NAVITAS SYSTEMS

ULTANIUM™ Lithium ($LiFePO_4$) "6T" Deep Cycle/Starting Battery

Navitas Systems' light-weight, long-lasting, high performance Ultanium™ 6T batteries are engineered to meet the specific, demanding requirements of military as well as commercial vehicles. The Ultanium™ 6T doesn't require changes to a vehicle's existing charging system, making it an ideal drop-in replacement of existing lower-performing lead acid batteries for engine start and deep cycle applications, including military silent watch and commercial idle reduction applications.

The Ultanium™ 6T is available in 24V and 12V models for Military and Commercial Applications.

PRIMARY APPLICATIONS

SILENT WATCH / IDLE REDUCTION

Provides long duration usable energy for powering vehicle systems in an engine-off mode.

Communicates state of charge (SOC) information for maximum battery utilization.

ENGINE START

Charger compatibility and form fit allows drop-in replacement for lead acid batteries currently deployed in military and certain commercial vehicles.

Greater usable energy enables more starting and deep cycles.

RENEWABLE POWER & GENSET AUGMENTATION

6T can be packaged to support a number of renewable power applications, as well as supplement power delivered by generators.

Longer runtime, fast recharge, long life, light weight, and excellent safety all together make the Navitas 6T ideal for renewable & GenSet applications.

Key Features & Benefits

CAPACITY RETENTION

Amp Hour Capacity isn't degraded by fast discharge rates, unlike lead acid. Significantly higher rate capability than lead acid.

LONGER LIFE

Designed to deliver significantly longer cycle life than lead acid, resulting in lower total cost of ownership.

GREATER CHARGE ACCEPTANCE RATE

Rapid charge capable, no recovery period required after previous charge or discharge.

LIGHTER WEIGHT

Approximately 40% lighter than lead acid batteries of equivalent capacity.

STIFFER VOLTAGE

Voltage doesn't fade as the discharge proceeds, unlike lead acid. Result is that your sensitive electronics systems aren't harmed.

INTELLIGENT BATTERY MANAGEMENT SYSTEM

On board calculation of state of charge (SOC), diagnostics and precise current & voltage measurements.

EXCELLENT SAFETY

The Lithium iron phosphate chemistry in Navitas' battery provides excellent abuse tolerance, and multiple layers of protection are employed at the chemistry, cell and system level.

ADVANCED TEMPERATURE CONTROL

Integrated battery heater for operation at temperatures below -30°C.

Navitas Systems
1200 Internationale Pkwy.,Woodridge, IL 60517
+1-630-755-7920

Navitas Systems Advanced Solutions Group
4880 Venture Dr, Suite 100., Ann Arbor, MI 48108
+1-734-205-1400

www.navitassys.com

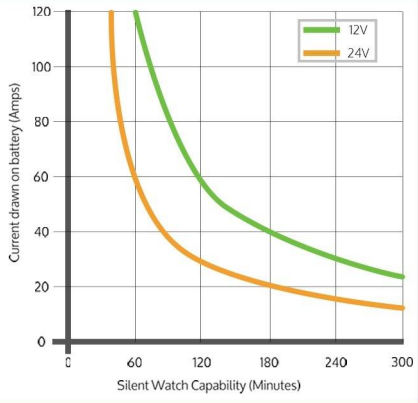
NAVITAS SYSTEMS

ULTAnium™

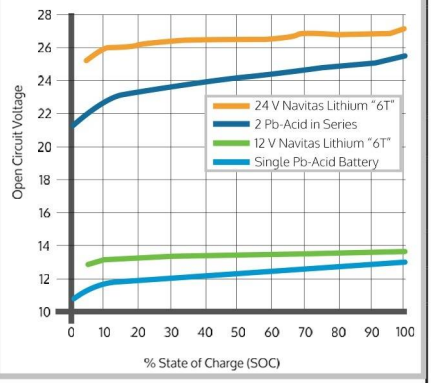
Lithium ($LiFePO_4$) "6T" Deep Cycle/Starting Battery

	Both	Ultanium™ 6T-12	Ultanium™ 6T-24
ELECTRICAL PERFORMANCE CHARACTERISTICS			
Electrical Arrangement		4s, 6p	8s, 3p
Nameplate Capacity		120 Ahr	60 Ahr
Nominal Capacity (C/20)		120 Ahr	60 Ahr
Nominal Capacity (C/10)		120 Ahr	60 Ahr
Nominal Capacity (C/5)		120 Ahr	60 Ahr
Nominal Capacity (1C)		114 Ahr	57 Ahr
Reserve Capacity @ 25 A		280 min	140 min
Max Continuous Discharge Current @ 25°C		600 A	600 A
Max Pulse Discharge Current		1100 A	1100 A
Cold Crank Current (30 second Pulse @-18°C)		1100 A @ 7.2 V	850 A @ 14.4 V
Charging Voltage @ 25°C		14.4 V	28.8 V
Max Pulse Charging Current (10 sec @ 25°C)		1100 A	600 A
Max continuous charge current @ 25°C		240 A	120 A
LIFE CHARACTERISTICS			
Self-Discharge (Loss per Month)	< 2%		
Cycle Life @ 20% DOD to 75% of Original Capacity	60,000 Cycles		
Cycle Life @ 50% DOD to 75% of Original Capacity	10,000 Cycles		
Cycle Life @ 80% DOD to 75% of Original Capacity	3,000 Cycles		
OPERATION & MANAGEMENT CHARACTERISTICS			
Operating Temperature	-30°C to +75°C		
Storage & Transportation Temperature	-54°C to +75°C		
CAN Bus (SAE J1939) Communications	Yes		
MIL-STD-1275E Compatibility	Yes		
Communications Connector on top of battery	Yes		
Built-in Cell Balancing	Yes		
Self-shut down	Yes		
Cell Overvoltage/Undervoltage Protection	Yes		
Cell Over-Temperature/Under-Temperature Protection	Yes		
Battery Over-Currrent Protection	Yes		
Battery Terminal Voltage-Reverse Polarity Protection	Yes		
Long Term Storage Mode	Yes		
Compatibility With Alternator Charging	Yes		
UN 38.3 Transportation Classification	Pending		
MECHANICAL CHARACTERISTICS			
Energy Density (W-hr/L)	110 W-hr/L		
Specific Energy (W-hr/kg)	72 W-hr/kg		
Aluminum Construction	Yes		
Designed to meet Military EMI/EMC per MIL-STD-461F	Yes		
Designed to meet Vibration, Shock and Immersion per MIL-STD-810G	Yes		
Weight	22 kg / 48 lbs		
Dimensions (NATO 6T) per MIL-PRF-32143B	229mm H x 266mm W x 286mm D	9 in H x 10.5 in W x 11.25 in D	

Silent Watch Performance



Open Circuit Voltage Across SOC Range



Preliminary specifications. Contents subject to change without notice. Performance may vary depending on use conditions and application.
Navitas Systems makes no warranty explicit or implied with this datasheet. Copyright 2013 Navitas Systems, LLC.
All rights reserved.
Published October 2015