4. M52 cube pack
Primary Li-MnO₂ battery

12 V lithium manganese dioxide battery

Saft’s M52 battery is based on C size Li-MnO₂ cells with spiral electrode design. It is ideally suited for applications requiring high energy with stable voltage under high discharge rate in -40 °C / +72 °C environment.

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
- Low magnetic signature

Key features
- Four M52 cells in 4S1P configuration and side-to-side quadratical arrangement
- Safe, hermetic and non-pressurized cell construction with glass-to-metal seal, safety vent and stainless steel container
- Short-circuit proof due to integrated polyswitch [4]
- 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 60086-4
- Transport: UN 3090 and UN 3091
- Quality: ISO 9001, Saft World Class continuous program
- Environment: ISO 14001, RoHS and REACH compliant

Typical applications
- Metering

Electrical characteristics
[Typical values related to batteries stored up to one year at +30 °C max]

Typical capacity at 60 mA, +20 °C, 8.0 V cut-off [1]
- 5.6 Ah
Open circuit voltage
- 12.8 V
Nominal voltage [under 1 mA, at +20 °C]
- 12.0 V
Nominal energy [at 60 mA, +20 °C, 8.0 V cut-off voltage]
- 64 Wh
Maximum continuous discharge current [2]
- 1.2 A

Operating conditions

Operating temperature range [3]
- -40 °C / +72 °C (-40 °F / +161 °F)
Storage temperatures
- Recommended: +30 °C (+86 °F) max.
- Allowable [4]: -55 °C / +90 °C (-67 °F / +194 °F)

Physical characteristics

Length [max]
- 53.0 mm / 2.07 in
Width [max]
- 53.0 mm / 2.07 in
Height [max]
- 55.0 mm / 2.17 in
Battery case
- Shrink sleeve
Terminals
- Cables with optional connectors
Battery weight
- 240 g
Li metal content
- 6.4 g

References

Saft part No. [5]
- without connector 4443070153

[2] Hold current of the polyswitch at +72 °C. Higher currents are possible for pulses, at lower temperatures or with different polyswitch types. Consult Saft.
[3] Operating temperatures up to +85 °C can be achieved. Consult Saft.
[5] Other versions with different part numbers are available on request. Consult Saft.

[4] Other protection elements can be integrated on request. Consult Saft.