

VARTA OPzS range

4 OPzS 200...24 OPzS 3000

Application

VARTA OPzS batteries are long life industrial products designed for capacitive discharge over longer periods. The most important features are a high tolerance to cycling and a long life standby parallel operation. They are used as reserve power supply in telecommunications equipment and industrial plant and also in safety power supply equipment.

Construction

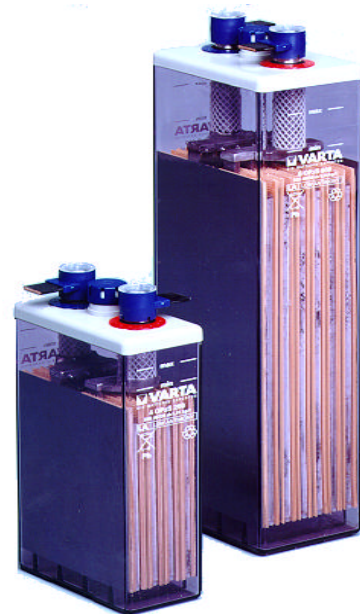
Positive Electrode	Tubular plate with VARTA-Selenium alloy (Sb-content: 1.6%)
Negative Electrode	Grid plate
Separation	Micro-porous separator, combined with corrugated separator
Casing Material	Styrene-acrylonitrile (SAN), impact resistant, transparent
Electrolyte	Dilute sulphuric acid d = 1.24 kg/l
Terminal Design	Leakproof safety pole with solid brass insert and inside threading, M10
Connectors	Solid copper, (30 x 3 mm), insulated, bolt-on type
Vent Plugs	Safety plugs with flame arrestor, optional: ceramic funnel plugs
Charging	Float charge voltage: 2.23 volts/cell at 20°C
Temperature Range	0°...+55°C (Preferred value 20°C)

Installation

All standard types of installation are permissible. For use in earthquake zones special approved racking is available. When installing in battery rooms the local safety provisions must be adhered to.

Features

- **2V single cells**
- **Economic operation** in capacitive use over several hours
- **Leakproof VARTA Safety Pole**, proven in operation
- **VARTA-Safety vent plug** with flame arrestor, optional ceramic funnel plug
- **Maintenance free to DIN standards > 3 years** in standby parallel operation
- **Long service life** even with cyclic discharge



Technical data

Type designation	Capacity (Ah)			Inner resistance without connectors, loaded [mOhm/cell]	Theoretical short circuit current [A]	Cell dimensions						Weight			
	C ₁₀	C ₈	C ₁			(mm)			(inch)			[kg]		[lb]	
	Final voltage					L	W	H*	L	W	H*	Cell wt. w.elec.	Elec. wt.	Cell wt. w.elec.	Elec. wt.
4 OPzS 200	206	204	111	0.95	2190	103	206	405	4.06	8.11	15.94	17.2	4.9	37.9	10.8
5 OPzS 250	257	255	139	0.76	2735	124	206	405	4.88	8.11	15.94	20.8	6.0	45.9	13.2
6 OPzS 300	309	306	166	0.63	3285	145	206	405	5.71	8.11	15.94	24.3	7.2	53.6	15.9
Final voltage															
	1.80	1.75	1.71												
5 OPzS 350	360	356	198	0.70	2970	124	206	520	4.88	8.11	20.47	26.9	7.9	59.3	17.4
6 OPzS 420	432	427	237	0.58	3565	145	206	520	5.71	8.11	20.47	31.5	9.4	69.4	20.7
7 OPzS 490	504	498	278	0.50	4160	166	206	520	6.54	8.11	20.47	36.1	10.9	79.6	24.0
Final voltage															
	1.80	1.75	1.67												
6 OPzS 600	618	613	333	0.47	4455	145	206	695	5.71	8.11	27.36	44.8	12.9	98.8	28.4
8 OPzS 800	824	817	445	0.35	5945	210	191	695	8.27	7.52	27.36	61.3	16.9	135	37.3
10 OPzS 1000	1030	1022	556	0.28	7430	210	233	695	8.27	9.17	27.36	74.6	21.1	165	46.5
12 OPzS 1200	1236	1220	667	0.23	8915	210	275	695	8.27	10.83	27.36	88.0	25.2	194	55.6
Final voltage															
	1.80	1.75	1.64												
12 OPzS 1500	1545	1557	852	0.22	9455	210	275	845	8.27	10.83	33.27	114	34.2	252	75.4
15 OPzS 1875	1931	1953	1066	0.18	11820	212	397	820	8.35	15.63	32.28	145	51.0	320	112
16 OPzS 2000	2060	2076	1137	0.17	12605	212	397	820	8.35	15.63	32.28	152	48.0	335	106
20 OPzS 2500	2575	2604	1421	0.13	15760	212	487	820	8.35	19.17	32.28	190	60.0	419	132
24 OPzS 3000	3090	3123	1705	0.11	18910	212	576	820	8.35	22.68	32.28	225	72.0	496	159

The electrical values shown in the table relate to loadings from a fully charged condition and an ambient temperature of +25°C.

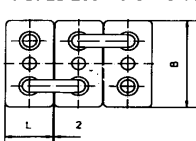
* Height includes connectors.

Project planning data

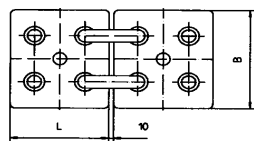
Type	Final voltage = 1.75V/cell									
	discharge current in A									
	30'	1h	2h	3h	4h	5h	6h	8h	10h	
4 OPzS 200	144	106	68.6	52.1	42.8	36.5	31.9	25.5	20.6	
5 OPzS 250	179	132	85.8	65.2	54	46	39.9	31.9	25.8	
6 OPzS 300	215	159	103	78.2	64.3	54.8	47.8	38.2	30.9	
5 OPzS 350	244	179	121	90.6	74	63.0	55.3	44.5	36.1	
6 OPzS 420	293	215	145	108	89.3	75.6	66.3	53.4	43.3	
7 OPzS 490	342	251	168	127	104	88	77.4	62.2	49.6	
6 OPzS 600	399	297	201	152	127	108	95.8	76.6	63.7	
8 OPzS 800	532	396	267	204	169	144	128	102	84.9	
10 OPzS 1000	666	496	335	255	212	181	160	128	106	
12 OPzS 1200	799	595	401	306	254	217	192	152	127	
12 OPzS 1500	936	755	524	402	329	278	244	195	163	
15 OPzS 1875	1170	943	655	502	411	347	306	244	204	
16 OPzS 2000	1248	1007	699	536	438	371	325	260	217	
20 OPzS 2500	1560	1258	874	670	548	464	408	325	272	
24 OPzS 3000	1872	1510	1048	803	657	556	489	390	325	

The current levels shown in the tables relate to loadings from a fully charged condition and an ambient temperature of +25°C. Connector losses are taken into account.

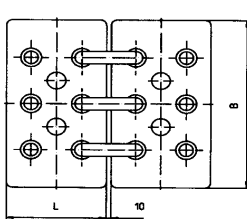
4 OPzS 200 – 6 OPzS 600



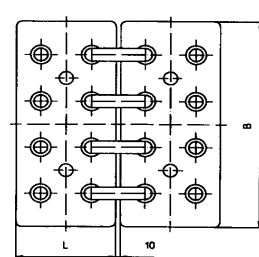
8 OPzS 800 – 12 OPzS 1500



15 OPzS 1875 – 16 OPzS 2000



20 OPzS 2500 – 24 OPzS 3000



All dimensions and weights shown are subject to the usual manufacturing tolerances. Electrical values are approximate.

The right is reserved to make alterations with a view to technically improved execution without prior notice.

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Long-term discharge capacities for VARTA OPzS Batteries

Type	Capacity								final voltage V/cell
	10 h *)	24 h	48 h	72 h	96 h	120 h	240 h		
4 OPzS 200	200	240	268	288	296	300	312	1.85	
5 OPzS 250	250	300	335	360	370	375	390		
6 OPzS 300	300	360	402	432	444	450	468		
5 OPzS 350	350	420	469	504	518	525	546		
6 OPzS 420	420	504	562	604	621	630	655		
7 OPzS 490	490	588	656	705	725	735	764		
6 OPzS 600	600	720	804	864	888	900	936		
8 OPzS 800	800	960	1072	1152	1184	1200	1248		
10 OPzS 1000	1000	1200	1340	1440	1480	1500	1560		
12 OPzS 1200	1200	1440	1608	1728	1776	1800	1872		
12 OPzS 1500	1500	1800	2010	2160	2220	2250	2340		
15 OPzS 1875	1875	2250	2512	2512	2700	2775	2925		
16 OPzS 2000	2000	2400	2680	2880	2960	3000	3120		1.85
20 OPzS 2500	2500	3000	3350	3600	3700	3750	3900		
24 OPzS 3000	3000	3600	4020	4320	4440	4500	4680		
14 OPzS 3500	3500	4200	4690	5040	5180	5250	5460		
16 OPzS 4000	4000	4800	5360	5760	5920	6000	6240		
18 OPzS 4500	4500	5400	6030	6480	6660	6750	7020		
20 OPzS 5000	5000	6000	6700	7200	7400	7500	7800		
22 OPzS 5500	5500	6600	7370	7920	8140	8250	8580		
24 OPzS 6000	6000	7200	8040	8640	8880	9000	9260		
28 OPzS 7000	7000	8400	9380	10080	10360	10500	10920		
32 OPzS 8000	8000	9600	10720	11520	11840	12000	12480		
36 OPzS 9000	9000	10800	12060	12960	13320	13500	14040		
40 OPzS 10000	10000	12000	13400	14400	14800	15000	15600		
44 OPzS 11000	11000	13200	14740	15840	16280	16500	17160		
48 OPzS 12000	12000	14400	16080	17280	17760	18000	18720		

*) nominal capacity, $U_f = 1.80$ V/c

Capacities are related to 20 °C. When cyclic charging and discharging only 80% of the capacity rating shall be used. Deep discharge does not lead to immediate capacity loss, but may reduce the operation life time.