

AlphaCell® OPzS—Solar

Stationary Block (Cell) Batteries



- 100—3000Ah
- High capacity
- Up to 20 years of operational life
- Easy maintenance
- Low self-discharge rate
- Non-hazardous shipping
- 2-year warranty

The AlphaCell OPzS stationary lead-acid battery provides the versatility required for long-term energy storage and backup power applications.

The OPzS solar battery is a long life energy storage solution featuring low water consumption and low self-discharge rates in critical photovoltaic applications. A unique tubular, positive plate design and robust exterior container prevents mechanical damage and escape of active materials during operation.

The high capacity AlphaCell OPzS is an ideal backup power solution exhibiting easy maintenance for optimum solar energy storage performance.

Design		
Positive Electrode:	Tubular plate with low antimony alloy (<2%)	
Negative Electrode:	Flat with long life expander active material	
Separation:	Microporous separator	
Electrolyte:	Sulfuric acid of 1.24kg/l at 20°C	
Container:	High impact, transparent SAN LID, ABS (SAN) in grey color	
Blocks with Blind Cells:	4, 6, 8, 10V	
Plugs:	Ceramic plugs according to DIN 40740	
Pole Sealing:	100% gas-and electrolyte-tight, sliding-pole	
Connector:	Flexible insulated copper cable with cross-section of 35, 50, 70, 95 or 120mm2 (35, 50 or 70 mm2)	
Kind of Protection:	IP 25 regarding DIN 40050, touch protected according VBG 4	
Charging		
IU-Characteristics:	I _{max} without limitation	
Float Charge:	U = 2.23V/cell ± 1%, between 10°C and 30°C ΔU/ΔT = -0.004V/K below 10° in the monthly average	
Boost Charge:	U = 2.35 to 2.40V/cell, time limited	

Discharge Characteristics	
Reference Temperature:	20°C at C10 (1.80V/Cell) and 25°C at C100 (1.85V/cell)
Internal Capacity	100%
Depth of Discharge	- Normally up to 80% - More than 80% DOD or discharges beyond final discharge voltages (dependent on discharge current) have to be avoided
Operational Data	
Design Life:	Up to 20 years (18 years)* at 20°C
Water Refilling Interval:	More than 2 years at 20°C
IEC 896-1 Cycles:	1500 (1200)
Self Discharge:	Approx. 2% per month at 20°C
Operational Temperature:	-20 to 55°C recommended 10 to 30°C
Ventilation Requirement:	fl = 0.5 (low-antimony alloy) according EN 50272-2
Measurements According:	DIN 40 737 part 1
Tests According:	IEC 896-1
Safety Standards:	VDE 0510 part 2 and EN 50272-2
Transport:	No dangerous goods during road transport

Type	IEC 896-1		Dimensions (in/mm) L x W x H	Weight (lb/kg)		C10 (Ah) Uf=1.80V at 20°C	C24 (Ah) Uf=1.85V at 25°C	C48 (Ah) Uf=1.85V at 25°C	C72(Ah) Uf=1.85V at 25°C	C100(Ah) Uf=1.85V at 25°C	C120 (Ah) Uf=1.85V at 25°C	C240 (Ah) Uf=1.85V at 25°C	# of Poles
	Ri (mΩ)	Isc (kA)		Dry	Wet								
Blocks (C120 (Ah) Uf = 1.85V at 25°C													
12V 1 OPzS 74—SOLAR	20.00	613	10.70 x 8.07 x 15.43 / 272 x 205 x 392	57 / 26	86 / 39	51	59	66	71	73	74	76	—
12V 2 OPzS 174—SOLAR	9.30	1290	10.70 x 8.07 x 15.43 / 272 x 205 x 392	84 / 38	110 / 50	103	118	132	141	146	147	151	—
12V 3 OPzS 221—SOLAR	6.90	1739	14.96 x 8.07 x 15.43 / 380 x 205 x 392	117 / 53	152 / 69	154	177	198	212	218	221	227	—
6V 4 OPzS 294—SOLAR	2.20	2703	10.70 x 8.07 x 15.43 / 272 x 205 x 392	79 / 36	104 / 47	204	236	264	282	291	294	302	—
6V 5 OPzS 368—SOLAR	1.90	3175	14.96 x 8.07 x 15.43 / 380 x 205 x 392	97 / 44	135 / 61	255	295	330	353	364	368	378	—
6V 6 OPzS 441—SOLAR	1.60	3846	14.96 x 8.07 x 15.43 / 380 x 205 x 392	115 / 52	150 / 68	307	354	396	423	437	441	453	—
Cells													
2 OPzS 152—SOLAR	1.48	1350	4.05 x 8.11 x 16.53 / 103 x 206 x 420	19.2 / 8.7	30.2 / 13.7	109	121	135	145	151	152	158	2
3 OPzS 228—SOLAR	1.08	1845	4.05 x 8.11 x 16.53 / 103 x 206 x 420	11 / 24.3	16 / 35.3	158	182	203	218	226	228	237	2
4 OPzS 304—SOLAR	0.84	2376	4.05 x 8.11 x 16.53 / 103 x 206 x 420	13 / 28.7	39.7 / 18	212	242	270	290	301	304	316	2
5 OPzS 380—SOLAR	0.69	3887	4.88 x 8.11 x 16.53 / 124 x 206 x 420	35.3 / 16	22 / 48.5	264	303	338	363	376	380	395	2
6 OPzS 456—SOLAR	0.58	3438	5.70 x 8.11 x 21.10 / 145 x 206 x 536	39.7 / 18	57.3 / 26	317	363	405	4345	452	456	474	2
5 OPzS 532—SOLAR	0.64	3137	4.88 x 8.11 x 21.10 / 124 x 206 x 536	44.1 / 20	63.9 / 29	385	424	473	508	527	532	553	2
6 OPzS 638—SOLAR	0.55	3641	5.70 x 8.11 x 21.10 / 145 x 206 x 536	52.9 / 24	74.9 / 34	465	508	567	609	632	638	664	2
7 OPzS 745—SOLAR	0.48	4169	6.53 x 8.11 x 21.10 / 166 x 206 x 536	61.7 / 28	85.9 / 39	540	539	662	771	737	745	774	2
6 OPzS 912—SOLAR	0.45	4466	5.70 x 8.11 x 27.99 / 145 x 206 x 711	77.2 / 35	110.2 / 50	654	726	810	870	903	912	948	2
8 OPzS 1216—SOLAR	0.33	6035	8.26 x 7.51 x 27.99 / 210 x 191 x 711	101.4 / 46	143.3 / 65	868	968	1080	1160	1204	1216	1264	4
10 OPzS 1520—SOLAR	0.26	7720	8.26 x 9.17 x 27.99 / 210 x 233 x 711	125.6 / 57	176.4 / 80	1090	1210	1350	1450	1510	1520	1580	4
12 OPzS 1830—SOLAR	0.23	8814	8.26 x 10.82 x 27.99 / 210 x 275 x 711	145.5 / 66	205 / 93	1304	1450	1620	1740	1810	1830	1900	4
12 OPzS 2280—SOLAR	0.23	8605	8.26 x 10.82 x 33.89 / 210 x 275 x 861	194 / 88	262.4 / 119	1659	1820	2030	2180	2260	2280	2370	4
16 OPzS 3040—SOLAR	0.17	12042	8.34 x 15.62 x 32.95 / 212 x 397 x 837	253.5 / 115	352.7 / 160	2200	2420	2700	2900	3010	3040	3160	6
20 OPzS 3800—SOLAR	0.13	15007	8.34 x 19.17 x 32.95 / 212 x 487 x 837	319.7 / 145	440.9 / 200	2751	3030	3380	3630	3760	3800	3950	8
24 OPzS 4560—SOLAR	0.12	17390	8.34 x 22.67 x 32.95 / 212 x 576 x 837	374.8 / 170	529.1 / 240	3298	3630	4050	4350	4520	4560	4740	8

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