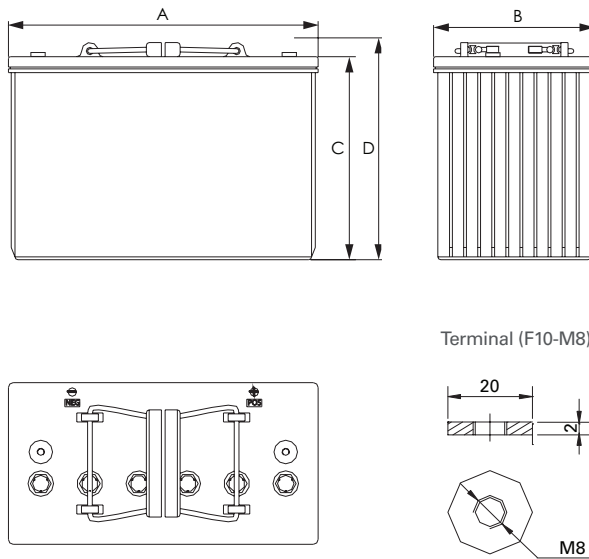


Gel Cell Traction Industrial Battery Block

Discover[®] Gel Cell Traction Series provide superior integrity and reliability. The maintenance-free, thick plate construction, designed to deliver excellent cycle life and very good run times at high operating voltages in tough industrial use with regular discharges, makes the EV Gel Series an excellent choice for robust industrial applications.

MECHANICAL DRAWINGS



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)	9.1 in	231 mm
Weight	63.8 lbs	29 kgs
Terminal (Opt'l)*	F10-M8	
Cell(s)	6	
Electrolyte	Gel	

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
80% DOD Voltage Cutoff	11.8 V
Internal Resistance	5.5 mΩ
Short Circuit (20°C 68°F)	3270A
Self Discharge	Less than 3% per month (20°C 68°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)

**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	3 HR	1 HR	@25A	@56A	@75A	@85A	@100A
105	90	85	80	66	60	180	65	38	30	22

Maximum Current	Peak (5 seconds)	Peak (10 seconds)	Continuous	Recommended Continuous
Charge	1C10Hr	0.75C10Hr	0.5C10Hr	0.3C10Hr
Discharge	2C10Hr	1.5C10Hr	1C10Hr	0.5C10Hr

BENEFITS & FEATURES

Advanced battery designs that exceed Original Equipment Manufacturer requirements.

Enhanced alloy Traction heavy duty grids gives consistent active material adhesion and corrosion resistance for longer runtime and extended service life.

Higher density active material paste to deliver longer runtimes at high discharge currents.

Lower specific gravity for reduced heat and cycle life performances.

High impact reinforced copolymer and polypropylene cases with flat top designs.

SEALED NON-SPILLABLE Maintenance-free technology.

99.9% gas recombination reduces off gassing and water loss.

Multiple battery terminal options and carrying handles available.

Excellent for use in environmentally sensitive areas.

UL94 recognized flame arresting low pressure safety vents (UL94 V0 rating available).

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

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

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

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



NOTE:

IUI with Pulse Termination algorithm uses a pulse termination criterion. As a safety precaution during the Finish phase, if the average cell voltage, or volts per cell (VPC), exceeds U2 and the charger output has been on for more than 30 seconds, the output is shut off until the vpc falls to U3. The finish phase then resumes and this "pulsing" continues until the target overcharge (108% - 112%) is reached.

NOTE 2:

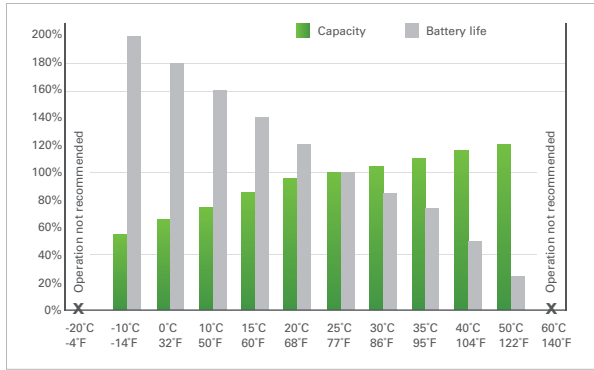
Due to self-discharge characteristics of lead acid battery technologies, all batteries must be charged within 6 months of storage to prevent a possible permanent loss of capacity as a result of sulfation.

NOTE 3:

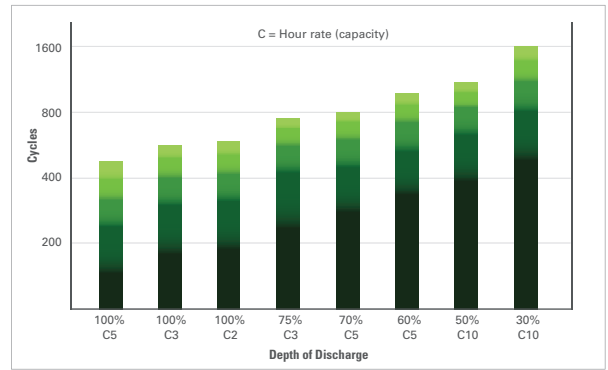
Please note the voltage settings displayed in the IUI with Pulse Termination Charge Profile graph, corresponds to the set points at 25°C (77°F). For temperatures below 25°C, adjust +0.005VPC/°C (or 0.003VPC per °F). For temperatures above 25°C, adjust -0.005VPC/°C (or 0.003VPC per °F).

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

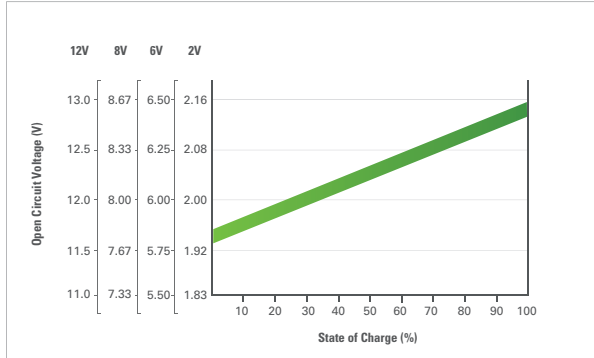
TEMPERATURE EFFECTS ON CAPACITY



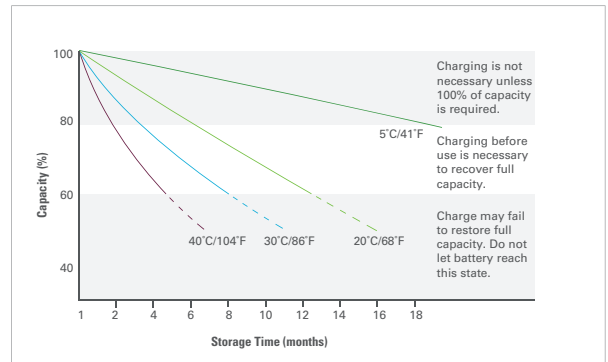
CYCLE LIFE IN RELATION TO DEPTH OF DISCHARGE (25°C)



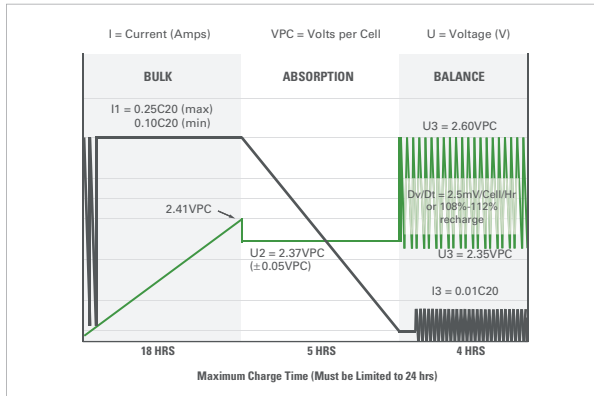
OPEN CIRCUIT VOLTAGE IN RELATION TO THE STATE OF CHARGE (20°C)



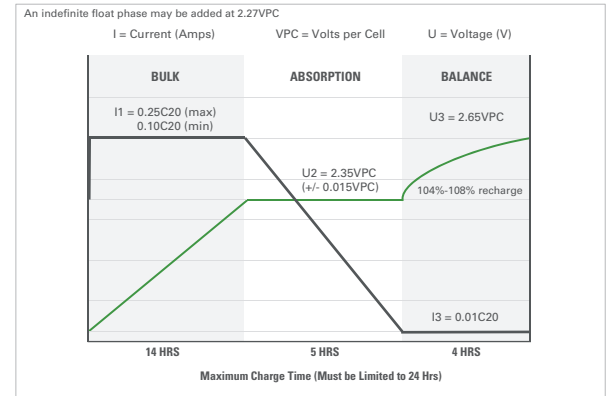
SELF-DISCHARGE CHARACTERISTICS



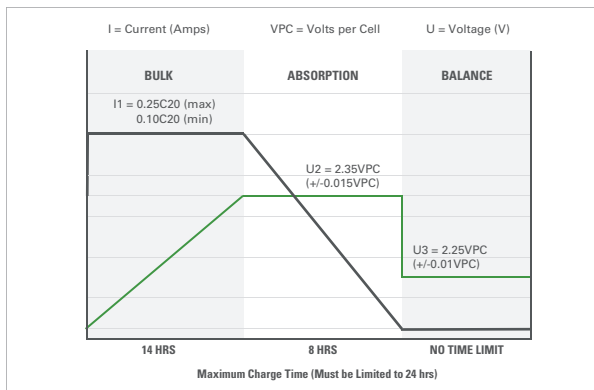
IUI WITH PULSE TERMINATION CHARGE PROFILE



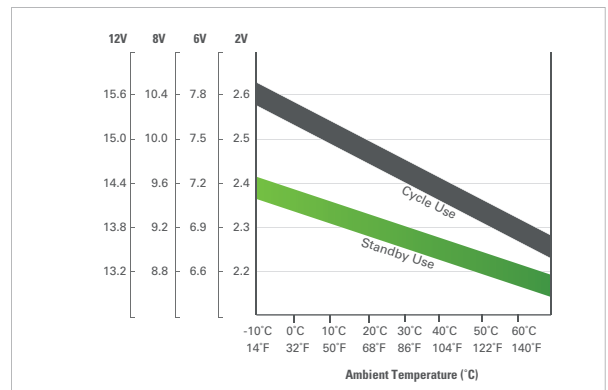
IUI CHARGE PROFILE



IUU CHARGE PROFILE



RELATION BETWEEN CHARGING, VOLTAGE AND TEMPERATURE



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