

BA 685B

Rechargeable lithium-ion battery – extreme performance

The battery consists of the assembly of two parallel branches of four MP 176065 Saft lithium-ion cells in series (4s2p configuration) and connected by a specifically designed electronic protection circuit.

Benefits

- Extended autonomy and life for mobile systems
- Wide operating temperature range
- Recommended for ruggedized designs
- Easy integration into compact and light systems
- Unrivalled low temperature performance
- Maintenance-free
- Light weight

Key features

- Electronic protection against charger faults
- Very high energy density
- Built-in LED independent fuel gauge – visible at night – without any capacity loss during storage
- Compatible with Saft and other military chargers
- Excellent charge recovery after long storage, even at high temperature
- Long cycle life (over 70 % initial capacity after 500 cycles 100 % DoD)
- Made and designed in the EU
- Restricted for transport (class 9)

Main applications

- Combat net radio
- Tactical radio

Technology

- Graphite-based anode
- Lithium Cobalt oxide-based cathode
- Electrolyte: organic solvents
- Built-in redundant safety protections
- Battery comprises two parallel branches of four MP 176065 cells in series and features an electronic protection circuit



Electrical characteristics

Nominal voltage (2.4 A rate at 20°C)	15.0 V
Typical capacity at 20°C (under 2.4 A 10.8 V cut-off)	13.4 Ah (when charged up to 16.8 V) 11.7 Ah (when charged up to 16.4 V)

Mechanical characteristics

Length (max)	259 mm
Width (max)	79 mm
Height (max including contacts)	73 mm
Typical weight	1700 g

Charging conditions

Charge method	Constant Current/Constant Voltage
Max. recommended charge current	5 A at 20°C
Charge temperature range*	-20°C to +60°C (-4°F to +140°F)
Time at 20°C	6 hours under 5 A constant
Identifiant resistor	47.5 kΩ
Recommended charger	SAFT EcMC ² 250W, EcMC ² 350W with IB4 interface

Discharging conditions

Max. recommended continuous discharge current*	5 A at 20°C
Pulse discharge current	up to 18 A
Discharge cut-off voltage	10.8 V
Discharge temperature range	-40°C to +70°C (-40°F to +158°F)

* Consult Saft for optimized charging below 0°C



SAFT

Independent 5 segment fuel gauge

- Assess the battery state of charge while in storage
- Check your spare battery during or prior to use
- Make full use of available battery



Built-in protection devices ensure safety in case of:

- Exposure to heat
- Exposure to direct sunlight for extended periods of time
- Short circuit
- Overcharge
- Overdischarge
- Shrapnel penetration

When handling Saft MP batteries:

- Do not solder directly to battery terminals
- Do not disassemble
- Do not remove the protection circuit
- Do not incinerate

Transportation and storage

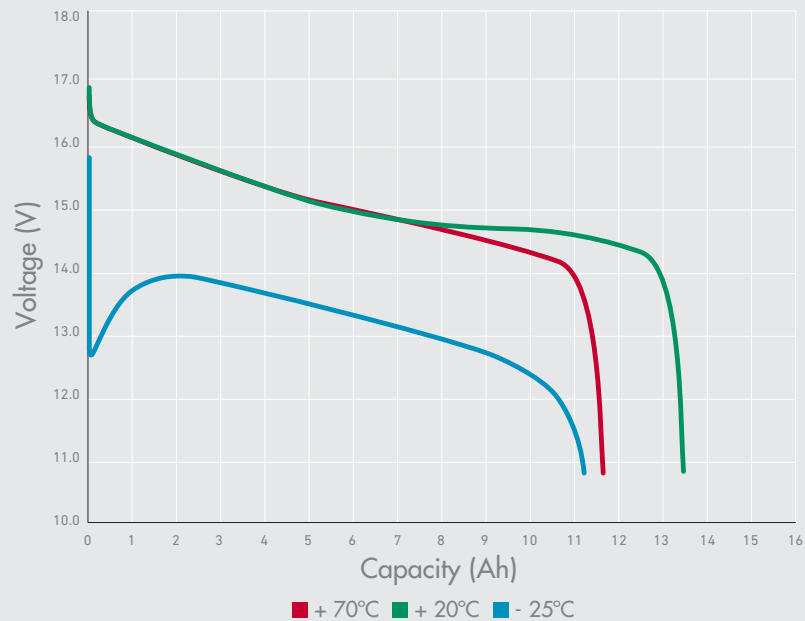
- Store in a dry place at a temperature preferably not exceeding 30°C
- For long-term storage, keep the battery within a (30 ± 15) % state of charge

Protection circuit

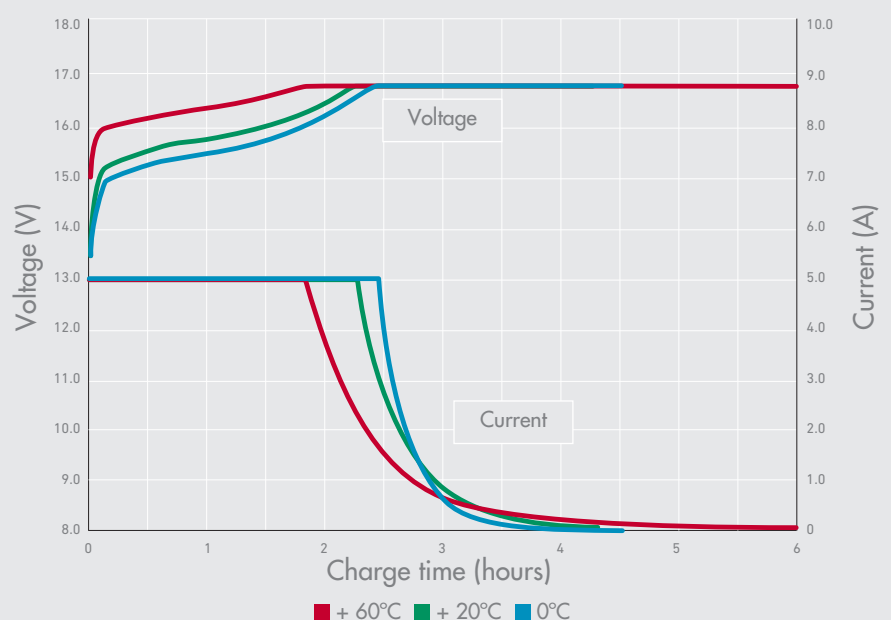
- Protection against over voltage (resettable)
- Protection against under voltage (resettable)
- Protection against over current during discharge
- Equalising cell voltages during discharge

References	Compliance with military specification
High Temperature	MIL-STD 810E, 501.3 (+ 60°C)
Low Temperature	MIL-STD 810E, 502.3 (- 20°C)
Vibration	MIL-STD 810C 514.2 H
Shock	MIL-STD 810E 516.4
Salt Fog	MIL-STD 810E 509.3 I
Immersion	MIL-STD 810E 512.3
NATO Stock Number (NSN)	6140-14-571-6261
Saft's Part Number	08266C

Typical discharge profile (2.7 A - C/5 rate - charge 16.8 V)



Charge characteristics to 16.8 V versus temperature (5 A rate)



Saft

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