1p INT 176065 isr FL
Rechargeable Li-ion battery

3.65 V high energy Li-ion battery, high performance and intrinsic safety

Saft’s 1p MP 175065 isr FL battery is compatible with applications requiring intrinsic safety, long operating life under cycling conditions and excellent performance in temperature environments from −30°C to +60°C.

Benefits
- Excellent operating lifetime in calendar and cycling life 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 more than 2250 cycles at 100% DoD at C/2 discharge, C charge
- The battery connection area is resin encapsulated with flying leads
- Aluminium casing
- Hermetically sealed
- 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
- IEC 60079-11 compatible component [see over for details]
- Quality: ISO 9001, Saft World Class 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
- Emergency lighting

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)
  - Continuous 11 A (−2C rate)
  - Pulse 22 A (−4C rate)

Physical characteristics
- Thickness (iii) 20.6 mm
- Width (max) 62.0 mm
- Height (max not including cable) 73.5 mm
- Typical weight 155 g
- Volume (including terminals) 0.094 l
- IEC battery designation 11NP21/62/74
- Saft internal cell designation MP 176065 ise
- Saft part number 70463K
- Saft model / type reference 1p INT 176065 isr FL | GP31659

Operating conditions
- Typical cut-off voltage 2.5 V
- Charging method Constant current/Constant voltage
- Charging voltage 4.2 ± 0.05 V
- Maximum continuous charge current (iv) 5.6 A (−1C rate)
- 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
(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. Refer to drawing GP 31659.
(iv) For optimised charging below 0°C and +60°C, consult Saft

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 cell will be used.
Battery assembly
The battery must be mechanically and electrically integrated into a complete system. The battery must include electronic devices for performance, thermal and safety management specific to each application.

IEC 60079-11 Ed. 6.0:
- The battery is verified as compliant with the following parts of the above standard; 6.3.2.1, 6.3.3, 6.3.5, 6.3.6, 6.3.12, 6.6.1, 6.6.2, 10.5.1, 10.5.2 and 10.5.3

Battery surface temperature
- The cell can be 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 intrinsic safety apparatus in which the battery is to be used.

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% State of Charge.

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