

MP 174565 xtd CliP System

Rechargeable Li-ion battery

3.65 V high energy Li-ion battery with an integrated enclosure

Saft's MP 174565 xtd CliP System 1s1p battery retains all of the extreme environmental operating conditions of the cell, plus it has its own mechanically integrated enclosure system. Built strong for tough environments.

Benefits

- Excellent operating life in calendar, cycling ($\geq 2,700$ 100% DoD cycles) and float charging conditions
- Unrivalled operating temperature range from -40°C to $+85^{\circ}\text{C}$
- 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 other 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 and IEC62133 Ed. 2
- Transport: UN 3480, UN 3481
- Quality: ISO 9001, ISO 13485
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
- Lighting & signalling



Electrical characteristics

| | |
|---|----------------|
| Typical capacity (at C/5 rate, $+25^{\circ}\text{C}$, 2.5V cut-off) ⁽¹⁾ | 4.0 Ah |
| Nominal voltage | 3.65 V |
| Nominal energy | 14.6 Wh |
| Recommended maximum discharge current ⁽²⁾ | Continuous 5 A |

Physical characteristics (sleeved cell)

| | |
|--|--------------|
| Thickness ⁽³⁾ | 20.0 mm |
| Width | 51.0 mm |
| Height (not including cable and connector) | 75.0 mm |
| Volume (not including cable and connector) | 0.076 l |
| Typical weight | 116 g |
| IEC battery designation | 11NP20/51/75 |
| Saft part number | 07943D |

Operating conditions

| | |
|--|--|
| Typical cut-off voltage | 2.5 V |
| Charging method | Constant current/Constant voltage |
| Charging voltage | 4.2 V |
| Maximum continuous charge current ⁽⁴⁾ | 4 A (~1C rate) |
| Operating temperatures | Charge -30°C to $+85^{\circ}\text{C}$ Discharge -40°C to $+85^{\circ}\text{C}$ |
| Storage & transportation temperatures | Recommended $+15^{\circ}\text{C}$ to $+30^{\circ}\text{C}$ Allowable -40°C to $+85^{\circ}\text{C}$ |

⁽¹⁾ Can vary depending on temperature and discharge rate.

⁽²⁾ Limited by the electronic protection circuit. Consult Saft for other possibilities.

⁽³⁾ At beginning of life, 100% State-of-Charge. Can increase with temperature and the cells' calendar life.

⁽⁴⁾ For optimised charging below 0°C and above 60°C , consult Saft.



CLiP System cell enclosure

Battery assembly

The CLiP System is designed to reduce the cost of assembly by removing the requirement to provide an overall heat shrink cover to mechanically protect a 1s1p battery. The CLiP provides mechanical protection for all six sides, corners and the electronic protection circuit.

Battery-level features

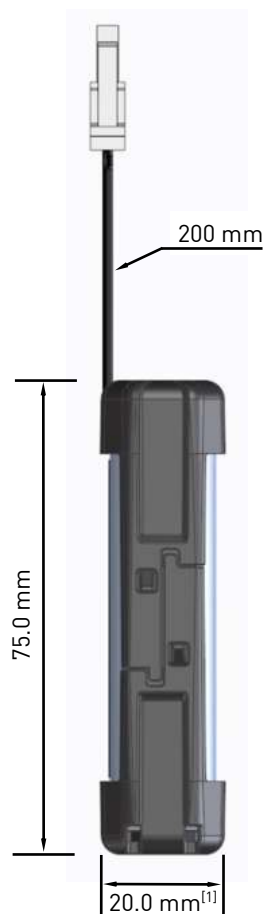
- Saft provides complete battery system designs
- Incorporating several levels of redundant safety features to prevent abuse conditions such as over-charge, over-discharge and short circuits

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



| Description | Conditions | Thickness ^[1] |
|----------------------------|------------------------------------|--------------------------|
| At beginning of life | 25°C at 30% state of charge 3.7 V | 18.65 mm |
| At beginning of life | 25°C at 100% state of charge 4.2 V | 18.80 mm |
| At 700 cycles | 25°C charged C - C 4.2 V—2.7 V | 19.25 mm |
| On continuous float charge | 60°C at 4.2V after 1 year | 20.75 mm |
| At 100 cycles | 85°C charged C/5 - C/5 4.1 V-2.7 V | 21.45 mm |
| Height | Maximum height | 75.00 mm |
| Width | Maximum width | 51.00 mm |
| Thickness ^[1] | Maximum housing thickness | 20.00 mm |
| Connector (Male) | Molex Mini-Fit Jr. ref. 39-01-2020 | |
| Connector (Female) | Molex Mini-Fit Jr. ref. 39-00-0038 | |



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