

Illustrative render generated from published specifications

21.6 × 71 mm  
74 g

Amprius  
INR21700-65



Live page & updates

Amprius · released 2025

21700

NMC

MOOCH-TESTED · 13 A

|                                          |                                             |                                                   |                                                     |
|------------------------------------------|---------------------------------------------|---------------------------------------------------|-----------------------------------------------------|
| <div>6,500 mAh</div> <div>CAPACITY</div> | <div>13 A</div> <div>MOOCH CONTINUOUS</div> | <div>3.6 V</div> <div>NOMINAL · 2.5 – 4.2 V</div> | <div>23.4 Wh</div> <div>ENERGY · 316.22 WH/KG</div> |
|------------------------------------------|---------------------------------------------|---------------------------------------------------|-----------------------------------------------------|

REFERENCE ONLY — NOT AN OFFICIAL DOCUMENT

This information is gathered from multiple sources, including manufacturer datasheets, independent third-party testing, and community contributions. Cell specifications vary between production batches and change over time, and no figure here is guaranteed to be correct or current. **Always consult the manufacturer's spec sheet directly.** Use this sheet for reference only — never as the sole basis for a safety-critical decision about charging, discharging, or assembling cells. The cell image is an illustrative render generated from published specifications, not a photograph.

CAPACITY AMONG 21700S

#1 of 72

Lowest in database

Highest

More capacity than 100% of 21700 cells in our database, but lower discharge than average.

VOLTAGE OPERATING WINDOW

1.7 V usable

Cutoff 2.5 V

Nominal 3.6 V

Max 4.2 V

Below nominal the cell sags fast under load; above it, the last of the capacity fills slowly on the constant-voltage taper.

APPLICATION SUITABILITY

Rule-of-thumb ratings from this cell's capacity and continuous discharge. Check your own load before committing.

|                   |                                                                                             |
|-------------------|---------------------------------------------------------------------------------------------|
| Powerwalls        | High capacity means more stored energy per cell. Fewer cells needed for a given kWh target. |
| Ebike packs       | Good balance of capacity for range and discharge for hills. Works well in most ebike packs. |
| Car audio         | Might work for smaller setups. Check your amp's peak current draw.                          |
| High-drain vaping | Below the 25A Mooch CDR threshold that high-drain vaping needs. Use a higher-drain cell.    |
| Flashlights       | High capacity means long runtime. Great for everyday carry and extended use.                |
| Power tools       | May work for lighter-duty tools. Check your tool's current requirements.                    |

IDENTITY

|               |             |
|---------------|-------------|
| Manufacturer  | Amprius     |
| Model         | INR21700-65 |
| Format        | 21700       |
| Chemistry     | NMC         |
| Year released | 2025        |
| Terminal      | Flat top    |
| Protection    | Unprotected |

OPERATING TEMPERATURE

|             |               |
|-------------|---------------|
| Charging    | 0°C to 45°C   |
| Discharging | -20°C to 60°C |

ENERGY & POWER DENSITY

|                        |                 |
|------------------------|-----------------|
| Energy                 | 23.4 Wh         |
| Specific energy        | 316.22 Wh/kg    |
| Volumetric density     | 899.41 Wh/L     |
| Power density (mass)   | 632 W/kg        |
| Power density (volume) | 1,799 W/L       |
| Capacity ranking       | #1 of 72 21700s |

PHYSICAL

|          |         |
|----------|---------|
| Diameter | 21.6 mm |
| Length   | 71 mm   |
| Weight   | 74 g    |

ELECTRICAL

|                          |              |
|--------------------------|--------------|
| Rated capacity           | 6,500 mAh    |
| Nominal voltage          | 3.6 V        |
| Max charge voltage       | 4.2 V        |
| Discharge cutoff         | 2.5 V        |
| Energy                   | 23.4 Wh      |
| Internal resistance      | 3.3 mΩ       |
| Max continuous discharge | 13 A (mooch) |
| Discharge C-rate         | 2C           |
| Standard charge current  | 3,250 mA     |
| Typical charge time      | 2 h          |
| Standard discharge       | 1300mA       |
| Cycle life               | 500 cycles   |

C-RATE CONVERSION · 6,500 MAH

| C-RATE | CURRENT | THEORETICAL RUNTIME |
|--------|---------|---------------------|
| 0.2C   | 1.3 A   | 5h 00m              |
| 0.5C   | 3.25 A  | 2h 00m              |
| 1C     | 6.5 A   | 1h 00m              |
| 2C     | 13 A    | 30m                 |

Highlighted row is closest to the rated 13 A continuous discharge.

CHARGING

| RATE | CURRENT | ESTIMATED TIME TO FULL |
|------|---------|------------------------|
|------|---------|------------------------|

|      |          |         |
|------|----------|---------|
| 0.5C | 3,250 mA | ~2h 00m |
| 1C   | 6,500 mA | ~1h 00m |

Constant-current phase only. Real charge time runs longer because of the constant-voltage taper at the end.

SERIES PACK CONFIGURATIONS

Voltages calculated from this cell's own nominal and maximum charge voltage. The 3P columns show one common parallel count as a worked example — scale the parallel group to the capacity you need.

| SERIES | NOMINAL | FULLY CHARGED | CELLS AT 3P | CAPACITY | ENERGY |
|--------|---------|---------------|-------------|----------|--------|
| 3S     | 10.8 V  | 12.6 V        | 9           | 19.5 Ah  | 211 Wh |
| 7S     | 25.2 V  | 29.4 V        | 21          | 19.5 Ah  | 491 Wh |
| 10S    | 36 V    | 42 V          | 30          | 19.5 Ah  | 702 Wh |
| 13S    | 46.8 V  | 54.6 V        | 39          | 19.5 Ah  | 913 Wh |
| 14S    | 50.4 V  | 58.8 V        | 42          | 19.5 Ah  | 983 Wh |

EXAMPLE PACKS

|                                                                                                                |                                                                                                               |                                                                                                          |                                                                                                                |
|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>7S2P</b><br>24V ebike / small pack<br>14 cells · 25.2 V<br>13,000 mAh · 328 Wh<br>26 A max · ≈1.04 kg cells | <b>13S4P</b><br>48V ebike standard<br>52 cells · 46.8 V<br>26,000 mAh · 1,217 Wh<br>52 A max · ≈3.85 kg cells | <b>16S4P</b><br>DIY powerwall<br>64 cells · 57.6 V<br>26,000 mAh · 1,498 Wh<br>52 A max · ≈4.74 kg cells | <b>4S6P</b><br>Power tool replacement<br>24 cells · 14.4 V<br>39,000 mAh · 562 Wh<br>78 A max · ≈1.78 kg cells |
|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|

SIMILAR CELLS

Same format and chemistry, within ±500 mAh.

| CELL                            | MAH   | CONTINUOUS | WH   | WEIGHT | WH/KG |
|---------------------------------|-------|------------|------|--------|-------|
| Amprius INR21700-65 (this cell) | 6,500 | 13 A       | 23.4 | 74 g   | 316   |
| BAK 65E                         | 6,500 | 25 A       | 23.4 | —      | —     |
| Linkdata 65P                    | 6,500 | 52 A       | 23.4 | 70.2 g | 333   |
| Vapcell F63                     | 6,250 | 12 A       | 22.5 | —      | —     |
| Linkdata 60P                    | 6,000 | 60 A       | 21.6 | 68 g   | 318   |
| Vapcell F60                     | 6,000 | 12 A       | 21.6 | 74 g   | 292   |

## HANDLING & SAFETY

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- Never charge above 4.2V or discharge below 2.5V.
- Store cells at around 3.6-3.8V (roughly 40-60% charge) for long-term storage.
- Don't mix cells with different capacities, chemistries, or states of charge in a pack.
- Inspect wraps before use. A torn wrap can cause a short circuit.
- Always use a BMS or balance charger appropriate for your pack configuration.
- Keep cells away from metal objects, keys, and coins. A short across the terminals can cause fire.

## SOURCES & FURTHER READING

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|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Cell Saviors page        | <a href="https://cellsaviors.com/cell-database/amprius-inr21700-65">cellsaviors.com/cell-database/amprius-inr21700-65</a>                         |
| Manufacturer datasheet   | <a href="https://amprius.com/documents/Amprius_Product_Catalog.pdf">https://amprius.com/documents/Amprius_Product_Catalog.pdf</a>                 |
| Independent test (Mooch) | <a href="https://www.e-cigarette-forum.com/threads/bench-test-results-a...">https://www.e-cigarette-forum.com/threads/bench-test-results-a...</a> |
| Full cell database       | <a href="https://cellsaviors.com/cell-database">cellsaviors.com/cell-database</a>                                                                 |