250aH 8D Sealed Lead Acid Rechargeable Battery - AGM (Absorbent Glass Mat Technology) - 12V Nominal Instruction Manual

Thank you for your purchase of the Larson Electronics AGM-12V-8D-250AH.

WARNING:
READ CAREFULLY BEFORE INSTALLING FIXTURE. RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE. CRITICAL SAFETY INSTRUCTIONS:

- INSTALLATION SHOULD ONLY BE CONDUCTED BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WITH NEC AND ANY RELEVANT LOCAL BUILDING CODES.
- RISK OF FIRE OR ELECTRIC SHOCK. FIXTURE INSTALLATION REQUIRES KNOWLEDGE OF LUMINAIRES ELECTRICAL SYSTEMS. IF NOT QUALIFIED, CONTACT A QUALIFIED ELECTRICIAN.
- BE CERTAIN ELECTRICAL POWER IS OFF BEFORE AND DURING INSTALLATION AND MAINTENANCE.
- MAKE SURE THE SUPPLY VOLTAGE IS THE SAME AS THE RATED LUMINAIRE FIXTURES VOLTAGE.
- TO PREVENT WIRING DAMAGE OR ABRASION, DO NOT EXPOSE WIRING TO EDGES OF SHEET METAL OR SHARP OBJECTS. SUITABLE FOR DAMP LOCATIONS.

The AGM-12V-8D-250AH is a heavy duty sealed lead acid battery with AGM construction for deep cycle use. Absorbent Glass Mat (AGM) technology provides excellent control and stability of the acids contained within the battery, allowing the battery to be operated in any position without leakage. This rechargeable lead acid battery is spill proof and approved for air transport. D.O.T., I.A.T.A., F.A.A. and C.A.B. certified. U.L. recognized under file number MH 20567.

Battery Storage

Batteries should always be stored fully charged in a cool and dry place to maintain maximum service life.

Depending on storage temperature, batteries hold their charge for 3 to 6 months until recharge is necessary. Above 30°C (86° F), recharge at 6 months. Above 40°C (104° F), recharge at 3 months.
Do not store above 40°C (104°f).

If a battery is stored for 6 months or longer without being charged, its service life may be shortened.

Never store batteries in a sealed environment or incorporate into a sealed structure/ enclosure without adequate ventilation.

To properly charge your deep cycle AGM battery:

Active user: Charge daily.

Occasional user: Charge your battery before any outing, after use, and every 90 days if no usefully use with a specified charger. Only use appropriate charger to charge AGM vs GEL batteries as charging rates differ.

Never use an automotive or wet type charger on a AGM/GEL battery.

Top charge your battery frequently and/or leave on charger/maintainer.

USAGE PRECAUTIONS

SLA batteries, if used under recommended conditions, generate no sulfuric acid gases. However, because they contain lead and sulfuric acid, which are both toxic, proper care and handling is important in order to avoid accidental fires, damage to property, bodily injuries or even death.

Improper charging and poor maintenance may cause battery to emit hydrogen gas; therefore, do not use battery near a spark. fuse, flame and/or equipment that emits sparks.

Never mix the SLA batteries together with other types of batteries, such as dry cells and nickel-cadmium batteries.

Keep the battery terminals from contract with wire, metal cabinets, metal tools, such as screw drivers, spanners, torque wrenches unless they are properly insulated. Do not wear any watches, personal jewelry, hair pins or any other metallic objects when servicing the batteries.

Short circuiting the terminals of the battery can cause burns, injuries, damage to the storage battery, or trigger explosions.

Do not direct solder to terminal. This may lead to electrolyte leakage.

Do not use SLA batteries in the upside down position.

Do not use organic solvent, cleaning agents, paint/thinner, petroleum products to clean battery surface. These products can lead to battery container/cover cracking.

SLA batteries may not be compatible with certain equipment. Any uncertainty about the specifications of the battery should be brought to our attention.

Observe circuit polarities. Do not make or break live circuits.

As appropriate, use an insulating blanket to cover exposed portions of the battery system when performing extended maintenance that could result in personal or equipment contact with energized conductors.

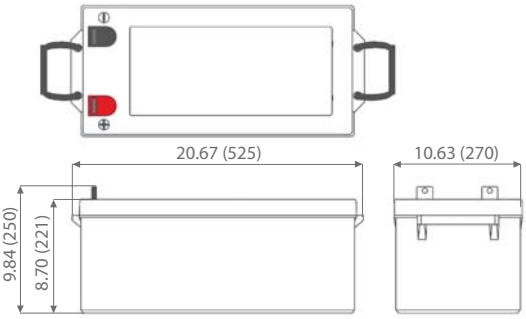
Specification

Nominal Voltage			12 Volts
Nominal Capacity			77°F (25°C)
20-hr. (12.5 A)			250 Ah
10-hr. (23.2 A)			232.5 Ah
5-hr. (42.5 A)			212.5 Ah
1-hr. (150.0 A)			150 Ah
Approximate Weight			158.73 lbs (72 kgs)
Internal Resistance (approx.)			
Shelf Life (% of normal capacity at 77º F (25º C))			
3 Months	6 Months		12 Months
91%	82%		64%
Temperature Dependancy of Capacity		(20 hour rate)	
104° F (40°C)	77° F (25°C)	32° F (0°C)	5° F (-15°C)
102%	100%	85%	65%
AGM Operational Temperature			
Charge		32°F to 104°F (0°C to 40°C)	
Discharge		5°F to 113°F (-15°C to 45°C)	
AGM Storage Temperature		5°F to 104°F (-15°C to 40°C)	



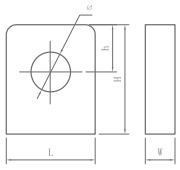
Charge Method (Constant Voltage)	
Cycle Use (Repeating Use)	
Initial Current	75 A or smaller
Control Voltage	14.6 - 14.8 V
Float Use	
Control Voltage	13.6 - 13.8 V

Physical Dimensions: in (mm)



L: 20.67 in (525 mm)
W: 10.63 in (270 mm)
H: 8.70 in (221 mm)
TH: 9.84 in (250 mm)
Tolerances are +/- 0.04 in. (+/- 1mm) and +/- 0.08 in. (+/- 2mm) for height dimensions. All data subject to change without notice.

Terminals



Dimension / Type	L	W	H	h	⌀
L3	25.5 mm 1.00 in	7.00 mm 0.28 in	22.0 mm 0.87 in	10.5 mm 0.41 in	8.50 mm 0.34 in

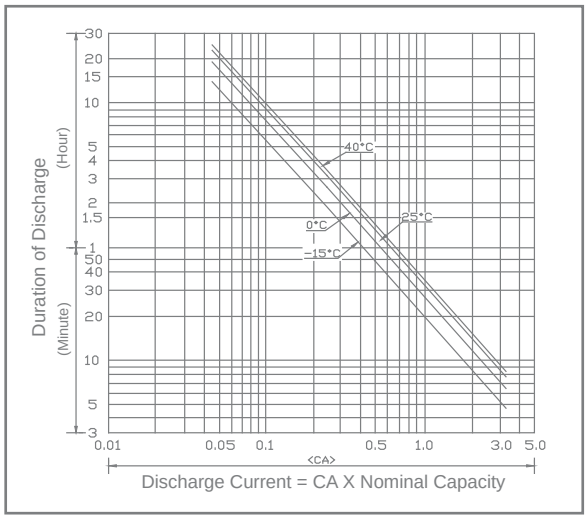
Constant Current Discharge Characteristics Unit:A (25°C, 77°F)

F.V/Time	5MIN	15MIN	30MIN	60MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	801.0	428.5	290.4	179.9	87.5	71.60	46.20	31.60	26.36	13.54
1.67V	776.0	408.0	276.1	171.0	83.5	69.80	45.10	31.10	25.89	13.40
1.70V	750.0	392.6	264.9	164.1	81.5	68.70	44.60	30.80	25.53	13.31
1.75V	723.0	373.3	251.8	156.7	79.5	67.00	43.60	30.10	24.80	13.00
1.80V	699.0	351.6	239.9	149.6	77.5	64.60	42.40	29.00	24.21	12.81

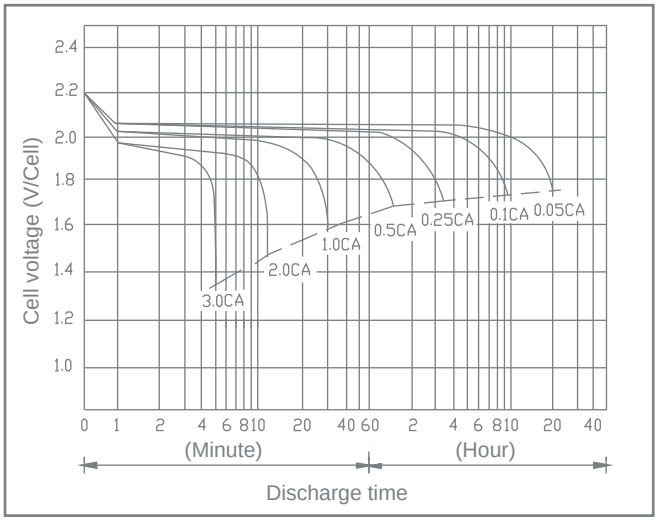
Constant Power Discharge Characteristics Unit:W (25°C, 77°F)

F.V/Time	5MIN	15MIN	30MIN	60MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	8264	4894.4	3281.0	1972.4	961.0	826.0	544.8	375.9	311.89	166.59
1.67V	8282	4687.1	3169.6	1932.0	955.0	814.7	539.0	370.9	309.03	163.53
1.70V	8193	4510.2	3069.0	1875.0	945.0	796.2	531.5	368.3	306.62	161.74
1.75V	8112	4339.1	2971.7	1819.7	931.0	778.0	520.0	362.5	301.05	158.08
1.80V	7924	4136.2	2831.4	1779.1	916.0	760.95	508.4	354.8	294.31	153.78

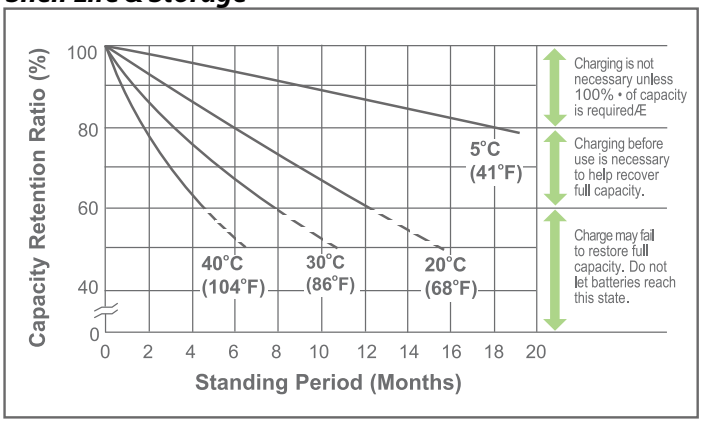
Discharge Time vs. Discharge Current



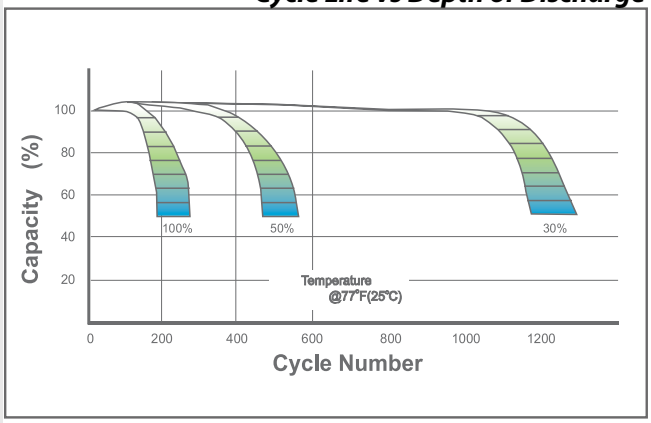
Discharge Characteristics



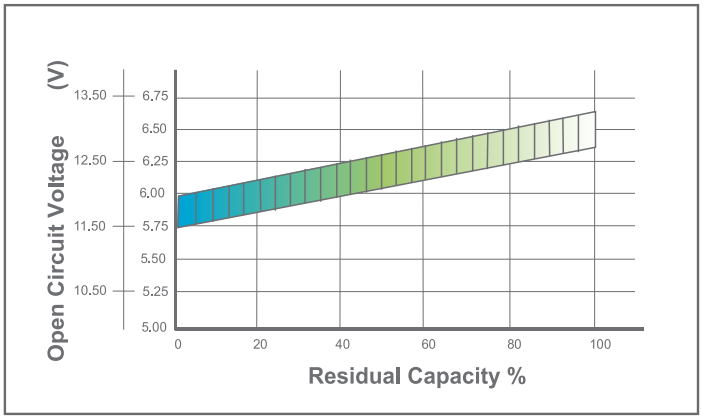
Shelf Life & Storage



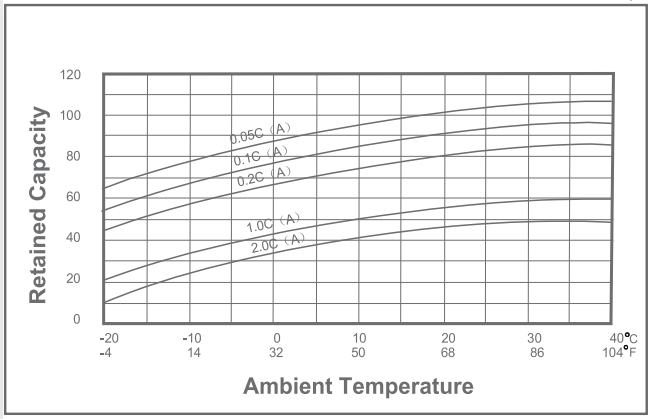
Cycle Life vs Depth of Discharge



Open Circuit Voltage vs Residual Capacity



Effect of Temperature on Capacity



Charge Current & Final Discharge Voltage

Application	Charge Voltage(V/Cell)			Max.Charge Current
	Temperature	Set Point	Allowable Range	
Cycle Use	25℃(77℉)	2.45	2.40~2.47	0.30C
Standby	25℃(77℉)	2.30	2.27~2.30	

Final Discharge Voltage V/Cell	1.75	1.70	1.60	1.30
Discharge Current(A)	0.2C>(A)	0.2C<(A)<0.5C	0.5C<(A)<1.0C	(A)>1.0C