

Rechargeable lithium-ion battery

MP 174865 IS

High performance
Medium Prismatic cell

Compliant with the EN 50020
"Intrinsic Safety" Standard (class T6)
for ATEX applications



Benefits

- Extended autonomy and life
- Wide operating temperature range
- Recommended for ruggedized designs
- Easy integration into systems used in potentially explosible atmospheres

Key features

- High energy density
(335 Wh/l, 140 Wh/kg)
- Unrivalled low temperature performance
- Excellent charge recovery after long storage, even at high temperature
- Maintenance-free
- Long cycle life
(over 70 % initial capacity after 850 cycles 100 % DoD)
- Compliance with the EN 50020 "Intrinsic Safety" Standard (class T6 assignment)
- Non-restricted for transport
- Underwriters Laboratories (UL) Component Recognition (File Number MH 12609)

Main applications

- Miners cap lamps
- Safety torches
- Portable gas detectors
- Air monitoring equipment
- Gas tanks level monitoring

Electrical characteristics

Nominal voltage (1 A rate at 20°C)	3.65 V
Rated capacity 20°C (at 1 A 20°C 2.5 V cut-off)	4.8 Ah

Mechanical characteristics (Unsleeved 100 % charged cell)

Thickness (max)	19.0 mm
Width (max)	48 mm
Height (max)	65 mm
Typical weight	124 g
Lithium equivalent content	1.44 g
Volume	52 cm ³

Operating conditions

Charge method	Constant Current/Constant Voltage	
Recommended end-charge*	4.10 +/- 0.05 V	
Maximum recommended charge current**	5.0 A (~ C rate)	
Charge temperature range**	-20°C to +60°C	
Time at 20°C	To be set as a function of the charge current:	
	C rate	→ 2 to 3 h
	C/2 rate	→ 3 to 4 h
	C/5 rate	→ 6 to 7 h
Maximum continuous discharge current***	10 A (~ 2C rate)	
Pulse discharge current	up to 20 A (~ 4C rate)	
Discharge cut-off voltage	2.5 V	
Discharge temperature range	-50°C to +60°C	

* Charge possible up to 4.2 V. Consult Saft.

** Consult Saft for optimized charging below 0°C.

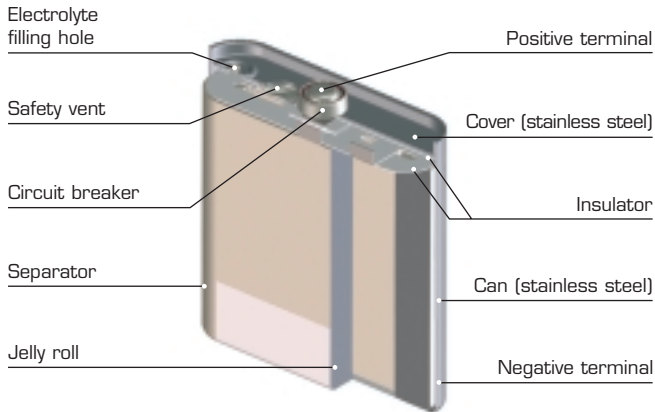
*** Electronic protection circuits within battery packs may limit the maximum charge/discharge current allowable. Consult Saft.

MP 174865 IS

"Intrinsically Safe" model (class T6)

Technology

- Graphite-based anode
- Lithium Cobalt oxide-based cathode
- Electrolyte: organic solvents
- Built-in redundant safety protections
- Batteries assembled from MP cells feature an electronic protection circuit



Built-in protection devices ensure safety in case of:

- Exposure to heat
- Exposure to direct sunlight for extended periods of time
- Short circuit
- Overcharge
- Overdischarge

When handling Saft MP batteries:

- Do not solder directly to cell terminal
- Do not disassemble
- Do not remove the protection circuit
- Do not incinerate

Transportation and storage:

- Store in a dry place at a temperature preferably not exceeding 30°C
- For long-term storage, keep the battery preferably within a (30 ± 15) % state of charge

Saft

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Doc. N° 54046-2-1107

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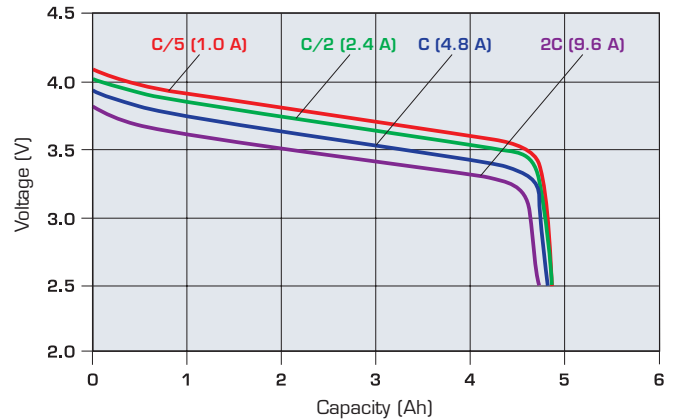
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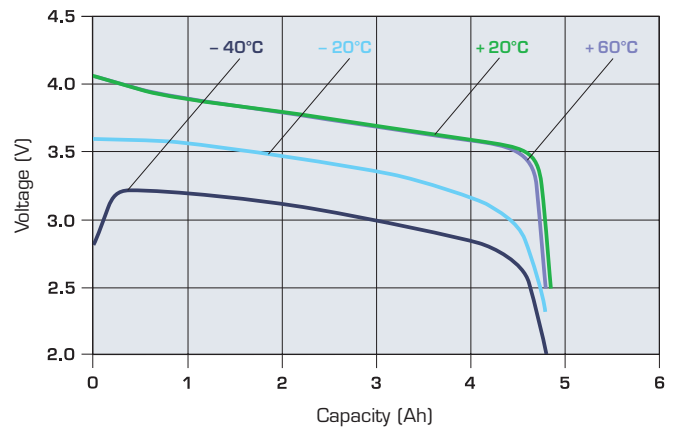
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Produced by Arthur Associates.

Capacity versus current at +20°C



Typical discharge profiles (1 A - C/5 rate)



Charge characteristics to 4.1 V at +20°C at C, C/2, and C/5 rates

