

Standby-Power **OPzS** SERIES  
Stationary Cells in transparent SAN containers

**MICROTEX**  
Since 1969

Capacities from 100Ah to 3000Ah

# OPzS



Microtex is a leading manufacturer of Industrial Batteries in Bangalore, India. The factory has a covered area of 26700 Sq ft on 5 acres of land, with 300 trained people. Established 50 years ago it is a company well known for its high quality. Microtex produces in house, the specially designed lead alloys, lead oxides, grid castings, pasted plates, injection molded containers, multi-tubular gauntlets, separators and produces the complete battery using state of the art industry standard battery making machinery. The Company started producing Industrial Batteries in the seventies for applications like Traction, Stationary and Rail road Batteries.

Microtex offers CALCIUM-Plus Standby-Power cells–OPzS series capacities ranging from 100Ah to 3000Ah. These flooded cells are designed to provide superior performance for both high cycling , float/long duration applications and reliability over the life of the battery. These cells are manufactured using state of the art techniques quality components and materials for reduced maintenance and extended battery life.

For Nuclear Power plants, Electric Power Generation facilities, Petrochemical plants, Switchgear and control applications, Wind, hydro & solar photovoltaic, Large UPS Systems, Railway signaling, Telecommunications.

**OPzS Stands for :-**

**O** = Ortsfest (Stationary)

**Pz** = PanZerplatte (Tubular plate)

**S** = Flussig (Flooded)

**Advantages of using CALCIUM-Plus Standby-Power batteries.**

<b>FEATURES</b>	<b>ADVANTAGES</b>
Special Calcium+ low Antimony Selenium grid alloy	Reduced watering requirements
Thicker spines for Positive Tubular plates	Cast at 150 bars pressure ensures better compression and packing of lead ensuring long cycle life of 20 years plus.
High Impact Transparent SAN Containers	Allows visual internal condition of cells
High Impact ABS covers with polarity indicators	Enhances cell safety and easy visual of terminal polarity
Hardened, Lead-alloy copper inserted terminal posts	Provides faster conductivity and failproof connections requiring less maintenance
Terminal bushing with rubber rings	Stops acid creeping and corrosion. Allows growth of the positive terminal ensuring no breakage of cover in service life,
Rugged construction for robust performance	20 year float life and seismic qualification
Factory Preformed Plates	For reliable performance and no excess cycling of the cells required in the field to reach rated capacity-saves money and time for users.

Batteries comply with Standard DIN 40 736 part 1,IS 1651-1993,Tests according IEC 60 896 – 11, IS 1651-1993 and Safety standard, ventilation DIN EN 50 272-2

The company is ISO 9001:2015 and ISO 14001:2015 certified

## Types, capacities, dimensions, mass

Type	C10 25°C	C5 25°C	C3 25°C	C1 25°C	C8 25°C	Ri (1)	Ik (2)	Length	Width	Height (max.)	Mass (3)	Mass (4)	Lead mass
	Ah	Ah	Ah	Ah	Ah	m:	kA	Mm	mm	mm	Kg	Kg	Kg
U <sub>e</sub> V/cell	1.80	1.77	1.75	1.67	1.75								
4 OPZS 200	210	175	156	114	205	0.95	2.16	105	208	420	12.2	17.2	11.9
5 OPZS 250	270	220	195	143	255	0.76	2.70	126	208	420	14.6	20.8	14.3
6 OPZS 300	320	262	234	170	304	0.63	3.24	147	208	420	17.2	24.3	16.6
5 OPZS 350	400	336	282	205	378	0.70	2.90	126	208	535	18.9	26.9	18.5
6 OPZS 420	490	400	339	245	452	0.58	3.48	147	208	535	22.2	31.5	22.2
7 OPZS 490	570	470	396	285	526	0.50	4.06	168	208	535	25.2	36.1	26.0
6 OPZS 600	670	560	474	330	657	0.47	4.32	147	208	710	31.9	44.8	34.0
8 OPZS 800	890	740	633	440	880	0.35	5.76	215	193	710	44.2	61.3	43.5
10 OPZS 1000	1120	930	789	550	1096	0.28	7.20	215	235	710	52.3	74.5	53.0
12 OPZS 1200	1340	1100	948	660	1312	0.23	8.64	215	277	710	62.1	88.0	62.0
12 OPZS 1500	1690	1400	1200	820	1672	0.23	9.18	215	277	855	80.4	114.3	74.0
16 OPZS 2000	2250	1850	1600	1100	2232	0.17	12.24	215	400	815	102.5	151.5	116.0
20 OPZS 2500	2810	2300	2000	1375	2792	0.14	15.30	215	490	815	129.8	193.0	141.0
24 OPZS 3000	3380	2800	2400	1640	3344	0.11	18.36	215	580	815	159.4	234.5	170.0

Note : 1), 2) internal resistance and short - circuit - current from IEC 60896-11 3) dry & un-charged 4) filled and charged

The electrical characteristics are nominal indicative value and can vary within ± 5.0%.

Dimension can vary within ± 2.0mm

Weight figures can vary within ± 5.0%

Other special design & configuration of Battery system for specific application shall be provided on request.

Intermediate AH Capacities are also available on specific request.

In accordance with improvement the company reserves the right to change the specification & design without notice.

All the data given in catalogue are for guidance only & cannot be held binding on the company.

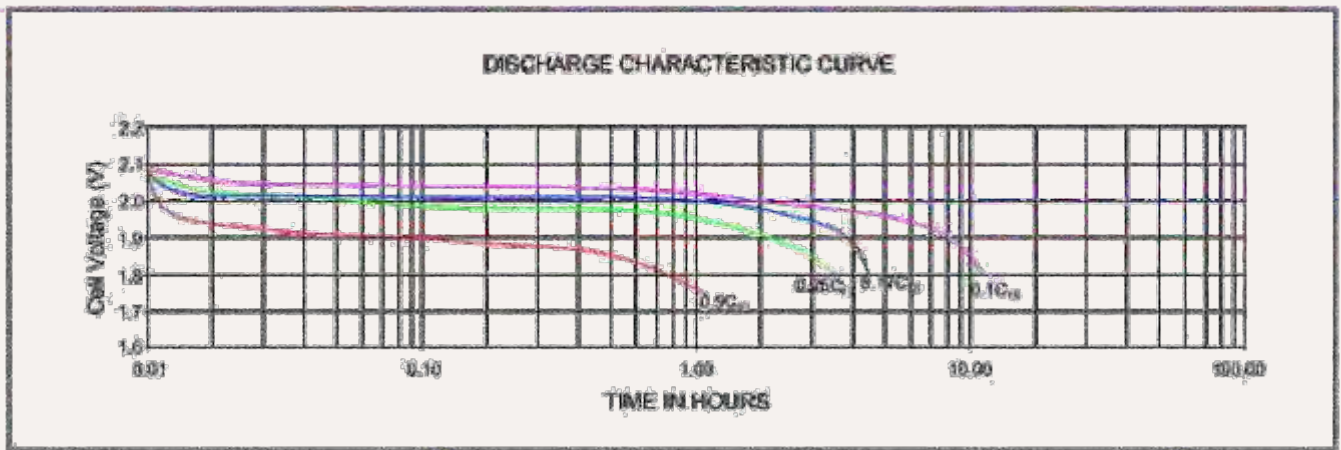




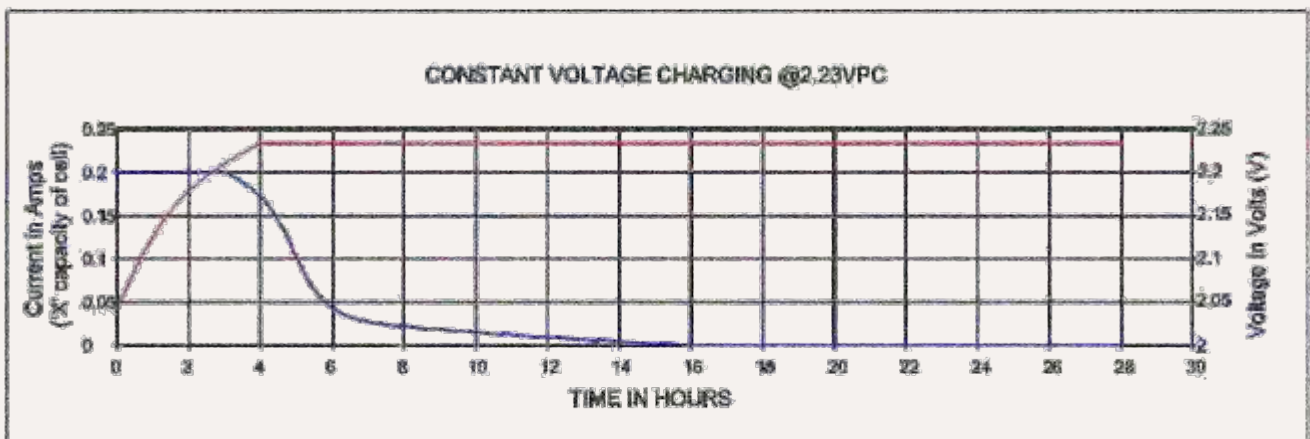


Model Type	Capacity (Ah) at C <sub>10</sub> rate of discharge to 1.85 ECV	DISCHARGE POWER IN WATTS AT 1.90 ECV AT 27°C																				
		1 MIN	5 MIN	10 MIN	15 MIN	20 MIN	30 MIN	45 MIN	1 HR	2 HR	3 HR	4 HR	5 HR	6 HR	7 HR	8 HR	9 HR	10 HR	11 HR	12 HR	13 HR	14 HR
2 OPzS 100	100	79.06	79.06	79.06	79.06	79.06	78.20	74.87	70.48	54.71	45.29	38.54	33.45	29.52	26.41	23.92	21.88	20.14	19.50	19.00	18.75	18.50
4 OPzS 200	200	158.12	158.12	158.12	158.12	158.12	156.39	149.75	140.97	109.41	90.58	77.09	66.90	59.04	52.83	47.84	43.76	40.28	39.00	37.86	37.50	36.89
5 OPzS 250	250	197.65	197.65	197.65	197.65	197.65	195.49	187.18	176.21	136.77	113.22	96.36	83.63	73.80	66.03	59.80	54.69	50.35	48.75	47.32	46.87	46.12
6 OPzS 300	300	237.18	237.18	237.18	237.18	237.18	234.59	224.62	211.45	164.12	135.86	115.63	100.35	88.56	79.24	71.76	65.63	60.41	58.50	56.79	56.25	55.34
5 OPzS 350	350	276.71	276.71	276.71	276.71	276.71	273.69	262.05	246.69	191.47	158.51	134.90	117.08	103.32	92.45	83.72	76.57	70.48	68.25	66.25	65.62	64.56
6 OPzS 400	400	316.24	316.24	316.24	316.24	316.24	312.79	299.49	281.93	218.83	181.15	154.17	133.80	118.08	105.65	95.68	87.51	80.55	78.00	75.72	74.99	73.79
6 OPzS 420	420	332.06	332.06	332.06	332.06	332.06	328.43	314.46	296.03	229.77	190.21	161.88	140.49	123.98	110.93	100.46	91.88	84.58	81.90	79.50	78.74	77.47
7 OPzS 450	450	355.77	355.77	355.77	355.77	355.77	351.88	336.93	317.17	246.18	203.80	173.44	150.53	132.84	118.86	107.64	98.45	90.62	87.75	85.18	84.37	83.01
7 OPzS 490	490	387.40	387.40	387.40	387.40	387.40	383.16	366.87	345.37	268.06	221.91	188.86	163.91	144.65	129.42	117.21	107.20	98.68	95.55	92.76	91.87	90.39
6 OPzS 600	600	474.36	474.36	474.36	474.36	474.36	469.18	449.23	422.90	328.24	271.73	231.26	200.70	171.12	158.48	143.52	131.26	120.83	117.00	113.58	112.49	110.68
8 OPzS 800	800	632.49	632.49	632.49	632.49	632.49	625.57	598.98	563.86	437.65	362.30	308.34	267.60	226.16	211.30	191.36	175.02	161.10	156.00	151.44	149.99	147.57
10 OPzS 1000	1000	790.61	790.61	790.61	790.61	790.61	781.97	748.72	704.83	547.06	452.88	385.43	334.50	295.20	264.13	239.20	218.77	201.38	195.00	189.30	187.48	184.46
12 OPzS 1200	1200	948.73	948.73	948.73	948.73	948.73	938.36	898.47	845.80	656.48	543.46	462.51	401.40	354.24	316.95	287.03	262.53	241.66	234.00	227.16	224.98	221.36
12 OPzS 1500	1500	1185.91	1185.91	1185.91	1185.91	1185.91	1172.95	1123.09	1057.25	820.59	679.32	578.14	501.75	442.79	396.19	358.79	328.16	302.07	292.50	283.95	281.23	276.70
16 OPzS 2000	2000	1581.22	1581.22	1581.22	1581.22	1581.22	1563.93	1497.45	1409.66	1094.12	905.76	770.85	669.00	590.39	528.25	478.39	437.55	402.76	389.99	378.60	374.97	368.93
20 OPzS 2500	2500	1976.52	1976.52	1976.52	1976.52	1976.52	1954.91	1871.81	1762.07	1367.66	1132.20	963.56	836.25	737.99	660.32	597.99	546.93	503.45	487.49	473.24	468.71	461.16
24 OPzS 3000	3000	2371.82	2371.82	2371.82	2371.82	2371.82	2345.89	2246.17	2114.49	1641.19	1358.64	1156.28	1003.50	885.59	792.38	717.59	656.32	604.14	584.99	567.89	562.46	553.39

### I. Discharge Characteristic Curve for Tubular Stationary Battery



### II. Charging Curve for Tubular Stationary Battery



#### Battery racks:

Battery racks offered as per customer requirements either steel, Galvanized Iron(GI), Fibre Reinforced Plastic (FRP), Wood (Sal wood or Teak wood) painted with acid resistant paint.

The racks are of Single Tier - Single row/ Double row, Double Tier - Single row/ double row or stepped.

Battery racks for special applications supplied meet seismic qualification by Analysis /Testing

**SPECIFICATIONS :**

**Charging**

IU - characteristic I<sub>max</sub> without limitation  
U = 2.23 V/cell ± 1%, between 10°C and 55°C  
temperature compensation factor 3mV/°C beyond this temp. range

Float current 15mA/100Ah, increasing to 30mA/100Ah at the end of life  
Boost charge U = 2.35 to 2.40V/cell, time limited  
Charging time up to 88% 6h with 1.5\*I<sub>10</sub> initial current, 2.23 V/cell, which was previously discharged up to 80% C3 rate

**Discharge characteristics**

Reference temperature 25°C  
initial capacity 100%  
Depth of discharge (DOD) Normally up to 80%  
Deep discharges More than 80% DOD or discharges beyond final discharge voltages (based on discharge rate) have to be avoided`

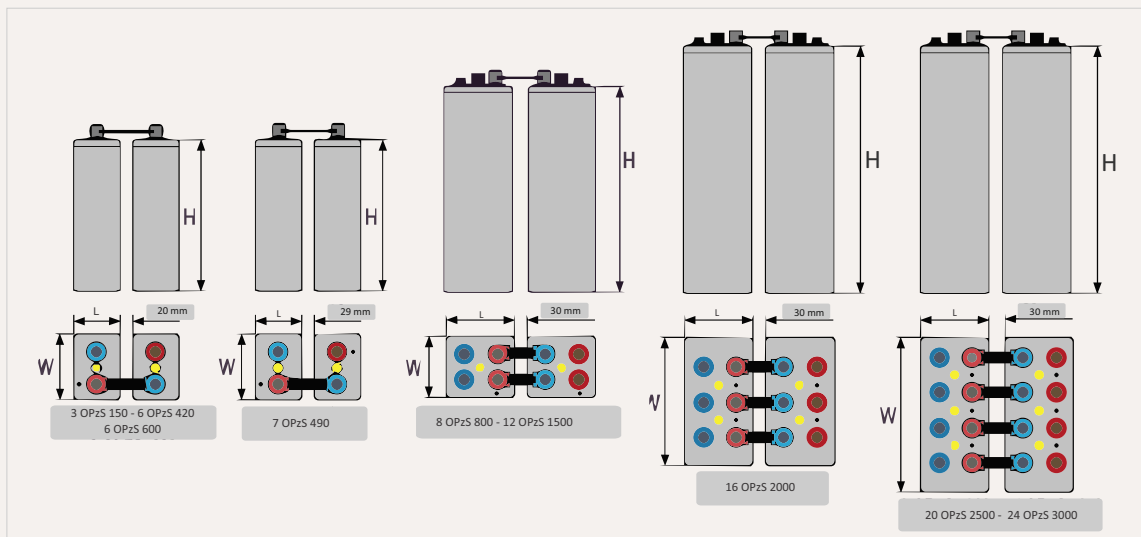
**Maintenance**

Every 6 months Check battery voltage, pilot cell voltage, temperature  
Every 12 months Record battery voltage, cell voltages and temperatures

**Operational data**

Operational life 20 year in stand-by float operation, 27°C  
Water refilling interval More than 2-3 years at 20°C  
IEC 60896-11 cycles >1500  
IEC 61427 cycles > 3000  
Self-discharge Approx. 3% per month at 20°C  
Operational temperature -20°C to 55°C recommended 10°C to 30°C

**CELL AND CONNECTION LAY OUT**



Manufactured by

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Completely recyclable



Hand over to authorised MOEF recyclers



Protect eyes from electrolyte



Electrical Hazard



Read instruction Manual

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