



Naps Batteries for Industrial PV Systems

Valve-Regulated Gel Type Tubular Plate Single Cells Type A600Solar

'Sealed' (valve-regulated) tubular plate 2 Volt lead-acid single cells with gelled electrolyte are ideal for use in larger industrial renewable energy systems where regular additions of water to batteries are not possible or inconvenient.

A600Solar single cells are 2V tubular plate lead-acid valve-regulated units with nominal capacities in the range 240 to 3500 Ah (C_{100}). The Solar designation means the design is optimised for regular deep cycling. A600Solar cells 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, A600 Solar cells combine the excellent corrosion resistance and cycling capability of the tubular positive plate construction with a lead-calcium-tin alloy. The gelled acid means no water additions are needed throughout the life of the battery, reducing maintenance requirements to a simple periodic check of cell voltages and temperatures, plus simple cleaning and checking of interconnects.

Estimation of service life in PV systems

average working temperature °C	years	if daily cycling less than
20	10	22%
25	7	31%
30	5	44%
35	3.4	62%
40	2.4	88%
		of C_{10}

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

A600Solar single cells

Main Technical Characteristics

- High capacity and reliability is achieved with the use of proven materials and design.
- Gelled acid provides the same water reserve as an open tubular cell design, and ensures good heat conduction from the plates to the surroundings.
- Tubular positive plates combine excellent resistance to grid corrosion and good cycle life.
- Thick pasted negative plates ensure a long service life.
- Lead-calcium-tin alloys in both positive and negative plates reduce self-discharge and corrosion throughout the lifetime of the battery.
- Microporous separator ensures electrical isolation between the plates and good retention of the active materials.
- The 1.24 acid density ensures a long service life. Special additive to improve the cycle life.
- Acid gelled with fumed silica reduces stratification to a minimum.
- High impact and halogen-free container and lid (SAN).
- Gas- and acid-tight pole bush with double O ring seal allows for trouble-free positive plate growth during ageing.
- Pressure relief valve with flame arrestor assures operational safety. Operates at 100-150 mbar.

Naps A600Solar single cells

Technical Data

name	Capacity (Ah) [1]		Dimensions			Weight	DIN name
	10h	100h	L mm [2]	W mm	H mm [3]	kg	
A602/240Solar	200	240	105	208	398	19.5	4 OPzV 240
A602/300Solar	250	300	126	208	398	23.5	5 OPzV 300
A602/360Solar	300	360	147	208	398	28	6 OPzV 360
A602/400Solar	350	400	126	208	513	31	5 OPzV 400
A602/500Solar	420	500	147	208	513	36.5	6 OPzV 500
A602/600Solar	490	600	168	208	513	42	7 OPzV 600
A602/720Solar	600	720	147	208	688	50	6 OPzV 720
A602/960Solar	800	960	215	193	688	68	8 OPzV 960
A602/1200Solar	1000	1200	215	235	688	82	10 OPzV 1200
A602/1400Solar	1200	1400	215	277	688	98	12 OPzV 1400
A602/1700Solar	1500	1700	215	277	838	120	12 OPzV 1700
A602/2300Solar	2000	2300	215	400	815	160	16 OPzV 2300
A602/2900Solar	2500	2900	215	490	815	200	20 OPzV 2900
A602/3500Solar	3000	3500	215	580	815	240	24 OPzV 3500

[1] Capacity at 20°C, 1.80V/cell for C10, 1.85V/cell for C100

[2] Allow 8mm space lengthways in assembled battery

[3] Height is height over terminals

Capacity (C₁₀₀) at low temperature

30°C	20°C	0°C	-10°C	-20°C	
102%	100%	88%	76%	62%	end V
1.85	1.85	1.84	1.83	1.82	

Service life on float charge (not PV)

average working temperature °C	years
20	12
30	6
40	3

Cycle Life

1600 cycles under IEC 896-2 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.

Self discharge rate: Less than 3% per month at 20°C

Maximum recommended depth of discharge: 80%

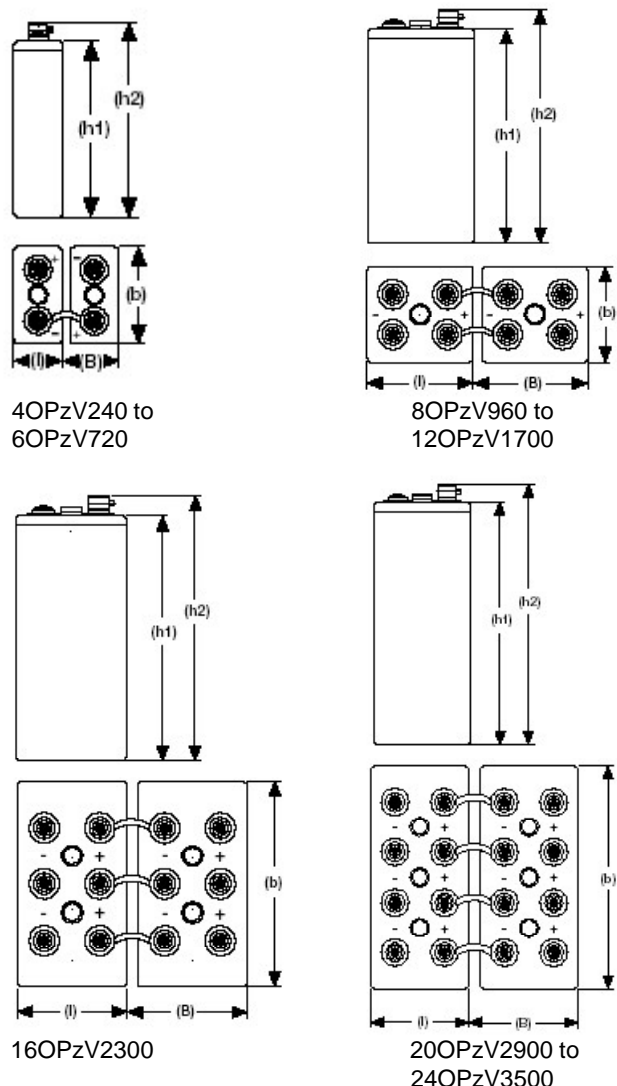
Container: SAN as standard, optionally for hazardous areas, ABS to UL 94 V-0.

Terminal: F type, M8, torque 20 Nm

Transport: Trouble-free transportation of operational cells, no restrictions for rail, road, sea and air transportation (IATA, DGR clause A 67)

Also available:

Standard OPzV version with improved high temperature resistance



Information last updated 29th January 2008

Specifications may change without notice due to Naps continuous product improvement policy. Please check actual specifications before ordering.