

# Primary lithium batteries

## Selector guide



# Saft lithium batteries

## meeting your needs...

*For more than 32 years,  
Saft has pioneered the  
development and production  
of primary lithium cells and  
battery packs in Europe,  
North America and Asia/  
Pacific.  
Autonomy, power, voltage,  
shape, weight, service life,  
price... Saft knows how to  
tailor battery solutions you can  
count on.*

Saft is a world specialist in the design and manufacture of high-tech batteries for professional, industrial, space and military uses. With approximately 3,900 employees worldwide, Saft is present in 18 countries and operates two R&D centers.

Five manufacturing sites and an extensive sales network enable the Saft Lithium Battery Division to serve its customers worldwide with a product range that covers the three main primary lithium chemistries of today.

Among recognized characteristics of the Saft spirit worldwide are quality, performance, reliability, openness and an ability to meet the most demanding challenges. Take advantage of them for your applications!

### **Lithium power at your service**

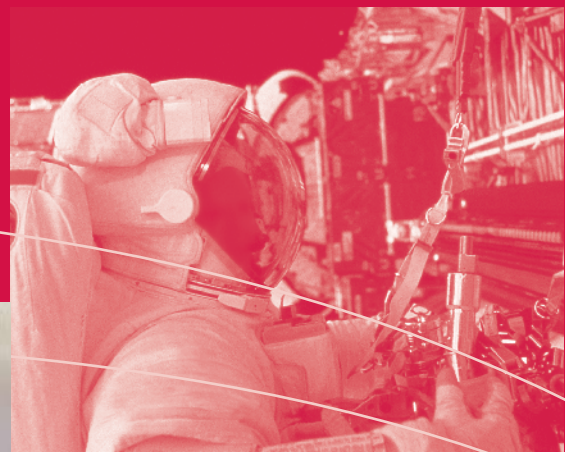
Lithium is a light metal which exhibits an exceptional specific capacity (3.86 Ah/gram) and unique electrochemical characteristics.

Combining lithium with manganese dioxide ( $\text{MnO}_2$ ) powder or low-freezing point liquid cathode materials such as thionyl chloride ( $\text{SOCl}_2$ ) or sulfur dioxide ( $\text{SO}_2$ ), results in batteries with high energy, low weight, reduced self-discharge rate, and ability to operate under extreme conditions.

### **Saft's lithium products**

Three lithium chemistries are currently available:

- Lithium-thionyl chloride ( $\text{Li-SOCl}_2$ ) in *LS/LST/LSH* 3.6 V cells,
- Lithium-sulfur dioxide ( $\text{Li-SO}_2$ ) in *LO/G* 3.0 V cells,
- Lithium-manganese dioxide ( $\text{Li-MnO}_2$ ) in *LM/M* 3.0 V cells.



# ...exceeding your expectations

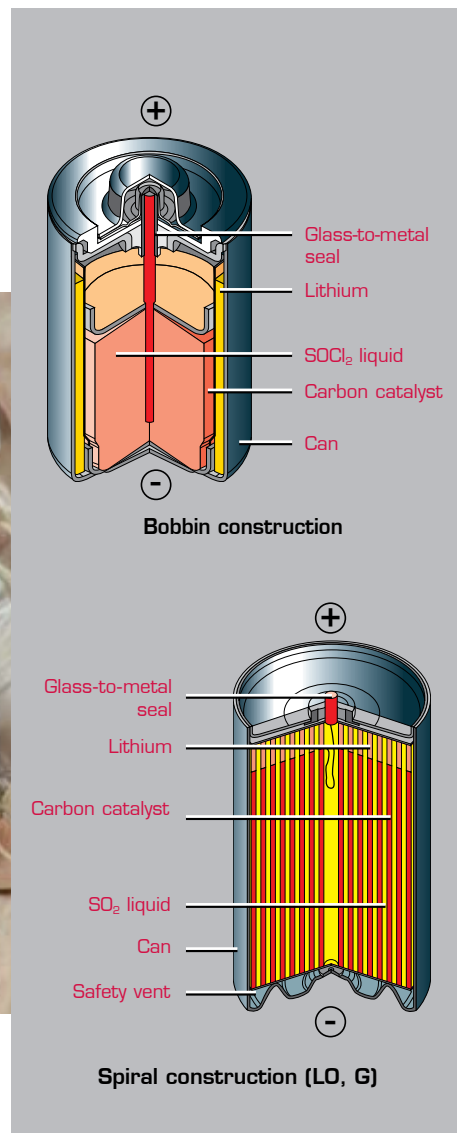
The LS and LST cells are *cylindrical* and based on the high-energy concentric “bobbin” electrode configuration. They are available in *standard*, “C” and “W” versions according to the temperature characteristics of the envisioned applications.

Whatever your application, you will probably find a Saft lithium battery able to meet your particular requirements. If not, custom-made solutions can be developed within your time-to-market constraints.

The LSH, LO/G and LM/M cells are also *cylindrical* but use the power-optimized “coiled” and “spiral” electrode constructions. The Li-SO<sub>2</sub> cells are available in several versions: “SX” and “G” series, “SHX” high pulse capability series and “SXC” high capacity series.

Corrosion-proof containers, hermetic sealing based on rugged glass-to-metal seals and TIG or laser welds, built-in safety vents and individual protection fuses are design features common to most of Saft’s lithium cells.

The LS, LST, LSH, LO/G and LM/M cells are available as single units (with different optional finishes) or assembled within battery packs.



## Saft primary lithium batteries: applications

	Memory back-up	Real-time clocks	Utility metering AMR	Security Alarms	Electronic toll collection	Automotive electronics	Radio communication	Emergency location Buoys	Lighting Night vision	Medical defibrillators	Downhole logging	Meteorology Space	Professional electronics	GPS/GSM tracking
LM/M spirals			○	●		●	●	●	●	●		●	●	●
LS, LST small bobbins (1½ AA, AA, ¾ A, A)	●	●	●	●	●	●		●	●		●		●	●
LS large bobbins (C, D)	●		●	●		○		●				●	●	
LSH spirals			○	●		○	●	●	●		●	●	●	●
LO/G spirals			○	●		●	●	●	●	●		●	●	●

● recommended

○ possible



# Key features

Primary cells and batteries are not rechargeable.

- **High and stable operating voltage**
  - Above 3 V for LS, LST and LSH cells.
  - Above 2 V for LO/G and LM/M cells.
- **Wide current capability range**

From a few microamperes base current for the small LS and LST cells to more than 10 A pulses for some LO/G and LM/M cells.
- **Wide operating temperature range**

From –60°C up to +85°C (Standard cells) depending on cell type, current drain and environment conditions.
- **High operating temperature – spiral cell series**

Operating safely and reliably up to 150°C.
- **Long shelf life**

Capacity loss in storage at +20°C below 1% (LS, LST bobbins) and 3% (LSH, LO/G, LM/M spirals) per year.
- **Extended operating life**

Typically above 5 years, and up to 20 years for some applications.
- **High energy densities**

3-10 times greater than the non-lithium systems.
- **Excellent behavior in humid environments**

Corrosion-free stainless steel cell envelopes.
- **Disposal**

According to local regulations.
- **Adequate safety**

Most of Saft's lithium cells are UL (Underwriters Laboratories) and IEC 60086-4 recognized, and non-restricted for transport. Most battery packs comply with European and US Army standards. Several LS cell models comply with the EN 50020 "Intrinsic Safety" specification for ATEX applications.
- **Storage**

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

## Saft primary lithium chemistries: specific qualities

- **Li-SOCl<sub>2</sub>**

(LS, LST, LSH cell series)

  - Bobbin, coil or spiral construction
  - Operating voltage > 3 V
  - Ability to operate from –60 to +85°C
  - Non-flammable electrolyte
  - Cells non-pressurized at room temperature
  - Hermeticity guaranteed up to +120°C
  - Unrivalled nominal capacities (LS, LST)
  - High temperature LSH cell series up to +150°C
  - ▶ The LS "C" cell versions are recommended for use in Cool environments, typical of indoor applications. They yield higher voltage during pulsing at temperature not exceeding repeatedly +70°C.
  - ▶ The LS "W" cell versions are recommended for use in applications with Widely fluctuating temperature (up to +95°C), such as electronic toll collection.
  - ▶ The LO "SHX" cell versions offer superior pulse capability for discharges not exceeding the declared voltage cut-off.
- **Li-SO<sub>2</sub>**

(LO/G cell series)

  - Spiral construction
  - Non-flammable electrolyte
  - Superior pulse capability
  - Excellent capacity above 1 A
  - Superior power at –40°C
  - Hermeticity guaranteed up to +95°C
  - Wide military acceptance
- **Li-MnO<sub>2</sub>**

(LM/M cell series)

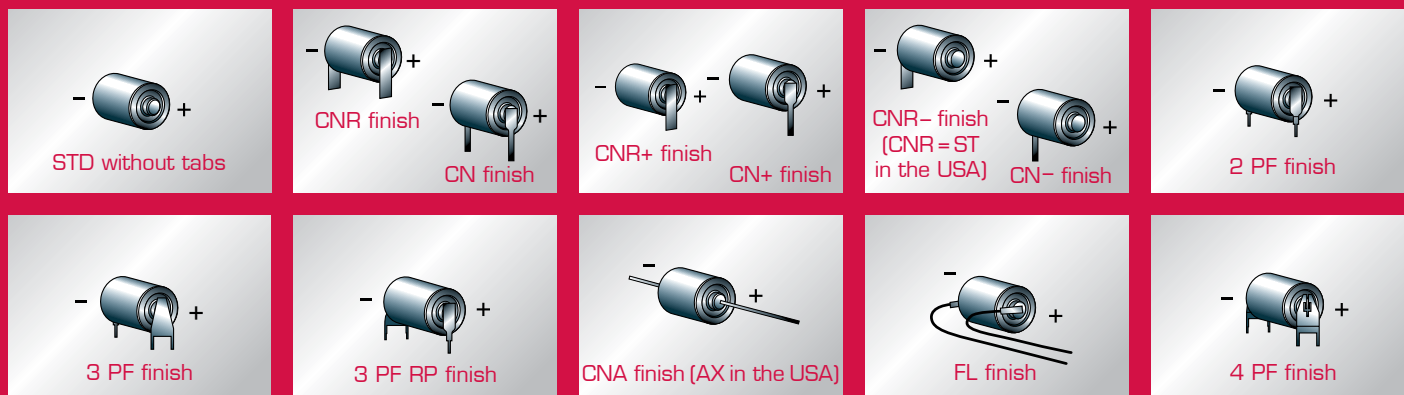
  - Spiral construction
  - Non-corrosive electrolyte
  - Cells non-pressurized at room temperature
  - Spiral cells with good pulse capability
  - Minimal voltage delay
  - Competitive capacity at high current and low temperature (–40°C)

## Saft lithium cell series: performance data

Enclosed data relates to batteries aged up to 12 months and properly stored. Consult Saft regarding specific pulse conditions or usage following prolonged storage and/or exposure to extreme temperatures.

- Nominal capacity at +20°C and 2 V discharge cut-off (continuous current).
- Maximum recommended pulse current: varies according to pulse characteristics (duration, frequency), temperature conditions, cell storage conditions prior to usage and the application's acceptable minimum voltage. The use of parallel capacitor to enhance the voltage at the beginning of pulses might be recommended. Consult Saft.
- Transport status: according to UN Model Regulations Ref. ST/SG/AC.10/1 Revision 15 (2007) and Manual of Tests and Criteria Ref. ST/SG/AC.10/11 Revision 4, 2003.

## Examples of standard individual cell tabbing arrangements



Other cell finishes are available upon request. Check availability and dimensions of tabbing arrangement for considered cell.

## Examples of standard battery packs configurations



# Primary lithium batteries

## Li-SOCl<sub>2</sub> range



### Li-SOCl<sub>2</sub> cells

Production site	Size	Open circuit voltage	Nominal voltage	Nominal capacity (drain) (2.0 V cut-off)	Maximum recommended continuous current	Operating temperature range	Outside diameter max.	Height max.	Typical weight	UL recognition	Transport status
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#### Small LS/LST cells

LS 14250	F	1/2 AA	3.67 V	3.6 V	1.2 Ah (1 mA)	35 mA	-60/+ 85°C*	14.65 mm	24.8 mm	8.9 g	yes	Non-restricted
LST 14250	UK	1/2 AA	3.67 V	3.6 V	1.2 Ah (1 mA)	35 mA	-60/+ 85°C*	14.20 mm	25.15 mm	8.8 g	yes	Non-restricted
LS 14250C	F	1/2 AA	3.67 V	3.6 V	1.2 Ah (1 mA)	15 mA	-60/+ 70°C*	14.65 mm	24.8 mm	8.9 g	yes	Non-restricted
LS 14250W	F	1/2 AA	3.67 V	3.6 V	1.2 Ah (1 mA)	35 mA	-60/+ 95°C*	14.65 mm	24.8 mm	8.9 g	—	Non-restricted
LS 14500	F	AA	3.67 V	3.6 V	2.6 Ah (2 mA)	70 mA	-60/+ 85°C*	14.65 mm	50.3 mm	16.7 g	yes	Non-restricted
LST 14500	UK	AA	3.67 V	3.6 V	2.45 Ah (1 mA)	45 mA	-60/+ 85°C*	14.20 mm	49.85 mm	16.3 g	yes	Non-restricted
LS 14500C	F	AA	3.67 V	3.6 V	2.7 Ah (2 mA)	25 mA	-60/+ 70°C*	14.65 mm	50.3 mm	16.2 g	yes	Non-restricted
LS 14500W	F	AA	3.67 V	3.6 V	2.6 Ah (2 mA)	70 mA	-60/+ 95°C*	14.65 mm	50.3 mm	16.7 g	yes	Non-restricted
LST 17330	UK	2/3 A	3.67 V	3.6 V	2.1 Ah (3 mA)	25 mA	-60/+ 85°C*	16.50 mm	33.4 mm	14.4 g	yes	Non-restricted
LS 17500	F	A	3.67 V	3.6 V	3.6 Ah (3 mA)	130 mA	-60/+ 85°C*	17.00 mm	50.9 mm	21.9 g	yes	Non-restricted

\*Cells leakproof up to +130°C

#### Large LS cells

LS 26500	F	C	3.67 V	3.6 V	7.7 Ah (4 mA)	150 mA	-60/+ 85°C*	26.00 mm	49.1 to 50.4 mm***	48 g	yes	Class 9
LS 33600**	F	D	3.67 V	3.6 V	17.0 Ah (5 mA)	250 mA	-60/+ 85°C*	33.40 mm	60.2 to 61.6 mm***	90 g	yes	Class 9
LS 33600C**	F	D	3.67 V	3.6 V	18.5 Ah (1 mA)	80 mA	-60/+ 70°C*	33.40 mm	60.2 to 61.6 mm***	90 g	yes	Class 9

\*Cells leakproof up to +120°C

\*\*Low Magnetic cell versions available

\*\*\* Depending on cell finish

#### LSH spiral cells

LSH 26180	F	1/3 C	3.67 V	3.6 V	1.2 Ah (10 mA)	0.4 A	-60/+ 85°C*	26.20 mm	18.6 mm	24 g	—	Non-restricted
LSH 14	F	C	3.67 V	3.6 V	5.8 Ah (15 mA)	1.3 A	-60/+ 85°C*	26.00 mm	50.4 mm	51 g	yes	Class 9
LSH 14 "light"	F	C	3.67 V	3.6 V	3.6 Ah (15 mA)	1.3 A	-60/+ 85°C*	26.00 mm	50.4 mm	51 g	—	Non-restricted
LSH 20**	F	D	3.67 V	3.6 V	13.0 Ah (15 mA)	1.8 A	-60/+ 85°C*	33.40 mm	61.6 mm	100 g	yes	Class 9
LSH 20-150	F	D	3.67 V	3.6 V	14.0 Ah (300 mA)	300 mA	-40/+ 150°C	32.05 mm	61.7 mm	104.5 g	—	Class 9

\*Cells leakproof up to +120°C

\*\*High Temperature (120°C max) LSH 20 HTS cell version available

All LSH cells are fitted with individual 5 Amp fuse protection

Primary cells and batteries are not rechargeable.

Their internal impedance may rise versus time, especially in case of exposure at elevated temperature.



## Li-SOCl<sub>2</sub> Military battery packs

Cell type construction *	Open circuit voltage	Nominal voltage	Voltage cut-off	Rated capacity	Maximum dimensions	Typical weight	Safety features	NATO Stock Number (NSN)	Typical applications
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<b>PS 31 A</b>	1s1p LSH 26180	3.67 V	3.6 V	2.0 V	1.2 Ah	26.2 x 18.9 mm	25 g	5 A fuse	6135-14-376-4875	Night vision
<b>PS 38 A</b>	5s1p LSH 26180	18.3 V	17.5 V	10.0 V	1.2 Ah	110.7 x 37 mm	155 g	5 A fuse	6135-14-389-9050	Laser telemetry
<b>PS 40 A</b>	4s1p LSH 14	14.7 V	14.0 V	10.0 V	4.6 Ah	108 x 65 x 49 mm	285 g	PTC 1.1 A**	6135-14-420-1760	Radiocommunication (TRPP 11/13)
<b>PS 42 A</b>	2s1p LSH 20	7.3 V	7.0 V	5.0 V	9.0 Ah	69.9 x 67.2 x 34 mm	230 g	PTC 3.5 A**	6135-14-434-0766	Radiocommunication (TRPP 39)
<b>PS 48 B</b>	5s2p LSH 20	18.3 V	17.5 V	12.6 V	18.0 Ah	212.4 x 72.7 x 68.5 mm	1150 g	PTC 1.85 A**	6135-14-451-7198	Radiocommunication (TRC 350)
<b>PS 52 A</b>	2s1p LSH 20	7.3 V	7.2 V	5.0 V	12.5 Ah	77.5 x 63.5 x 34.6 mm	225 g	PTC 2.0 A**	6135-14-459-9265	Radiocommunication (Portable PR4G)
<b>PS 53 B</b>	6s1p LSH 20	22.0 V	21.0 V	15.0 V	12.5 Ah	210.5 x 68.5 x 37.5 mm	720 g	PTC 2.5 A**	6135-14-459-9266	Radiocommunication (Portable PR4G)

\* Xs Yp = Y parallel branches of X cells in series per branch

\*\* Maximum hold current

## Li-SOCl<sub>2</sub> Civil battery packs

Cell type construction *	Open circuit voltage	Nominal voltage	Rated capacity	Maximum dimensions	Typical weight	Typical applications
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<b>LS 14250 MLB</b>	1s1p LS 14250	3.67 V	3.6 V	1.2 Ah	16.8 x 28.6 mm	15 g	Metering, professional electronics
<b>LS 9V</b>	3s1p LS 14250	11.0 V	9.0 V	1.2 Ah	49.1 x 46.8 x 26.8 mm	29 g	Memory back-up, metering, smoke detectors, professional electronics
<b>Lithopack</b>	2s1p LS 14500	7.3 V	7.2 V	2.6 Ah	56.6 x 31.6 x 17.3 mm	34 g	Memory back-up, metering, professional electronics

Primary cells and batteries are not rechargeable.

This data sheet is an insert part of the Primary lithium batteries Selector guide (ref 31048-2), where complementary information and data on features, safety and storage can be found.

### Saft

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RCS Bobigny B 383 703 873

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**SAFT**

# Primary lithium batteries

## Li-SO<sub>2</sub> range



## Li-SO<sub>2</sub> cells

Production site	Size	Open circuit voltage	Nominal voltage	Nominal capacity (drain) (2.0 V cut-off)	Maximum recommended continuous current	Operating temperature range	Outside diameter max.	Height max.	Weight	UL recognition	Transport status
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### G/LO spiral cells

<b>G 04/3</b>	UK	1/2 AA	3.0 V	2.8 V	0.45 Ah (50 mA)	0.25 A	-60/+70°C*	14.2 mm	27.9 mm	8 g	—	Non-restricted
<b>G 06/2</b>	UK	AA	3.0 V	2.8 V	0.95 Ah (80 mA)	0.5 A	-60/+70°C*	14.2 mm	50.3 mm	15 g	—	Non-restricted
<b>G 32/3</b>	UK	2/3 A	3.0 V	2.8 V	0.8 Ah (80 mA)	0.75 A	-60/+70°C*	16.3 mm	34.5 mm	12 g	—	Non-restricted
<b>G 36/2</b>	UK	"long" A	3.0 V	2.8 V	1.7 Ah (80 mA)	1.5 A	-60/+70°C*	16.3 mm	57.7 mm	18 g	—	Non-restricted
<b>LO 34 SX</b>	USA	1/3 C	3.0 V	2.8 V	0.86 Ah (80 mA)	1.0 A	-60/+70°C*	25.9 mm	20.3 mm	18 g	yes	Non-restricted
<b>LO 35 SX</b>	USA	2/3 C	3.0 V	2.8 V	2.2 Ah (650 mA)	2.0 A	-60/+70°C*	25.9 mm	35.9 mm	30 g	yes	Non-restricted
<b>G 52/3</b>	UK	C	3.0 V	2.8 V	3.2 Ah (1.0 A)	2.5 A	-60/+70°C*	25.6 mm	49.5 mm	47 g	—	Class 9
<b>LO 29 SHX</b>	USA	C	3.0 V	2.8 V	3.75 Ah (0.25 A)	2.5 A	-60/+70°C*	25.6 mm	50.4 mm	40 g	yes	Class 9
<b>G 54/3</b>	UK	5/4 C	3.0 V	2.8 V	5.0 Ah (0.2 A)	2.5 A	-60/+70°C*	25.6 mm	60.2 mm	58 g	—	Class 9
<b>LO 43 SHX</b>	USA	5/4 C	3.0 V	2.8 V	5.0 Ah (0.2 A)	2.5 A	-60/+70°C*	26.0 mm	59.2 mm	53 g	yes	Class 9
<b>LO 40 SX</b>	USA	2/3 "Thin" D	3.0 V	2.8 V	3.5 Ah (0.12 A)	2.0 A	-60/+70°C*	28.95 mm	42.29 mm	40 g	yes	Class 9
<b>LO 30 SHX</b>	USA	"Thin" D	3.0 V	2.8 V	5.75 Ah (0.2 A)	3.0 A	-60/+70°C*	29.1 mm	59.9 mm	63 g	yes	Class 9
<b>G 26</b>	UK	D	3.0 V	2.8 V	7.75 Ah (0.25 A)	2.5 A	-60/+70°C*	34.5 mm	59.8 mm	85 g	—	Class 9
<b>LO 26 SX</b>	USA	D	3.0 V	2.8 V	7.75 Ah (0.25 A)	2.5 A	-60/+70°C*	34.2 mm	59.3 mm	85 g	yes	Class 9
<b>LO 26 SXC</b>	USA	D	3.0 V	2.8 V	9.2 Ah (0.25 A)	2.5 A	-60/+70°C*	34.2 mm	59.3 mm	85 g	—	Class 9
<b>LO 26 SHX</b>	USA	D	3.0 V	2.8 V	7.5 Ah (1.0 A)	4.0 A	-60/+70°C*	34.2 mm	59.3 mm	85 g	yes	Class 9
<b>LO 25 SX</b>	USA	"Fat" D	3.0 V	2.8 V	8.0 Ah (0.27 A)	2.5 A	-60/+70°C*	39.5 mm	50.3 mm	96 g	yes	Class 9
<b>LO 39 SHX</b>	USA	F	3.0 V	2.8 V	11.5 Ah (1.0 A)	3.0 A	-60/+70°C*	31.9 mm	100.3 mm	125 g	yes	Class 9
<b>G 22/6</b>	UK	DD	3.0 V	2.8 V	16.5 Ah (0.5 A)	3.0 A	-60/+70°C*	33.3 mm	120.6 mm	175 g	—	Class 9
<b>G 62/1</b>	UK	"Long Fat DD"	3.0 V	2.8 V	34.0 Ah (1.0 A)	3.0 A	-60/+70°C*	41.7 mm	141.0 mm	300 g	—	Class 9

\* Cells leakproof up to +85°C

Primary cells and batteries are not rechargeable.

Their internal impedance may rise versus time, especially in case of exposure at elevated temperature.





## Li-SO<sub>2</sub> Military battery packs

	Cell type construction *	Open circuit voltage	Nominal voltage	Voltage cut-off	Rated capacity	Maximum dimensions	Typical weight	NATO Stock Number (NSN)	Typical applications
BA 5112A/U	4s1p LO 35 SX	12.0 V	11.2 V	8.0 V	2.3 Ah	77.8 x 57.2 x 39.1 mm	180 g	6135-01-235-4168	Radiocommunication (PRC 112)
BA 5557A/U	5s2p LO 35 SX	15.0 V/ 30.0 V	14.0 V/ 28.0 V	10.0 V/ 20.0 V	4.4 Ah/2.2 Ah	100.1 x 106.3 x 37.3 mm	500 g	6135-01-088-2707	Radiocommunication
BA 5567A/U	1s1p LO 34 SX	3.0 V	2.8 V	2.0 V	1.0 Ah	25.9 x 19.9 mm	16 g	6135-01-090-5363	Night vision
BA 5588A/U	5s1p LO 40 SX	15.0 V	13.5 V	11.0 V	3.5 Ah	96 x 90 x 31 mm	295 g	6135-00-088-2708	Radiocommunication (AN/PRC 128)
BA 5590A/U	5s2p LO 26 SX	15.0 V 30.0 V	13.5 V 27.0 V	10.0 V 20.0 V	15.0 Ah 7.5 Ah	127 x 111.8 x 62.2 mm	1020 g	6135-01-523-3037	Radiocommunication (with SOCI**) (AN/PRC/104/113/117/119)
BA 5590B/U (2 sets of terminals)	5s2p LO 26 SX	15.0 V 30.0 V	13.5 V 27.0 V	10.0 V 20.0 V	15.0 Ah 7.5 Ah	127 x 111.8 x 62.2 mm	1020 g	6135-01-036-3495	Radiocommunication (AN/PRC 104/119)
BA 5590HC	5s2p LO 26 SXC	15.0 V 30.0 V	13.5 V 27.0 V	10.0 V 20.0 V	18.2 Ah 9.1 Ah	127 x 111.8 x 62 mm	1020 g	TBD	Radiocommunication (AN/PRC 104/113/117/119)
BA 5598A/U	5s1p LO 25 SX	15.0 V	13.5 V	10.0 V	7.5 Ah	120.7 x 92 x 54 mm	680 g	6135-01-034-2239	Radiocommunication (PRC 25/74/77)
BA 5599A/U	3s1p LO 26 SX	9.0 V	8.1 V	6.0 V	7.5 Ah	152 x 38 x 64 mm	450 g	6135-01-069-8575	Radio tester
BA 5600A/U	3s1p LO 26 SX	9.0 V	8.1 V	6.0 V	7.5 Ah	185.9 x 39.4 mm	360 g	6135-01-168-2944	Communication terminal AN/PSC 2/cap
BT 5790	5s1p LO 26 SX	15.0 V	14.0 V	10.0 V	7.5 Ah	186.5 x 35.7 x 66.7 mm	630 g	N/A	Radiocommunication
BT 5791	5s2p LO 26 SX	15.0 V	14.0 V	10.0 V	15.0 Ah	186.5 x 70.0 x 65.3 mm	1200 g	N/A	Radiocommunication
BA 5800A/U	2s1p LO 26 SX	6.0 V	5.3 V	4.0 V	7.5 Ah	128.5 x 35.5 mm	220 g	6135-99-798-9851	Compact Air Supply Unit (CASU), GPS
BA 5847B/U	2s1p LO 26 SX	6.0 V	5.3 V	4.0 V	7.5 Ah	95 x 64.8 x 38 mm	220 g	6135-01-090-5364	Radiocommunication Mine detector
BT 5313	9s1p LO 26 SHX	27.0 V	25.2 V	18.0 V	7.2 Ah	Special	1100 g	N/A	Missile launcher
Li/3	3s1p LO 26 SX	9.0 V	8.4 V	6.0 V	7.5 Ah	110 x 42 x 26.2 mm	450 g	6135-14-383-9768	Missile launcher
G6-104 (/C,D,E,F,G,H)	2s1p G20	6.0 V	5.6 V	4.0 V	7.5 Ah	128.5 x 35.5 mm	200 g	-	CAM
G6-105	2s1p G52	6.0 V	5.6 V	4.0 V	3.2 Ah	55 x 28.1 x 56 mm	110 g	6135-99-658-9085	Aircraft probe
G9-124	3s1p G20	9.0 V	8.4 V	6.0 V	7.5 Ah	110 x 42 x 83 mm	370 g	6135-14-383-9768	Missile
G15-114	5s2p G06	15.0 V	14.0 V	9.6 V	1.9 Ah	90.6 x 40.3 x 71 mm	270 g	6135-99-795-4351	Radiocommunication
G15-127	2 x 5s1p G62	2x15.0 V	2x14.0 V	2x10.0 V	34 or 68 Ah	216 x 152 x 92 mm	3500 g	6135-99-794-2896	-
G18-115	6s1p G20	18.0 V	16.8 V	12.0 V	7.5 Ah	131.6 x 66.8 x 128 mm	850 g	6135-99-795-4350	Radiocommunication
G30-101	10s1p G20	30.0 V	28.0 V	20.0 V	7.5 Ah	184.5 x 73.5 x 80 mm	1500 g	6135-99-747-4430	Radiocommunication
G30-102/B	10s1p G22	30.0 V	28.0 V	20.0 V	16.0 Ah	184 x 72.5 x 133 mm	2500 g	6135-99-840-0109	Radiocommunication
XSG 1493/1	5s1p G32	15.0 V	14.0 V	10.0 V	0.85 Ah	78.5 x 37.2 x 40 mm	170 g	-	Personal locator beacon

\* Xs Yp = Y parallel branches of X cells in series per branch

\*\* SOCI: State of Charge Indicator

**Primary cells and batteries are not rechargeable.**

**This data sheet is an insert part of the Primary lithium batteries Selector guide (ref 31048-2), where complementary information and data on features, safety and storage can be found.**

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# Primary lithium batteries

## Li-MnO<sub>2</sub> range



## Li-MnO<sub>2</sub> cells

Production site	Size	Open circuit voltage	Nominal voltage	Nominal capacity (drain) (2.0 V cut-off)	Maximum recommended continuous current	Operating temperature range	Outside diameter max.	Height max.	Weight	UL recognition	Transport status
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### LM spiral cells

<b>LM 17130</b>	USA	1/3 A	3.2 V	3.0 V	0.5 Ah (4.5 mA)	0.3 A	-40/+ 70°C	16.7 mm	16.6 mm	8.0 g	—	Non-restricted
<b>LM 22150</b>	USA	1/3 sub-C	3.2 V	3.0 V	0.9 Ah (40 mA)	0.4 A	-40/+ 70°C	22.8 mm	17.3 mm	15.0 g	—	Non-restricted
<b>M 49</b>	Germany*	3/4 sub-C	3.2 V	3.0 V	1.6 Ah (80 mA)	0.3 A	-40/+ 70°C	22.5 mm	32.0 mm	24.0 g	—	Class 9
<b>M 52 HR</b>	Germany*	C	3.2 V	3.0 V	4.5 Ah (800 mA)	1.2 A	-40/+ 70°C	26.0 mm	51.0 mm	59.0 g	—	Class 9
<b>M 20</b>	Germany*	D	3.2 V	3.0 V	10.5 Ah (500 mA)	2.0 A	-40/+ 70°C	34.0 mm	61.0 mm	115 g	—	Class 9
<b>M 20 HR</b>	Germany*	D	3.2 V	3.0 V	10.5 Ah (2.0 A)	2.5 A	-40/+ 70°C	34.0 mm	61.0 mm	117 g	—	Class 9
<b>M 24 HR</b>	Germany*	DD	3.2 V	3.0 V	20.0 Ah (2.0 A)	4.0 A	-40/+ 70°C	33.5 mm	111 mm	201 g	—	Class 9
<b>M 62</b>	Germany*	"Big" DD	3.2 V	3.0 V	33.0 Ah (1.6 A)	5.0 A	-40/+ 70°C	42.0 mm	133 mm	355 g	—	Class 9

\* FRIWO cell series

## Li-MnO<sub>2</sub> Military battery packs

	Cell type construction*	Open circuit voltage	Nominal voltage	Voltage cut-off	Nominal capacity	Maximum dimensions	Weight	NATO Stock Number (NSN)	Typical applications
<b>BA 5368/U</b>	4s1p LM 22150	12.8 V	12.0 V	9.0 V	0.9 Ah	76.2 x 26.9 mm	145 g	6135-01-455-7947	Radiocommunication (PRC-90-103-106-195)
<b>BA 5372/U</b>	2s1p LM 17130	6.4 V	6.0 V	4.0 V	0.5 Ah	16.5 x 33.0 mm	20 g	6135-01-214-6441	Radiocommunication (SINCGARS)

\* Xs Yp = Y parallel branches of X cells in series per branch

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Please find a list of our collection points on our web site: [www.saftbatteries.com](http://www.saftbatteries.com)

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