

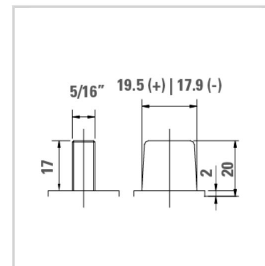
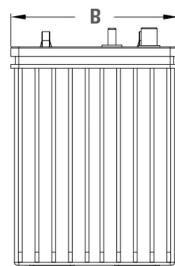
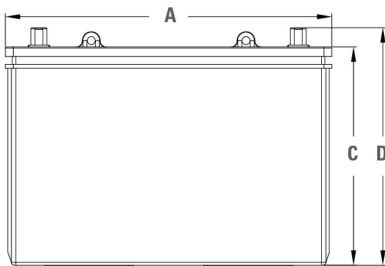


**GEL CELL Traction Industrial Battery**

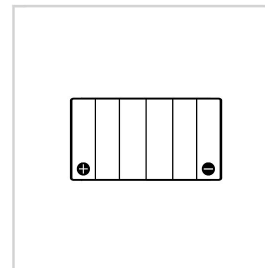
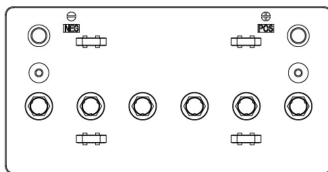
Discover® GEL CELL Traction batteries incorporate a "true Gel" traction formula that meets aftermarket replacement and Original Equipment battery requirements. With a long history of safety, reliability, the batteries deliver exceptional longevity even under Partial State of Charge (PSOC) operation and high temperature conditions.

GEL CELL Traction Industrial batteries exceed flooded and AGM batteries in deep discharge recovery making them ideal for energy storage applications.

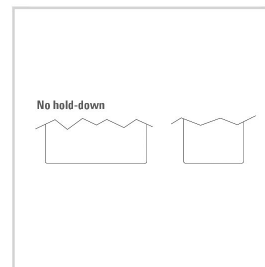
**MECHANICAL DRAWINGS**



TERMINAL



LAYOUT



HOLD-DOWN

**MECHANICAL SPECIFICATIONS**

Industry Reference	BCI: 31	
Length A (in/mm)	13	330
Width B (in/mm)	6.8	172
Height C (in/mm)	8.5	216
Total Height D (in/mm)	9.3	236
Weight (lbs/kgs)	61.6	28
Terminal *	AM	
Technology	Gel, VRLA Non-spill	

**NOTE:** There is a tolerance of +/-2% in dimensions. Weights may vary  
**\*TERMINAL TORQUE:** Please refer to our document, located in the Resources webpage [Click here](#).

**PERFORMANCE SPECIFICATIONS**

Amp Hours (AH)		
3 HR	5 HR	20 HR
63	76	88

3 HR: 1.70VPC; 5 HR: 1.75VPC; 20 HR: 1.80VPC. All at 25°C/77°F

**ELECTRICAL SPECIFICATIONS**

Voltage (V)	12
Voltage Cutoff (80% DOD)	11.80
Internal Resistance (mΩ)	5
Short Circuit (A) (20°C / 68°F)	2500
Self-Discharge (20°C / 68°F)	2-3% per month
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 Temperature	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.

Minutes of Discharge				
@25A	@56A	@75A	@85A	@100A
148	57	40	32	26

**FEATURES**

**ENHANCED ALLOYS**

- Thick plates with graphite enhanced alloys deliver maximum runtime over operational life

**CARBON BOOST**

- Carbon additives to increase duty cycle performance, charge acceptance and partial state of charge operation

**AUTOMATED THROUGH-THE-PARTITION WELD**

- Improved intercell weld consistency, and less lead waste than manual welding process (key industry models)
- Supports high-current loads and lowers internal resistance

**POLYPROPYLENE CASE**

- High heat resistance and durability (key industry models)
- High precision pressure relief valves reduce water loss and extend life
- Integrated flame arrestors to prevent fire and explosion

**BENEFITS**

**ENHANCED RUNTIME**

- Consistent amp hour capacity over lifetime
- High operational voltage over lifetime

**EXTENDED SERVICE LIFE**

- Long life superior to flooded lead-acid deep-cycle batteries
- 600+ cycles 70% DoD (IEC 254-1 Traction Lead-Acid)
- 450+ cycles 100% DoD (DIN 43 539 VRLA)

**EXTREME TEMPERATURES**

- High temperature life superior to AGM
- Low temperature operation superior to flooded batteries

**OEM TRUSTED**

- Exceeds OEM specifications
- Innovative technology
- Global service and support

**RELIABLE AND SAFE**

- Valve Regulated Lead-Acid, Gel
- Maintenance-free
- Nonspillable, no-gassing

**CERTIFIED QUALITY**

Discover® manufacturing facilities are fully certified to ISO 9001/14001 and OSHA 18001 standards. Designed in accordance with and published in compliance with applicable standards, including:

- IEC 60254-1. Lead-Acid Traction
- DIN 43 539. VRLA
- UL, CE Health Safety Certified

**SHIPPING CLASSIFICATION**

- Classified as a nonspillable battery
- Without restriction for transport by Sea (IMDG amendment 27)
- Without restriction for transport by Air (IATA/ICAO provision 67)
- Without restriction for transport by Ground (STB, DOT-CFR-HMR49)



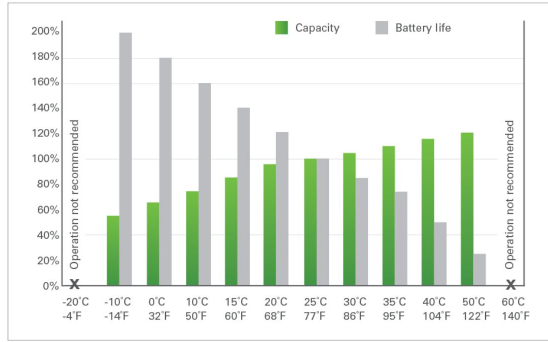
**NOTES**

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.

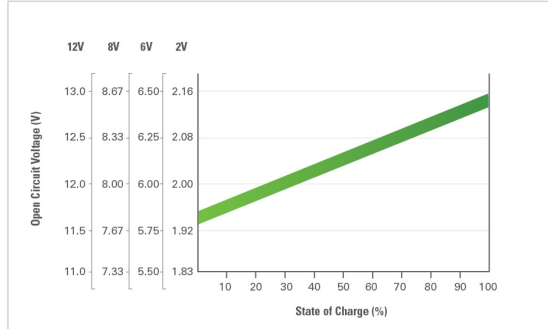
Due to self-discharge characteristics of lead acid battery technologies, all batteries must be charged within 6 months of storage to prevent a possible permanent loss of capacity as a result of sulfation.

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).

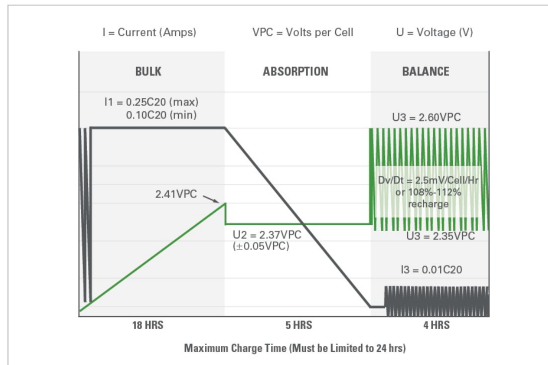
**TEMPERATURE EFFECTS ON CAPACITY**



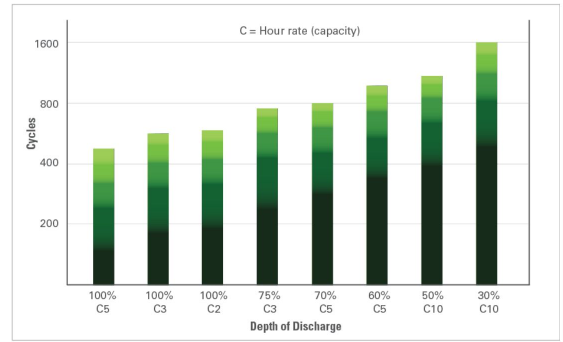
**OPEN CIRCUIT VOLTAGE IN RELATION TO THE STATE OF CHARGE (20°C)**



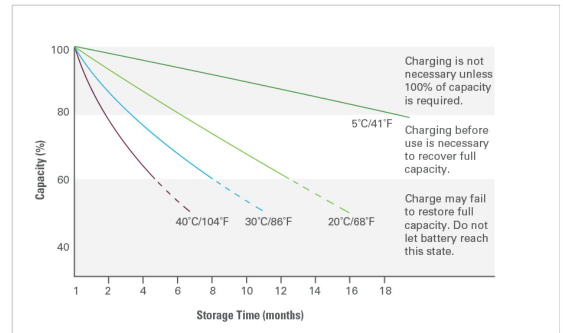
**IUI WITH PULSE TERMINATION CHARGE PROFILE**



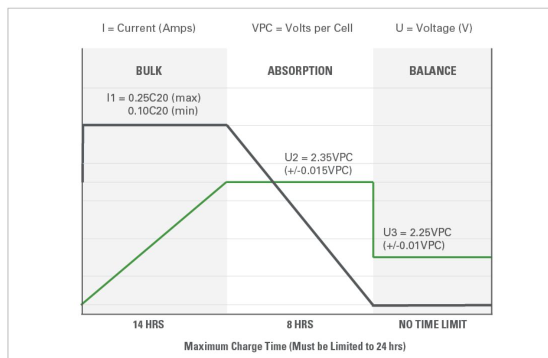
**CYCLE LIFE IN RELATION TO DEPTH OF DISCHARGE (25°C)**



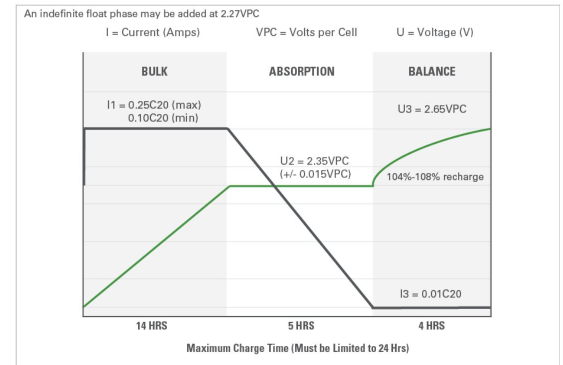
**SELF-DISCHARGE CHARACTERISTICS**



**IUU CHARGE PROFILE**



**IUI CHARGE PROFILE**



**RELATION BETWEEN CHARGING, VOLTAGE AND TEMPERATURE**

