



## 2SG1000(2V1000AH/120 HR)

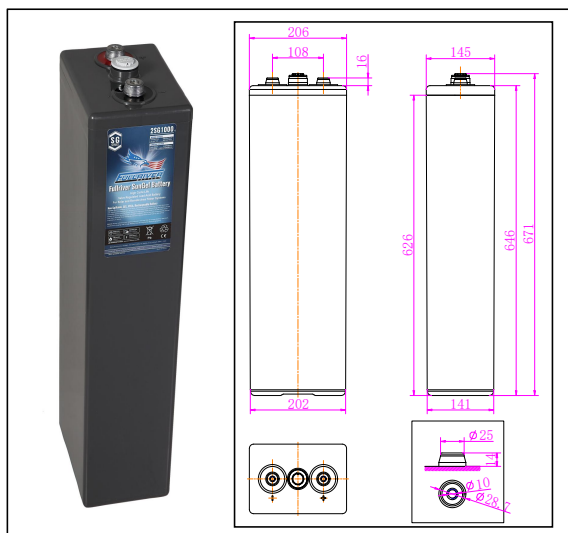


FSG series batteries using revolutionary Solar-GEL long life plate technology has been designed specifically for solar applications. Solar applications are often remotely located and installed in the most extreme environmental conditions. To deliver a reliable service with a long operating life requires a unique blend of physical, structural and chemical characteristics. For this reason FSG series batteries is possibly the world's best solar battery.

### General Features

- (1) Superior low current discharge performance.
- (2) Excellent Recovery from deep discharge and good deep discharge cycle capability.
- (3) The battery has a low self-discharge,keep over 60% of the rated capacity after 2years stored under 25°C.
- (4) Compliance with IEC61427 (1999) , AS 4086.1 (1993).

### Outer Dimensions



### Dimensions and Weight

Total Height..... 671 ±2mm (26.4 inches)  
 Height..... 646 ±2mm (25.4 inches)  
 Length..... 145 ±2mm (5.7 inches)  
 Width..... 206 ±2mm (8.1 inches)  
 Weight.....Approx. 50.3 Kg (110.9 lbs)

### Performance Characteristics

Nominal Voltage..... 2V  
 Nominal of cell..... 1  
 Design life..... 20 years  
 Nominal Capacity 77°F(25°C)  
 120 hour rate to 1.80V..... 1048 AH  
 100 hour rate to 1.80V..... 984 AH  
 20 hour rate to 1.80V..... 719 AH  
 10 hour rate to 1.80V..... 666 AH  
 Safety vent..... Self resealing 150 mbar  
 Self-Discharge  
 .....2.5% of capacity declined per month at 25°C (77°F)  
 Operating Temperature Range  
 Discharge ..... -40°C to 55°C (-40°F-131°F)  
 Charge ..... -10°C to 50°C (14°F-122°F)  
 Storage ..... -20°C to 40°C (-4°F-104°F)  
 Nominal Operating Temperature Range.....25±3°C  
 Max.Discharge Current 77°F(25°C)..... 900 A(5S)  
 Short Circuit Current..... 4600 A  
 Internal Resistance .....0.40 mΩ  
 Container Material .....  
 .....ABS, Flame retardant to UL94-HB,UL94-V0 on request  
 Terminal.....Threaded insert terminal M10

### Charging Methods

Application	Charging method	Charging voltage at 25 °C	Temperature compensation coefficient of charging voltage	Max. charging current	Max. Charging time 25°C (h)	
					100% discharge	50% discharge
For standby power source	Constant voltage & Constant current charging (with current restriction)	2.25~2.275V	-3mV/°C	0.125C10	36	24
For Cycle service		2.40~2.45V	-4mV/°C	0.125C10	24	16

\*Temperature compensation of charging voltage is not needed when using the batteries within 5°C to 35°C range.



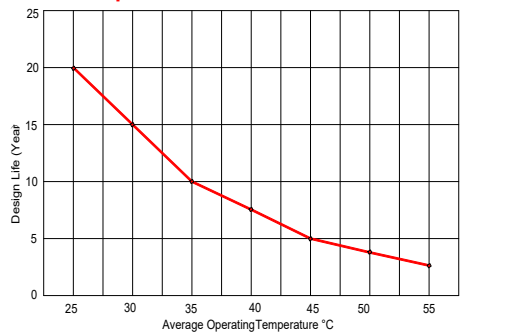
**Constant Current Discharge Characteristics: A(25°C)**

F.V/Time	1h	2h	3h	5h	8h	10h	12h	24h	48h	72h	100h	120h
1.9	205	165	129	92.6	65.7	56.6	49.4	29.9	17.1	12.26	9.04	7.77
1.87	217	173	139	96.4	67.2	57.8	50.7	30.7	17.6	12.58	9.34	8.07
1.85	245	193	159	107.5	73.5	63.2	52.7	31.9	18.2	13.06	9.71	8.41
1.83	267	198	159	108.2	73.9	63.6	57.8	32.3	18.5	13.22	9.76	8.56
1.8	301	212	166	113.3	77.3	66.6	58.2	32.4	18.9	13.40	9.86	8.73
1.75	348	223	169	113.7	77.7	67.0	---	---	---	---	---	---
1.7	362	234	172	114.5	78.0	67.0	---	---	---	---	---	---
1.65	375	239	177	114.8	78.0	67.0	---	---	---	---	---	---

**Constant Power Discharge Characteristics: W/cell(25°C)**

F.V/Time	1h	2h	3h	5h	8h	10h	12h	24h	48h	72h	100h	120h
1.9	403	325	255	183.2	130.9	113.7	102.4	57.3	33.2	23.27	17.46	15.15
1.87	442	352	284	198.8	139.0	120.6	103.8	58.1	33.6	23.69	18.03	15.75
1.85	472	372	309	210.4	144.4	125.2	108.5	60.8	35.1	24.52	18.75	16.39
1.83	512	382	308	213.1	146.6	126.2	111.1	62.2	36.0	25.00	19.03	16.69
1.8	572	406	321	215.8	148.8	127.1	112.7	62.7	36.6	25.97	19.15	17.12
1.75	658	426	323	218.4	150.3	130.2	---	---	---	---	---	---
1.7	673	439	327	221.2	151.6	131.3	---	---	---	---	---	---
1.65	694	445	330	222.0	151.9	131.7	---	---	---	---	---	---

**Design Life and Temperature**



Design life is a measure of rated capacity based on corrosion rate of the positive plate at a specific strength of electrolyte and alloy dimension. This does not relate directly to the expected service life as applications and operating environment can have a bearing on actual service life.  
Figure 1: Design Life Vs. Temperature

**Capacity and Temperature**

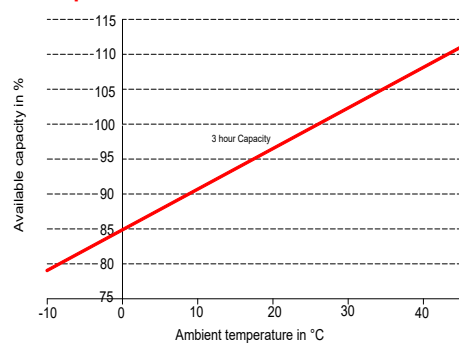


Figure 2: Capacity Vs Ambient temperature

**Capacity Retention Characteristic**

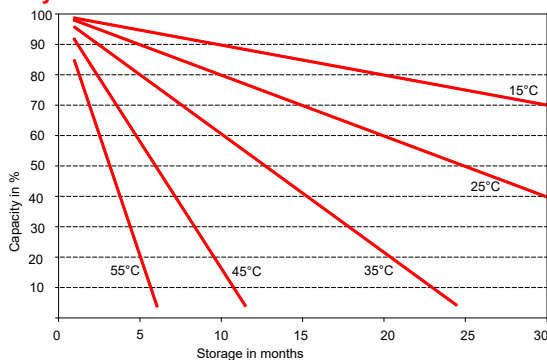


Figure 3. Self-discharge in relation to the storage temperature.

**Cycle Service Life**

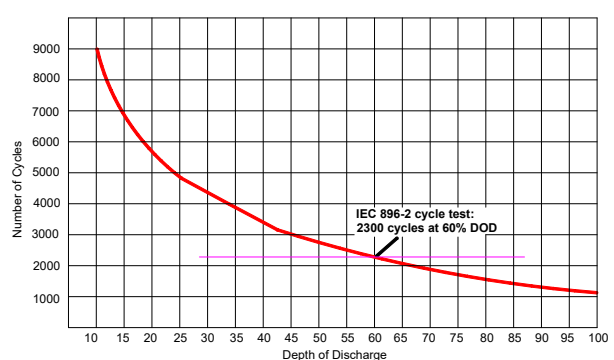


Figure 4. FSG Series, Number of Cycles vs. Depth of Discharge (DOD)

**Contact Information**

**Fullriver Battery**

Add: Taishi industrial Area, Yuwotou Town, Panyu Zone, Guangzhou, China  
Tel.: +86 20 8491 6671  
Fax: +86 20 8491 6672  
www.fullriver.com E-mail: info@fullriver.com

**Other Fullriver battery ranges:**

- DC Series : AGM Battery For Deep Cycle service*
- HC Series : AGM Battery For High Cranking service*
- HGXL Series : 2V AGM Stationary batteries*
- HGHL Series : AGM Batteries for High Rate Service*
- FAT Series : Front Access Terminal Batteries for Telecom/IT Applications*
- DCG Series : Gel Battery For Deep Cycle service*
- HGL Series : AGM Battery For General Purpose service*