

Premium Power From Premium Battery

newmax®

SG SERIES

NEWMAX Solar gel batteries are true maintenance-free sealed batteries engineered specially to satisfy the need for frequent deep cycles from PVs and renewable energy storage applications. We are confident that our technology-intensive, long-lasting, and environment friendly SG batteries will provide stability and efficiency for your everyday renewable energy needs.



General Features

◆ Plate	Paste type
◆ Battery type	Sealed and Maintenance free / Non-spillable construction design
◆ Case/cover mat	High-stiffness engineering PP plastic (Heat Deflection Temp. 140°C) RoHS Compliant EU Directive 2002/95/EC
◆ Safety performance	Safety valve & flame arrestor installation for explosion proof.
◆ High quality, high reliability and low self discharge rate	
◆ Exceptional deep discharge recovery performance	
◆ Flexibility design for multiple install positions (Position Free, GEL Technology)	
◆ Designed in accordance with and published in compliance with applicable IEC and BS EN, KS stds.	
• IEC 60896-21/22 Stationary lead-acid batteries – Valve regulated types • BS EN 61427 Secondary cells and batteries for photovoltaic energy systems (PVES) • KS C 8518 Stationary sealed lead-acid batteries – Valve regulated types	

Technical Features



Premium ActiveCarbon™

In every Newmax battery, proprietary micro carbon additive is used in the active material for both positive and negative plates to enhance charge acceptance and cycle endurance. ActiveCarbon™ works to strengthen charge pathways to improve performance consistency and enhance performance at partial state of charge (PSOC) environment.



ThixoPure™ GEL Technology

Application of refined pure thixotropic colloidal silica GEL technology to battery electrolyte has greatly increased the cycle life by both preventing plate stratification and providing extra temperature protection against heat and cold. We are the first Korean company to successfully commercialize the GEL technology in the VRLA battery industry.



Highly Resistive Heat Protection Case

Specially formulated heat and flame resistant polypropylene case material is used to effectively block ambient heat thus preventing heat related malfunctions such as thermal runaway. This proprietary high rigidity case material has heat deflection rating of 140 °C and complies to RoHS Compliant EU Directive 2002/95/EC. Additional UL94-V0 protection option also available.



MaxPress™ Grid Technology

Patent pending grid compressing technology which increases the density of the lead grain of the grids. The grain density is typically 400% greater than that of the conventional casting method. This up-to-date grid technology enables our batteries to survive even the toughest deep discharge and PSOC applications.



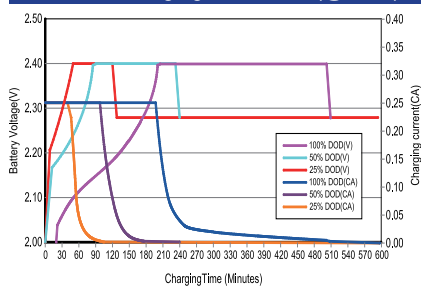
FlexSealing™ Anti Explosion Filter

Patent pending proprietary cap filtering and sealing technology. Battery cell caps are sealed simultaneously using specially designed o-rings and explosion filters to prevent leakage and gassing more effectively than ever before.

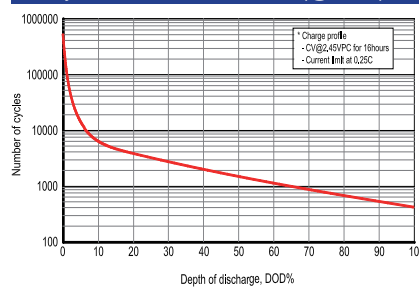
Operating temperature range

Discharge	Charge	Storage
-20°C ~ 60°C	0°C ~ 50°C	-20°C ~ 60°C

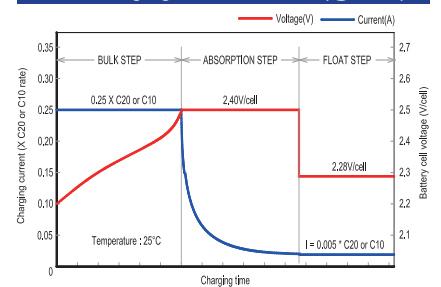
DOD% vs charging time curve (@25°C)



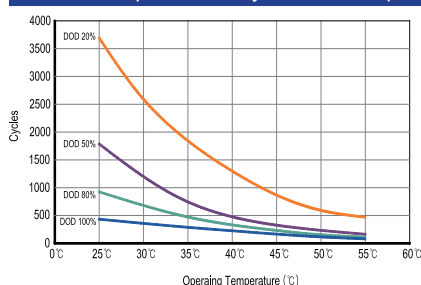
Cycle life vs detail DOD% (@25°C)



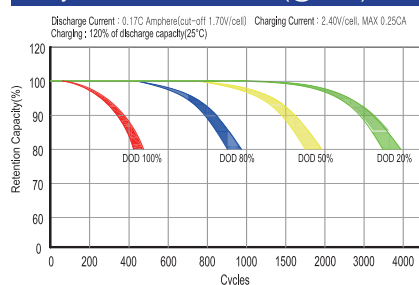
Solar charging characteristics (@25°C)



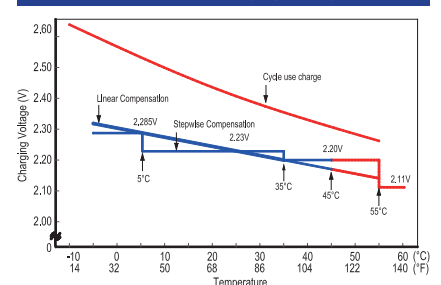
Relationship between cycle life & temp.



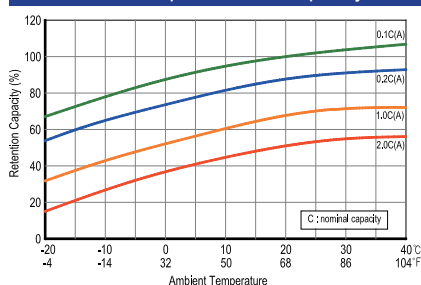
Cycle life characteristics (@25°C)



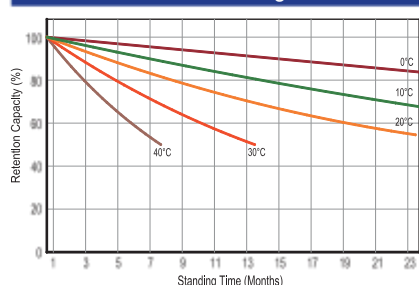
Relationship between charging voltage & temp.



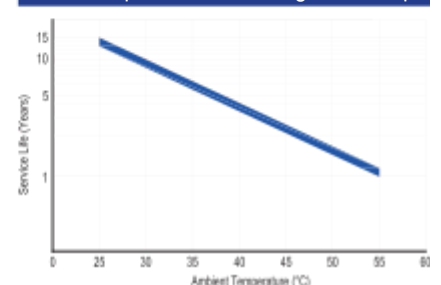
Effect of temperature on capacity



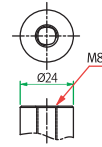
Self discharge



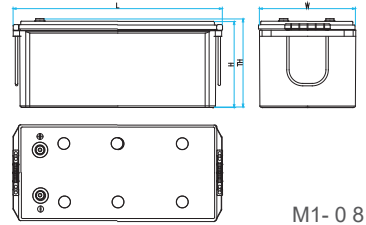
Relationship between Floating life & temp.



SG 2500H



Standard



M1-0 8

Battery Model	SG 2500H (12V250AH / 20 HOUR RATE)			
Nominal Capacity (@25°C)	C ₂₀ (1.80VP)	C ₁₀ (1.80VPC)	C ₅ (1.70VPC)	C ₁ (1.60VPC)
	250 Ah	229Ah	199Ah	150Ah
Dimensions (mm/inch)	Length	Width	Height	Total Height
	524(20.63)	242(8.52)	215(8.46)	222(8.74)
Weight (kg/lbs)	62kg(136.7 lbs)±5%			
Internal resistance (mΩ)	≤2.10mΩ ±10% (25°C, 77°F), Full charged			
Max. discharge current (5 sec.)	1,600 A	Max. discharge current (continuous)		600 A
Capacity affected by Temperature	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
	105%	103%	95%	78%
Self-discharge (@25°C,77F)	After 1 month ≤2%		After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	4,000A±10%			
Recommended charging (@25°C) Solar system	1 st Bulk Step	2nd Absorption Step		3 rd Floating Step
	0.20~0.25C CC	2.40V/cellCV,(cut-off A : 0.005C)		2.28 V / cellCV

Discharge ratings – Amperes @ 25°C

V/cell	Minutes						Hours						
	5	10	15	20	30	45	1	2	3	5	8	10	20
1.85V	191	186	183	177	151	136	108	50.3	48.4	33.1	22.2	19.5	10.6
1.80V	278	266	236	212	179	155	121	54.4	50.8	36.1	23.6	21.3	11.5
1.75V	322	298	259	229	185	165	127	55.0	51.8	37.1	24.2	21.3	11.5
1.70V	365	325	278	243	193	170	131	56.7	52.8	38.7	24.7	21.3	11.5
1.65V	407	353	298	258	204	175	135	58.8	53.6	39.0	25.2	21.4	11.6
1.60V	457	387	321	275	216	216	140	60.6	54.1	40.5	25.6	21.6	11.7

Discharge ratings – Watts / Block @ 25°C

V/cell	Minutes						Hours						
	5	10	15	20	30	45	1	2	3	5	8	10	20
1.85V	4,339	3,521	2,956	2,540	2,346	1,766	1,430	821	585	419	272	221	122
1.80V	4,986	3,875	3,205	2,746	2,514	1,887	1,517	846	600	429	278	225	124
1.75V	5,551	4,239	3,469	2,923	2,628	1,949	1,562	880	617	442	284	229	124
1.70V	6,091	4,481	3,583	2,991	2,665	1,978	1,584	888	622	446	288	232	125
1.65V	6,530	4,701	3,697	3,063	2,715	2,014	1,609	897	630	451	291	236	126
1.60V	6,909	4,843	3,761	3,113	2,757	2,045	1,626	905	637	457	295	240	129



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