Discover®
Innovative Battery Solutions

EV512G-063

GEL CELL Traction Industrial Battery

Discover® GEL CELL Traction Industrial batteries incorporate a true Gel traction formula that meets or exceeds aftermarket replacement and Original Equipment battery requirements. With a long history of safety and reliability, GEL CELL Traction Industrial batteries deliver exceptional longevity 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 demanding traction and industrial applications.

MECHANICAL SPECIFICATIONS

Industry Reference	BCI: 24	
Length A (in/mm)	10.2	258
Width B (in/mm)	6.8	172
Height C (in/mm)	8.4	214
Total Height D (in/mm)	8.5	216
Weight (lbs/kgs)	50.7	23.0
Terminal *	AM	

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.

ELECTRICAL SPECIFICATIONS

Voltage (V)	12
Voltage Cutoff (80% DOD)	11.80
Internal Resistance (mΩ)	5.53
Short Circuit (A) (20°C / 68°F)	2100
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.

PERFORMANCE SPECIFICATIONS

Amp Hours (AH)		
3 HR	5 HR	20 HR
53	63	73

Minutes of Discharge				
@25A	@56A	@75A	@85A	@100A
110	45	28	24	18

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

FEATURES

ENHANCED ALLOYS
- Thick plate construction with graphite enhanced plate alloys deliver maximum runtime over operational life

CARBON BOOST
- Carbon additives increase duty cycle performance, battery charge acceptance and Partial State of Charge operation

AUTOMATED THROUGH-THE-PARTITION WELD
- Improved product consistency and quality. Less wasted lead than manual welding process
- Supports high-current loads and lowers Internal Resistance

POLYPROPYLENE CASE
- High heat resistance, durability and lighter weight
- Pressure relief valves with low open / close tolerance reduces water loss and extends cycle life
- Integrated flame arrestors prevent fire and explosion

BENEFITS

ENHANCED RUNTIME
- High Amp Hour capacity
- 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 Cell
- Maintenance-free
- Nonspillable. No-gas
- Safe for environmentally sensitive areas

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)

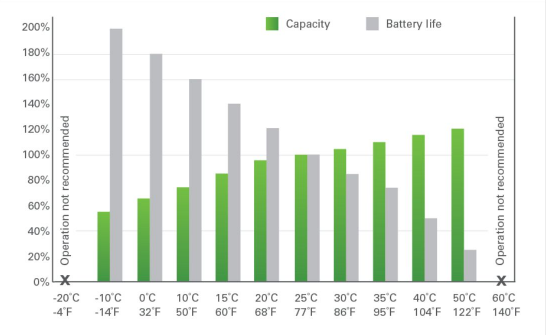
NOTES

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.

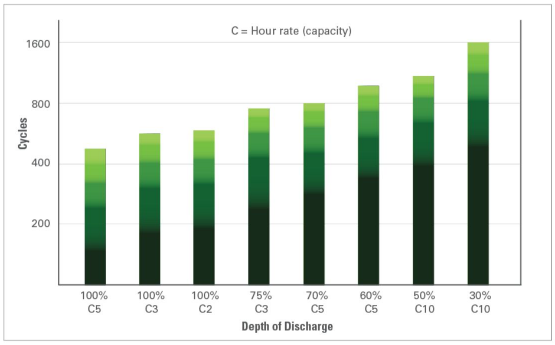
Due to self-discharge characteristics of lead acid battery technologies, all batteries must be charged within 6 months of storage to prevent a possible permanent loss of capacity as a result of sulfation.

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).

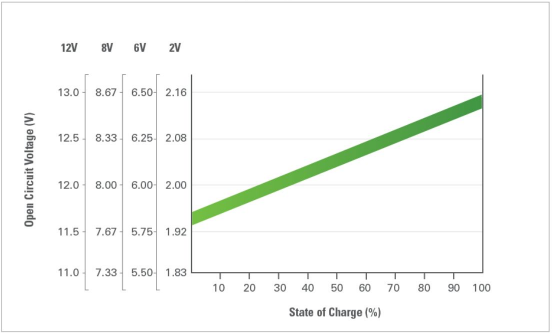
TEMPERATURE EFFECTS ON CAPACITY



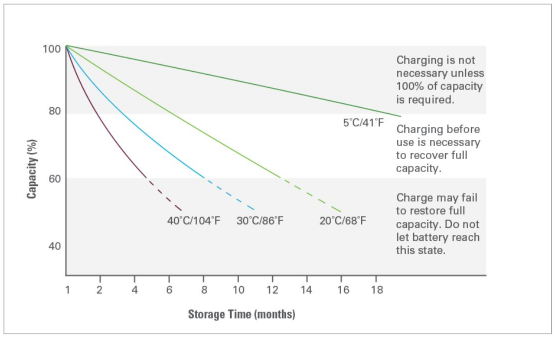
CYCLE LIFE IN RELATION TO DEPTH OF DISCHARGE (25°C)



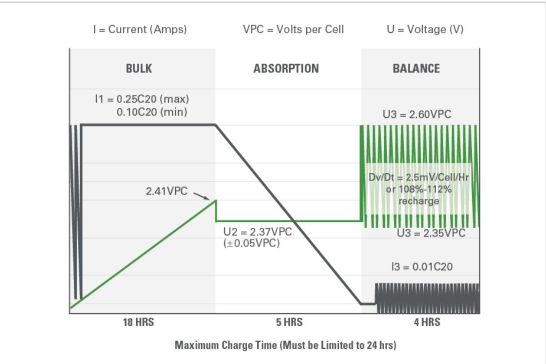
OPEN CIRCUIT VOLTAGE IN RELATION TO THE STATE OF CHARGE (20°C)



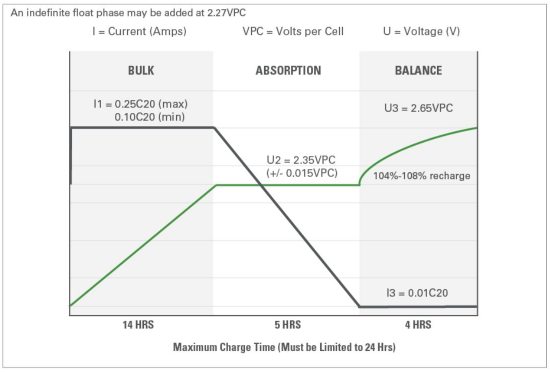
SELF-DISCHARGE CHARACTERISTICS



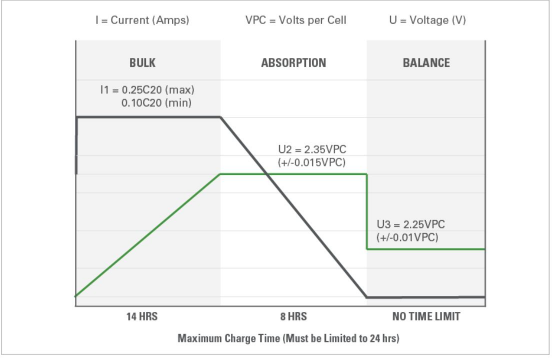
IUI WITH PULSE TERMINATION CHARGE PROFILE



IUI CHARGE PROFILE



IUU CHARGE PROFILE



RELATION BETWEEN CHARGING, VOLTAGE AND TEMPERATURE