



TEST DATA REPORT

MANUFACTURER	ELERIX LTD
	Enterprise House 2 Pass Street, Oldham, Manchester, United Kingdom, OL9 6HZ www.elerix.com
BRAND	ELERIX (OEM)
DESCRIPTION / MODEL	EX-T30K
	<input checked="" type="checkbox"/> Cell <input type="checkbox"/> Battery <input type="checkbox"/> Product
Chemistry	Li-metal – LTO (Li-Titanate)
Nominal Voltage	2.3 V
Nominal Capacity	30 Ah
Nominal Energy – Watthour rating	69 Wh
Nominal Weight – Mass (g)	1020 g



TEST DATA INFORMATION

ELERIX EX-T30K Low Temperature Test

The LTO technology provides the best solution for the energy storage in situations where the installation is located in areas with a very low ambient temperature. This test provides the confirmation of the specifications of the **ELERIX EX-T30K LTO cells in +25°C and -25°C temperature scenarios.**

The Procedure of the Test

Random samples were selected from a recent shipment of the cells. These samples were tested for their capacity at the **nominal temperature conditions – PLUS 25°C.** After the nominal testing, the cells were charged to the full and afterwards moved to the “cold climate chamber”. After 8 hours of acclimatization (when the cells got fully frozen), the **temperature reached MINUS -25°C,** the same discharge test under these low temperature conditions was carried out.

This test report provides the comparison of the two tests and presents the summary of the data.



TEST DATA REPORT

ELERIX EX-T30K Nominal Temperature Test (+25°C)

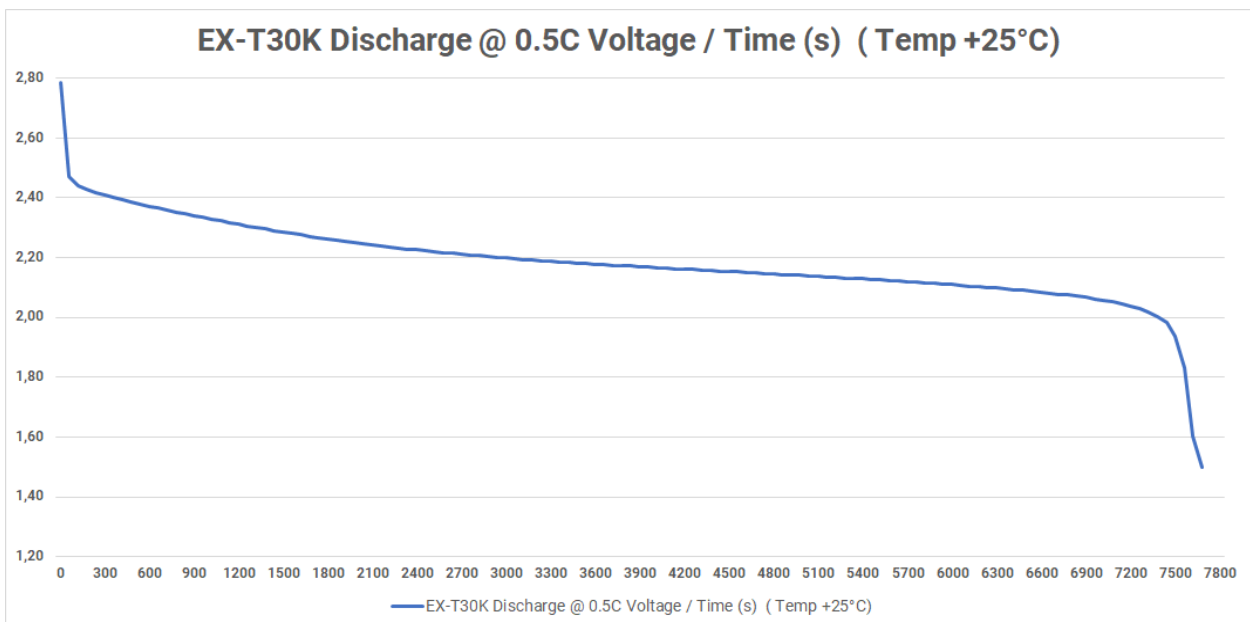
Test data for the nominal temperature discharge

The ELERIX EX-T30K cells were discharged at 15A (0.5C) at PLUS 25°C with the expected running time of 2 hours (7600 seconds).

The test results (average data from 5 samples under test)

Model	Nominal Capacity	Discharge	Running time	Tested Capacity
EX-L30K	30Ah	15A (0.5C)	7 680 seconds	31.790Ah

The discharge diagrams



ELERIX EX-T30K Low Temperature Test (-25°C)

Test data for the low temperature discharge

The ELERIX EX-T30K cells were discharged at 15A (0.5C) at MINUS 25°C (-25°C) with the expected running time of 2 hours (7600 seconds).

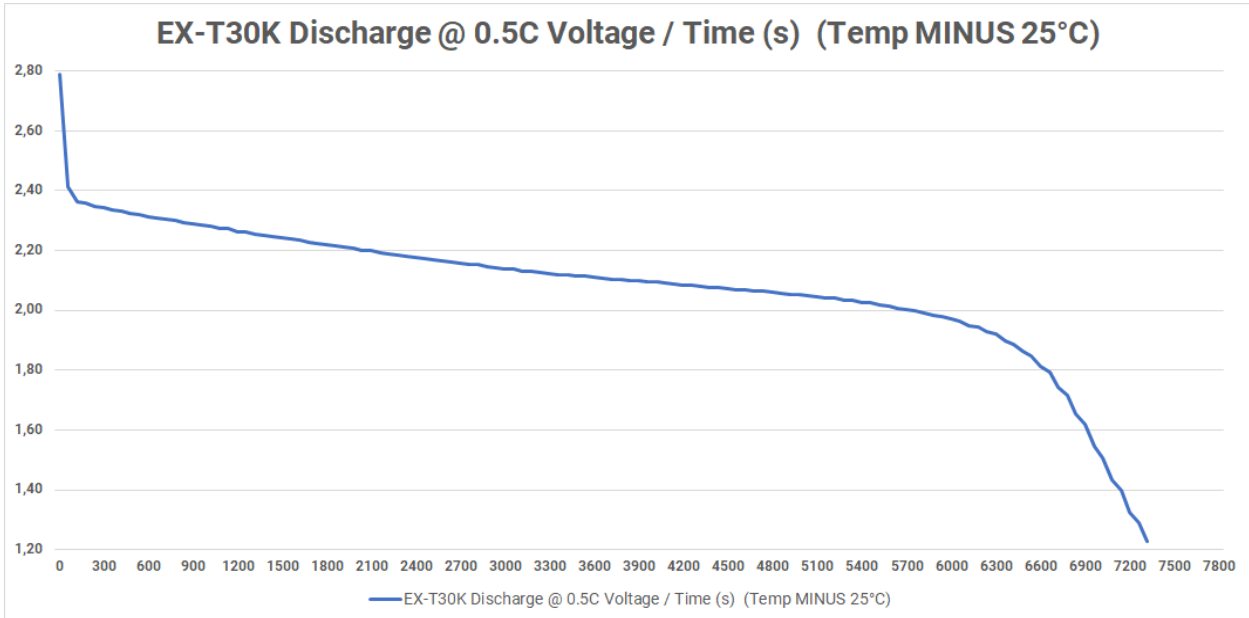
The test results (average data from 5 samples under test)

Model	Nominal Capacity	Discharge	Running time	Tested Capacity
EX-L30K	30Ah	15A (0.5C)	7 320 seconds	29.20Ah



TEST DATA REPORT

The discharge diagrams



ELERIX EX-T30K Summary of the Test Results (+25°C Versus -25°C)

The test results summary for both +25°C and -25°C (average data from 5 samples under test)

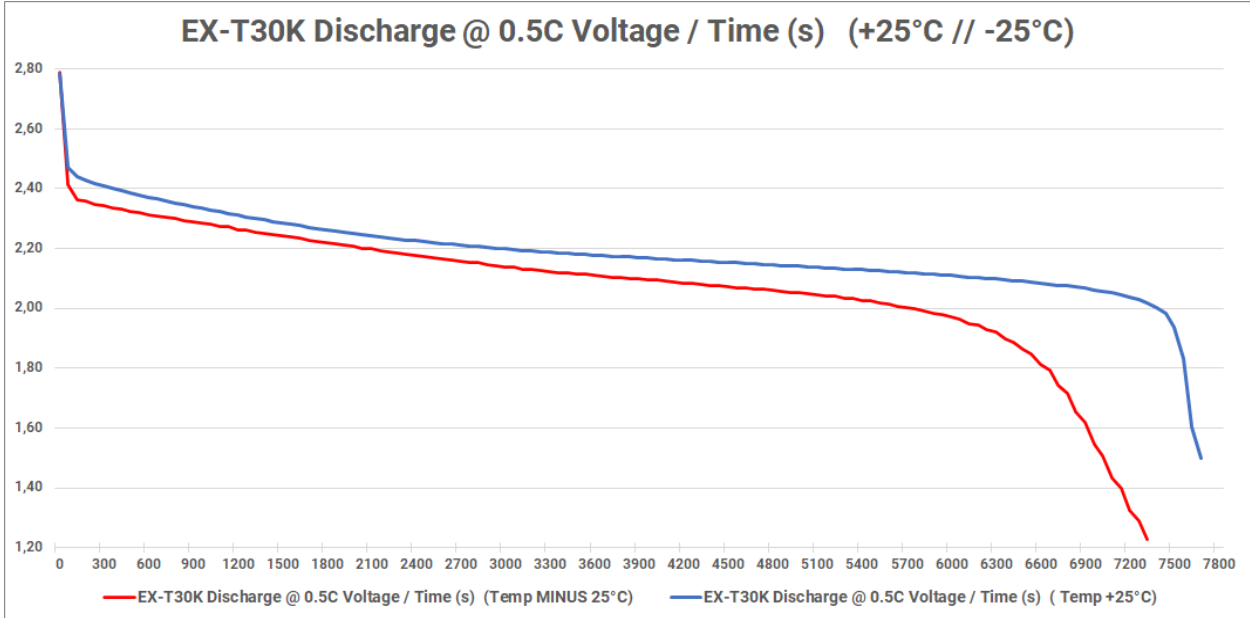
Model	Nominal Capacity	Discharge
EX-L30K	30AH	15A (0.5C)

Temperature	Tested capacity	Running time	Result
+25°C	31.79AH	7 680 seconds	106%
-25°C	29.20AH	7 320 seconds	97%

Time	Voltage (+25°C)	Voltage (-25°C)	Difference	Result
1 200 s	2.31 V	2.26 V	0.05 V	2.0%
2 400 s	2.23 V	2.18 V	0.05 V	2.2%
3 600 s	2.18 V	2.11 V	0.07 V	3.2%
4 800 s	2.15 V	2.06 V	0.09 V	4.0%
6 000 s	2.11 V	1.97 V	0.14 V	6.6%
7 200 s	2.04 V	1.32 V	0.72 V	35.1%

Voltage Level	Time to (+25°C)	Time to (-25°C)	Difference	Result
2.2 V	2 940 s	2 100 s	840 s	29%
2.0 V	7 380 s	5 700 s	1 680 s	23%
1.8 V	7 560 s	6 600 s	960 s	13%
1.6 V	7 620 s	6 840 s	780 s	10%

The discharge diagrams for both +25°C and -25°C



The final comments to the test results

The tested samples passed the test with very satisfying results. 😊

The real capacity at nominal temperature of +25°C was 31.79Ah, that is 106% of the nominal value.

Model	Nominal Capacity	Discharge	Tested Capacity @ +25°C	Result
EX-L30K	30Ah	15A (0.5C)	31.79 Ah	106%

The tested capacity at the low temperature of -25°C was 29.20Ah, that is 97% of the nominal value.

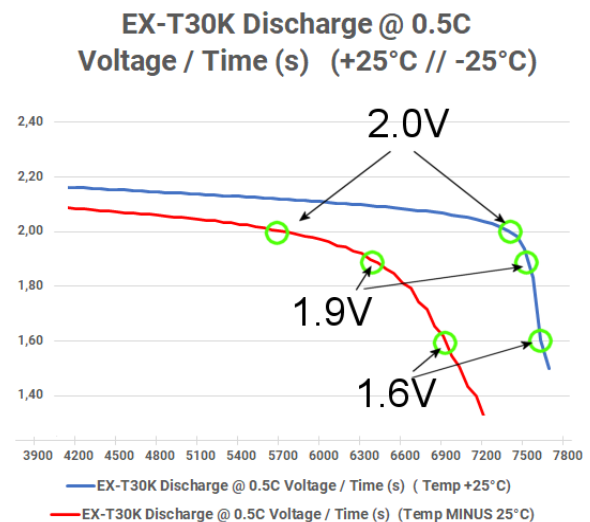
Model	Nominal Capacity	Discharge	Tested Capacity @ -25°C	Result
EX-L30K	30Ah	15A (0.5C)	29.20Ah	97%

In the voltage range of 2.4 to 1.9V there is no significant voltage difference between the operation in +25°C and -25°C.

The only visible difference is in the end of the discharge curve, when the low temperature cell will start dropping the voltage more gradually.

Technical recommendation

For low temperature operation, the low voltage discharge setting may be adjusted to as low as 1.4V per cell to get the full capacity of the cell.



== END OF TEST ==

PHOTOS OF PRODUCTS AND SAMPLES DURING THE TEST

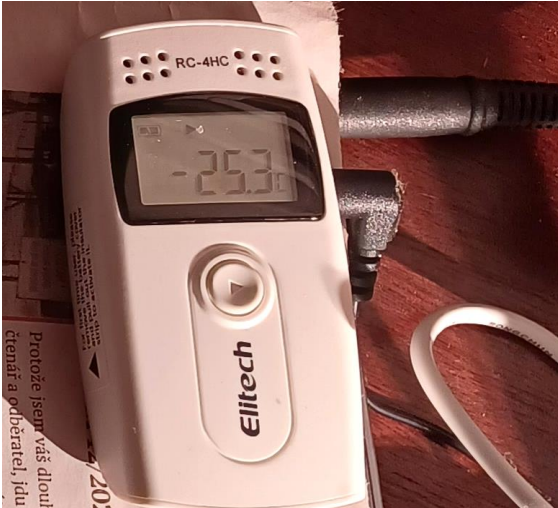
The photo of the samples under the test



The photo from the installation in the low temperature chamber:



The temperature in the chamber during the test reached $-25.3\text{ }^{\circ}\text{C}$:



The icing on the terminals and the outer case of the cells after the removal from in the low temperature chamber:



== END OF FILE ==