

# SPG 12V - 26Ah | VRLA GEL Battery

SPG are sealed valve-regulated lead acid recombinant batteries that are non-spillable and maintenance-free. Although initially more expensive to purchase than AGM they offer a lower total cost to own over the life of the battery. When it comes to performance and life span the SPG batteries outperform other technologies and provide the greatest value for your stand-by application or cycling needs.

## Technical Features

- Micro millimeter SiO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> gelled electrolyte technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- Not restricted for air transport-complies with IATA/ICAO Special Provision A67.
- UL-recognized component.
- Can be mounted in any orientation.
- Computer designed lead, calcium tin alloy grid for high power density.
- Long service life, float or cyclic applications.
- Maintenance-free operation.
- Low self discharge.
- Case and cover available in both standard and flame retardant ABS.

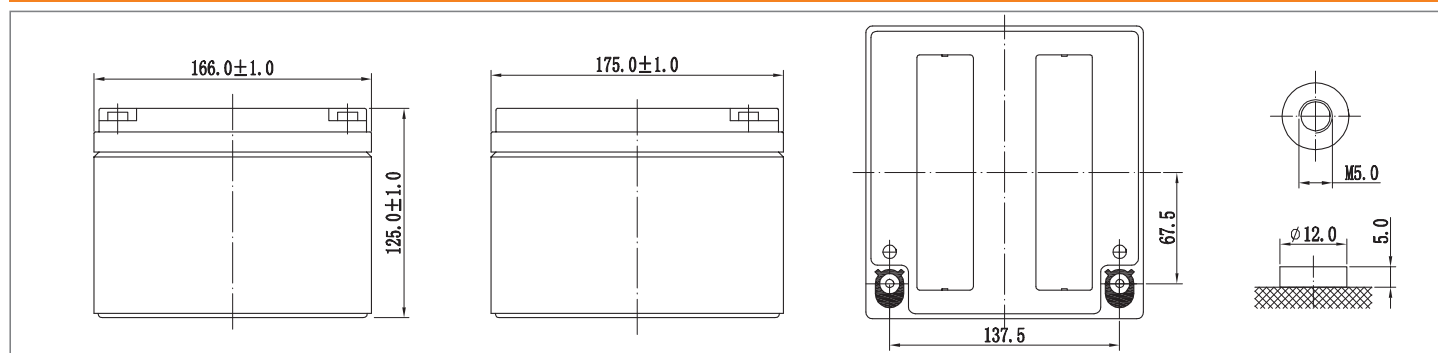
## Specifications

|                                |   |          |
|--------------------------------|---|----------|
| Nominal Voltage                | 12 V  |          |
| Number of cells                | 6   |          |
| Design Life                    | 12 years  |          |
| Dimensions                     | Length  | 166 mm   |
|                                | Width   | 175 mm   |
|                                | Height  | 125 mm   |
|                                | Total Height  | 125 mm   |
| Approx. Weight                 | 8.1 kg  |          |
| Nominal Capacity (25°C)        | 20 hours rate (1.3 A, 10.5 V)                               | 26.0 Ah  |
|                                | 10 hours rate (2.37 A, 10.8 V)                              | 23.7 Ah  |
|                                | 5 hours rate (4.1 A, 10.5 V)                                | 20.5 Ah  |
|                                | 1 hour rate (16.0 A, 9.6 V)                                 | 16.0 Ah  |
| Max. Discharge Current (25°C)  | 300 A (5s)  |          |
| Short Circuit Current          | 1200 A  |          |
| Internal Resistance            | ≤12 mOhms   |          |
| Fully Charged battery (25°C)   |   |          |
| Self-Discharge                 | 3% of capacity declined per month at 20°C (average)         |          |
| Operating Temperature Range    | Discharge   | -20~60°C |
|                                | Charge  | -10~60°C |
|                                | Storage   | -20~60°C |
| Charge Methods:                | Standby use: No charging current limit is required          |          |
|                                | Charging voltage: 13.38-13.68 Volts                         |          |
|                                | Cyclic use: Maximum charging current: 30% of rated capacity |          |
|                                | Charging voltage: 14.28-14.52 Volts                         |          |
| Constant Voltage Charge (25°C) | Temperature compensation:                                   |          |
|                                | stand by -20 mV/°C; cyclic use -30 mV/°C                    |          |

## Battery Construction

| Component    | Positive Plate | Negative Plate | Container | Cover | Safety Valve | Terminal | Separator  | Electrolyte |
|--------------|----------------|----------------|-----------|-------|--------------|----------|------------|-------------|
| Raw material | Lead dioxide   | Lead           | ABS       | ABS   | Rubber       | Copper   | Fiberglass | Gelled acid |

## Dimensions



## Constant Current Discharge (Amperes) at 25°C

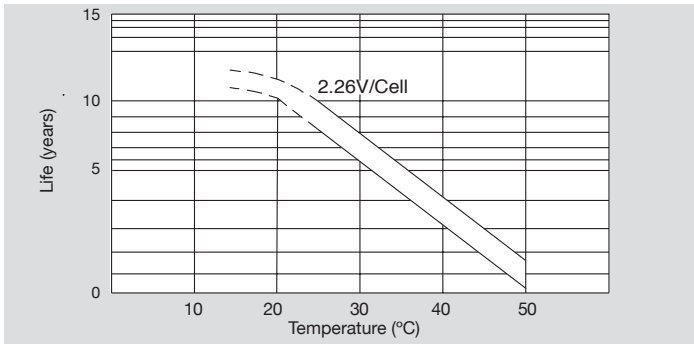
| End Voltage (Volts/Cell) | 5min | 10min | 15min | 30min | 1h   | 3h   | 5h   | 10h  | 20h  |
|--------------------------|------|-------|-------|-------|------|------|------|------|------|
| 1.60 V                   | 95.0 | 64.0  | 48.0  | 28.5  | 16.0 | 6.74 | 4.47 | 2.52 | 1.34 |
| 1.65 V                   | 90.1 | 60.9  | 45.9  | 27.4  | 15.4 | 6.53 | 4.36 | 2.47 | 1.33 |
| 1.70 V                   | 84.9 | 57.8  | 43.7  | 26.2  | 14.8 | 6.30 | 4.24 | 2.42 | 1.32 |
| 1.75 V                   | 79.7 | 54.5  | 41.1  | 24.9  | 14.2 | 6.05 | 4.10 | 2.37 | 1.30 |
| 1.80 V                   | 74.3 | 51.3  | 39.1  | 23.6  | 13.5 | 5.78 | 3.95 | 2.31 | 1.27 |

## Constant Power Discharge (Watts/Cell) at 25°C

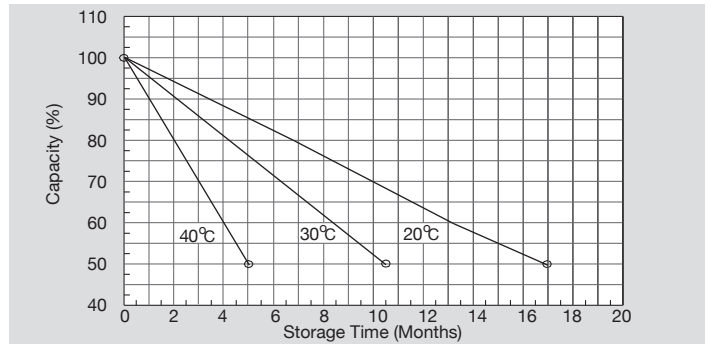
| End Voltage (Volts/Cell) | 5min | 10min | 15min | 30min | 45min | 1h   | 2h   | 3h   | 5h   |
|--------------------------|------|-------|-------|-------|-------|------|------|------|------|
| 1.60 V                   | 185  | 121.0 | 90.0  | 55.0  | 40.0  | 31.7 | 19.6 | 13.4 | 8.54 |
| 1.65 V                   | 173  | 114.0 | 85.1  | 52.3  | 38.2  | 30.3 | 19.0 | 13.1 | 8.39 |
| 1.70 V                   | 161  | 107.0 | 80.2  | 49.4  | 36.3  | 28.9 | 18.3 | 12.5 | 8.22 |
| 1.75 V                   | 151  | 99.7  | 75.2  | 46.6  | 34.3  | 27.5 | 17.6 | 12.0 | 8.03 |
| 1.80 V                   | 139  | 92.7  | 70.3  | 43.7  | 32.3  | 26.0 | 16.9 | 11.4 | 7.83 |

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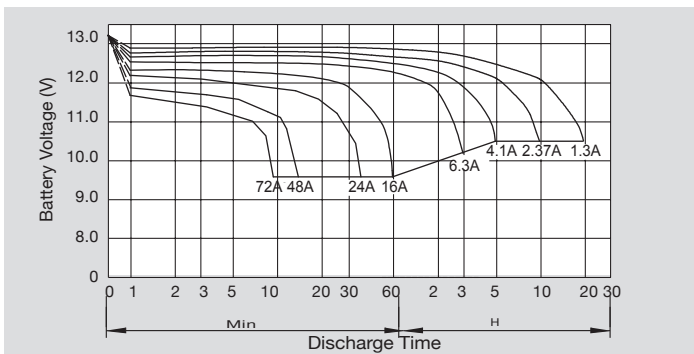
## Temperature Effects on Float Life



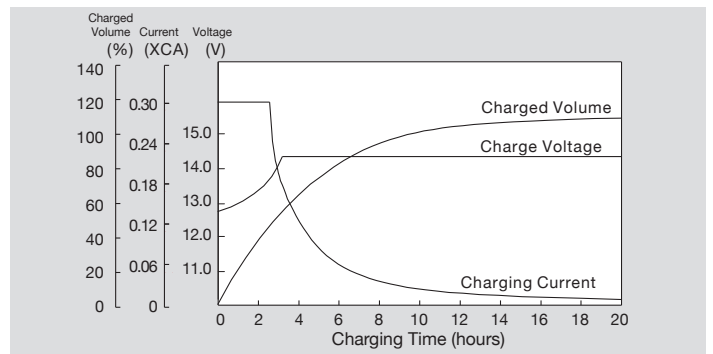
## Self Discharge Characteristics



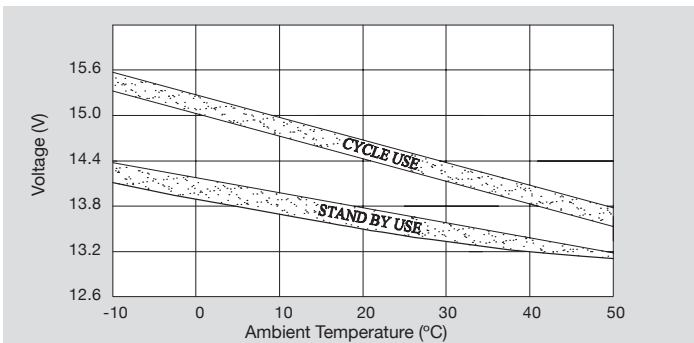
## Discharge Characteristics (25°C)



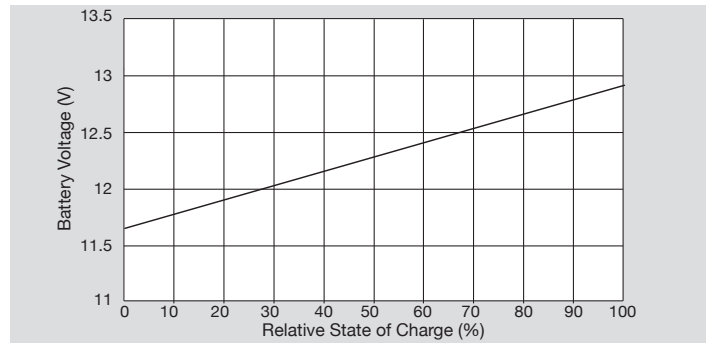
## Constant Voltage Charging Characteristic (0.25 CA, 25°C)



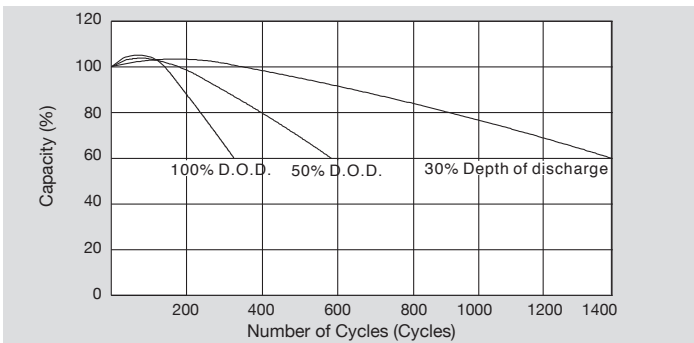
## Relationship Between Charging Voltage and Temperature



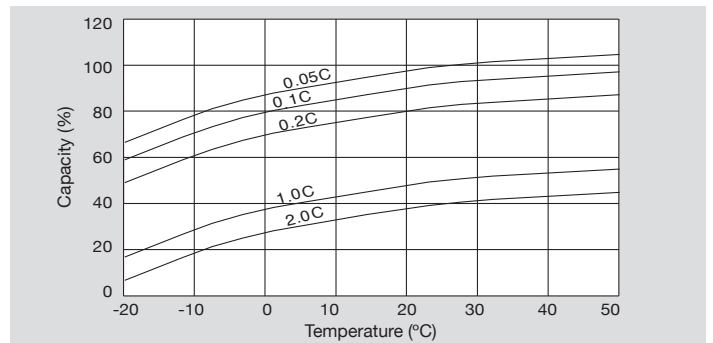
## Relationship of OCV and State of Charge (25°C)



## Cycle Service Life in Relation to Depth of Discharge



## Temperature Effects on Capacity



### SYSTEMS SUNLIGHT S.A.

#### Headquarters

2 Ermou & Nikis Str., Syntagma Sq.  
105 63 Athens, Attica, Greece

T +30 210 6245400 F +30 210 6245409

#### European Manufacturing Plant

672 00 Neo Olvio, Xanthi, Greece

T +30 25410 48100 F +30 25410 95446

#### Global Service Department

366 Tatoiou Str.

136 73 Acharnes, Attica, Greece

T +30 210 6245600 F +30 210 6245619

