PRODUCT DATASHEET

ELITIUM EL70

INR21700-EL70

A 21700 cell built for one thing: the most energy a gram can carry. Two charge profiles turn the same cell into two products — an endurance cell for missions where every watt-hour is range, and a standard cell for platforms that fly again tomorrow.



HIGH ENERGY

6700 mAh · 50 cycles

VOLTAGE WINDOW

4.45 V → 1.80 V

FORMAT

21700

Issued: 2026-10-12 Revision: A

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What the EL70 does that a standard 21700 does not

One cell holds capacity and current at the same time. In this format that pair is normally a trade: the high-capacity cells are not the high-current cells, and the high-current cells are not the high-capacity ones.

24.8 Wh

+18 %

More watt-hours out of the same cell

Same cell, same 21700 footprint, same mass. The extra energy comes from the charge profile, and eighteen per cent more energy is eighteen per cent more time in the air.

≥344 Wh/kg

Energy per gram, where grams decide the mission

Figured at the maximum cell mass, so the real cell can only be better. Every gram that does not fly is a gram of payload that can.

60 A

150 A / 2 s

Capacity without paying for it in current

A pack built on this cell does not have to choose between endurance and the power an airframe asks for on climb-out or in a burst.

−40 °C

50 %

It still works at forty below

Half of rated capacity at −40 °C, and it discharges up to 75 °C. Winter and altitude stop being a separate engineering problem.

The comparison is against this same cell charged to 4.20 V.

What that is in a pack

The same figures, arranged the way an airframe carries them.

CONFIGURATION	CELLS	ENERGY	NOMINAL VOLTAGE	CAPACITY	CELL MASS
6S2P	12	297 Wh	22.2 V	13400 mAh	864 g
12S4P	48	1190 Wh	44.4 V	26800 mAh	3456 g

Cell mass only, at the maximum weight per cell. A finished pack also carries management electronics, interconnects and a housing. Figures are for the high-energy profile.

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Two operating modes

Standard

6000 mAh · 850 cycles

VOLTAGE WINDOW

4.20 V → 2.50 V

BUILT FOR

Reusable platforms, training airframes, ground and marine equipment — anything that has to survive hundreds of charges.

High energy

6700 mAh · 50 cycles

VOLTAGE WINDOW

4.45 V → 1.80 V

BUILT FOR

Maximum endurance per gram, where range decides the mission and cycle count does not. 18 % more energy from the same cell, paid for in service life.

Identity

Model	INR21700-EL70
Format	21700
Chemistry	Nickel-based lithium-ion, cylindrical

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Specification

PARAMETER	STANDARD	HIGH ENERGY
ELECTRICAL		
Nominal capacity Rating charge 3.0 A CC-CV, 120 mA termination; discharge 1.2 A to the cut-off.	6000 mAh	6700 mAh
Minimum capacity	6000 mAh	6630 mAh
Nominal voltage Mean operating voltage.	3.50 V	3.70 V
Nominal energy Capacity × nominal voltage.	21.0 Wh	24.8 Wh
Charge voltage limit	4.20 V	4.45 V
Discharge cut-off voltage	2.50 V	1.80 V
Delivery voltage Within 10 days of leaving the plant.	3.4–3.6 V	3.4–3.6 V
Recommended charge Constant current, then constant voltage until the current falls below 134 mA. About 6 hours.	CC-CV 1.2 A → 4.20 V	CC-CV 1.2 A → 4.45 V
Recommended discharge	CC 1.2 A → 2.50 V	CC 1.2 A → 1.80 V
Maximum charge current Charge time about 30 minutes, for reference.	12 A	12 A
Maximum continuous discharge At room temperature. Up to 110 A with an 80 °C surface cut-off. Not intended for cycling.	60 A	60 A
Maximum pulse discharge Not intended for cycling.	150 A / 2 s	150 A / 2 s
Internal impedance (AC) 1 kHz, measured at 30 % state of charge.	≤4 mΩ	≤4 mΩ
Internal resistance (DC)	<20 mΩ @ 25 °C · <100 mΩ @ −20 °C	<20 mΩ @ 25 °C · <100 mΩ @ −20 °C
Pre-charge window	1.0–3.0 V @ 0.7–3.4 A	1.0–3.0 V @ 0.7–3.4 A
PHYSICAL		
Diameter	21.30 ±0.1 mm	21.30 ±0.1 mm
Height	70.50 ±0.3 mm	70.50 ±0.3 mm
Weight	≤72 g	≤72 g
Specific energy A floor, computed from the maximum weight — the figure can only be better.	≥292 Wh/kg	≥344 Wh/kg
Energy density	≥836 Wh/L	≥987 Wh/L
ENVIRONMENT		

PARAMETER	STANDARD	HIGH ENERGY
Charge temperature Charging below 0 °C lowers efficiency and shortens service life.	0…60 °C	0…60 °C
Discharge temperature Cell surface temperature.	−40…75 °C	−40…75 °C
Storage temperature, up to 6 months Relative humidity 60 ±25 %.	−20…25 °C	−20…25 °C
Storage temperature, up to 3 months	−20…45 °C	−20…45 °C
Storage temperature, up to 1 month	−20…60 °C	−20…60 °C
Storage state of charge Recharge about every six months to prevent over-discharge.	30–50 %	30–50 %

Both energy densities use the maximum cell mass, so they are floors: a cell can only be better than the figure given.

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Measured behaviour

Capacity against discharge current

Charged 6 A CC-CV, 300 mA termination; discharged at room temperature. Referenced to the 1.2 A capacity at 25 ±3 °C.

DISCHARGE CURRENT	CAPACITY
1.2 A	100 %
6 A	97 %
18 A	95 %
30 A	95 %
50 A	90 %

Capacity against temperature

Discharged at 6 A after a standard charge. Referenced to 25 ±3 °C. If charge and discharge temperatures differ, three hours are allowed between them.

TEMPERATURE	CAPACITY
−40 °C measured to 2.2 V	50 %
−20 °C	70 %
0 °C	85 %
25 °C	100 %
60 °C	100 %

Cycle life

Cycles until capacity falls to 80 % of the initial value.

CYCLES	MEASURED IN	TEST CONDITIONS
850	Standard	Charge 6 A CC-CV to 4.20 V, 300 mA termination, 10 min rest. Discharge 6 A to 2.50 V, 30 min rest.
340	Standard	Charge 6 A CC-CV to 4.20 V, 300 mA termination, 10 min rest. Discharge 30 A to 2.50 V or 75 °C, 30 min rest.
50	High energy	Charge 6 A CC-CV to 4.45 V, 300 mA termination, 10 min rest. Discharge 30 A to 1.80 V or 75 °C, 30 min rest.

High-temperature storage

Stored 30 days at 60 °C from a full charge, then discharged at 3 A to the cut-off at 25 ±3 °C.

Capacity recovery ≥90 % of the rated capacity.

Safety testing

Every test below is performed after a 4.20 V standard charge, which is the condition on file. The 4.45 V high-energy profile has not been safety-validated, and nothing here should be read as saying it has.

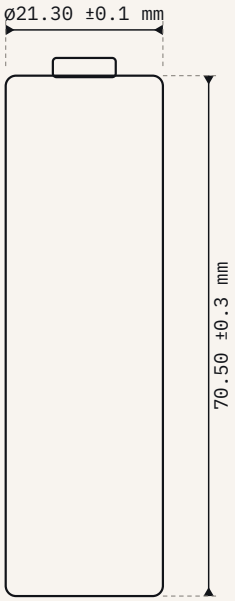
SAFETY TESTING	TEST CONDITIONS	CRITERION
Forced discharge	A discharged cell reverse-charged at 6 A for 90 minutes.	No fire, no explosion.
Overcharge	Charged at 18 A until 10.0 V, or for one hour.	No fire, no explosion.
External short circuit	Terminals shorted through 5, 10, 20 and 80 mΩ for 10 minutes, then observed for one hour.	No fire, no explosion.
Drop	Dropped onto concrete from 1.0 m in a random orientation, rested one hour, then inspected.	No fire, no explosion.
Thermal shock	Heated at 5 °C per minute to 130 °C and held for 30 minutes.	No fire, no explosion.
Crush	Compressed between flat surfaces by a 32 mm ram until the force reaches 13 kN.	No fire, no explosion.

Handling and storage

Warranty: One year from shipment against manufacturing defects.

- Never expose the cell to fire or place it near a heat source.
- Never reverse the terminals in a charger or a device.
- Never short the terminals.
- Do not disassemble, deform or immerse the cell.
- Do not mix with cells of another make, type or model.
- Charge only in equipment intended for this cell, and never leave it charging longer than 24 hours.
- Store cool, dry and ventilated; dispose of cells under local regulations.

Dimensions



Technical drawing, to scale. Not a photograph.

Packaging

Four cells to a box, seated in a foam tray. The front carries the three figures you decide on: energy, current and temperature.





Renders of the packaging with the printed artwork applied. Not photographs.

Printed text is English in every market, like the marking on the cell itself. The box carries no service-life badge: at the high-energy profile it would not be true.

Marking

ELITIUM authors its own marking rule. Every cell carries the LIFT APERTURE symbol, the wordmark, the model, the rating and a date code.

	ELITIUM	INR21700-EL70	3.7 V	6700 mAh	24.8 Wh	+ / −

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The cell from every side



The marking repeats three times around the cell, so a full block faces you whichever way it is lying in the tray.

Enquiries

Tell us the platform, the endurance you need and the discharge profile it flies, and we will come back with a cell count, a pack architecture and what it weighs.

ELITIUM-BATTERY · Power systems for UAV, UAS and autonomous platforms