BA685D
Military rechargeable Li-ion battery

14.6V high energy Li-ion battery with high performance and reliability

Saft’s BA685D battery is compatible with military applications requiring safety, reliability, long operating life under cycling conditions and offers excellent performance in temperature environments from –35°C to +60°C.

Benefits
- Excellent operating lifetime in calendar and cycling with a very stable internal resistance
- Long shelf life with extremely low capacity loss in storage
- Smaller environmental footprint than other technologies

Key features
- High energy density (133 Wh/l and 117 Wh/kg)
- Cycle life more than 1800 cycles at 100% DoD at C/2 discharge, C/ charge
- ABS NATO green casing
- Ingress protection (IP 68)
- Operates in any orientation
- Maintenance free
- No memory effect
- Manufactured in the EU

Designed to meet all major quality, safety and environmental standards
- Safety: UL 1642 and IEC 62133-2:2017
- Transport: UN 3480, UN 38.3
- Quality: ISO 9001:2009
- Environment: ISO 14001, RoHS and REACH compliant

Typical applications
- Combat net radio
- Tactical radio
- ALI 116, ALI 143, TRC 9200, PR4G
- Surveillance equipment

Electrical characteristics
- Typical capacity (at C/5 rate, +20°C, 2.5V cut-off)\(^{[i]}\) 13.6 Ah
- Nominal voltage 14.6 V
- Nominal energy 198.5 Wh
- Recommended maximum discharge current\(^{[ii]}\) Continuous 5.0 A\(^{[iv]}\) [+20°C]

Physical characteristics (sleeved cell)
- Length [maximum] 259.0 mm
- Width [maximum] 79.0 mm
- Height [maximum including terminals] 73.0 mm
- Typical weight 1700 g
- Volume [including terminals] 1.49 l
- IEC battery designation 4INP/79/259/73-2
- Saft internal battery designation 4s2p MP176065 xlr
- Saft part number 08643X
- NATO / OTAN stock number (NSN) 6140 14 599 2483

Operating conditions
- Typical cut-off voltage 10.0 V
- Charging method Constant current/Constant voltage
- Charging voltage 16.8 ± 0.05V
- Maximum continuous charge current\(^{[iii]}\) 5.0 A\(^{[v]}\) [-1C rate]
- Operating temperatures Charge\(^{[vi]}\) -30°C to +60°C
- Discharge\(^{[vi]}\) -35°C to +60°C
- Storage & transportation temperatures Recommended +10°C to +30°C
- Allowable -40°C to +60°C

\(^{[i]}\) Can vary depending on temperature and discharge rate
\(^{[ii]}\) Can vary depending on temperatures. Consult Saft
\(^{[iii]}\) For optimised charging below 0°C and above +60°C, consult Saft
\(^{[iv]}\) Limited by the electronic protection circuit
Environmental requirement

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**Electronic Protection Circuit**

Built-in protection devices at battery and cell level ensures safe operation and user safety in case of abusive or extreme conditions. These conditions include, but are not limited to:

- Over voltage protection
- Under voltage protection
- Over current protection
- Short circuit protection
- Over temperature protection
- Fuse protection as an option
- NTC integrated in circuit
- Zero volt (0V) battery protection
- UL94-V0

**Transport and Storage**

- The storage area should be clean, cool (preferably between +10°C and +30°C), dry and ventilated
- For long-term storage, keep the battery state of charge within a 30% to 15% range.

**Warnings**

- Do not crush, short-circuit, incinerate, dismantle, immerse in any liquid or heat above +85°C
- Observe charging conditions at all times
- Do not solder or weld directly to battery terminals
- Do not disassemble

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