

# SOLARX-PRO™ Series. Unlimited Power Solar Batteries

## SOLARX-PRO™ Series - XUNZEL

**Industrial Grade Sealed Maintenance-Free Deep-Cycle Solar Batteries** specially designed for solar photovoltaic and wind energy storage, stand-by and back-up, home, residential, industrial, agricultural and marine applications.

Particularly suitable for high daily energy throughput, high rate discharge and unlimited charge capability.

Very cost-effective solution compared with other technologies, including Lithium batteries.

**The best Choice for your solar system.** The most Attractive, Affordable, Accessible and Proven Technology.

Designed for expected usage of 10 to 20 years, with VRLA GEL tubular plate.

For solar applications, maintenance-free batteries with very high cycle life.

Designed for 2V, 6V, 12V, 24V, 36V, 48V, 96V and more voltage systems.



### Characteristics

**XUNZEL SOLARX-PRO Solar batteries** are the ideal solution for storage of regenerative energy in home systems and in the industrial sectors. Robustness and reliability are characteristic for XUNZEL SOLARX-PRO Solar batteries. In addition, they do not require any refilling of water during the whole battery life time and are maintenance-free.

The special electrode design with tubular electrodes and the fixed gel electrolyte distinguish the XUNZEL SOLARX-PRO Solar batteries and lead to high security and reliability as well as high cycle life time.

**Robust and safe deep-cycle batteries**, specifically designed and manufactured for repeated and continuous deep cycle charging and discharging applications. With excellent deep discharge recovery. Up to 14000 cycles. IEC61427 cycles >3000. With No Memory Effect.

**Maintenance-Free.** Sealed and Safe, no risk of spillage and 100% safe. OPzS Valve Regulated VRLA GEL Lead-acid batteries without leakage. No gas formation with normal use.

Can be installed anywhere. Designed for multi-position installation.

Delivered with connectors, end terminals and caps.

Outstanding performance, even under extreme conditions. Long Average Expected Service Life Design (up to 20 years) and higher cycle life stability. Stable quality. Reliable. Thick plates of excellent quality, resistant to corrosion throughout their service life.

Very low self-discharge. High initial capacity and easy start-up. Longer time to store without use. Up to 12 months without recharging. Low and stable internal resistance.

Ideal for demanding solar, wind, backup, industrial, electronic equipment power supply, UPS, telecommunications, IoT/IIoT and high discharge current applications such as inverters, motors and automatism, ...

Models made with special materials for non fire propagation (XUNZEL UL94 V-0 certified)

Excellent behaviour at extreme temperatures: -20° to +45°C

Demanding design guaranteed with the highest level of certifications: IEC/EN60896-21 | IEC/EN61427 | IEC/EN62485-2

**Easy to transport.** SOLARX-PRO are not subject to ADR (road transport), if the conditions of Special Provisions 598 and 238 (Chapter 3.3) are observed. XUNZEL cells/batteries are conform to the IMDG-Code, therefore these products are no dangerous goods on sea transport. SOLARX-PRO Series are safe and conform to UN2800.

NON-SPILLABLE. Valid for any transport: air (IATA and FAA), maritime (IMDG), rail and land (ADR/RID)

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## Technical specifications

### INDUSTRIAL GRADE DESIGN

Tubular positive electrode with solid grids and corrosion resistant alloy.  
 Negative electrode in alloy with long-life expander material.  
 Microporous separator.  
 Electrolyte fixed as GEL fumed silica.  
 High impact ABS container and lid, UL-94-HB rating. Available UL-94-V0 under request.  
 Valve with flame arrestor.  
 Degree of protection IP25 according to IEC/EN69529.  
 Designed for horizontal operation. Please contact us for horizontal operation uses.

### Maintenance free and safe design

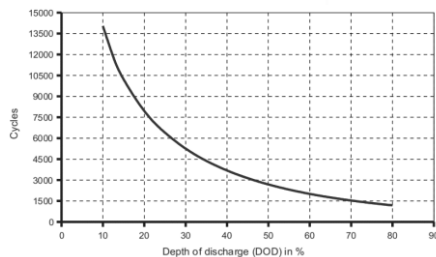
XUNZEL SOLARX-PRO batteries are designed for indoor applications. For outdoor applications please contact us.  
 Before installation ensure that the battery room is clean, well-ventilated and dry and is furnished with a lockable door. The battery room must be set out and marked according to EN 50272-2: Safety Requirements for Stationary batteries.  
 Batteries should be installed on racks or cabinets  
 Recommended battery checks:

- Check Battery and individual cells voltage and temperature (every 6 months)
- Check all connections and tightening as indicated in the instruction manual (every 12 months)

### Operational data

- Depth of discharge (DoD): maximum 80% ( $U_e=1.91$  V/cell for discharge time > 10h; 1.74 V/cell for 1h), deep discharges of more than 80% DoD have to be avoided
- Initial charge current (I or bulk phase): Unlimited, the minimal charge current has to be 1.5A/100Ah C10
- Charge voltage at cyclic operation: restricted from 2.30V to 2.40V per cell
- Float voltage/non cyclic operation: 2.25V/cell
- Adjustment of charge voltage: No adjustment necessary if battery temperature is kept between 10°C to 45°C (50°F to 113°F) in the monthly average.  
 $\Delta U/\Delta T = -0.003$  V/cell per K below 10°C (50°F)
- Recharge to 100% within a period of 1 up to 4 weeks
- Battery temperature: -20°C to 45°C (-4°F to 113°F), recommended temperature range 10°C to 30°C (50°F to 86°F)
- Self-discharge: approx. 2% per month at 20°C (68°F)
- EN/IEC61427 cycles > 3000 at 40°C (104°F)
- EN/IEC60896-21 cycles > 1500 at 20°C (68°F)

### Number of solar cycles in relation to Deep of Discharge (DoD) %



### Transport

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 SOLARX-PRO Series are safe and conform to UN2800.  
 NON-SPILLABLE. Valid for any transport: air (IATA and FAA), maritime (IMDG), rail and land (ADR/RID)

### Standards

Demanding design guaranteed with the highest level of certifications:  
 IEC/EN60896-21 | IEC/EN61427 | IEC/EN62485-2



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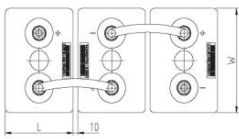


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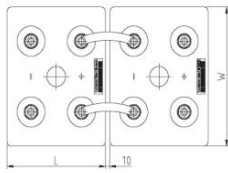
## SOLARX-PRO Cell Technical specifications

Reference Temperature 20°C

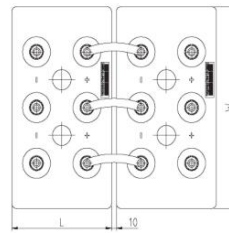
### Terminals positions



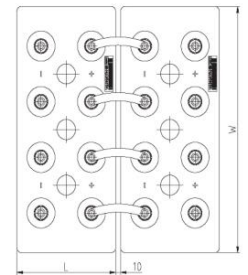
SXP158 to SXP978



SXP1154 to SXP2256



SXP2508 to SXP3036



SXP3300 to SXP4764

Cell Model	C <sub>1h</sub> Ah 1.67	C <sub>10h</sub> Ah 1.80	C <sub>20h</sub> Ah 1.80	C <sub>100h</sub> Ah 1.80	C <sub>120h</sub> Ah 1.80	C <sub>240h</sub> Ah 1.80	Length mm	Width mm	Height mm	Weight kg
SXP158	71	121	134	157	158	165	105	208	420	12.4
SXP238	107	182	202	236	238	247	105	208	420	17.1
<b>SXP318</b>	<b>143</b>	<b>243</b>	<b>268</b>	<b>314</b>	<b>318</b>	<b>331</b>	<b>105</b>	<b>208</b>	<b>420</b>	<b>19.4</b>
SXP397	179	304	336	393	397	412	126	208	420	23.3
SXP477	215	364	404	472	477	496	147	208	420	27.4
<b>SXP589</b>	<b>254</b>	<b>447</b>	<b>506</b>	<b>583</b>	<b>589</b>	<b>609</b>	<b>126</b>	<b>208</b>	<b>535</b>	<b>31.4</b>
SXP693	302	529	598	686	693	715	147	208	535	36.9
<b>SXP795</b>	<b>350</b>	<b>610</b>	<b>688</b>	<b>788</b>	<b>795</b>	<b>820</b>	<b>168</b>	<b>208</b>	<b>535</b>	<b>42.4</b>
<b>SXP978</b>	<b>417</b>	<b>729</b>	<b>834</b>	<b>968</b>	<b>978</b>	<b>1012</b>	<b>147</b>	<b>208</b>	<b>710</b>	<b>49.5</b>
SXP1154	492	858	980	1140	1154	1195	215	193	710	60.4
<b>SXP1296</b>	<b>559</b>	<b>970</b>	<b>1106</b>	<b>1280</b>	<b>1296</b>	<b>1344</b>	<b>215</b>	<b>193</b>	<b>710</b>	<b>67.3</b>
SXP1464	616	1090	1252	1450	1464	1524	215	235	710	75.5
SXP1620	691	1200	1382	1600	1620	1675	215	235	710	82.5
SXP1764	748	1320	1512	1764	1764	1836	215	277	710	90.8
SXP1920	822	1440	1644	1900	1920	1989	215	277	710	97.7
SXP2088	839	1570	1772	2070	2088	2169	215	277	855	108.2
SXP2256	927	1710	1918	2230	2256	2337	215	277	855	116.5
SXP2508	1040	1890	2120	2490	2508	2592	215	400	815	131.4
SXP2772	1125	2070	2320	2740	2772	2880	215	400	815	141.2
SXP2868	1191	2170	2420	2840	2868	2976	215	400	815	147.9
SXP3036	1265	2300	2580	3000	3036	3144	215	400	815	156.2
SXP3300	1358	2480	2780	3260	3300	3408	215	490	815	173.6
SXP3468	1433	2610	2920	3420	3468	3576	215	490	815	181.4
SXP3624	1507	2740	3080	3590	3624	3744	215	490	815	189.6
SXP3792	1581	2870	3220	3750	3792	3912	215	490	815	197.8
SXP4272	1740	3210	3600	4220	4272	4416	215	580	815	219.1
SXP4596	1887	3470	3900	4550	4596	4752	215	580	815	235.4
SXP4764	2014	3650	4060	4710	4764	4920	215	580	815	248.4

Terminals are designed as female poles with brass inlay M10 for flexible insulated copper cables with cross-section 25, 35, 50, 70, 95 or 120mm<sup>2</sup> or insulated solid copper connectors with cross-section 90, 150 or 300mm<sup>2</sup>.

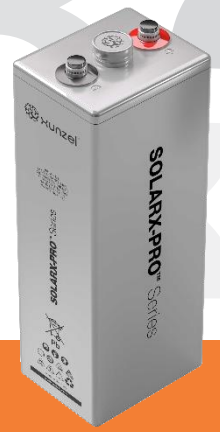
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## Battery banks SOLARX-PRO Series

### 12V Battery banks



Item: SOLARX-PRO 318B6 | 3.8kWh -12V  
P/N: SXPRO318B6



Item: SOLARX-PRO 589B6 | 7kWh -12V  
P/N: SXPRO589B6

Item: SOLARX-PRO 978B6 | 11.6kWh -12V  
P/N: SXPRO978B6



Item: SOLARX-PRO 1296B6 | 15.4kWh -12V  
P/N: SXPRO1296B6

Item: SOLARX-PRO 795B6 | 9.5kWh -12V  
P/N: SXPRO795B6

### 24V Battery banks



Item: SOLARX-PRO 318B12 | 7.5kWh -24V  
P/N: SXPRO318B12



Item: SOLARX-PRO 589B12 | 14kWh -24V  
P/N: SXPRO589B12

Item: SOLARX-PRO 978B12 | 23.2kWh -24V  
P/N: SXPRO978B12



Item: SOLARX-PRO 1296B12 | 30.7kWh -24V  
P/N: SXPRO1296B12

Item: SOLARX-PRO 795B12 | 18.9kWh -24V  
P/N: SXPRO795B12

### 48V Battery banks



Item: SOLARX-PRO 318B24 | 15.1kWh -48V  
P/N: SXPRO318B24



Item: SOLARX-PRO 589B24 | 28kWh -48V  
P/N: SXPRO589B24

Item: SOLARX-PRO 978B24 | 46.5kWh -48V  
P/N: SXPRO978B24



Item: SOLARX-PRO 1296B24 | 61.4kWh -48V  
P/N: SXPRO1296B24

Item: SOLARX-PRO 795B24 | 37.8kWh -48V  
P/N: SXPRO795B24

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