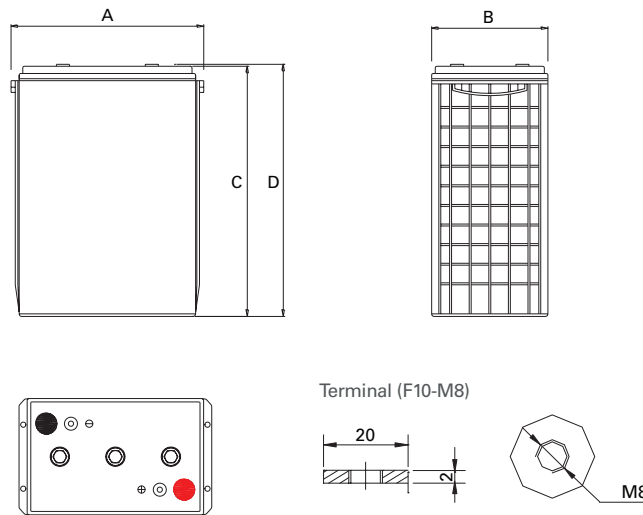


Solar Dry Cell Battery Block

SOLAR DRY CELL batteries outperform traditional AGM and GEL batteries and are a resilient solution for renewable energy and stationary storage applications. Incorporating graphite enhanced alloys, carbon additives, hydro polymer electrolytes with organic capillary separator technology, SOLAR DRY CELL are tolerant of Partial State of Charge (PSOC) operation and extreme temperatures. Discover SOLAR DRY CELL batteries are maintenance-free, provide a consistently high operating voltage and long runtime over their operational life.

MECHANICAL DRAWINGS



MECHANICAL SPECIFICATIONS

Industry Reference	903-L16	
Length (A)	11.6 in	295 mm
Width (B)	7.1 in	180 mm
Height (C)	15.1 in	383 mm
Total Height (D)	15.2 in	385 mm
Weight	116.6 lbs	53 kgs
Terminal	F10-M8	
Cell(s)	3	
Electrolyte	Absorbed Electrolyte, VRLA Non-Spillable	

NOTE: There is a tolerance of +/-2% in dimensions. Weights may vary.
*TERMINAL TORQUE: Please refer to our document, located in the Resources webpage (www.discoverbattery.com/resources).

ELECTRICAL SPECIFICATIONS

120 HR	100 HR	20 HR	10 HR
1.75 Volts Per Cell (VPC) at 30°C / 86°F			
449 AH	445AH	408 AH	378 AH

ELECTRICAL SPECIFICATIONS

Voltage	6	
Reference LVD / I10	20% DOD	6.30 V
	50% DOD	6.15 V
Cycle Life (50% DOD)	1400+ (BCIS-06)	
Internal Resistance	1.35 mΩ	
Short Circuit (20°C / 68°F)	4400 A	
Self Discharge (20°C / 68°F)	2-3% per month	
Maximum Operating Temperature	-30°C / -22°F 50°C / 122°F	
Recommended Operating Temperature	15°C / 59°F 35°C / 95°F	
Storage Temperature	-40°C / -40°F 70°C / 158°F	

BENEFITS

ENHANCED RUN TIME

- High Amp Hour Capacity
- High Consistent Operating Voltage
- 50% DOD Above 2.05 VPC

EXTREME TEMPERATURES

- Longer Life Across High Temps than AGM
- Longer Runtime Across Low Temps than Lead

EXTENDED SERVICE LIFE

- Consistent Runtime Over Operational Life
- 700+ Cycles IEC 896-2 (Lead Acid Stationary)
- 1400+ Cycles BCIS-06 (50% DOD)

RELIABLE, SAFE, CERTIFIED

- Maintenance-free
- Non-spill, Non-gas
- Valve Regulated Lead Acid, Dry Cell
- UL, CE Health Safety Certified
- Flame Retardant Case Options V0 HL3 (DIN EN 45545-2)

RESILIENCE

- Superior PSOC Operation than AGM/GEL
- Higher Resilience to Over-Charge/ Discharge than AGM
- Supports In-rush Currents Better than GEL

FEATURES

ENHANCED ALLOYS

- Thick Plate Construction with Graphite Enhanced Plate Alloys Deliver Maximum Runtime Over Operational Life

CARBON BOOST

- Carbon Additives Increase Intense Duty Cycle Performance, Battery Charge Acceptance and PSOC Operation

HYDRO POLYMER

- Organic Capillary Separator Technology Fully Saturated with Bi-Polar Hydrophilic Polymer Electrolytes Deliver Extra Electrolyte Volume
- Resist Premature Dry-out and Prevents Thermal Runaway
- Maintains high Performance Characteristics Across Operational Life

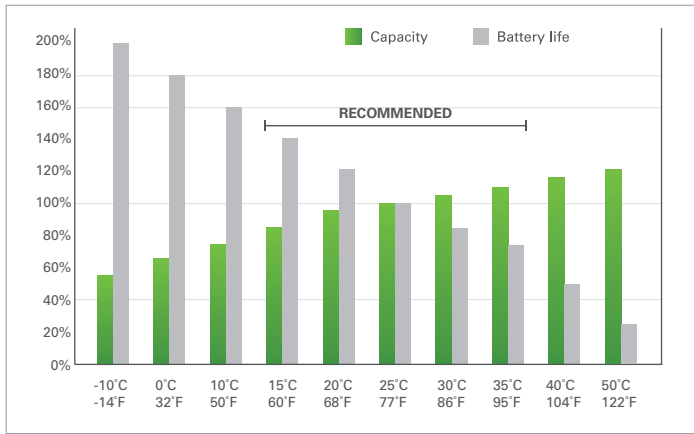
POLYPROPYLENE CASE

- Integrated Flame Arrestors to Prevent Fire and Explosion
- Pressure Relief Valves with Low Open/ Close Tolerance to Reduce Water Loss and Extend Cycle Life
- Higher Heat Resistance and Durability, Lighter Weight than ABS Case

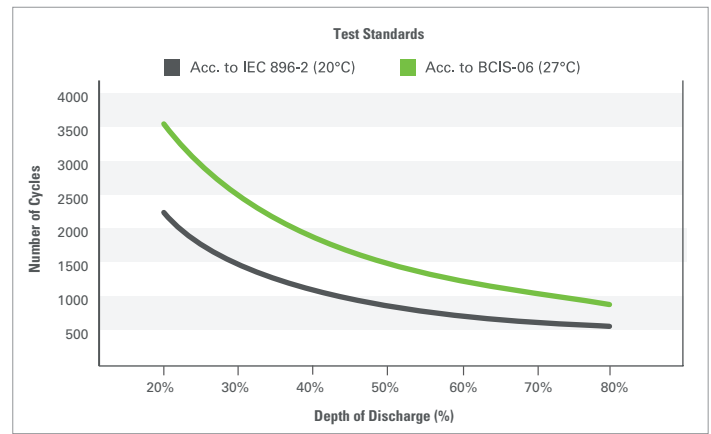
AUTOMATED THROUGH-THE-PARTITION WELD

- Through-the-Partition Welds Improve Manufacturing Consistency
- Sustains High Current Draws
- Lowers Internal Resistance
- Reduces Defects and Wasted Lead than Manual Over-the-Partition Welding

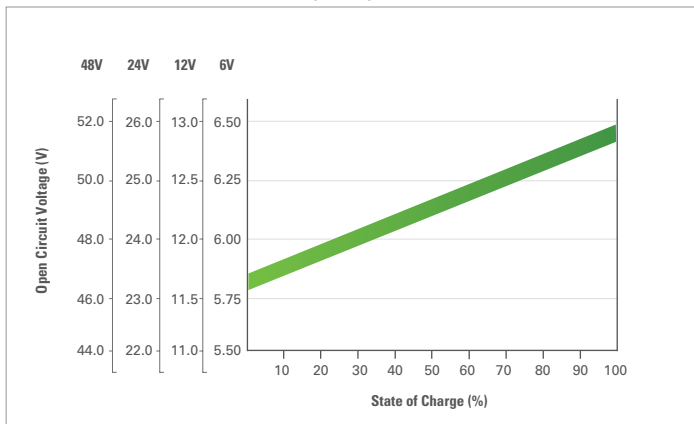
TEMPERATURE EFFECTS ON CAPACITY



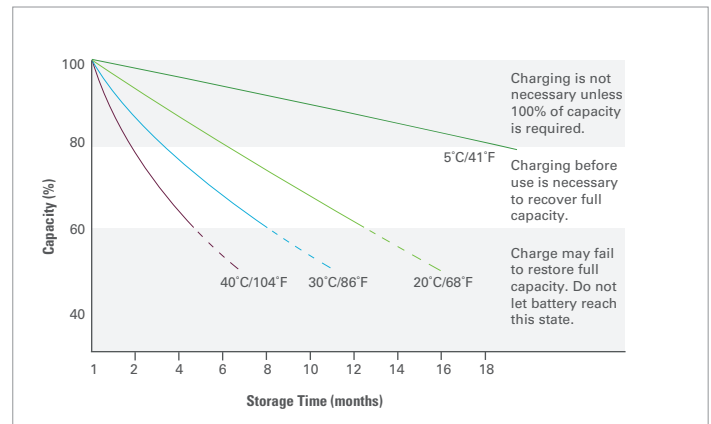
CYCLE LIFE VS DEPTH OF DISCHARGE



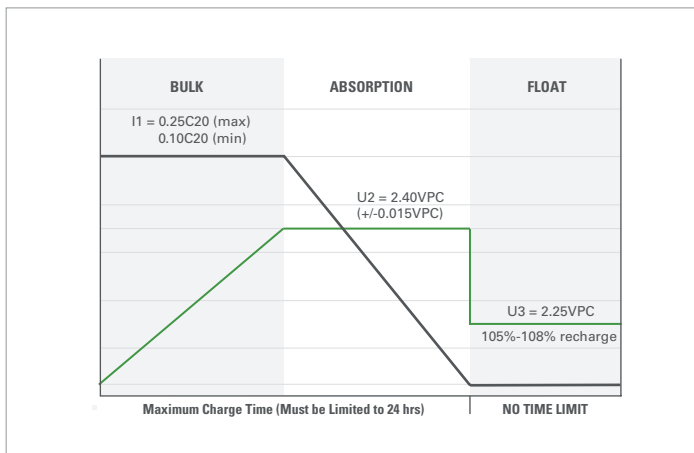
OPEN CIRCUIT VOLTAGE IN RELATION TO THE STATE OF CHARGE (20°C)



SELF-DISCHARGE CHARACTERISTICS

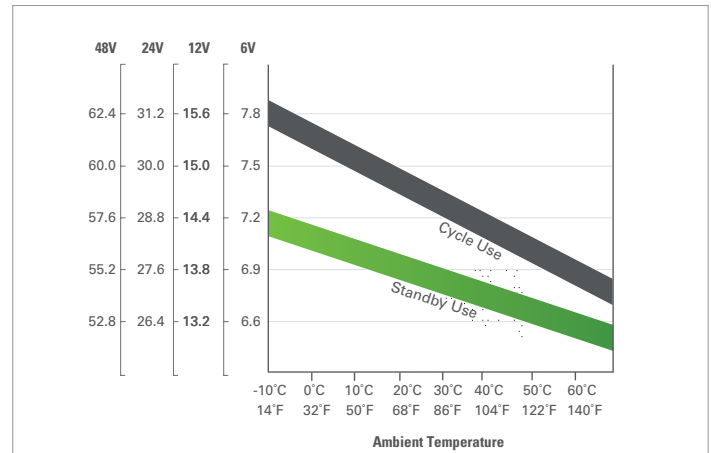


I/U VOLTAGE REGULATED CHARGE PROFILE



I = Current (Amps) VPC = Volts per Cell U = Voltage (V)

RELATION BETWEEN CHARGING, VOLTAGE AND TEMPERATURE



NOTE:

Voltage settings displayed in the Charge Profile graph, corresponds to the set points at 25°C (77°F). Temperatures below 25°C, adjust +0.005VPC/°C (or 0.003VPC per °F). Temperatures above 25°C, adjust -0.005VPC/°C (or 0.003VPC per °F).

$$\Delta V = (T - 25^\circ C) \times \left(\frac{-0.005VPC}{^\circ C} \right)$$

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