

M 24 HR

Primary Li-MnO₂ 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.

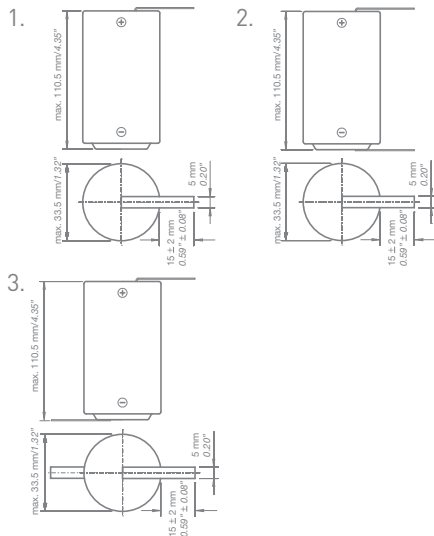
⁽⁵⁾ Long time storage at high temperature may affect performances. Consult Saft.



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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



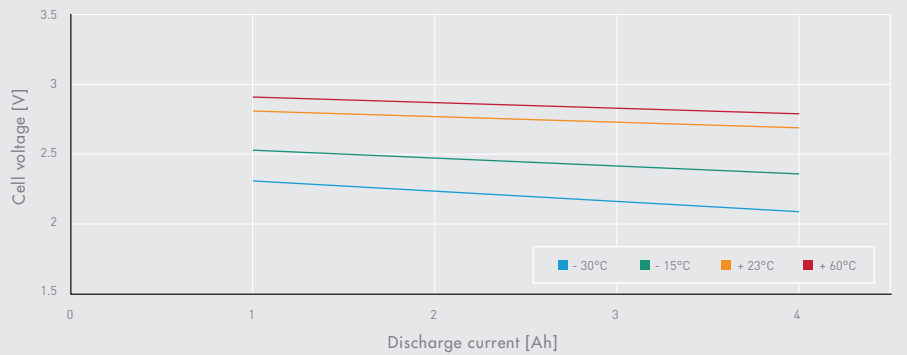
Storage

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

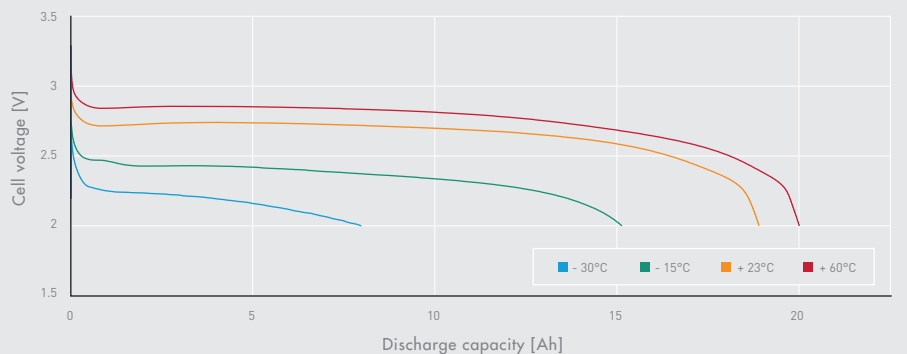
Warning

- 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.

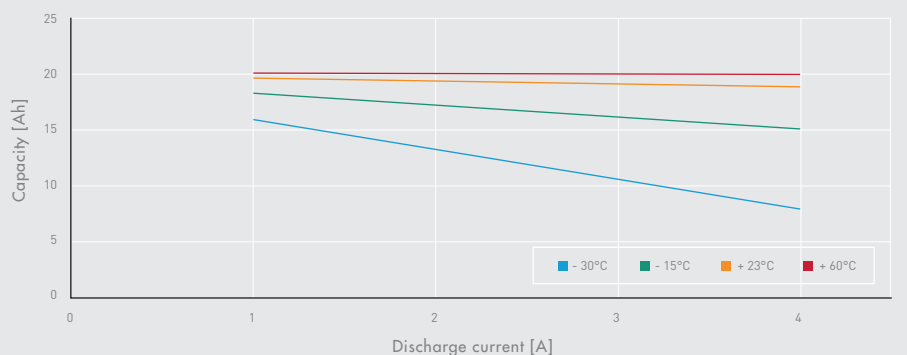
Mid-discharge voltage vs. current at various temperatures



Discharge curves at 4 A at various temperatures



Capacity vs. current at various temperatures



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