



Lithium-manganese dioxide (Li-MnO₂) - LM/M cell ranges

Non rechargeable battery



[Technical characteristics](#)

The Saft LM/M cylindrical primary lithium cells are based on lithium-manganese dioxide (Li-MnO₂) chemistry.

They feature high surface area spiral electrodes for maximum current pulse capability and electrolyte formula for excellent performance in the cold. They are designed specifically for applications featuring continuous currents in the 0.1-5 A range, with superimposed pulses as high as 5 A.

Saft-branded LM cells are manufactured in the USA.
Friwo-branded M cells are made in Germany.

Construction features

spiral electrodes
stainless steel container
hermetic and sturdy glass-to-metal sealing
built-in safety vent
available as individual batteries (size 1/3 A to D; with or without tabs) or multi-cell battery packs

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Stockcheck

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Main applications

military radiocommunication
sonobuoys
emergency location transmitters beacon (ELTs, EPIRBs)
professional electronics
measuring equipment
cardiac defibrillators

Benefits

high voltage, stable during most of the application lifetime
wide operating temperature range (-40°C to +70°C)
excellent resistance to passivation, even after long-term storage in uncontrolled temperature environments
excellent performance below -20°C
non-corrosive (but flammable) organic electrolyte
less than 3% capacity loss per year, during storage at ambient T before use
released capacity independent from cell orientation
compliance with the European directive RoHS
excellent safety records

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Technical characteristics

- 3.2 V open circuit voltage
- operating voltage (depending on conditions) typically above 2.5 V
- nominal capacities spanning the 0.3 to 33.0 Ah range
- compliance with numerous military standards

LM spiral cells	LM 17130	LM 22150	M 49*	M 52 HR*	M 56*
Size	1/3 A	1/3 sub-C	3/4 sub-C	C	5/4 C
Open circuit Voltage	3.2 V	3.2 V	3.2 V	3.2 V	3.2 V
Nominal voltage	3.0 V	3.0 V	3.0 V	3.0 V	3.0 V

Nominal capacity (drain; 2,0 V cut off)	0.5 Ah (4.5 mA)	0.9 Ah (40 mA)	1.6 Ah (80 mA)	4.8 Ah (150 mA)	6.7 Ah (150 mA)
Max. recom. Cont. Current	0.3 A	0.4 A	0.3 A	2.0 A	2.5 A
Operating temp. Range	-40/+70°C	'-40/+70°C	'-40/+70°C	'-40/+70°C	'-40/+70°C
Outside diameter max	16.7 mm	22.8 mm	22.5 mm	26.2 mm	26.2 mm
Height max	16.6 mm	17.3 mm	32.0 mm	51.5 mm	61.5 mm
Weight	8 g	15 g	24 g	59 g	70 g
Transport	Non restricted	Non restricted	Class 9	Class 9	Class 9

LM spiral cells	M 19*	LM 33550	M 20*	M 20 HR*	M 24 HR*	M 62*
Size	"Short" D	D	D	D	DD	"Big" DD
Open circuit Voltage	3.2 V	3.2 V	3.2 V	3.2 V	3.2 V	3.2 V
Nominal voltage	3.0 V	3.0 V	3.0 V	3.0 V	3.0 V	3.0 V
Nominal capacity (drain; 2,0 V cut off)	10.3 Ah (450 mA)	12.0 Ah (250 mA)	12.6 Ah (150 mA)	11.5 Ah (0.5 A)	20.0 Ah (2.0 A)	33.0 Ah (1.6 A)
Max. recom. Cont. Current	3.0 A	4.0 A	3.5 A	4.0 A	6.0 A	6.0 A
Operating temp. Range	-40/+70°C	-40/+70°C	-40/+70°C	-40/+70°C	-40/+70°C	-40/+70°C
Outside diameter max	33.5 mm	34.2 mm	34.2 mm	34.2 mm	33.5 mm	42.5 mm
Height max	58.5 mm	61.4 mm	61.5 mm	61.5 mm	110.5 mm	133.0 mm
Weight	105 g	120 g	117 g	117 g	201 g	355 g
Transport	Class 9	Class 9	Class 9	Class 9	Class 9	Class 9

* FRIWO cells

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