

SPG 12V - 230Ah | 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 SiO₂ and H₂SO₄ 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.

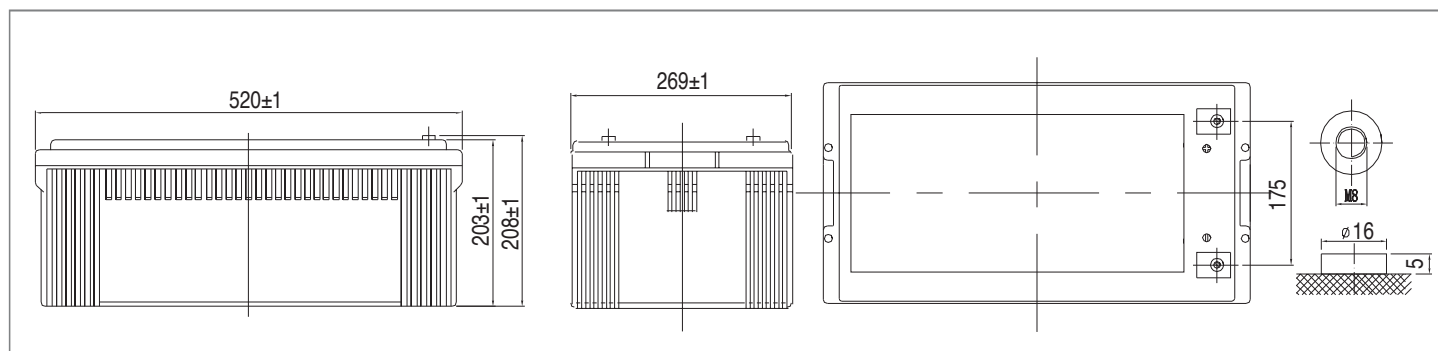
Specifications

Nominal Voltage	12 V	
Number of cells	6	
Design Life	12 years	
Dimensions	Length	520 mm
	Width	269 mm
	Height	203 mm
	Total Height	208 mm
Approx. Weight	72.6 kg	
Nominal Capacity (25°C)	10 hours rate (23.1 A, 10.5 V)	231.0 Ah
	5 hours rate (44.6 A, 10.5 V)	223.0 Ah
	1 hour rate (155.0 A, 9.6 V)	155.0 Ah
Max. Discharge Current (25°C)	1100 A (5s)	
Short Circuit Current	4300 A	
Internal Resistance	2.8 mOhms	
Fully Charged battery (25°C)		
Self-Discharge	3% of capacity declined per month at 20°C (average)	
	Discharge	: -20~60°C
	Charge	: -10~60°C
Operating Temperature Range	Storage : -20~60°C	
	Standby use: No charging current limit is required	
	Charging voltage: 13.38-13.68 Volts	
Charge Methods:	Cyclic use: Maximum charging current:	
	30% of rated capacity	
Constant Voltage Charge (25°C)	Charging voltage: 14.28-14.52 Volts	
	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

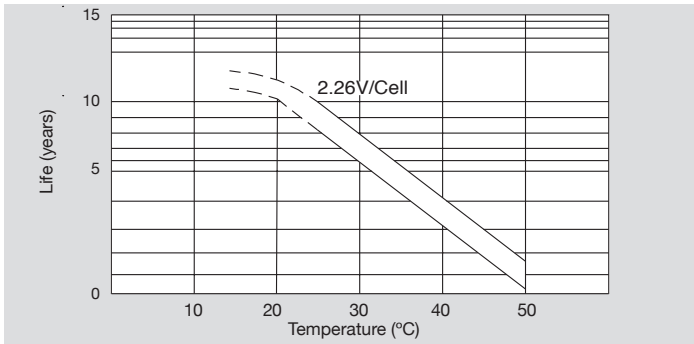
End Voltage (Volts/Cell)	15min	30min	45min	1h	3h	5h	10h
1.60 V	405	242	186	155	68.5	45.4	23.9
1.65 V	394	241	182	152	68.2	45.1	23.8
1.70 V	383	240	180	150	67.8	44.9	23.6
1.75 V	372	236	178	149	66.8	44.6	23.1
1.80 V	360	233	176	147	66.5	44.3	23.0

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

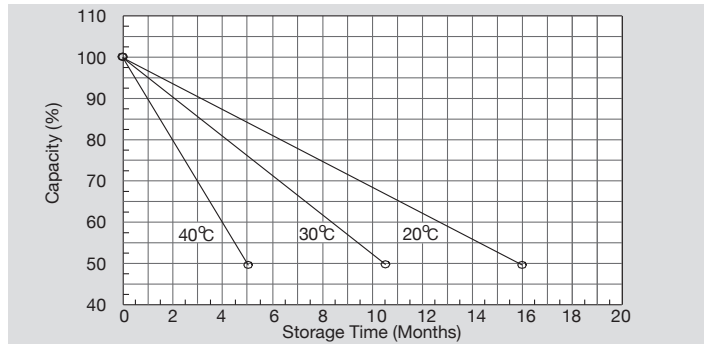
End Voltage (Volts/Cell)	15min	30min	45min	1h	2h	3h	5h
1.60 V	680	469	361	296	172	131	86.7
1.65 V	673	466	359	294	171	130	86.4
1.70 V	666	462	357	291	169	129	86.1
1.75 V	658	459	355	288	168	128	85.8
1.80 V	649	455	352	284	166	126	85.4

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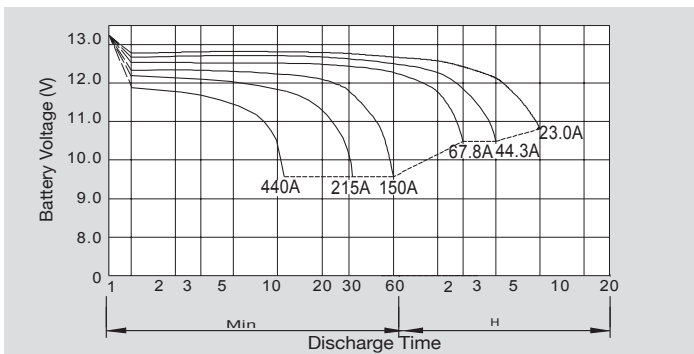
Temperature Effects on Float Life



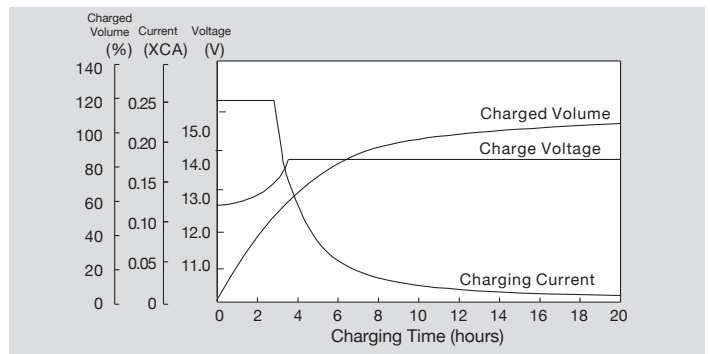
Self Discharge Characteristics



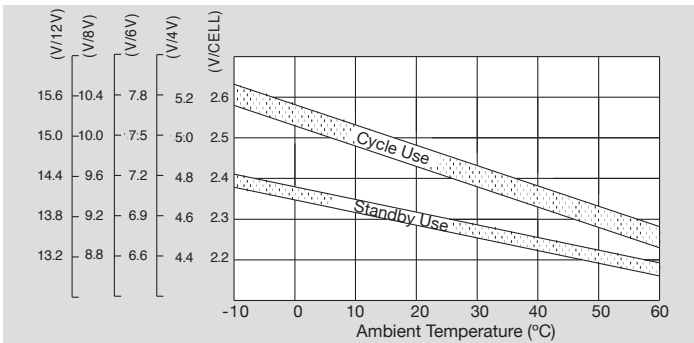
Discharge Characteristics (25°C)



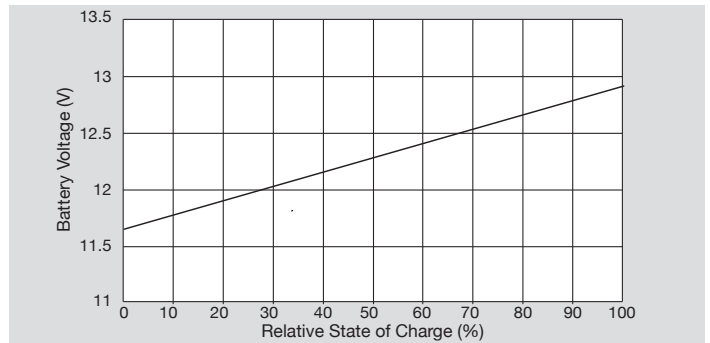
Constant Voltage Charging Characteristic (0.25 CA, 25°C)



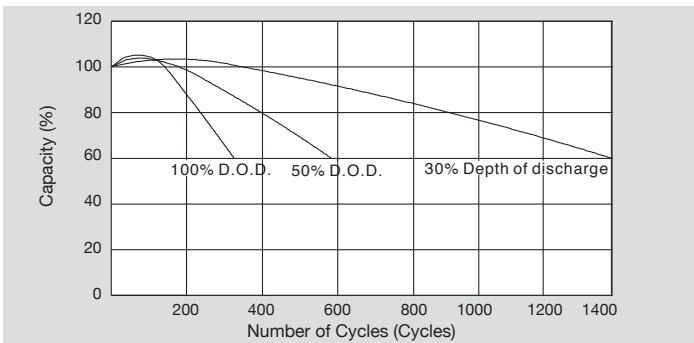
Relationship Between Charging Voltage and Temperature



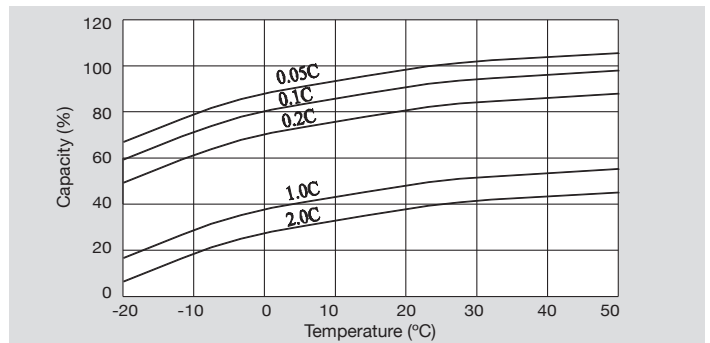
Relationship of OCV and State of Charge (25°C)



Cycle Service Life in Relation to Depth of Discharge



Temperature Effects on Capacity



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