

Rechargeable  
Lithium-ion battery  
for military  
applications  
complete with  
integrated charger

## LITHIUM ION 6T VEHICLE BATTERY

### THE DENCHI POWER LITHIUM ION 6T VEHICLE BATTERY - KEEPS YOUR ARMY ON THE MOVE FOR LOWER SYSTEM & THROUGH LIFE COSTS

**The Denchi Power, Lithium-ion 6T Battery is an entirely new concept in battery design incorporating an internally integrated charger and the latest in Lithium-ion technology. It benefits from Denchi Power's strong heritage in building batteries for use in the most extreme conditions and also from their deep understanding of the modern Military need. This new battery incorporates high power cells, which when combined with an impressive energy density ensures the very best possible operation for armoured vehicles of all sizes and capabilities.**

The 6T Lithium-ion Battery has been designed to provide an outstanding power source for armoured vehicle Starting, Lighting & Ignition (SLI) and auxiliary power offering deep cycle capability for demanding levels of Silent Watch. The 6T with its built-in heaters provides unparalleled power ensuring Engine Start is possible on all vehicles, ranging from a Main Battle Tank (MBT) to a Light Armoured Vehicle (LAV), even under the most extreme cold conditions.

The 6T Lithium-ion Battery has been designed to offer maximum flexibility for charging, whilst minimising the overhead for the system integrator. The fully managed internal charger electronics are able to accommodate a wide input voltage range. This feature ensures that the lithium cells are charged within a controlled rate, voltage and temperature limits, thus maximising safety and longevity. It also eliminates the need for specific charge control within the vehicle system, reducing the overall cost and integration burden. The robust aluminium case construction, long life, light weight and flexible operating characteristics provides the optimum solution in a vehicle mounted power source with a low hazard severity level.

This new concept of high powered batteries follows a long line of successful Denchi Power innovations that continues to deliver safe and powerful solutions to the military operating in active theatres.



**DENCHI**  
POWER

# LITHIUM ION 6T VEHICLE BATTERY

Part number: 430935

NSN: Pending

## SPECIFICATIONS

### Technical Data:

Technology	Lithium-ion
Nominal Capacity (Energy)	85Ah (2.142kWh)
Nominal Voltage	25.2 V
Discharge Voltage Range	21.0 V to 28.7 V
Charging Voltage Range	
Integrated Charger	21.0 V to 29.5 V
Bypass mode	21.0 V to 28.7 V
Operating Temperature *	-40 °C to +60 °C
Storage Temperature *	-46 °C to +71 °C
Cold Cranking Amps	1,100 A
Maximum Continuous Discharge Current	350 A
Max Charge Rate	
Integrated Charger **	45 A (Factory Configured option)
Bypass mode	270 A
Max Pulse Charge Rate	500 A 5s
Length x Width x Height	269x256x230 mm (NATO 6T)
Weight	25 kg
SoC / SoH Indicator	5 bar LED / 1 bar LED
Cycle Life	
100% DoD	3,500 cycles
70% DoD	>4,000 cycles

\* reduced battery life for operating or storage at high temperatures for long duration  
 \*\* charge rate adjusted by battery automatically to ensure safe charging at high or low temperatures. Built-in heaters operate automatically at low temperature.

### Charging Modes

The 6T with two charging modes offers maximum flexibility for charging whilst minimising the overhead for the system integrator.

- **Integrated Charger mode**  
Removes the requirement for an external charge control  
Battery controls charging  
Charge rate limited to 45A max.  
Charge rate reduces at higher temp.
- **Bypass mode (Factory configuration option)**  
Allows the cells to be charged directly  
Useful for fast charging  
Charge rates up to 270A  
Absorbs energy during turret braking  
Bypass mode can sink energy pulse up to 500A for 5s.

In Built-in-Charger and Bypass mode, the battery will safely manage charge and discharge to within the battery specification.

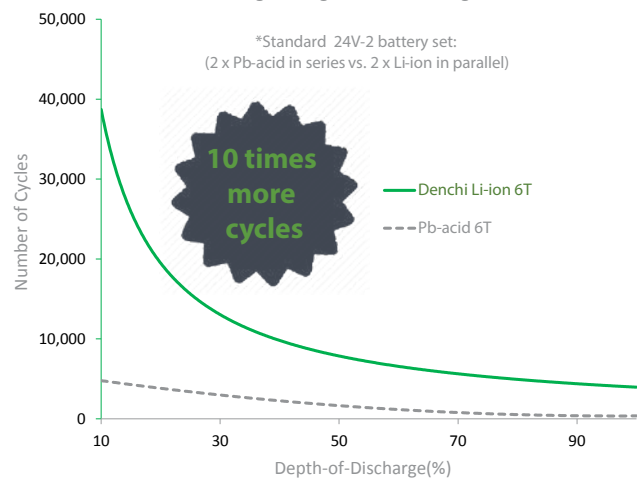
### Benefits over Lead Acid:

- Low total lifetime cost of ownership
- Key information displayed – giving the Commander immediate operational status
- Increased silent watch periods – increasing the Commander's flexibility
- Full capacity accessible for high rate and deep discharge cycles
- Built-in heater for operation down to -40°C, without a 'Cold Start Kit'
- Maintenance free
- Batteries eliminated from the Logistics Supply Chain
- Engine Start capability at low temperature and SoC
- Reduced weight increasing vehicle payload capability

### Features & Benefits:

- Integrated Battery Charger
- Communications via CAN Bus
- Comprehensive Battery Management System  
Over & under voltage  
Over current  
Over Temperature  
Self balancing
- Built-in self-test facility
- State-of-Charge/Health indicators
- Compatible with:  
MIL-PRF-32143B—physical characteristics  
MIL-STD-1275E—charge voltage and surge  
DEF-STAN-00-35—environmental testing  
DEF-STAN-59-411—EMC testing  
ST/SG/AC.10/11/Rev.5—UN transport  
SAE J1939—CAN messaging format

### Graphical Data: Silent Watch Capability: Cycle Life\* (28.7V charge voltage, 'C' rate discharge, and +20°C)



Denchi Power Ltd  
 Denchi House,  
 Thurso Business Park,  
 Thurso, Caithness,  
 KW14 7XW, UK  
 Tel: +44 (0) 1847 808 000  
 E: enquiries@denchipower