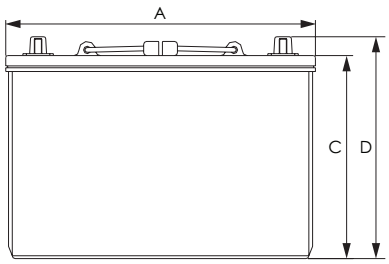
Discover®
Innovative Battery Solutions

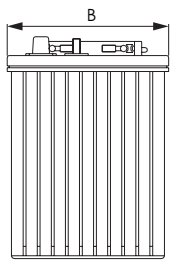
D31A-120D
DATASHEET

Deep Cycle Battery Block

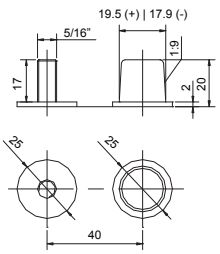
Discover® AGM Series VRLA Industrial Batteries provide superior high integrity and reliability for commercial, industrial, and private applications. The maintenance-free Valve Regulated Lead Acid (VRLA) construction make Discover® Standard AGM Series Batteries the definitive choice for mobility and Home Medical Equipment (HME), solar and renewable energy, electronics and security, marine and RV, and utility applications.

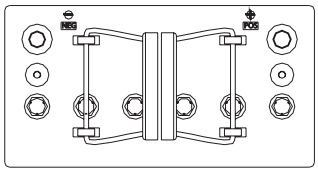
MECHANICAL DRAWINGS



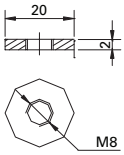


Terminal (AM)





Optional Terminal (F10-M8)



MECHANICAL SPECIFICATIONS

Industry Reference	31	
Length (A)	13.0 in	330 mm
Width (B)	6.8 in	172 mm
Height (C)	8.5 in	216 mm
Total Height (D)	9.3 in	236 mm
Weight	71 lbs	32 kgs
Terminal (Opt'l)*	AM (F10-M8)	
Cell(s)	6	
Electrolyte	1.300 S.G.	AGM

NOTE: There is a tolerance of +/-2%.

***TERMINAL TORQUE:** Please refer to our document, located in the Resources webpage (www.discoverbattery.com/resources)

ELECTRICAL SPECIFICATIONS

Voltage	12 V	
Internal Resistance	7.00 mΩ	
Short Circuit (20°C | 68°F)	3270 A	
Self Discharge	Less than 3% per month (20˚C|68˚F)	
Cranking Amps**	940 @ 0˚C (32˚F)	785 @ -18˚C (0˚F)
Charge Temperature	Min: -10°C (14°F) | Max: 50°C (122°F)	
Discharge Temperature***	Min: -40°C (-40°F) | Max: 50°C (122°F)	
Storage	Min: -20°C (-4°F) | Max: 60°C (140°F)	

****CRANKING AMPS:** Cranking Amps data is provided as a reference only. Specific application sizing and life factors must be considered when using deep cycle product in a starting application.

*****CAUTION:** Extra considerations must be given to depths of discharge, operating voltages and currents when designing systems for use at maximum temperatures.

ELECTRICAL SPECIFICATIONS

Amp Hours (AH)				Minutes of Discharge	
100 HR	**20 HR**	**10 HR**	**5 HR**	**@25A**	**@75A**
134	120	110	90	215	55

Max Charge / Discharge Current	Peak (5 seconds)	Peak (10 seconds)	Max Continuous
Charge	1C20Hr	0.75C20Hr	0.25C20Hr
Discharge	10C20Hr	10C20Hr	0.5C20Hr

CHARGE RECOMMENDATION

Float (Stand-By) Use: Hold a constant voltage of 2.25vpc to 2.30vpc continuously. When held at this voltage, the battery will seeks its own current level and maintain itself in a fully charged condition.

Cyclic Use: Limit initial currents to 0.25C20 amps. Charge until battery voltage reaches 2.40 to 2.45vpc. Hold at 2.40 to 2.45vpc until current drops to under 0.01C20 amps. Battery is fully charged under these conditions, and charger should be disconnected or switched to "float" voltage.

Temperature Coefficient: Adjust charging voltage to +/- 0.005vpc (C, 0.003vpc/F) from 25˚C (77˚F).

BENEFITS & FEATURES

Optimized lead calcium plates deliver high power density and consistent performance.

Special grid alloy and paste formula to reduce gassing and self-discharge.

SEALED valve regulated NON-SPILLABLE Maintenance-free technology.

99% gas recombination for extended life in float or cyclic applications.

Multiple battery terminal options and carrying handles.

UL924 recognized flame arresting low pressure safety vents.

High impact reinforced polypropylene cases with flat top designs.

98% recyclable.

Classified as a non-spillable battery is not restricted for transportation by:
- Air (IATA/ICAO provision 67)
- Ground (STB, DOT-CFR-HMR49)
- Water (IMDG amendment 27)

CERTIFIED QUALITY

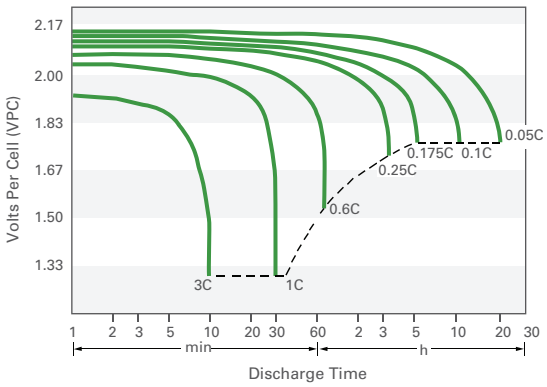
Designed in accordance with and published in compliance with applicable BCI, IEC and BS EN standards, including:

- IEC60896-21/22
- BS EN 60254-1:2005
- AS/NZS 4029.2.2000

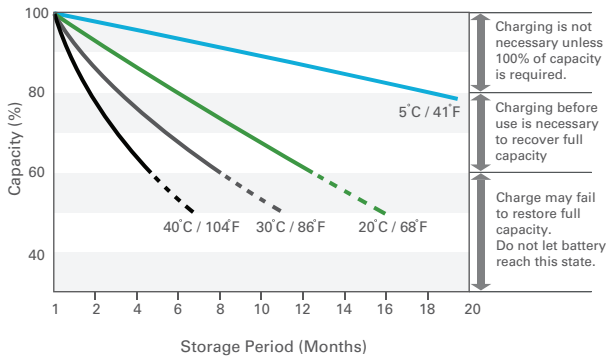
Discover® and its facilities and products are certified to multiple standards:

- ISO, UL, QS, and TUV standards
- ETTS Germany
- Euro Bat classification for
- Environmental Stewardship Standards

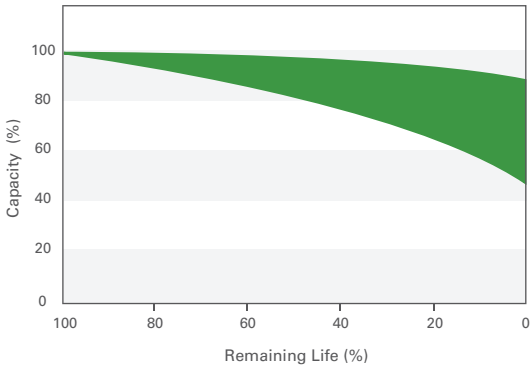
DISCHARGE CHARACTERISTICS (20˚C/68˚F)



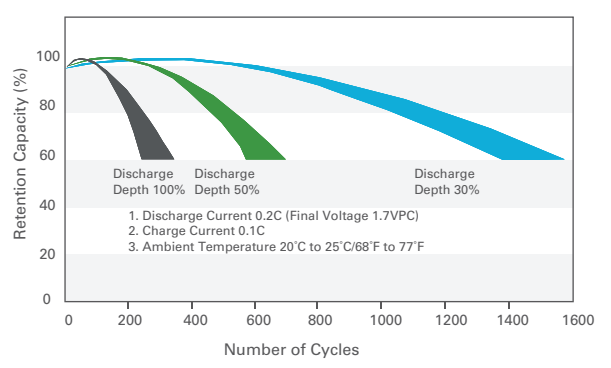
SELF-DISCHARGE CHARACTERISTICS



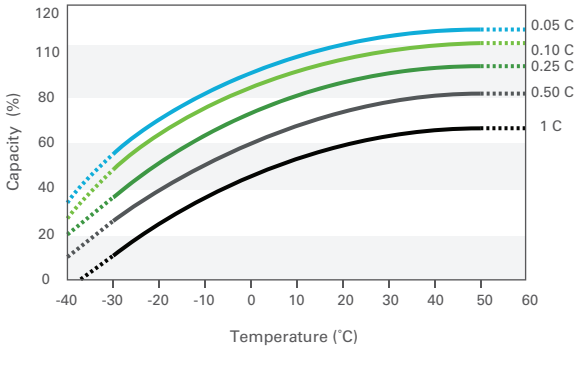
LIFE CHARACTERISTICS IN STAND-BY USE



LIFE CHARACTERISTICS IN CYCLIC USE (CYCLIC MODELS ONLY)



TEMPERATURE EFFECTS ON CAPACITY



TEMPERATURE EFFECTS ON FLOAT LIFE