

SolarPack OPzV-2V

Tubular Plate Gel Batteries 2V

200-3,000Ah (C10) at 20°C, 2,000 cycles at 80% DOD

- sealed
- maintenance-free
- deep cycle
- valve-regulated
- gel lead acid
- fully recyclable GVR
- design life: 15+ years in float service
- manufactured to comply with DIN 40736 part 3



Applications

- photovoltaic / cyclic
- telecommunications
- switchgear
- control systems
- cellular radio
- navigation aids
- UPS

Features

- no watering required
- spill-proof and leak-proof
- no gases escape in charging
- explosion-proof
- increased safety
- freezing tolerated
- accepts high charge rate
- no equalisation required
- high life-expectancy
- deep-cycle capability
- low self-discharge

Specifications

positive electrode	tubular plate with antimony-free special alloy
negative electrode	grid plate
electrolyte	suspended Thixotropic Gel
container and cover	opaque Grey SAN
separators	microporous plastic
float voltage	2.23VPC \pm 1% at 20°C
max. charge voltage	2.40VPC at 20°C
safety valve	1-3 PSI self-resealing
terminals	integral copper insert for M10 bolt
interconnects	insulated cables

Discharge time in hours: Capacity in Amp hours at 20°C | for stationary and solar/cyclic applications

Type	End / Final VPC	Discharge time in hours → Capacity in Ah at 20°C											End / Final VPC	Time [min] → Cap. Ah at 20°C			Short Circuit Current [A]	Internal Resistance [Ω]
		120	100	48	24	10	8	6	5	4	3	2		60'	30'	15'		
LORENTZ 3 OPzV 150-2V	1.85	197	193	187	170	145	138	125	121	117	107	90.7	1.80	77.9	107	152	1,450	1.25
	1.80	200	197	192	176	150	143	131	126	122	113	96.0	1.75	82.5	116	165		
	1.75	215	210	205	183	158	150	137	132	129	119	102	1.67	87.9	124	178		
LORENTZ 4 OPzV 200-2V	1.85	262	257	250	227	193	183	167	161	153	143	121	1.80	102	156	202	2,200	1.00
	1.80	266	262	256	234	200	191	174	168	160	150	128	1.75	108	168	220		
	1.75	287	280	274	243	210	200	183	176	168	158	136	1.67	115	180	238		
LORENTZ 5 OPzV 250-2V	1.85	328	321	312	284	241	229	209	202	189	178	151	1.80	130	195	253	2,700	0.81
	1.80	333	328	320	293	250	239	218	210	198	188	160	1.75	138	210	275		
	1.75	359	350	342	304	263	250	228	221	207	198	170	1.67	146	225	297		
LORENTZ 6 OPzV 300-2V	1.85	393	385	374	340	290	275	253	242	226	214	181	1.80	156	232	304	3,340	0.63
	1.80	399	393	384	351	300	287	264	252	237	225	192	1.75	165	249	330		
	1.75	431	421	411	365	315	300	277	265	249	237	204	1.67	176	266	356		
LORENTZ 5 OPzV 350-2V	1.85	459	449	437	397	338	321	306	294	274	249	223	1.80	185	270	322	3,310	0.62
	1.80	466	459	448	410	350	334	319	306	287	263	236	1.75	196	291	350		
	1.75	503	491	479	426	368	350	334	322	301	277	250	1.67	209	311	378		
LORENTZ 6 OPzV 420-2V	1.85	550	539	524	477	405	387	371	353	327	299	266	1.80	222	320	386	138	160
	1.80	559	550	538	491	420	403	386	368	343	315	281	1.75	235	344	420		
	1.75	603	589	575	511	441	423	406	386	360	332	298	1.67	250	369	454		
LORENTZ 7 OPzV 490-2V	1.85	653	637	624	563	483	458	432	415	387	352	309	1.80	260	377	451	4,370	0.50
	1.80	663	650	640	580	500	478	450	433	405	370	328	1.75	275	405	490		
	1.75	716	696	685	603	525	500	473	454	425	390	347	1.67	293	433	529		
LORENTZ 6 OPzV 600-2V	1.85	786	770	749	675	579	550	518	498	468	428	377	1.80	312	424	497	4,290	0.49
	1.80	798	786	768	696	600	573	540	519	490	450	399	1.75	330	456	540		
	1.75	862	841	822	724	630	600	567	545	514	475	423	1.67	351	488	583		
LORENTZ 7 OPzV 700-2V	1.85	910	892	874	788	676	642	605	581	545	499	440	1.80	363	495	580	4,700	0.41
	1.80	924	910	896	812	700	669	630	606	571	525	466	1.75	385	532	630		
	1.75	998	974	959	844	735	700	662	636	600	554	493	1.67	410	569	680		
LORENTZ 8 OPzV 800-2V	1.85	1,040	1,019	1,001	896	772	733	691	664	626	570	503	1.80	415	565	662	4,950	0.38
	1.80	1,056	1,040	1,026	925	800	764	720	692	656	600	532	1.75	440	608	720		
	1.75	1,140	1,113	1,098	961	840	800	756	727	689	633	564	1.67	469	651	778		
LORENTZ 10 OPzV 1000-2V	1.85	1,300	1,274	1,251	1,120	965	917	864	830	779	713	628	1.80	524	707	828	6,300	0.34
	1.80	1,320	1,300	1,283	1,155	1,000	955	900	865	816	750	665	1.75	555	760	900		
	1.75	1,426	1,391	1,373	1,201	1,050	1,000	945	908	857	791	705	1.67	591	813	972		
LORENTZ 12 OPzV 1200-2V	1.85	1,560	1,529	1,501	1,344	1,158	1,100	1,037	996	935	855	754	1.80	629	848	983	7,840	0.31
	1.80	1,584	1,560	1,540	1,386	1,200	1,146	1,080	1,038	979	900	798	1.75	666	912	1,068		
	1.75	1,711	1,669	1,647	1,441	1,260	1,200	1,134	1,090	1,028	950	846	1.67	709	976	1,153		
LORENTZ 12 OPzV 1500-2V	1.85	1,906	1,882	1,843	1,644	1,448	1,375	1,306	1,260	1,189	1,112	957	1.80	743	928	1,014	8,900	0.27
	1.80	1,935	1,920	1,890	1,695	1,500	1,433	1,361	1,313	1,245	1,170	1,013	1.75	788	998	1,103		
	1.75	2,090	2,054	2,022	1,763	1,575	1,500	1,429	1,378	1,307	1,234	1,073	1.67	839	1,067	1,191		
LORENTZ 14 OPzV 1750-2V	1.85	2,224	2,195	2,150	1,918	1,689	1,604	1,512	1,453	1,364	1,297	1,116	1.80	867	1,074	1,175	9,250	0.26
	1.80	2,258	2,240	2,205	1,978	1,750	1,671	1,575	1,514	1,428	1,365	1,181	1.75	919	1,155	1,278		
	1.75	2,438	2,397	2,359	2,057	1,838	1,750	1,654	1,589	1,499	1,440	1,252	1.67	978	1,236	1,380		
LORENTZ 15 OPzV 1850-2V	1.85	2,382	2,352	2,303	2,055	1,809	1,719	1,620	1,557	1,461	1,372	1,196	1.80	929	1,151	1,259	9,450	0.25
	1.80	2,419	2,400	2,363	2,119	1,875	1,791	1,688	1,622	1,530	1,444	1,266	1.75	984	1,238	1,369		
	1.75	2,612	2,568	2,528	2,204	1,969	1,875	1,772	1,703	1,607	1,523	1,342	1.67	1,048	1,324	1,478		
LORENTZ 16 OPzV 2000-2V	1.85	2,551	2,509	2,457	2,192	1,930	1,834	1,743	1,680	1,585	1,482	1,276	1.80	989	1,237	1,343	9,750	0.24
	1.80	2,590	2,560	2,520	2,260	2,000	1,910	1,816	1,750	1,660	1,560	1,350	1.75	1,050	1,330	1,460		
	1.75	2,797	2,739	2,696	2,350	2,100	2,000	1,907	1,838	1,743	1,646	1,431	1.67	1,118	1,423	1,577		
LORENTZ 20 OPzV 2500-2V	1.85	3,189	3,136	3,071	2,740	2,413	2,292	2,177	2,100	1,994	1,781	1,595	1.80	1,236	1,546	1,679	10,250	0.22
	1.80	3,238	3,200	3,150	2,825	2,500	2,388	2,268	2,188	2,088	1,875	1,688	1.75	1,313	1,663	1,825		
	1.75	3,497	3,424	3,371	2,938	2,625	2,500	2,381	2,297	2,192	1,978	1,789	1.67	1,398	1,779	1,971		
LORENTZ 24 OPzV 3000-2V	1.85	3,812	3,763	3,671	3,288	2,895	2,750	2,612	2,520	2,392	2,223	1,914	1.80	1,484	1,850	2,015	10,800	0.20
	1.80	3,870	3,840	3,765	3,390	3,000	2,865	2,721	2,625	2,505	2,340	2,025	1.75	1,575	1,989	2,190		
	1.75	4,180	4,109	4,029	3,526	3,150	3,000	2,857	2,756	2,630	2,469	2,147	1.67	1,677	2,128	2,365		

Actual Capacity may be ± 5% of figures shown

Dimensions, Weight, Packing Information

Type	Dimensions			Unit Weight	Units per Crate	Crate Weight	Crate Dimensions			Crates per 20 ft Container	Units per 20 ft Container	Total Weight
	Length	Width	Height				Length	Width	Height			
	[mm]	[mm]	[mm]	[kg]		[kg]	[mm]	[mm]	[mm]			[kg]
LORENTZ 3 OPzV 150-2V	105	208	400	16	12	223	750	570	445	90	1,080	20,070
LORENTZ 4 OPzV 200-2V	105	208	400	18	12	270	750	570	445	76	912	20,520
LORENTZ 5 OPzV 250-2V	126	208	400	22	12	318	750	655	561	65	780	20,670
LORENTZ 6 OPzV 300-2V	147	208	400	25	12	378	750	655	445	55	660	20,790
LORENTZ 5 OPzV 350-2V	126	208	500	31	12	402	750	740	561	51	612	20,502
LORENTZ 6 OPzV 420-2V	147	208	500	36	12	462	750	740	561	45	540	20,790
LORENTZ 7 OPzV 500-2V	168	208	500	42	12	534	750	750	731	39	468	20,826
LORENTZ 6 OPzV 600-2V	147	208	675	50	12	630	914	740	731	33	396	20,790
LORENTZ 7 OPzV 700-2V	227	212	500	60	8	510	914	510	731	40	320	20,400
LORENTZ 8 OPzV 800-2V	193	212	675	68	8	574	914	510	731	36	288	20,664
LORENTZ 10 OPzV 1000-2V	235	212	675	82	8	686	1,000	560	731	30	240	20,580
LORENTZ 12 OPzV 1200-2V	277	212	675	97	8	806	1,000	645	731	26	208	20,956
LORENTZ 12 OPzV 1500-2V	277	212	825	120	8	990	1,000	645	881	21	168	20,790
LORENTZ 14 OPzV 1750-2V	400	212	800	139	6	864	895	515	857	24	144	20,736
LORENTZ 15 OPzV 1875-2V	400	212	800	157	6	972	895	515	857	21	126	20,412
LORENTZ 16 OPzV 2000-2V	400	212	800	160	6	990	895	515	857	21	126	20,790
LORENTZ 20 OPzV 2500-2V	489	212	800	200	4	830	1,000	548	857	25	100	20,750
LORENTZ 24 OPzV 3000-2V	576	212	800	240	4	990	1,000	548	857	21	84	20,790

Recombination principle

With sealed batteries the principle of internal recombination is used: The oxygen, which is produced in the positive plate during charging causes an oxidation process which occurs at the negative plate. Through various interim stages lead sulphate is produced which is constantly converted to active material by the charging current and releases water. This creates a closed water regeneration cycle. By using special alloys with a high electrode potential the formation of hydrogen at the negative electrodes is almost entirely suppressed.

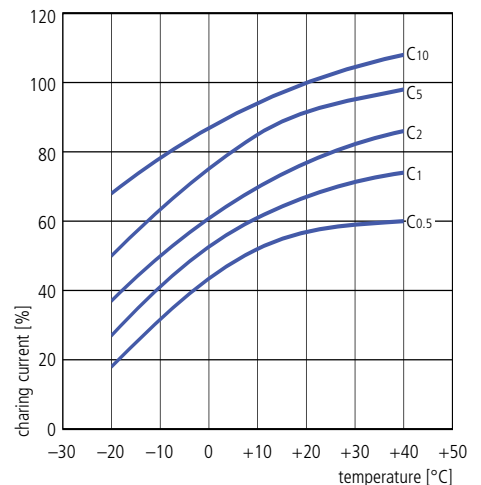
The recombination principle reliably reduces water loss and the escape of electrolyte gases. Should excess gases be produced through overcharging or misuse! these can escape through a vent.

Charging

In practice constant voltage charging has become generally accepted for continuous battery power supply. Using this method of charging the battery can be charged at either 2.25V/cell or 2.35V/cell. A complete recharge is also possible at a voltage of 2.25V/cell. A charging current limit is not necessary up to a charging voltage of 2.35V/cell. The battery room ventilation corresponds to EN 50 272-2/DIN VDE 0510 part 2.

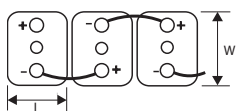
The absolute gas-tight construction allows the battery to be operated in both a vertical and horizontal position.

Operating Temperature : -25 to +55°C. However we recommend that the batteries be operated in the temperature range of +20 to +25°C. to obtain full life and optimum performance.

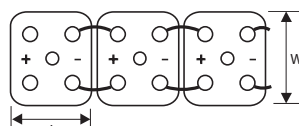


Horizontal Installation

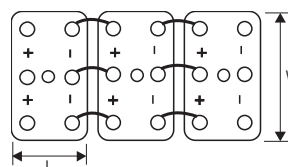
Type LORENTZ OPzV 150 to 600



Type LORENTZ OPzV 700 to 1500



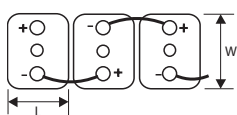
Type LORENTZ OPzV 1750 to 2000



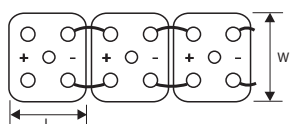
It is not recommended to use LORENTZ 20 OPzV 2500-2V and LORENTZ 24 OPzV 3000-2V in horizontal position.

Vertical Installation

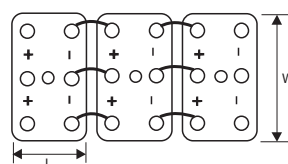
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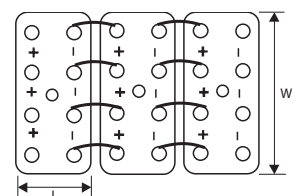
Type LORENTZ OPzV 700 to 1500



Type LORENTZ OPzV 1750 to 2000

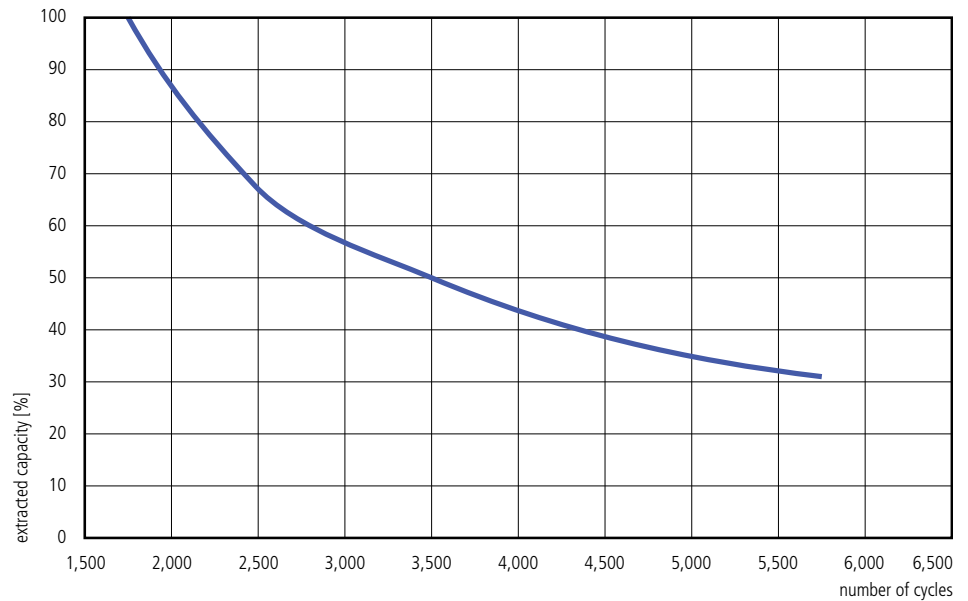


Type LORENTZ OPzV 2500 to 3000

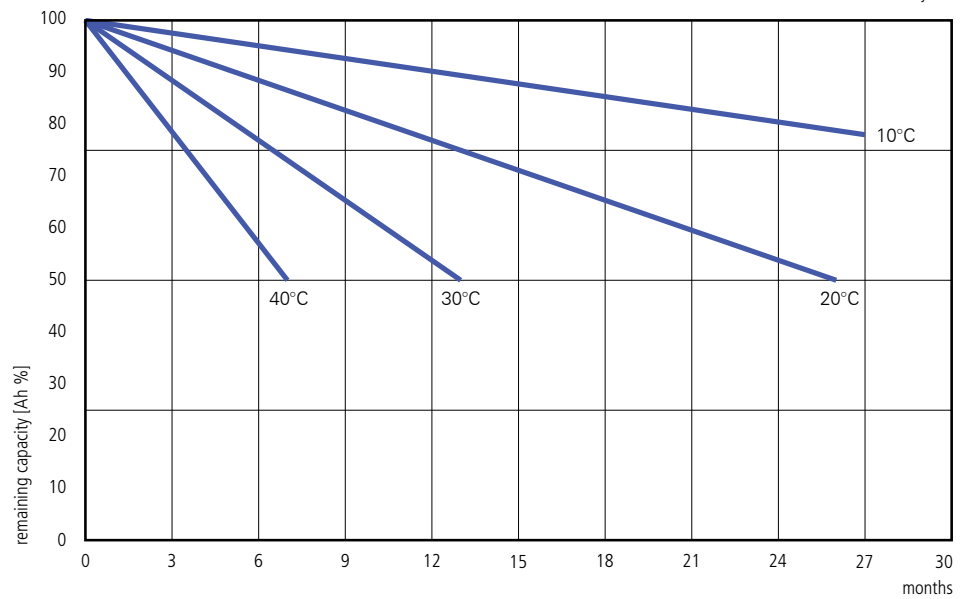


Endurance in cycles

according to IEC 896-2



Self Discharge Characteristics



Charging Voltage dependent on Ambient Temperature

