

# Xcelion battery

## Rechargeable lithium-ion battery system

Super lithium-iron phosphate 6T high performance battery

NATO Stock Number: 6140-99-380-7294

One 24V Xcelion 6T® replaces two 12V Pb-acid 6T batteries at a quarter of the weights and half the volume.

Saft's Xcelion 6T® is a 24V battery system that offers a drop-in replacement solution for legacy battery technology in military vehicles and other industrial applications.

This ruggedized battery uses Saft's proprietary Super-Phosphate® chemistry which is ideally suited for high performance applications requiring high levels of safety.

### Benefits

- Only Li-ion 6T battery that meets cold temperature performance requirements
- Significant weight savings and life cycle costs compared to lead-acid chemistries
- Maintenance free
- Drop-in replacement for current vehicle batteries
- Commercial off-the-shelf solution
- Communicates over J1939 CAN Bus protocol
- Compatible with MIL-STD-1275E power bus
- UN transportation approved

### Features

- Built-in self-balancing
- Fast charging under varying conditions\*
- Self shut-down in unsafe conditions
- Internal battery management system

### Applications

- Military ground vehicle power
- Starting, lights, and ignition (SLI)
- Silent watch
- Applications requiring balance of power and energy



### Electrical characteristics

Nominal capacity	60 Ah
Nominal voltage	26.4 V
Voltage at full state of charge	30.0 VDC
Voltage at zero state of charge	20.0 VDC
Energy	1.6 kWh
Cold cranking amps (CCA)	
at -18 °C for 30 seconds	1,100 A
at -40 °C for 30 seconds	400 A
Maximum discharge current	
Continuous	400 A
Pulse (25 ms)	3,000 A
Maximum charge current	
Continuous	250 A
Pulse (20 s)	400 A

### Mechanical characteristics

Weight	20.7 kg
Height	230 mm
Width	256 mm
Length	269 mm

### Operating Conditions

Operating temperature	
Discharge	-40 °C to +60 °C
Charge*	
Storage and transportation temperature**	-46 °C to +71 °C

\*Battery manages charge energy to ensure maximum battery life. At low temperature, the battery will automatically engage built-in heaters for optimum charging.

\*\* Sustained high temperature storage will reduce life.



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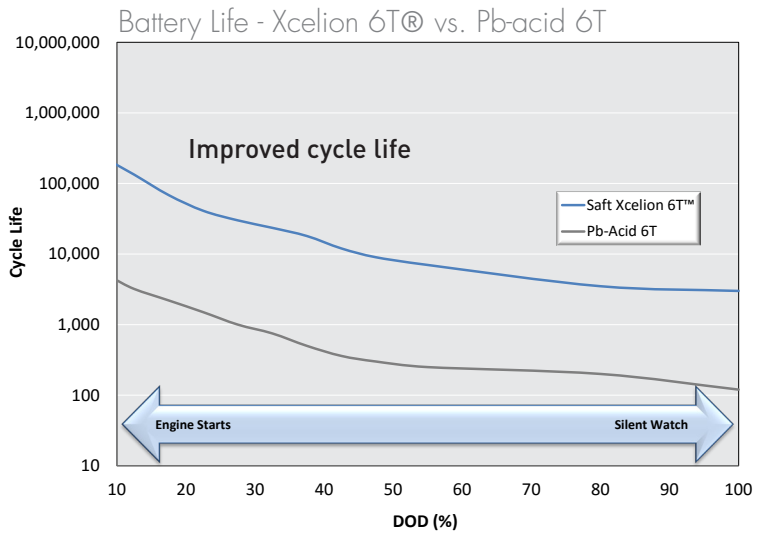
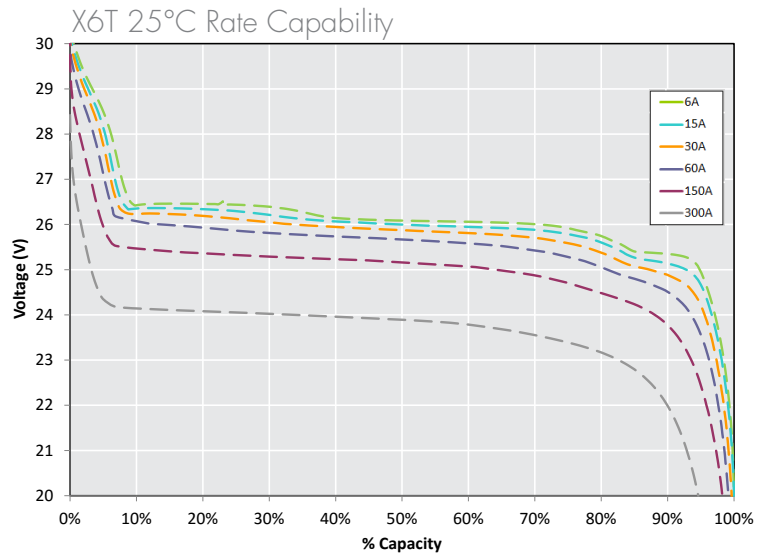
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## Top-level system functions

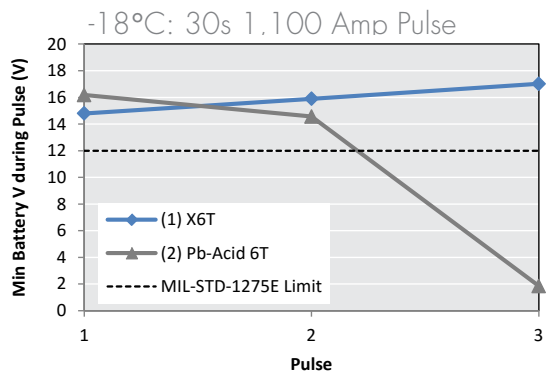
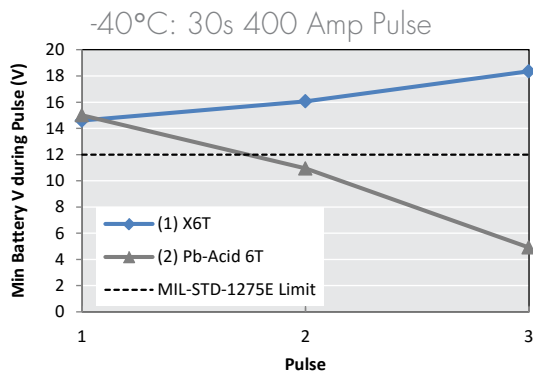
- Graphical User Interface Tool allows detailed view of battery status
- Communication of battery state of charge, temperature, and other key parameters via J1939 CAN Bus
- Redundant overcharge protection
- Overload protection
- Short circuit protection
- Over-discharge protection
- Battery reserve protection (preserves energy for engine start)
- Battery monitoring
- Built-in-Test
- Cell heating (allows full battery capability over operating temperature)
- Continuous cell balancing

## Safety heritage

- System design includes Saft's field proven electronic control architecture that includes overcharge protection, and over discharge, over temperature and overload protection.
- Cells equipped with hermetic seal and over pressure safety vent
- Rechargeable Li-FePO<sub>4</sub> cells ideally suited for applications requiring high discharge, continuous or pulse power, fast re-charge, long cycle and calendar life, and high levels of safety.



More stable performance across multiple start attempts



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