



Industrial Batteries – Network Power
Sonnenschein Solar
Safe storage capacity for renewable energy.

Specifications

The compact alternative for smaller solar applications.

Sonnenschein Solar batteries are specially designed for small to medium performance requirements in leisure and consumer applications. The advantages of the maintenance free VRLA -batteries are enhanced by the worldwide high reputation and technical image of the dryfit technology. Typical applications are weekend and holiday houses without mains supply, street solar stations, information signs, parking meters, wireless emergency phone boxes and also other safety equipment power supplies.



Valve
regulated



Grid plate



Nominal
capacity
6.6-230 Ah



Block battery



800 cycles *
acc. to
IEC 896-2



Maintenance-
free
(no topping up)



Proof against
deep discharge
acc. to
DIN 43 539 T5

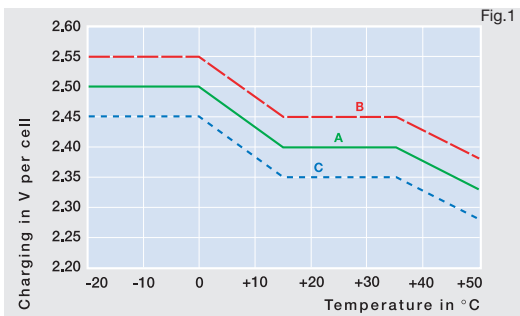


Recyclable



Technical characteristics and data

| Type | Part number | Nominal voltage | Nominal capacity | Discharge current | Length (l) | Width (b/w) | Height up to top of cover (h1) | Height incl. connectors (h2) | Weight approx. | Terminal | Terminal position |
|-----------|-----------------|-----------------|-----------------------------------|-----------------------|------------|-------------|--------------------------------|------------------------------|----------------|------------|-------------------|
| | | V | C ₁₀₀ 1.8 V/C Ah | I ₁₀₀ A | max. mm | max. mm | max. mm | max. mm | kg | | |
| S12/6.6 S | NGSO1206D6HS0SA | 12 | 6.6 | 0.066 | 151.7 | 65.5 | 94.5 | 98.4 | 2.6 | S-4.8 | 3 |
| S12/17 G5 | NGSO120017HS0BA | 12 | 17.0 | 0.170 | 181.0 | 76.0 | – | 167.0 | 6.1 | G-M5 | 1 |
| S12/27 G5 | NGSO120027HS0BA | 12 | 27.0 | 0.270 | 167.0 | 176.0 | – | 126.0 | 9.7 | G-M5 | 1 |
| S12/32 G6 | NGSO120032HS0BA | 12 | 32.0 | 0.320 | 197.0 | 132.0 | 160.0 | 184.0 | 11.2 | G-M6 | 2 |
| S12/41 A | NGSO120041HS0CA | 12 | 41.0 | 0.410 | 210.0 | 175.0 | – | 175.0 | 14.8 | A-Terminal | 1 |
| S12/60 A | NGSO120060HS0CA | 12 | 60.0 | 0.600 | 261.0 | 136.0 | 208.0 | 230.0 | 19.0 | A-Terminal | 1 |
| S12/85 A* | NGSO120085HS0CA | 12 | 85.0 | 0.850 | 353.0 | 175.0 | – | 190.0 | 27.3 | A-Terminal | 1 |
| S12/90 A | NGSO120090HS0CA | 12 | 90.0 | 0.900 | 330.0 | 171.0 | 213.0 | 236.0 | 31.3 | A-Terminal | 2 |
| S12/130 A | NGSO120130HS0CA | 12 | 130.0 | 1.300 | 286.0 | 269.0 | 208.0 | 230.0 | 39.8 | A-Terminal | 4 |
| S12/230 A | NGSO120230HS0CA | 12 | 230.0 | 2.300 | 518.0 | 274.0 | 216.0 | 238.0 | 70.0 | A-Terminal | 3 |

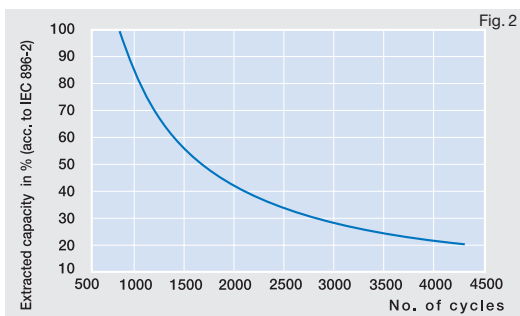
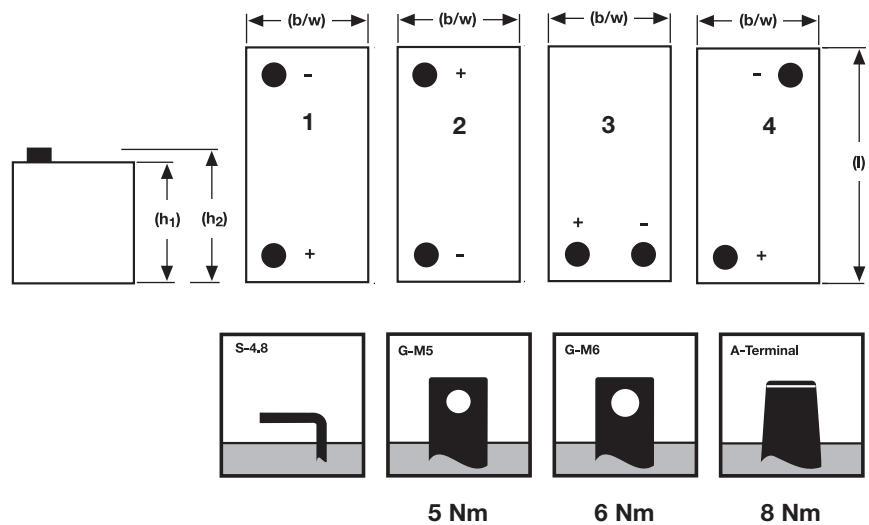


Charge mode (to Fig. 1):

- 1.) with switch regulator (two-step controller)
 - charge on curve **B** (max. charge voltage) for max. 2 hrs/day
 - then switch over to continuous charge - curve **C**
- 2.) Standard charge (without switching) - curve **A**
- 3.) Boost charge (Equalizing charge with external generator)
 - charge on curve **B** for max. 5 hrs/month, then switch over to curve **C**

| Capacities C ₁ – C ₁₀₀ (20°C) | | | | | |
|---|----------------------------|----------------------------|-----------------------------|-----------------------------|------------------------------|
| Type | C ₁ 1.70 V/C | C ₅ 1.70 V/C | C ₁₀ 1.70 V/C | C ₂₀ 1.75 V/C | C ₁₀₀ 1.80 V/C |
| S12/6.6 S | 2.9 | 4.6 | 5.1 | 5.7 | 6.6 |
| S12/17 G5 | 9.3 | 12.6 | 14.3 | 15.0 | 17.0 |
| S12/27 G5 | 15.0 | 22.1 | 23.5 | 24.0 | 27.0 |
| S12/32 G6 | 16.9 | 24.4 | 27.0 | 28.0 | 32.0 |
| S12/41 A | 21.0 | 30.6 | 34.0 | 38.0 | 41.0 |
| S12/60 A | 30.0 | 42.5 | 47.5 | 50.0 | 60.0 |
| S12/85 A | 55.0 | 68.5 | 74.0 | 76.0 | 85.0 |
| S12/90 A | 50.5 | 72.0 | 78.0 | 84.0 | 90.0 |
| S12/130 A | 66.0 | 93.5 | 104.5 | 110.0 | 130.0 |
| S12/230 A | 120.0 | 170.0 | 190.0 | 200.0 | 230.0 |

Drawings with terminal position, terminal and torque



(to Fig. 2)

Endurance in cycles according to IEC 896-2

* S12/85 A = 400 cycles

Not to scale!

Safe power supply for medium performance.

The Sonnenschein Solar Block battery range is very powerful and reliable in rough application conditions. As well as for use in private areas like holiday and weekend houses with more consumer terminals, this range is the ideal energy source for medium industrial solar systems, small solar and wind powerstations, offshore buoys, yachts and measuring stations as well as for other safety equipment power supplies.



Valve regulated



Grid plate



Nominal capacity
60–330 Ah



Block battery



1200 cycles
acc. to
IEC 896-2



Maintenance-free
(no topping up)



Proof against
deep discharge
acc. to
DIN 43 539 T5

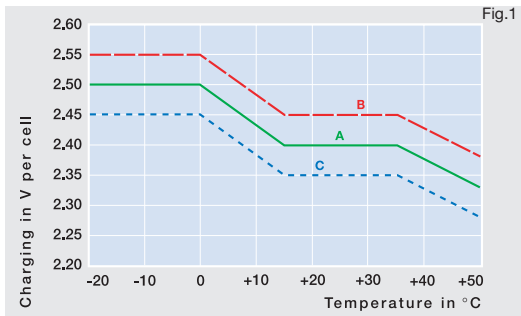


Recyclable



Technical characteristics and data

| Type | Part number | Nominal voltage V | Nominal capacity C_{100} 1.8 V/C Ah | Discharge current I_{100} A | Length (l) max. mm | Width (b/w) max. mm | Height up to top of cover (h1) max. mm | Height incl. con- nectors (h2) max. mm | Weight approx. kg | Terminal | Ter- minal posi- tion |
|------------|-----------------|----------------------|--|-------------------------------------|-----------------------------|------------------------------|--|--|-------------------------|------------|--------------------------------|
| SB12/60 A | NGSB120060HS0CA | 12 | 60 | 0.60 | 278 | 175 | – | 190 | 20 | A-Terminal | 1 |
| SB12/75 A | NGSB120075HS0CA | 12 | 75 | 0.75 | 330 | 171 | 214 | 236 | 28 | A-Terminal | 2 |
| SB12/100 A | NGSB120100HS0CA | 12 | 100 | 1.00 | 513 | 189 | 195 | 223 | 39 | A-Terminal | 3 |
| SB12/130 A | NGSB120130HS0CA | 12 | 130 | 1.30 | 513 | 223 | 195 | 223 | 48 | A-Terminal | 3 |
| SB12/185 A | NGSB120185HS0CA | 12 | 185 | 1.85 | 518 | 274 | 216 | 238 | 65 | A-Terminal | 3 |
| SB6/200 A | NGSB060200HS0CA | 6 | 200 | 2.00 | 190 | 244 | 254 | 275 | 31 | A-Terminal | 4 |
| SB6/330 A | NGSB060330HS0CA | 6 | 330 | 3.30 | 312 | 182 | 337 | 359 | 48 | A-Terminal | 4 |

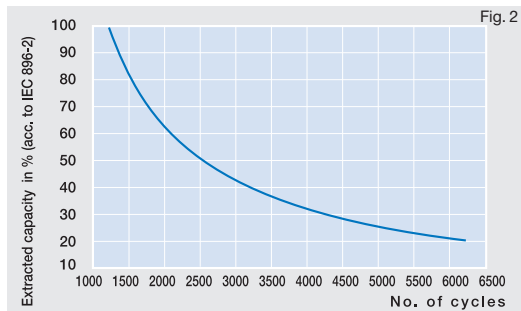
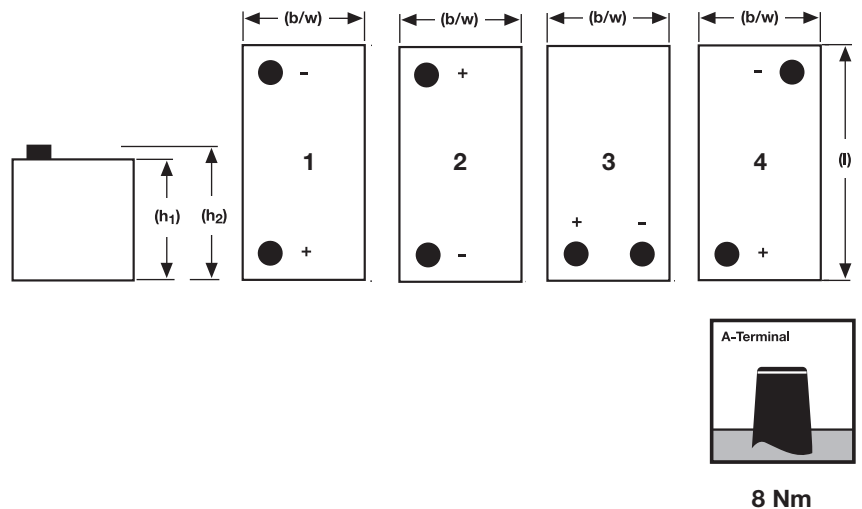


Charge mode (to Fig. 1):

- 1.) with switch regulator (two-step controller)
 - charge on curve **B** (max. charge voltage) for max. 2 hrs/day
 - then switch over to continuous charge - curve **C**
- 2.) Standard charge (without switching) - curve **A**
- 3.) Boost charge (Equalizing charge with external generator)
 - charge on curve **B** for max. 5 hrs/month, then switch over to curve **C**

| Type | Capacities $C_1 - C_{100}$ (20°C) | | | | |
|------------|-----------------------------------|-------------------|----------------------|----------------------|-----------------------|
| | C_1 1.70 V/C | C_5 1.70 V/C | C_{10} 1.70 V/C | C_{20} 1.75 V/C | C_{100} 1.80 V/C |
| SB12/60 A | 34 | 45 | 52 | 56 | 60 |
| SB12/75 A | 48 | 60 | 66 | 70 | 75 |
| SB12/100 A | 57 | 84 | 89 | 90 | 100 |
| SB12/130 A | 78 | 101 | 105 | 116 | 130 |
| SB12/185 A | 103 | 150 | 155 | 165 | 185 |
| SB6/200 A | 104 | 153 | 162 | 180 | 200 |
| SB6/330 A | 150 | 235 | 260 | 280 | 330 |

Drawings with terminal position, terminal and torque



(to Fig. 2)









Endurance in cycles according to IEC 896-2

Not to scale!

Power for high capacity requirements.

Sonnenschein A600 Solar batteries are developed for medium to large solar powered applications. The recyclability and long storage life without recharge makes this environmentally friendly solar battery system absolutely recommendable for various requirement profiles. Typical applications for these maintenance free VRLA-batteries with successful dryfit technology, are solar and wind power stations, power distribution companies, telecommunications, railways and many other safety equipment power supplies.

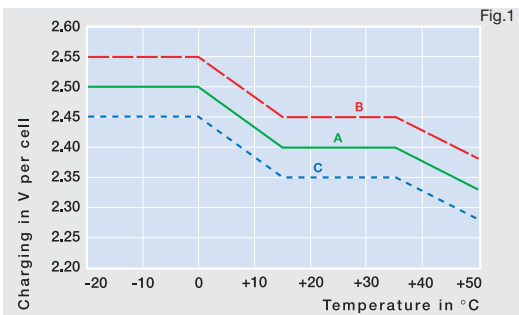


| | | | |
|---|---|--|---|
|  |  |  |  |
| Valve regulated | Tubular plate | Nominal capacity 240–3500 Ah | Single cell |
|  |  |  |  |
| 1600 cycles acc. to IEC 896-2 | Maintenance-free (no topping up) | Proof against deep discharge acc. to DIN 43 539 T5 | Recyclebar |



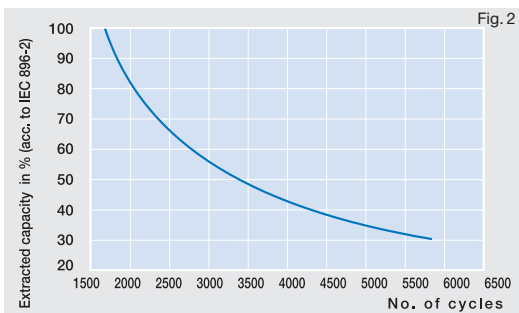
Technical characteristics and data

| Type | Part number | Nominal voltage | Nominal capacity | Dis-charge current | Length (l) | Width (b/w) | Height up to top of cover (h1) | Height incl. connectors (h2) | Installed length (B/L) | Weight approx. | Terminal | Pole pairs |
|--------------|-----------------|-----------------|---------------------------------|--------------------|------------|-------------|--------------------------------|------------------------------|------------------------|----------------|----------|------------|
| | | V | C ₁₀₀ 1.85 V/C Ah | I ₁₀₀ A | max. mm | max. mm | max. mm | max. mm | mm | kg | | |
| 4 OPzV 240 | NGS6020240HS0FA | 2 | 240 | 2.4 | 105 | 208 | 360 | 398 | 112 | 19.5 | F-M8 | 1 |
| 5 OPzV 300 | NGS6020300HS0FA | 2 | 300 | 3.0 | 126 | 208 | 360 | 398 | 135 | 23.5 | F-M8 | 1 |
| 6 OPzV 360 | NGS6020360HS0FA | 2 | 360 | 3.6 | 147 | 208 | 360 | 398 | 155 | 28.0 | F-M8 | 1 |
| 5 OPzV 400 | NGS6020400HS0FA | 2 | 400 | 4.0 | 126 | 208 | 475 | 513 | 135 | 31.0 | F-M8 | 1 |
| 6 OPzV 500 | NGS6020500HS0FA | 2 | 500 | 5.0 | 147 | 208 | 475 | 513 | 155 | 36.5 | F-M8 | 1 |
| 7 OPzV 600 | NGS6020600HS0FA | 2 | 600 | 6.0 | 168 | 208 | 475 | 513 | 175 | 42.0 | F-M8 | 1 |
| 6 OPzV 720 | NGS6020720HS0FA | 2 | 720 | 7.2 | 147 | 208 | 650 | 688 | 155 | 50.0 | F-M8 | 1 |
| 8 OPzV 960 | NGS6020960HS0FA | 2 | 960 | 9.6 | 215 | 193 | 650 | 688 | 220 | 68.0 | F-M8 | 2 |
| 10 OPzV 1200 | NGS6021200HS0FA | 2 | 1200 | 12.0 | 215 | 235 | 650 | 688 | 220 | 82.0 | F-M8 | 2 |
| 12 OPzV 1400 | NGS6021400HS0FA | 2 | 1400 | 14.0 | 215 | 277 | 650 | 688 | 220 | 97.0 | F-M8 | 2 |
| 12 OPzV 1700 | NGS6021700HS0FA | 2 | 1700 | 17.0 | 215 | 277 | 800 | 838 | 220 | 120.0 | F-M8 | 2 |
| 16 OPzV 2300 | NGS6022300HS0FA | 2 | 2300 | 23.0 | 215 | 400 | 775 | 815 | 220 | 160.0 | F-M8 | 3 |
| 20 OPzV 2900 | NGS6022900HS0FA | 2 | 2900 | 29.0 | 215 | 490 | 775 | 815 | 220 | 200.0 | F-M8 | 4 |
| 24 OPzV 3500 | NGS6023500HS0FA | 2 | 3500 | 35.0 | 215 | 580 | 775 | 815 | 220 | 240.0 | F-M8 | 4 |



Charge mode (to Fig. 1):

- 1.) with switch regulator (two-step controller)
 - charge on curve **B** (max. charge voltage) for max. 2 hrs/day
 - then switch over to continuous charge - curve **C**
- 2.) Standard charge (without switching) - curve **A**
- 3.) Boost charge (Equalizing charge with external generator)
 - charge on curve **B** for max. 5 hrs/month, then switch over to curve **C**



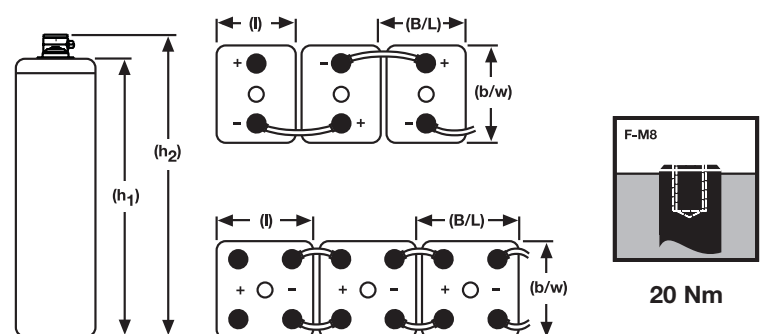
(to Fig. 2)

Endurance in cycles according to IEC 896-2

Capacities C₁ – C₁₀₀ (20°C)

| Type | C ₁ 1.67 V/C | C ₃ 1.75 V/C | C ₅ 1.77 V/C | C ₁₀ 1.80 V/C | C ₁₀₀ 1.85 V/C |
|--------------|-------------------------|-------------------------|-------------------------|--------------------------|---------------------------|
| 4 OPzV 240 | 108 | 151 | 175 | 200 | 240 |
| 5 OPzV 300 | 135 | 189 | 219 | 250 | 300 |
| 6 OPzV 360 | 162 | 227 | 263 | 300 | 360 |
| 5 OPzV 400 | 180 | 252 | 292 | 350 | 400 |
| 6 OPzV 500 | 225 | 315 | 365 | 420 | 500 |
| 7 OPzV 600 | 270 | 378 | 438 | 490 | 600 |
| 6 OPzV 720 | 324 | 454 | 526 | 600 | 720 |
| 8 OPzV 960 | 432 | 605 | 701 | 800 | 960 |
| 10 OPzV 1200 | 540 | 756 | 876 | 1000 | 1200 |
| 12 OPzV 1400 | 630 | 882 | 1022 | 1200 | 1400 |
| 12 OPzV 1700 | 765 | 1071 | 1241 | 1500 | 1700 |
| 16 OPzV 2300 | 1035 | 1449 | 1679 | 2000 | 2300 |
| 20 OPzV 2900 | 1305 | 1827 | 2117 | 2500 | 2900 |
| 24 OPzV 3500 | 1575 | 2205 | 2555 | 3000 | 3500 |

Drawings with terminal position, terminal and torque



Not to scale!

Exide Technologies Industrial Energy – The Industry Leader.



ABSOLYTE

MARATHON

Sprinter



Classic

Powerfit

Exide Technologies Industrial Energy is a global leader in stored electrical energy solutions for all major critical reserve power applications and needs. Standby power applications include communication/data networks, UPS systems for computers and control systems, electrical power generation and distribution systems, as well as a wide range of other industrial standby power applications. With a strong manufacturing base in both North America and Europe and a truly global reach (operations in more than 80 countries) in sales and service, Exide Technologies Industrial Energy is best positioned to satisfy your back up power needs locally as well as all over the world.

Based on over 100 years of technological innovation the Industrial Energy Division leads the industry with the most recognized global standby power brands such as Absolyte, Sonnenschein, Marathon, Sprinter, and Flooded Classic. They have come to symbolize quality, reliability, performance and excellence in all the markets served.

Exide Technologies takes pride in its commitment to a better environment. Its Total Battery Management program, an integrated approach to manufacturing, distributing and recycling of lead acid batteries, has been developed to ensure a safe and responsible life cycle for all of its products.

EXIDE TECHNOLOGIES
Industrial Energy

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