

Battery Range Summary



The PowerSafe® SBS XC+ range of valve regulated lead-acid cells and monoblocs is the EnerSys® number one Thin Plate Pure Plate (TPPL) solution for cyclic applications such as off-grid hybrid, unreliable grid and renewable energy. Unlike conventional VRLA AGM technology batteries, PowerSafe SBS XC+ combines innovative, advanced carbon chemistry with proven TPPL technology, an EnerSys technology already successfully and largely deployed in these applications.

Features & Benefits

- **Wide Ampere-hour range:**
94-1902Ah (C₁₀ / 1.80Vpc / 25°C)
- **Choice of 2V DIN-size cells and 12V front terminal blocs**
- **Outstanding cyclic performance**
- **Short recharge times**
- **Deep discharge recovery**
- **Resilient to harsh environments**
- **High energy density for reduced installation footprint or easy system upgrade**
- **Up to 24 month shelf life (20°C) for maximum flexibility in project deployment**
- **Low total cost of ownership**
- **Built-in intelligence via optional EnVision™ Connect system monitor**

In many regions of the world where grid-connected power is not available, telecom networks have historically been dependent upon diesel generators. The multiple challenges and drawbacks of powering off-grid telecom networks by generators have progressively been overcome by the introduction of batteries. PowerSafe SBS XC+ delivers outstanding energy throughput and cyclic performance for longer battery life and its ability to operate in controlled partial state of charge (PSoC) reduces genset runtime for additional OPEX savings, namely significantly lower fuel consumption and generator maintenance costs. PowerSafe SBS XC+ also contributes to generator replacement avoidance as well as the reduction of CO₂ emissions and noise pollution.

The fast recharge capability, high cyclic performance and outstanding resilience against deep discharge of the PowerSafe SBS XC+ series also make it the perfect solution to meet the demands of renewable energy applications and unreliable grid environments where there is a risk of uncontrolled partial state of charge operation.

Regardless of the above applications, the outstanding performance and high reliability of PowerSafe SBS XC+ deliver a competitive total cost of ownership (TCO) through fewer battery replacements and lower operating costs during the life of network infrastructure.

Construction

- Positive plates - pure lead grids manufactured using a unique process
- Negative plates - provide perfect balance with the positive plates to ensure optimum recombination efficiency. With advanced carbon for improved energy throughput in cyclic applications
- Separators - superior quality microporous glass mat separators with high absorption and stability
- Containers and lids - UL94 V-0 rated flame retardant material, highly resistant to shock and vibration
- Electrolyte - high grade dilute sulphuric acid absorbed into separator material
- Terminal design - proven, high integrity leak resistant terminal seal design
- Self-regulating pressure relief valves - prevent ingress of atmospheric oxygen
- Flame arrestors - built into each bloc/cell for increased operational safety

Installation & Operation

- Designed for operation in controlled hybrid off-grid, unreliable grid and renewable energy applications
- PowerSafe® SBS® XC+ blocs and cells are designed for use in cabinets or on stands, close to the point of use. A separate battery room is not required.
- Products can be mounted in any orientation except inverted.
 - 12V blocs: it is recommended that blocs are installed on their base. Please consult your EnerSys representative about any other installation orientations
 - 2V cells: in cyclic applications, the recommended orientation is horizontal (refer to instruction manual)
- Voltage settings:
 - Float voltage: 2.29Vpc @ 20°C – 2.27Vpc @ 25°C
 - Fast charge voltage: 2.40Vpc @ 20°C – 2.38Vpc @ 25°C
- Storage life: up to 24 months at 20°C / 12 months at 30°C

- Wide operating temperature range: -40°C to +50°C
- Low maintenance: no water addition required

Standards

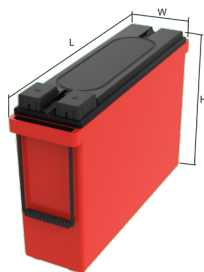
- Designed to be compliant with international standards IEC 60896-21/22 and IEC 61427-1
- Classified as “Very Long Life” (> 12 years) according to Eurobat guide
- UL recognised component
- Batteries must be installed in accordance with the IEC 62485-2 standard and local/national regulations
- Classified as non-spillable battery and approved as non-hazardous cargo for land, sea and air transportation in accordance with the requirements of ADR / RID, IMDG and IATA respectively
- The management systems governing the manufacture of PowerSafe SBS XC+ products are ISO 9001, ISO 14001 and ISO 45001 certified

General Specifications

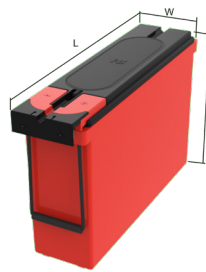
Battery Type	Nominal Capacity (Ah)			Nominal Dimensions						Typical Weight		Short Circuit Current (A) ⁽¹⁾	Internal Resistance (mΩ) ⁽¹⁾	Terminals
	Nominal Voltage (V)	C ₁₀ to 1.80Vpc @ 25°C	C ₂₀ to 1.85Vpc @ 25°C	Length		Width		Height over insulation		lbs	kg			
SBS XC+ 92F ⁽²⁾	12	94	99	15.6	395	4.1	105	105	10.4	61.7	28.0	2300	5.5	2 x M8 F
SBS XC+ 92F-FT ⁽²⁾	12	94	99	16.4	417	4.1	105	105	10.1	61.7	28.0	2300	5.5	2 x M6 M
SBS XC+ 150F-FT ^(2, 3)	12	154	154	22.1	561	4.9	125	125	11.1	108.0	49.0	3330	3.8	2 x M6 M
SBS XC+ 190F-FT ^(2, 3)	12	193	201	22.1	561	4.9	125	125	12.4	132.3	60.0	4000	3.1	2 x M6 M
SBS XC+ 210F-FT ^(2, 3)	12	209	228	22.1	560	5.0	126	126	13.0	138.9	63.0	3850	3.2	2 x M6 M
SBS XC+ 320	2	326	374	14.7	103	8.1	206	206	15.9	44.0	20.0	6320	0.33	2 x M10 F
SBS XC+ 400	2	407	467	18.4	124	8.1	206	206	15.9	52.9	24.0	7320	0.28	2 x M10 F
SBS XC+ 580	2	590	678	26.7	124	8.1	206	206	20.5	72.8	33.0	7470	0.28	2 x M10 F
SBS XC+ 680	2	692	795	31.3	145	8.1	206	206	20.5	84.9	38.5	8800	0.24	2 x M10 F
SBS XC+ 780	2	794	912	35.9	166	8.1	206	206	20.5	97.0	44.0	9000	0.23	2 x M10 F
SBS XC+ 900	2	916	1052	41.4	145	8.1	206	206	27.4	110.2	50.0	8110	0.26	2 x M10 F
SBS XC+ 970	2	987	1132	44.6	145	8.1	206	206	27.4	124.6	56.5	9100	0.23	2 x M10 F
SBS XC+ 1200	2	1282	1465	57.7	210	7.5	191	191	27.4	172.0	78.0	11300	0.19	4 x M10 F
SBS XC+ 1500	2	1587	1813	71.4	210	9.2	233	233	27.4	206.1	93.5	14100	0.15	4 x M10 F
SBS XC+ 1800	2	1902	2174	85.6	210	10.8	275	275	27.4	246.9	112.0	16900	0.12	4 x M10 F

Notes: ⁽¹⁾ Figures obtained via IEC method. ⁽²⁾ With handles. ⁽³⁾ Compatible with the EnVision™ Connect system monitor.

Typical Outline Drawings



SBS XC+ 92F



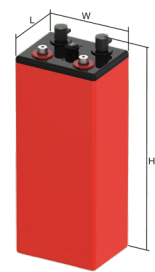
SBS XC+ 92F-FT



**SBS XC+ 150F-FT to
SBS XC+ 210F-FT**



**SBS XC+ 320 to
SBS XC+ 970**



**SBS XC+ 1200 to
SBS XC+ 1800**



EnerSys World Headquarters
2366 Bernville Road, Reading
PA 19605, USA
Tel: +1-610-208-1991 /
+1-800-538-3627

EnerSys EMEA
EH Europe GmbH
Baarerstrasse 18
6300 Zug
Switzerland

EnerSys APAC
No. 85, Tuas Avenue 1
Singapore 639518
Tel: +65 6558 7333

Contact: