





# **Features & Benefits**

- Capacity range: 62 3900Ah
- Superior cyclic performance
- Exceptional fast charge acceptance ability
- High energy density
- · Resilient to harsh environments
- Long design life: 15 years at 20°C
- · Up to two year shelf life

# **Battery**Range Summary

The outstanding EON Technology® of EnerSys® further extends the technical leadership of PowerSafe® SBS® batteries: not only do PowerSafe SBS EON Technology cells and monoblocs retain the benefits typically associated with EnerSys Thin Plate Pure Lead Technology (long life, high energy density, superior shelf life, etc.), they also deliver exceptional cyclic performance in both float and fast charge applications, even in the hottest and harshest operating environments.

Where conventional VRLA AGM batteries struggle to cope with harsh conditions and frequent power outages, EON Technology makes PowerSafe SBS 2V and 12V batteries the perfect solution for the challenging operating conditions of today's telecommunication networks. The specification of PowerSafe SBS EON Technology also makes SBS B14 - 3900 suitable for large-scale UPS and off-grid energy storage applications.

The PowerSafe SBS EON Technology battery range is available in several configurations: the front terminal SBS B14 - 190F designs which make installation and inspection quick and easy, the classic top terminal SBS 410 design and the SBS 320 - 3900 series which offers industry-leading capacities (up to 3900Ah) in OPzV's DIN container sizes.

For superior energy and power, high performance and proven reliability, there is no substitute to PowerSafe SBS EON Technology batteries.



### 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
- Separators superior quality microporous glass mat separators with high absorption and stability
- Containers and lids UL94 V-0 rated flame retardant ABS 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 traditional float applications and cyclic/hybrid applications
- PowerSafe® SBS® batteries are designed for use in cabinets or on stands, close to the point of use. A separate battery room is not required
- SBS EON Technology® models can be mounted in any orientation except inverted. In cyclic/hybrid applications, EnerSys® recommend to install SBS 320 - 3900 cells in horizontal orientation
- Up to two year shelf life
- Low maintenance: no water addition required
- Wide operating temperature range: -40°C to +50°C

### **Standards**

- Designed to be compliant with international standard IEC 60896/21
- 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 national regulations
- Classified as non-spillable and approved as non-hazardous cargo for ground, sea and air transportation in accordance with US DOT Regulation 49 and ICAO & IATA Packing Instruction 872
- The management systems governing the manufacture of PowerSafe® SBS B14 - SBS 3900 products are ISO 9001, ISO 14001 and OHSAS 18001 certified

### **General Specifications**

See See   10   10   10   10   10   10   10			Nominal Capacity (Ah)		Nominal Dimensions (mm)						
SBS B14F (4)         12         62         62         303         97         264         19.1         1800         7.0         2 x M6 M           SBS C11 (2)140         12         92         91         395         105         264         28.0         2300         5.5         2 x M8 F           SBS C11F (2)40         12         92         91         417         105         256         28.0         2300         5.5         2 x M6 M           SBS 100 (2)140         12         100         100         395         108         287         32.6         2210         5.6         2 x M6 M           SBS 100F (2)140         12         100         100         395         108         287         32.6         2210         5.6         2 x M6 M           SBS 100F (2)160         12         151         156         561         125         283         49.0         3330         3.8         2 x M6 M           SBS 100F (2)160         12         170         170         561         125         283         52.5         3500         3.5         2 x M6 M           SBS 100F (2)160         12         190         190         561         125         316         60		Voltage	to 1.80Vpc	to 1.75Vpc	Length	Width		Weight	Current	Resistance	Terminals
SBS C11 (2)(4)   12   92   91   395   105   264   28.0   2300   5.5   2 x MB F   SBS C11 F(2)(4)   12   92   91   417   105   256   28.0   2300   5.5   2 x M6 M   SBS 100 (2)(4)   12   100   100   395   108   287   32.6   2210   5.6   2 x MB F   SBS 100F (2)(4)   12   100   100   395   108   287   32.6   2210   5.6   2 x M6 M   SBS 150F (2)(8)   12   151   156   561   125   283   49.0   3330   3.8   2 x M6 M   SBS 150F (2)(8)   12   170   170   561   125   283   49.0   3330   3.5   2 x M6 M   SBS 150F (2)(8)   12   170   170   561   125   283   52.5   3500   3.5   2 x M6 M   SBS 150F (2)(8)   12   190   190   561   125   316   60.0   3990   3.2   2 x M6 M   SBS 410 (2)   2   410   410   200   208   239   23.2   4181   0.50   2 x M8 M   SBS 320 (3)   2   320   320   103   206   403   20.0   6320   0.33   2 x M10 F   SBS 400 (3)   2   480   480   145   206   403   24.0   7320   0.28   2 x M10 F   SBS 400 (3)   2   480   480   145   206   403   28.0   8050   0.25   2 x M10 F   SBS 600 (3)   2   580   580   124   206   520   33.0   7470   0.28   2 x M10 F   SBS 600 (3)   2   680   680   145   206   520   33.5   8800   0.24   2 x M10 F   SBS 700 (3)   2   780   780   166   206   520   44.0   9000   0.23   2 x M10 F   SBS 700 (3)   2   900   900   145   206   695   50.0   8110   0.26   2 x M10 F   SBS 700 (3)   2   1260   1260   210   191   695   78.0   11300   0.19   4 x M10 F   SBS 1500 (3)   2   1560   1560   210   233   695   93.5   14100   0.15   4 x M10 F   SBS 1500 (3)   2   1870   1870   210   275   695   112   16900   0.12   4 x M10 F   SBS 1500 (3)   2   2700   2700   212   397   820   163   25300   0.08   6 x M10 F   SBS 3100 (3)   2   3100   3100   212   487   820   190   29100   0.07   8 x M10 F   SBS 3100 (3)   2   3100   3100   212   487   820   190   29100   0.07   8 x M10 F   SBS 3100 (3)   2   3100   3100   212   487   820   190   29100   0.07   8 x M10 F   SBS 3100 (3)   3100   3100   212   487   820   190   29100   0.07   8 x M10 F   SBS 3100 (3)   300   300   300   300   300   300   300   300	SBS B14 (4)	12	62	62	280	97	264	19.1	1800	7.0	2 x M8 F
SBS C11F [2](4)         12         92         91         417         105         256         28.0         2300         5.5         2 x M6 M           SBS 100 [2](4)         12         100         100         395         108         287         32.6         2210         5.6         2 x M6 M           SBS 100F [2](4)         12         100         100         395         108         287         32.6         2210         5.6         2 x M6 M           SBS 150F [2](5)         12         151         156         561         125         283         49.0         3330         3.8         2 x M6 M           SBS 170F [2](5)         12         170         170         561         125         283         52.5         3500         3.5         2 x M6 M           SBS 190F [2](5)         12         190         190         561         125         316         60.0         3990         3.2         2 x M6 M           SBS 410 [2]         2         410         410         200         208         239         23.2         4181         0.50         2 x M8 M           SBS 400 [2]         2         320         320         103         206         403         2	SBS B14F (4)	12	62	62	303	97	264	19.1	1800	7.0	2 x M6 M
\$\begin{array}{c c c c c c c c c c c c c c c c c c c	SBS C11 (2) (4)	12	92	91	395	105	264	28.0	2300	5.5	2 x M8 F
SBS 100F <sup>(D)</sup> (10)         12         100         100         395         108         287         32.6         2210         5.6         2 x M6 M           SBS 150F <sup>(D)</sup> (10)         12         151         156         561         125         283         49.0         3330         3.8         2 x M6 M           SBS 170F <sup>(D)</sup> (10)         12         170         170         561         125         283         52.5         3500         3.5         2 x M6 M           SBS 190F <sup>(D)</sup> (10)         12         190         190         561         125         316         60.0         3990         3.2         2 x M6 M           SBS 190F <sup>(D)</sup> (10)         12         190         190         561         125         316         60.0         3990         3.2         2 x M6 M           SBS 190F <sup>(D)</sup> (10)         2         410         410         200         208         239         23.2         4181         0.50         2 x M6 M           SBS 400 <sup>(D)</sup> (2)         2         320         320         320         206         403         24.0         7320         0.28         2 x M10 F           SBS 480 <sup>(D)</sup> (3)         2         480 <sup>(D)</sup> (3)         480 <sup>(D)</sup> (3)         28.0	SBS C11F (2) (4)	12	92	91	417	105	256	28.0	2300	5.5	2 x M6 M
SBS 150F (216)         12         151         156         561         125         283         49.0         3330         3.8         2 x M6 M           SBS 170F (216)         12         170         170         561         125         283         52.5         3500         3.5         2 x M6 M           SBS 190F (216)         12         190         190         561         125         316         60.0         3990         3.2         2 x M6 M           SBS 190F (216)         12         190         190         561         125         316         60.0         3990         3.2         2 x M6 M           SBS 410 (22)         2         410         410         200         208         239         23.2         4181         0.50         2 x M8 M           SBS 320 (3)         2         320         320         103         206         403         20.0         6320         0.33         2 x M10 F           SBS 400 (3)         2         480         480         145         206         403         28.0         8050         0.25         2 x M10 F           SBS 800 (3)         2         580         580         124         206         520         33.5 </td <td>SBS 100 (2) (4)</td> <td>12</td> <td>100</td> <td>100</td> <td>395</td> <td>108</td> <td>287</td> <td>32.6</td> <td>2210</td> <td>5.6</td> <td>2 x M8 F</td>	SBS 100 (2) (4)	12	100	100	395	108	287	32.6	2210	5.6	2 x M8 F
SBS 170F (216)         12         170         170         561         125         283         52.5         3500         3.5         2 x M6 M           SBS 190F (215)         12         190         190         561         125         316         60.0         3990         3.2         2 x M6 M           SBS 410 (2)         2         410         410         200         208         239         23.2         4181         0.50         2 x M8 M           SBS 320 (3)         2         320         320         103         206         403         20.0         6320         0.33         2 x M10 F           SBS 480 (3)         2         400         400         124         206         403         24.0         7320         0.28         2 x M10 F           SBS 480 (3)         2         480         480         145         206         403         28.0         8050         0.25         2 x M10 F           SBS 580 (3)         2         580         580         124         206         520         33.0         7470         0.28         2 x M10 F           SBS 780 (3)         2         680         680         145         206         520         38.5	SBS 100F (2) (4)	12	100	100	395	108	287	32.6	2210	5.6	2 x M6 M
SBS 190F (2)(5)         12         190         190         561         125         316         60.0         3990         3.2         2 x M6 M           SBS 410 (2)         2         410         410         200         208         239         23.2         4181         0.50         2 x M8 M           SBS 320 (3)         2         320         320         103         206         403         20.0         6320         0.33         2 x M10 F           SBS 400 (3)         2         400         400         124         206         403         24.0         7320         0.28         2 x M10 F           SBS 480 (3)         2         480         480         145         206         403         28.0         8050         0.25         2 x M10 F           SBS 580 (3)         2         580         580         124         206         520         33.0         7470         0.28         2 x M10 F           SBS 680 (3)         2         680         680         145         206         520         38.5         8800         0.24         2 x M10 F           SBS 780 (3)         2         780         780         166         206         520         44.0	SBS 150F (2) (5)	12	151	156	561	125	283	49.0	3330	3.8	2 x M6 M
SBS 410 (2)         2         410         410         200         208         239         23.2         4181         0.50         2 x M8 M           SBS 320 (3)         2         320         320         103         206         403         20.0         6320         0.33         2 x M10 F           SBS 400 (3)         2         400         400         124         206         403         24.0         7320         0.28         2 x M10 F           SBS 480 (3)         2         480         480         145         206         403         28.0         8050         0.25         2 x M10 F           SBS 580 (3)         2         580         580         124         206         520         33.0         7470         0.28         2 x M10 F           SBS 680 (3)         2         580         680         145         206         520         38.5         8800         0.24         2 x M10 F           SBS 780 (3)         2         780         780         166         206         520         44.0         9000         0.23         2 x M10 F           SBS 900 (3)         2         900         900         145         206         695         50.0	SBS 170F (2) (5)	12	170	170	561	125	283	52.5	3500	3.5	2 x M6 M
SBS 320 (3)         2         320         320         103         206         403         20.0         6320         0.33         2 x M10 F           SBS 400 (3)         2         400         400         124         206         403         24.0         7320         0.28         2 x M10 F           SBS 480 (3)         2         480         480         145         206         403         28.0         8050         0.25         2 x M10 F           SBS 580 (3)         2         580         580         124         206         520         33.0         7470         0.28         2 x M10 F           SBS 680 (3)         2         680         680         145         206         520         38.5         8800         0.24         2 x M10 F           SBS 780 (3)         2         780         780         166         206         520         38.5         8800         0.24         2 x M10 F           SBS 900 (3)         2         900         900         145         206         695         50.0         8110         0.26         2 x M10 F           SBS 970 (3)         2         970         970         145         206         695         56.5	SBS 190F (2) (5)	12	190	190	561	125	316	60.0	3990	3.2	2 x M6 M
SBS 400 (3)         2         400         400         124         206         403         24.0         7320         0.28         2 x M10 F           SBS 480 (3)         2         480         480         145         206         403         28.0         8050         0.25         2 x M10 F           SBS 580 (3)         2         580         580         124         206         520         33.0         7470         0.28         2 x M10 F           SBS 680 (3)         2         680         680         145         206         520         38.5         8800         0.24         2 x M10 F           SBS 780 (3)         2         780         780         166         206         520         44.0         9000         0.23         2 x M10 F           SBS 970 (3)         2         900         900         145         206         695         50.0         8110         0.26         2 x M10 F           SBS 970 (3)         2         970         970         145         206         695         56.5         9100         0.23         2 x M10 F           SBS 1200 (3)         2         1260         1260         210         191         695         78.0	SBS 410 (2)	2	410	410	200	208	239	23.2	4181	0.50	2 x M8 M
SBS 480 (3)         2         480         480         145         206         403         28.0         8050         0.25         2 x M10 F           SBS 580 (3)         2         580         580         124         206         520         33.0         7470         0.28         2 x M10 F           SBS 680 (3)         2         680         680         145         206         520         38.5         8800         0.24         2 x M10 F           SBS 780 (3)         2         780         780         166         206         520         44.0         9000         0.23         2 x M10 F           SBS 900 (3)         2         900         900         145         206         695         50.0         8110         0.26         2 x M10 F           SBS 970 (3)         2         970         970         145         206         695         56.5         9100         0.23         2 x M10 F           SBS 1200 (3)         2         1260         1260         210         191         695         78.0         11300         0.19         4 x M10 F           SBS 1800 (3)         2         1560         1560         210         233         695         93.5 <td>SBS 320 (3)</td> <td>2</td> <td>320</td> <td>320</td> <td>103</td> <td>206</td> <td>403</td> <td>20.0</td> <td>6320</td> <td>0.33</td> <td>2 x M10 F</td>	SBS 320 (3)	2	320	320	103	206	403	20.0	6320	0.33	2 x M10 F
SBS 580 (3)         2         580         580         124         206         520         33.0         7470         0.28         2 x M10 F           SBS 680 (3)         2         680         680         145         206         520         38.5         8800         0.24         2 x M10 F           SBS 780 (3)         2         780         780         166         206         520         44.0         9000         0.23         2 x M10 F           SBS 900 (3)         2         900         900         145         206         695         50.0         8110         0.26         2 x M10 F           SBS 970 (3)         2         970         970         145         206         695         56.5         9100         0.23         2 x M10 F           SBS 1200 (3)         2         1260         1260         210         191         695         78.0         11300         0.19         4 x M10 F           SBS 1500 (3)         2         1560         1560         210         233         695         93.5         14100         0.15         4 x M10 F           SBS 1800 (3)         2         1870         1870         210         275         695         112<	SBS 400 (3)	2	400	400	124	206	403	24.0	7320	0.28	2 x M10 F
SBS 680 (3)         2         680         680         145         206         520         38.5         8800         0.24         2 x M10 F           SBS 780 (3)         2         780         780         166         206         520         44.0         9000         0.23         2 x M10 F           SBS 900 (3)         2         900         900         145         206         695         50.0         8110         0.26         2 x M10 F           SBS 970 (3)         2         970         970         145         206         695         56.5         9100         0.23         2 x M10 F           SBS 1200 (3)         2         1260         1260         210         191         695         78.0         11300         0.19         4 x M10 F           SBS 1500 (3)         2         1560         1560         210         233         695         93.5         14100         0.15         4 x M10 F           SBS 1800 (3)         2         1870         1870         210         275         695         112         16900         0.12         4 x M10 F           SBS 2700 (3)         2         2700         2700         212         397         820         1	SBS 480 (3)	2	480	480	145	206	403	28.0	8050	0.25	2 x M10 F
SBS 780 (3)         2         780         780         166         206         520         44.0         9000         0.23         2 x M10 F           SBS 900 (3)         2         900         900         145         206         695         50.0         8110         0.26         2 x M10 F           SBS 970 (3)         2         970         970         145         206         695         56.5         9100         0.23         2 x M10 F           SBS 1200 (3)         2         1260         1260         210         191         695         78.0         11300         0.19         4 x M10 F           SBS 1500 (3)         2         1560         1560         210         233         695         93.5         14100         0.15         4 x M10 F           SBS 1800 (3)         2         1870         1870         210         275         695         112         16900         0.12         4 x M10 F           SBS 2700 (3)         2         2700         2700         212         397         820         163         25300         0.08         6 x M10 F           SBS 3100 (3)         2         3100         3100         212         487         820 <t< td=""><td>SBS 580 (3)</td><td>2</td><td>580</td><td>580</td><td>124</td><td>206</td><td>520</td><td>33.0</td><td>7470</td><td>0.28</td><td>2 x M10 F</td></t<>	SBS 580 (3)	2	580	580	124	206	520	33.0	7470	0.28	2 x M10 F
SBS 900 (3)         2         900         900         145         206         695         50.0         8110         0.26         2 x M10 F           SBS 970 (3)         2         970         970         145         206         695         56.5         9100         0.23         2 x M10 F           SBS 1200 (3)         2         1260         1260         210         191         695         78.0         11300         0.19         4 x M10 F           SBS 1500 (3)         2         1560         1560         210         233         695         93.5         14100         0.15         4 x M10 F           SBS 1800 (3)         2         1870         1870         210         275         695         112         16900         0.12         4 x M10 F           SBS 2700 (3)         2         2700         2700         212         397         820         163         25300         0.08         6 x M10 F           SBS 3100 (3)         2         3100         3100         212         487         820         190         29100         0.07         8 x M10 F	SBS 680 (3)	2	680	680	145	206	520	38.5	8800	0.24	2 x M10 F
SBS 970 (3)         2         970         970         145         206         695         56.5         9100         0.23         2 x M10 F           SBS 1200 (3)         2         1260         1260         210         191         695         78.0         11300         0.19         4 x M10 F           SBS 1500 (3)         2         1560         1560         210         233         695         93.5         14100         0.15         4 x M10 F           SBS 1800 (3)         2         1870         1870         210         275         695         112         16900         0.12         4 x M10 F           SBS 2700 (3)         2         2700         2700         212         397         820         163         25300         0.08         6 x M10 F           SBS 3100 (3)         2         3100         3100         212         487         820         190         29100         0.07         8 x M10 F	SBS 780 (3)	2	780	780	166	206	520	44.0	9000	0.23	2 x M10 F
SBS 1200 (3)         2         1260         1260         210         191         695         78.0         11300         0.19         4 x M10 F           SBS 1500 (3)         2         1560         1560         210         233         695         93.5         14100         0.15         4 x M10 F           SBS 1800 (3)         2         1870         1870         210         275         695         112         16900         0.12         4 x M10 F           SBS 2700 (3)         2         2700         2700         212         397         820         163         25300         0.08         6 x M10 F           SBS 3100 (3)         2         3100         3100         212         487         820         190         29100         0.07         8 x M10 F	SBS 900 (3)	2	900	900	145	206	695	50.0	8110	0.26	2 x M10 F
SBS 1500 (3)         2         1560         1560         210         233         695         93.5         14100         0.15         4 x M10 F           SBS 1800 (3)         2         1870         1870         210         275         695         112         16900         0.12         4 x M10 F           SBS 2700 (3)         2         2700         2700         212         397         820         163         25300         0.08         6 x M10 F           SBS 3100 (3)         2         3100         3100         212         487         820         190         29100         0.07         8 x M10 F	SBS 970 (3)	2	970	970	145	206	695	56.5	9100	0.23	2 x M10 F
SBS 1800 (3)         2         1870         1870         210         275         695         112         16900         0.12         4 x M10 F           SBS 2700 (3)         2         2700         2700         212         397         820         163         25300         0.08         6 x M10 F           SBS 3100 (3)         2         3100         3100         212         487         820         190         29100         0.07         8 x M10 F	SBS 1200 (3)	2	1260	1260	210	191	695	78.0	11300	0.19	4 x M10 F
SBS 2700 (3)         2         2700         2700         212         397         820         163         25300         0.08         6 x M10 F           SBS 3100 (3)         2         3100         3100         212         487         820         190         29100         0.07         8 x M10 F	SBS 1500 (3)	2	1560	1560	210	233	695	93.5	14100	0.15	4 x M10 F
SBS 3100 <sup>(3)</sup> 2 3100 3100 212 487 820 190 29100 0.07 8 x M10 F	SBS 1800 (3)	2	1870	1870	210	275	695	112	16900	0.12	4 x M10 F
	SBS 2700 (3)	2	2700	2700	212	397	820	163	25300	0.08	6 x M10 F
SBS 3900 (3) 2 3900 3900 212 576 820 239 36600 0.06 8 x M10 F	SBS 3100 (3)	2	3100	3100	212	487	820	190	29100	0.07	8 x M10 F
	SBS 3900 (3)	2	3900	3900	212	576	820	239	36600	0.06	8 x M10 F

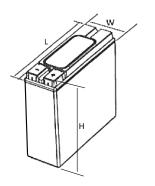
<sup>(1)</sup> Figures obtained via IEC method.
(2) With integral or rope handles.

<sup>&</sup>lt;sup>(3)</sup> In horizontal orientation, the above indicated heights become the

lengths, lengths become widths and widths become heights

<sup>(4)</sup> Manifold built-in as standard. (5) Manifold available as an option

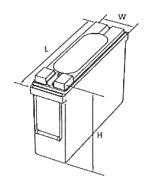
<sup>(</sup>increases product height by 12mm).



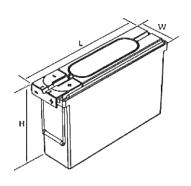
SBS B14



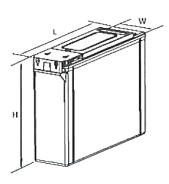
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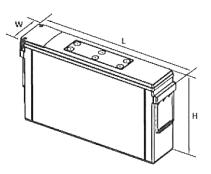
SBS C11



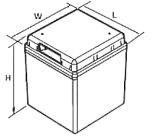
SBS C11F



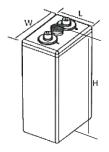
SBS 100 & 100F



SBS 150F 170F & 190F



**SBS 410** 



SBS 320 - 3900

