RES SOPzS
Advanced Batteries
for Renewable Energy Storage





BATTERIES SOLAR PV WIND GENSET GRID

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RES SOPzS OVERVIEW

Advanced Low Maintenance Tubular Plate Batteries for Renewable Energy Storage

RES SOPzS is an **advanced cost efficient solution** ideal for energy storage for residential solar installations as well as telecom or other infrastructure systems that demand **long cycle life** and **increased watering intervals**.
Enhanced **tubular plate technology** specially designed for renewable energy applications and SUNLIGHT's solid **experience on industrial batteries** produce an exceptional combination of benefits in a single battery.

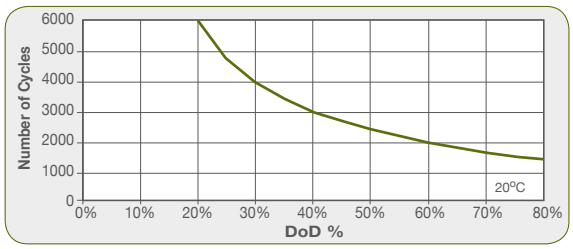
APPLICATIONS

- **Residential Installations**
  Off-grid or smart grid connected power systems electrifying houses, hotels, hospitals, schools or factories.
- **Telecom Networks**
  Autonomous or hybrid power systems for base transceiver stations.
- **Infrastructure PV systems**
  Water pumping, oil & gas distribution, traffic signaling, road lighting, telemetry, security systems.

PRODUCT FEATURES & BENEFITS

• Long cycle life

Tubular positive plates and special low-antimony lead alloy composition provide unique advantages in prolonging cycling operation to a 60% DoD cycle life of 2000 cycles at 20°C.



• Performance and reliability

Optimum design, exclusive use of high quality materials, robust construction and state of the art European manufacturing facilities ensure high capacity performance, efficiency and reliability.

• Easy maintenance

Increased electrolyte volume in large translucent containers and special low antimony alloys ensure rare and easy on site visits for topping up.

• Operational safety

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

• Complete & flexible energy storage solution

Fast delivery of modular battery systems with all the necessary accessories for safe installation in trays.

• Optimum Total Cost of Ownership (TCO)

Significant benefits in terms of cost per cycle and lifetime value maximization.

The ideal energy solution for Renewable Energy Storage applications

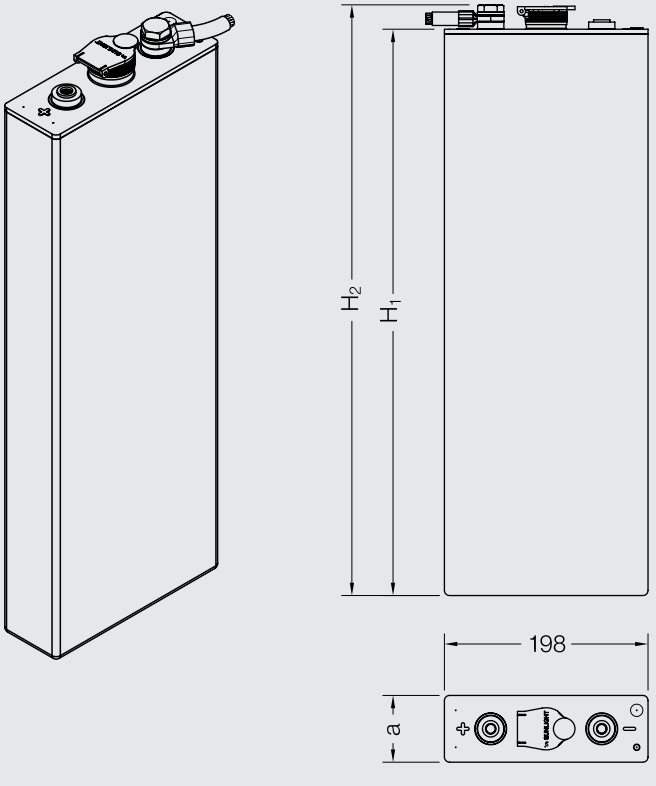
PRODUCT RANGE

2V Cell Type	Capacity (Ah at 20°C)				Dimensions				Weight		Internal Resistance	Short Circuit Current
	C120 Uf=1.85V	C48 Uf=1.80V	C24 Uf=1.80V	C12 Uf=1.75V	Length (mm)	Width (mm)	Height$_1$ (mm)	Height$_2$ (mm)	Dry (kg)	Wet (kg)	(mOhm)	(A)
RES 2 SOPzS 215	215	199	177	156	198	65	408	435	7.4	11.5	1.75	1160
RES 3 SOPzS 310	310	288	257	227	198	83	408	435	10.0	15.4	1.19	1700
RES 3 SOPzS 390	392	365	326	289	198	83	478	505	12.1	18.4	1.02	1980
RES 4 SOPzS 500	503	470	420	375	198	101	478	505	15.4	23.3	0.78	2590
RES 5 SOPzS 605	605	567	508	455	198	119	478	505	18.7	28.0	0.64	3170
RES 4 SOPzS 720	721	688	620	558	198	101	613	640	21.0	30.5	0.63	3190
RES 5 SOPzS 860	860	823	744	673	198	119	613	640	25.6	36.9	0.52	3890
RES 6 SOPzS 965	969	933	846	771	198	137	613	640	30.2	43.4	0.44	4560
RES 7 SOPzS 1270	1271	1206	1084	976	198	174	613	640	35.0	51.6	0.39	5190
RES 8 SOPzS 1380	1382	1318	1188	1075	198	192	613	640	39.6	58.1	0.35	5790

Technical details may be subject to alterations.

DRAWINGS





CERTIFIED QUALITY

- Manufactured at SUNLIGHT's European production facilities, certified with ISO 9001, ISO 14001, BS OHSAS 18001.
- Compliant with IEC 61427 requirements for photovoltaic energy systems and IEC 60896-11 requirements for vented lead-acid batteries.
- Compliant with the safety requirements of EN 50272-2.

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TECHNICAL FEATURES AND BENEFITS

1 Positive Plates

- Tubular plate design
- Special low antimony lead alloy
- Red Lead in-house production by 99,9% Pure Lead
- Dry Filling process

✓ Long cycle life
✓ Wide operational temperature range
✓ Less water consumption
✓ Excellent cycling properties
✓ Quality and homogeneity
✓ High capacity performance
✓ Reduced corrosion
✓ Reduced self-discharge rate
✓ Increased tolerance even in cases of poor charging conditions

2 Negative Plates

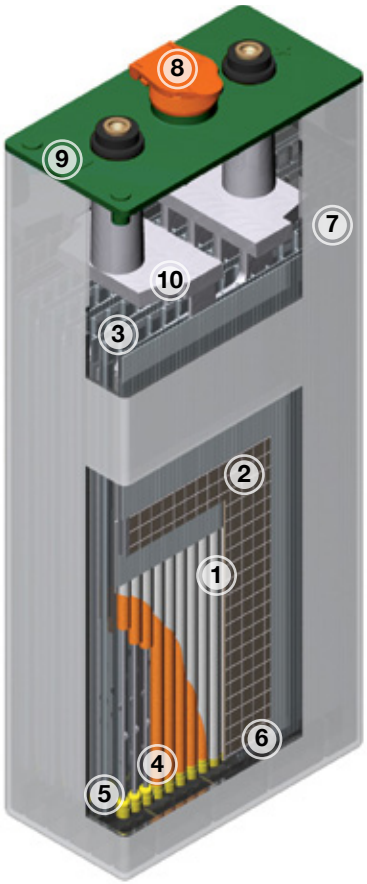
- Paste mixture ensures high adherence and cohesion
- Pasted negative plates of grid design
- Optimized low antimony lead alloy
- Robust construction
- Long life expander

✓ Stability
✓ Increased cyclic performance
✓ Long battery life

3 Separators

- Manufactured from microporous silica-based PVC material
- Allow migration of ions during charge/discharge
- More acid in the surrounding area of the plates

✓ Secured protection against short circuits
✓ High temperature stability
✓ Mechanical strength
✓ Low internal resistance



4 Gauntlet

- Highly microporous material
- Fine pore structure
- Low electrical resistance

✓ Effective active material retention
✓ Eliminates active mass shedding

10 Pole Bridge

- Terminal bridge manufactured with Cast On Strap process

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

5 Bottom Bar

- Ultrasonic welding

✓ Secured fit to the gauntlet
✓ Long battery life

6 Electrolyte

- High purity sulphuric acid with nominal density of 1.24 +/- 0,01 kg/l (20°C)

✓ Low self discharge rates
✓ Excellent performance on deep discharges

9 Pole Terminal

- Advanced design of pole post and its sealing to the lid. Rubber ring with optimized hardness and acid resistance

✓ Operational safety
✓ Perfect sealing
✓ Low maintenance requirements
✓ Better current conductivity
✓ Positive plate's expansion is safely absorbed
✓ Prevention of top lid cracks and acid leakages

8 Vent Plug

- Electrolyte basket level marking, specially designed lid, anti-surge baffle

✓ Allows optimum cell gassing
✓ Electrolyte basket level marking allows visual control of electrolyte level
✓ Anti-surge baffle prevents spillage of electrolyte through ventilation openings during operation of the battery

7 Container / Lid

- Large volume container
- High impact resistant, translucent Polypropylene for the container
- Lid welding, trimming and tightness control

✓ Reduced on site visits for topping up
✓ Easy visual electrolyte level monitoring
✓ Long term leakage free operation
✓ Unsurpassed mechanical strength
✓ Robust and durable battery construction

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ADDED VALUE SERVICES

Turn-key solutions design and implementation

Installation & maintenance services

360° Technical Support 24x7

Training and consulting

Collection and Recycling Services



Why SUNLIGHT?

30 years of Experience in Battery Business

- **TOP 3** in the global advanced technology battery sector
- **TOP 10** in the global industrial battery sector
- Design and deployment of numerous storage solutions globally complying to a variety of Renewable Energy applications demanding requirements

"One Stop Shop"

- 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

- Co-operation with TOP market players and equipment providers worldwide
- Established global partners network serving active clientele in more than 100 countries
- More than 40 MW of off-grid Power Supply Systems installed worldwide

Exceptional Customer Service

- Peace of mind through worldwide pre-sales & after-sales support
- Highly experienced engineering team for design & development
- Global project management competence

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