220	300	305	320	105	208	405	12.0	16.6	3.7	0.76
OPzSSolar380	273	370	380	400	126	208	405	14.2	20.0	4.7	0.94
OPzSSolar450	325	440	450	470	147	208	405	16.4	23.3	5.6	1.13
OPzSSolar550	391	540	550	580	126	208	520	18.6	26.7	6.5	1.33
OPzSSolar660	469	645	660	695	147	208	520	21.7	31.0	7.5	1.59
OPzSSolar765	546	750	765	805	168	208	520	24.6	35.4	8.7	1.85
OPzSSolar985	700	970	985	1035	147	208	695	30.9	43.9	10.5	1.94
OPzSSolar1080	773	1055	1080	1100	147	208	695	34.4	47.2	10.3	1.93
OPzSSolar1320	937	1295	1320	1385	215	193	695	42.8	59.9	13.8	2.63
OPzSSolar1410	1009	1380	1410	1440	215	193	695	46.6	63.4	13.5	2.62
OPzSSolar1650	1174	1620	1650	1730	215	235	695	51.5	73.2	17.5	3.31
OPzSSolar1990	1411	1950	1990	2090	215	277	695	60.3	86.4	21.0	3.99
OPzSSolar2350	1751	2300	2350	2470	215	277	845	74.3	108	27.2	4.88
OPzSSolar2500	1854	2445	2500	2600	215	277	845	81.3	114	26.4	4.86
OPzSSolar3100	2318	3040	3100	3250	215	400	815	101	151	40.3	5.64
OPzSSolar3350	2524	3280	3350	3520	215	400	815	110	158	38.7	5.62
OPzSSolar3850	2884	3765	3850	4040	215	490	815	124	184	48.4	6.95
OPzSSolar4100	3090	4000	4100	4300	215	490	815	133	191	46.8	6.93
OPzSSolar4600	3451	4500	4600	4850	215	580	815	146	217	57.3	8.34

[1] 25°C, to 1.80V/cell for 10h, 1.85V/cell for 100-240h. Note: capacity at 25°C is approx 3% higher than at 20°C.

[2] add 10mm space when calculating installed length

[3] For acid density 1.24 kg/litre

[4] acid volume above plates between min and max marks

Capacity variation with temperature

25°C	20°C	10°C	0°C	-10°C	-20°C
103%	100%	92%	84%	74%	61%

Cycle Life

2000 cycles under IEC 896-1 conditions, equivalent to 60% of nominal C10 per cycle. This cycle life is only applicable at a constant 20°C and full recharge on each cycle.

Watering requirements: At 1% daily overcharge (typical for PV systems), recommended watering interval is 1 - 2 years, depending on actual cell type

Maximum recommended depth of discharge: 80%

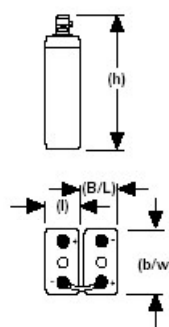
Standards

Conforms to: DIN 40 736, DIN 40 737 part 3

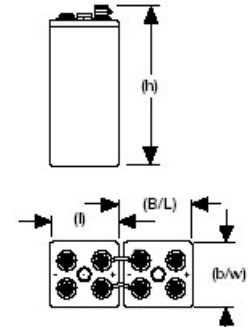
Tested to: IEC 896 - 1

Safety standard: VDE 0510 part 2

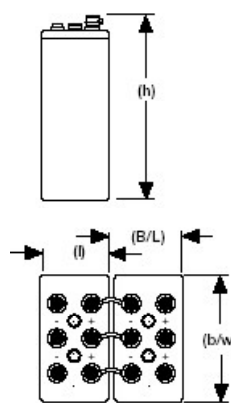
Transport: non-hazardous goods for road transport



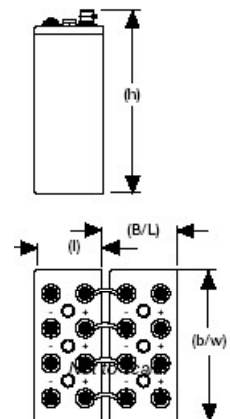
OPzSSolar190 to 1080



OPzSSolar1320 to 2500



OPzSSolar3100 to 3500



OPzSSolar3850 to 4600