

SOLAR SPzV Advanced Batteries for Renewable Energy Storage



BATTERIES



SOLAR PV



WIND



GENSET



ISRAELI INDUSTRIAL
BATTERIES LTD

SOLAR SPzV OVERVIEW

Advanced Maintenance-Free Tubular Plate GEL Batteries for Renewable Energy Storage

SOLAR SPzV is an **advanced energy storage solution** ideal for autonomous/hybrid PV systems in residential, telecom or infrastructure installations where demand for **MAINTANANCE FREE** and **long cycle life** is essential.

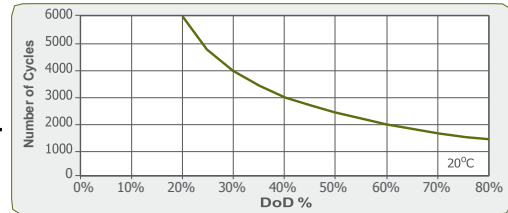
Enhanced valve regulated technology with **electrolyte in GEL form** and high performance **tubular positive plates** are used to produce an exceptional combination of benefits in a single battery.

APPLICATIONS

- Residential Installations**
Off-grid or smart grid connected power systems electrifying houses, hotels, hospitals, schools or factories.
- Infrastructure PV systems**
Remote telecom stations, water pumping, oil & gas distribution, traffic signaling, road lighting, telemetry, security systems.

PRODUCT FEATURES & BENEFITS

- Long cycle life**
Tubular positive plates and GEL electrolyte technology provide unique advantages in prolonging cycling operation to a 60% DoD cycle life of 2000 cycles at 20°C.
- Performance and reliability**
Optimum design, special lead calcium alloys composition, exclusive use of high quality materials and state of the art European manufacturing facilities ensure high capacity performance, efficiency and reliability.
- Easy maintenance**
Maintenance-free design with internal pressure relief valve ensures no 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.

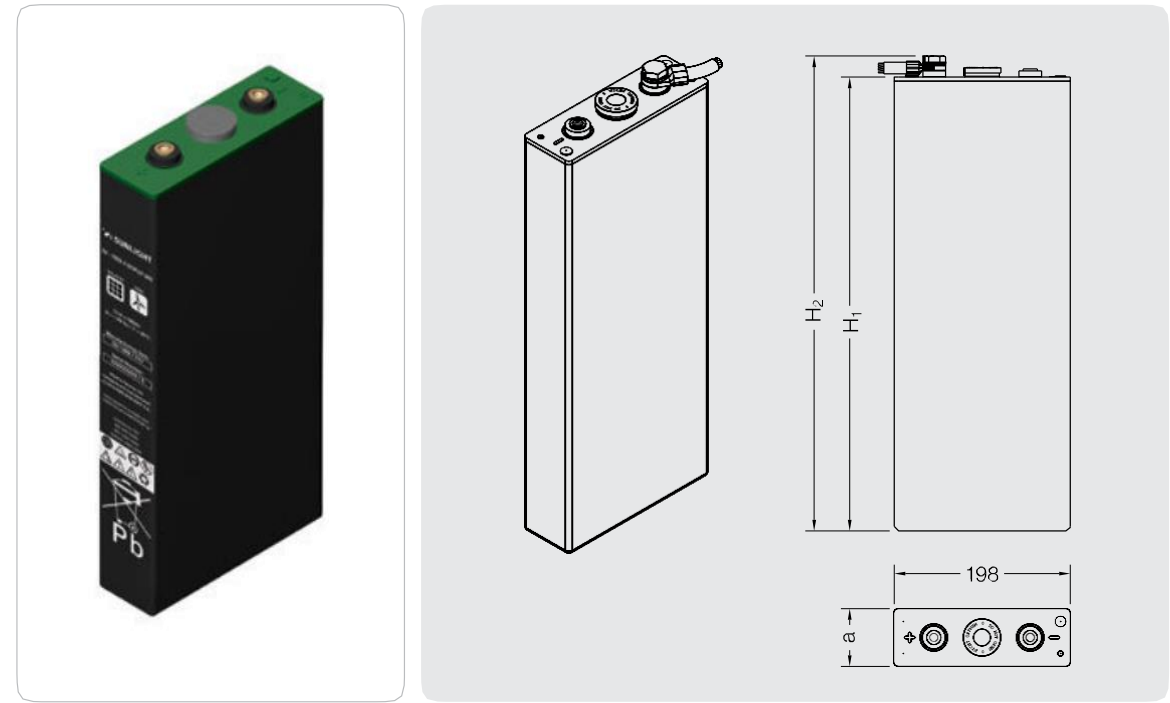


PRODUCT RANGE

2V Cell Type	Capacity (Ah at 20°C)				Dimensions				Weight kg	Internal Resistance (mOhm)	Short Circuit Current (A)
	C120 Uf=1.85V	C48 Uf=1.80V	C24 Uf=1.80V	C12 Uf=1.75V	Length (mm)	Width (mm)	Height (mm)	Height (mm)			
Solar 2 SPzV 150	150	145	135	126	198	47	343	370	9.0	1.58	1280
Solar 3 SPzV 225	225	218	203	189	198	65	343	370	12.7	1.08	1900
Solar 2 SPzV 280	284	279	260	244	198	47	568	595	15.4	1.08	1900
Solar 3 SPzV 425	426	419	390	366	198	65	568	595	22.0	0.72	2840
Solar 4 SPzV 565	568	558	520	488	198	83	568	595	28.7	0.54	3780
Solar 5 SPzV 710	710	698	650	611	198	101	568	595	35.3	0.43	4740
Solar 6 SPzV 850	852	838	780	733	198	119	568	595	42.1	0.36	5680
Solar 7 SPzV 990	994	977	911	855	198	137	568	595	48.8	0.31	6620
Solar 8 SPzV 1135	1136	1116	1041	977	198	155	568	595	55.5	0.27	7580
Solar 7 SPzV 1190	1190	1171	1087	1024	198	137	713	740	60.0	0.31	6560
RES 8 SPzV 1360	1360	1338	1242	1170	198	155	713	740	68.1	0.27	7500

Technical details may be subject to alterations.

DRAWINGS



TECHNICAL FEATURES AND BENEFITS

- Positive Plates**
 - Tubular plate design
 - Optimized Lead Calcium Tin Alloy reducing hydrogen evolution
 - Red Lead in-house production by 99.99% Pure Lead
 - Dry Filling process
 - Long cycle life
 - Excellent cycling properties
 - Quality and homogeneity
 - High capacity performance
 - Reduced corrosion
 - Reduced self-discharge rate
 - Increased tolerance even in cases of poor charging conditions
 - Wide operational temperature range
- Negative Plates**
 - Pasted negative plates of grid design
 - Paste mixture that ensures high adherence and cohesion
 - Optimized corrosion resistant Lead Calcium Tin Alloy
 - Robust construction
 - Long life expander
 - Stability
 - Increased cyclic performance
 - Long battery life
- 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
- Gauntlet**
 - Highly microporous material
 - Fine pore structure
 - Low electrical resistance
 - Effective active material retention
 - Eliminates active mass shedding
- Bottom Bar**
 - Ultrasonic welding
 - More secure fitment with gauntlet
 - Growth of positive spine into bottom bar's cavity is easily accommodated
 - Retains active material on the spines
- Electrolyte**
 - Sulphuric acid immobilized in GEL form
 - State of the art GEL filling equipment
 - High purity silica for GEL formation
 - Effective diffusion of GEL
 - Operation without acid stratification or dendrite growth
 - High performance on deep discharges
 - Low self discharge
- Cell Container**
 - High impact resistant Polypropylene for the container
 - Lid welding, trimming and tightness control
 - Long term leakage free operation
 - Unsurpassed mechanical strength
 - Robust and durable battery construction
- 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
- 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
- Valve**
 - Maintenance-free design
 - Pressure relief
 - Integral flame arrestor
 - No topping-up required
 - Increased safety

The ideal energy solution for Renewable Energy Storage applications



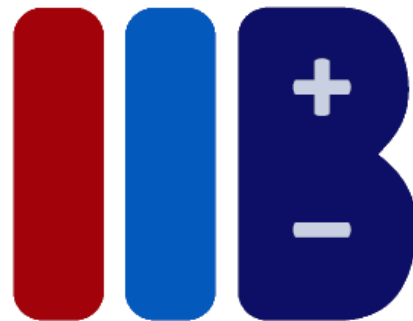
ADDED VALUE SERVICES

Turn-key solutions design
and implementation

Installation & maintenance services

360° Technical Support 24x7

Training and consulting



Why IIB?

25 years of Experience in Battery Business

- **TOP** global advanced technology battery sector.
- Global design and deployment experience on demanding requirements for Renewable Energy Storage solutions

Extensive Global Know-how

- Strategic co-operation with TOP market players and systems integrators 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

“One Stop Shop”

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

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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