1s1p INT176065 iex

3.65 V high energy Li-ion battery

Saft's 1s1p INT176065 iex SAX2 battery is compatible with applications requiring intrinsic safety, a long operating life under harsh conditions and excellent performance in temperature environments from −30°C to +60°C.

Benefits

- Excellent operating lifetime in calendar and cycling with a very stable internal resistance
- High level of safety, compatible with potentially explosive atmospheres.
- Long shelf life with extremely low capacity loss in storage.
- Smaller environmental footprint than other technologies.

Key features

- High energy density
- Cycle life > than 2250 cycles at 100% DoD at C/2 discharge, C/2 charge.
- The battery connection area is resin encapsulated with flying leads.
- Insulated aluminium casing, resin encapsulated construction.
- Hermetically sealed.
- Operates in any orientation.
- Maintenance free.
- No memory effect.
- **Designed and made in France.**

Standards

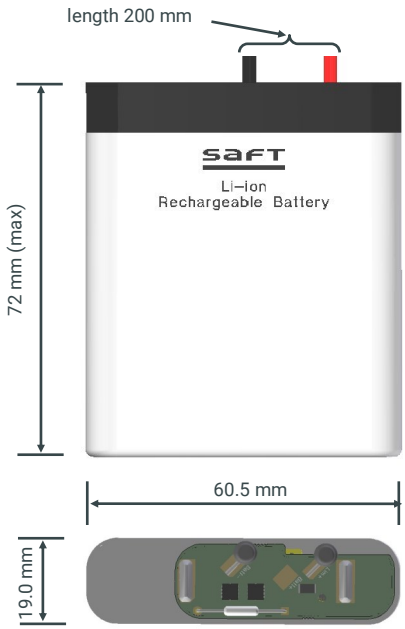
- Safety at cell level is qualified to UL 1642 and IEC 62133-2:2017.
- Transport: UN 3480, UN 38.3.
- IEC 60079-0,-11 (see over for info) [v]
- Quality: ISO 9001, Saft World Class program.
- Environment: ISO 14001, RoHS and REACH compliant.

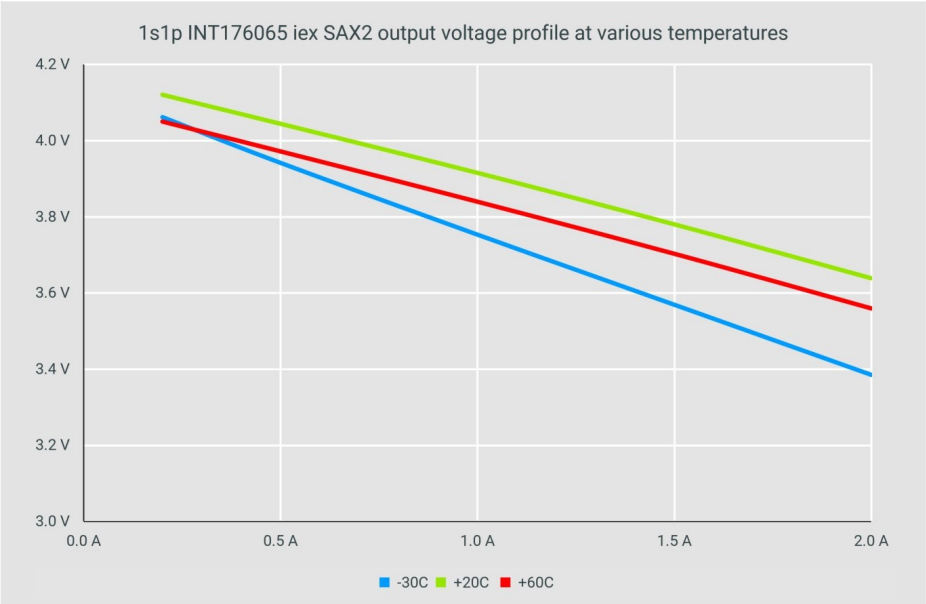
Typical applications

- Emergency lighting
- Tracking devices
- Oil & Gas applications
- Medical devices
- Portable lighting
- Gas detectors

Electrical characteristics		
Typical capacity (at C/5 rate, +25°C, 2.5V cut-off) (i)		5.6 Ah
Nominal voltage		3.65 V
Nominal energy		20.4 Wh
Recommended maximum discharge current (ii)		2.0 A
Physical characteristics (battery)		
Thickness (iii)		19.05 mm
Width		60.50 mm
Height (including encapsulation)		72.00 mm
Typical weight		170 g
Volume (including terminals)		0.083 l
IEC battery designation		INP19/61/72
Saft interface drawing		GP31936
Saft part number		70536L
Saft model reference		1s1p INT 176065 iex SAX2[vi]
Operating conditions		
Typical cut-off voltage		2.5 V
Charging method		Constant current/Constant voltage
Charging voltage		4.2 V
Maximum continuous charge current (iv)		2.0 A
Operating temperatures	Charge	-30°C to +60°C
	Discharge	-30°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. Consult Saft
[ii] Can vary depending on temperatures. Consult Saft
[iii] At beginning of life, 100% State-of-Charge. May increase with temperature and the cells' calendar life.
[iv] For optimised charging below 0°C and up to +60°C, consult Saft
[v] Compatible with a temperature classification T4 for an ambient temperature of +60°C. The temperature classification shall be verified during the assessment of the intrinsically safe apparatus in which the battery will be used.
[vi] If required a 1s1p INT 176065 iex SAX version is available with a 0.5mm insulation external layer.





Battery surface temperature

- The battery is compatible with a temperature classification of T4 at an ambient temperature of +60°C.
- The temperature classification shall be verified during the assessment of the intrinsically safe apparatus in which the battery is to be used.

Safety functions (electronic)

- 0V (Zero volt) protection; prevents charging of an over-discharged battery (< 1.2V ± 0.3V).
- Over and under charge protection; battery voltage is continuously monitored for anomalies.
- Over current protection; is provided by a switched mosfet, thermal fuse or micro fuse.

Spark ignition

The spark ignition risk shall be verified during the assessment of the intrinsically safe apparatus in which the battery will be used.

Storage

The storage area should be clean, cool (preferably not exceeding +30°C), dry and ventilated. For long term storage keep the battery within 30±15% SoC.

Warning

- Do not crush, short-circuit, incinerate, dismantle, immerse in any liquid or heat above +60°C/
- Observe correct charging for various ambient conditions at all times.

Time to charge with a 2 A current at 25°C ambient temperature		
Termination current criteria (A)	Capacity charged (%)	Charging time (Hr)
C/100	97%	8h15
C/50	95%	6h55
C/20	88%	5h15

Product information

The 1s1p INT176065 iex battery is an assembly of individually tested components. Namely, the MP iex cell, assembled with a specific electronic protection circuit, including additional encapsulation and/or insulation depending on the applications requirements.

The finished product is specifically designed and tested to meet the requirements of intrinsic safety or other Ex protection concepts when assembled with one or more tested MP iex cells.

This data sheet is only one example of what can be achieved, depending on the end-use application and its design requirements. Saft has experienced application engineers, who are available to discuss your application and provide additional technical assistance to help you with your project. Additional information may also be found on IECEx Certificates, www.iecex-certs.com.

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Saft, a subsidiary of TotalEnergies SE
S.A.S. au capital de 31 944 000 euros
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