

# MP 176065 Integration™ xtd

## Rechargeable Li-ion cell

3.65 V high energy Li-ion cell with extended life and temperatures

Saft's MP 176065 Integration™ xtd cell is ideally suited for applications requiring high energy and long operating life, either in calendar, cycling or floating conditions, with excellent performances in unregulated temperature environments from -40°C to +85°C.

### Benefits

- Excellent operating life in calendar, cycling and floating conditions
- Unrivalled operating temperature range from -40°C to +85°C
- High level of safety, compatible with potentially explosive atmospheres
- Long shelf life with extremely low capacity loss under storage
- Easy integration
- Smaller environmental footprint than conventional technologies

### Key features

- High energy density (264 Wh/l and 150 Wh/kg)
- Aluminium casing
- Hermetically sealed
- Operates in any orientation
- Maintenance free
- No memory effect
- Manufactured in EU

### Designed to meet all major quality, safety and environmental standards

- Safety: UL 1642 (File MH 12609) and IEC62133 Ed. 2 component recognition
- ATEX: compliant with IEC60079-11 (T4 rating up to +40°C)
- Transport: UN 3480
- Quality: ISO 9001, Saft World Class continuous program
- Environment: ISO 14001, RoHS and REACH compliant

### Typical applications

- Backup for industrial equipment
- Medical devices
- Tracking
- Oil & Gas applications
- Internet of Things, Wireless Sensor Networks
- Lighting & signalling
- Automotive



### Electrical characteristics

Typical capacity (at C/5 rate, +25°C, 2.5 V cut-off) <sup>(1)</sup>	5.6 Ah	
Nominal voltage	3.65 V	
Nominal energy	20.4 Wh	
Recommended maximum discharge current <sup>(2)</sup>	Continuous	11 A (~2C rate)
	Pulse	22 A (~4C rate)

### Physical characteristics (sleeved cell)

Thickness <sup>(3)</sup>	18.6 mm
Width	60.5 mm
Height (including terminals)	68.7 mm
Typical weight	136 g
Volume (including terminals)	0.077 l

### Operating conditions

Typical cut-off voltage	2.5 V	
Charging method	Constant current/Constant voltage	
Charging voltage	4.2 V	
Maximum continuous charge current <sup>(4)</sup>	11 A (~1C rate)	
Operating temperatures	Charge	-30°C to +85°C
	Discharge	-40°C to +85°C
Storage & transportation temperatures	Recommended	+15°C to +30°C
	Allowable	-40°C to +85°C

<sup>(1)</sup> Can vary depending on temperature and discharge rate.

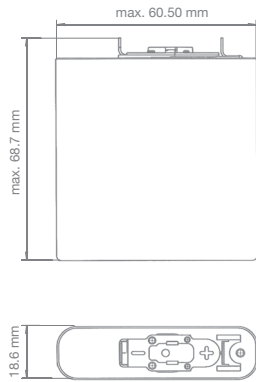
<sup>(2)</sup> Can vary depending on temperatures. Consult Saft.

<sup>(3)</sup> At beginning of life. Can increase with temperature and during battery life.

<sup>(4)</sup> For optimized charging below 0°C and above 60°C, consult Saft.



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## Battery assembly

- Individual lithium-ion cells need to be mechanically and electrically integrated into battery systems to operate properly. The battery system includes electronic devices for performance, thermal and safety management specific to each application. Please contact Saft for your specific applications requirements

## Battery-level features

- Saft provides complete battery system designs
- Incorporating several levels of redundant safety features to prevent abuse conditions such as over-charge, over-discharge, and short circuits
- Incorporating electronics for performance and efficiency:
  - charge/floating/discharge management
  - cell balancing
  - temperature monitoring
- Battery protection controller at system level
- Communication for State-of-Charge and State-of-Health

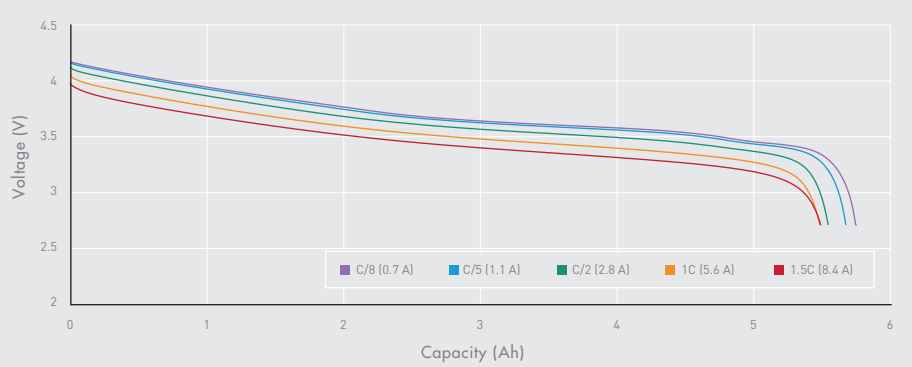
## Storage

- The storage area should be clean, cool (preferably not exceeding + 30°C), dry and ventilated

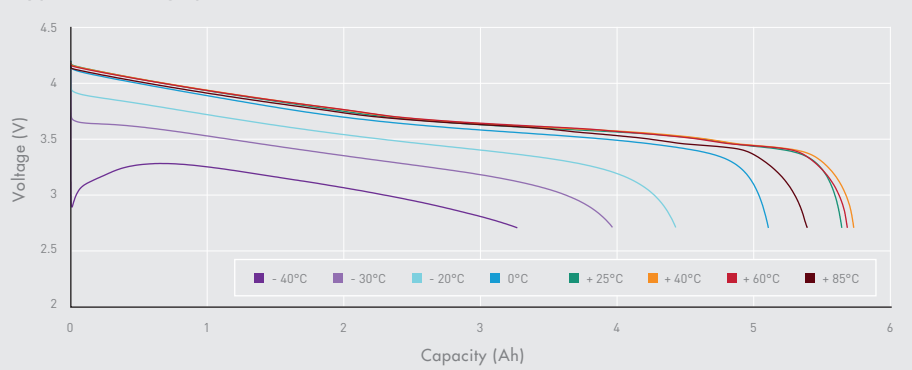
## Warning

- Do not crush, short-circuit, incinerate, dismantle, immerse in any liquid, heat above + 85°C
- Observe charging conditions

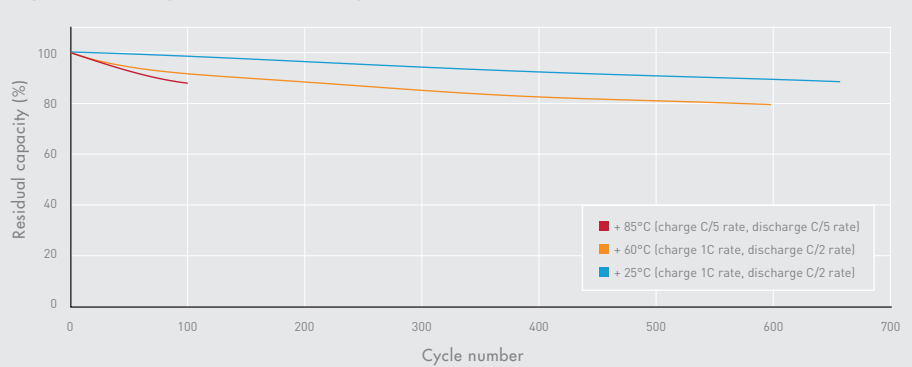
Capacity versus current at + 25°C



Typical discharge profiles (1.1 A - C/5 rate)



Cycle life (Charge to 4.2 V, discharge to 2.7 V)



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