

OPzV Batteries for Stationary Applications



 **SUNLIGHT**
creating energy

OPzV OVERVIEW

Valve Regulated Tubular Plate GEL Batteries for Stationary Applications

SUNLIGHT's OPzV batteries are characterized by **maintenance-free, long service life, excellent reliable performance** even in harsh conditions (high operating temperature or unstable power network) and **durability under cyclic use**, thus providing a premium **efficient and cost effective energy solution**.

Optimum design, according to DIN international standards, exclusive use of high quality raw materials, robust construction and state of the art manufacturing processes make this OPzV range an **ideal solution for high demanding stationary applications**.



CERTIFIED QUALITY

- “Long Life” according to Eurobat classification
- Tested according to IEC 60896-21 and fully compliant to IEC 60896-22
- Optimized for deep discharge recovery according to DIN 43539T5 Part 5
- Full conformity to DIN 40742 specifications for OPzV cells and DIN 40744 for OPzV blocks
- Compliant to the safety requirements of EN 50272-2 for stationary batteries
- Manufactured in SUNLIGHT's European production facilities, certified with ISO 9001, ISO 14001, BS OHSAS 18001

QUALITY FEATURES & PRODUCT BENEFITS

Long service life

Tubular positive plates, GEL form electrolyte and a unique sliding pole design, offer a design life of up to 18 years for 2V cells or 15 years for 6V & 12V blocks as well as more than 1600 cycles at 80% Depth of Discharge.

Outstanding performance and reliability

Products of optimum design with use of high quality raw materials, European state-of-the-art production facilities and cumulative experience on advanced submarine battery manufacturing ensure remarkable performance, exceeding values as defined by the DIN international standards.

Reduced maintenance cost

Maintenance-free design without water topping-up needs.

Space optimization

Vertical and horizontal installation. Racks designed for easy installation, battery maintenance and optimal space utilization.

Operational safety

Extensive compliance testing performed under European and Global norms and verified by independent 3rd party certification agency.

Complete battery solution

Complete and ready to install systems with all the necessary accessories. Also flame retardant containers and battery management systems are available upon request.

Flexibility

Design and production of customized products and services, high volume orders handling capability, fast delivery.

Peace-of-mind

24x7 experienced pre-sales and after sales support, through SUNLIGHT Global Partners Network.

Optimum Total Cost of Ownership (TCO)

Maximum lifetime value and cost efficiency.

The ideal energy solution for stationary applications

TECHNICAL FEATURES & PRODUCT BENEFITS

1 Positive Plates

- Tubular plate design
- Optimized Lead Calcium Tin Alloy reducing hydrogen evolution
- Red Lead in-house production by Pure Lead
- Dry Filling with Red Lead

- ✓ Long service life
- ✓ Excellent cycling properties
- ✓ Quality and homogeneity
- ✓ High capacity performance
- ✓ Reduced self-discharge

2 Negative Plates

- Pasted negative plates of grid design
- Optimized Lead Calcium Tin Alloy
- Robust construction

- ✓ Stability
- ✓ Reduced corrosion

3 Gauntlet

- Highly porous woven material
- Increased diameter with high Positive Active Mass (PAM)

- ✓ High capacity performance
- ✓ Better utilization of active material
- ✓ Restricts the expansion of the active material
- ✓ Eliminates active mass shedding
- ✓ Reduces corrosion of spine

14 Pole Washers

- Color coded pole washers

- ✓ Easy polarity recognition

13 Internal Monoblock Intercell Connectors

- Copper bars premium design

- ✓ High conductivity
- ✓ Safe and long operational life

12 Terminals

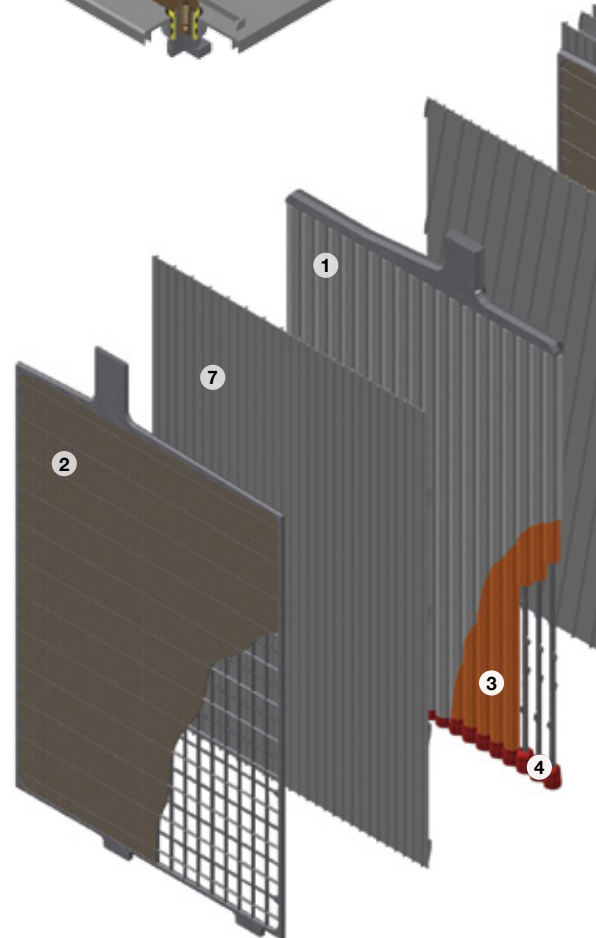
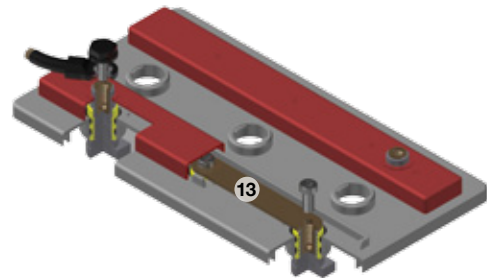
- Threaded female M10 terminal posts

- ✓ High conductivity
- ✓ Maximum torque retention
- ✓ Easy installation

11 External Intercell Connectors

- Flexible
- Copper
- Fully insulated
- Fixed with plasticized safety screw and probe hole on the top

- ✓ Allow voltage measurements
- ✓ High conductivity
- ✓ Safe and long operational life



4 Bottom Bar

- Secure fitment with gauntlet

✓ Growth of positive spine into bottom bar's cavity is easily accommodated

5 Terminal Bridge

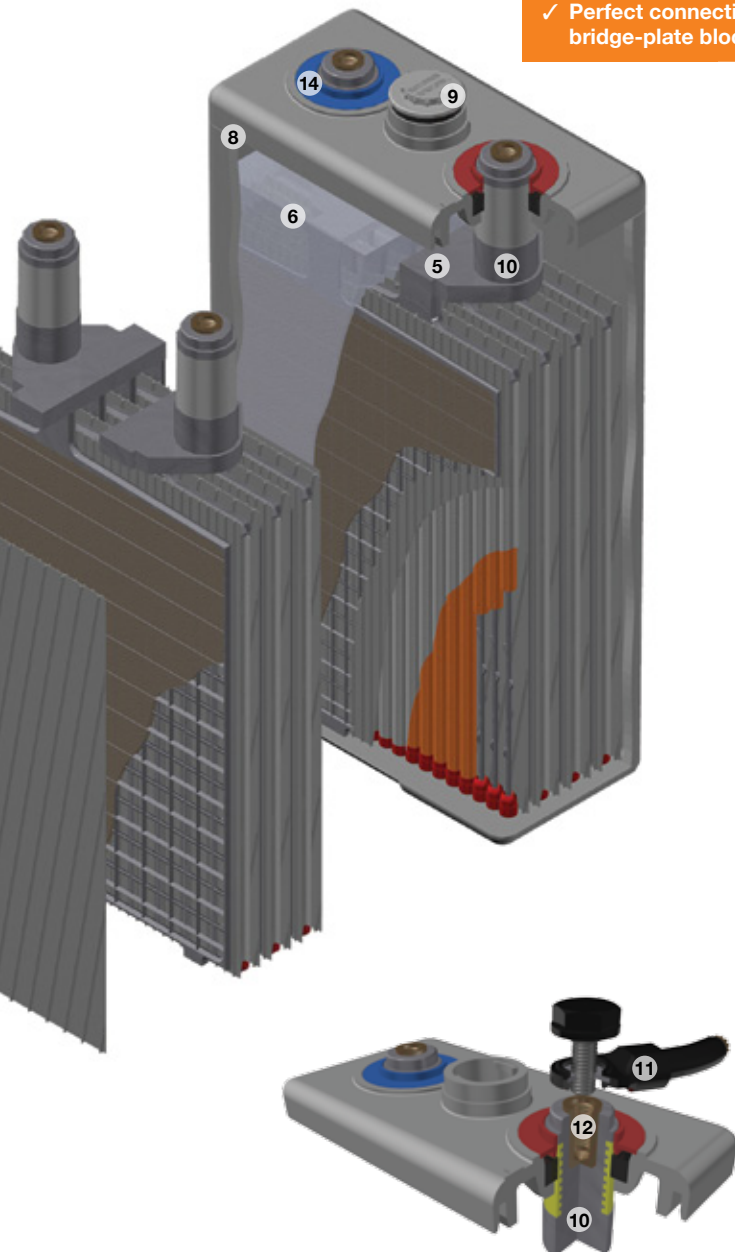
- Manufactured with high quality, robust materials following certified processes

✓ Consistent and uniform pole bridge composition
 ✓ Increased robustness and durability
 ✓ Perfect connection for poles-bridge-plate block as a whole

6 Electrolyte

- Immobilized in GEL form
- World class equipment for GEL production and battery filling

✓ Durability without acid stratification or dendrite growth
 ✓ Good performance on deep discharges



7 Separators

- High porosity grade material

✓ Low internal resistance
 ✓ Good ionic circulation
 ✓ Proof against short circuits

8 Container / Lid

- Heavy Duty ABS Material
- Optionally flame retardant (Class V0) ABS material
- Thick wall container

✓ Unsurpassed mechanical strength
 ✓ Robust and durable battery construction

9 Valve

- Pressure relief
- Integral flame arrestor

✓ Maintenance-free design
 ✓ No water topping-up needs

10 Sliding Poles

- Premium sliding design with brush insert and rubber seal in the lid
- Hardness and acid resistance

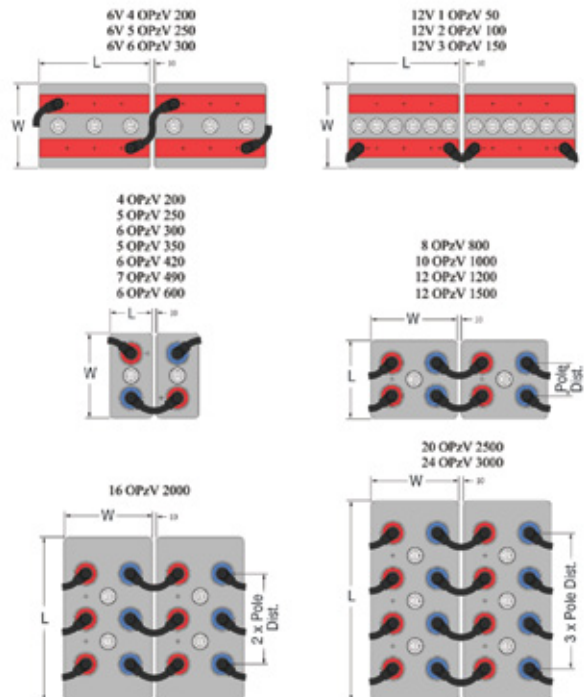
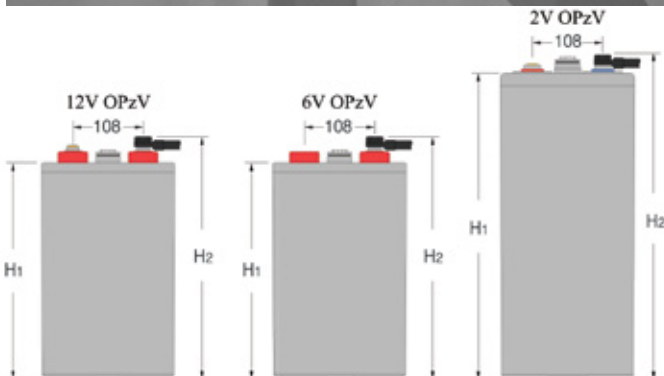
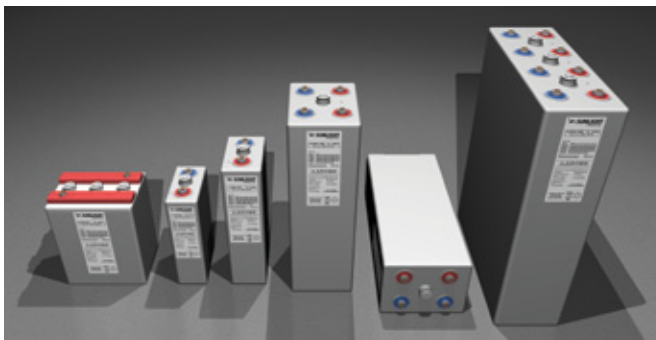
✓ Effectively prevents top lid cracks and acid leakages
 ✓ Positive plate's expansion is safely absorbed
 ✓ Optimum current conductivity
 ✓ Perfect sealing
 ✓ Allow impedance measurements
 ✓ Safe and long operational life

PRODUCT RANGE

Type	Positive Plates Number		Number of Poles	Nom. capacity (Ah at 20°C)				Length (mm)	Width (mm)	Height ₁ (mm)	Height ₂ (mm)	Pole Dist. (mm)	Weight (approx kg)	Nom. Voltage	Short Circuit Current (A)	Internal Resistance (mOhm)	
	C10 (Ah) 1.80 Vpc	C5 (Ah) 1.75 Vpc		C3 (Ah) 1.75 Vpc	C1 (Ah) 1.75 Vpc												
Cells	2V 4 OPzV 200 ¹	4	50	2	224	202	179	124	103	206	355	382	-	20	2	2300	0.88
	2V 5 OPzV 250 ¹	5	50	2	280	253	224	155	124	206	355	382	-	24	2	2860	0.71
	2V 6 OPzV 300 ¹	6	50	2	336	303	268	185	145	206	355	382	-	28	2	3380	0.60
	2V 5 OPzV 350 ¹	5	70	2	405	365	320	212	124	206	471	498	-	31	2	3380	0.60
	2V 6 OPzV 420 ¹	6	70	2	486	438	384	252	145	206	471	498	-	37	2	3980	1.00
	2V 7 OPzV 490 ¹	7	70	2	567	512	447	292	166	206	471	498	-	42	2	4520	0.45
	2V 6 OPzV 600 ¹	6	100	2	690	623	539	330	145	206	646	673	-	50	2	4360	0.47
	2V 8 OPzV 800 ¹	8	100	4	920	831	720	445	191	210	646	673	80	68	2	5980	0.34
	2V 10 OPzV 1000 ¹	10	100	4	1150	1039	899	554	233	210	646	673	110	82	2	7380	0.28
	2V 12 OPzV 1200 ¹	12	100	4	1380	1247	1076	657	275	210	646	673	140	97	2	8640	0.24
	2V 12 OPzV 1500 ¹	12	125	4	1620	1470	1275	784	275	210	797	824	140	120	2	9440	0.22
	2V 16 OPzV 2000 ¹	16	125	6	2160	1960	1701	1049	399	214	772	799	110	165	2	12680	0.16
	2V 20 OPzV 2500 ¹	20	125	8	2700	2452	2130	1322	487	212	772	799	110	200	2	16240	0.13
	2V 24 OPzV 3000 ¹	24	125	8	3240	2940	2544	1552	576	212	772	799	140	240	2	18460	0.11
Blocks	6V 4 OPzV 200 ²	4	50	2	206	190	169	117	272	205	332	371	-	48	6	2260	2.70
	6V 5 OPzV 250 ²	5	50	2	257	237	211	146	380	205	332	371	-	63	6	2740	2.22
	6V 6 OPzV 300 ²	6	50	2	309	285	253	173	380	205	332	371	-	70	6	3220	1.89
	12V 1 OPzV 50 ²	1	50	2	51	47	42	30	272	205	332	371	-	43	12	620	19.80
	12V 2 OPzV 100 ²	2	50	2	102	94	84	59	272	205	332	371	-	52	12	1240	9.90
	12V 3 OPzV 150 ²	3	50	2	153	141	126	88	380	205	332	371	-	72	12	1720	7.08

¹ According to DIN 40 742 ² According to DIN 40 744 *includes installed connectors and shrouds.

DRAWINGS





ADDED VALUE SERVICES

Design and implementation of turnkey solutions

Installation & maintenance services according to EN50272-2 safety requirements (CE compliance)

360° Technical Support 24x7 through SUNLIGHT Global Partners Network

Training and consulting

Battery Collection and Recycling Services

WHY SUNLIGHT

30 years of experience in battery

- TOP 3 in the global advanced technology
- TOP 5 in the European industrial battery sector
- 98% of battery production is being exported
- Design and manufacturing thousands of premium solutions complying to demanding requirements

“One Stop Solution”

- From single components/products to turn-key solutions
- Robust high quality products & services portfolio
- Lifetime value maximization & total cost of ownership approach

Extensive Global Know-how & Experience

- Co-operation with TOP telecom operators and equipment providers worldwide
- A fast growing Global Partners Network

Exceptional Customer Service

- Highly experienced engineering team for design & development
- Pre-Sales & After-Sales Service providing global support
- Project Management competence

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