

1S2P.M20

Primary Li-MnO₂ battery

3 V lithium manganese dioxide battery

Saft's 1S2P.M20 battery is based on D size Li-MnO₂ cells with spiral electrode design. It is ideally suited for applications requiring high energy and capacity with stable voltage under very 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

Key features

- Two M20 cells in 1S2P configuration and side-to-side orientation
- Safe, hermetic and non-pressurized cell construction with glass-to-metal seal, safety vent and stainless steel container
- Alternative versions with M20 CV cells having nickel-plated steel containers available on request
- Integrated protection elements (e.g. polyswitch) available on request
- 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
- Military: VG96915 parts 2 and 154
- Quality: ISO 9001, Saft World Class continuous program
- Environment: ISO 14001, RoHS and REACH compliant

Typical applications

- Data loggers
- Metering



Electrical characteristics

(Typical values related to batteries stored up to one year at +30 °C max)

Typical capacity (at 300 mA, +20 °C, 4.0 V cut-off) ⁽¹⁾	25.2 Ah
Open circuit voltage	3.2 V
Nominal voltage (under 1 mA, at +20 °C)	3.0 V
Nominal energy (at 300 mA, +20 °C, 4.0 V cut-off voltage)	72 Wh
Pulse capacity ⁽²⁾	up to 16.0 A
Recommended maximum continuous discharge current ⁽³⁾	7.0 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 / +90 °C (-67 °F / +194 °F)

Physical characteristics

Length (max)	70.0 mm / 4.07 in
Width (max)	34.5 mm / 1.36 in
Height (max)	64.5 mm / 2.60 in
Battery case	Shrink sleeve
Terminals	Cables with optional connectors
Battery weight	248 g
Li metal content	7.0 g

References

Saft part numbers ⁽⁶⁾	with JST PHR-5 connector	4423080151
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⁽¹⁾ Can vary depending on current drain, temperature and cut-off voltage.

⁽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.

⁽⁴⁾ Operating temperatures up to +85 °C can be achieved. Consult Saft.

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

⁽⁶⁾ Other versions with different part numbers are available on request. Consult Saft.

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