M 24 HR

Primary Li-MnO_2 cell

3 V high power lithium manganese dioxide DD-size spiral cell

Saft's M 24 HR cell is ideally suited for applications requiring high energy and long operating life, with stable voltage under high discharge in - 40°C / + 72°C environment.

Benefits

- High drain / high pulse capability
- High voltage response, stable during most of the lifetime of the application even after long dormant periods
- High capacity at high current and low temperature
- Low self-discharge compatible with long operating life (less than 1% after 1 year of storage at + 20°C)
- Superior resistance to corrosion
- Low magnetic signature

Key features

- Spiral construction
- Hermetic construction with glass-to-metal seal
- Stainless steel container
- Integrated safety vent
- Non-corrosive electrolyte
- Non-pressurized at room temperature
- Restricted for transport (Class 9)
- Made in Germany

Designed to meet all major quality, safety and environmental standards

- Transport: UN 3090 and UN 3091
- Military: VG 96915 part 2 and part 175
- Quality: ISO 9001, Saft World Class Continuous program
- Environment: ISO 14001

Typical applications

- Radio communications
- Alarms and security systems
- ELTs, EPIRBs
- Tracking systems
- M2M communication
- Medical devices
- Oil & gas applications

Electrical characteristics	
(Typical values relative to cells stored up to one year at + 30°C max)	
Nominal capacity (at 2.0 A, + 20°C, 2.0 V cut-off) [1]	20.0 Ah
Open circuit voltage (at + 20°C)	3.2 V
Nominal voltage (under 1 mA at + 20°C)	3.0 V
Nominal energy (at 2.0 A, + 20°C, 2.0 V cut-off)	53 Wh
Pulse capacity [2]	up to 12.0 A
Recommended maximum continuous discharge current [3]	6.0 A

Operating conditions		
Operating temperature range [4]		- 40°C / + 72°C (- 40°F / + 161°F)
Storage temperatures	Recommended	+ 30°C (+ 86°F) max
	Allowable [5]	- 55°C to + 85°C (- 67°F / + 185°F)

Physical characteristics	
Diameter (max)	33.5 mm (1.32 in)
Height for the tabbed version (max)	110.5 mm (4.35 in)
Typical weight	201 g
Li metal content	approx. 6.6 g

[1] Dependent upon current drain, temperature and cut-off.
[2] Dependent upon pulse characteristics, temperature, cell history and application. Higher rates are available under certain circumstances
[3] To maintain cell heating within safe limits. Battery packs may imply lower level of maximum current and may request specific thermal protection. Consult Saft.
[4] Operating temperatures up to + 85°C can be achieved. Consult Saft.
[5] Long time storage at high temperature may affect performances. Consult Saft.

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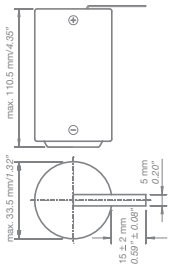
Termination & part numbers

- 1. + tab (radial tab on positive terminal): 4142290403
- 2. C tab (radial tabs on positive & negative terminals): 4142290203
- 3. Z tab (radial tabs on positive & negative terminals): 4142290703
- Other configuration available on request

1.



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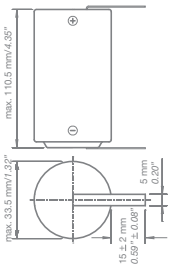
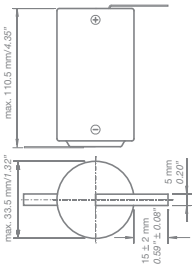


3.



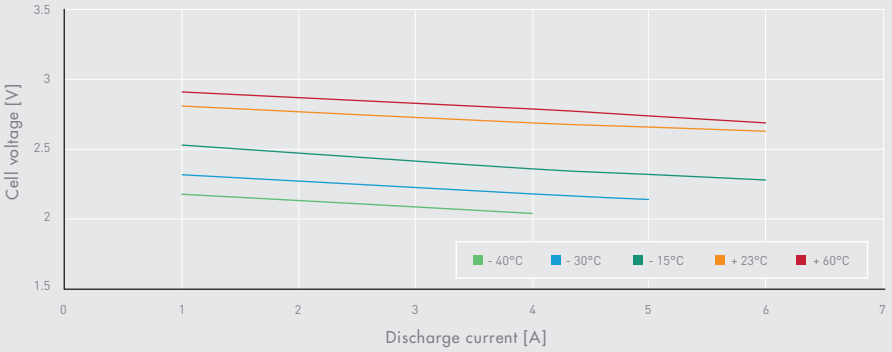
Storage

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

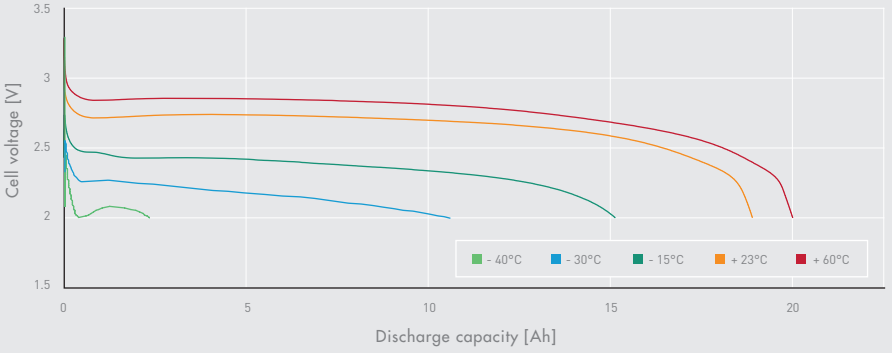
Warning

- Fire, explosion and burn hazard.
- Do not recharge, short circuit, crush, disassemble, heat above + 100°C (+ 212°F), incinerate, or expose contents to water.
- Do not solder directly to the cell (use tabbed cell versions instead).
- Do not obstruct venting mechanism.

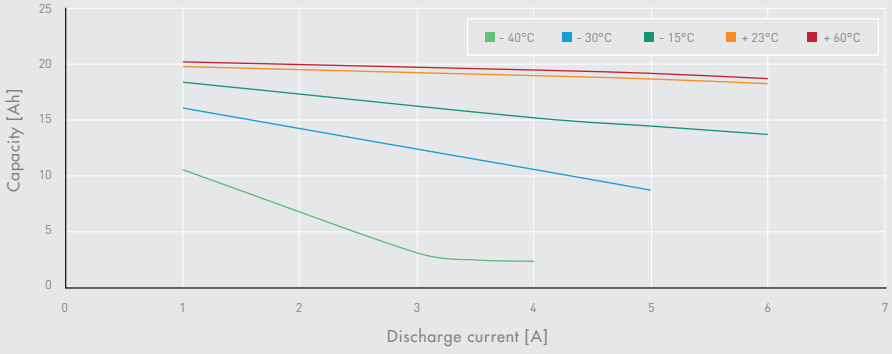
Mid-discharge voltage vs. current at various temperatures



Discharge curves at 4 A at various temperatures



Capacity vs. current at various temperatures



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