2. M52 EX SV
Primary Li-MnO₂ battery

6 V lithium primary battery with ATEX/IECEx certified cells

Saft’s 2.M52 EX SV battery is based on ATEX/IECEx certified C size Li-MnO₂ cells with spiral electrode design. It is designed for integration into equipment used in Ex atmosphere at temperatures up to +72 °C.

**Benefits**
- High drain and pulse capability
- High voltage response, stable even after long dormant periods
- High capacity even at high current and low temperature
- High energy density
- No voltage delay
- Low self-discharge compatible with long shelf-life of 10+ years (less than 1% after 1 year of storage at +20 °C)
- Superior resistance to corrosion

**Key features**
- Two ATEX/IECEx certified Saft M52 EX SV cells in ZSTP configuration and side-to-side orientation
- Safe, hermetic and non-pressurized cell construction with glass-to-metal seal, safety vent and stainless steel container
- Integrated fuse
- Restricted for transport (class 9)
- Manufactured in Germany

**Designed to meet all major quality, safety and environment standards**
- Safety: UL 1642 [File MH 61234], IEC 60864
- Transport: UN 3090 and 3091
- ATEX/IECEx: IEC 60079-0 and -11
- Quality: IEC 80079-34, ISO 9001, Saft World Class continuous program
- Environment: ISO 14001, RoHS and REACH compliant

**Typical applications**
- Gas sensors in Ex atmosphere
- Tracking of dangerous goods
- Data loggers and wireless automation in Ex atmosphere
- Gas and oil tank level monitoring

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**Electrical characteristics**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical capacity [at 60 mA, +20 °C, 4.0 V cut-off]</td>
<td>5.6 Ah</td>
</tr>
<tr>
<td>Open circuit voltage</td>
<td>6.4 V</td>
</tr>
<tr>
<td>Nominal voltage [under 1 mA, at +20 °C]</td>
<td>6.0 V</td>
</tr>
<tr>
<td>Nominal energy [at 60 mA, +20 °C, 4.0 V cut-off voltage]</td>
<td>32 Wh</td>
</tr>
<tr>
<td>Maximum continuous discharge current</td>
<td>0.75 A</td>
</tr>
</tbody>
</table>

**Operating conditions**

<table>
<thead>
<tr>
<th>Operating temperature range</th>
<th>Recommended</th>
<th>Allowable</th>
</tr>
</thead>
<tbody>
<tr>
<td>-40 °C / +72 °C (-40 °F / +161 °F)</td>
<td>+30°C (+86 °F) max</td>
<td>-55°C / +90°C (-67°F / +194°F)</td>
</tr>
</tbody>
</table>

**Physical characteristics**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (max)</td>
<td>53.0 mm / 2.09 in</td>
</tr>
<tr>
<td>Width (max)</td>
<td>27.0 mm / 1.06 in</td>
</tr>
<tr>
<td>Height (max)</td>
<td>56.0 mm / 2.20 in</td>
</tr>
<tr>
<td>Battery case</td>
<td>Shrink sleeve</td>
</tr>
<tr>
<td>Terminals</td>
<td>Cables with optional connectors</td>
</tr>
<tr>
<td>Battery weight</td>
<td>123 g</td>
</tr>
<tr>
<td>Li metal content</td>
<td>3.2 g</td>
</tr>
</tbody>
</table>

**References**

Saft part No. with 0.75 A fuse, JST XHP-2 connector 4423170153

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(1) Can vary depending on current drain, temperature and cut-off voltage.
(2) Hold current of the fuse at +72 °C. Higher currents are possible for pulses, at lower temperatures or with different types of protection elements. Consult Saft.
(3) Long-time storage at high temperature may affect performance. Consult Saft.
(4) Other versions with different part numbers are available on request. Consult Saft.
(5) More information about the ATEX/IECEx certificates of the cells can be found in the data sheet of the Saft M52 EX SV cell.
(6) Different or additional current limiting elements can be integrated on request. Consult Saft.
(7) Note that the 2.M52 EX SV battery is not ATEX/IECEx certified. Based on the ATEX/IECEx certificates of the cells, certification of the customized pack is usually done as part of the equipment in which the battery is to be integrated.

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