

Manufactured by:



OPzS

Stand-by Batteries



Your energy ally... in stand-by mode!

OPzS batteries are robust energy storage solutions, with a proven technology that has been used for decades in applications that require a safe and reliable battery with long service life. SUNLIGHT OPzS batteries are distinguished by their high tolerance to cycling and long life in standby parallel mode. They are designed and manufactured according to DIN Standards. They cover a wide field of applications some of which are telecommunication center, control and monitoring systems in power plants and distribution stations, railway stations, signaling, control and regulating systems, data processing systems, airports, emergency lightning, alarm systems, energy supply and several others.

Advantages

- Compliant to DIN 40736 and DIN 40737.
- The optimized plate design results in increased capacities over DIN standards.
- Minimum maintenance due to reduced antimony content and large electrolyte reserve volume.
- Ideal for cycling applications due to the tubular plate technique.
- Long designed life time: more than 15 years in floating applications.
- Recommended temperature range of operation (-10°C up to 150°Cm preferred value 20°C).
- Available in 2V cells, 6V and 12V mono-blocks.
- Delivery in dry charged or wet charged condition.
- Suitable for all standard types of installation.

20 1995-2015
Years
efficient electricity solutions

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Positive Plates

SUNLIGHT OPzS cells are manufactured with tubular positive plates. The tubular plate design is well proven and known for its high reliability and long service life in float charging operation. The plate composition of a special low-Antimony ($\leq 1.65\%$ Sb) and Selenium alloy, results in a fine-grain structure and low corrosion rate, a basic property for obtaining a long service life and high reliability of the cell.

Negative Plates

SUNLIGHT negative plates are manufactured with grid design. In this case a lead alloy with a 5% antimony content is used. In order for the plates to maintain the porosity of the active mass, certain special ingredients are added to the paste, allowing the plates to retain their "spongy" consistency.

Separators

The separators are manufactured from microporous PVC, a material of high porosity, low electrical resistance and high acid resistance. The separators are permeable and allow the migration of ions during the charging and discharging process of the battery. Thus the solid particle migration between the plates is prevented and any short circuit avoided. The design of the separators also allows the presence of more acid in the surrounding area of the plates.

Connectors

A wide variety of flexible and solid copper connectors are used for the connection of the cells. Voltage measurements are permissible due to bolt-on type design.

Vent Plugs

The Vent Plugs are flame retardant made of ceramic material, improving the safety of the cell.

The Electrolyte

The Electrolyte Specific Gravity of a fully charged cell is 1.240 (0.010 kg/l) at 20°C at maximum and 1.260 (0.010 kg/l) at 20°C at minimum level. In different temperatures, outside the range of +10°C to +30°C the temperature compensation which should be introduced is 0.0007 kg/l per each °C variance.

The electrolyte freezing point of:

- A fully charged cell is -45°C (reference acid specific gravity 1.240 kg/l).
- A fully discharged cell is -5°C to -10°C (reference acid specific gravity 1.100 kg/l)

Cell Containers and Covers

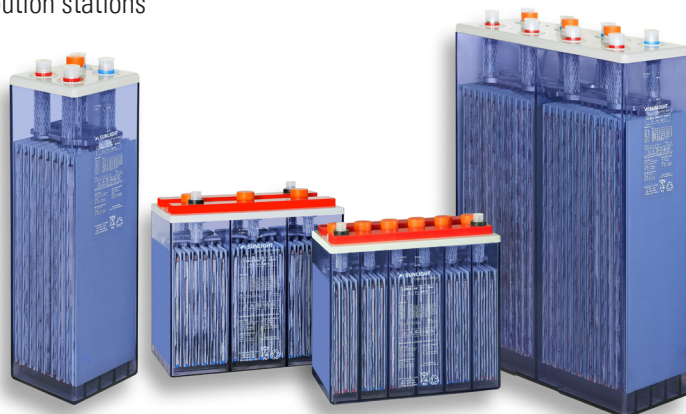
Styrene Acrylonitrile (SAN) is used on the containers of SUNLIGHT OPzS cells. SAN is transparent allowing the user an easy reading of the electrolyte level and visual inspection of the cell. The covers of the cells are made of Acrylonitrile-butadienestyrene copolymer (ABS).

Poles

Specially designed safety poles, effectively prevent acid leakage and pillar corrosion thus increasing the lifetime of the battery.

Applications

- Telecommunications
- Control and monitoring systems in power plants and distribution stations
- Railway Stations
- Signaling, Control and Regulating systems
- Data processing systems
- UPS
- Airports



TYPE	Discharge Table in Amperes										
	End voltage 1.80 V/per cell										
	Monoblocks	30 min	45 min	1 hr	1.5 hr	2 hr	3 hr	5 hr	8 hr	10 hr	20 hr
	6V 3 OPzS 150	94.7	80.0	69.7	56.1	47.3	36.5	25.7	18.4	15.7	9.0
	6V 4 OPzS 200	122.7	103.8	90.4	72.6	61.1	47.1	33.0	23.6	20.0	11.5
	6V 5 OPzS 250	151.9	129.1	112.9	91.2	77.1	59.6	42.0	30.1	25.5	14.7
	6V 6 OPzS 300	178.2	151.6	132.6	107.2	90.6	70.2	49.4	35.4	30.0	17.3
	12V 1 OPzS 50	32.9	27.8	24.2	19.5	16.5	12.8	9.0	3.4	5.5	3.2
	12V 2 OPzS 100	63.5	53.1	46.0	36.7	30.8	23.7	16.5	11.8	10.0	5.8
	12V 3 OPzS 150	92.9	78.2	68.0	54.5	45.8	35.3	24.8	17.7	15.0	8.7
	2C cells	30 min	45 min	1 hr	1.5 hr	2 hr	3 hr	5 hr	8 hr	10 hr	20 hr
	2V 2 OPzS 100	65.2	55.5	48.6	39.3	33.3	25.8	18.2	13.0	11.2	6.4
	2V 3 OPzS 150	97.3	82.8	72.5	58.7	49.7	38.5	27.2	19.4	16.7	9.5
	2V 4 OPzS 200	125.0	106.2	92.9	75.0	63.3	48.9	34.4	24.5	21.0	12.0
	2V 5 OPzS 250	158.2	134.4	117.6	95.0	80.3	62.1	43.7	31.1	26.7	15.3
	2V 6 OPzS 300	186.5	158.9	139.3	112.8	95.5	73.9	52.2	37.2	31.9	18.3
	2V 5 OPzS 350	200.0	173.1	153.0	125.3	106.8	83.4	59.0	42.4	36.1	20.9
	2V 6 OPzS 420	238.0	206.0	182.4	149.5	127.6	99.8	70.7	50.8	43.3	25.0
	2V 7 OPzS 490	275.0	238.0	211.0	173.6	148.2	116.1	82.3	59.2	50.5	29.1
	2V 5 OPzS 500	278.0	243.0	217.0	180.7	155.6	123.1	88.6	63.5	54.8	31.6
	2V 6 OPzS 600	316.0	278.0	249.0	207.0	178.7	141.4	101.3	73.1	62.4	36.1
	2V 7 OPzS 700	375.0	330.0	296.0	247.0	213.0	169.0	121.8	87.7	75.5	43.7
	2V 8 OPzS 800	418.0	368.0	330.0	275.0	237.0	187.9	134.7	97.3	83.1	48.1
	2V 9 OPzS 900	481.0	423.0	379.0	315.0	271.0	215.0	153.9	110.7	94.9	54.8
	2V 10 OPzS 1000	524.0	462.0	414.0	346.0	298.0	236.0	169.7	122.4	104.7	60.6
	2V 12 OPzS 1200	613.0	542.0	487.0	407.0	352.0	279.0	201.0	145.1	123.9	71.7
	2V 11 OPzS 1400	657.0	593.0	540.0	461.0	404.0	327.0	240.0	174.3	150.3	87.4
	2V 12 OPzS 1500	683.0	618.0	564.0	483.0	423.0	342.0	251.0	183.2	157.2	91.5
	2V 14 OPzS 1700	793.0	717.0	655.0	561.0	492.0	399.0	294.0	214.0	184.8	107.4
	2V 15 OPzS 1875	863.0	781.0	714.0	611.0	536.0	434.0	319.0	233.0	201.0	116.6
	2V 16 OPzS 2000	935.0	843.0	768.0	654.0	572.0	461.0	337.0	245.0	211.0	122.3
	2V 20 OPzS 2500	1155.0	1046.0	956.0	819.0	720.0	585.0	430.0	313.0	271.0	157.5
	2V 24 OPzS 3000	1370	1242.0	1135.0	973.0	854.0	692.0	509.0	371.0	319.0	185.7

TYPE	Discharge Table in Amperes										
	End voltage 1.70 V/per cell										
	Monoblocks	30 min	45 min	1 hr	1.5 hr	2 hr	3 hr	5 hr	8 hr	10 hr	20 hr
	6V 3 OPzS 150	116.2	94.5	80.2	62.4	51.7	39.2	27.2	19.2	16.4	-
	6V 4 OPzS 200	151.5	104.3	104.3	81.0	66.9	50.6	35.0	24.7	21.0	-
	6V 5 OPzS 250	188.9	154.2	131.2	102.3	84.8	64.2	44.5	31.4	26.8	-
	6V 6 OPzS 300	222	181.6	154.5	120.4	99.8	75.6	52.4	37.0	31.6	-
	12V 1 OPzS 50	40.1	32.6	27.7	21.7	18.0	13.7	9.5	6.7	5.8	-
	12V 2 OPzS 100	77.0	62.0	52.4	40.6	33.5	25.3	17.5	12.3	10.5	-
	12V 3 OPzS 150	113.7	92.0	77.9	60.5	50.0	37.8	26.2	18.5	15.8	-
	2C cells	30 min	45 min	1 hr	1.5 hr	2 hr	3 hr	5 hr	8 hr	10 hr	20 hr
	2V 2 OPzS 100	80.9	66.2	56.4	44.1	36.6	27.8	19.4	13.7	11.7	-
	2V 3 OPzS 150	120.7	98.8	84.2	65.8	54.7	41.5	28.9	20.4	17.4	-
	2V 4 OPzS 200	155.3	127.0	107.9	84.1	69.6	52.7	36.5	25.7	22.0	-
	2V 5 OPzS 250	196.6	160.9	136.8	106.7	88.4	66.9	46.3	32.6	27.9	-
	2V 6 OPzS 300	232.0	190.6	162.4	126.8	105.2	79.8	55.4	39.0	33.4	-
	2V 5 OPzS 350	257.0	214.0	183.9	144.5	120.1	91.1	63.3	44.5	38.1	-
	2V 6 OPzS 420	306.0	256.0	220.0	173.0	143.9	109.2	75.9	53.3	45.7	-
	2V 7 OPzS 490	354.0	297.0	256.0	201.0	167.6	127.2	88.4	62.2	53.3	-
	2V 5 OPzS 500	361.0	307.0	267.0	213.0	178.2	136.3	95.4	67.5	57.8	33.2
	2V 6 OPzS 600	415.0	354.0	309.0	246.0	206.0	157.1	109.4	77.1	66.1	37.6
	2V 7 OPzS 700	490.0	419.0	366.0	293.0	245.0	187.9	131.5	93.1	79.7	45.5
	2V 8 OPzS 800	549.0	470.0	410.0	328.0	274.0	209.0	145.7	102.7	88	50.1
	2V 9 OPzS 900	631.0	538.0	469.0	374.0	312.0	238.0	166.0	117.2	100.3	57.1
	2V 10 OPzS 1000	689.0	590.0	516.0	412.0	345.0	263.0	183.4	129.4	110.9	63.1
	2V 12 OPzS 1200	809.0	695.0	609.0	488.0	408.0	312.0	217.0	153.2	131.3	74.8
	2V 11 OPzS 1400	883.0	777.0	694.0	570.0	484.0	374.0	263.0	186.6	159.9	91.4
	2V 12 OPzS 1500	922.0	815.0	729.0	601.0	510.0	394.0	276.0	195.6	167.6	95.5
	2V 14 OPzS 1700	1068.0	943.0	843.0	696.0	591.0	458.0	323.0	229.6	196.5	113.0
	2V 15 OPzS 1875	1164.0	1029.0	920.0	759.0	645.0	499.0	351.0	249.0	214.0	122.0
	2V 16 OPzS 2000	1259.0	1107.0	987.0	809.0	685.0	528.0	370.0	262.0	224.0	127.6
	2V 20 OPzS 2500	1558.0	1378.0	1234.0	1020.0	868.0	673.0	474.0	337.0	288.0	165.6
	2V 24 OPzS 3000	1853.0	1640.0	1471.0	1215.0	1033.0	799.0	561.0	397.0	340.0	193.9

TYPE	Discharge Table in Amperes										
	End voltage 1.80 V/per cell										
	Monoblocks	30 min	45 min	1 hr	1.5 hr	2 hr	3 hr	5 hr	8 hr	10 hr	20 hr
	6V 3 OPzS 150	126.1	100.0	84.1	64.8	53.4	40.3	-	-	-	-
	6V 4 OPzS 200	164.9	130.5	109.4	84.1	69.2	52.0	-	-	-	-
	6V 5 OPzS 250	207.0	164.4	138.0	106.3	87.7	66.0	-	-	-	-
	6V 6 OPzS 300	244.0	193.6	162.5	125.2	103.2	77.7	-	-	-	-
	12V 1 OPzS 50	43.3	34.5	29.0	22.4	18.6	14.1	-	-	-	-
	12V 2 OPzS 100	82.9	65.4	54.7	42.0	34.6	26.	-	-	-	-
	12V 3 OPzS 150	123.0	97.3	81.6	62.	51.6	38.9	-	-	-	-
	2C cells	30 min	45 min	1 hr	1.5 hr	2 hr	3 hr	5 hr	8 hr	10 hr	20 hr
	2V 2 OPzS 100	88.4	70.4	59.2	45.8	37.8	28.6	-	-	-	-
	2V 3 OPzS 150	132.0	105.2	88.5	68.4	56.5	42.7	-	-	-	-
	2V 4 OPzS 200	170.2	135.2	113.5	87.4	72.0	54.2	-	-	-	-
	2V 5 OPzS 250	215.0	171.3	143.8	110.9	91.4	68.8	-	-	-	-
	2V 6 OPzS 300	255.0	203.0	170.8	131.9	108.8	82.1	-	-	-	-
	2V 5 OPzS 350	290.0	232.0	195.8	151.3	124.8	94.1	-	-	-	-
	2V 6 OPzS 420	347.0	278.0	235	181.3	149.6	112.7	-	-	-	-
	2V 7 OPzS 490	403.0	324.0	273.0	211.0	174.3	131.4	-	-	-	-
	2V 5 OPzS 500	417.0	339.0	288.0	224.0	185.9	141.0	98.1	-	-	-
	2V 6 OPzS 600	484.0	395.0	335.0	260.0	215.0	162.6	112.4	-	-	-
	2V 7 OPzS 700	571.0	466.0	396.0	309.0	256.0	194.4	135.2	-	-	-
	2V 8 OPzS 800	643.0	525.0	446.0	347.0	287.0	217.0	149.7	-	-	-
	2V 9 OPzS 900	735.0	599.0	508.0	395.0	327.0	247.0	170.8	-	-	-
	2V 10 OPzS 1000	807.0	661.0	561.0	436.0	361.0	273.0	188.7	-	-	-
	2V 12 OPzS 1200	952.0	782.0	665.0	517.0	428.0	323.0	223.0	-	-	-
	2V 11 OPzS 1400	1067.0	904.0	780.0	615.0	512.0	389.0	271.0	-	-	-
	2V 12 OPzS 1500	1121.0	955.0	826.0	651.0	541.0	411.0	285.0	-	-	-
	2V 14 OPzS 1700	1293.0	1100.0	952.0	752.0	627.0	478.0	333.0	-	-	-
	2V 15 OPzS 1875	1413.0	1203.0	1041.0	822.0	684.0	521.0	362.0	-	-	-
	2V 16 OPzS 2000	1522.0	1288.0	1110.0	873.0	725.0	550.0	381.0	-	-	-
	2V 20 OPzS 2500	1891.0	1614.0	1398.0	1105.0	922.0	702.0	489.0	-	-	-
	2V 24 OPzS 3000	2255.0	1928.0	1670.0	1319.0	1092.0	834.0	579.0	-	-	-

Technical Characteristics											
Type Designation	Positive Plate	Capacity (Ah) C10 V/cell 1,80	Cell Dimensions (mm)						Weight (kg)	Volume of separate electrolyte (lt)	
Monoblocks	No	Size (Ah)		a	b	h1	h2	e	with electrolyte	without electrolyte	
6V 3 OPzS 150	3 x 3	50	150	233	224	345	378	-	41.2	29.8	9.2
6V 4 OPzS 200	3 x 4	50	200	272	205	350	363	-	47.1	35.2	9.6
6V 5 OPzS 250	3 x 5	50	250	380	205	350	363	-	60.9	43.5	14
6V 6 OPzS 300	3 x 6	50	300	380	205	350	363	-	67.1	50.5	13.4
6V 1 OPzS 50	6 x 1	50	50	272	205	350	363	-	37.7	24.4	10.7
6V 2 OPzS 100	6 x 2	50	100	272	205	350	363	-	49.4	37.7	9.4
6V 3 OPzS 150	6 x 3	50	150	380	205	350	363	-	69.8	53	13.5
2V cell	No	Size (Ah)		a	b	h1	h2	e	with electrolyte	without electrolyte	
2 OPzS 100*	2	50	100	103	206	355	380	-	13.8	8.4	4.4
3 OPzS 150*	3	50	150	103	206	355	380	-	15.7	10.7	4
4 OPzS 200	4	50	200	103	206	355	380	-	17.5	13	3.6
5 OPzS 250	5	50	250	124	206	355	380	-	21.4	15.4	4.8
6 OPzS 300	6	50	300	145	206	355	380	-	25.7	18.5	5.8
5 OPzS 350	5	70	350	124	206	471	496	-	28.4	20.7	6.2
6 OPzS 420	6	70	420	145	206	471	496	-	33.5	24.3	7.4
7 OPzS 490	7	70	490	166	206	471	496	-	38.6	27.9	8.6
5 OPzS 500*	5	100	500	145	206	646	671	-	42	28.8	10.6
6 OPzS 600	6	100	600	145	206	646	671	-	45.8	33	10.3
7 OPzS 700*	7	100	700	191	210	646	671	80	60	42.7	14
8 OPzS 800	8	100	800	191	210	646	671	80	63.8	46.8	13.7
9 OPzS 900*	9	100	900	233	210	646	671	110	73	53	16.1
10 OPzS 1000	10	100	1000	233	210	646	671	110	78.2	57.3	16.9
12 OPzS 1200	12	100	1200	245	210	646	671	140	91.3	66.2	20.2
11 OPzS 1400*	11	125	1400	245	210	796	821	140	110.5	76	27.8
12 OPzS 1500	12	125	1500	245	210	796	821	140	115.1	81.1	27.4
14 OPzS 1700*	14	125	1700	397	212	772	797	2x110	143.3	96.3	37.9
15 OPzS 1875	15	125	1875	397	212	772	797	2x110	148.9	102.6	37.3
16 OPzS 2000	16	125	2000	397	212	772	797	2x110	154.5	108.8	36.9
20 OPzS 2500	20	125	2500	487	212	772	797	3x110	201	135	53.2
24 OPzS 3000	24	125	3000	576	212	772	797	3x140	230	158	58.1

* Over DIN standard product range

**6V 3 OPzS 150 -
6V 6 OPzS 300**

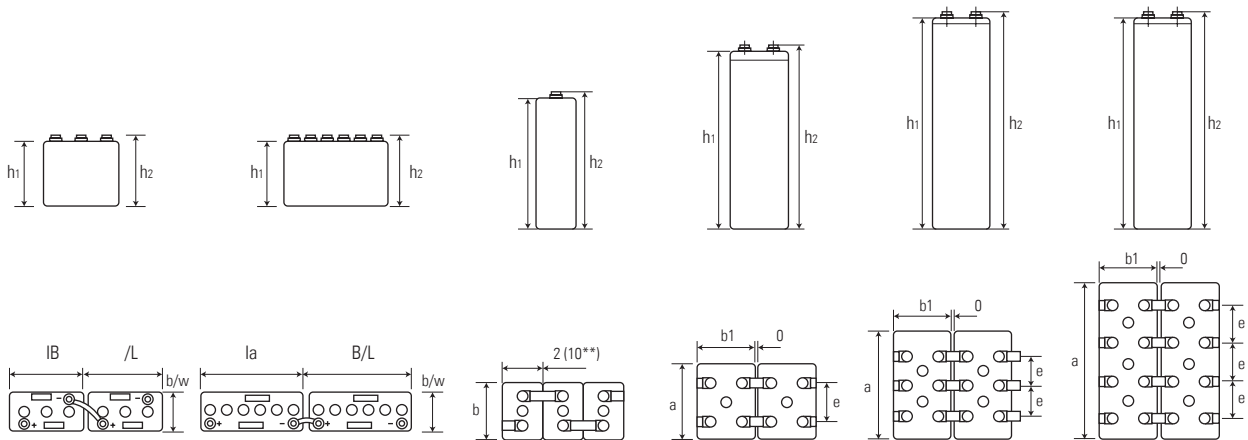
**12V 1 OPzS 50 -
12V 3 OPzS 150**

**2 OPzS 50 -
6 OPzS 600**

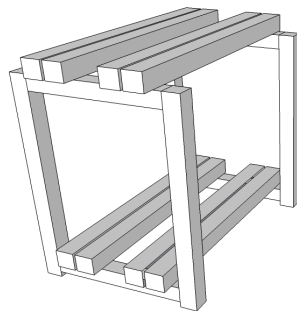
**7 OPzS 700 -
12 OPzS 1500**

**14 OPzS 1700 -
16 OPzS 2000**

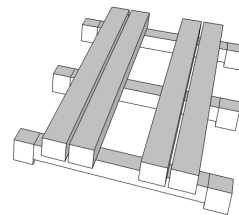
**20 OPzS 2500 -
24 OPzS 3000**



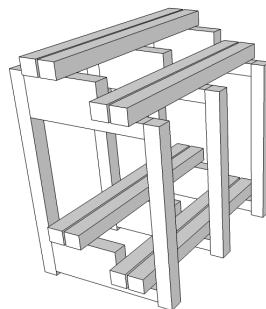
Rack 2 Floors - 2 rows



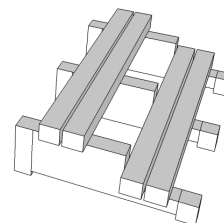
Rack 1 Floors - 2 rows



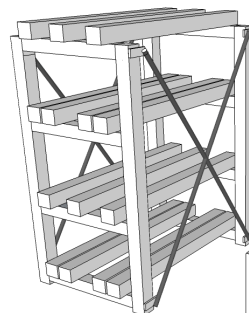
Rack 2 Floors - 2 steps



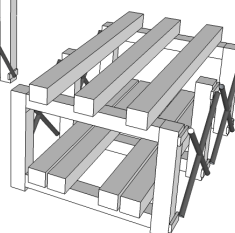
Rack 1 Floors - 2 steps



Rack 2 Floors - 2 rows
(antiseismic)



Rack 1 Floors - 2 rows
(antiseismic)



UPS / POWER QUALITY IMPROVEMENT



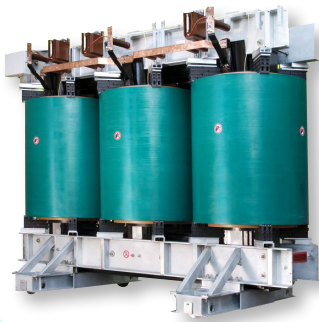
Uninterrupted Power Supplies

Modular UPS Solutions Multiple capacity options



Standby Batteries

Robust energy storage solutions, with a proven technology that has been used for decades in application that require a safe and reliable battery with long service life.



Dry-type Cast Resin Transformers

Glass Fibre reinforced Vacuum Technology (GVT)



Active Harmonic Filters

Innovation made in Germany

Efficient Electricity Solutions

PPI is a company with more than twenty (20) years of successful operation in the Philippines.

Over the years, it has developed and actively supplied an extensive and full power line of products and services from the best manufacturers in Europe. Among its most sought top of the line products are: Turnkey projects in the supply of substations with rated voltage of up to 230kV, electricity meters, meter test equipment, instrument transformers, power transformers, disconnectors, fault indicators, surge arresters, switchgears, oil testers, cable diagnostics, batteries, harmonic filters, and automation systems, among others.

Our commitment to establish closer customer relationships make us understand your business needs and power solution requirement.

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20 Years
1994 - 2014
Pazifik Power Inc.

