Tel.X
Nickel-cadmium batteries
Tangible benefits for modern telecom networks

Saft's Tel.X battery is designed to meet specific needs in the new generation of decentralised telecom networks. Typically, Tel.X will provide back-up power for remote and demanding outdoor applications, such as cabinets and end terminals in fibre-optic networks offering triple-play services as well as BTS (Base Transceiver Station) and BSC (Basic Station Controller) installations in wireless networks.

Specifically for telecom

Tel.X is a high-energy, long-life, maintenance-free nickel-cadmium battery designed to ensure maximum reliability and minimum total cost of ownership (TCO). It performs over a very wide temperature range and in uncontrolled environments with no need for water replenishment.

Tel.X is compact, modular and compatible with existing telecom equipment. It represents a simple and direct replacement for troublesome VRLA batteries, and promises total reliability. Unlike VRLA, Tel.X's robust, well-proven Ni-Cd construction and engineered electrolyte will not degrade, cannot suffer from sudden death, and will continue efficiently to operate in harsh conditions.

Benefits

- **Long life** – more than 14 years at + 40°C (+ 104°F).
- **Reliable** – robust construction and nickel-cadmium's unique electrochemistry assure operation with total peace of mind.
- **Maintenance-free** – no topping-up required.
- **High energy volume** – providing up to 100 Wh/L.
- **Easy installation** – modular design is simple to install in cabinets; well adapted to 19" and 23" racks; 30% lighter than a VRLA battery.
- **Temperature resistant** – operating from – 20°C to + 50°C (– 4°F to + 122°F), and from – 50°C to + 70°C (– 58°F to + 158°F) for short durations.
- **No active cooling required** – even in harsh environments.
- **Compatible with existing telecom equipment** – temperature compensated voltage from rectifier is not required.
- **Stable performance** – none of the corrosion, sudden death and thermal runaway risks associated with VRLA.
- **Long storage capability.**

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Tel.X – designed for telecom markets

Extremely long life

Tel.X is built around Ni-Cd technology: mature, highly reliable, and proven in telecom applications for around 20 years.

Ni-Cd will not suffer from sudden death and will not corrode during operation. Tel.X retains its structural integrity and performance throughout its life.

Tel.X tolerates elevated temperatures of up to + 50°C (+122°F) and will operate at + 40°C (+104°F) for more than 14 years. At lower temperatures and in normal operating conditions, life expectancy can extend beyond 20 years. The battery can continue to operate for short durations from – 50°C to + 70°C (– 58°F to + 158°F), owing to its robust internal steel construction and its engineered electrolyte, optimised for exceptional conditions.

Tel.X is your best insurance against unexpected power outages and assures your application of extremely high levels of operational reliability.

Extended performance, maintenance-free

For telecom installations sited in inaccessible and hostile locations, minimised maintenance and guaranteed performance are vital in the control of budget and utilisation of personnel.

Tel.X is an advanced power back-up solution integrating high charge efficiency, good cycling capability and all common benefits of Ni-Cd technology customised for telecom activity. The system's low pressure venting system reduces water consumption in service to nearly nothing, without affecting its good performance and long duration life. As a consequence, topping-up

Type	Voltage	Rated capacity	Nominal capacity	Maximum dimensions						Weight per block	
				L		W		H			
	(V)	C_5 Ah*	C_8 Ah**	(mm)	(in)	(mm)	(in)	(mm)	(in)	kg	lbs
TLX 80-3	3.6	87	80	124	4.9	105	4.13	254	10	6.6	14.6
TLX 80-4	4.2	87	80	163	6.4	105	4.13	254	10	8.8	19.4
TLX 80-5	6.0	87	80	203	8.0	105	4.13	254	10	11.0	24.3
TLX 80-6	7.2	87	80	242	9.5	105	4.13	254	10	13.2	29.1
TLX 80-7	8.4	87	80	282	11.1	105	4.13	254	10	15.4	34.0
TLX 80-8	9.6	87	80	321	12.6	105	4.13	254	10	17.6	38.8
TLX 80-9	10.8	87	80	361	14.2	105	4.13	254	10	19.7	43.4
TLX 80-10	12.0	87	80	400	15.7	105	4.13	254	10	21.9	48.3
TLX 100-3	3.6	108	100	151	5.9	105	4.13	254	10	8.5	18.7
TLX 100-4	4.2	108	100	199	7.8	105	4.13	254	10	11.3	24.9
TLX 100-5	6.0	108	100	248	9.7	105	4.13	254	10	14.1	31.1
TLX 100-6	7.2	108	100	296	11.7	105	4.13	254	10	16.9	37.3
TLX 100-7	8.4	108	100	345	13.6	105	4.13	254	10	19.7	43.4
TLX 100-8	9.6	108	100	393	15.5	105	4.13	254	10	22.6	49.8
TLX 100-9	10.8	108	100	442	17.4	105	4.13	254	10	25.4	56.0
TLX 100-10	12.0	108	100	490	19.3	105	4.13	254	10	28.2	62.2
TLX 150-3	3.6	163	150	206	8.1	105	4.13	254	10	12.2	26.9
TLX 150-4	4.2	163	150	272	10.7	105	4.13	254	10	16.3	35.9
TLX 150-5	6.0	163	150	339	13.3	105	4.13	254	10	20.4	45.0
TLX 150-6	7.2	163	150	406	16	105	4.13	254	10	24.4	53.8
TLX 150-7	8.4	163	150	473	18.6	105	4.13	254	10	28.5	62.8
TLX 180-3	3.6	195	180	247	9.7	105	4.13	254	10	15.0	33.1
TLX 180-4	4.8	195	180	327	12.9	105	4.13	254	10	20.0	44.1
TLX 180-5	6.0	195	180	408	16.1	105	4.13	254	10	25.0	55.1
TLX 180-6	7.2	195	180	489	19.2	105	4.13	254	10	30.0	66.1

*According to IEC 60623

** Obtained after a constant voltage charge of 1.45 V/cell for 24 h at + 25°C (+ 77°F) and available charge current of 0.15 C_8 A, followed by a discharge of 8 h at + 25°C (+ 77°F) down to 1.1 V/cell.

is not required during the life of the battery, though the Tel.X design allows for water addition under exceptional circumstances.

Tel.X is supplied with a protective cover which is designed to guard terminals from effects of the local environment, rendering cleaning unnecessary.

Saft recommends periodic checks of the charging voltage (typically 1.43 V/cell), but beyond this, Tel.X requires no further attention once installed.

Easy to install, simple to use

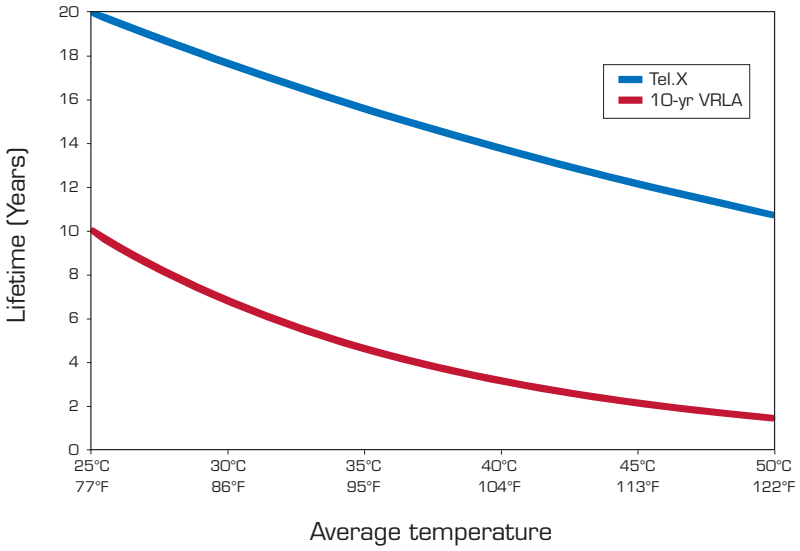
Tel.X is designed in a compact, modular format and averages 30 % less weight than a VRLA battery. It offers higher energy in lower volume and permits fast, simple and direct replacement for VRLA with regard to available space and charging requirements.

Tel.X will fit most existing compartments and cabinets without the need for any modifications and will provide extended high energy performance of up to 100 Wh/L.

Good performance data

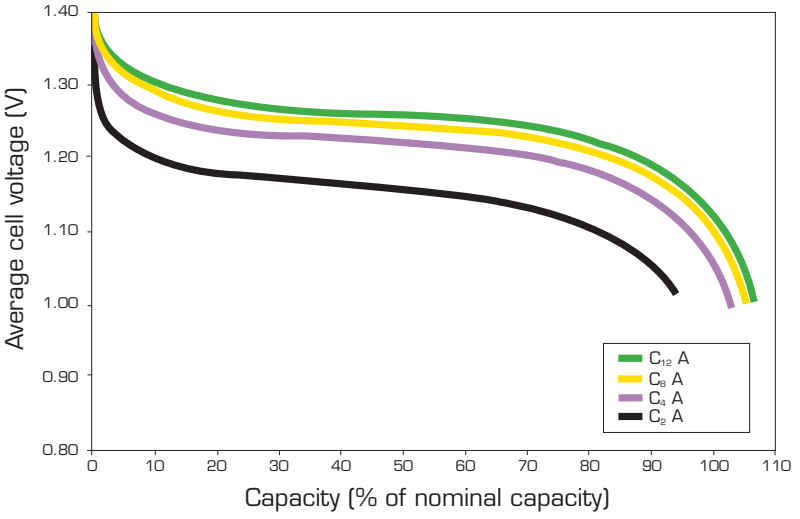
The Tel.X battery range is specially designed to offer good performance in telecom for typical back-up above 3 hours.

Effect of temperature on battery life

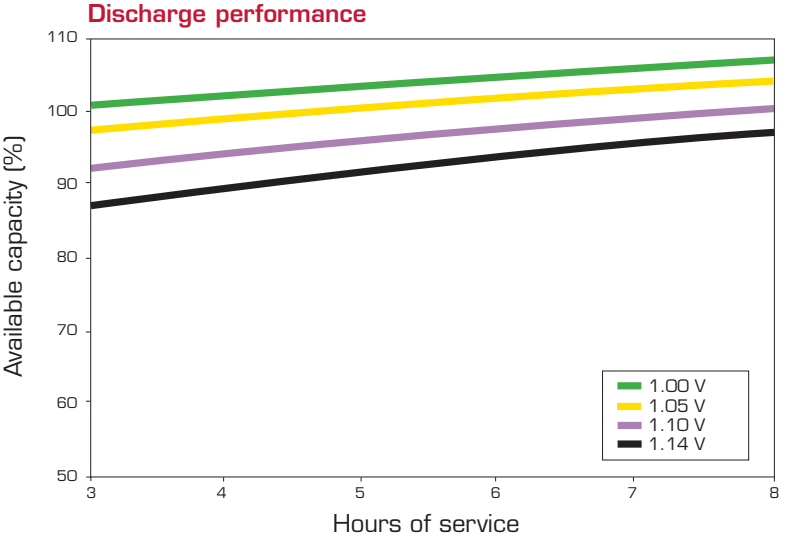


Discharge characteristics

Discharge at + 25°C / + 77°F at different discharge rates after 24 h charge at + 25°C / + 77°F at 1.43 V/cell



Discharge performance



A range of possibilities

The Tel.X range is available from 80 Ah to 180 Ah in modular construction to suit your capacity needs. Each module is comprised of 3 to 10 cells with lifting handle to facilitate easy handling and installation.

Tel.X is designed to meet the environmental requirements of GR-3108, the performance requirements of GR-3020, NEBS level III, and the IEC 60623.

Recycling: Saft's commitment to the environment

Saft is committed to the highest standards of environmental stewardship, minimising the impact of its products and operations by:

- prioritising use of recycled over un-recycled raw materials,
- reducing environmental plant releases, leading to lower water usage,
- implementing recycling solutions for customers' batteries at the end of their lives.

Battery String Tel.X 48 V-100 Ah

In most EU countries and North America, Saft partners companies who collect and recycle industrial Ni-Cd batteries, which are recycled free of charge to our customers in fully approved facilities. This service is managed in compliance with the Laws governing trans-boundary waste shipments.

A list of our collection points is available at www.saftbatteries.com

In other countries, Saft assists customers in finding environmentally sound recycling solutions. Please contact your sales representative for further information.

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